CITY OF WAUWATOSA
2024 UTILITY IMPROVEMENTS
CONTRACT 24-08
CENTER ST
PROJECT #1024

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

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WATER MAIN		
B01-B09	WATER MAIN RELAY	30-814
STORM SEWER		
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REMOVALS		
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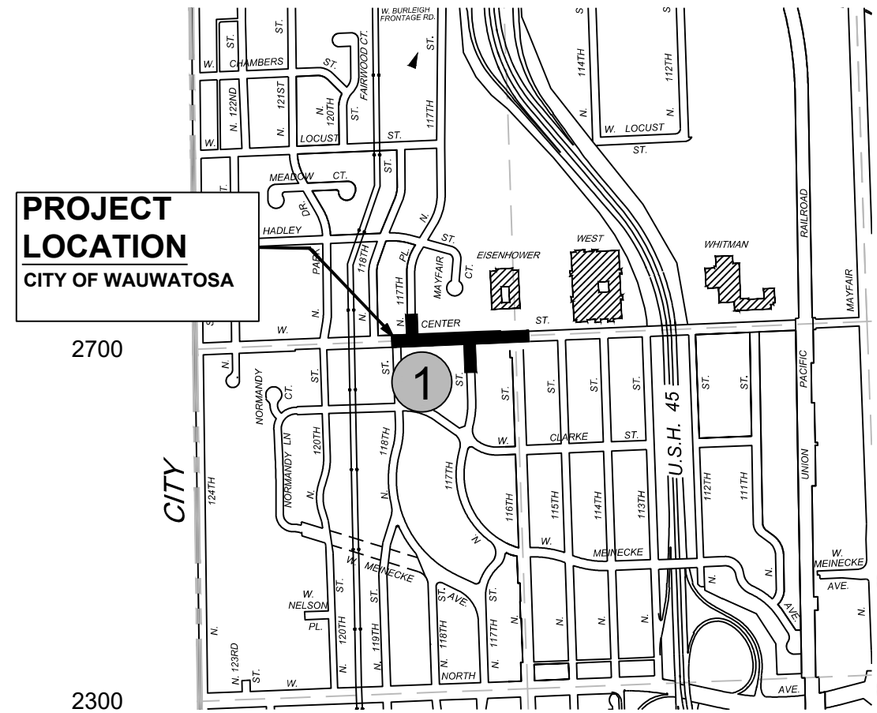
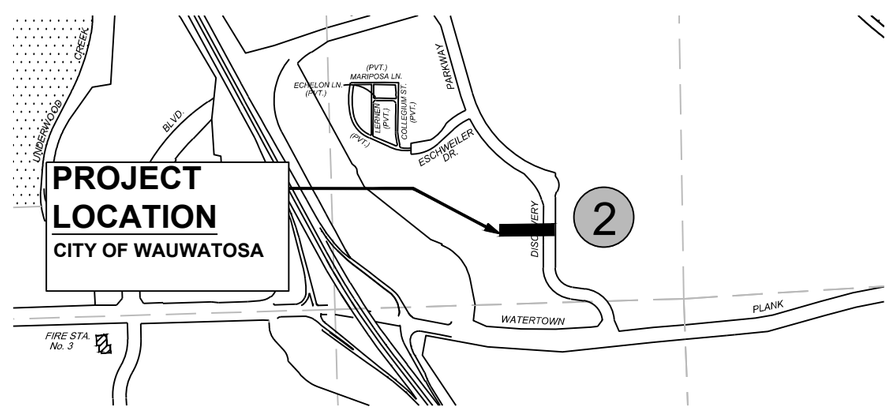
2A01-2A04	SANITARY SEWER LATERAL RELAY	16-995
TRAFFIC CONTROL		
2T01-2T03	TRAFFIC CONTROL	



STREET	LOCATION
1 CENTER ST	N 118TH ST TO N 116TH ST
2 DISCOVERY WEST	DISCOVERY PKWY TO 400' WEST

DISCOVERY PKWY
PROJECT #7001



PROJECT COORDINATION:

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NDEMING@WAUWATOSA.NET

DISCOVERY PKWY

MAGGIE ANDERSON, PE
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CENTER ST

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MMAKI@WAUWATOSA.NET

APPROVED BY THE BOARD OF PUBLIC WORKS OF THE CITY OF WAUWATOSA, WISCONSIN BY RESOLUTION ADOPTED:

DATE _____ CITY CLERK _____

SUBMITTED FOR APPROVAL:

APRIL 29TH, 2024
DATE

CITY ENGINEER
REG. PROF. ENGR. _____

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

UTILITY IMPROVEMENTS

CENTER ST & DISCOVERY PKWY

SCALE: AS NOTED | SHEETS:

GENERAL NOTES:

1. UNDERGROUND UTILITIES HAVE BEEN SHOWN TO A REASONABLE DEGREE OF ACCURACY USING DIGGERS HOTLINE FIELD LOCATED AND RECORD DRAWINGS. HOWEVER, THE CITY DOES NOT GUARANTEE THEIR EXACT SIZING, LOCATION, OR DEPTH OR THAT OF OTHERS NOT SHOWN. THE CONTRACTOR SHALL VERIFY THE EXISTENCE OF THESE UTILITIES AND THOSE NOT SHOWN. COSTS FOR LOCATING AND DELAY SHALL BE INCIDENTAL TO THE CONTRACT.
2. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 3" SAND BEDDING AND COVER AROUND STREET LIGHT, TRAFFIC SIGNAL OR INTERCONNECT CABLE, DUCT OR CONDUIT WHEREVER IT IS EXPOSED.
3. INSTALL EROSION CONTROL INLET BASKETS IN ALL THE INLETS AND CATCH BASINS DIRECTLY DOWN-SURFACE OF ALL OPEN CUT WORK PRIOR TO STARTING WORK, OR WHERE DIRECTED BY THE ENGINEER. INLET PROTECTION MUST BE REMOVED WHEN WORK IS COMPLETED.
4. TRAFFIC CONTROL AND EROSION CONTROL SHALL BE ERECTED PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES.
5. CONTRACTOR SHALL SUPPORT ALL EXISTING UTILITIES, STRUCTURES, POWER POLES, STREET LIGHTS AND SIGNS AS NEEDED TO FACILITATE CONSTRUCTION. INCIDENTAL TO CONSTRUCTION.
6. ALL DECORATIVE PAVERS SHALL BE REPLACED IN KIND OR REMOVED, STOCKPILED AND REPLACED BY THE CONTRACTOR UNLESS OTHERWISE NOTED ON THE PLANS.
7. NO STAGING OR STOCKPILING IS ALLOWED EXCEPT WITHIN STAGING AREAS SHOWN ON PLANS. ALL WORK MUST REMAIN WITHIN THE PROJECT LIMITS.
8. NO TREES OR SHRUBS SHALL BE DISTURBED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.
9. CONTRACTOR SHALL PRESERVE AND PROTECT ALL RETAINING WALLS AND OTHER APPURTENANCES ADJACENT TO THE PROJECT.
10. CONTRACTOR MUST MAINTAIN DRIVEUP ACCESS TO MAILBOXES AT ALL TIMES. TEMPORARY MAILBOX CLUSTERS MAY BE REQUIRED AS DETERMINED BY THE USPS AND ARE INCIDENTAL TO THE CONSTRUCTION.

PAVING NOTES:

1. A SAWCUT IS REQUIRED AT THE EDGE OF ALL CURB AND GUTTER; SIDEWALK; AND PAVEMENT REPLACEMENT LOCATIONS. SAWING IS INCIDENTAL TO THE CONTRACT.

SANITARY SEWER NOTES:

1. ALL IRON FROM EXISTING STRUCTURES WHICH ARE CALLED OUT FOR REMOVAL OR REPLACEMENT SHALL BE SALVAGED TO THE CITY OF WAUWATOSA DEPARTMENT OF PUBLIC WORKS.
2. ALL MANHOLE FRAMES AND LIDS SHALL BE PROVIDED BY THE CITY OF WAUWATOSA AT THE DEPARTMENT OF PUBLIC WORKS. CONTRACTOR SHALL CALL AT LEAST ONE WORKING DAY IN ADVANCE TO CITY DPW TO ARRANGE PICKUP OF FRAMES AND GRATES.
3. CONTRACTOR SHALL EXPOSE EXISTING SANITARY SEWER AT ALL LOCATIONS PRIOR TO START OF CONSTRUCTION TO VERIFY EXACT LOCATION AND INVERT OF EXISTING SEWER. ANY DISCREPANCIES SHALL BE REPORTED TO ENGINEER TO ALLOW DESIGN MODIFICATIONS AS REQUIRED.
4. EXISTING STORM SEWER AND WATER MAIN CROSSINGS HAVE BEEN SHOWN IN THE PROFILE ALONG THE SANITARY SEWER BASED ON BEST AVAILABLE RECORDS. ELECTRIC, TELEPHONE, GAS, STREET LIGHTING, WATER AND SANITARY SERVICES ARE SHOWN IN PLAN AND PROFILE VIEW BASED ON BEST AVAILABLE RECORDS. CONTRACTOR SHALL LOCATE SERVICES IN THE FIELD AND CROSSING OF THESE SERVICES ARE INCIDENTAL TO UNIT BID PRICE FOR SANITARY SEWER.
5. LOCATION AND DEPTH OF PROPOSED SEWER LATERALS ON PLANS ARE APPROXIMATE. FINAL LOCATION OF LATERALS SHALL BE DETERMINED IN THE FIELD AND SHALL BE INCIDENTAL TO CONTRACT PRICE. EXISTING SANITARY SERVICES ARE IN THE SAME TRENCH AS WATER SERVICES IN MOST LOCATIONS. ANY DAMAGE TO EXISTING WATER SERVICES DURING CONSTRUCTION SHALL BE REPAIRED AND IS INCIDENTAL TO SANITARY SEWER INSTALLATION.
6. THE CONTRACTOR IS TO EXERCISE GREAT CARE WHEN WORKING IN THE VICINITY OF EXISTING WATER MAIN. ALL COST OF REPAIRING DAMAGED WATER MAIN SHALL BE INCLUDED IN THE UNIT BID PRICE OF SANITARY SEWER ITEMS.
7. ALL SANITARY SEWER ELEVATIONS ON PLANS ARE INVERT ELEVATIONS AND DIMENSIONS ARE TO CENTER OF STRUCTURE.
8. CONSTRUCT ALL SEWER IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION- INCLUDING ADDENDUMS.
9. ALL RIM ELEVATIONS ARE APPROXIMATE, AND SHALL BE VERIFIED IN THE FIELD DURING CONSTRUCTION.
10. BYPASS PUMPING SHALL BE INCIDENTAL TO SANITARY SEWER CONSTRUCTION.
11. ALL MANHOLES ARE 48-INCH DIAMETER, UNLESS INDICATED OTHERWISE ON THE DRAWINGS. 5 FOOT STUB TO CONNECT TO EXISTING PIPE IS CONSIDERED INCIDENTAL.
12. CONTRACTOR SHALL ABANDON ALL SANITARY SEWER IN LINE WITH PROPOSED SEWER BY REMOVING ALL EXISTING PIPE AND MANHOLES.

STORM SEWER NOTES:

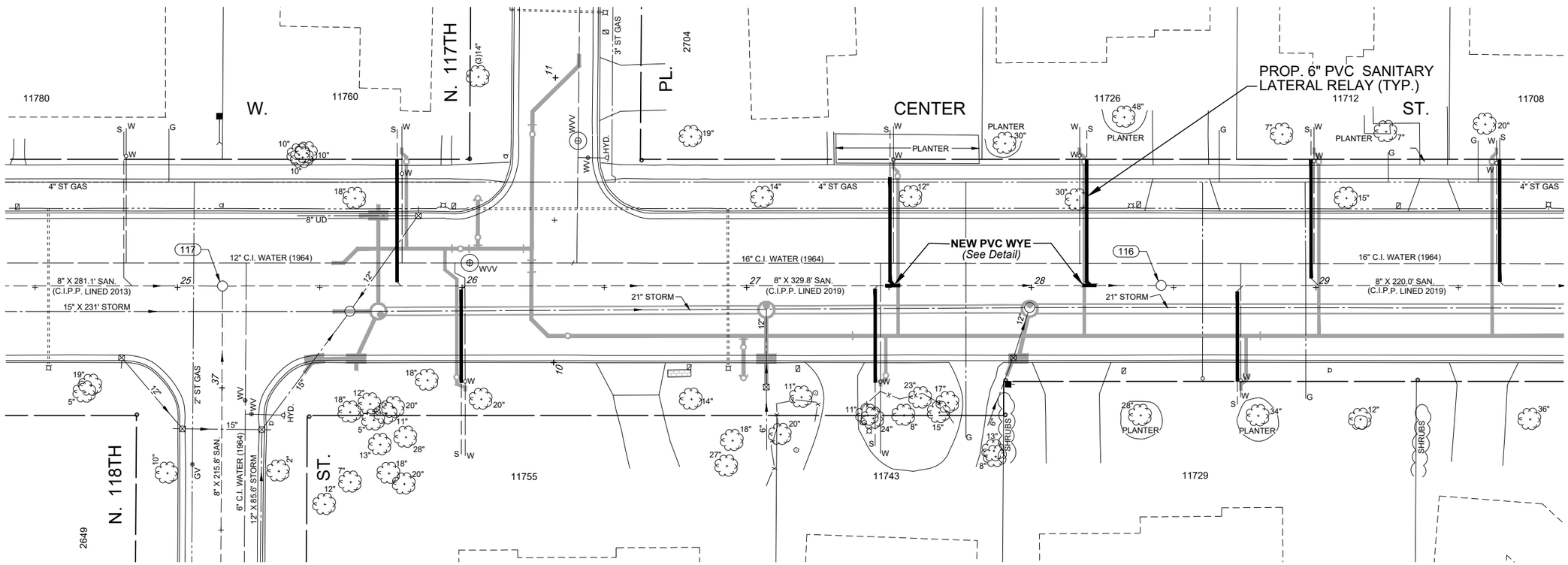
1. ALL IRON FROM EXISTING STRUCTURES WHICH ARE CALLED OUT FOR REMOVAL OR REPLACEMENT SHALL BE SALVAGED TO THE CITY OF WAUWATOSA DEPARTMENT OF PUBLIC WORKS.
2. ALL NEW CATCH BASIN AND MANHOLE FRAMES AND GRATES SHALL BE PROVIDED BY THE CITY OF WAUWATOSA AT THE DEPARTMENT OF PUBLIC WORKS. CONTRACTOR SHALL CALL AT LEAST ONE WORKING DAY IN ADVANCE TO CITY DPW TO ARRANGE PICKUP OF FRAMES AND GRATES.
3. CONTRACTOR SHALL EXPOSE EXISTING STORM SEWER AT ALL LOCATIONS PRIOR TO START OF CONSTRUCTION TO VERIFY EXACT LOCATION AND INVERT OF EXISTING SEWER. ANY DISCREPANCIES SHALL BE REPORTED TO ENGINEER TO ALLOW DESIGN MODIFICATIONS AS REQUIRED. EXISTING SANITARY SEWER AND WATER MAIN CROSSINGS HAVE BEEN SHOWN IN THE PROFILE ALONG THE STORM SEWER BASED ON BEST AVAILABLE RECORDS. ELECTRIC, TELEPHONE, GAS, STREET LIGHTING, WATER AND SANITARY SERVICES ARE SHOWN IN PLAN AND PROFILE VIEW BASED ON BEST AVAILABLE RECORDS. CONTRACTOR SHALL LOCATE SERVICES IN THE FIELD AND CROSSING OF THESE SERVICES ARE INCIDENTAL TO UNIT BID PRICE FOR STORM SEWER.
4. STORM LATERAL LOCATIONS ARE APPROXIMATE ONLY. FINAL LOCATION SHALL BE DETERMINED IN FIELD DURING CONSTRUCTION. ALL STORM LATERALS SHALL HAVE 3' TO 4' OF COVER AT 2' BEHIND BACK OF CURB. ALL STORM LATERALS SHALL HAVE A MINIMUM OF 1/4 INCH PER FOOT POSITIVE SLOPE.
5. ALL STORM SEWER ELEVATIONS ON PLANS ARE INVERT ELEVATIONS.
6. ALL CATCH BASINS/INLETS OFFSETS ARE TO FACE OF CURB.
7. CONSTRUCT ALL SEWER IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION- INCLUDING ADDENDUMS.
8. ALL RIM ELEVATIONS ARE APPROXIMATE, AND SHALL BE VERIFIED IN THE FIELD DURING CONSTRUCTION.
9. ALL INLET AND CATCH BASIN RIM ELEVATIONS ARE FROM CURB FLANGE LINE.
10. BYPASS PUMPING SHALL BE INCIDENTAL TO STORM SEWER CONSTRUCTION.
11. CONTRACTOR SHALL ABANDON ALL STORM SEWER IN LINE WITH PROPOSED SEWER BY REMOVING ALL EXISTING PIPE AND MANHOLES. ABANDONMENT IS INCIDENTAL TO PROPOSED SEWER INSTALLATION.
12. CONTRACTOR SHALL RECONNECT ALL EXISTING LIVE STORM SEWER LINES OR LATERALS TO THE PROPOSED STORM SEWER SYSTEM.
13. ALL UTILITY INSTALLATIONS SHALL HAVE MECHANICALLY CRUSHED CONCRETE BACKFILL CONSOLIDATED BY MECHANICAL COMPACTION, UNLESS INDICATED OTHERWISE ON THE PLANS.

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

GENERAL NOTES

CONTRACT:	24-08
FILE NO:	XX-XXXX
DRAWN BY:	BJT
CHECKED BY:	RPC
SCALE:	NOT TO SCALE



EXISTING SANITARY MANHOLES				
Basin	#	Location	Rim Elev.	Invert Elev.
4010	116	28+45.6 AT 0.7' LT.	211.61	8" E - 200.90 8" W - 200.90
4010	117	25+15.9 AT 0.4' LT.	213.86	8" E - 202.73 8" W - 202.73 8" S - 202.73

PROP. 267.9 L.F. OF 6" PVC SANITARY LATERAL RELAY

Address	Length (L.F.)	Partial Trenchless
2704	41.6	X
11712	41.7	X
11726	44.4	X
11729	31.7	
11743	32.9	
11755	32.6	
11760	43.0	

Laterals shall be PVC ASTM D-3034 SDR35 with Type PSM Rubber Gasket Joints. Full depth saw cuts required. Standard Class "C" bedding. SEE DETAILS for Sanitary Lateral PVC Bend Reconnection to Existing Clay Wye and Sanitary Lateral Reconnection to Ex. C.I.P.P. Lined Clay Sewer Main with New PVC Wye. *Mechanically compacted crushed concrete backfill.* **Sanitary Lateral Relay with Partial Trenchless** indicates that a portion of the lateral shall be installed by a trenchless method, such as auguring through the tree root zone (as defined by the tree drip line). The reconnection point shall be open-cut as needed. Special Type "D" Pavement Replacement: 3-inch thick HMA PAVEMENT 5 LT 58-28 S, over proposed backfill. Full 5-inch thick Concrete Sidewalk square and carriage walk replacement for all removed sidewalk squares and carriage walk for lateral/service relays. Asphalt Curb & Gutter (C&G) replacement required where existing (C&G) has been removed. Type "D" Lawn Replacement required for all disturbed lawn areas. Separate payments for Sanitary Lateral PVC Bend Reconnection to Existing Clay Wye, Sanitary Lateral Reconnection to Ex. C.I.P.P. Lined Clay Sewer Main with New PVC Wye, Sanitary Lateral Relay, and Sanitary Lateral Relay with Partial Trenchless.

Underground utilities have been shown to a reasonable degree of accuracy using diggers hotline field locates and record drawings. However, the city does not guarantee their exact size, location or depth or that of others not shown. The contractor shall verify the existence of these utilities and those not shown. Costs for locating and delay shall be incidental to the contract.

PROP. EROSION CONTROL INLET/STORM MH PROTECTION

Install Type "D" Inlet Protection in all the inlets and catch basins with curb boxes, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Install Type "B" Inlet Protection in all storm manholes that have open grate covers, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Inlet/Storm MH Erosion Control Protection must be removed when work is completed. Cost to be incidental to contract.

DESCRIPTION
DATE

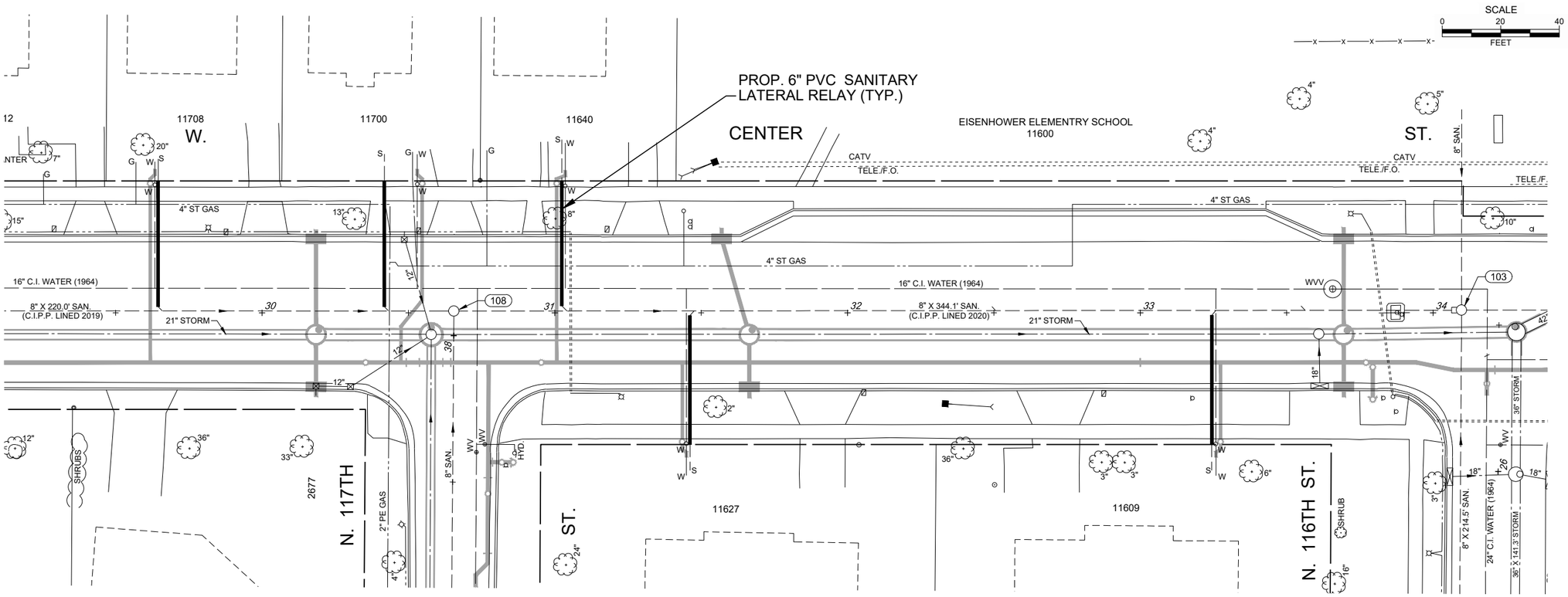
CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

SANITARY SEWER LATERAL RELAY
W. CENTER ST.
FROM: N. 118TH ST.
TO: N. 116TH ST.

CONTRACT: 24-08
FILE NO: 16-1000
DRAWN BY: C.R.
CHECKED BY: M.M.
SCALE: AS SHOWN

1-A01

FILE NAME : S:\DEPARTMENT FOLDERS\ENGINEERING\ACAD_PROJECTS\24-08 W CENTER ST\DESIGN\PIPENETWORKS\CENTER PROP UTILITIES CR.DWG
PLOT DATE : 4/23/2024 1:20 PM
PLOT BY : C.R.



EXISTING SANITARY MANHOLES				
Basin	#	Location	Rim Elev.	Invert Elev.
4010	103	34+09.7 AT 0.9' LT.	197.72	10" E - 181.20 8" W - 187.38 8" S - 181.63 8" N - 181.74
4010	108	30+65.6 AT 0.6' LT.	208.28	8" E - 195.73 8" W - 197.65 8" S - 195.99 8" N - 196.08

PROP. 218.2 L.F. OF 6" PVC SANITARY LATERAL RELAY

Address	Length (L.F.)	Partial Trenchless
11609	45.5	
11627	44.1	
11640	42.7	X
11700	42.9	X
11708	43.0	

Laterals shall be PVC ASTM D-3034 SDR35 with Type PSM Rubber Gasket Joints. Full depth saw cuts required. Standard Class "C" bedding. SEE DETAILS for Sanitary Lateral PVC Bend Reconnection to Existing Clay Wye and Sanitary Lateral Reconnection to Ex. C.I.P.P. Lined Clay Sewer Main with New PVC Wye. *Mechanically compacted crushed concrete backfill.* **Sanitary Lateral Relay with Partial Trenchless** indicates that a portion of the lateral shall be installed by a trenchless method, such as auguring through the tree root zone (as defined by the tree drip line). The reconnection point shall be open-cut as needed. Special Type "D" Pavement Replacement: 3-inch thick HMA PAVEMENT 5 LT 58-28 S, over proposed backfill. Full 5-inch thick Concrete Sidewalk square and carriage walk replacement for all removed sidewalk squares and carriage walk for lateral/service relays. Asphalt Curb & Gutter (C&G) replacement required where existing (C&G) has been removed. Type "D" Lawn Replacement required for all disturbed lawn areas. Separate payments for Sanitary Lateral PVC Bend Reconnection to Existing Clay Wye, Sanitary Lateral Reconnection to Ex. C.I.P.P. Lined Clay Sewer Main with New PVC Wye, Sanitary Lateral Relay, and Sanitary Lateral Relay with Partial Trenchless.

Underground utilities have been shown to a reasonable degree of accuracy using diggers hotline field locates and record drawings. However, the city does not guarantee their exact size, location or depth or that of others not shown. The contractor shall verify the existence of these utilities and those not shown. Costs for locating and delay shall be incidental to the contract.

PROP. EROSION CONTROL INLET/STORM MH PROTECTION

Install Type "D" Inlet Protection in all the inlets and catch basins with curb boxes, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Install Type "B" Inlet Protection in all storm manholes that have open grate covers, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Inlet/Storm MH Erosion Control Protection must be removed when work is completed. Cost to be incidental to contract.

DESCRIPTION

DATE

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

SANITARY SEWER LATERAL RELAY

W. CENTER ST.

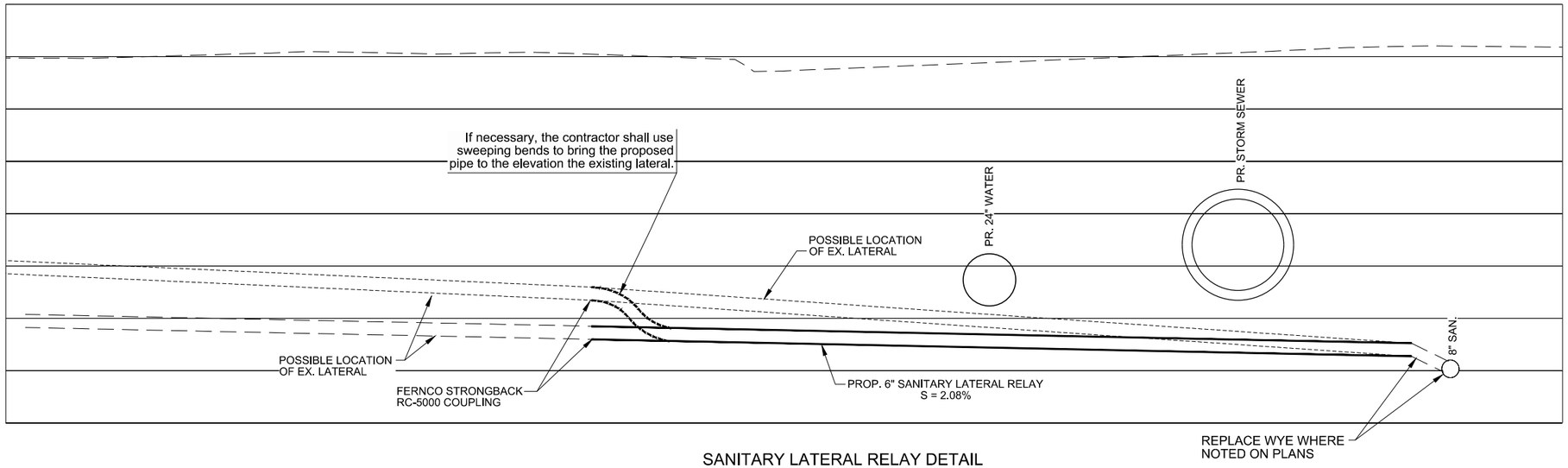
FROM: N. 117TH PL.

TO: N. 116TH ST.

CONTRACT: 24-08
FILE NO: 16-1000
DRAWN BY: C.R.
CHECKED BY: M.M.
SCALE: AS SHOWN

1-A02

FILE NAME : S:\DEPARTMENT FOLDERS\ENGINEERING\ACAD_PROJECTS\24-08 W CENTER ST\DESIGN\PIPENETWORKS\CENTER PROP UTILITIES CR.DWG PLOT DATE : 4/23/2024 1:21 PM PLOT BY : C.R.



SANITARY LATERAL RELAY DETAIL

1" = 5'

Laterals shall be PVC ASTM D-3034 SDR35 with Type PSM Rubber Gasket Joints. Full depth saw cuts required. Standard Class "C" bedding. SEE DETAILS for Sanitary Lateral PVC Bend Reconnection to Existing Clay Wye and Sanitary Lateral Reconnection to Ex. C.I.P.P. Lined Clay Sewer Main with New PVC Wye. *Mechanically compacted crushed concrete backfill.* **Sanitary Lateral Relay with Partial Trenchless** indicates that a portion of the lateral shall be installed by a trenchless method, such as auguring through the tree root zone (as defined by the tree drip line). The reconnection point shall be open-cut as needed. Special Type "D" Pavement Replacement: 3-inch thick HMA PAVEMENT 5 LT 58-28 S, over proposed backfill. Full 5-inch thick Concrete Sidewalk square and carriage walk replacement for all removed sidewalk squares and carriage walk for lateral/service relays. Asphalt Curb & Gutter (C&G) replacement required where existing (C&G) has been removed. Type "D" Lawn Replacement required for all disturbed lawn areas. Separate payments for Sanitary Lateral PVC Bend Reconnection to Existing Clay Wye, Sanitary Lateral Reconnection to Ex. C.I.P.P. Lined Clay Sewer Main with New PVC Wye, Sanitary Lateral Relay, and Sanitary Lateral Relay with Partial Trenchless.

Underground utilities have been shown to a reasonable degree of accuracy using diggers hotline field locates and record drawings. However, the city does not guarantee their exact size, location or depth or that of others not shown. The contractor shall verify the existence of these utilities and those not shown. Costs for locating and delay shall be incidental to the contract.

DATE	DESCRIPTION
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CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

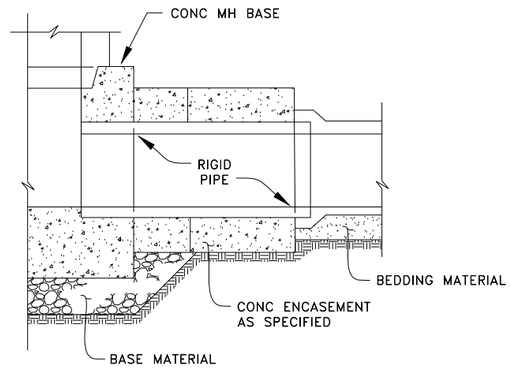
SANITARY LATERAL RELAY

W. CENTER ST.

FROM: N. 118TH ST. TO: N. 116TH ST.

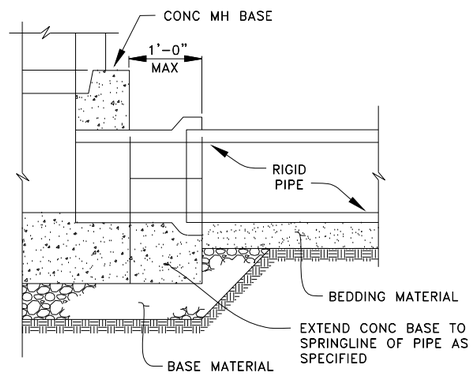
CONTRACT: 24-08
FILE NO: 30-814
DRAWN BY: C.R.
CHECKED BY: M.M.
SCALE: AS SHOWN

1-A03



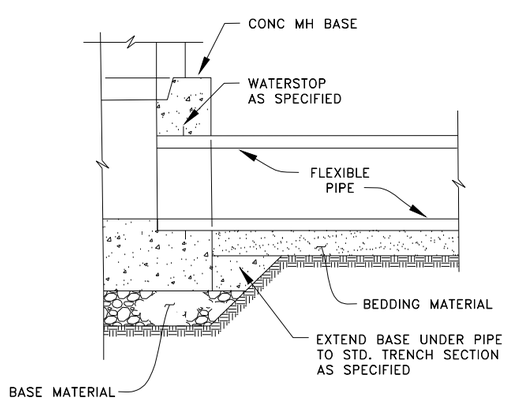
RIGID PIPE LAID UP TO CONCRETE MH

N.T.S.



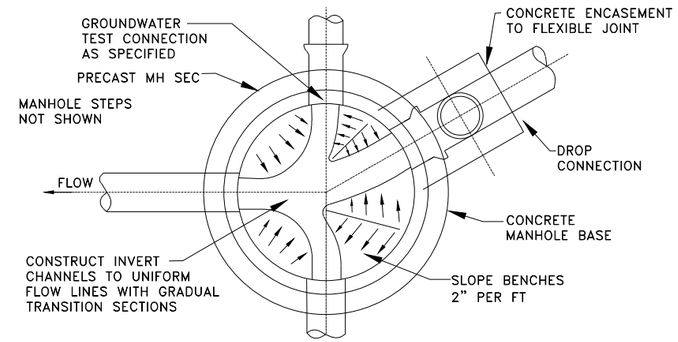
RIGID PIPE LAID OUT OF CONCRETE MH

N.T.S.



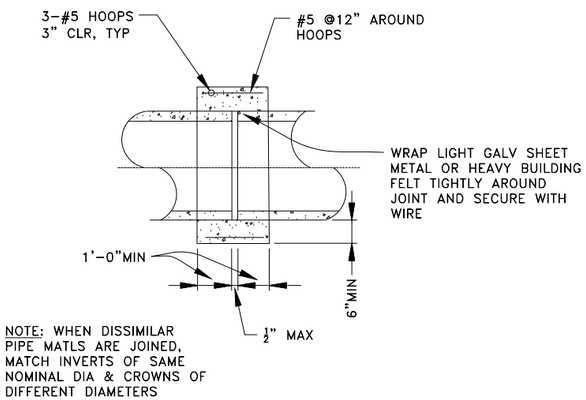
FLEXIBLE PIPE TO CONCRETE MH

N.T.S.



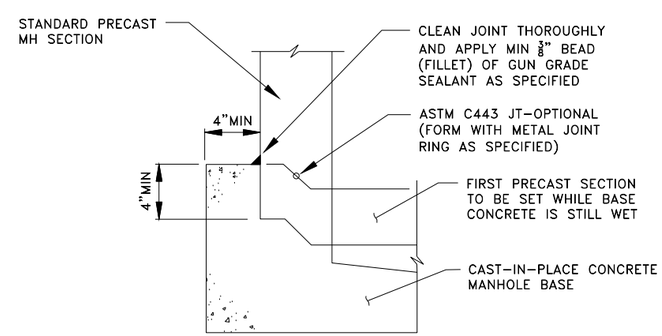
MANHOLE CHANNEL INTERSECTION AND DROP CONNECTION PLAN

N.T.S.



CONCRETE CLOSURE COLLAR

N.T.S.



CONNECTION DETAIL - PRECAST CONCRETE RISER TO CAST-IN-PLACE BASE

N.T.S.

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

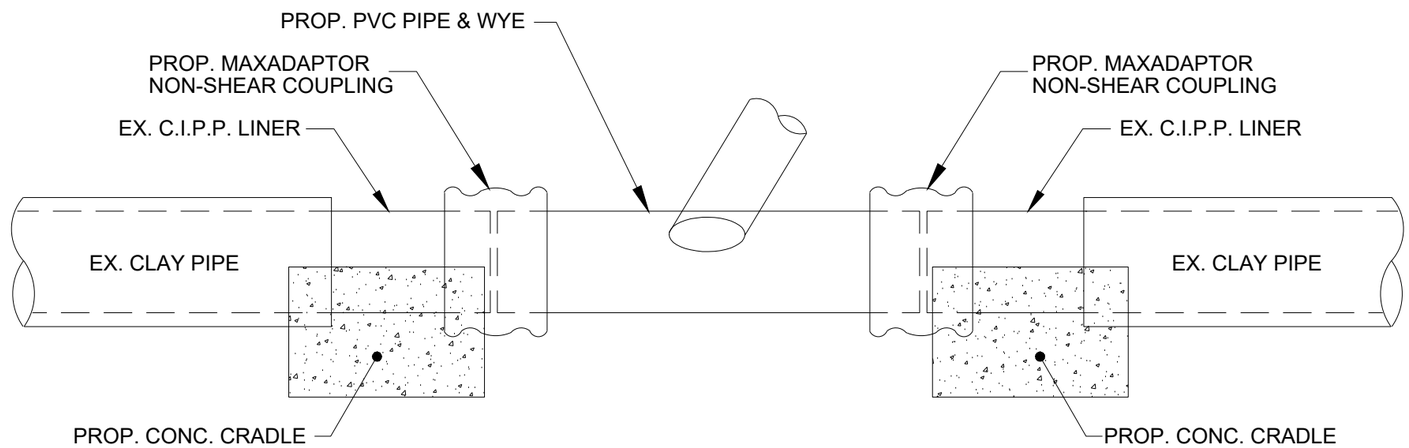
DETAIL

W. CENTER ST.

FROM: N. 118TH ST. TO: N. 116TH ST.

CONTRACT: 24-08
FILE NO:
DRAWN BY: C.R.
CHECKED BY: M.M.
SCALE: AS SHOWN

1-A04



PROPOSED PVC WYE CONNECTION TO C.I.P.P. LINED CLAY PIPE

N.T.S.

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

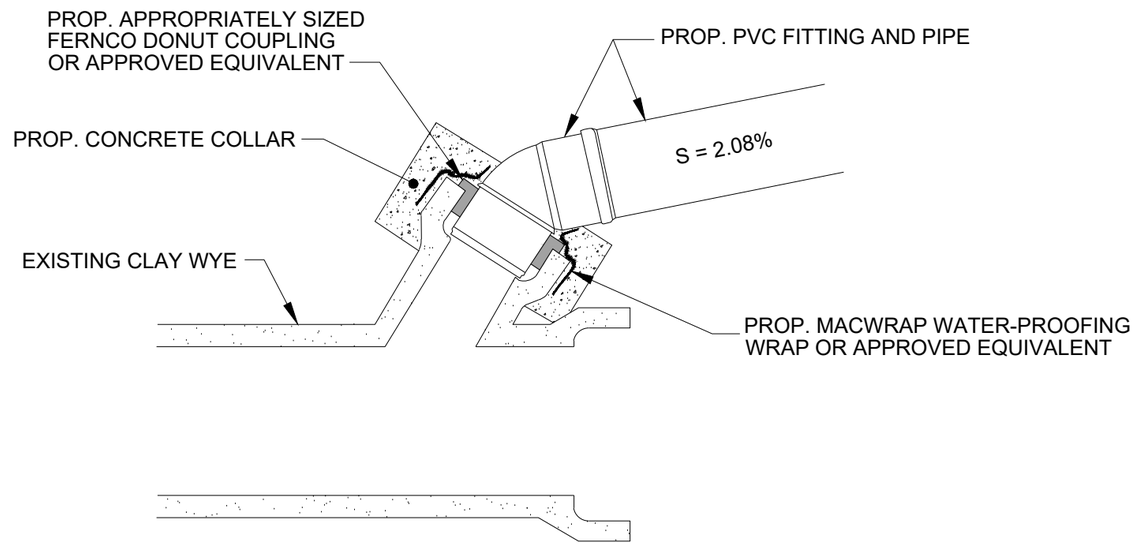
DETAIL

W. CENTER ST.

FROM: N. 118TH ST.
TO: N. 116TH ST.

CONTRACT: 24-08
FILE NO:
DRAWN BY: C.R.
CHECKED BY: M.M.
SCALE: AS SHOWN

1-A05



PROPOSED PVC 45° BEND INSTALLATION TO EXISTING CLAY WYE

N.T.S.

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

DETAIL

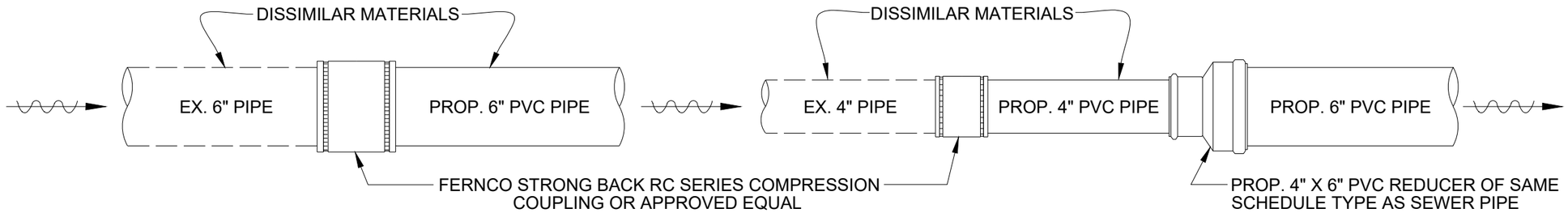
W. CENTER ST.

FROM: N. 118TH ST. TO: N. 116TH ST.

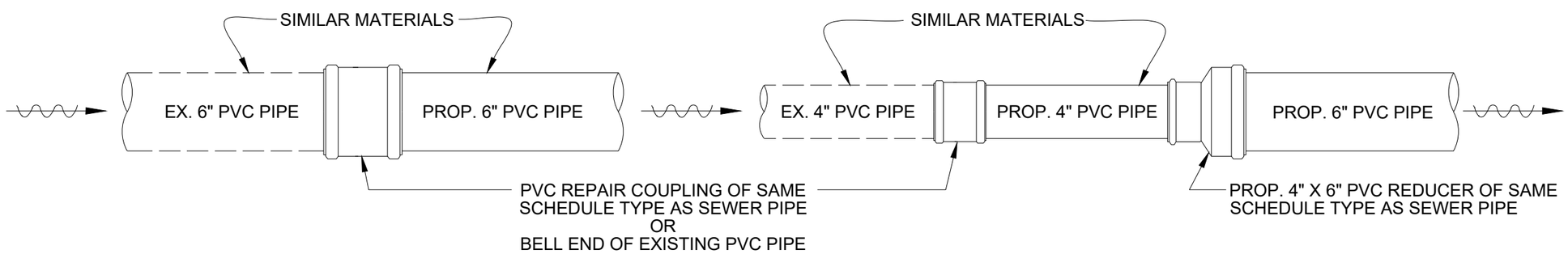
CONTRACT: 24-08
FILE NO:
DRAWN BY: C.R.
CHECKED BY: M.M.
SCALE: AS SHOWN

1-A06

If pipes are dissimilar use Fernco Strong Back RC Series compression coupling or approved equal.



If pipes are similar PVC material use PVC repair coupling of same schedule type as sewer pipe.



DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

DETAILS

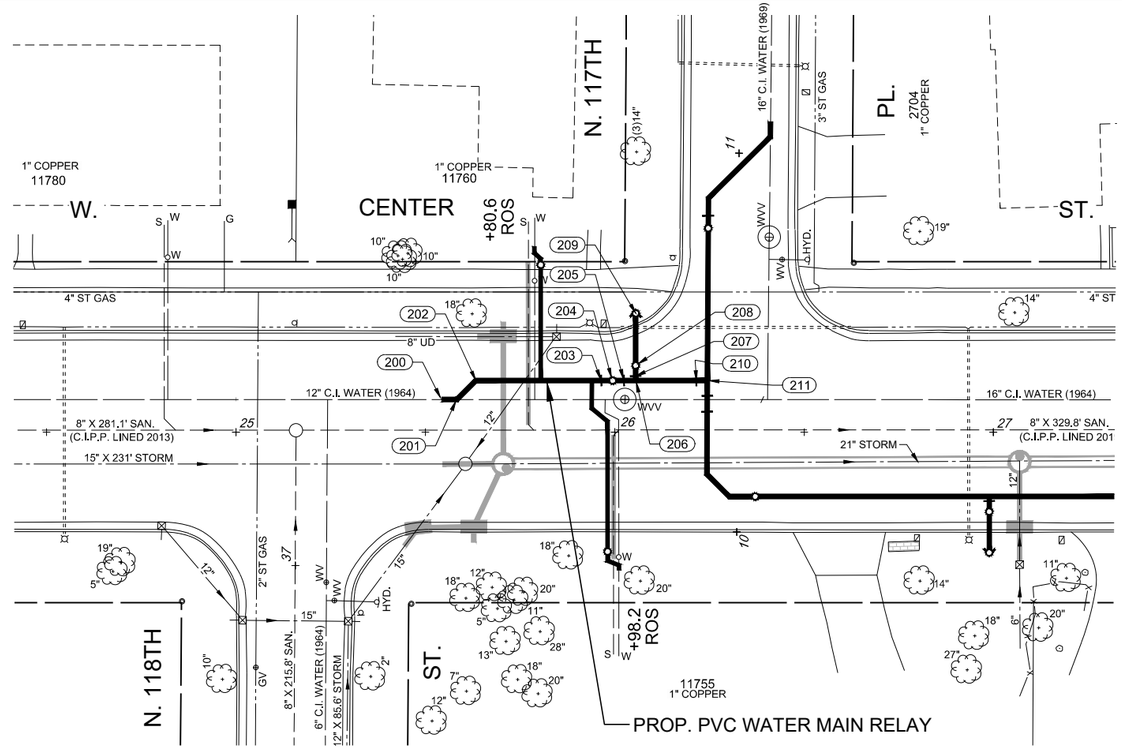
W. CENTER ST.

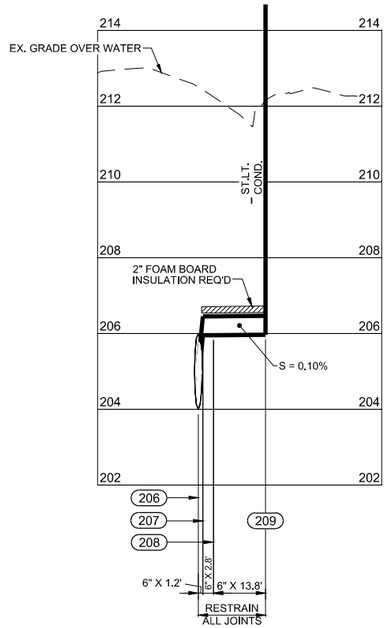
FROM: N. 118TH ST.
TO: N. 116TH ST.

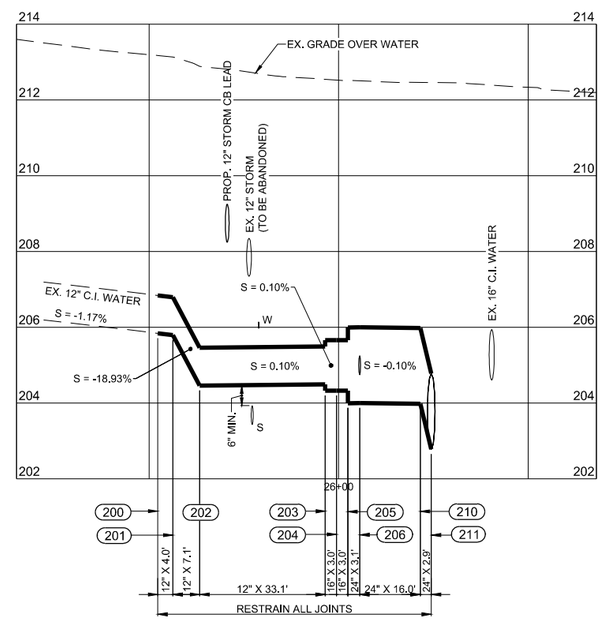
CONTRACT: 24-08
FILE NO:
DRAWN BY: C.R.
CHECKED BY:
SCALE: AS SHOWN

1-A07

PROP. EROSION CONTROL INLET/STORM MH PROTECTION
Install Type "D" Inlet Protection in all the inlets and catch basins with curb boxes, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Install Type "B" Inlet Protection in all storm manholes that have open grate covers, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Inlet/Storm MH Erosion Control Protection must be removed when work is completed. Cost to be incidental to contract.







#	Description	Location	Top of Prop. Main
200	PROP. 12" DUAL PURPOSE MJ SLEEVE CUT-IN CONNECTION	25+54.4 AT 8.6' LT.	206.84
201	PROP. 12" X 45° MJ BEND & GRADE BREAK	25+58.4 AT 8.6' LT.	206.80
202	PROP. 12" X 45° MJ BEND & GRADE BREAK	25+63.4 AT 13.6' LT.	205.46
203	PROP. 16" X 12" MJ REDUCER	25+96.5 AT 13.6' LT.	205.66
204	PROP. 16" BUTTERFLY VALVE	25+99.5 AT 13.6' LT.	205.66
205	24" X 16" MJ-PE REDUCER (SEB) HUNG ON TEE	26+02.5 AT 13.6' LT.	206.00
206	PROP. 24" X 6" MJ TEE	26+05.5 AT 13.6' LT.	206.00
207	PROP. 6" X 45° MJ-PE VERT. BEND (HUNG ON TEE)	26+05.5 AT 14.8' LT.	206.46
208	PROP. 6" MJ/RW GATE VALVE	26+05.5 AT 17.6' LT.	206.46
209	PROP. HYDRANT #1 W/SHOE BUTTRESS 6.0' BURY DEPTH (CL SHOE - 206.66)	26+05.6 AT 31.4' LT.	206.47
210	PROP. 24" X 22-1/2° MJ-PE VERT. BEND	26+21.6 AT 13.6' LT.	205.99
211	PROP. 24" X 24" MJ TEE ROTATED UP 22-1/2°	26+24.5 AT 13.6' LT.	204.78

Underground utilities have been shown to a reasonable degree of accuracy using diggers hotline field locates and record drawings. However, the city does not guarantee their exact size, location or depth or that of others not shown. The contractor shall verify the existence of these utilities and those not shown. Costs for locating and delay shall be incidental to the contract.

PROP. 44.2 L.F. OF 12", 6.0 L.F. OF 16" AND 22.0 L.F. OF 24" PVC WATER MAIN AWWA C-900 DR 18 AND 17.8 L.F. OF 6" PVC AWWA C900 DR 14 RESTRAINED HYDRANT LEAD RUBBER GASKET PUSH-ON JOINTS. Polyethylene envelope for fittings. 3/8" limestone chip bedding & cover. ***Mechanically compacted crushed concrete backfill***. Special **Type "D" Pavement** Replacement: **3-inch thick** HMA PAVEMENT 5 LT 58-28 S, over proposed backfill. Full **5-inch thick Concrete Sidewalk** square replacement for all removed sidewalk squares for lateral/service relays. Asphalt Curb & Gutter (C&G) replacement required where existing (C&G) has been removed. Type "D" Lawn Replacement required for all disturbed lawn areas. Include all costs in the Bid Price.

DATE	DESCRIPTION

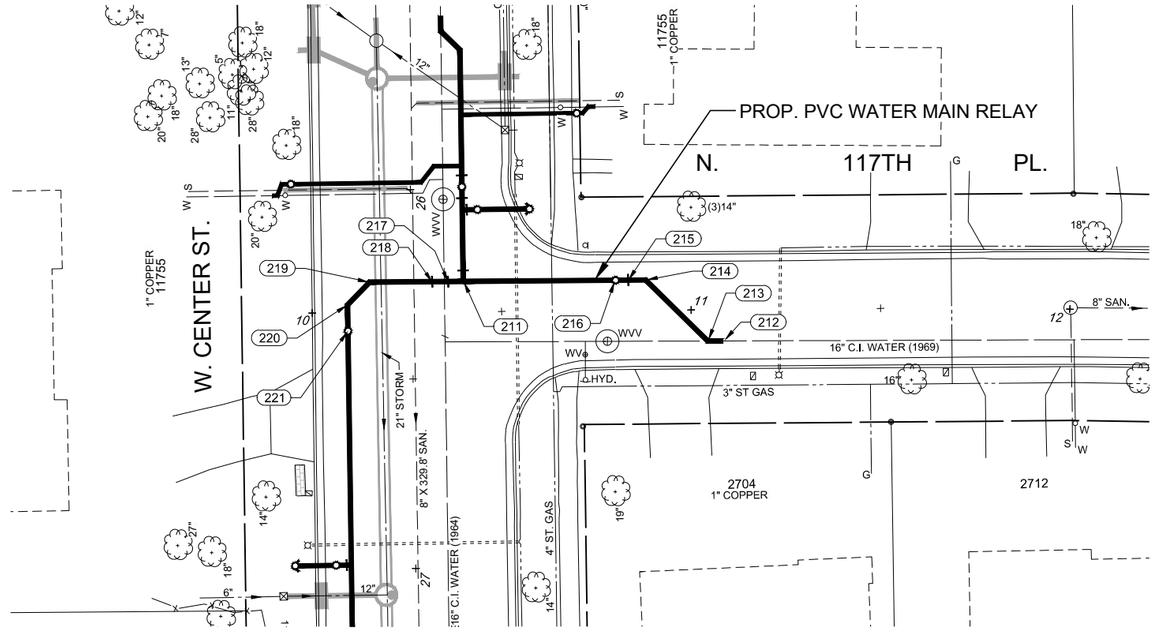
CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

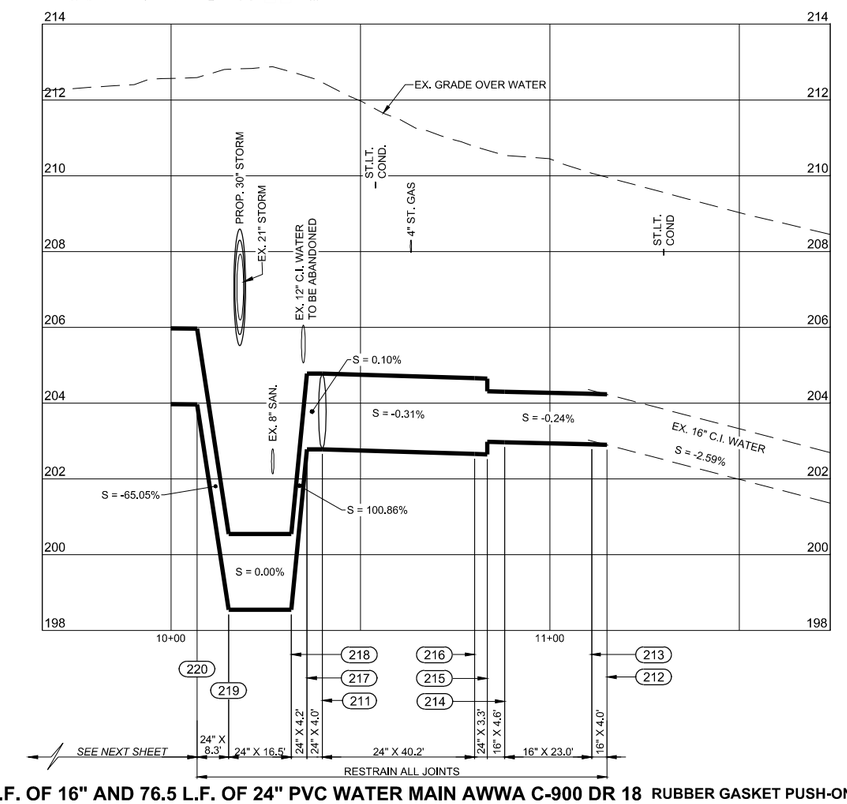
WATER MAIN RELAY
W. CENTER ST.
FROM: N. 118TH ST.
TO: N. 116TH ST.

CONTRACT: 24-08
FILE NO: 30-814
DRAWN BY: C.R.
CHECKED BY: M.M.
SCALE: AS SHOWN

B01

PROP. EROSION CONTROL INLET/STORM MH PROTECTION
Install Type "D" Inlet Protection in all the inlets and catch basins with curb boxes, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Install Type "B" Inlet Protection in all storm manholes that have open grate covers, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Inlet/Storm MH Erosion Control Protection must be removed when work is completed. Cost to be incidental to contract.





#	Description	Location	Top of Prop. Main
211	PROP. 24" X 24" MJ TEE ROTATED UP 22-1/2°	26+24.5 AT 13.6' LT.	204.78
212	PROP. 16" DUAL PURPOSE MJ SLEEVE CUT-IN CONNECTION	11+08.3 AT 8.3' RT.	204.23
213	PROP. 16" X 45° MJ BEND	26+41.1 AT 77.9' LT.	204.24
214	PROP. 16" X 45° MJ BEND & GRADE BREAK	10+88.1 AT 8.0' LT.	204.30
215	PROP. 24" X 16" MJ REDUCER (SOUTH END)	10+83.5 AT 8.0' LT.	204.65
216	PROP. 24" BUTTERFLY VAVLE	10+80.1 AT 8.0' LT.	204.66
217	PROP. 24" X 45° MJ VERT. BEND	26+24.4 AT 9.6' LT.	204.78
218	PROP. 24" X 45° MJ VERT. BEND	26+24.4 AT 5.4' LT.	200.55
219	PROP. 24" X 45° MJ BEND TURNED UP	26+24.3 AT 11.1' RT.	200.55
220	PROP. 24" X 45° MJ BEND TURNED DOWN	26+30.2 AT 17.0' RT.	205.96

Underground utilities have been shown to a reasonable degree of accuracy using diggers hotline field locates and record drawings. However, the city does not guarantee their exact size, location or depth or that of others not shown. The contractor shall verify the existence of these utilities and those not shown. Costs for locating and delay shall be incidental to the contract.

PROP. 31.6 L.F. OF 16" AND 76.5 L.F. OF 24" PVC WATER MAIN AWWA C-900 DR 18 RUBBER GASKET PUSH-ON JOINTS.
Polyethylene envelope for fittings. 3/8" limestone chip bedding & cover. ***Mechanically compacted crushed concrete backfill***. Special **Type "D" Pavement** Replacement: **3-inch thick** HMA PAVEMENT 5 LT 58-28 S, over proposed backfill. Full **5-inch thick Concrete Sidewalk** square replacement for all removed sidewalk squares for lateral/service relays. Asphalt Curb & Gutter (C&G) replacement required where existing (C&G) has been removed. Type "D" Lawn Replacement required for all disturbed lawn areas. Include all costs in the Bid Price.

DATE	DESCRIPTION

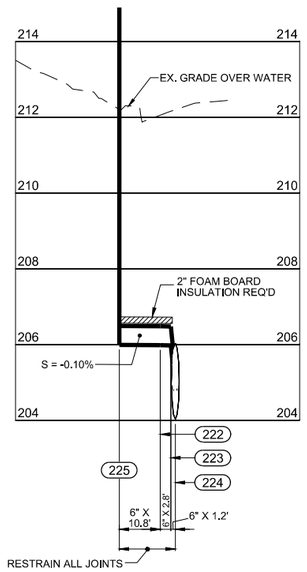
CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

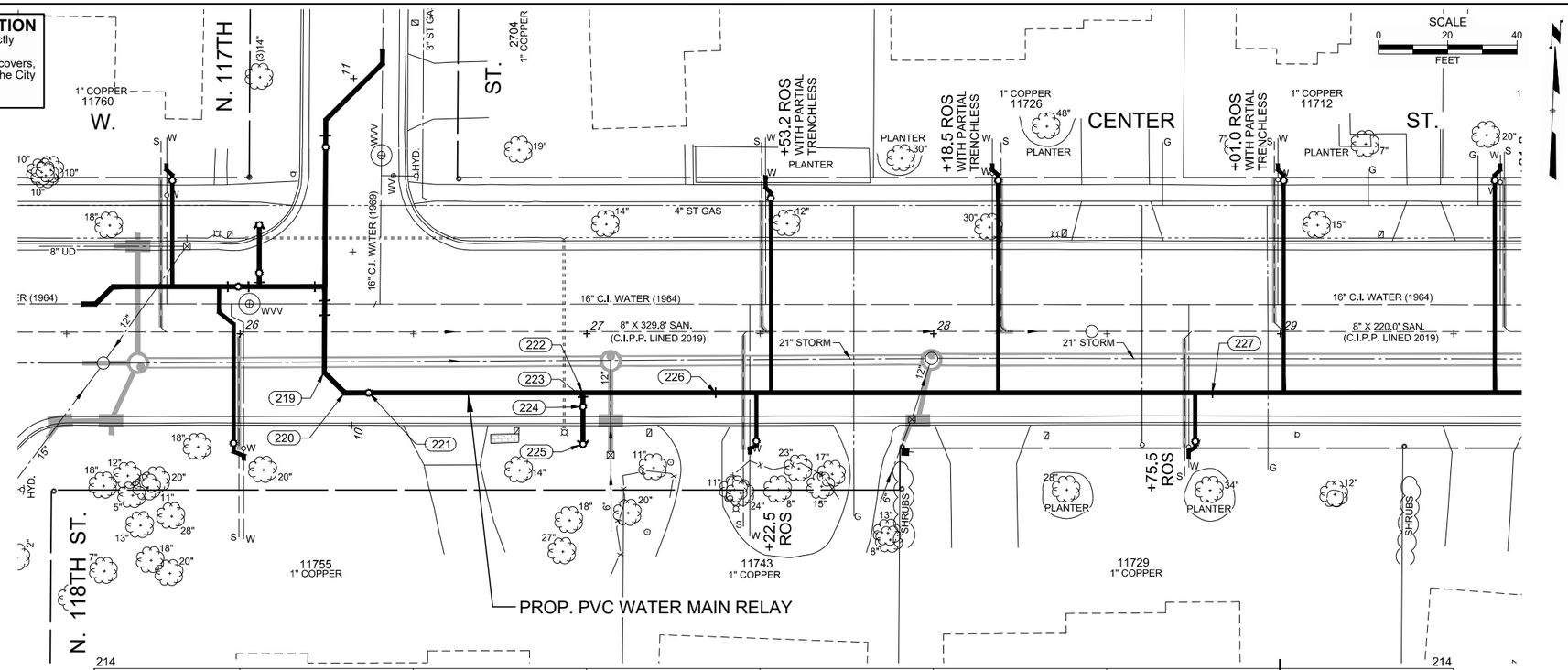
WATER MAIN RELAY
N. 117TH PL.
FROM: W. CENTER ST. TO: 100' N. OF W. CENTER ST.

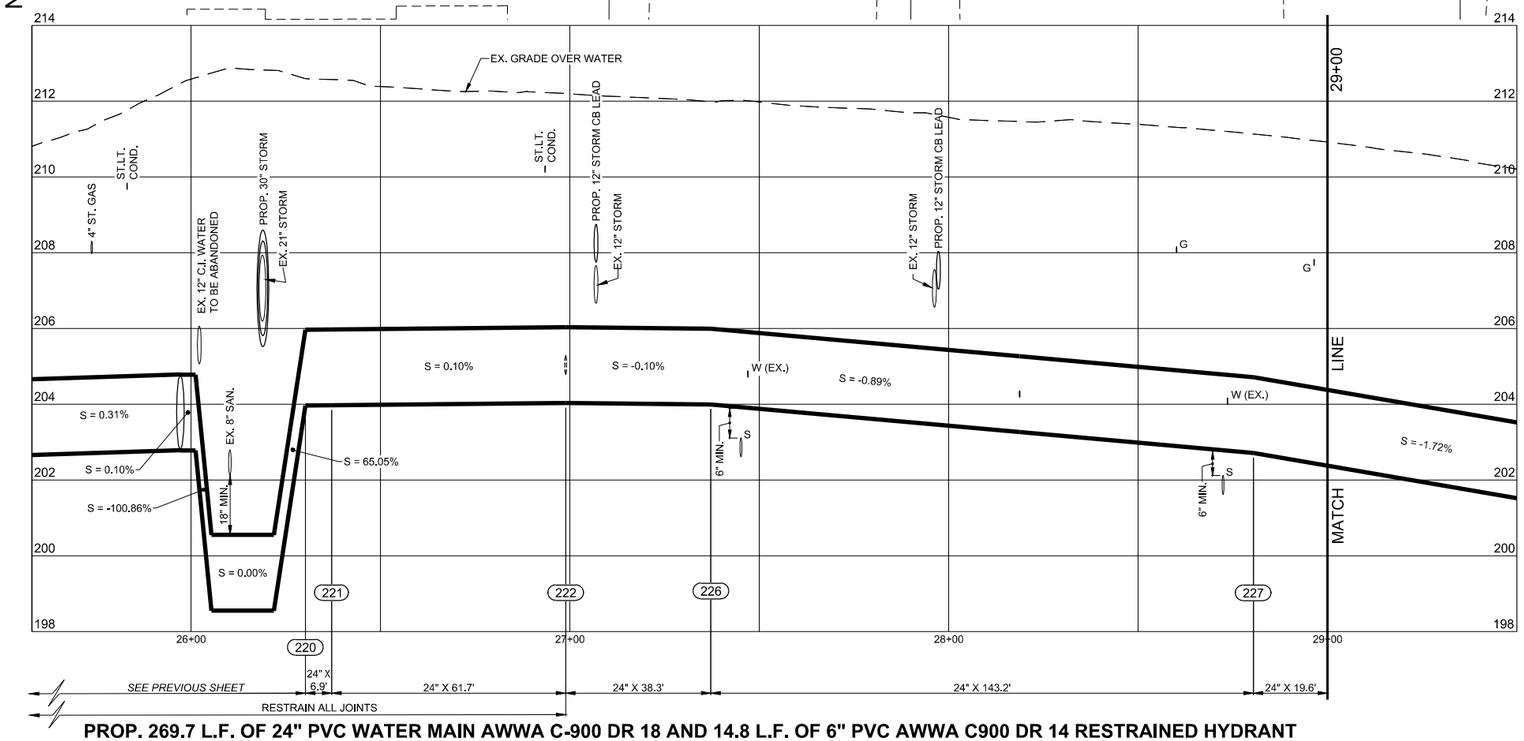
CONTRACT: 24-08
FILE NO: 30-814
DRAWN BY: C.R.
CHECKED BY: M.M.
SCALE: AS SHOWN

B02

PROP. EROSION CONTROL INLET/STORM MH PROTECTION
Install Type "D" Inlet Protection in all the inlets and catch basins with curb boxes, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Install Type "B" Inlet Protection in all storm manholes that have open grate covers, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Inlet/Storm MH Erosion Control Protection must be removed when work is completed. Cost to be incidental to contract.







#	Description	Location	Top of Prop. Main
220	PROP. 24" X 45° MJ BEND TURNED DOWN	26+30.2 AT 17.0' RT.	205.96
221	PROP. 24" BUTTERFLY VALVE	26+37.1 AT 17.0' RT.	205.97
222	PROP. 24" X 6" MJ TEE & GRADE BREAK	26+98.9 AT 17.0' RT.	206.03
223	PROP. 6" X 45° MJ-PE VERT. BEND (HUNG ON TEE)	26+98.9 AT 18.2' RT.	206.48
224	PROP. 6" MJ/RW GATE VALVE	26+98.9 AT 21.0' RT.	206.48
225	PROP. HYDRANT #2 W/SHOE BUTTRESS 6.0' BURY DEPTH (CL SHOE - 206.71)	26+98.9 AT 31.8' RT.	206.49
226	PROP. 24" PVC HIGH DEFLECTION COUPLING (0.47°)	27+37.2 AT 17.0' RT.	205.99
227	PROP. 24" PVC HIGH DEFLECTION COUPLING (0.47°)	28+80.4 AT 17.0' RT.	204.71

Underground utilities have been shown to a reasonable degree of accuracy using diggers hotline field locates and record drawings. However, the city does not guarantee their exact size, location or depth or that of others not shown. The contractor shall verify the existence of these utilities and those not shown. Costs for locating and delay shall be incidental to the contract.

PROP. 269.7 L.F. OF 24" PVC WATER MAIN AWWA C-900 DR 18 AND 14.8 L.F. OF 6" PVC AWWA C900 DR 14 RESTRAINED HYDRANT LEAD RUBBER GASKET PUSH-ON JOINTS. Polyethylene envelope for fittings. 3/8" limestone chip bedding & cover. ***Mechanically compacted crushed concrete backfill***. Special **Type "D" Pavement** Replacement: **3-inch thick** HMA PAVEMENT 5 LT 58-28 S, over proposed backfill. Full **5-inch thick Concrete Sidewalk** square replacement for all removed sidewalk squares for lateral/service relays. Asphalt Curb & Gutter (C&G) replacement required where existing (C&G) has been removed. Type "D" Lawn Replacement required for all disturbed lawn areas. Include all costs in the Bid Price.

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

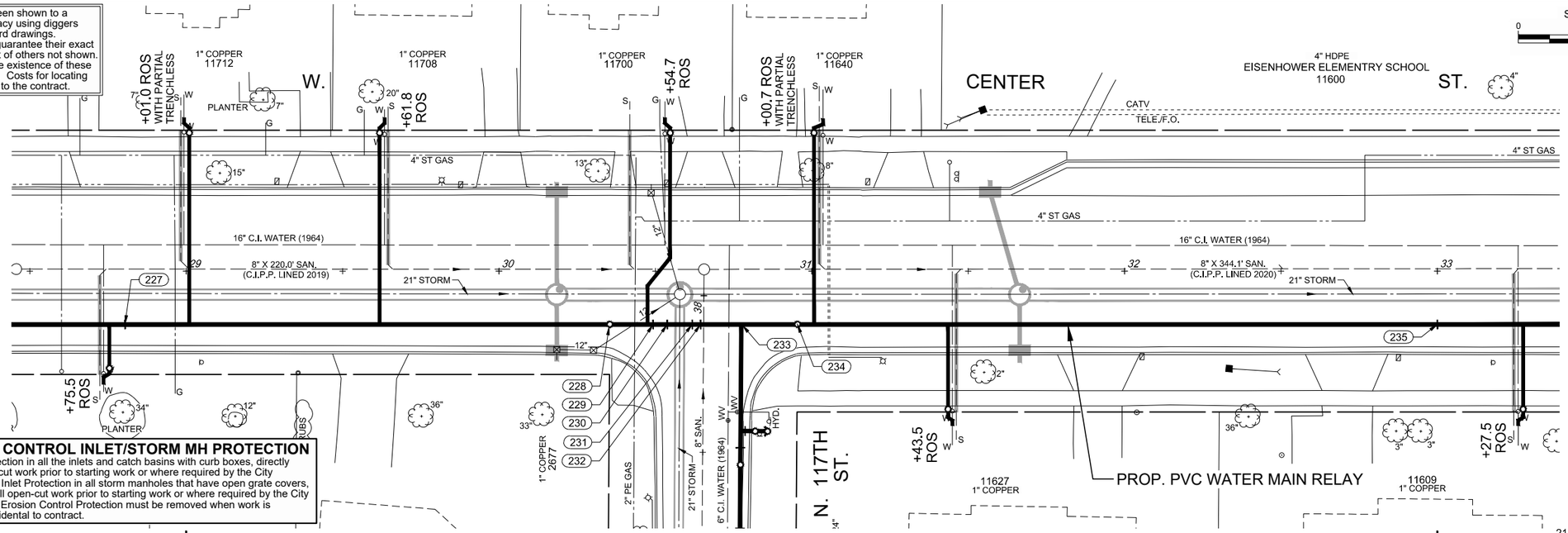
WATER MAIN RELAY
W. CENTER ST.
FROM: N. 118TH ST. TO: N. 116TH ST.

CONTRACT: 24-08
FILE NO: 30-814
DRAWN BY: C.R.
CHECKED BY: M.M.
SCALE: AS SHOWN

B03

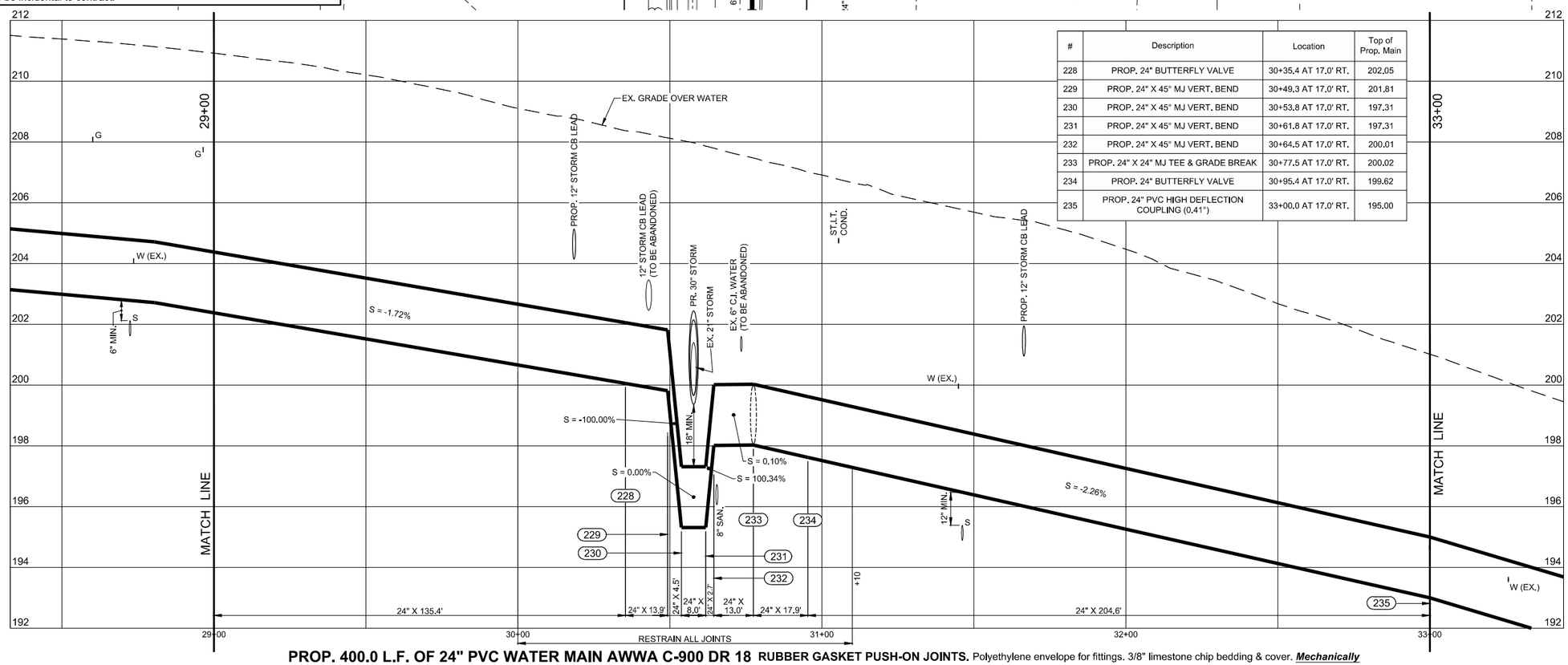
FILE NAME : S:\DEPARTMENT FOLDERS\ENGINEERING\ACAD_PROJECTS\24-08 W CENTER ST\DESIGN\PIPENETWORKS\CENTER PROP UTILITIES CR.DWG PLOT DATE : 4/23/2024 1:11 PM PLOT BY : C.R.

Underground utilities have been shown to a reasonable degree of accuracy using diggers hotline field locates and record drawings. However, the city does not guarantee their exact size, location or depth or that of others not shown. The contractor shall verify the existence of these utilities and those not shown. Costs for locating and delay shall be incidental to the contract.



PROP. EROSION CONTROL INLET/STORM MH PROTECTION
Install Type "D" Inlet Protection in all the inlets and catch basins with curb boxes, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Install Type "B" Inlet Protection in all storm manholes that have open grate covers, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Inlet/Storm MH Erosion Control Protection must be removed when work is completed. Cost to be incidental to contract.

#	Description	Location	Top of Prop. Main
228	PROP. 24" BUTTERFLY VALVE	30+35.4 AT 17.0' RT.	202.05
229	PROP. 24" X 45° MJ VERT. BEND	30+49.3 AT 17.0' RT.	201.81
230	PROP. 24" X 45° MJ VERT. BEND	30+53.8 AT 17.0' RT.	197.31
231	PROP. 24" X 45° MJ VERT. BEND	30+61.8 AT 17.0' RT.	197.31
232	PROP. 24" X 45° MJ VERT. BEND	30+64.5 AT 17.0' RT.	200.01
233	PROP. 24" X 24" MJ TEE & GRADE BREAK	30+77.5 AT 17.0' RT.	200.02
234	PROP. 24" BUTTERFLY VALVE	30+95.4 AT 17.0' RT.	199.62
235	PROP. 24" PVC HIGH DEFLECTION COUPLING (0.41°)	33+00.0 AT 17.0' RT.	195.00



PROP. 400.0 L.F. OF 24" PVC WATER MAIN AWWA C-900 DR 18 RUBBER GASKET PUSH-ON JOINTS. Polyethylene envelope for fittings. 3/8" limestone chip bedding & cover. ***Mechanically compacted crushed concrete backfill.*** Special **Type "D" Pavement** Replacement: **3-inch thick** HMA PAVEMENT 5 LT 58-28 S, over proposed backfill. Full **5-inch thick Concrete Sidewalk** square replacement for all removed sidewalk squares for lateral/service relays. Asphalt Curb & Gutter (C&G) replacement required where existing (C&G) has been removed. Type "D" Lawn Replacement required for all disturbed lawn areas. Include all costs in the Bid Price.

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

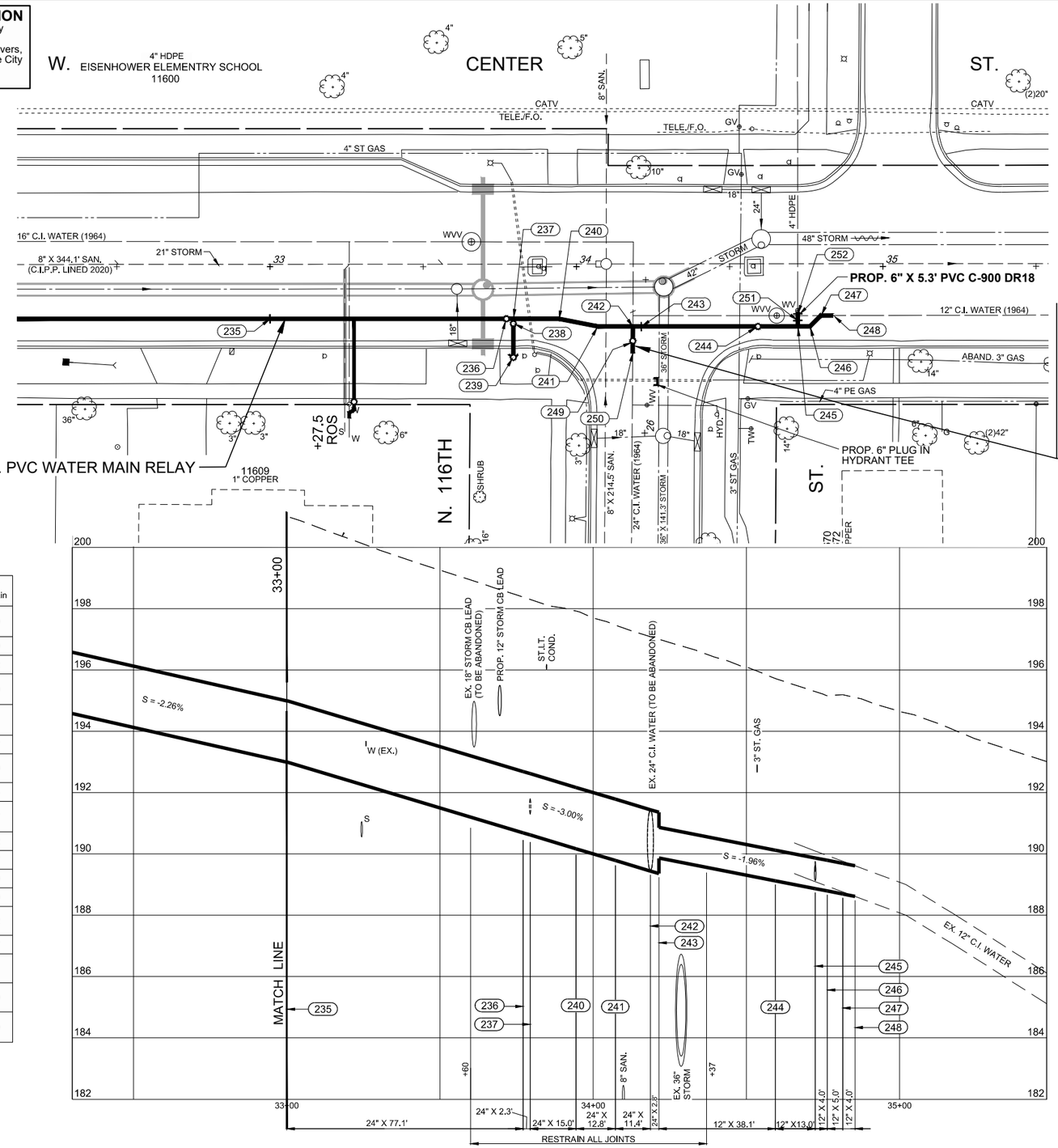
WATER MAIN RELAY
W. CENTER ST.
FROM: N. 118TH ST. TO: N. 116TH ST.

CONTRACT:	24-08
FILE NO:	30-814
DRAWN BY:	C.R.
CHECKED BY:	M.M.
SCALE:	AS SHOWN

B04

FILE NAME : S:\DEPARTMENT FOLDERS\ENGINEERING\ACAD_PROJECTS\24-08 W CENTER ST\DESIGN\PIPENETWORKS\CENTER PROP UTILITIES CR.DWG PLOT DATE : 4/23/2024 1:12 PM PLOT BY : C.R.

PROP. EROSION CONTROL INLET/STORM MH PROTECTION
Install Type "D" Inlet Protection in all the inlets and catch basins with curb boxes, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Install Type "B" Inlet Protection in all storm manholes that have open grate covers, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Inlet/Storm MH Erosion Control Protection must be removed when work is completed. Cost to be incidental to contract.



PROP. 8.7 L.F. OF 24" D.I. WATER MAIN AWWA C-151 CL 55 RUBBER GASKET PUSH-ON JOINTS. ***Restrain all joints.*** Polyethylene envelope. 3/8" limestone chip bedding & cover. ***Mechanically compacted crushed concrete backfill***. Special **Type "D" Pavement** Replacement: **3-inch thick** HMA PAVEMENT 5 LT 58-28 S, over proposed backfill. Full **5-inch thick Concrete Sidewalk** square replacement for all removed sidewalk squares for lateral/service relays. Asphalt Curb & Gutter (C&G) replacement required where existing (C&G) has been removed. Type "D" Lawn Replacement required for all disturbed lawn areas. Include all costs in the Bid Price.

#	Description	Location	Top of Prop. Main
235	PROP. 24" PVC HIGH DEFLECTION COUPLING (0.41°)	33+00.0 AT 17.0' RT.	195.00
236	PROP. 24" BUTTERFLY VALVE	33+77.1 AT 17.0' RT.	192.69
237	PROP. 24" X 6" MJ ANCHOR TEE	33+79.4 AT 17.0' RT.	192.62
238	PROP. 6" MJ/RW GATE VALVE (HUNG ON TEE)	33+79.4 AT 18.6' RT.	196.40
239	PROP. HYDRANT #4 W/SHOE BUTTRESS 7.0' BURY DEPTH (CL SHOE - 191.78)	33+79.4 AT 29.6' RT.	197.41
240	PROP. 24" X 11-1/4° MJ BEND	33+94.4 AT 17.0' RT.	192.17
241	PROP. 24" X 11-1/4° MJ BEND & GRADE BREAK	34+07.0 AT 19.5' RT.	191.79
242	PROP. 24" X 24" MJ TEE	34+18.4 AT 19.5' RT.	191.44
243	PROP. 24" X 12" MJ-PE REDUCER (SEB) (HUNG ON TEE) & GRADE BREAK	34+21.2 AT 19.5' RT.	190.87
244	PROP. 12" MJ/RW GATE VALVE	34+59.2 AT 19.5' RT.	190.12
245	PROP. 12" X 6" MJ TEE	34+72.2 AT 19.6' RT.	189.87
246	PROP. 12" X 45° MJ BEND	34+76.2 AT 19.6' RT.	189.79
247	PROP. 12" X 45° MJ BEND	34+79.7 AT 16.0' RT.	189.69
248	PROP. 12" DUAL PURPOSE MJ SLEEVE CUT-IN CONNECTION	34+83.7 AT 16.0' RT.	189.62
249	PROP. 24" BUTTERFLY VALVE	34+18.4 AT 24.2' RT.	191.37
250	PROP. 24" DUAL PURPOSE MJ SLEEVE CUT-IN CONNECTION	34+18.3 AT 28.2' RT.	191.31
251	PROP. 6" SHORT SLEEVE IN THE MIDDLE OF 6" PVC PIPE	34+72.2 AT 17.6' RT.	189.70
252	PROP. 6" X 4" MJ-PE REDUCER (LEB) (CONNECT TO EX. TEE)	34+72.2 AT 15.5' RT.	189.79

Underground utilities have been shown to a reasonable degree of accuracy using diggers hotline field locates and record drawings. However, the city does not guarantee their exact size, location or depth or that of others not shown. The contractor shall verify the existence of these utilities and those not shown. Costs for locating and delay shall be incidental to the contract.

PROP. 64.1 L.F. OF 12" AND 121.4 L.F. OF 24" PVC WATER MAIN AWWA C-900 DR 18 AND 17.8 L.F. OF 6" PVC AWWA C900 DR 14 RESTRAINED HYDRANT LEAD AND WATER SERVICE RUBBER GASKET PUSH-ON JOINTS. Polyethylene envelope for fittings. 3/8" limestone chip bedding & cover. ***Mechanically compacted crushed concrete backfill***. Special **Type "D" Pavement** Replacement: **3-inch thick** HMA PAVEMENT 5 LT 58-28 S, over proposed backfill. Full **5-inch thick Concrete Sidewalk** square replacement for all removed sidewalk squares for lateral/service relays. Asphalt Curb & Gutter (C&G) replacement required where existing (C&G) has been removed. Type "D" Lawn Replacement required for all disturbed lawn areas. Include all costs in the Bid Price.

SCALE 0 20 40 FEET

DESCRIPTION
DATE

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

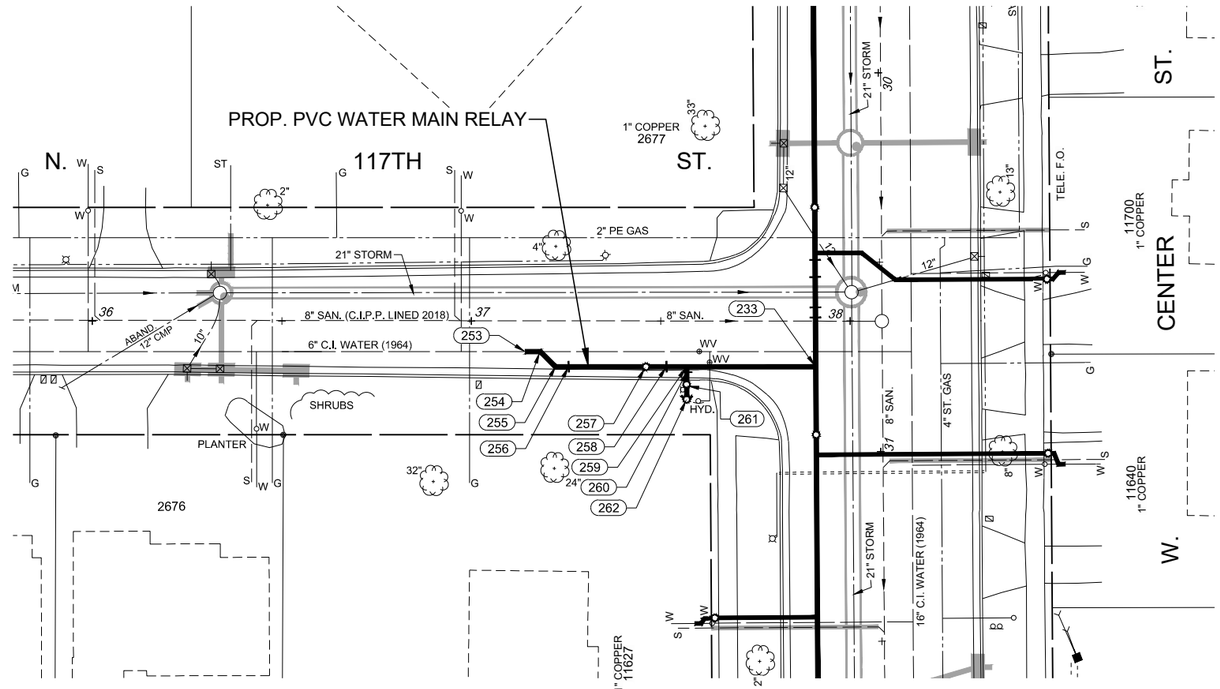
WATER MAIN RELAY
W. CENTER ST.
FROM: N. 118TH ST. TO: N. 116TH ST.

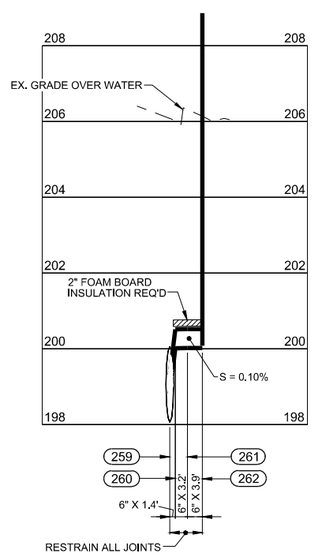
CONTRACT: 24-08
FILE NO: 30-814
DRAWN BY: C.R.
CHECKED BY: M.M.
SCALE: AS SHOWN

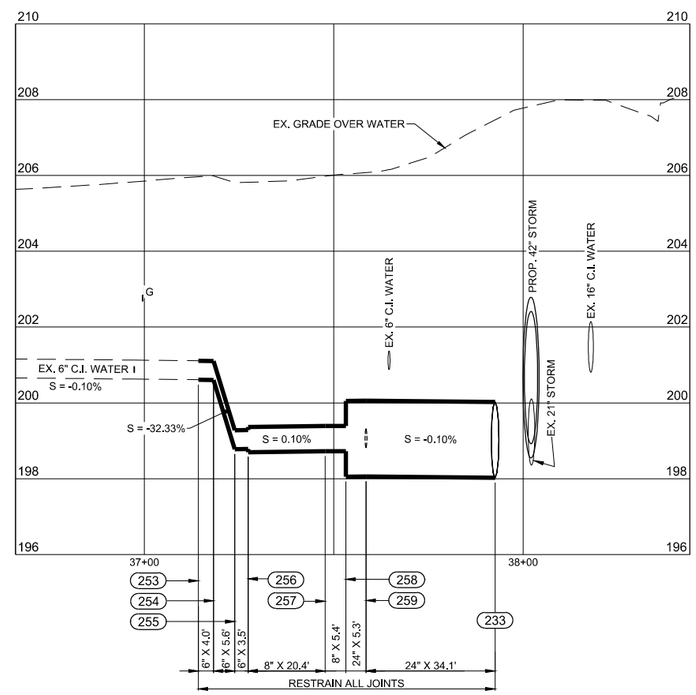
B05

FILE NAME : S:\DEPARTMENT FOLDERS\ENGINEERING\ACAD_PROJECTS\24-08 W CENTER ST\DESIGN\PIPENETWORKS\CENTER PROP UTILITIES CR.DWG PLOT DATE : 4/23/2024 1:12 PM PLOT BY : C.R.

PROP. EROSION CONTROL INLET/STORM MH PROTECTION
Install Type "D" Inlet Protection in all the inlets and catch basins with curb boxes, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Install Type "B" Inlet Protection in all storm manholes that have open grate covers, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Inlet/Storm MH Erosion Control Protection must be removed when work is completed. Cost to be incidental to contract.







#	Description	Location	Top of Prop. Main
233	PROP. 24" X 24" MJ TEE & GRADE BREAK	30+77.5 AT 17.0' RT.	200.02
253	PROP. 6" DUAL PURPOSE MJ SLEEVE CUT-IN CONNECTION	37+14.2 AT 8.0' RT.	201.11
254	PROP. 6" X 45° MJ BEND TURNED DOWN	37+18.2 AT 8.0' RT.	201.10
255	PROP. 6" X 45° MJ BEND TURNED UP	37+22.2 AT 12.0' RT.	199.28
256	PROP. 8" X 6" MJ REDUCER	37+25.7 AT 12.0' RT.	199.37
257	PROP. 8" MJ/RW GATE VALVE	37+46.1 AT 12.1' RT.	199.39
258	PROP. 24" X 8" MJ REDUCER	37+51.6 AT 12.1' RT.	200.05
259	PROP. 8" X 6" MJ ANCHOR TEE & GRADE BREAK	37+56.9 AT 12.0' RT.	200.06
260	PROP. 6" X 45° MJ-PE VERT. BEND (HUNG ON TEE)	37+56.9 AT 13.5' RT.	200.52
261	PROP. 6" MJ/RW GATE VALVE	37+56.9 AT 16.7' RT.	200.52
262	PROP. HYDRANT #3 W/SHOE BUTTRESS 6.0' BURY DEPTH (CL SHOE - 200.63)	37+56.9 AT 20.7' RT.	200.52

Underground utilities have been shown to a reasonable degree of accuracy using diggers hotline field locates and record drawings. However, the city does not guarantee their exact size, location or depth or that of others not shown. The contractor shall verify the existence of these utilities and those not shown. Costs for locating and delay shall be incidental to the contract.

PROP. 25.8 L.F. OF 8", 39.4 L.F. OF 24" PVC WATER MAIN AWWA C-900 DR 18 AND 21.6 L.F. OF 6" PVC AWWA C900 DR 14 RESTRAINED WATER MAIN AND HYDRANT LEAD RUBBER GASKET PUSH-ON JOINTS. Polyethylene envelope for fittings. 3/8" limestone chip bedding & cover. ***Mechanically compacted crushed concrete backfill***. Special **Type "D" Pavement** Replacement: **3-inch thick** HMA PAVEMENT 5 LT 58-28 S, over proposed backfill. Full **5-inch thick Concrete Sidewalk** square replacement for all removed sidewalk squares for lateral/service relays. Asphalt Curb & Gutter (C&G) replacement required where existing (C&G) has been removed. Type "D" Lawn Replacement required for all disturbed lawn areas. Include all costs in the Bid Price.

SCALE 0 20 40 FEET

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

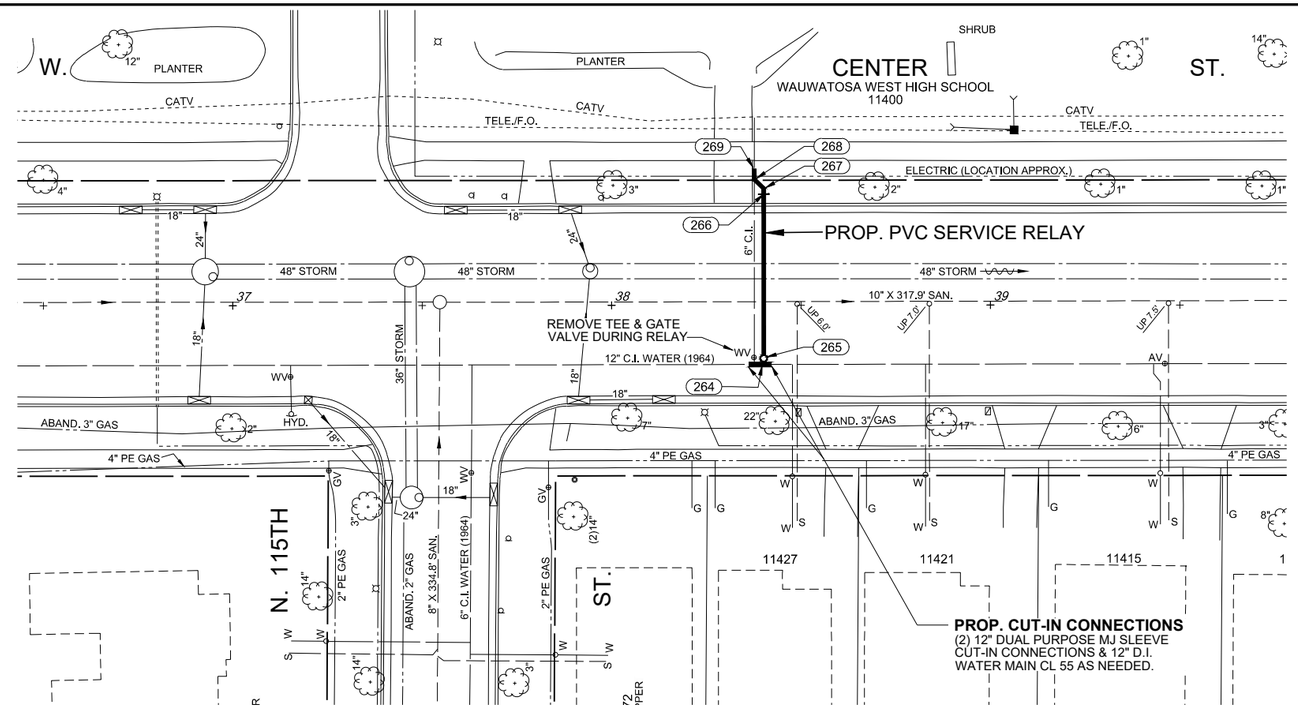
WATER MAIN RELAY
N. 117TH ST.
FROM: 100' S. OF W. CENTER ST.
TO: W. CENTER ST.

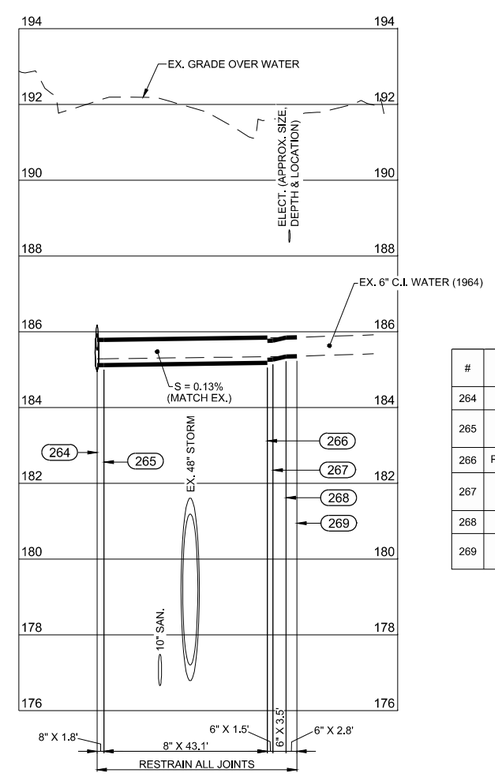
CONTRACT: 24-08
FILE NO: 30-814
DRAWN BY: C.R.
CHECKED BY: M.M.
SCALE: AS SHOWN

B06

FILE NAME : S:\DEPARTMENT FOLDERS\ENGINEERING\ACAD_PROJECTS\24-08 W CENTER ST\DESIGN\PIPENETWORKS\CENTER PROP UTILITIES CR.DWG PLOT DATE : 4/23/2024 1:16 PM PLOT BY : C.R.

PROP. EROSION CONTROL INLET/STORM MH PROTECTION
Install Type "D" Inlet Protection in all the inlets and catch basins with curb boxes, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Install Type "B" Inlet Protection in all storm manholes that have open grate covers, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Inlet/Storm MH Erosion Control Protection must be removed when work is completed. Cost to be incidental to contract.





#	Description	Location	Top of Prop. Main
264	PROP. 12" X 8" MJ ANCHOR TEE	38+40.1 AT 15.6' RT.	
265	PROP. 8" MJ/RW GATE VALVE (HUNG ON TEE)	38+40.2 AT 13.8' RT.	185.79
266	PROP. 8" X 6" MJ-PE REDUCER (LEB)	38+40.2 AT 29.3' LT.	185.85
267	PROP. 6" X 45° MJ BEND (HUNG ON REDUCER)	38+40.2 AT 30.8' LT.	185.77
268	PROP. 6" X 45° MJ BEND	38+37.7 AT 33.2' LT.	185.85
269	PROP. 6" DUAL PURPOSE MJ SLEEVE CUT-IN CONNECTION	38+37.7 AT 36.0' LT.	185.86

PROP. 44.9 L.F. OF 8" AND 7.8 L.F. 6" PVC AWWA C900 DR 14 RESTRAINED WATER SERVICE RELAY RUBBER GASKET PUSH-ON JOINTS.
Polyethylene envelope for fittings. 3/8" limestone chip bedding & cover. ***Mechanically compacted crushed concrete backfill***. Special **Type "D" Pavement** Replacement: **3-inch thick** HMA PAVEMENT 5 LT 58-28 S, over proposed backfill. Full **5-inch thick Concrete Sidewalk** square replacement for all removed sidewalk squares for lateral/service relays. Asphalt Curb & Gutter (C&G) replacement required where existing (C&G) has been removed. Type "D" Lawn Replacement required for all disturbed lawn areas. Include all costs in the Bid Price.

Underground utilities have been shown to a reasonable degree of accuracy using diggers hotline field locates and record drawings. However, the city does not guarantee their exact size, location or depth or that of others not shown. The contractor shall verify the existence of these utilities and those not shown. Costs for locating and delay shall be incidental to the contract.

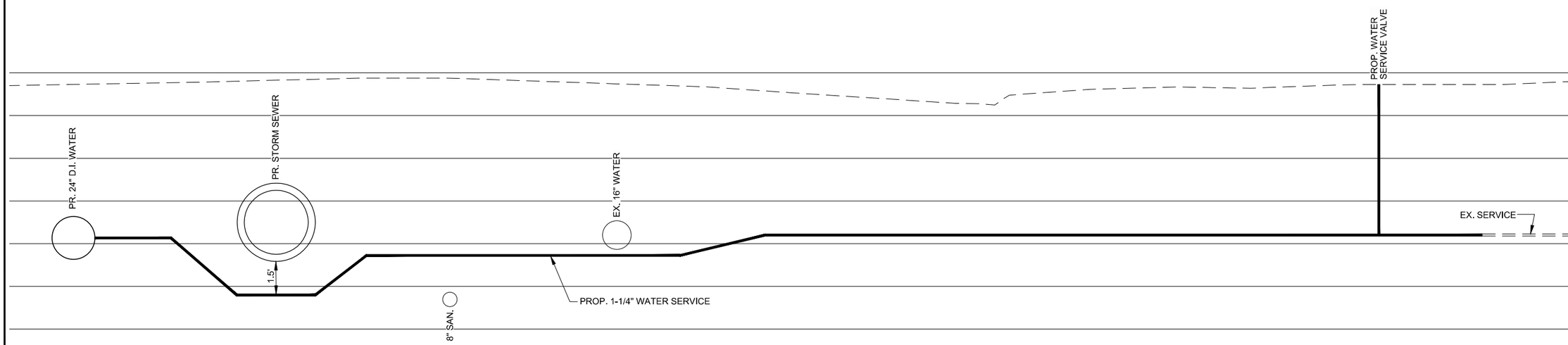
DESCRIPTION
DATE

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

WATER SERVICE RELAY
W. CENTER ST.
AT 85' EAST OF N. 115TH ST.

CONTRACT: 24-08
FILE NO: 30-814
DRAWN BY: C.R.
CHECKED BY: M.M.
SCALE: AS SHOWN

B07



WATER SERVICE REPLACEMENT DETAIL

1" = 5'

REPLACE ORIGINAL TAP SERVICE; ROS & ROS with PARTIAL TRENCHLESS

ROS: Replace Original Tap Service by open-cut or trenchless method; this shall be the Contractor's option.
ROS with PARTIAL TRENCHLESS: Replace Original Tap Service by using a *Trenchless method*, such as auguring behind the curb and through the tree root zone (as defined by the tree drip line); curb stop and reconnection point shall be open-cut as needed; with option to open-cut remainder. The contractor shall extend new high-density polyethylene, HDPE SDR 9 (CTS) AWWA C-901 from the existing main to the existing service as shown. ROS and ROS with PARTIAL TRENCHLESS shall be a minimum of 1¼" or larger to match existing. The station shown on the plan is the proposed location of the service run -- the actual connection to the new main will be to either side. The contractor shall make the wet tap and install service saddle; ball corporation stop; fittings; and ball curb stop. The contract price shall include all costs for excavation, abandoning the existing curb stop, materials other than city supplied, polyethylene wrap, bedding and *Mechanically compacted crushed concrete backfill.* Special Type "D" Pavement Replacement: 3-inch thick HMA PAVEMENT 5 LT 58-28 S, over proposed backfill. Full 5-inch thick Concrete Sidewalk square and carriage walk replacement for all removed sidewalk squares and carriage walk for lateral/service relays. Asphalt Curb & Gutter (C&G) replacement required where existing (C&G) has been removed. Type "D" Lawn Replacement required for all disturbed lawn areas. Include the costs of any tree and scrub removal. Separate payments for ROS and ROS with PARTIAL TRENCHLESS. Each will be paid per L.F.

SPECIAL SITUATION NOTE:

The contractor shall install 2" foam board insulation over any water services that have less than 2' of separation between the new service and the proposed storm sewer. Include all costs with the price of the water service relay.

Underground utilities have been shown to a reasonable degree of accuracy using diggers hotline field locates and record drawings. However, the city does not guarantee their exact size, location or depth or that of others not shown. The contractor shall verify the existence of these utilities and those not shown. Costs for locating and delay shall be incidental to the contract.

DATE	DESCRIPTION
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CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

WATER SERVICE REPLACEMENT DETAIL

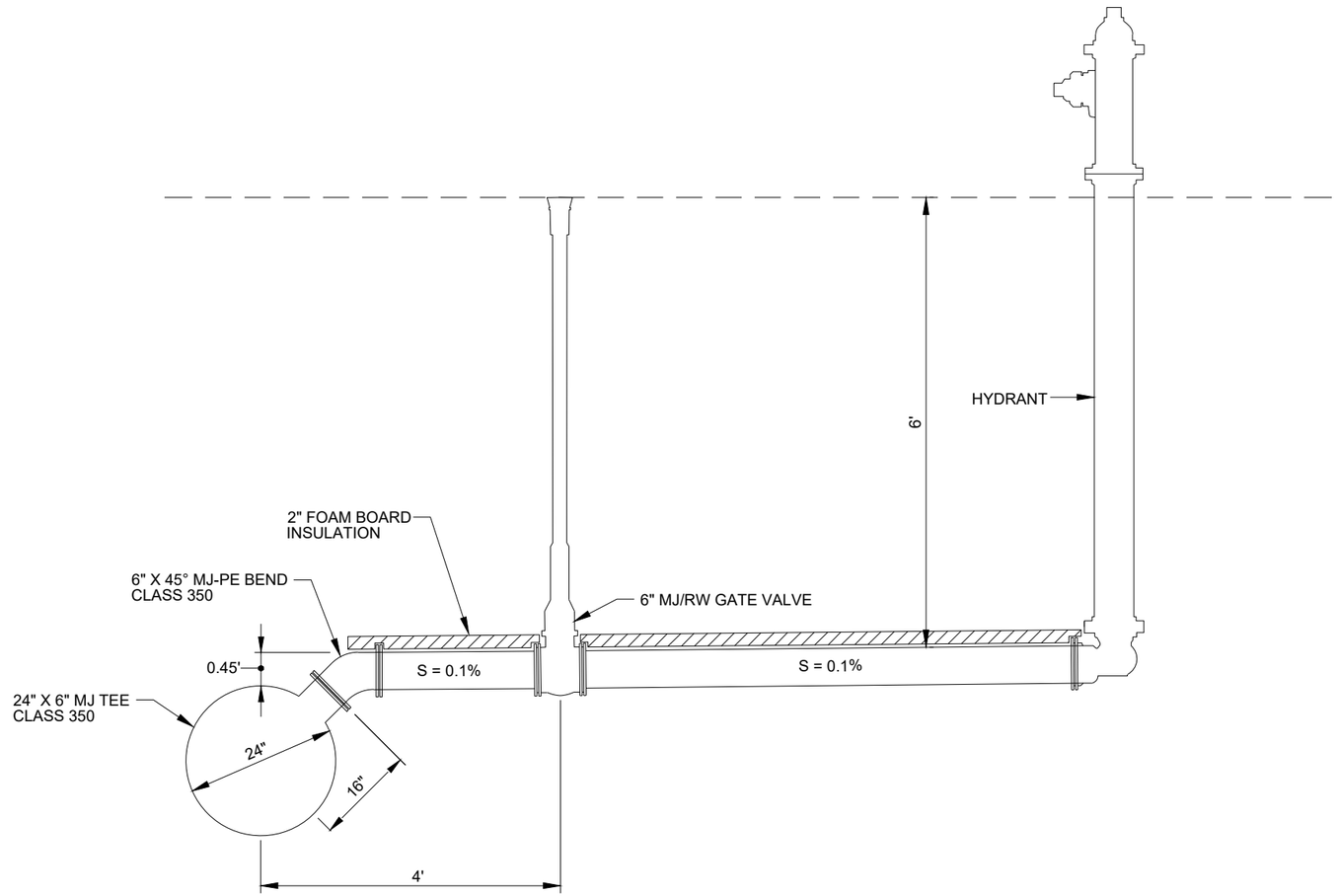
W. CENTER ST.

FROM: N. 118TH ST. TO: N. 116TH ST.

CONTRACT: 24-08
FILE NO: 30-814
DRAWN BY: C.R.
CHECKED BY: M.M.
SCALE: AS SHOWN

B08

FILE NAME : S:\DEPARTMENT FOLDERS\ENGINEERING\ACAD_PROJECTS\24-08 W CENTER ST\DESIGN\PIPENETWORKS\CENTER PROP UTILITIES CR.DWG PLOT DATE : 4/23/2024 8:14 AM PLOT BY : C.R.



SPECIAL HYDRANT LEAD DETAIL WITH 45° FROM VERTICAL TEE

1" = 2'

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

DETAIL

W. CENTER ST.

FROM: N. 118TH ST.

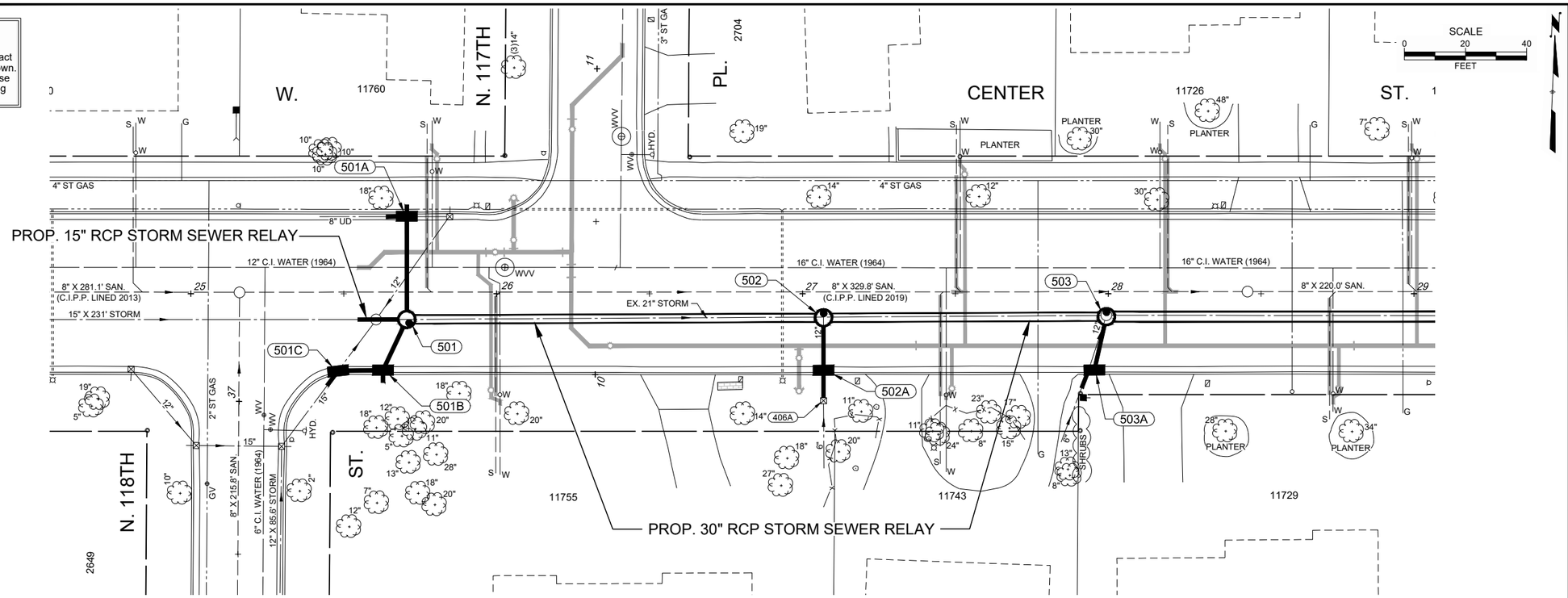
TO: N. 116TH ST.

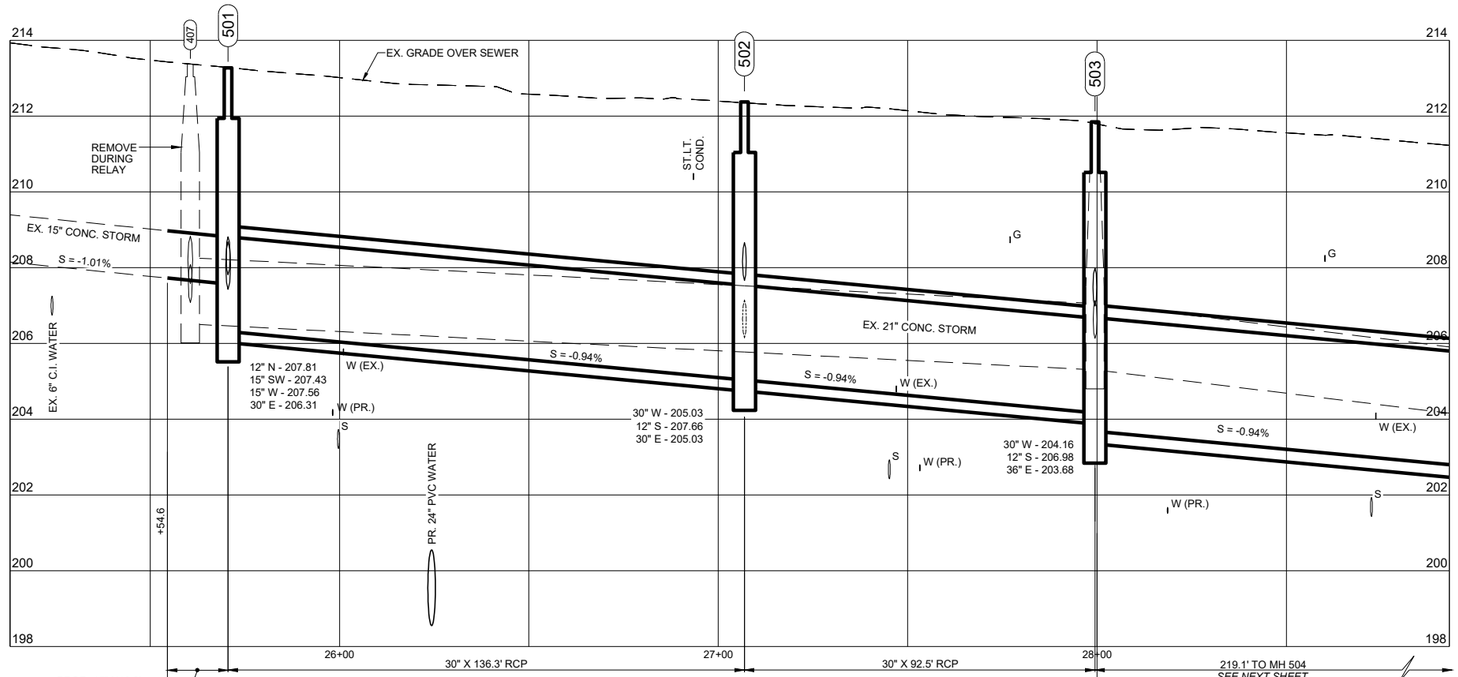
CONTRACT:	24-08
FILE NO:	30-814
DRAWN BY:	C.R.
CHECKED BY:	M.M.
SCALE:	AS SHOWN

B09

FILE NAME : S:\DEPARTMENT FOLDERS\ENGINEERING\ACAD_PROJECTS\24-08 W CENTER ST\DESIGN\VALVE VAULT DETAIL.DWG PLOT DATE : 4/23/2024 9:19 AM PLOT BY : C.R.

Underground utilities have been shown to a reasonable degree of accuracy using diggers hotline field locates and record drawings. However, the city does not guarantee their exact size, location or depth or that of others not shown. The contractor shall verify the existence of these utilities and those not shown. Costs for locating and delay shall be incidental to the contract.





PROPOSED STORM SEWER MANHOLES WITH FLAT-TOP SLABS

#	Dia.	Location (Center of Structure)	Prop. Rim Elev.
501	60"	25+70.6 AT 8.4' RT.	213.27
502	60"	27+06.9 AT 7.9' RT.	212.37
503	60"	27+99.4 AT 7.5' RT.	211.85

New castings shall be **City supplied** Neenah R-1661-B frame with R-2471-D, in which the contractor shall pick up from DPW yard. Set iron castings to proposed grade with 6" chimney. Position castings as shown on the plan. ***Mechanically compacted crushed concrete backfill.*** Special **Type "D" Pavement** Replacement: **3-inch thick** HMA PAVEMENT 5 LT 58-28 S, over proposed backfill. Asphalt Curb & Gutter (C&G) replacement required where existing (C&G) has been removed. Type "D" Lawn Replacement required for all disturbed lawn areas. Include all costs in the Bid Price.

PROP. EROSION CONTROL INLET/STORM MH PROTECTION

Install Type "D" Inlet Protection in all the inlets and catch basins with curb boxes, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Install Type "B" Inlet Protection in all storm manholes that have open grate covers, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Inlet/Storm MH Erosion Control Protection must be removed when work is completed. Cost to be incidental to contract.

PROP. 228.8 L.F. 30" CL III AND 16.0 L.F. OF 15" CL. V RCP ASTM C-76 STORM SEWER Rubber

gasket joints. Full depth sawcuts required. St'd. Class "C" bedding. ***Mechanically compacted crushed concrete backfill.*** Special **Type "D" Pavement** Replacement: **3-inch thick** HMA PAVEMENT 5 LT 58-28 S, over proposed backfill. Asphalt Curb & Gutter (C&G) replacement required where existing (C&G) has been removed. Type "D" Lawn Replacement required for all disturbed lawn areas. Include all costs in the Bid Price.

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

STORM SEWER RELAY

W. CENTER ST.

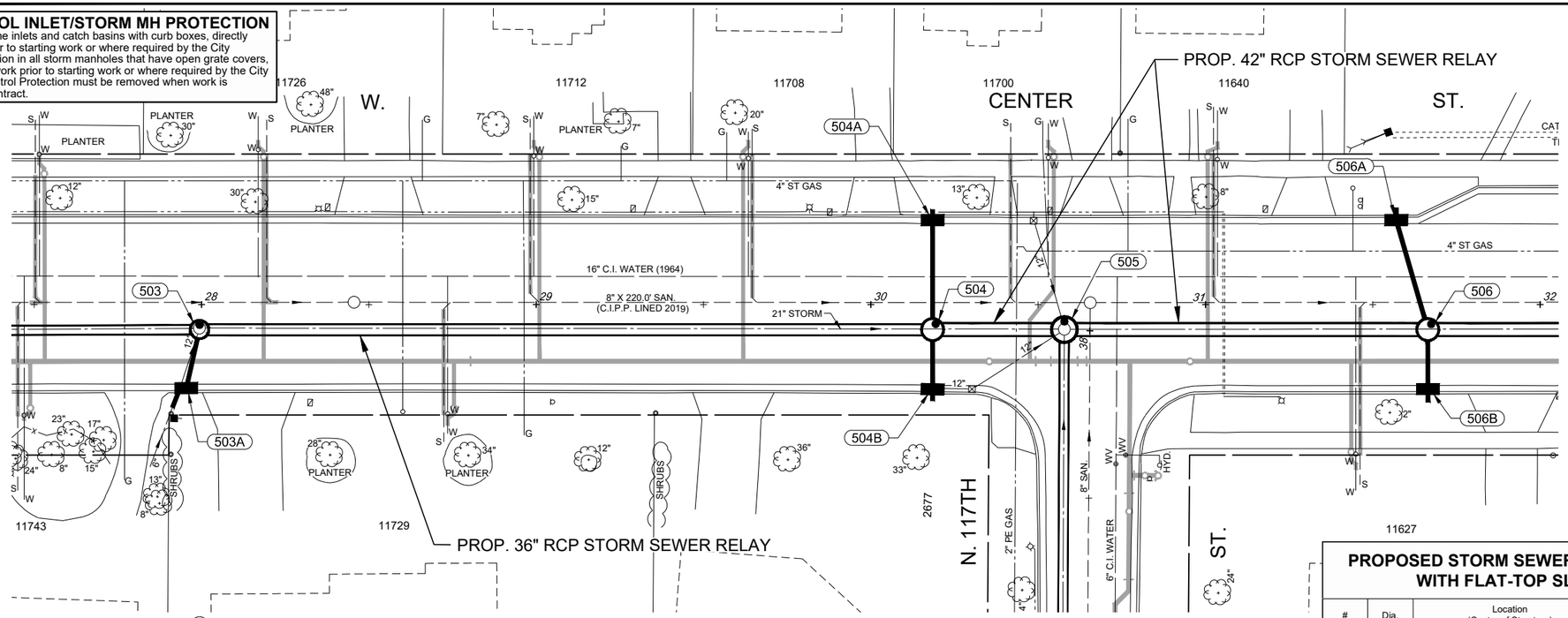
FROM: N. 118TH ST.
TO: N. 116TH ST.

CONTRACT:	24-08
FILE NO:	41-1001
DRAWN BY:	C.R.
CHECKED BY:	M.A.
SCALE:	AS SHOWN

C01

FILE NAME : S:\DEPARTMENT FOLDERS\ENGINEERING\ACAD_PROJECTS\24-08 W CENTER ST\DESIGN\PIPENETWORKS\CENTER PROP UTILITIES CR.DWG
PLOT DATE : 4/23/2024 1:04 PM
PLOT BY : C.R.

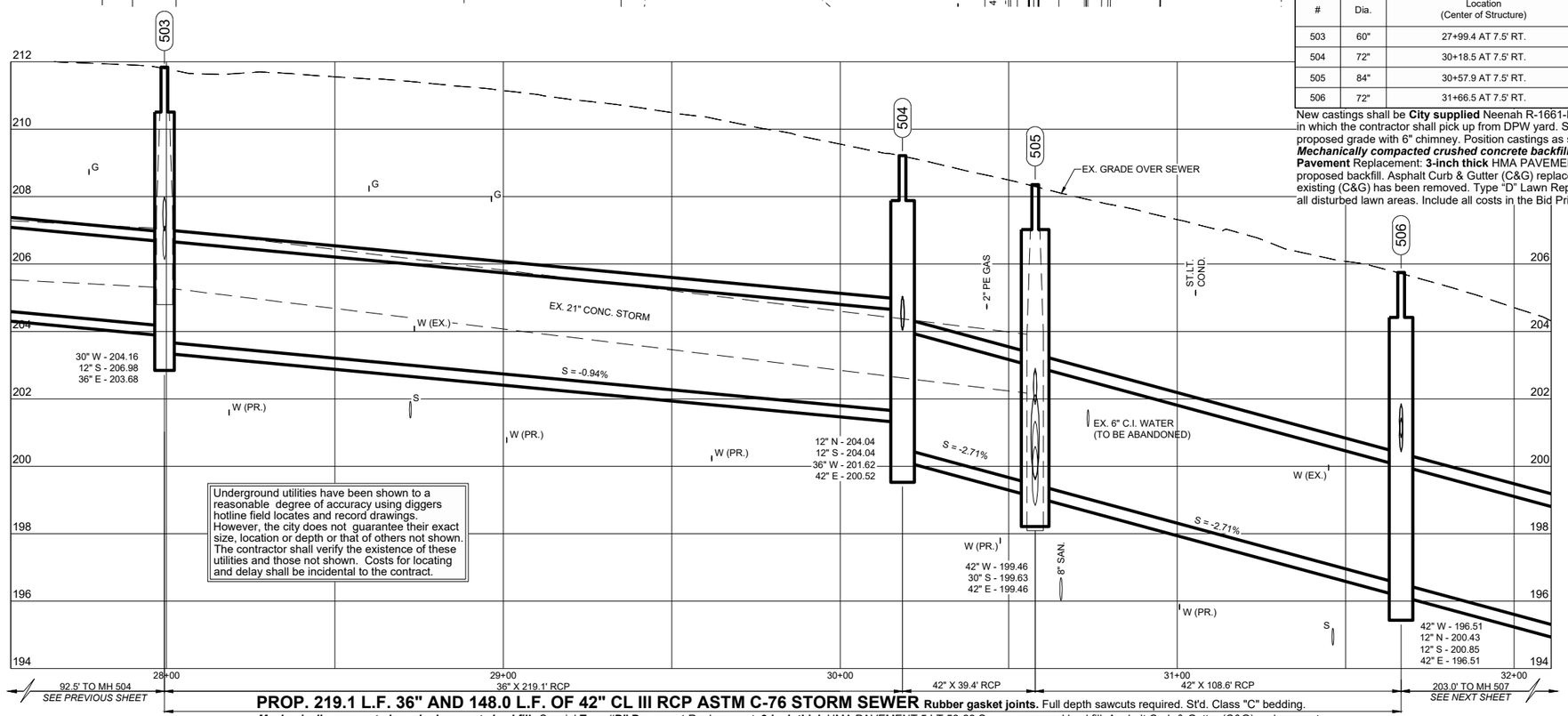
PROP. EROSION CONTROL INLET/STORM MH PROTECTION
Install Type "D" Inlet Protection in all the inlets and catch basins with curb boxes, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Install Type "B" Inlet Protection in all storm manholes that have open grate covers, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Inlet/Storm MH Erosion Control Protection must be removed when work is completed. Cost to be incidental to contract.



PROPOSED STORM SEWER MANHOLES WITH FLAT-TOP SLABS

#	Dia.	Location (Center of Structure)	Prop. Rim Elev.
503	60"	27+99.4 AT 7.5' RT.	211.85
504	72"	30+18.5 AT 7.5' RT.	209.22
505	84"	30+57.9 AT 7.5' RT.	208.36
506	72"	31+66.5 AT 7.5' RT.	205.75

New castings shall be **City supplied** Neenah R-1661-B frame with R-2471-D, in which the contractor shall pick up from DPW yard. Set iron castings to proposed grade with 6" chimney. Position castings as shown on the plan. ***Mechanically compacted crushed concrete backfill.*** Special **Type "D" Pavement** Replacement: **3-inch thick** HMA PAVEMENT 5 LT 58-28 S, over proposed backfill. Asphalt Curb & Gutter (C&G) replacement required where existing (C&G) has been removed. Type "D" Lawn Replacement required for all disturbed lawn areas. Include all costs in the Bid Price.



Underground utilities have been shown to a reasonable degree of accuracy using diggers hotline field locates and record drawings. However, the city does not guarantee their exact size, location or depth or that of others not shown. The contractor shall verify the existence of these utilities and those not shown. Costs for locating and delay shall be incidental to the contract.

PROP. 219.1 L.F. 36" AND 148.0 L.F. OF 42" CL III RCP ASTM C-76 STORM SEWER Rubber gasket joints. Full depth sawcuts required. St'd. Class "C" bedding.
Mechanically compacted crushed concrete backfill. Special **Type "D" Pavement** Replacement: **3-inch thick** HMA PAVEMENT 5 LT 58-28 S, over proposed backfill. Asphalt Curb & Gutter (C&G) replacement required where existing (C&G) has been removed. Type "D" Lawn Replacement required for all disturbed lawn areas. Include all costs in the Bid Price.

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

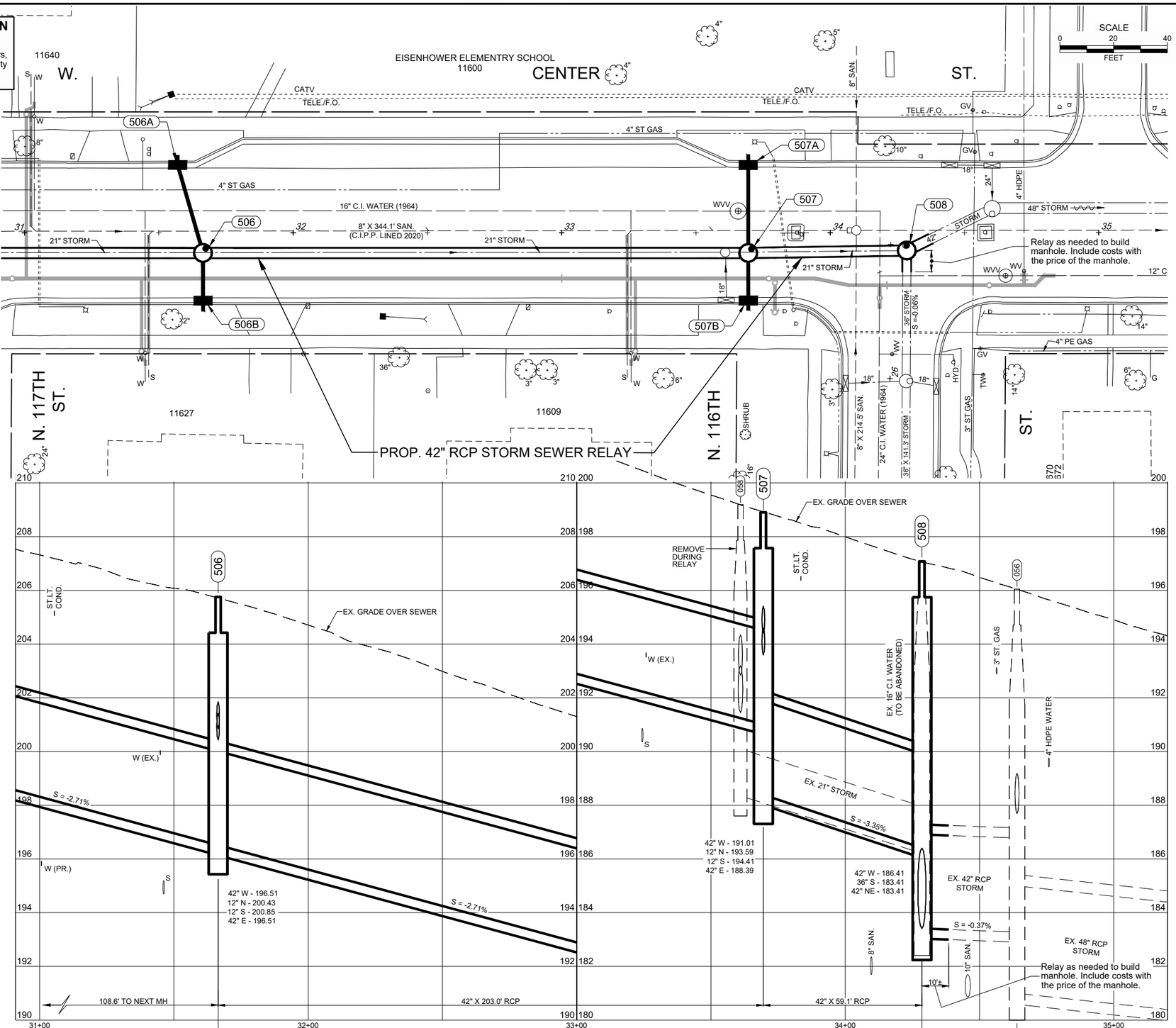
STORM SEWER RELAY
W. CENTER ST.
FROM: N. 118TH ST.
TO: N. 116TH ST.

CONTRACT: 24-08
FILE NO: 41-1001
DRAWN BY: C.R.
CHECKED BY: M.A.
SCALE: AS SHOWN

C02

FILE NAME : S:\DEPARTMENT FOLDERS\ENGINEERING\ACAD_PROJECTS\24-08 W CENTER ST\DESIGN\PIPENETWORKS\CENTER PROP UTILITIES CR.DWG
PLOT DATE : 4/23/2024 1:04 PM
PLOT BY : C.R.

PROP. EROSION CONTROL INLET/STORM MH PROTECTION
Install Type "D" Inlet Protection in all the inlets and catch basins with curb boxes, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Install Type "B" Inlet Protection in all storm manholes that have open grate covers, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Inlet/Storm MH Erosion Control Protection must be removed when work is completed. Cost to be incidental to contract.



PROP. 262.1 L.F. OF 42" CL III RCP ASTM C-76 STORM SEWER **Rubber gasket joints.** Full depth sawcuts required. St'd. Class "C" bedding. ***Mechanically compacted crushed concrete backfill.*** Special **Type "D" Pavement** Replacement: **3-inch thick** HMA PAVEMENT 5 LT 58-28 S, over proposed backfill. Asphalt Curb & Gutter (C&G) replacement required where existing (C&G) has been removed. Type "D" Lawn Replacement required for all disturbed lawn areas. Include all costs in the Bid Price.

PROPOSED STORM SEWER MANHOLES WITH FLAT-TOP SLABS

#	Dia.	Location (Center of Structure)	Prop. Rim Elev.
506	72"	31+66.5 AT 7.5' RT.	205.75
507	72"	33+69.5 AT 7.5' RT.	198.91
508	72"	34+28.5 AT 6.6' RT.	197.08

New castings shall be **City supplied** Neenah R-1661-B frame with R-2471-D, in which the contractor shall pick up from DPW yard. Set iron castings to proposed grade with 6" chimney. Position castings as shown on the plan. ***Mechanically compacted crushed concrete backfill.*** Special **Type "D" Pavement** Replacement: **3-inch thick** HMA PAVEMENT 5 LT 58-28 S, over proposed backfill. Asphalt Curb & Gutter (C&G) replacement required where existing (C&G) has been removed. Type "D" Lawn Replacement required for all disturbed lawn areas. Include all costs in the Bid Price.

Underground utilities have been shown to a reasonable degree of accuracy using diggers hotline field locates and record drawings. However, the city does not guarantee their exact size, location or depth or that of others not shown. The contractor shall verify the existence of these utilities and those not shown. Costs for locating and delay shall be incidental to the contract.

DESCRIPTION
DATE

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

STORM SEWER RELAY
W. CENTER ST.
TO: N. 116TH ST.
FROM: N. 118TH ST.

CONTRACT: 24-08
FILE NO: 41-1001
DRAWN BY: C.R.
CHECKED BY: M.A.
SCALE: AS SHOWN

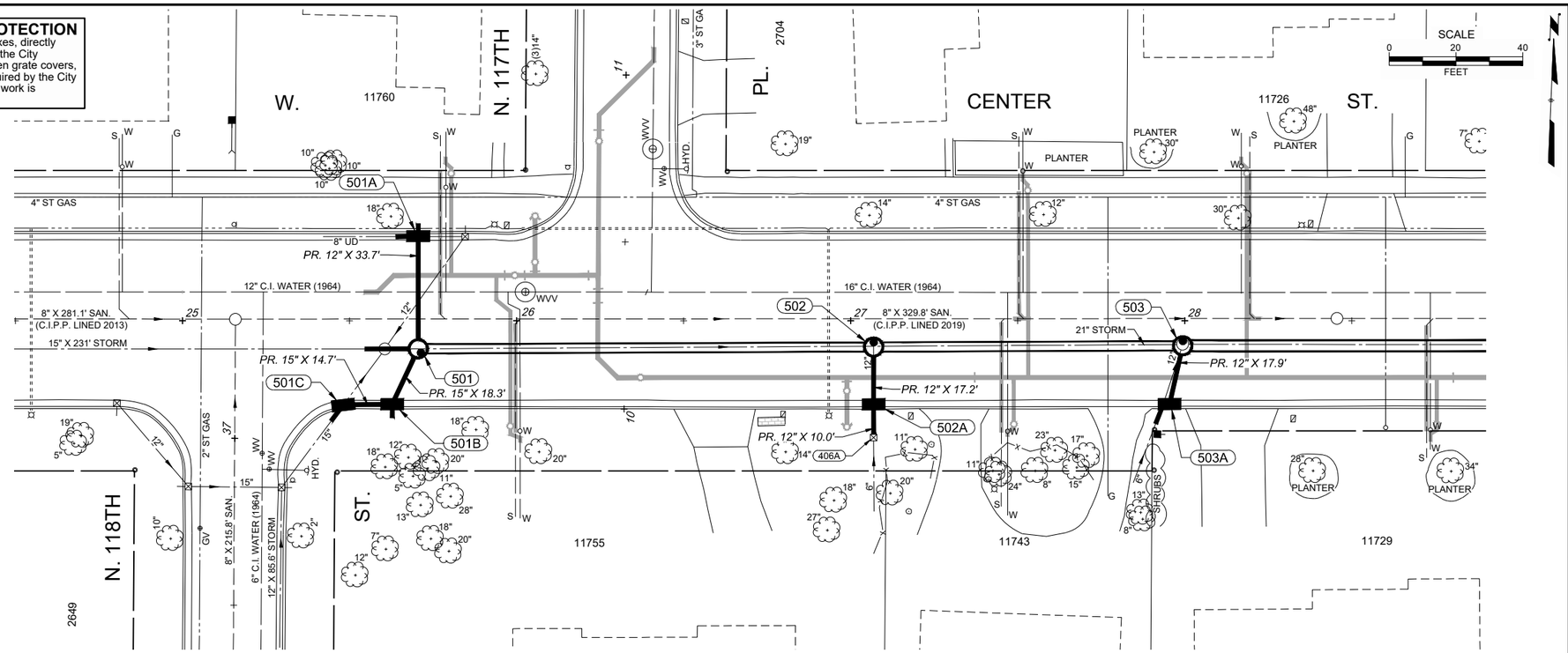
C03

FILE NAME : S:\DEPARTMENT FOLDERS\ENGINEERING\ACAD_PROJECTS\24-08 W CENTER ST\DESIGN\PIPENETWORKS\CENTER PROP UTILITIES CR.DWG
PLOT DATE : 4/23/2024 1:05 PM
PLOT BY : C.R.

PROP. EROSION CONTROL INLET/STORM MH PROTECTION

Install Type "D" Inlet Protection in all the inlets and catch basins with curb boxes, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Install Type "B" Inlet Protection in all storm manholes that have open grate covers, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Inlet/Storm MH Erosion Control Protection must be removed when work is completed. Cost to be incidental to contract.

Underground utilities have been shown to a reasonable degree of accuracy using diggers hotline field locates and record drawings. However, the city does not guarantee their exact size, location or depth or that of others not shown. The contractor shall verify the existence of these utilities and those not shown. Costs for locating and delay shall be incidental to the contract.



PROPOSED STORM SEWER MANHOLES WITH FLAT-TOP SLABS

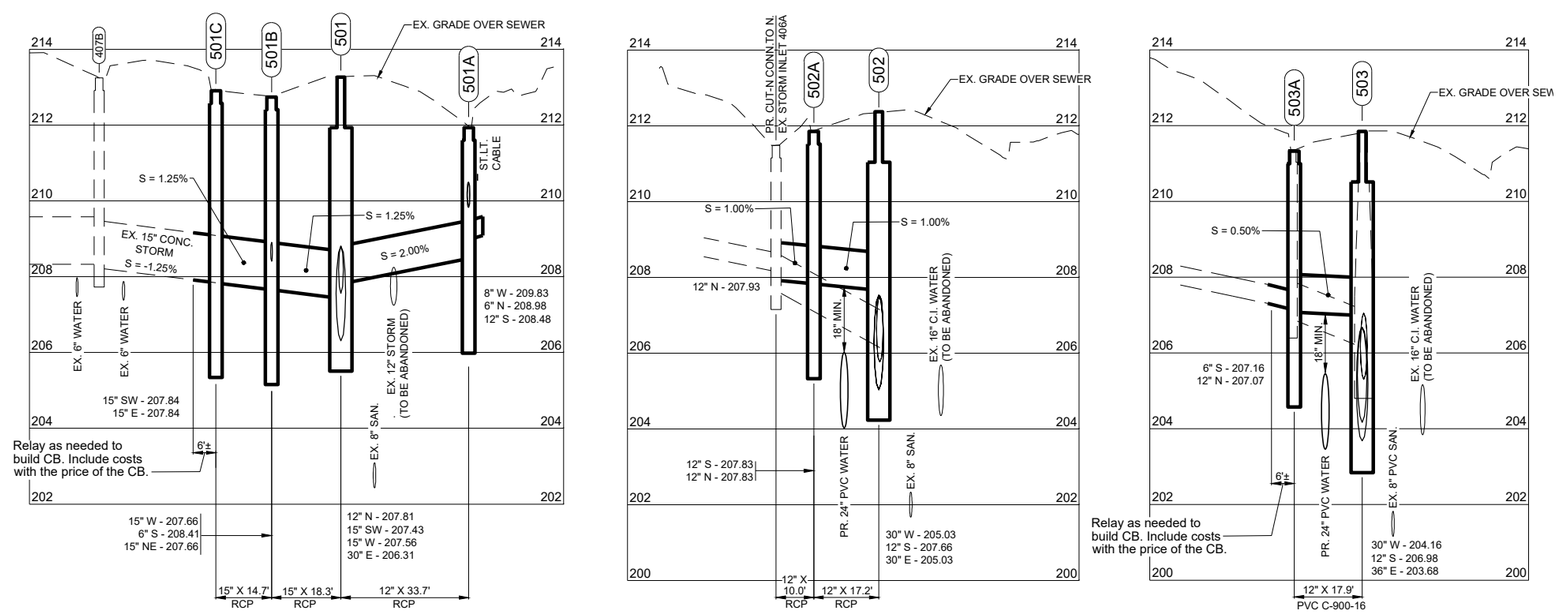
#	Dia.	Location (Center of Structure)	Prop. Rim Elev.
501	60"	25+70.6 AT 8.4' RT.	213.27
502	60"	27+06.9 AT 7.9' RT.	212.37
503	60"	27+99.4 AT 7.5' RT.	211.85

New castings shall be **City supplied** Neenah R-1661-B frame with R-2471-D, in which the contractor shall pick up from DPW yard. Set iron castings to proposed grade with 6" chimney. Position castings as shown on the plan. ***Mechanically compacted crushed concrete backfill.*** Special **Type "D" Pavement** Replacement: **3-inch thick** HMA PAVEMENT 5 LT 58-28 S, over proposed backfill. Asphalt Curb & Gutter (C&G) replacement required where existing (C&G) has been removed. Type "D" Lawn Replacement required for all disturbed lawn areas. Include all costs in the Bid Price.

PROPOSED RECTANGULAR CATCH BASINS

#	Size	Location (C/L Structure)	Location (Face of Curb)	Prop. Grate Elev. (at gutter)	Prop. Neenah Castings	Sump (V.F.)
501A	30" X 72"	25+70.6 AT 25.3' LT.	25+70.6 AT 26.1' LT.	211.94	R-3293-2	2.0
501B	30" X 72"	25+62.8 AT 25.0' RT.	25+62.8 AT 25.7' RT.	212.74	R-3293-2	2.0
501C	30" X 72"	25+48.1 AT 25.2' RT.	25+48.2 AT 26.0' RT.	212.91	R-3293-2	2.0
502A	30" X 72"	27+06.9 AT 25.0' RT.	27+06.9 AT 25.8' RT.	211.85	R-3293-2	2.0
503A	30" X 72"	27+95.5 AT 25.0' RT.	27+95.5 AT 25.7' RT.	211.32	R-3293-2	2.0

Construct with sump as noted above. New Neenah catch basin frame, grate, and curb box required. Set iron castings to proposed grade with 6" of chimney. ***Mechanically compacted crushed concrete backfill.*** Special **Type "D" Pavement** Replacement: **3-inch thick** HMA PAVEMENT 5 LT 58-28 S, over proposed backfill. Asphalt Curb & Gutter (C&G) replacement required where existing (C&G) has been removed. Type "D" Lawn Replacement required for all disturbed lawn areas. Include all costs in the Bid Price.



PROP. 17.9 L.F. OF 12" PVC C900-16 DR18 AND 33.0 L.F. OF 15" AND 60.9 L.F. OF 12" CL V RCP ASTM C-76 STORM SEWER

Rubber gasket joints. Full depth sawcuts required. St'd. Class "C" bedding. ***Mechanically compacted crushed concrete backfill.*** Special **Type "D" Pavement** Replacement: **3-inch thick** HMA PAVEMENT 5 LT 58-28 S, over proposed backfill. Asphalt Curb & Gutter (C&G) replacement required where existing (C&G) has been removed. Type "D" Lawn Replacement required for all disturbed lawn areas. Include all costs in the Bid Price.

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

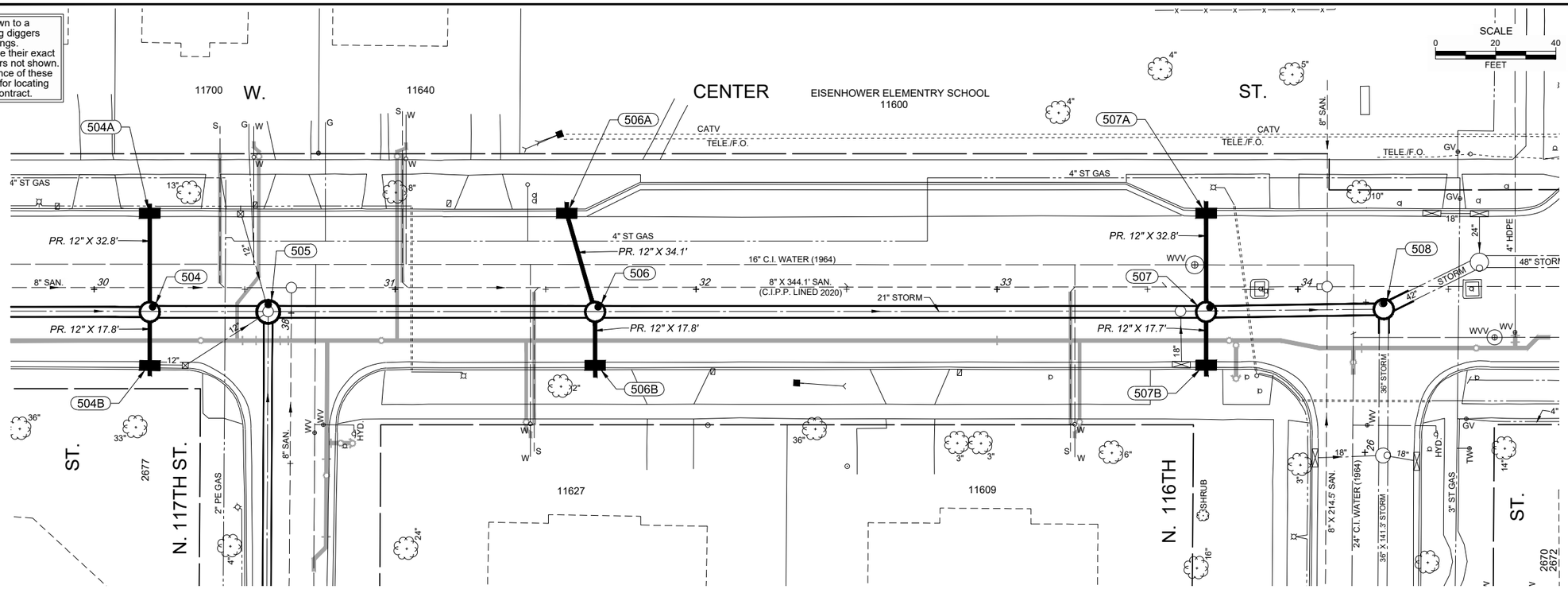
STORM SEWER RELAY
W. CENTER ST.
FROM: N. 118TH ST. TO: N. 116TH ST.

CONTRACT:	24-08
FILE NO:	41-1001
DRAWN BY:	C.R.
CHECKED BY:	M.A.
SCALE:	AS SHOWN

C04

FILE NAME : S:\DEPARTMENT FOLDERS\ENGINEERING\ACAD_PROJECTS\24-08 W CENTER ST\DESIGN\PIPENETWORKS\CENTER PROP UTILITIES CR.DWG PLOT DATE : 4/23/2024 1:05 PM PLOT BY : C.R.

Underground utilities have been shown to a reasonable degree of accuracy using diggers hotline field locates and record drawings. However, the city does not guarantee their exact size, location or depth or that of others not shown. The contractor shall verify the existence of these utilities and those not shown. Costs for locating and delay shall be incidental to the contract.



PROPOSED STORM SEWER MANHOLES WITH FLAT-TOP SLABS

#	Dia.	Location (Center of Structure)	Prop. Rim Elev.
504	72"	30+18.5 AT 7.5' RT.	209.22
506	72"	31+66.5 AT 7.5' RT.	205.75
507	72"	33+69.5 AT 7.5' RT.	198.91

New castings shall be **City supplied** Neenah R-1661-B frame with R-2471-D, in which the contractor shall pick up from DPW yard. Set iron castings to proposed grade with 6" chimney. Position castings as shown on the plan. ***Mechanically compacted crushed concrete backfill.*** Special **Type "D" Pavement** Replacement: **3-inch thick** HMA PAVEMENT 5 LT 58-28 S, over proposed backfill. Asphalt Curb & Gutter (C&G) replacement required where existing (C&G) has been removed. Type "D" Lawn Replacement required for all disturbed lawn areas. Include all costs in the Bid Price.

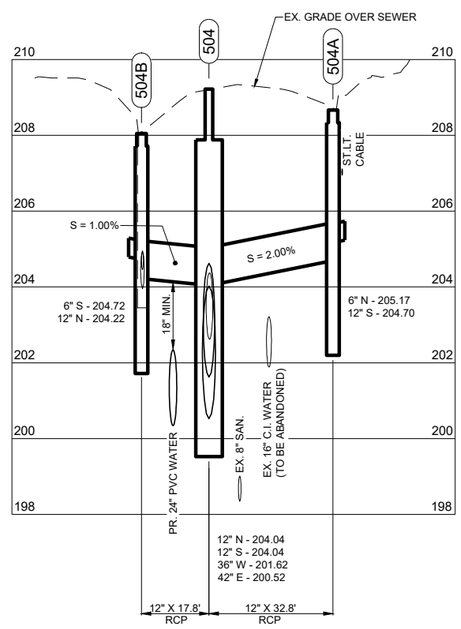
PROPOSED RECTANGULAR CATCH BASINS

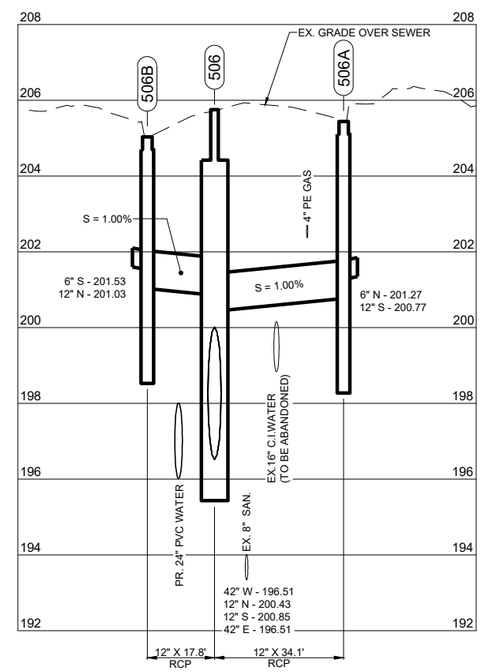
#	Size	Location (C/L Structure)	Location (Face of Curb)	Prop. Grate Elev. (at gutter)	Prop. Neenah Castings	Sump (V.F.)
504A	30" X 72"	30+18.5 AT 25.3' LT.	30+18.5 AT 26.0' LT.	208.67	R-3293-2	2.0
504B	30" X 72"	30+18.5 AT 25.3' RT.	30+18.5 AT 26.1' RT.	208.05	R-3293-2	2.0
506A	30" X 72"	31+57.0 AT 25.3' LT.	31+57.0 AT 26.0' RT.	205.44	R-3293-2	2.0
506B	30" X 72"	31+66.5 AT 25.3' RT.	31+66.5 AT 26.0' RT.	205.03	R-3293-2	2.0
507A	30" X 72"	33+69.5 AT 25.3' LT.	33+69.5 AT 26.0' LT.	198.25	R-3293-2	2.0
507B	30" X 72"	33+69.5 AT 25.2' RT.	33+69.5 AT 25.9' RT.	198.20	R-3293-2	2.0

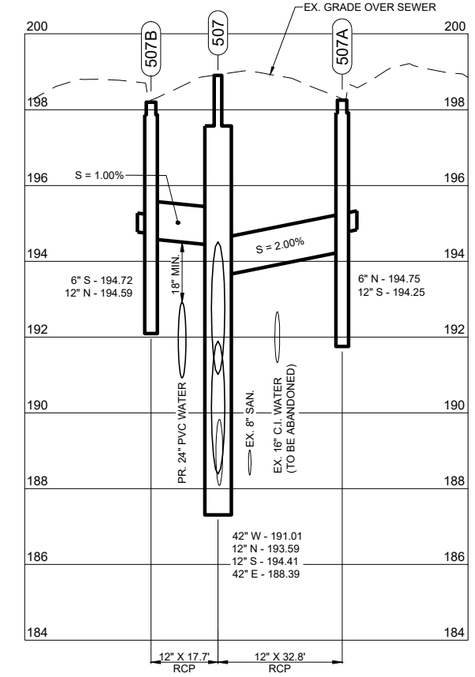
Construct with sump as noted above. New Neenah catch basin frame, grate, and curb box required. Set iron castings to proposed grade with 6" of chimney. ***Mechanically compacted crushed concrete backfill.*** Special **Type "D" Pavement** Replacement: **3-inch thick** HMA PAVEMENT 5 LT 58-28 S, over proposed backfill. Asphalt Curb & Gutter (C&G) replacement required where existing (C&G) has been removed. Type "D" Lawn Replacement required for all disturbed lawn areas. Include all costs in the Bid Price.

PROP. EROSION CONTROL INLET/STORM MH PROTECTION

Install Type "D" Inlet Protection in all the inlets and catch basins with curb boxes, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Install Type "B" Inlet Protection in all storm manholes that have open grate covers, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Inlet/Storm MH Erosion Control Protection must be removed when work is completed. Cost to be incidental to contract.







PROP. 153.0 L.F. OF 12" CL V RCP ASTM C-76 STORM SEWER **Rubber gasket joints.** Full depth sawcuts required. St'd. Class "C" bedding. ***Mechanically compacted crushed concrete backfill.*** Special **Type "D" Pavement** Replacement: **3-inch thick** HMA PAVEMENT 5 LT 58-28 S, over proposed backfill. Asphalt Curb & Gutter (C&G) replacement required where existing (C&G) has been removed. Type "D" Lawn Replacement required for all disturbed lawn areas. Include all costs in the Bid Price.

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

STORM SEWER RELAY

W. CENTER ST.

FROM: N. 118TH ST.
TO: N. 116TH ST.

CONTRACT: 24-08
FILE NO: 41-1001
DRAWN BY: C.R.
CHECKED BY: M.A.
SCALE: AS SHOWN

C05

PROP. EROSION CONTROL INLET/STORM MH PROTECTION
Install Type "D" Inlet Protection in all the inlets and catch basins with curb boxes, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Install Type "B" Inlet Protection in all storm manholes that have open grate covers, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Inlet/Storm MH Erosion Control Protection must be removed when work is completed. Cost to be incidental to contract.

PROPOSED STORM SEWER MANHOLES WITH FLAT-TOP SLABS

#	Dia.	Location (Center of Structure)	Prop. Rim Elev.
505	84"	30+57.9 AT 7.5' RT.	208.36
509	60"	36+34.0 AT 7.4' LT.	205.81

New castings shall be **City supplied** Neenah R-1661-B frame with R-2471-D, in which the contractor shall pick up from DPW yard. Set iron castings to proposed grade with 6" chimney. Position castings as shown on the plan. ***Mechanically compacted crushed concrete backfill unless noted as slurry backfill.*** Special **Type "D" Pavement** Replacement: **3-inch thick** HMA PAVEMENT 5 LT 58-28 S, over proposed backfill. Asphalt Curb & Gutter (C&G) replacement required where existing (C&G) has been removed. Type "D" Lawn Replacement required for all disturbed lawn areas. Include all costs in the Bid Price.

PROPOSED RECTANGULAR CATCH BASINS

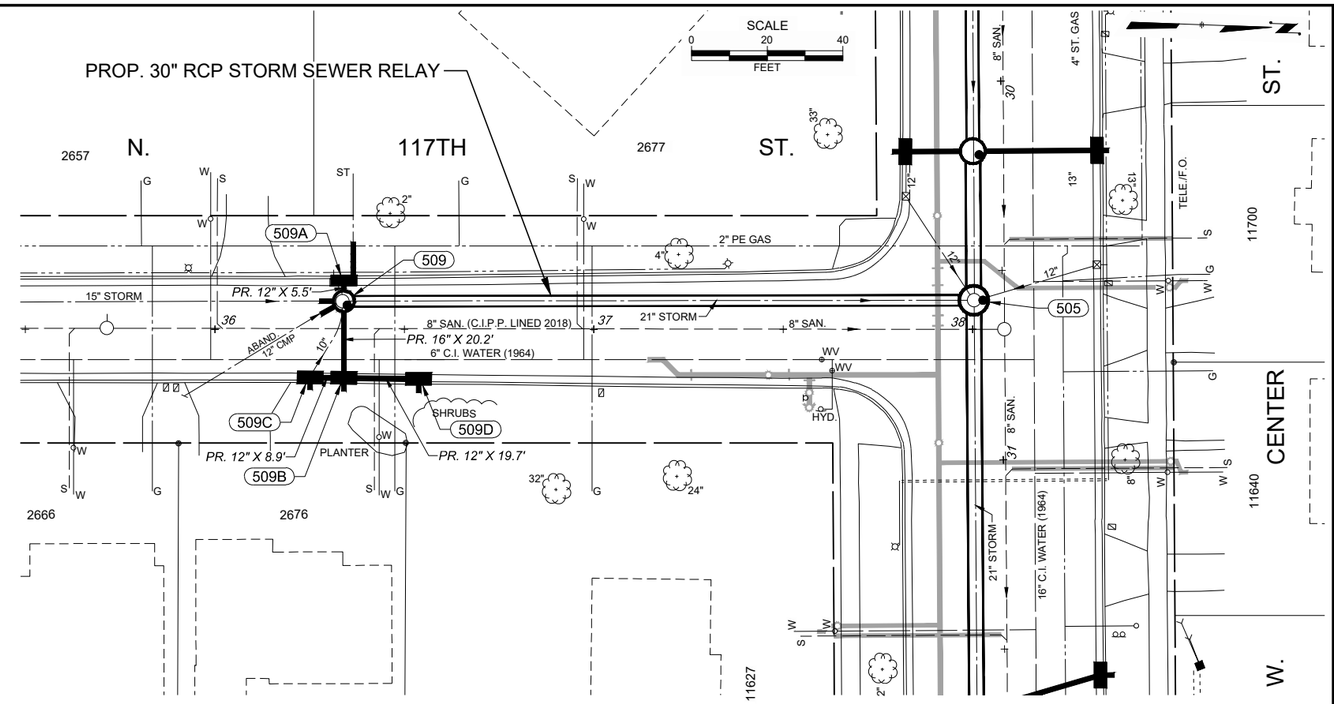
#	Size	Location (C/L Structure)	Location (Face of Curb)	Prop. Grate Elev. (at gutter)	Prop. Neenah Castings	Sump (V.F.)
509A	24" X 72"	36+34.0 AT 12.9' LT.	36+34.0 AT 13.4' LT.	205.65	R-3295-2	2.0

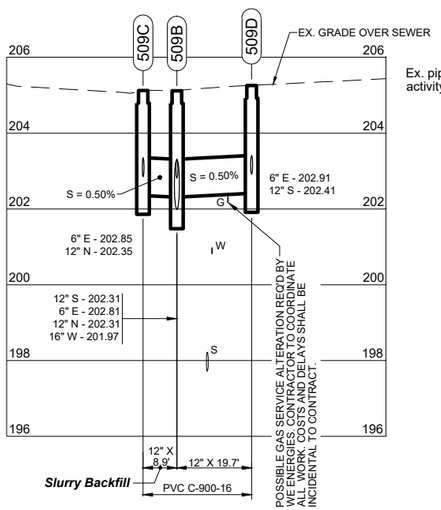
Construct with sump as noted above. New Neenah catch basin frame, grate, and curb box required. Set iron castings to proposed grade with 6" of chimney. ***Mechanically compacted crushed concrete backfill unless noted as slurry backfill.*** Special **Type "D" Pavement** Replacement: **3-inch thick** HMA PAVEMENT 5 LT 58-28 S, over proposed backfill. Asphalt Curb & Gutter (C&G) replacement required where existing (C&G) has been removed. Type "D" Lawn Replacement required for all disturbed lawn areas. Include all costs in the Bid Price.

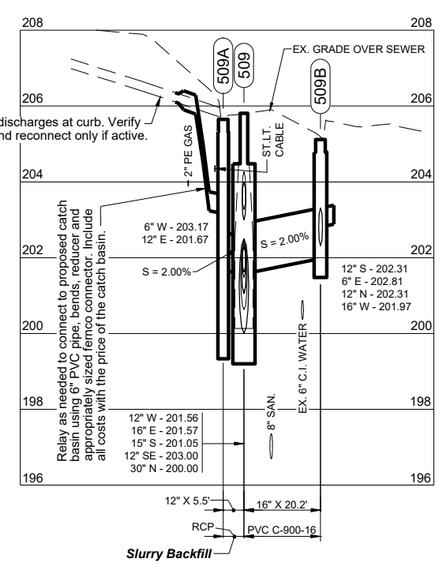
PROPOSED RECTANGULAR INLETS

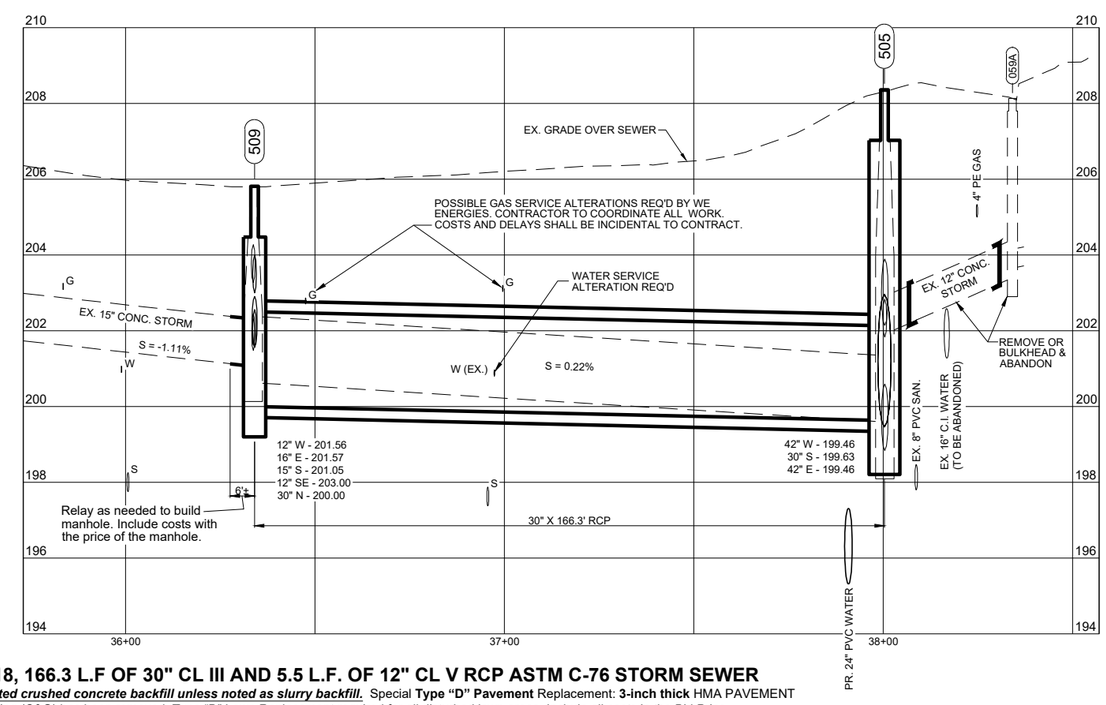
#	Size	Location (C/L Structure)	Location (Face of Curb)	Prop. Grate Elev. (at gutter)	Prop. Neenah Castings
509B	30" X 72"	36+34.0 AT 12.8' RT.	36+34.0 AT 13.5' RT.	205.12	R-3293-2
509C	30" X 72"	36+25.1 AT 12.7' RT.	36+25.1 AT 13.5' RT.	205.12	R-3293-2
509D	30" X 72"	36+53.8 AT 5.0' RT.	36+53.8 AT 13.8' RT.	205.26	R-3293-2

No Sump. New Neenah Inlet frame, grate, and curb box required. Set iron castings to proposed grade with 6" of chimney. ***Mechanically compacted crushed concrete backfill unless noted as slurry backfill.*** Special **Type "D" Pavement** Replacement: **3-inch thick** HMA PAVEMENT 5 LT 58-28 S, over proposed backfill. Asphalt Curb & Gutter (C&G) replacement required where existing (C&G) has been removed. Type "D" Lawn Replacement required for all disturbed lawn areas. Include all costs in the Bid Price.









Underground utilities have been shown to a reasonable degree of accuracy using diggers hotline field locates and record drawings. However, the city does not guarantee their exact size, location or depth or that of others not shown. The contractor shall verify the existence of these utilities and those not shown. Costs for locating and delay shall be incidental to the contract.

PROP. 28.6 L.F. OF 12" AND 20.2 L.F. OF 16" PVC C900-16 DR18, 166.3 L.F OF 30" CL III AND 5.5 L.F. OF 12" CL V RCP ASTM C-76 STORM SEWER

Rubber gasket joints. Full depth sawcuts required. St'd. Class "C" bedding. ***Mechanically compacted crushed concrete backfill unless noted as slurry backfill.*** Special **Type "D" Pavement** Replacement: **3-inch thick** HMA PAVEMENT 5 LT 58-28 S, over proposed backfill. Asphalt Curb & Gutter (C&G) replacement required where existing (C&G) has been removed. Type "D" Lawn Replacement required for all disturbed lawn areas. Include all costs in the Bid Price.

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

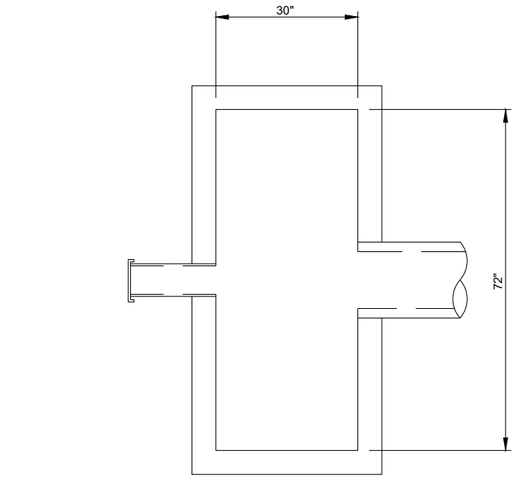
STORM SEWER RELAY

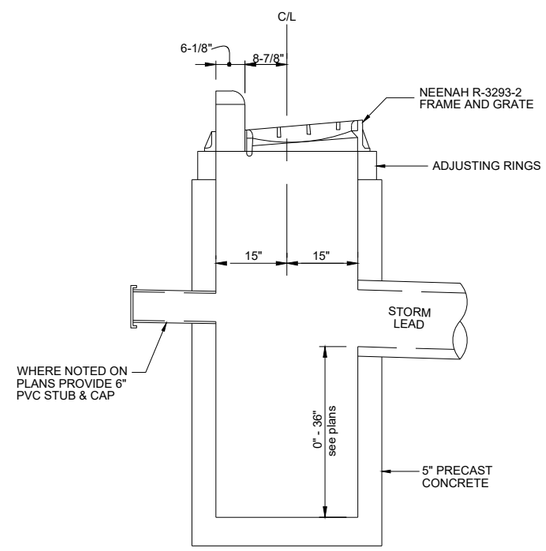
N. 117TH ST.

FROM: 200' S. OF W. CENTER ST.
TO: W. CENTER ST.

CONTRACT:	24-08
FILE NO:	41-1002
DRAWN BY:	C.R.
CHECKED BY:	M.A.
SCALE:	AS SHOWN

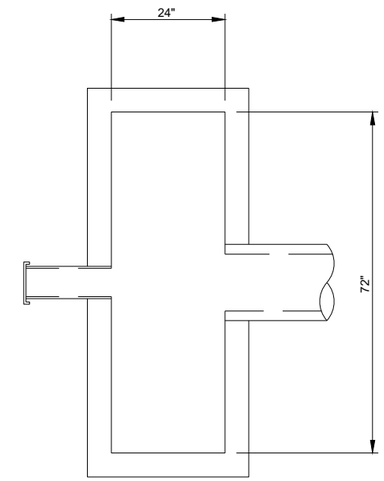
C06

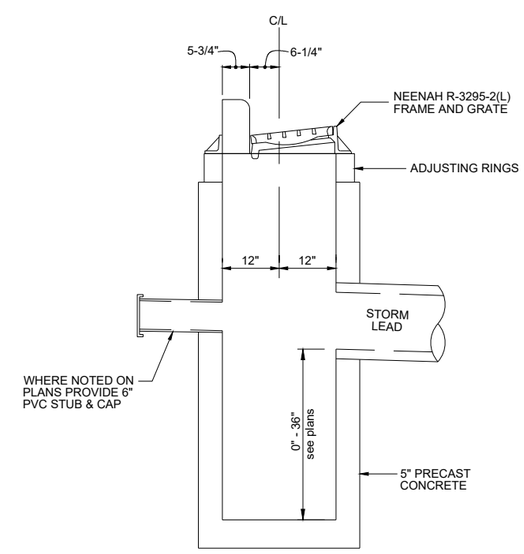




30" X 72" STORM SEWER CATCH BASIN

N.T.S.





24" X 72" STORM SEWER CATCH BASIN

N.T.S.

DATE	DESCRIPTION
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CITY OF WAUWATOSA

ENGINEERING SERVICES DIVISION

DETAILS

W. CENTER ST.

FROM: N. 118TH ST.

TO: N. 116TH ST.

CONTRACT: 24-08

FILE NO:

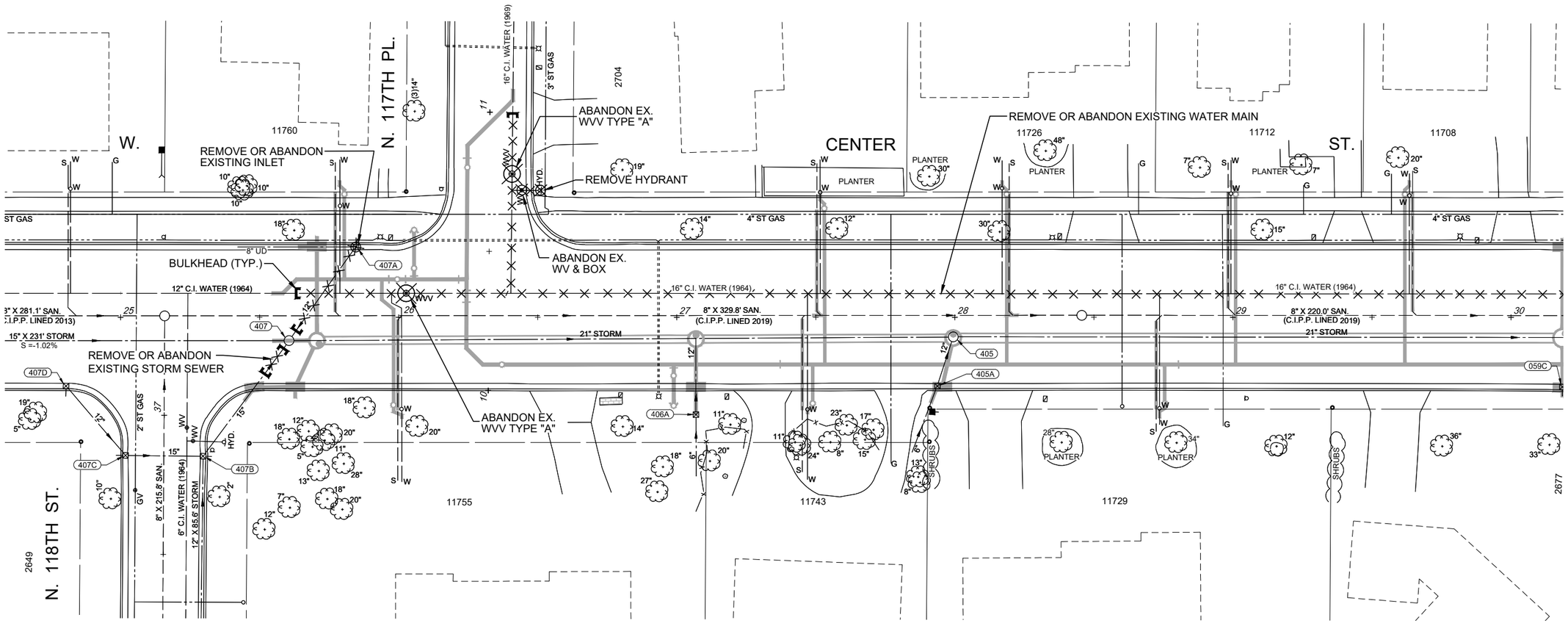
DRAWN BY: C.R.

CHECKED BY:

SCALE: AS SHOWN

C07

PROP. EROSION CONTROL INLET/STORM MH PROTECTION
Install Type "D" Inlet Protection in all the inlets and catch basins with curb boxes, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Install Type "B" Inlet Protection in all storm manholes that have open grate covers, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Inlet/Storm MH Erosion Control Protection must be removed when work is completed. Cost to be incidental to contract.



EXISTING SANITARY MANHOLES				
Basin	#	Location	Rim Elev.	Invert Elev.
4005	116	28+45.6 AT 0.6' LT.	211.61	8" E - 200.90 8" W - 200.90
4005	117	25+15.9 AT 0.4' LT.	213.86	8" E - 202.73 8" W - 202.73 8" S - 202.73

EXISTING STORM SEWER STRUCTURES				
Basin	#	Location	Rim/Grate Elev.	Invert Elev.
16	405	27+99.5 AT 7.1' RT.	211.82	21" E - 205.30 21" W - 205.30 12" S - 206.13
16	405A	27+93.7 AT 24.7' RT.	211.36	12" N - 206.89 6" S - 207.17
16	407	25+60.6 AT 8.4' RT.	213.37	21" E - 206.51 15" W - 207.66 12" NE - 207.08 15" SW - 207.58
16	407A	25+84.6 AT 25.2' LT.	211.85	12" SW - 207.49 6" N - 208.35 8" W - 209.83
16	407B	36+85.4 AT 14.1' RT.	213.25	15" W - 208.33 15" NE - 208.23
16	407C	36+85.5 AT 13.8' LT.	213.83	12" NW - 208.59 15" E - 208.33
16	407D	24+80.4 AT 24.7' RT.	213.87	12" SE - 209.31

Prop. remove or bulkhead and abandon 62.2 L.F of 12" storm sewers. Fill abandoned sewers with Elastizell PS 120 or approved equal. (Typ.)

Prop. remove or abandon existing 510.1 L.F. of 16" and 10.1 L.F. of 6" water main. Include any and all excavation and crushed concrete backfill, bulkheads, standpipes and flowable fill within inside water main pipe.

Underground utilities have been shown to a reasonable degree of accuracy using diggers hotline field locates and record drawings. However, the city does not guarantee their exact size, location or depth or that of others not shown. The contractor shall verify the existence of these utilities and those not shown. Costs for locating and delay shall be incidental to the contract.

DATE | DESCRIPTION

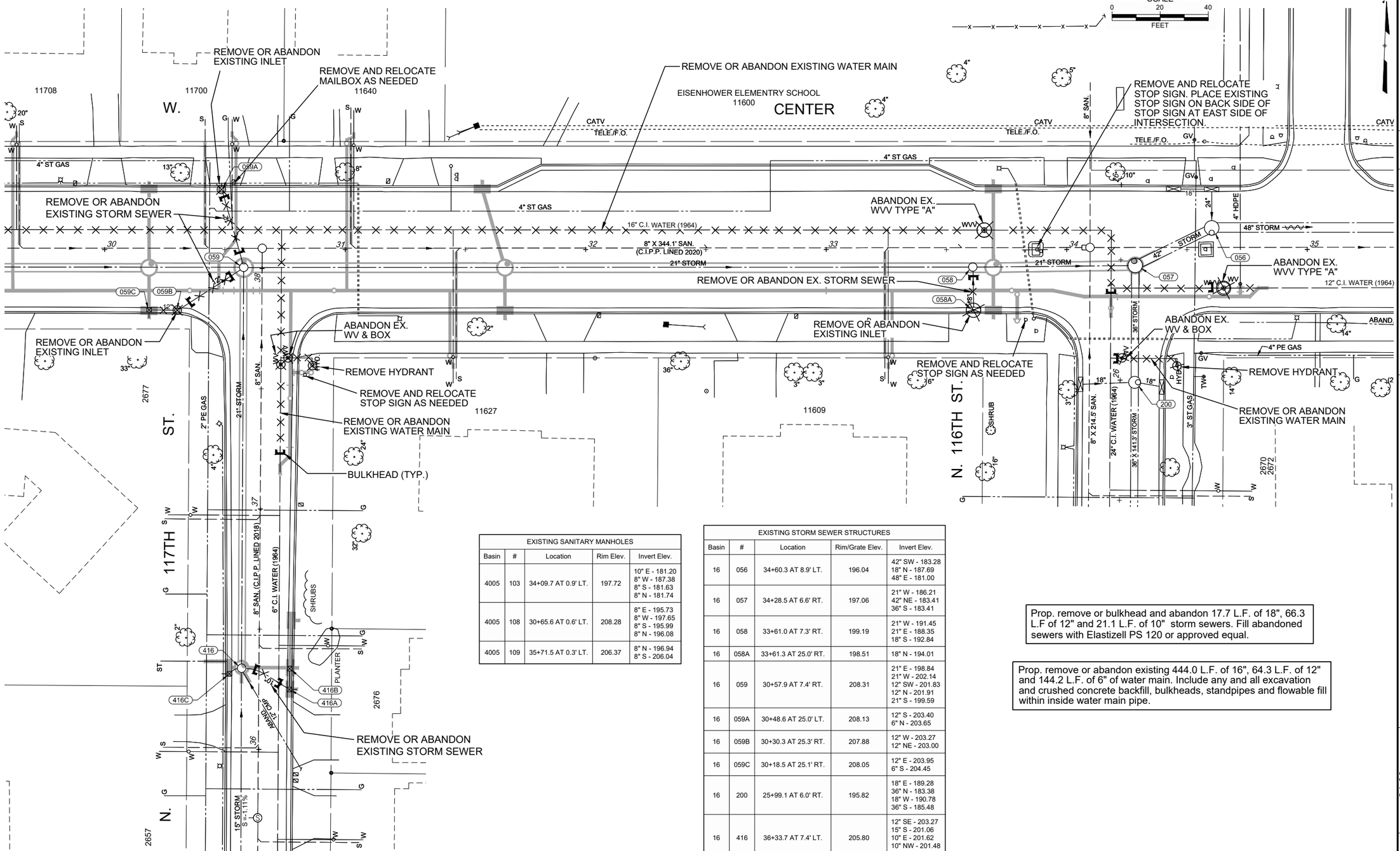
CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

EXISTING UTILITIES & REMOVALS
W. CENTER ST.
FROM: N. 118TH ST. TO: N. 116TH ST.

CONTRACT: 24-08
FILE NO:
DRAWN BY: C.R.
CHECKED BY: M.M.
SCALE: AS SHOWN

R01

FILE NAME : S:\DEPARTMENT FOLDERS\ENGINEERING\ACAD_PROJECTS\24-08 W CENTER ST\DESIGN\PIPENETWORKS\CENTER ST EX UTILITIES.DWG
PLOT DATE : 4/24/2024 10:55 AM
PLOT BY : C.R.



EXISTING SANITARY MANHOLES				
Basin	#	Location	Rim Elev.	Invert Elev.
4005	103	34+09.7 AT 0.9' LT.	197.72	10" E - 181.20 8" W - 187.38 8" S - 181.63 8" N - 181.74
4005	108	30+65.6 AT 0.6' LT.	208.28	8" E - 195.73 8" W - 197.65 8" S - 195.99 8" N - 196.08
4005	109	35+71.5 AT 0.3' LT.	206.37	8" N - 196.94 8" S - 206.04

EXISTING STORM SEWER STRUCTURES				
Basin	#	Location	Rim/Grate Elev.	Invert Elev.
16	056	34+60.3 AT 8.9' LT.	196.04	42" SW - 183.28 18" N - 187.69 48" E - 181.00
16	057	34+28.5 AT 6.6' RT.	197.06	21" W - 186.21 42" NE - 183.41 36" S - 183.41
16	058	33+61.0 AT 7.3' RT.	199.19	21" W - 191.45 21" E - 188.35 18" S - 192.84
16	058A	33+61.3 AT 25.0' RT.	198.51	18" N - 194.01
16	059	30+57.9 AT 7.4' RT.	208.31	21" E - 198.84 21" W - 202.14 12" SW - 201.83 12" N - 201.91 21" S - 199.59
16	059A	30+48.6 AT 25.0' LT.	208.13	12" S - 203.40 6" N - 203.65
16	059B	30+30.3 AT 25.3' RT.	207.88	12" W - 203.27 12" NE - 203.00
16	059C	30+18.5 AT 25.1' RT.	208.05	12" E - 203.95 6" S - 204.45
16	200	25+99.1 AT 6.0' RT.	195.82	18" E - 189.28 36" N - 183.38 18" W - 190.78 36" S - 185.48
16	416	36+33.7 AT 7.4' LT.	205.80	12" SE - 203.27 15" S - 201.06 10" E - 201.62 10" NW - 201.48 21" N - 200.63
16	416A	36+25.0 AT 12.5' RT.	205.16	12" N - 203.32 10" NW - 202.07 6" E - 202.24
16	416B	30+77.0 AT 174.2' RT.	205.20	12" S - 202.42
16	416C	36+31.4 AT 12.4' LT.	205.68	10" N - 201.57 6" W - 201.74

Prop. remove or bulkhead and abandon 17.7 L.F. of 18", 66.3 L.F of 12" and 21.1 L.F. of 10" storm sewers. Fill abandoned sewers with Elastizell PS 120 or approved equal.

Prop. remove or abandon existing 444.0 L.F. of 16", 64.3 L.F. of 12" and 144.2 L.F. of 6" of water main. Include any and all excavation and crushed concrete backfill, bulkheads, standpipes and flowable fill within inside water main pipe.

Underground utilities have been shown to a reasonable degree of accuracy using diggers hotline field locates and record drawings. However, the city does not guarantee their exact size, location or depth or that of others not shown. The contractor shall verify the existence of these utilities and those not shown. Costs for locating and delay shall be incidental to the contract.

PROP. EROSION CONTROL INLET/STORM MH PROTECTION

Install Type "D" Inlet Protection in all the inlets and catch basins with curb boxes, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Install Type "B" Inlet Protection in all storm manholes that have open grate covers, directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Inlet/Storm MH Erosion Control Protection must be removed when work is completed. Cost to be incidental to contract.

DESCRIPTION

DATE

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

EXISTING UTILITIES & REMOVALS

W. CENTER ST.

FROM: N. 118TH ST. TO: N. 116TH ST.

CONTRACT: 24-08
FILE NO:
DRAWN BY: C.R.
CHECKED BY: M.M.
SCALE: AS SHOWN

R02

FILE NAME : S:\DEPARTMENT FOLDERS\ENGINEERING\ACAD_PROJECTS\24-08 W CENTER ST\DESIGN\PIPENETWORKS\CENTER ST EX UTILITIES.DWG PLOT DATE : 4/24/2024 10:56 AM PLOT BY : C.R.

GENERAL NOTES

1. ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF PART 6 OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, 2009 EDITION WITH WISCONSIN DPT SUPPLEMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE BARRICADES, SIGNS, AND OTHER DEVICES NECESSARY TO PROTECT THE WORK ZONE, THE MOTORING PUBLIC, AND PEDESTRIANS.

2. AT NO TIME SHALL ANY HAULING, STAGING, OR DELIVERIES BE ALLOWED ON RESIDENTIAL SIDE STREETS AROUND THE PROJECT AREA. CONSTRUCTION ACCESS OF EQUIPMENT AND WORKERS SHALL BE RESTRICTED AS CLOSELY TO THE IMMEDIATE, ACTIVE WORK AREA AS MUCH AS PRACTICABLE.

3. STAGING OF SUPPLIES AND EQUIPMENT SHALL ONLY BE ALLOWED ON STREETS AS SHOWN ON THIS SHEET. AT NO TIME SHALL STAGING BE ALLOWED TO BLOCK ANY DRIVEWAY OR INTERSECTION.

4. AT NO TIME IN ANY PHASE OF THE WORK SHALL BOTH ADJACENT INTERSECTIONS, CENTER- N 116TH ST AND CENTER- N 117TH PL, BE BLOCKED AND/OR UNDER CONSTRUCTION AT THE SAME TIME. THE CONTRACTOR SHALL SCHEDULE THE WORK IN THE INTERSECTIONS ACCORDINGLY AS INCIDENTAL TO THE CONTRACT.

5. THE N 116TH ST AND N 117TH PL INTERSECTIONS SHALL BE OPEN TO TRAFFIC AT ALL TIMES EXCEPT WHEN ACTIVE WORK IS OCCURRING WITHIN THE INTERSECTION LIMITS. RESTORE TRENCHES TO FINISHED SURFACE WITH BASE MATERIAL TO ALLOW TRAFFIC WHILE NOT ACTIVELY WORKING IN THE INTERSECTION AND SHALL BE INCIDENTAL TO THE CONTRACT.

6. ALL SIGNS SHALL BE MOUNTED AT HEIGHTS AND LOCATIONS WHICH ALLOW FOR CLEAR VISIBILITY.

7. SIGNS MAY BE MOUNTED ON EXISTING CITY POLES. MOUNTING METHOD SHALL BE NON-DESTRUCTIVE.

8. ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED.

9. ALL TYPE III BARRICADES SHALL BE 8-FEET WIDE.

10. THE EXACT LOCATION AND SPACING OF ALL TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED AND/OR DIRECTED BY THE ENGINEER.

11. THE CONTRACTOR SHALL COVER ANY SIGN CONFLICTING WITH THE TRAFFIC CONTROL IN OPERATION AS NEEDED OR AS DIRECTED BY THE ENGINEER. COVERING OF SIGNS AND BAGGING OF SIGNALS IS INCIDENTAL TO THE "TRAFFIC CONTROL" BID ITEM. AFFECTED SIGNS SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITION AS INCIDENTAL TO THE "TRAFFIC CONTROL" BID ITEM FOLLOWING THE REMOVAL OF TEMPORARY TRAFFIC CONTROL.

12. SIGNS WHICH WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

13. THESE DRAWINGS ARE INFORMATIONAL ONLY AND PROVIDE GUIDANCE TO THE LEVEL OF TRAFFIC CONTROL QUALITY NECESSARY. THESE DRAWINGS CANNOT BE USED AS PART OF THE CONTRACTOR'S TRAFFIC CONTROL SUBMITTAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING A TRAFFIC CONTROL PLAN AND OBTAINING WRITTEN APPROVAL OF THAT PLAN FROM THE ENGINEER AS INCIDENTAL TO THE "TRAFFIC CONTROL" BID ITEM.

14. EXTRA SIGNS AND BARRICADES SHALL BE USED AS DIRECTED BY THE ENGINEER AND PAID UNDER THEIR RESPECTIVE BID ITEMS, IF PROVIDED. IF NO ADDITIONAL BID ITEMS ARE PRESENT IN THE CONTRACT, ADDITIONAL SIGNS DIRECTED BY THE ENGINEER ARE INCIDENTAL TO THE "TRAFFIC CONTROL" BID ITEM.

15. ADVANCE WARNING SIGNS ON MAYFAIR ROAD SHALL BECOME CITY PROPERTY FOLLOWING THE COMPLETION OF CONSTRUCTION. CONTRACTOR SHALL PROVIDE, INSTALL AND MAINTAIN SIGNS DURING CONSTURCION BUT SHALL PROVIDE TO THE CITY FOLLOWING PROJECT COMPLETION TO BE USED ON A FUTURE PROJECT. ALL COSTS SHALL BE INCLUDED IN THE TRAFFIC CONTORL BID ITEM.

DATE	DESCRIPTION

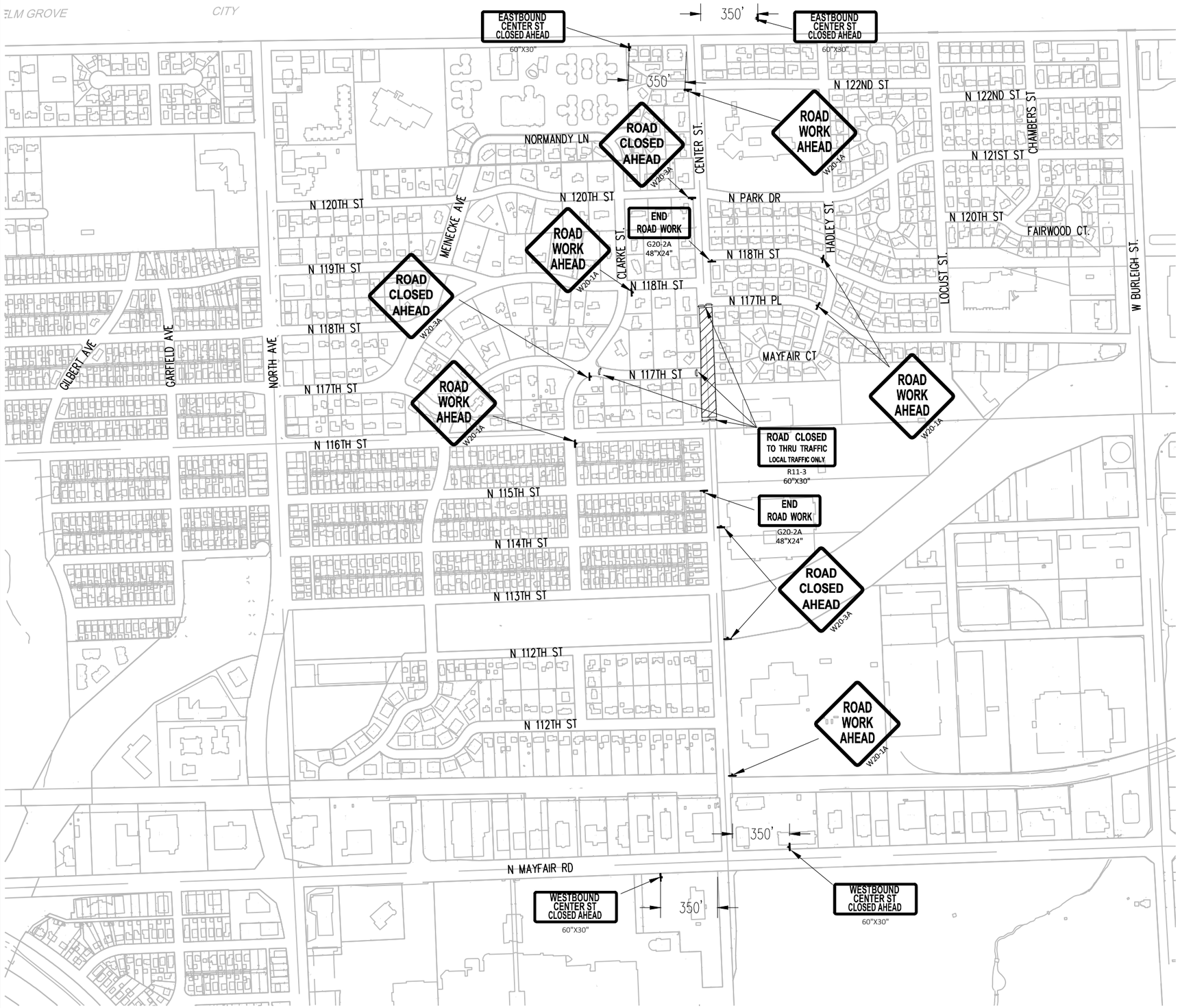
CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

TRAFFIC CONTROL GENERAL NOTES

CENTER STREET

CONTRACT:	24-08
FILE NO:	XX-XXXX
DRAWN BY:	BJT
CHECKED BY:	ND
SCALE:	AS SHOWN

1-T01



LEGEND:

- WORK ZONES AND STAGING AREA
- POST MOUNTED SIGN
- TYPE III BARRICADE (8' EQUIVALENT) AND WARNING LIGHTS

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

TRAFFIC CONTROL AREA 1

CENTER STREET

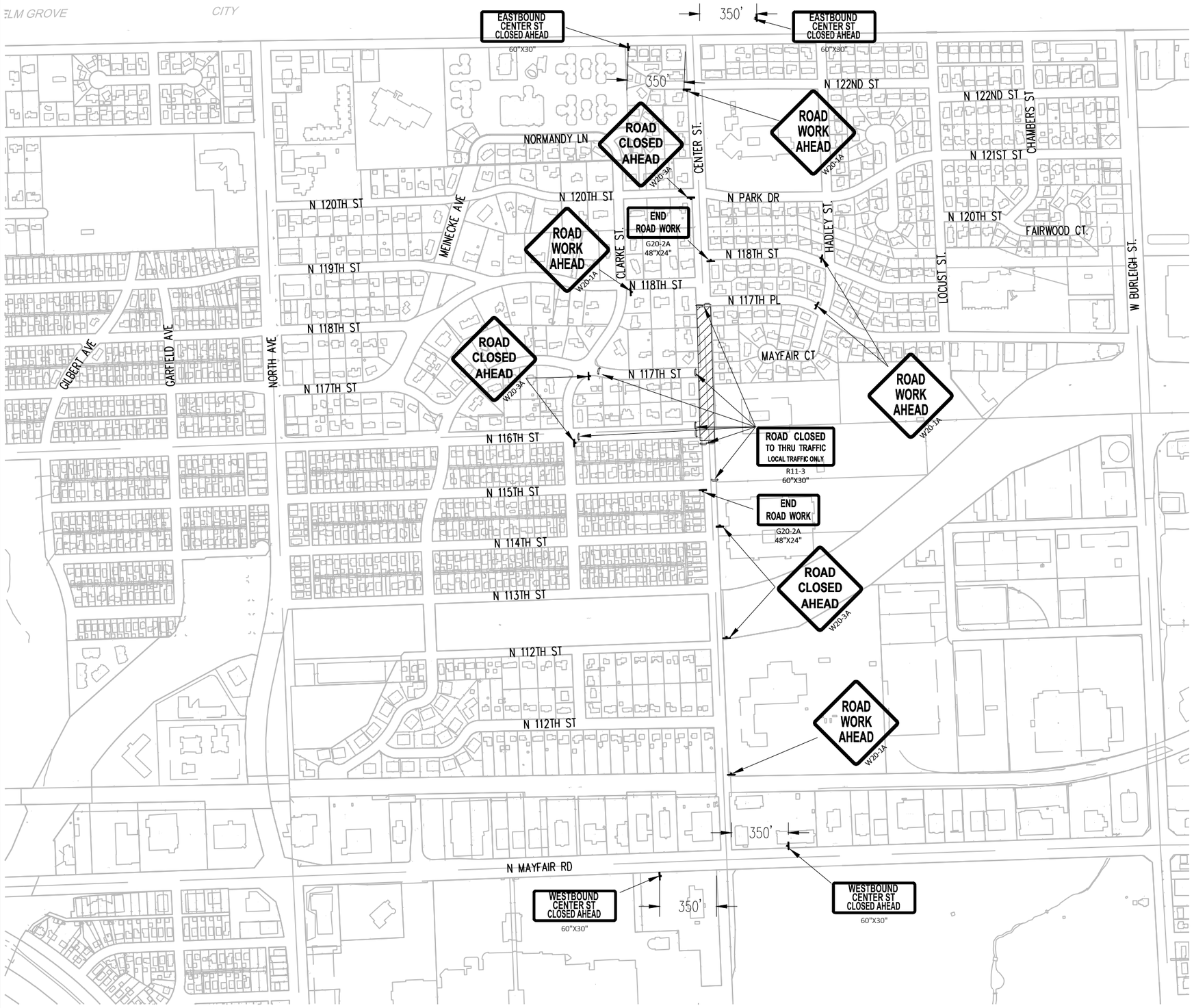
FROM: 116TH ST
TO: 117TH PL

CONTRACT: 24-08
FILE NO: XX-XXXX
DRAWN BY: BJT
CHECKED BY: ND
SCALE: AS SHOWN

1-T02

FILE NAME : S:\DEPARTMENT FOLDERS\ENGINEERING\ACAD_PROJECTS\24-08 W CENTER ST\SHEETSPLAN\CENTER TRAFFIC CONTROL PLAN.DWG

PLOT DATE : 4/23/2024 4:11 PM



LEGEND:

- WORK ZONES AND STAGING AREA
- POST MOUNTED SIGN
- TYPE III BARRICADE (8' EQUIVALENT) AND WARNING LIGHTS

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

TRAFFIC CONTROL AREA 2

CENTER STREET

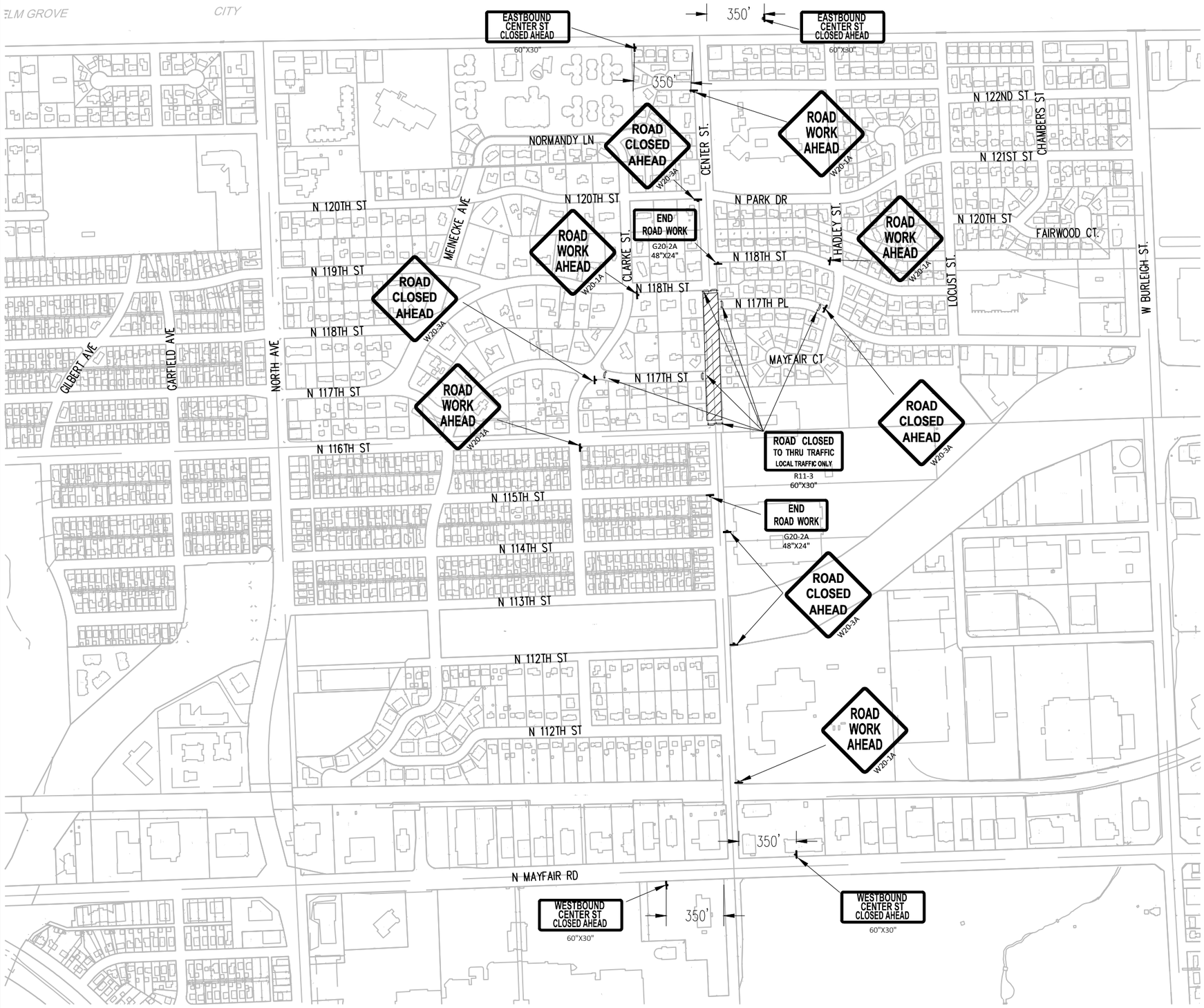
FROM: 116TH INTERSECTION
TO: 117TH PL

CONTRACT: 24-08
FILE NO: XX-XXXX
DRAWN BY: BJT
CHECKED BY: ND
SCALE: AS SHOWN

1-T03

FILE NAME : S:\DEPARTMENT FOLDERS\ENGINEERING\ACAD_PROJECTS\24-08 W CENTER ST\SHEETSPLAN\CENTER TRAFFIC CONTROL PLAN.DWG

PLOT DATE : 4/23/2024 4:12 PM



LEGEND:

- WORK ZONES AND STAGING AREA
- POST MOUNTED SIGN
- TYPE III BARRICADE (8' EQUIVALENT) AND WARNING LIGHTS

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

TRAFFIC CONTROL AREA 3

CENTER STREET

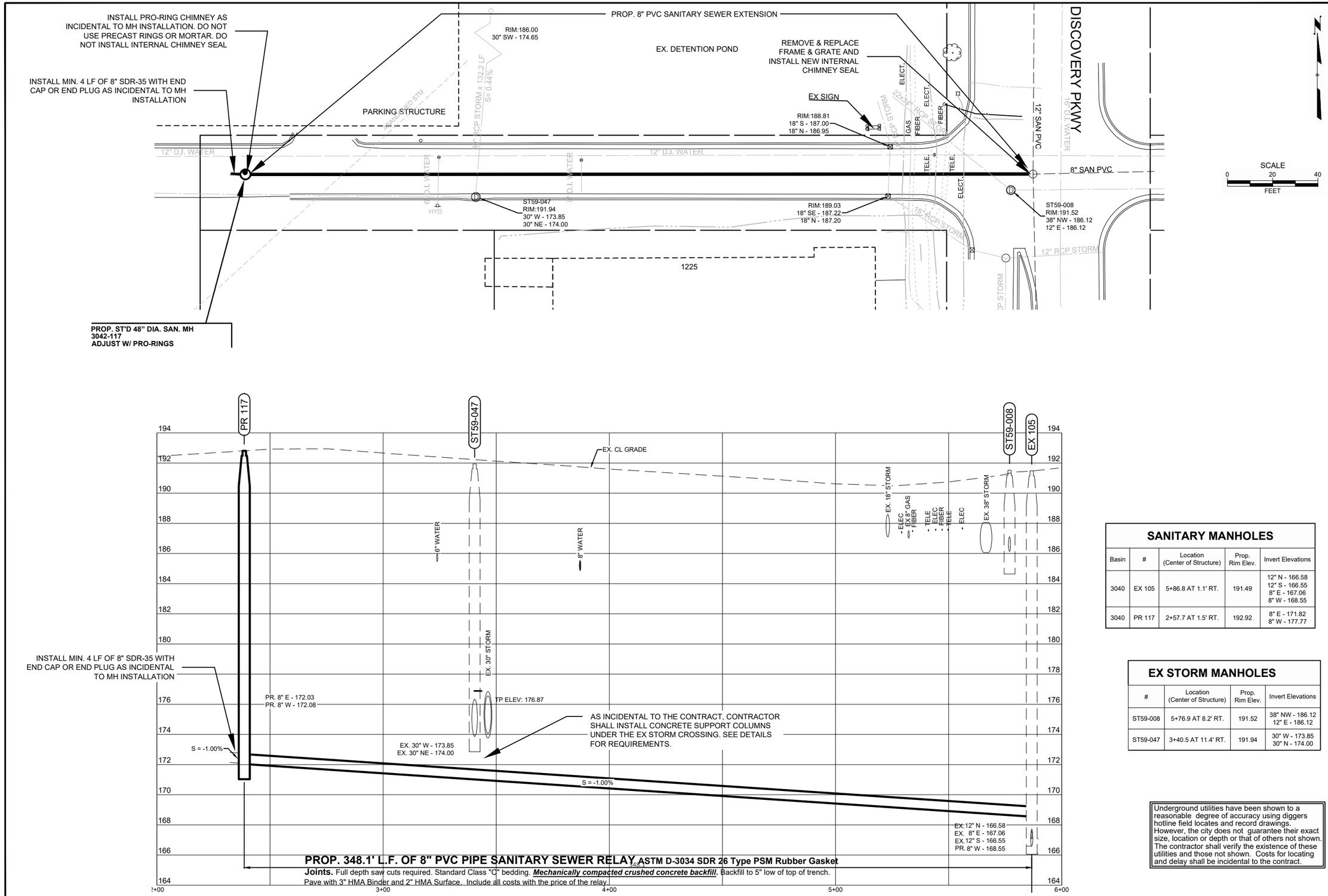
FROM: 116TH ST
TO: 118TH ST

CONTRACT:	24-08
FILE NO:	XX-XXXX
DRAWN BY:	BJT
CHECKED BY:	ND
SCALE:	AS SHOWN

1-T04

FILE NAME : S:\DEPARTMENT FOLDERS\ENGINEERING\ACAD_PROJECTS\24-08 W CENTER ST\SHEETSPLAN\CENTER TRAFFIC CONTROL PLAN.DWG

PLOT DATE : 4/23/2024 4:15 PM



SANITARY MANHOLES

Basin	#	Location (Center of Structure)	Prop. Rim Elev.	Invert Elevations
3040	EX 105	5+86.8 AT 1.1' RT.	191.49	12" N - 166.58 12" S - 166.55 8" E - 167.06 8" W - 168.55
3040	PR 117	2+57.7 AT 1.5' RT.	192.92	8" E - 171.82 8" W - 177.77

EX STORM MANHOLES

#	Location (Center of Structure)	Prop. Rim Elev.	Invert Elevations
ST59-008	5+76.9 AT 8.2' RT.	191.52	38" NW - 186.12 12" E - 186.12
ST59-047	3+40.5 AT 11.4' RT.	191.94	30" W - 173.85 30" N - 174.00

Underground utilities have been shown to a reasonable degree of accuracy using diggers hotline field locates and record drawings. However, the city does not guarantee their exact size, location or depth or that of others not shown. The contractor shall verify the existence of these utilities and those not shown. Costs for locating and delay shall be incidental to the contract.

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

SANITARY SEWER EXTENSION
DISCOVERY PKWY WEST

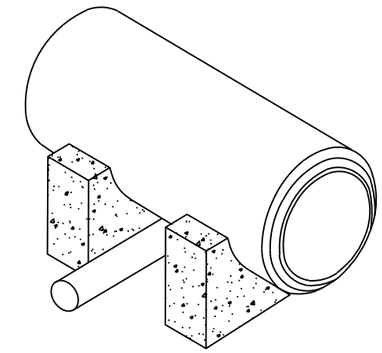
TO:
FROM:

CONTRACT: 24-08
FILE NO.: 16-995
DRAWN BY: BJT
CHECKED BY: MJA
SCALE: AS SHOWN

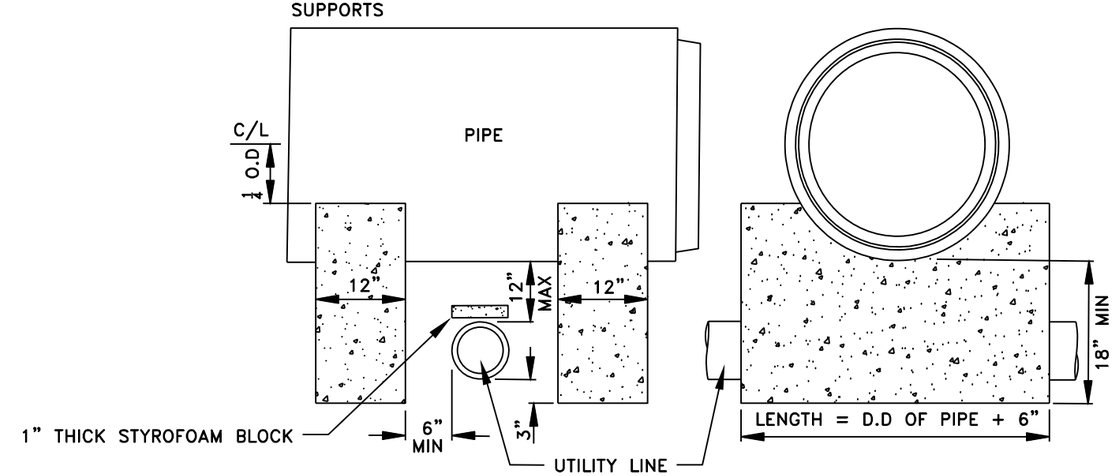
2-A01

FILE NAME : S:\DEPARTMENT FOLDERS\ENGINEERING\ACAD_PROJECTS\23-08 DISCOVERY WEST\DESIGN\PIPENETWORKS\PIPE NETWORKS_OPTION_CURRENT.DWG
PLOT DATE : 1/3/2024 11:08 AM
PLOT BY : BRYAN THEISEN

PIPE SUPPORTS SHALL BE INSTALLED FOR SEWERS OVER 10" IN DIAMETER WHEN CLEARANCE BETWEEN BOTTOM OF PIPE & TOP OF UTILITY LINE IS 12" OR LESS



FOR NEW INSTALLATIONS CENTER 1 FULL LENGTH OF PIPE OVER UTILITY LINE–NO JOINTS BETWEEN SUPPORTS



PROP. EROSION CONTROL INLET BASKETS
Install in all the inlets and catch basins directly down-surface of all open-cut work prior to starting work or where required by the City Engineer. Inlets and catch basins have curb boxes. Inlet control must be removed when work is completed. Cost to be incidental to contract.

DATE	DESCRIPTION

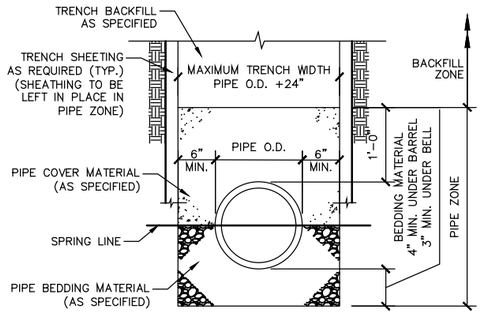
CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

SANITARY SEWER EXTENSION
DISCOVERY PKWY WEST

FROM:
TO:

CONTRACT:	24-08
FILE NO:	16-995
DRAWN BY:	BJT
CHECKED BY:	MJA
SCALE:	AS SHOWN

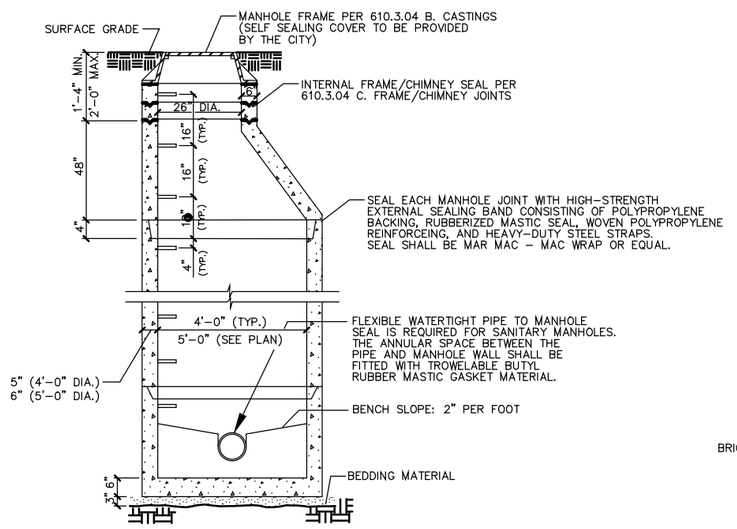
2-A02



NOTE: 3" OF ADDITIONAL BEDDING REQUIRED IN WET TRENCH AT NO ADDITIONAL COST.

01 CLASS "B" BEDDING DETAIL FOR SANITARY SEWER

SCALE N.T.S.



GENERAL NOTES

PRECAST CONCRETE ADJUSTING RINGS TO BE REINFORCED WITH ONE HOOP OF STEEL CENTERED WITHIN THE RING. WHERE NECESSARY, RINGS SHALL BE GROOVED TO RECEIVE STEP.

CONCRETE AND STEEL REINFORCEMENT SHALL CONFORM TO DESIGNATION C-478 REQUIREMENTS OF ASTM SPECIFICATIONS.

JOINTS SHALL BE WATERTIGHT AND SHALL BE MADE USING RUBBER GASKETS OR BUTYL RUBBER MASTIC MATERIAL.

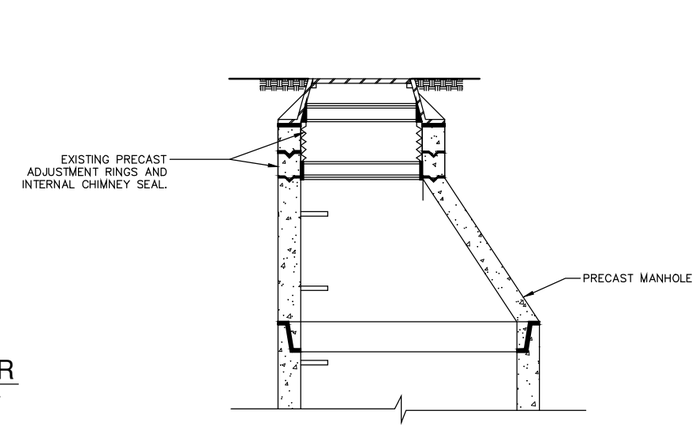
AREA OF CIRCUMFERENTIAL STEEL = 0.12 SQ. INCH PER LINEAL FOOT.

3" BEDDING MATERIAL REQUIRED UNDER BASE. MANHOLES TO BE BACKFILLED WITH GRANULAR BACKFILL MATERIAL.

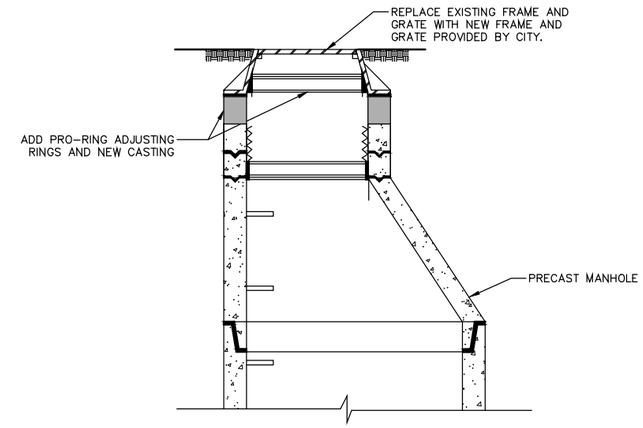
REFER TO CITY OF WAUWATOSA STANDARD DRAWINGS FOR 72-INCH AND 84-INCH DIAMETER MANHOLE DETAIL.

02 PRECAST MANHOLE

SCALE N.T.S.



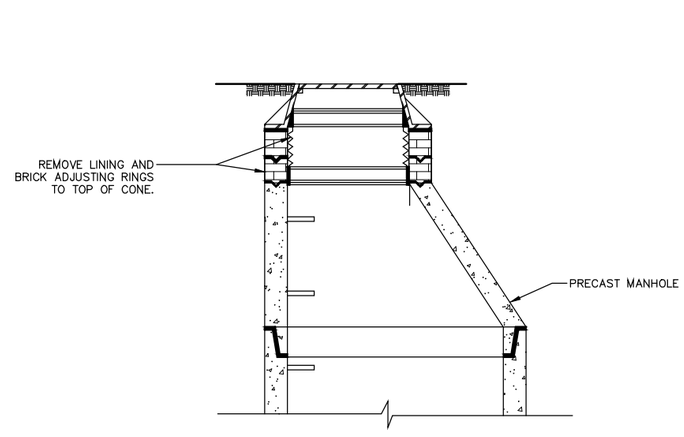
EXISTING CONDITIONS



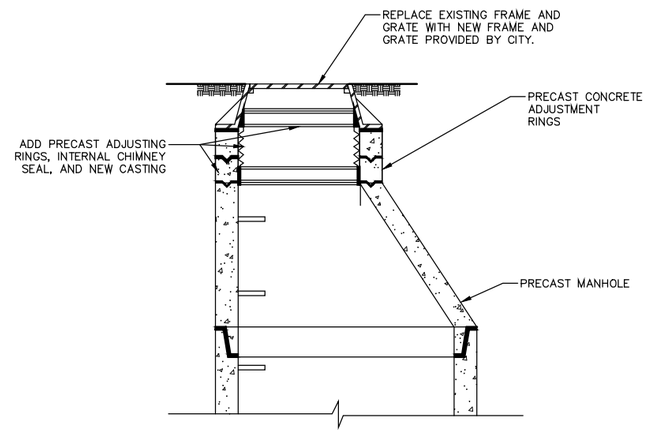
PROPOSED CONDITIONS

03 MANHOLE ADJUSTMENT TYPE 2 DETAIL

SCALE N.T.S.



EXISTING CONDITIONS



PROPOSED CONDITIONS

04 MANHOLE ADJUSTMENT TYPE 1 DETAIL

SCALE N.T.S.

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

SANITARY SEWER EXTENSION
DISCOVERY PKWY WEST

FROM:
TO:

CONTRACT:	23-08
FILE NO.	16-995
DRAWN BY:	BT
CHECKED BY:	MA
SCALE:	N.T.S.

2-A03

NON-SHEAR (SHEARLESS) COMPRESSION COUPLING
for connection of dissimilar pipe materials

Connecting 1001 Series - Clay to Clay

Part No.	Side A		Side B		Width C	
	inches	mm	inches	mm	inches	mm
1001-44RC	5.29	134.37	5.29	134.37	4.1	104.14
1001-44WCRC	5.51	139.95	5.51	139.95	3.97	100.84
1001-64RC*	7.5	190.5	5.5	139.7	6.02	152.91
1001-66RC	7.5	190.5	7.5	190.5	6.02	152.91
1001-66WCRC	7.87	199.9	7.87	199.9	5.925	150.5
1001-88RC	9.65	245.11	9.65	245.11	5.99	152.15
1001-88WCRC	10	254	10	254	5.945	151
1001-1010RC	12.4	314.96	12.4	314.96	5.9	149.86
1001-1010WCRC	12.4	314.96	12.4	314.96	5.9	149.86
1001-1212RC	14.51	368.55	14.51	368.55	6.38	162.05
1001-1212WCRC	15.25	387.35	15.25	387.35	6.42	163.07
1001-1515RC	18.14	460.76	18.14	460.76	9.89	251.21
1001-1818RC	21.9	556.26	21.9	556.26	9.83	244.6
1001-2424RC						

* Supplied with reducer.
Maximum Test Pressure: 4.3 PSI (29.6 KPA)
Maximum Operating Temperature: 140° F nonconsistent

Connecting 1002 Series - Clay to Cast Iron or Plastic

Part No.	Side A		Side B		Width C	
	inches	mm	inches	mm	inches	mm
1002-43RC*	5.29	134.37	3.38	85.85	4.1	104.14
1002-44RC	5.36	136.14	4.51	114.55	4.07	103.38
1002-44WCRC	5.44	138.18	4.55	115.57	3.96	100.58
1002-46RC*	6.6	167.64	5.13	130.18	5.74	145.8
1002-55RC*	6.6	167.64	5.5	139.7	5.74	145.8
1002-64RC*	7.5	190.5	4.5	114.3	6.02	152.91
1002-64WCRC	7.84	199.14	4.5	114.3	5.955	151.26
1002-64WCRC-SDR	7.84	199.14	4.38	111.25	5.955	151.26
1002-66RC	7.5	190.5	6.56	166.65	5.89	149.68
1002-66WCRC	7.84	199.14	6.52	165.61	5.955	151.26
1002-86RC*	9.65	245.11	6.63	168.4	5.99	152.15
1002-88RC	9.76	247.95	8.57	217.63	5.96	151.38
1002-88WCRC	10	254	8.49	215.65	5.92	150.37
1002-10-8RC*	12.4	314.96	8.5	215.9	5.9	149.86
1002-1010RC*	12.4	314.96	10.75	273.05	5.9	149.86
1002-1010WCRC	12.4	314.96	10.75	273.05	5.9	149.86
1002-1210RC*	14.51	368.55	12.6	320.04	6.38	162.05
1002-1212RC*	14.51	368.55	12.6	320.04	6.38	162.05
1002-1212WCRC	15.25	387.35	12.6	320.04	6.42	163.07
1002-1215RC*	15.25	387.35	14.38	365.25	6.42	163.07
1002-1515RC*	18.14	461.76	15.4	391.16	9.89	251.27
1002-1818RC*	21.9	556.26	19	482.6	9.63	244.6
1002-2121RC*	25.46	646.68	22.3	566.42	9.89	251.21
1002-2424RC*	28.97	735.84	25	635	9.89	251.21

* Supplied with reducer.
Maximum Test Pressure: 4.3 PSI (29.6 KPA)
Maximum Operating Temperature: 140° F nonconsistent

Connecting 1003 Series - Clay to Asbestos Cement Fibre or Ductile Iron
1003 SERIES - Clay to Asbestos Cement Fibre or Ductile Iron

Part No.	Side A		Side B		Width C	
	inches	mm	inches	mm	inches	mm
1003-44RC	5.41	137.41	4.94	125.48	4.07	103.38
1003-66RC	7.25	184.15	6.84	173.74	5.93	150.62
1003-66WCRC	8	203.2	6.9	175.26	6	152.4
1003-68RC*	9.05	229.87	7.2	182.88	5.98	151.89
1003-8-10RC*	11.22	284.99	9.65	245.11	5.97	151.51
1003-88RC	9.75	247.65	9.06	230.12	5.94	150.88
1003-1010RC*	12.4	314.96	11.12	282.45	5.9	149.86
1003-1212RC*	14.51	368.55	13.2	335.28	6.38	162.05
1003-1818RC*	21.9	556.26	19.5	495.3	9.63	244.63

* Supplied with reducer.
Maximum Test Pressure: 4.3 PSI (29.6 KPA)
Maximum Operating Temperature: 140° F nonconsistent

Connecting 1004 Series - Concrete to Concrete

Part No.	Side A		Side B		Width C	
	inches	mm	inches	mm	inches	mm
1004-44RC	5.51	139.95	5.51	139.95	3.97	100.84
1004-66RC	7.58	192.53	7.58	192.53	5.94	150.88
1004-88RC	10.38	263.65	10.38	263.65	5.9	149.86
1004-1010RC	12.4	314.96	12.4	314.96	5.9	149.86
1004-1212RC	15.25	387.35	15.25	387.35	6.42	163.07
1004-1515RC	19.74	501.4	19.74	501.4	9.89	251.21

* Supplied with reducer.
Maximum Test Pressure: 4.3 PSI (29.6 KPA)
Maximum Operating Temperature: 140° F nonconsistent

Connecting 1006 Series - Concrete to Cast Iron or Plastic

Part No.	Side A		Side B		Width C	
	inches	mm	inches	mm	inches	mm
1006-44RC*	5.51	139.95	4.5	114.3	3.97	100.84
1006-64RC*	7.58	192.53	4.38	111.25	5.94	150.88
1006-66RC*	7.58	192.53	6.63	168.28	5.94	150.88
1006-86RC*	10.38	263.65	6.38	162.05	5.9	149.86
1006-88RC*	10.38	263.65	8.5	215.9	5.9	149.86
1006-10-8RC*	12.4	314.96	8.38	212.85	5.9	149.86
1006-1010RC*	12.4	314.96	10.75	273.05	5.9	149.86
1006-1210RC*	15.25	387.35	10.6	269.24	6.42	163.07
1006-1212RC*	15.25	387.35	12.6	320.04	6.42	163.07
1006-1515RC*	19.74	501.4	15.4	391.16	9.89	251.28

* Supplied with reducer.
Maximum Test Pressure: 4.3 PSI (29.6 KPA)
Maximum Operating Temperature: 140° F nonconsistent

Connecting 1051 Series - Asbestos Cement Fibre (AC) or Ductile Iron to Cast Iron or Plastic

Part No.	Side A		Side B		Width C	
	inches	mm	inches	mm	inches	mm
1051-44RC	4.8	121.92	4.39	111.51	3.94	100.08
1051-45RC*	5	127	5.5.52	140.21	3.97	100.84
1051-46RC*	4.75	120.65	6.6	167.64	5.74	145.8
1051-55RC*	5.9	149.86	5.5	139.7	5.92	150.37
1051-64RC*	6.95	176.53	4.38	111.25	5.92	150.37
1051-65RC*	6.95	176.53	5.5	139.7	5.92	150.37
1051-66RC	6.96	176.78	6.69	169.8	5.91	150.11
1051-86RC*	9.05	229.87	6.38	162.05	5.89	149.61
1051-8-10RC*	10.63	270	9.05	229.87	5.89	149.61
1051-88RC	9.25	234.95	8.51	216.15	5.97	151.51
1051-10-8RC*	11.02	279.91	8.38	212.85	5.97	151.51
1051-1210RC*	13.3	337.82	10.6	269.24	5.97	151.51
1051-1212RC*	13.37	339.6	12.6	320.04	5.97	151.51
1051-1818RC	19.74	501.27	19.74	501.4	9.89	251.28

* Supplied with reducer.
Maximum Test Pressure: 4.3 PSI (29.6 KPA)
Maximum Operating Temperature: 140° F nonconsistent

Connecting 1055 Series - AC or Ductile Iron to AC or Ductile Iron

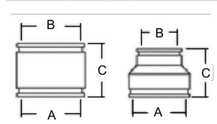
Part No.	Side A		Side B		Width C	
	inches	mm	inches	mm	inches	mm
1055-44RC	4.75	120.65	4.75	120.65	3.96	100.58
1055-66RC	6.65	168.91	6.65	168.91	5.92	150.37
1055-88RC	9.05	229.87	9.05	229.87	5.98	151.89
1055-1010RC	11.22	284.99	11.22	284.99	5.97	151.51
1055-1212RC	13.37	339.6	13.37	339.6	5.97	151.64

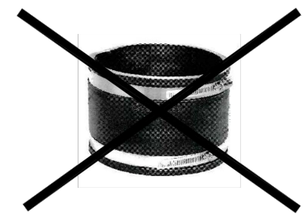
* Supplied with reducer.
Maximum Test Pressure: 4.3 PSI (29.6 KPA)
Maximum Operating Temperature: 140° F nonconsistent

Connecting 1056 Series - CI, PL, Copper, ST or Lead to CI, PL, Copper, ST or Lead

Part No.	Side A		Side B		Width C	
	inches	mm	inches	mm	inches	mm
1056-150RC	1.94	49.28	1.94	49.28	3.43	87.12
1056-22RC	2.41	61.21	2.41	61.21	3.45	87.63
1056-32RC*	3.52	89.41	2.38	60.45	3.96	100.58
1056-33RC	3.46	87.88	3.46	87.88	3.98	101.09
1056-43RC*	4.58	116.33	3.38	85.85	4.02	102.11
1056-44RC	4.58	116.33	4.58	116.33	4.02	102.11
1056-54RC*	5.52	140.21	4.38	111.25	3.97	100.84
1056-55RC	5.52	140.21	5.52	140.21	3.97	100.84
1056-64RC*	6.6	167.64	4.5	114.3	5.74	145.8
1056-65RC*	6.6	167.64	5.62	142.75	5.74	145.8
1056-66RC	6.6	167.64	6.6	167.64	5.74	145.8
1056-86RC*	8.64	219.46	6.38	162.05	6.04	153.42
1056-88RC	8.64	219.46	8.64	219.46	6.04	153.42
1056-1010RC	10.63	270	10.63	270	5.89	149.61
1056-1212RC	12.52	318.01	12.52	318.01	6.32	160.53
1056-1515RC	15.92	404.37	15.92	404.37	9.89	251.21
1056-1818RC	19.1	485.14	19.1	485.14	9.89	251.21

* Supplied with reducer.
Maximum Test Pressure: 4.3 PSI (29.6 KPA)
Maximum Operating Temperature: 140° F nonconsistent





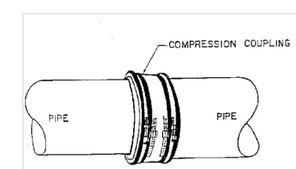
NO FLEXIBLE COUPLINGS PERMITTED

FERNCO - Strong Back RC Series Repair Couplings or Approved Equal by City of Wauwatosa

Specifications

Gasket

- Manufactured to meet the material requirements of:
- CSA B602 - mechanical couplings for drain, waste, vent pipe and sewer pipe
- ASTM D 5926 - Standard Specification for Poly Vinyl Chloride (PVC) Gaskets for Drain, Waste, and Vent (DWV), Sewer, Sanitary, and Storm Plumbing Systems
- ASTM C 1173 - Standard Specification for Flexible Transition Couplings for Underground Piping Systems
- Hardness, Shore"A", Inst. -+5.....65
- Tensile Strength, Min. psi 1000
- Elongation at Rupture, Min. %.....250
- Tear Strength, Min..... 150 lb/in.
- Brittleness Temperature..... -40°F



Clamps

- Manufactured to the requirements of CSA B602
- Clamp Housing- 301 Stainless Steel
- Clamp Band - 301 Stainless Steel
- Clamp Screw - 305 Stainless Steel
- Installation torque 60" lbs

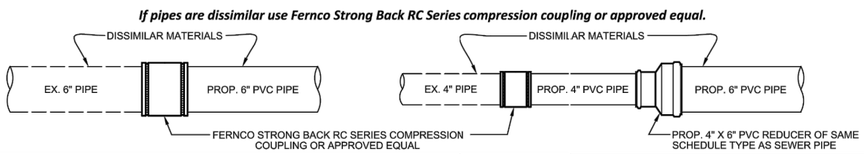
Shear Ring

- .012" Thick, 300 Series Stainless Steel
- Width manufactured according to coupling width (1.50", 2.13", or 4")
- Length manufactured according to coupling diameter
- Clamps spot welded in place

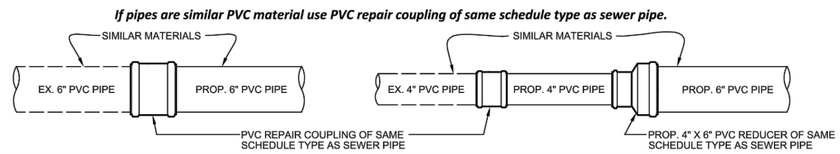
Coupling

- Manufactured to conform to the performance requirements of:
- ASTM C 1173 - standard specification for flexible transition couplings for underground piping systems
- CSA B602 - mechanical couplings for drain, waste, vent pipe and sewer pipe
- **Maximum test pressure:** 4.3 PSI (29.6KPA)
- **Maximum operating temperature:** 140° F nonconsistent

If pipes are dissimilar use Fernco Strong Back RC Series compression coupling or approved equal.



If pipes are similar PVC material use PVC repair coupling of same schedule type as sewer pipe.



DESCRIPTION
DATE

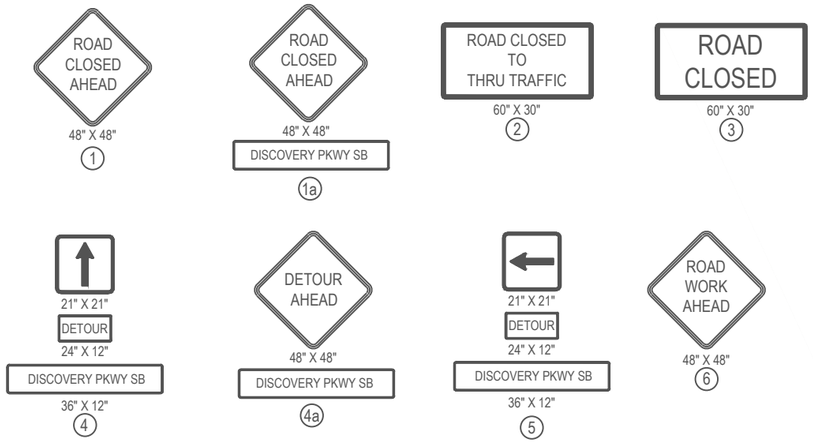
CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

SANITARY SEWER EXTENSION
DISCOVERY PKWY WEST

TO:
FROM:

CONTRACT: 23-08
FILE NO.: 16-995
DRAWN BY: BT
CHECKED BY: MA
SCALE: N.T.S.

2-A04



GENERAL NOTES

1. ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF PART 6 OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, 2009 EDITION WITH WISCONSIN DOT SUPPLEMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE BARRICADES, SIGNS, AND OTHER DEVICES NECESSARY TO PROTECT THE WORK ZONE, THE MOTORING PUBLIC, AND PEDESTRIANS. TEMPORARY "NO PARKING" SIGNS MAY BE NON-REFLECTIVE ON FOAM BOARD.

2. STAGING OF SUPPLIES AND EQUIPMENT SHALL ONLY BE ALLOWED WITHIN THE PORTION OF THE ROAD WHICH IS FULLY CLOSED TO TRAFFIC. AT NO TIME SHALL ANY STAGING BE ALLOWED IN THE PARKING LANES ALONG DISCOVERY PKWY.

3. THE EXACT LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT CONDITIONS AS APPROVED BY THE ENGINEER.

4. ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED.

5. ALL TYPE III BARRICADES SHALL BE 8-FEET WIDE.

6. THE CONTRACTOR SHALL COVER ANY SIGN CONFLICTING WITH THE TRAFFIC CONTROL IN OPERATION AS NEEDED OR AS DIRECTED BY THE ENGINEER. COVERING OF SIGNS, AND BAGGING OF SIGNALS IS INCIDENTAL TO THE "TRAFFIC CONTROL" BID ITEM. AFFECTED SIGNS SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITION AS INCIDENTAL TO THE "TRAFFIC CONTROL" BID ITEM.

7. SIGNS WHICH WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

8. THIS DRAWING IS INFORMATIONAL ONLY AND PROVIDES GUIDANCE TO THE LEVEL OF TRAFFIC CONTROL QUALITY NECESSARY. THIS DRAWING CANNOT BE USED AS PART OF THE CONTRACTOR'S TRAFFIC CONTROL SUBMITTAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING A TRAFFIC CONTROL PLAN AND OBTAINING WRITTEN APPROVAL OF THAT PLAN FROM THE ENGINEER AS INCIDENTAL TO THE "TRAFFIC CONTROL" BID ITEM.

9. EXTRA SIGNS AND BARRICADES SHALL BE USED AS DIRECTED BY THE ENGINEER AND PAID UNDER THEIR RESPECTIVE BID ITEMS, IF PROVIDED. IF NO ADDITIONAL BID ITEMS ARE PRESENT IN THE CONTRACT, ADDITIONAL SIGNS DIRECTED BY THE ENGINEER ARE INCIDENTAL TO THE "TRAFFIC CONTROL" BID ITEM.

10. WORK SHALL NOT BEGIN UNTIL THE WISDOT PROJECT ON SWAN BLVD IS COMPLETE AND THE ASSOCIATED DETOUR AND TRAFFIC CONTROL HAS BEEN REMOVED. COORDINATE START DATE OF TRAFFIC CONTROL INSTALLATION AND PROJECT WORK WITH ENGINEER.

HATCHING KEY

ROAD CLOSURE

CONSTRUCTION ZONE

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

TRAFFIC CONTROL PHASE 2

DISCOVERY PKWY OVERVIEW

FROM: SWAN BLVD

TO: WATERTOWN PLANK RD

CONTRACT: 23-08
FILE NO: ##-###
DRAWN BY: MMM
CHECKED BY: NJD
SCALE: NTS

2-T01

LAYOUT NAME - Discovery Pkwy

GENERAL NOTES

1. ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF PART 6 OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, 2009 EDITION WITH WISCONSIN DOT SUPPLEMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE BARRICADES, SIGNS, AND OTHER DEVICES NECESSARY TO PROTECT THE WORK ZONE, THE MOTORING PUBLIC, AND PEDESTRIANS. TEMPORARY "NO PARKING" SIGNS MAY BE NON-REFLECTIVE ON FOAM BOARD.

2. STAGING OF SUPPLIES AND EQUIPMENT SHALL ONLY BE ALLOWED WITHIN THE PORTION OF THE ROAD WHICH IS FULLY CLOSED TO TRAFFIC. AT NO TIME SHALL ANY STAGING BE ALLOWED IN THE PARKING LANES ALONG DISCOVERY PKWY.

3. THE EXACT LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT CONDITIONS AS APPROVED BY THE ENGINEER.

4. ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED.

5. ALL TYPE III BARRICADES SHALL BE 8-FEET WIDE.

6. THE CONTRACTOR SHALL COVER ANY SIGN CONFLICTING WITH THE TRAFFIC CONTROL IN OPERATION AS NEEDED OR AS DIRECTED BY THE ENGINEER. COVERING OF SIGNS, AND BAGGING OF SIGNALS IS INCIDENTAL TO THE "TRAFFIC CONTROL" BID ITEM. AFFECTED SIGNS SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITION AS INCIDENTAL TO THE "TRAFFIC CONTROL" BID ITEM.

7. SIGNS WHICH WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

8. THIS DRAWING IS INFORMATIONAL ONLY AND PROVIDES GUIDANCE TO THE LEVEL OF TRAFFIC CONTROL QUALITY NECESSARY. THIS DRAWING CANNOT BE USED AS PART OF THE CONTRACTOR'S TRAFFIC CONTROL SUBMITTAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING A TRAFFIC CONTROL PLAN AND OBTAINING WRITTEN APPROVAL OF THAT PLAN FROM THE ENGINEER AS INCIDENTAL TO THE "TRAFFIC CONTROL" BID ITEM.

9. EXTRA SIGNS AND BARRICADES SHALL BE USED AS DIRECTED BY THE ENGINEER AND PAID UNDER THEIR RESPECTIVE BID ITEMS, IF PROVIDED. IF NO ADDITIONAL BID ITEMS ARE PRESENT IN THE CONTRACT, ADDITIONAL SIGNS DIRECTED BY THE ENGINEER ARE INCIDENTAL TO THE "TRAFFIC CONTROL" BID ITEM.

10. WORK SHALL NOT BEGIN UNTIL THE WISDOT PROJECT ON SWAN BLVD IS COMPLETE AND THE ASSOCIATED DETOUR AND TRAFFIC CONTROL HAS BEEN REMOVED. COORDINATE START DATE OF TRAFFIC CONTROL INSTALLATION AND PROJECT WORK WITH ENGINEER.

48" X 48"
1

60" X 30"
2

24" X 30"
3

48" X 48"
4

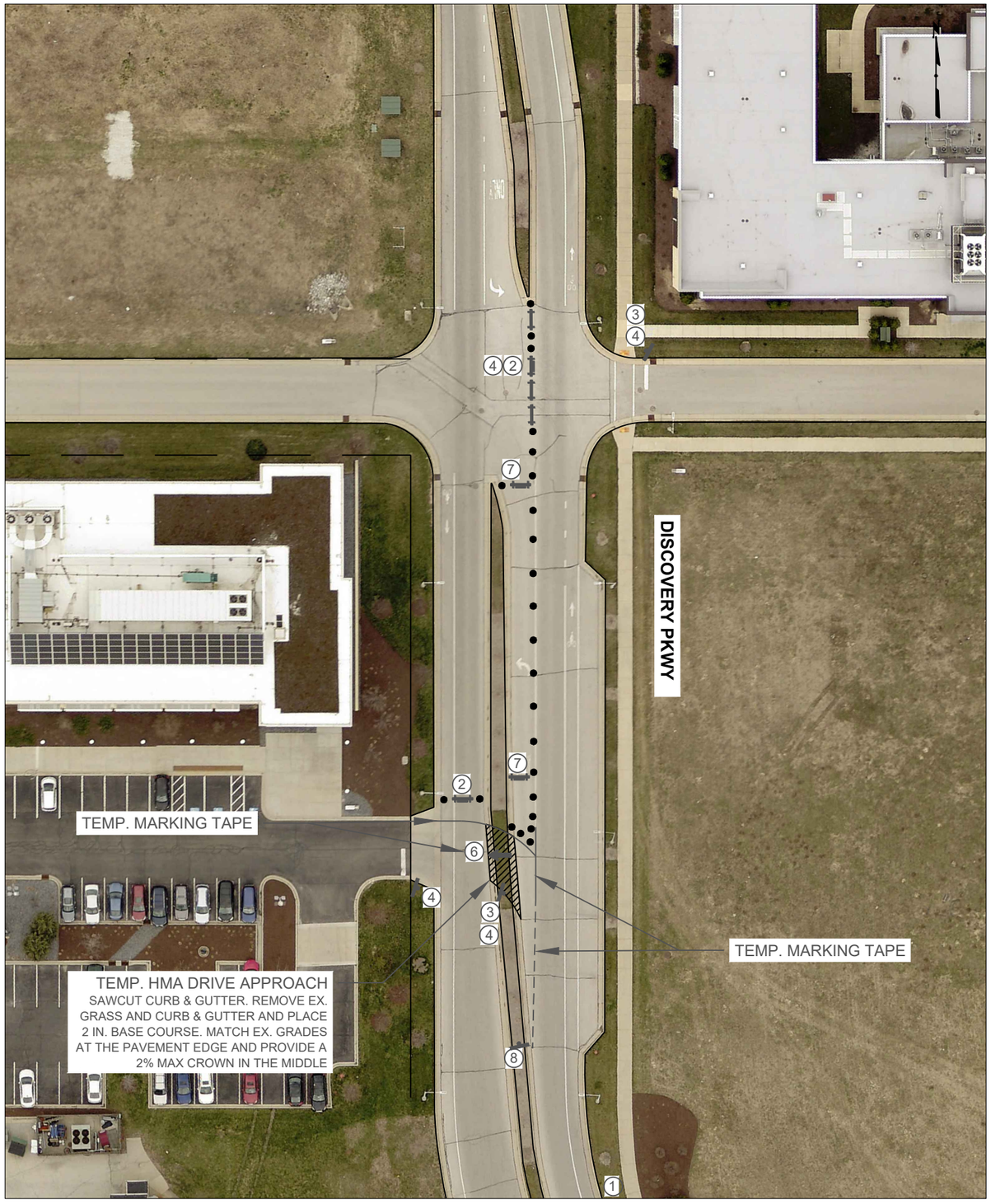
60" X 30"
5

60" X 30"
7

24" X 30"
8

TEMPORARY PAVEMENT MARKING

??" X ??"
6



DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

TRAFFIC CONTROL PHASE 2

DISCOVERY PKWY DETAILS

FROM: 1225 DISCOVERY PKWY
TO: N 109TH ST

CONTRACT: 23-08
FILE NO: ## ###
DRAWN BY: MMM
CHECKED BY: MMM
SCALE: 1" = 50'

2-T02

LAYOUT NAME - Discovery Pkwy (2)

GENERAL NOTES

1. ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF PART 6 OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, 2009 EDITION WITH WISCONSIN DOT SUPPLEMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE BARRICADES, SIGNS, AND OTHER DEVICES NECESSARY TO PROTECT THE WORK ZONE, THE MOTORING PUBLIC, AND PEDESTRIANS. TEMPORARY "NO PARKING" SIGNS MAY BE NON-REFLECTIVE ON FOAM BOARD.

2. STAGING OF SUPPLIES AND EQUIPMENT SHALL ONLY BE ALLOWED WITHIN THE PORTION OF THE ROAD WHICH IS FULLY CLOSED TO TRAFFIC. AT NO TIME SHALL ANY STAGING BE ALLOWED IN THE PARKING LANES ALONG DISCOVERY PKWY.

3. THE EXACT LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT CONDITIONS AS APPROVED BY THE ENGINEER.

4. ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED.

5. ALL TYPE III BARRICADES SHALL BE 8-FEET WIDE.

6. THE CONTRACTOR SHALL COVER ANY SIGN CONFLICTING WITH THE TRAFFIC CONTROL IN OPERATION AS NEEDED OR AS DIRECTED BY THE ENGINEER. COVERING OF SIGNS, AND BAGGING OF SIGNALS IS INCIDENTAL TO THE "TRAFFIC CONTROL" BID ITEM. AFFECTED SIGNS SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITION AS INCIDENTAL TO THE "TRAFFIC CONTROL" BID ITEM.

7. SIGNS WHICH WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

8. THIS DRAWING IS INFORMATIONAL ONLY AND PROVIDES GUIDANCE TO THE LEVEL OF TRAFFIC CONTROL QUALITY NECESSARY. THIS DRAWING CANNOT BE USED AS PART OF THE CONTRACTOR'S TRAFFIC CONTROL SUBMITTAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING A TRAFFIC CONTROL PLAN AND OBTAINING WRITTEN APPROVAL OF THAT PLAN FROM THE ENGINEER AS INCIDENTAL TO THE "TRAFFIC CONTROL" BID ITEM.

9. EXTRA SIGNS AND BARRICADES SHALL BE USED AS DIRECTED BY THE ENGINEER AND PAID UNDER THEIR RESPECTIVE BID ITEMS, IF PROVIDED. IF NO ADDITIONAL BID ITEMS ARE PRESENT IN THE CONTRACT, ADDITIONAL SIGNS DIRECTED BY THE ENGINEER ARE INCIDENTAL TO THE "TRAFFIC CONTROL" BID ITEM.

10. WORK SHALL NOT BEGIN UNTIL THE WISDOT PROJECT ON SWAN BLVD IS COMPLETE AND THE ASSOCIATED DETOUR AND TRAFFIC CONTROL HAS BEEN REMOVED. COORDINATE START DATE OF TRAFFIC CONTROL INSTALLATION AND PROJECT WORK WITH ENGINEER.

TEMPORARY "NO PARKING" SIGNS

TYPE 1

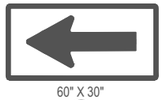
TYPE 2

48" X 48"
3

48" X 48"
4

60" X 30"
5

48" X 48"
6



60" X 30"
7

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

TRAFFIC CONTROL PHASE 1 & 3

TEMPORARY ACCESS WORK ZONE

FROM: 1225 DISCOVERY PKWY
TO: S. DWY ENTRACE

CONTRACT:	23-08
FILE NO:	##-333
DRAWN BY:	MMM
CHECKED BY:	MMM
SCALE:	1" = 50'

2-T03

LAYOUT NAME - Discovery Pkwy (3)