

LEGEND AND ABBREVIATIONS

	TRAVERSE POINT		TILE		DRAIN TILE
	POWER POLE		PVC P		PVC PIPE
	LIGHT POLE		CLEANOUT		RIP RAP
	FLAG POLE		REBAR		CHAIN LINK FENCE
	MANHOLE		BENCH MARK		GUARD RAIL
	STORM INLET		TELEPHONE MANHOLE		BURIED CABLE TV
	WATER VALVE		GAS SERVICE VALVE		BURIED ELECTRIC LINE
	GAS VALVE		WATER SERVICE VALVE		OVERHEAD ELECTRIC LINE
	FIRE HYDRANT		CATCH BASIN		BURIED GAS MAIN
	MAIL BOX		CONIFEROUS TREE		BURIED FORCE MAIN
	TELEPHONE PEDESTAL		STUMP		BURIED STREET LIGHTING
	CONTROL BOX		BUSH		BURIED SANITARY SEWER
	TRAFFIC SIGNAL		METAL POST		BURIED MIS SEWER
	GUY WIRE		HANDHOLE		BURIED STORM SEWER
	MONUMENT		MISCELLANEOUS METER		BURIED TELEPHONE LINE
	1" IRON PIPE		WOOD POST		BURIED WATER MAIN
	2" IRON PIPE		ABANDONED POLE		EXISTING PROPERTY LINE
	VENT PIPE		YARD LIGHT		EXISTING RIGHT OF WAY
	PULL BOX		SIGN		
	AIR CONDITIONER		INLET PROTECTION		
	DECIDUOUS TREE				

ASPH.	ASPHALT	INL.	INLET
BSM'T.	BASEMENT	I.E.	INVERT ELEVATION
BIT.	BITUMINOUS	I.P.	IRON PIPE
BxBxS	BELLxBELLxSPIGOT OUTLET FITTING	LAT.	LATERAL
BxBxB	BELLxBELLxBELL OUTLET FITTING	MH.	MANHOLE
		M.J.	MECHANICAL JOINT
CB.	CATCHBASIN	PAV'T.	PAVEMENT
C/L	CENTERLINE	PROP.	PROPOSED
CIPP	CURED-IN-PLACE PIPE	PVC	POLYVINYL CHLORIDE
CONC.	CONCRETE	PVC P.	PVC PIPE
CMP	CORRUGATED METAL PIPE	R. BAR	REBAR
CMPA	CORRUGATED METAL PIPE ARCH	REQ'D.	REQUIRED
C. & G.	CURB & GUTTER	R.J.	RESTRAINED JOINT
DRAIN T.	DRAIN TILE	SAN.	SANITARY
D.I.P.	DUCTILE IRON PIPE	S.	SLOPE
DWY.	DRIVEWAY	STL.	STEEL
ECC.	ECCENTRIC	STM.	STORM
EXIST.	EXISTING	SUMP D.	SUMP DISCHARGE
F.F.	FIRST FLOOR	TYP.	TYPICAL
FM.	FORCE MAIN	VENT P.	VENT PIPE
G.V.	GAS VALVE	WM.	WATER MAIN
GR.	GRAVEL	W.V.	WATER VALVE
G.W.	GUY WIRE	W/	WITH
HYD.	HYDRANT		

SHEET INDEX

Sheet No.	01	COVER SHEET
Sheet No.	02-03	INDEX SHEET
Sheet No.	04-14	PROPOSED WATER MAIN RELAY
Sheet No.	15	PROPOSED STORM SEWER
Sheet No.	16-17	TRAFFIC CONTROL
TOTAL SHEETS = 17		

SURFACE RESTORATION

Ⓡ ROADWAY REPLACEMENT

BACKFILL LEGEND

- Ⓢ SLURRY BACKFILL
- Ⓢ 3/4-INCH TRAFFIC BOND BACKFILL

CITY OF OAK CREEK

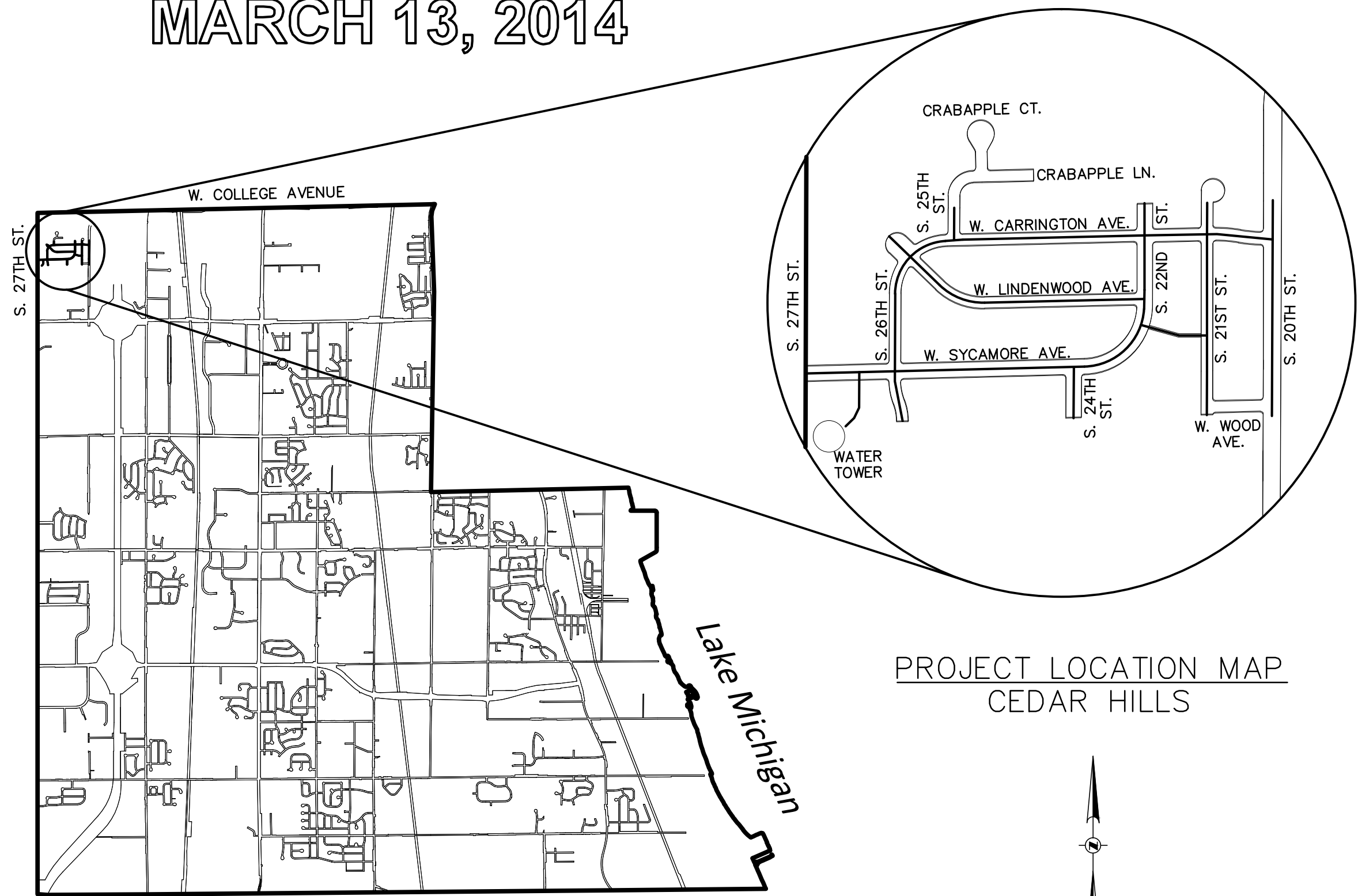
WATER AND SEWER UTILITY

CEDAR HILLS
WATER MAIN RELAY

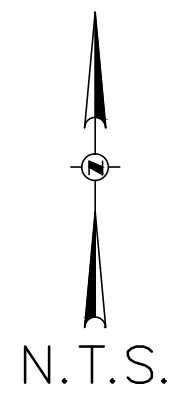
PROJECT NUMBER

14102

MARCH 13, 2014



PROJECT LOCATION MAP
CEDAR HILLS

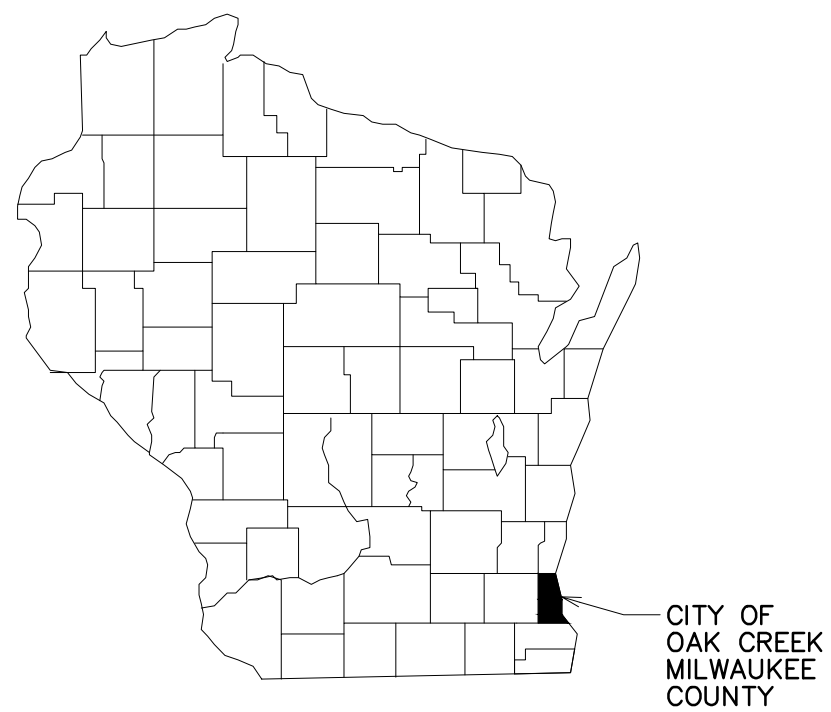


CITY OF OAK CREEK
VICINITY MAP

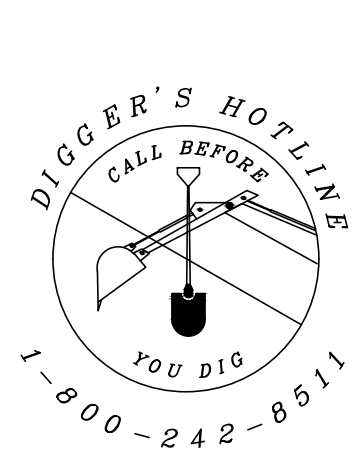


WATER and SEWER UTILITY

A COMMITMENT TO WATER QUALITY



CITY OF
OAK CREEK
MILWAUKEE
COUNTY

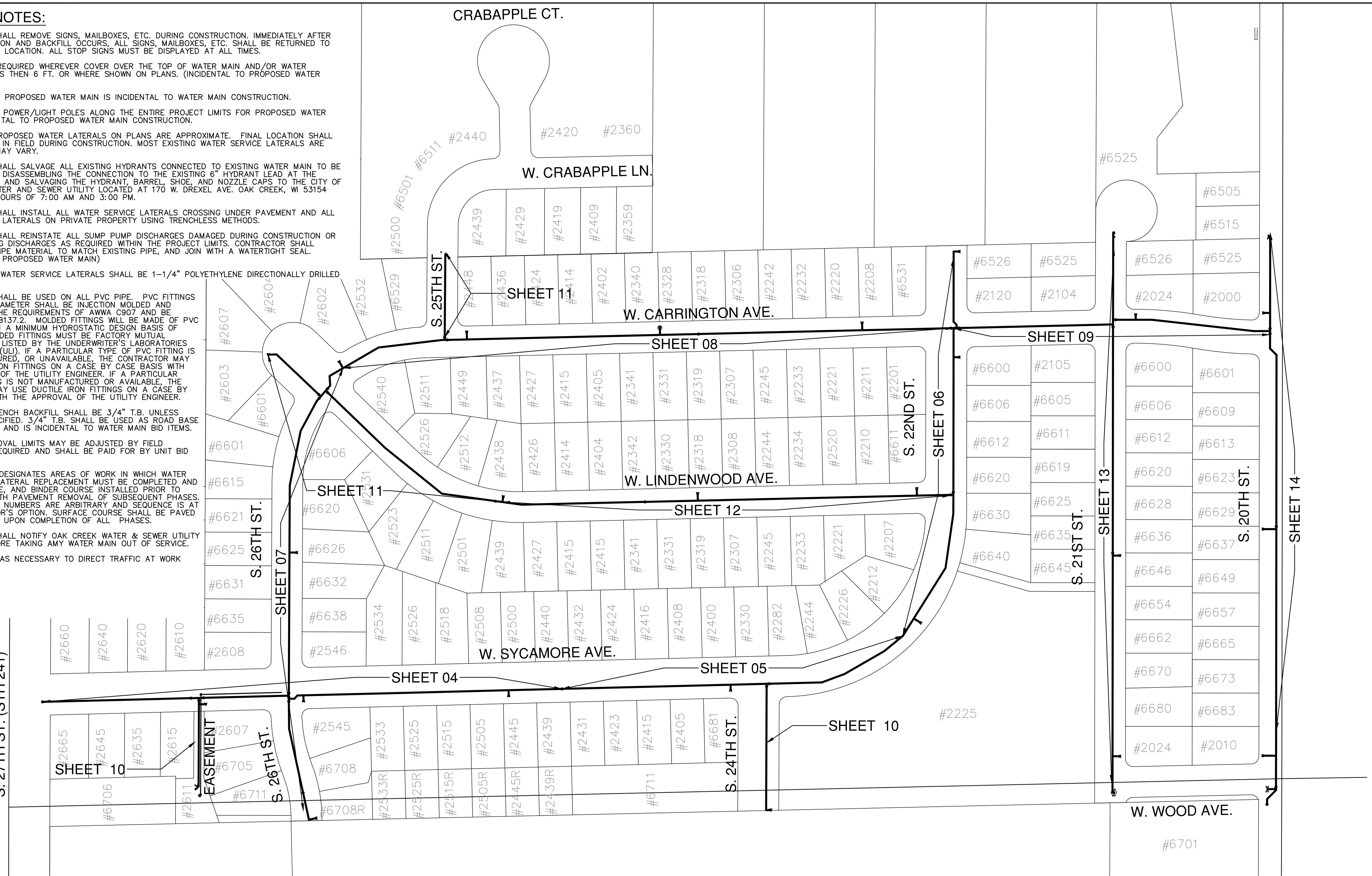


Gräef

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125 South 84th Street, Suite 401
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PROJECT ENGINEER: GRAEF

1. CONTRACTOR SHALL REMOVE SIGNS, MAILBOXES, ETC. DURING CONSTRUCTION. IMMEDIATELY AFTER INSTALLATION AND BACKFILL OCCURS, ALL SIGNS, MAILBOXES, ETC. SHALL BE RETURNED TO THEIR PREVIOUS LOCATION. ALL STOP SIGNS MUST BE DISPLAYED AT ALL TIMES.
2. INSULATION IS REQUIRED WHEREVER COVER OVER THE TOP OF WATER MAIN AND/OR WATER LATERAL IS LESS THEN 6 FT. OR WHERE SHOWN ON PLANS. (INCIDENTAL TO PROPOSED WATER MAIN)
3. RESTRAINING OF PROPOSED WATER MAIN IS INCIDENTAL TO WATER MAIN CONSTRUCTION.
4. SUPPORTING OF POWER/LIGHT POLES ALONG THE ENTIRE PROJECT LIMITS FOR PROPOSED WATER MAIN IS INCIDENTAL TO PROPOSED WATER MAIN CONSTRUCTION.
5. LOCATION OF PROPOSED WATER LATERALS ON PLANS ARE APPROXIMATE. FINAL LOCATION SHALL BE DETERMINED IN FIELD DURING CONSTRUCTION. MOST EXISTING WATER SERVICE LATERALS ARE COPPER, SIZE MAY VARY.
6. CONTRACTOR SHALL SALVAGE ALL EXISTING HYDRANTS CONNECTED TO EXISTING WATER MAIN TO BE ABANDONED BY DISASSEMBLING THE CONNECTION TO THE EXISTING 6" HYDRANT LEAD AT THE HYDRANT SHOE, AND SALVAGING THE HYDRANT, BARREL, SHOE, AND NOZZLE CAPS TO THE CITY OF OAK CREEK WATER AND SEWER UTILITY LOCATED AT 170 W. DREXEL AVE. OAK CREEK, WI 53154 BETWEEN THE HOURS OF 7:00 AM AND 3:00 PM.
7. CONTRACTOR SHALL INSTALL ALL WATER SERVICE LATERALS CROSSING UNDER PAVEMENT AND ALL WATER SERVICE LATERALS ON PRIVATE PROPERTY USING TRENCHLESS METHODS.
8. CONTRACTOR SHALL REINSTATE ALL SUMP PUMP DISCHARGES DAMAGED DURING CONSTRUCTION OR EXTEND EXISTING DISCHARGES AS REQUIRED WITHIN THE PROJECT LIMITS. CONTRACTOR SHALL FURNISH NEW PIPE MATERIAL TO MATCH EXISTING PIPE, AND JOIN WITH A WATERTIGHT SEAL. (INCIDENTAL TO PROPOSED WATER MAIN)
9. ALL PROPOSED WATER SERVICE LATERALS SHALL BE 1-1/4" POLYETHYLENE DIRECTIONALLY DRILLED IN PLACE.
10. PVC FITTINGS SHALL BE USED ON ALL PVC PIPE. PVC FITTINGS 4" TO 12" IN DIAMETER SHALL BE INJECTION MOLDED AND COMPLY WITH THE REQUIREMENTS OF AWWA C907 AND BE CERTIFIED CSA B137.2. MOLDED FITTINGS WILL BE MADE OF PVC COMPOUND WITH A MINIMUM HYDROSTATIC DESIGN BASIS OF 4000 PSI. MOLDED FITTINGS MUST BE FACTORY MUTUAL APPROVED AND LISTED BY THE UNDERWRITERS LABORATORIES INTERNATIONAL (ULI). IF A PARTICULAR TYPE OF PVC FITTING IS NOT MANUFACTURED, OR UNAVAILABLE, THE CONTRACTOR MAY USE DUCTILE IRON FITTINGS ON A CASE BY CASE BASIS WITH THE APPROVAL OF THE UTILITY ENGINEER. IF A PARTICULAR TYPE OF FITTING IS NOT MANUFACTURED OR AVAILABLE, THE CONTRACTOR MAY USE DUCTILE IRON FITTINGS ON A CASE BY CASE BASIS, WITH THE APPROVAL OF THE UTILITY ENGINEER.
11. WATER MAIN TRENCH BACKFILL SHALL BE 3/4" T.B. UNLESS OTHERWISE SPECIFIED, 3/4" T.B. SHALL BE USED AS ROAD BASE ABOVE TRENCH, AND IS INCIDENTAL TO WATER MAIN BID ITEMS.
12. PAVEMENT REMOVAL LIMITS MAY BE ADJUSTED BY FIELD ENGINEER AS REQUIRED AND SHALL BE PAID FOR BY UNIT BID PRICE.
13. PHASING PLAN DESIGNATES AREAS OF WORK IN WHICH WATER MAINLINE AND LATERAL REPLACEMENT MUST BE COMPLETED AND BROUGHT ONLINE, AND BINDER COURSE INSTALLED PRIOR TO COMMENCING WITH PAVEMENT REMOVAL OF SUBSEQUENT PHASES. PHASING ORDER NUMBERS ARE ARBITRARY AND SEQUENCE IS AT THE CONTRACTOR'S OPTION. SURFACE COURSE SHALL BE PAVED IN ITS ENTIRETY UPON COMPLETION OF ALL PHASES.
14. CONTRACTOR SHALL NOTIFY OAK CREEK WATER & SEWER UTILITY 48 HOURS BEFORE TAKING ANY WATER MAIN OUT OF SERVICE.
15. USE FLAGGERS AS NECESSARY TO DIRECT TRAFFIC AT WORK ZONES.

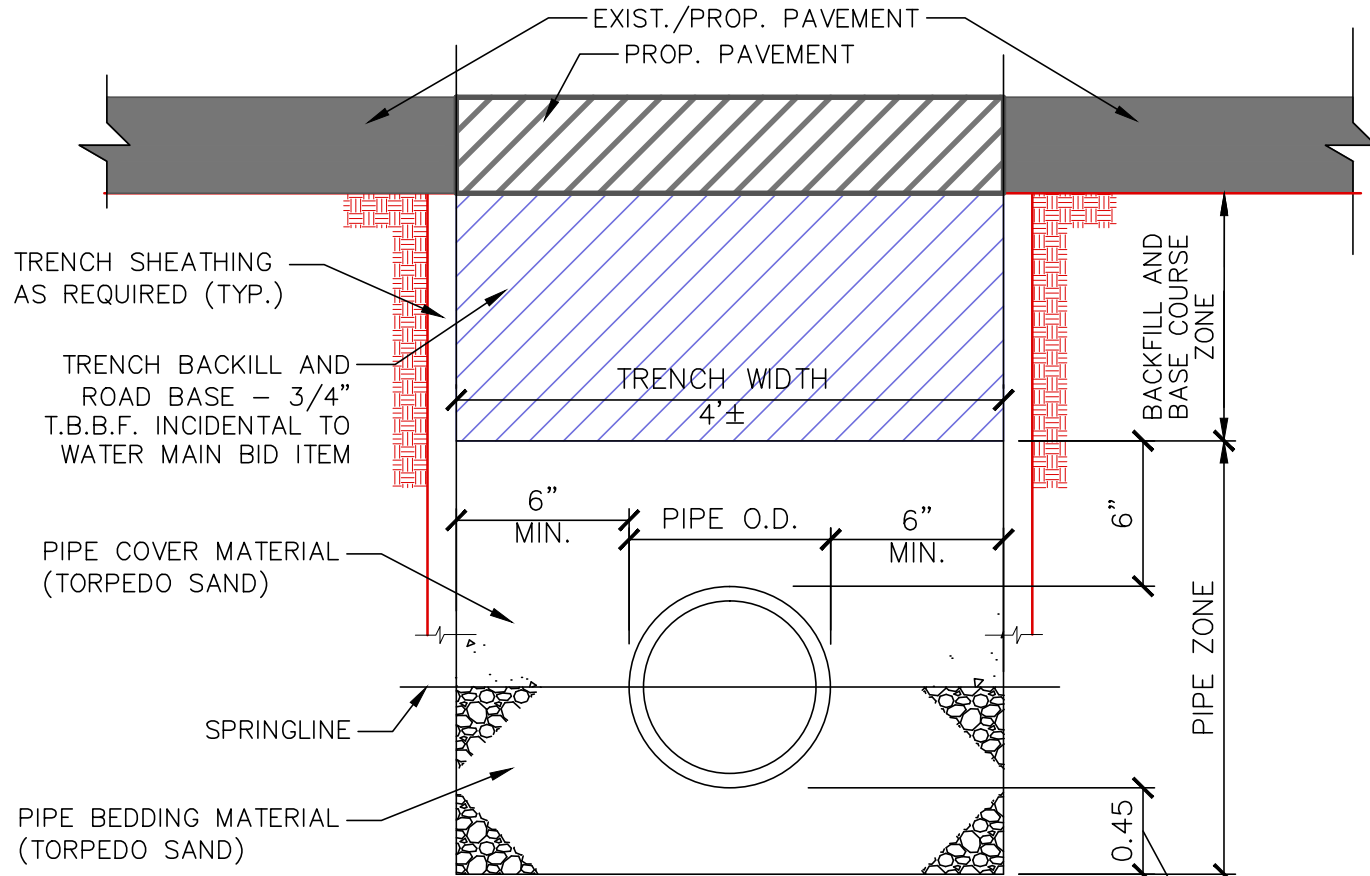
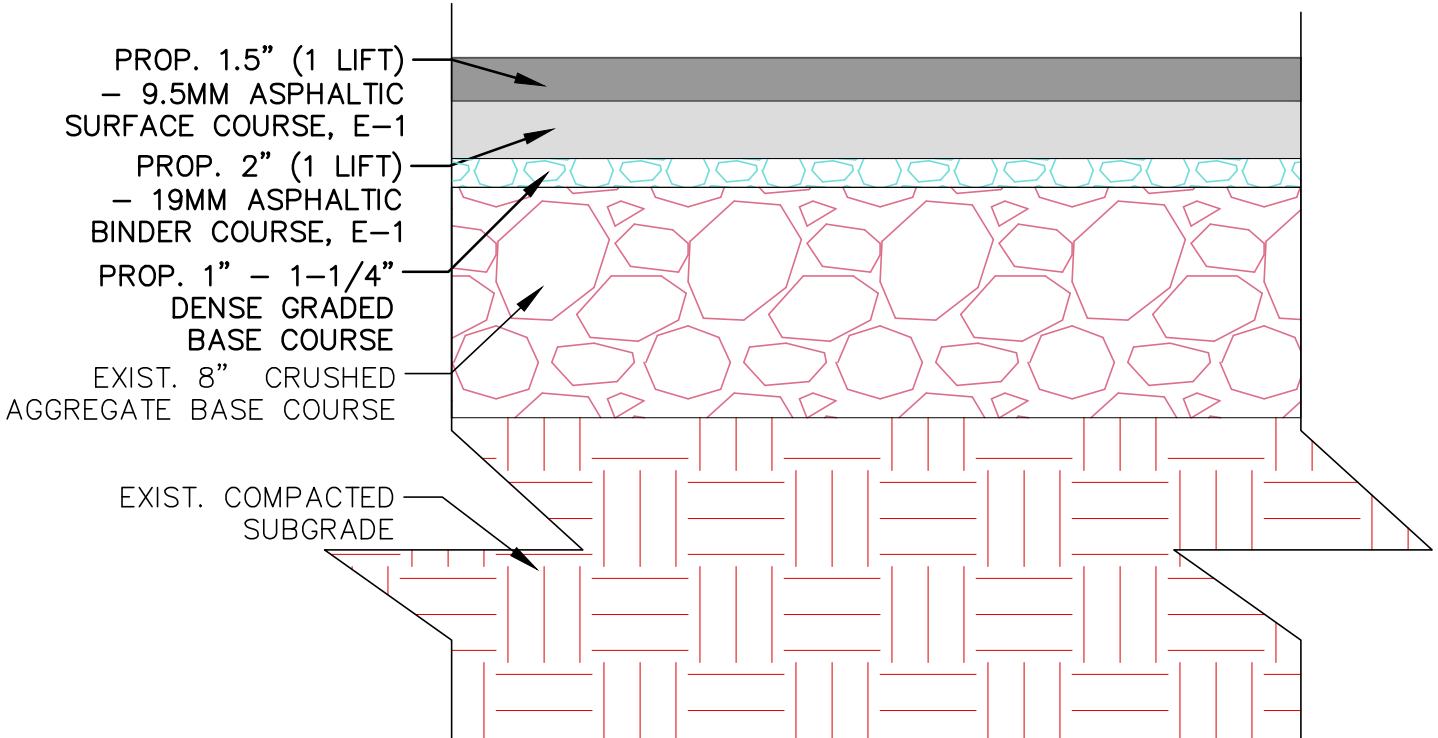
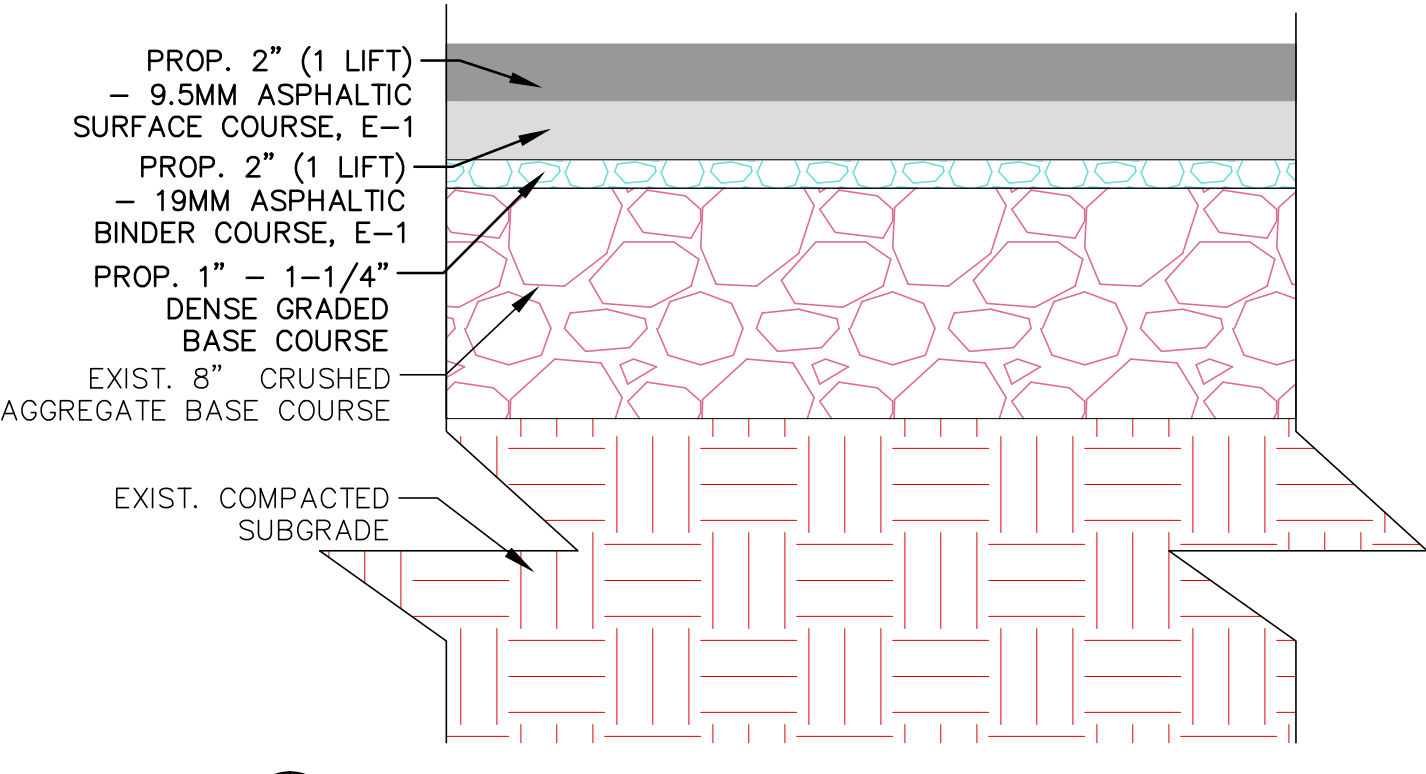
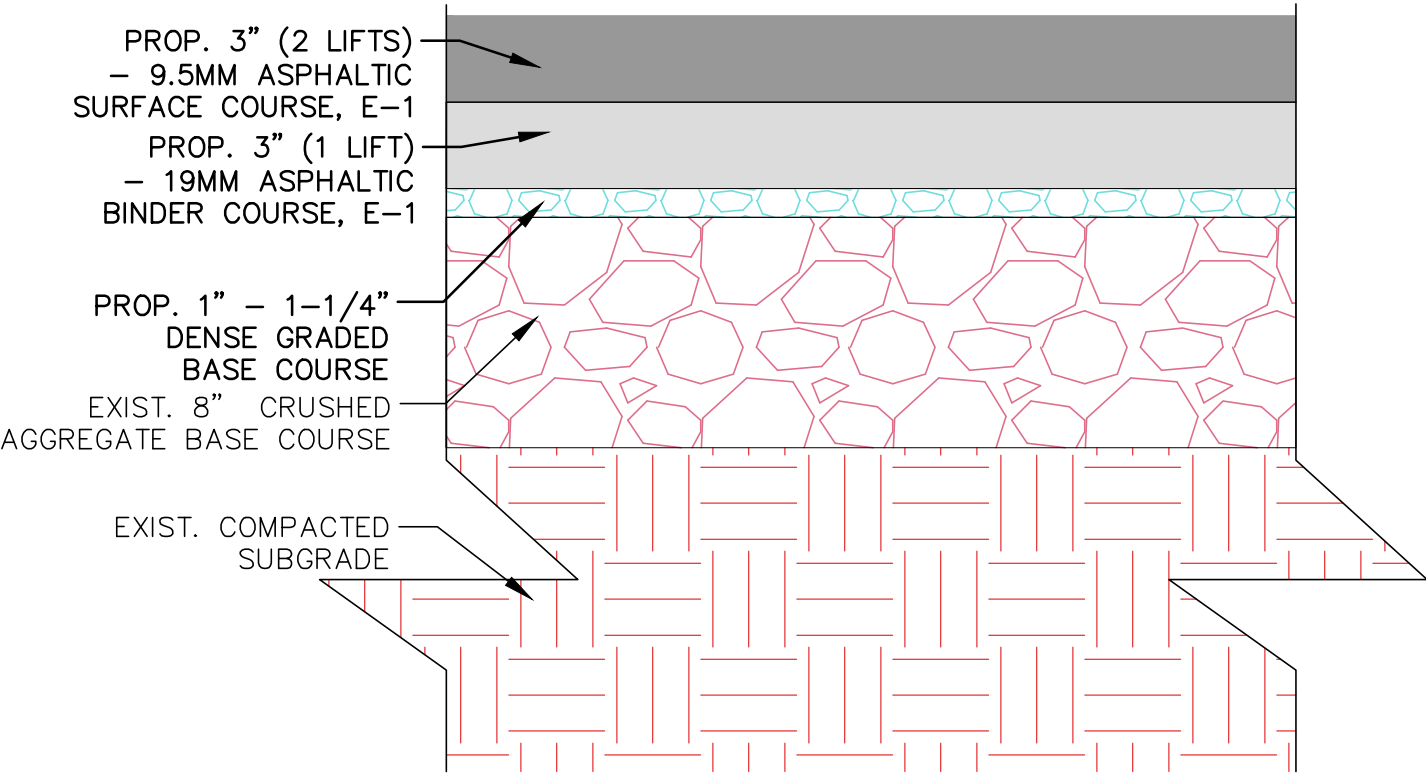
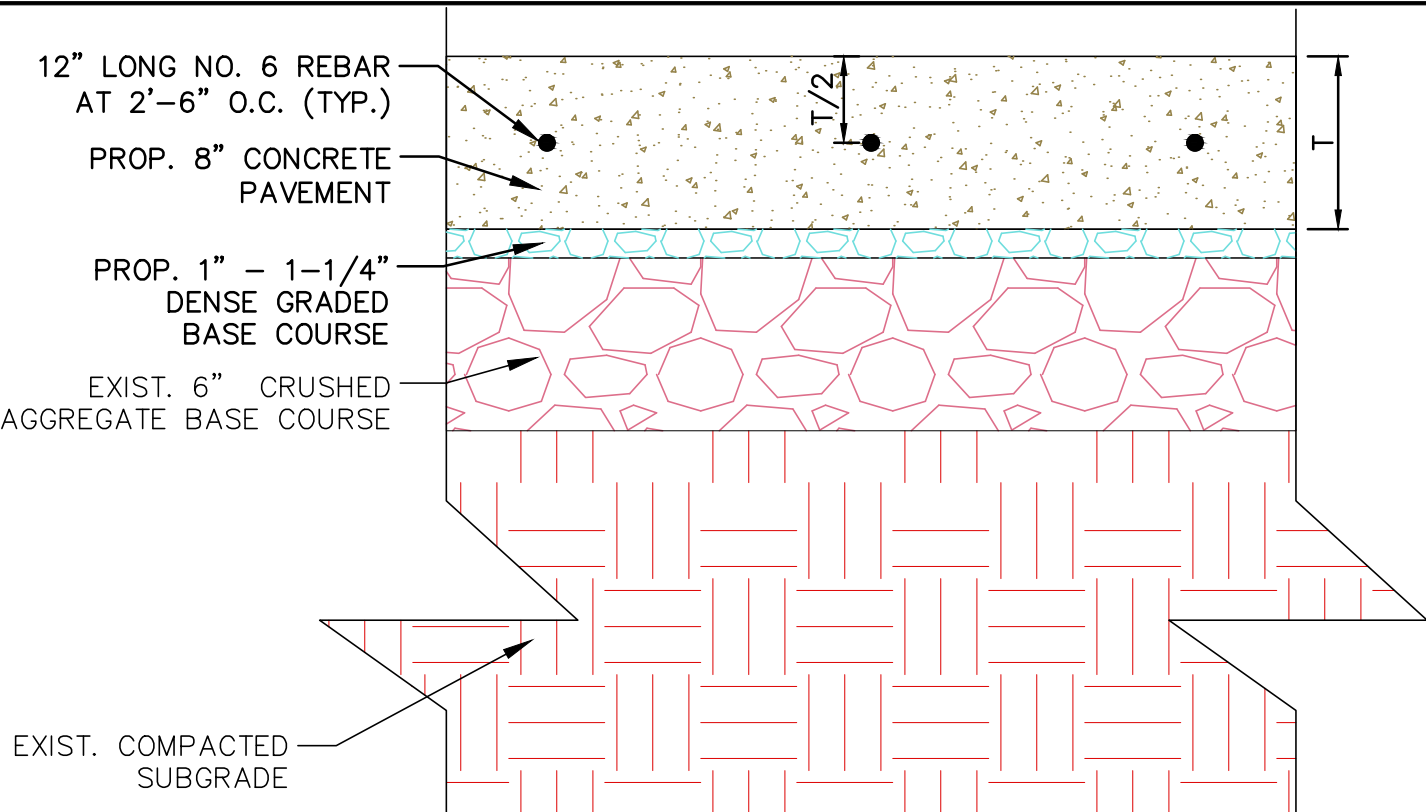
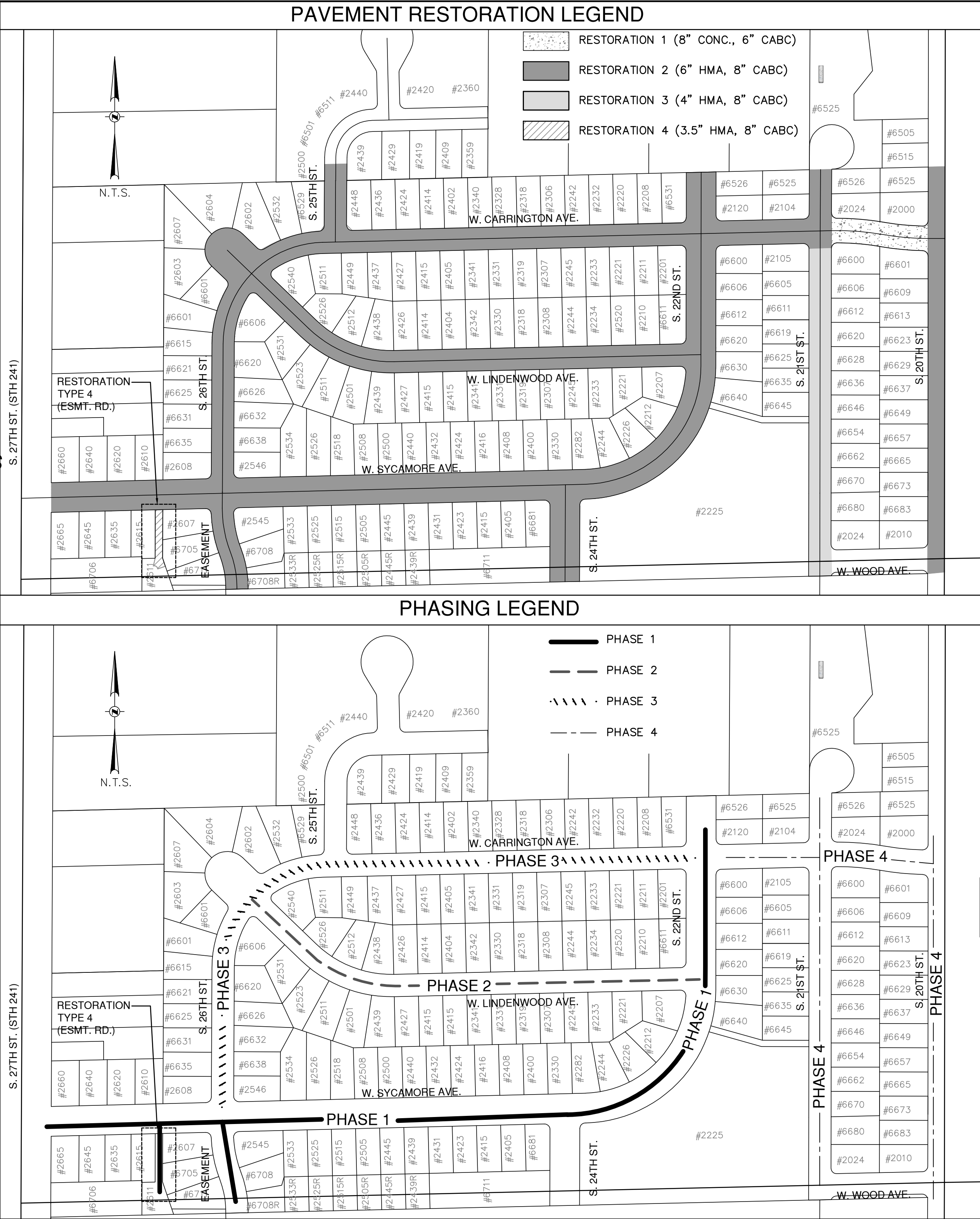


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DISCLAIMER:
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BID ITEM NOS.	ESTIMATE OF QUANTITIES	WATER MAIN		SA.FKO	CITY OF OAK CREEK, WISCONSIN	APPROVED BY	
		CONTRACTOR:		ST.FKO		UTILITY ENGINEER DATE	
		MAINLINE INSPECTED BY:		W. FKO	DESIGNED BY DATE	DRAWN BY DATE	CHECKED BY DATE
		LATERALS INSPECTED BY:		G. FKO	APPROVED BY		
		DATE COMPLETED:		E. FKO	AS 3-13-14	CTS 3-13-14	MNP 3-13-14
		TYPE OF PIPE, ASTM NO.		T. FKO	CEDAR HILLS WATER MAIN RELAY IN: SHEET INDEX FR: TO:		
		TYPE OF PIPE, ASTM NO.		I. FKO			
		AS-BUILTS BY: DATE:		TS.FKO			
		This is to certify that this plan was approved by the Water Works and Sewer Utility Commission of Oak Creek at a regular meeting.		PP.			
					REVISION BY	DATE	FILE NO: 14102-2C-2242
		Utility Engineer Date					

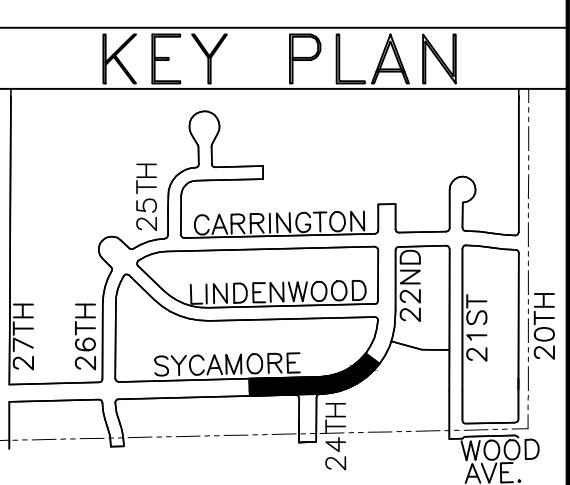
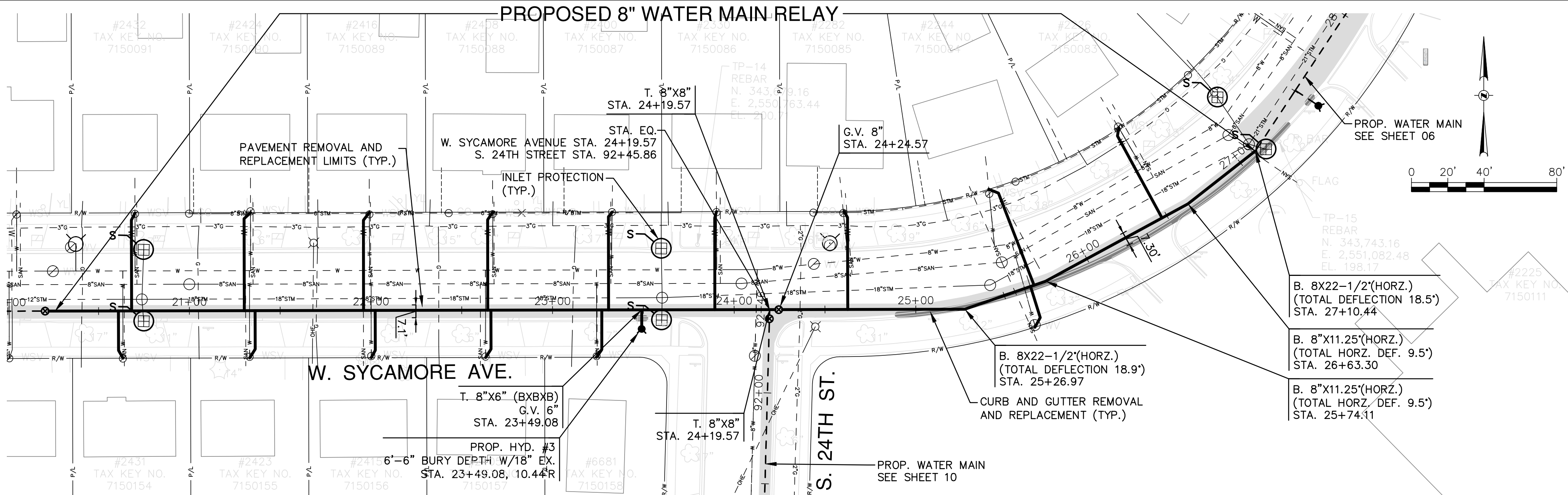
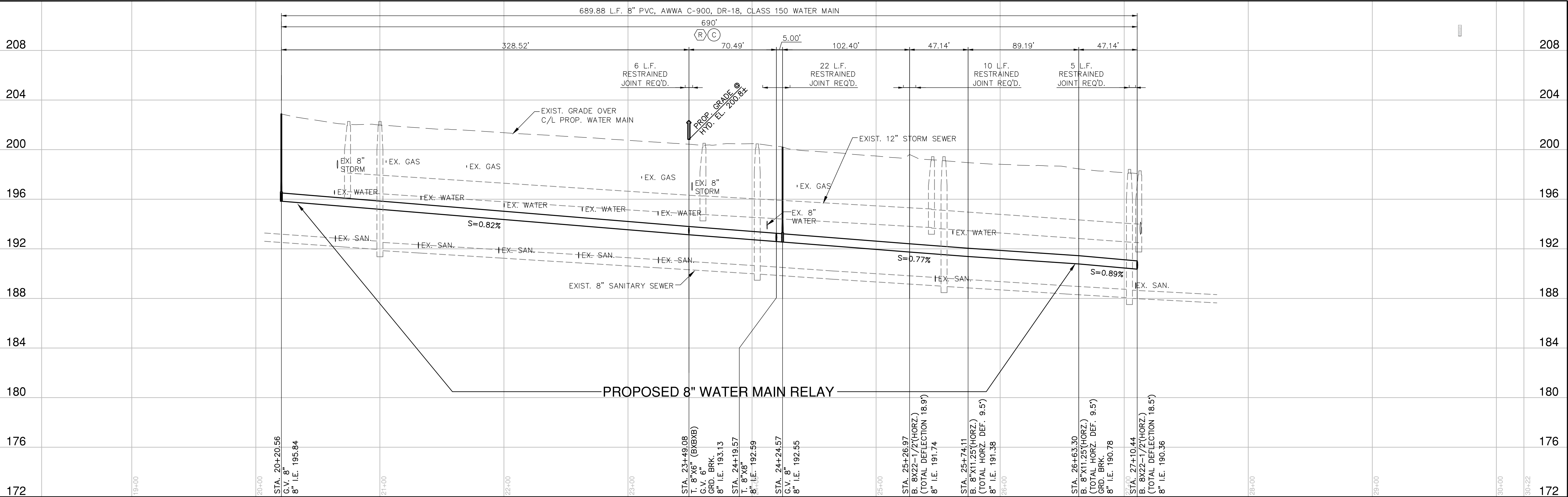


NOTICE:
In accordance with Wisconsin statute 182.0175, damage to transmission facilities, excavator shall be solely responsible to provide advance notice to the designated "ONE CALL SYSTEM" not less than three working days prior to commencement of any excavation required to perform work contained on this drawing, and further, excavator shall comply with all other requirements of this statute relative to excavator's work.

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BID ITEM NOS.	ESTIMATE OF QUANTITIES	WATER MAIN	SA.FKO	CITY OF OAK CREEK, WISCONSIN	APPROVED BY	
		CONTRACTOR:	ST.FKO			
		MAINLINE INSPECTED BY:	W. FKO		UTILITY ENGINEER DATE	
		LATERALS INSPECTED BY:	G. FKO		APPROVED BY	
		DATE COMPLETED:	E. FKO			
		TYPE OF PIPE, ASTM NO.	T. FKO		CITY ENGINEER DATE	
		TYPE OF PIPE, ASTM NO.	I. FKO		SCALE SHEET	
		AS-BUILT BY: DATE:	TS.FKO		PLAN HOR. AS NOTED 03	
		This is to certify that this plan was approved by the Water Works and Sewer Utility Commission of Oak Creek at a regular meeting.	PP.		PROFILE HOR. AS NOTED OF	
					VER. AS NOTED 17	
Utility Engineer Date						
		REVISION BY DATE	FILE NO: 14102-3C-2243			



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ESTIMATE OF QUANTITIES		
BID ITEM NOS.	DESCRIPTION	QUANTITY
3	8" PVC Water Main, 3/4-inch T.B.B.F.	690 L.F.
7	Hydrant, Lead and 6-Inch Gate Valve	1 EA.
8	8" Gate Valve	1 EA.
10	1-1/4" Water Service Laterals (Polyethylene) Directional Drill	15 EA.
17	Curb and Gutter Replacement	250 L.F.

WATER MAIN	
CONTRACTOR:	
MAINLINE INSPECTED BY:	
LATERALS INSPECTED BY:	
DATE COMPLETED:	
TYPE OF PIPE, ASTM NO.	
TYPE OF PIPE, ASTM NO.	
AS-BUILTS BY:	
DATE:	
This is to certify that this plan was approved by the Water Works and Sewer Utility Commission of Oak Creek at a regular meeting.	
Utility Engineer	Date

SAFKO
ST.FKO
W. FKO
G. FKO
E. FKO
T. FKO
I. FKO
TS.FKO
PP.

REVISION BY	DATE
-------------	------

CITY OF OAK CREEK, WISCONSIN

DESIGNED BY DATE DRAWN BY DATE CHECKED BY DATE

AS 3-13-14 CTS 3-13-14 MNP 3-13-14

CEDAR HILLS WATER MAIN RELAY

IN: W. SYCAMORE AVE.

FR: 525 FT. EAST OF S. 26TH ST.

TO: 275 FT. EAST OF S. 24TH ST.

APPROVED BY

UTILITY ENGINEER DATE

APPROVED BY

CITY ENGINEER DATE

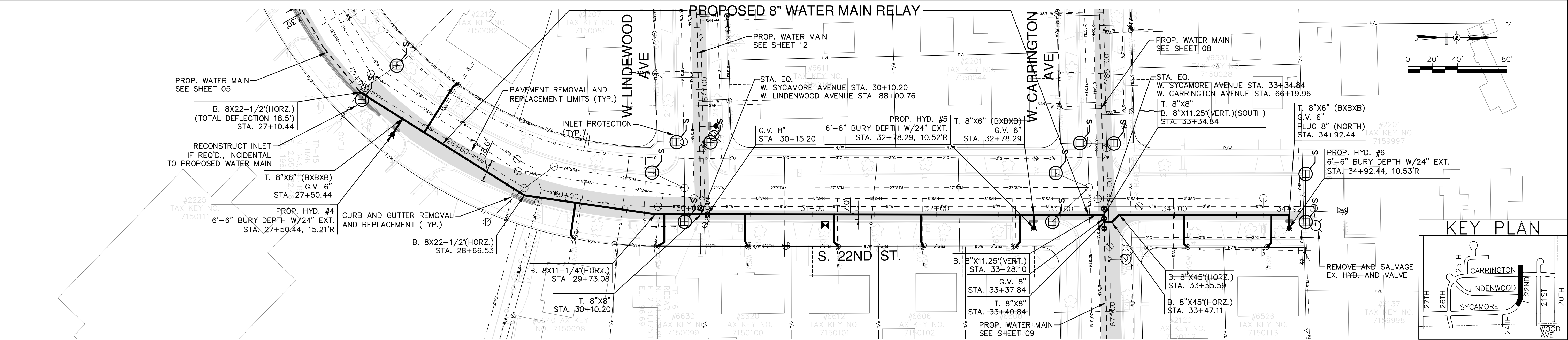
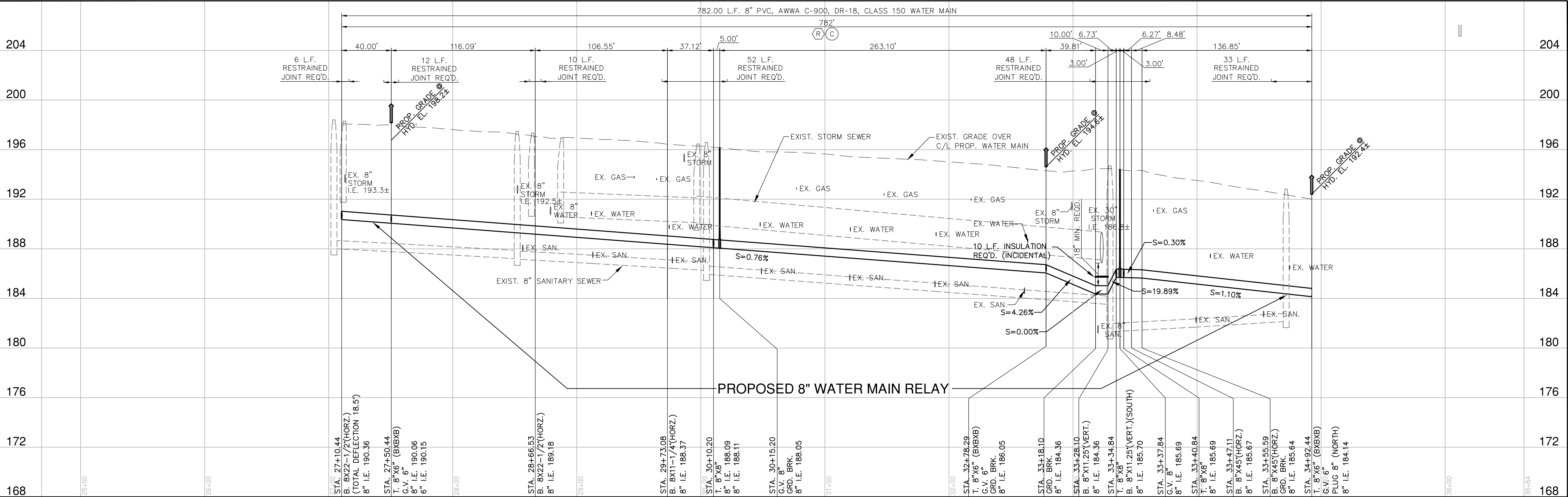
SCALE SHEET

PLAN HOR. 1"=40' 05

PROFILE HOR. 1"=40' OF

VER. 1"=4' 17

FILE NO: 14102-5C-2245



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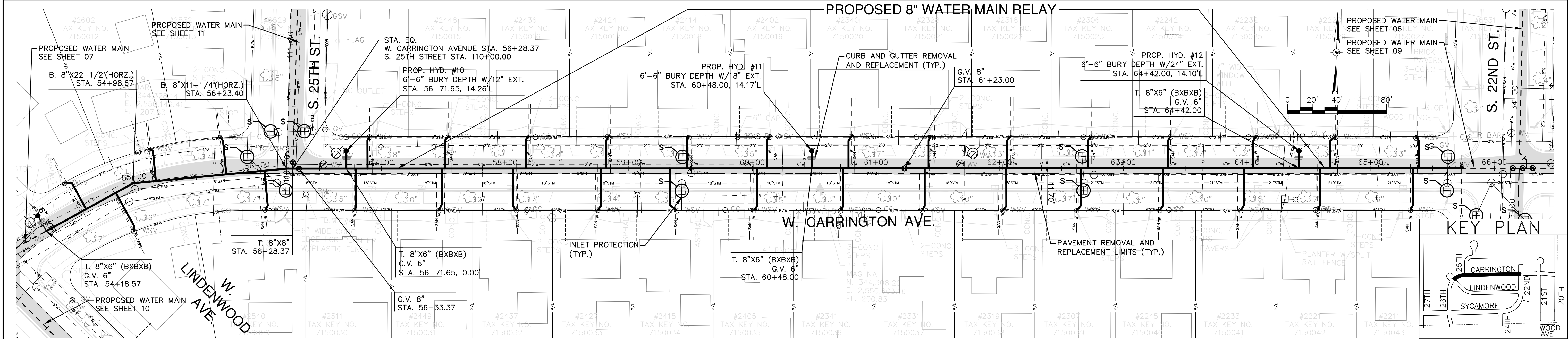
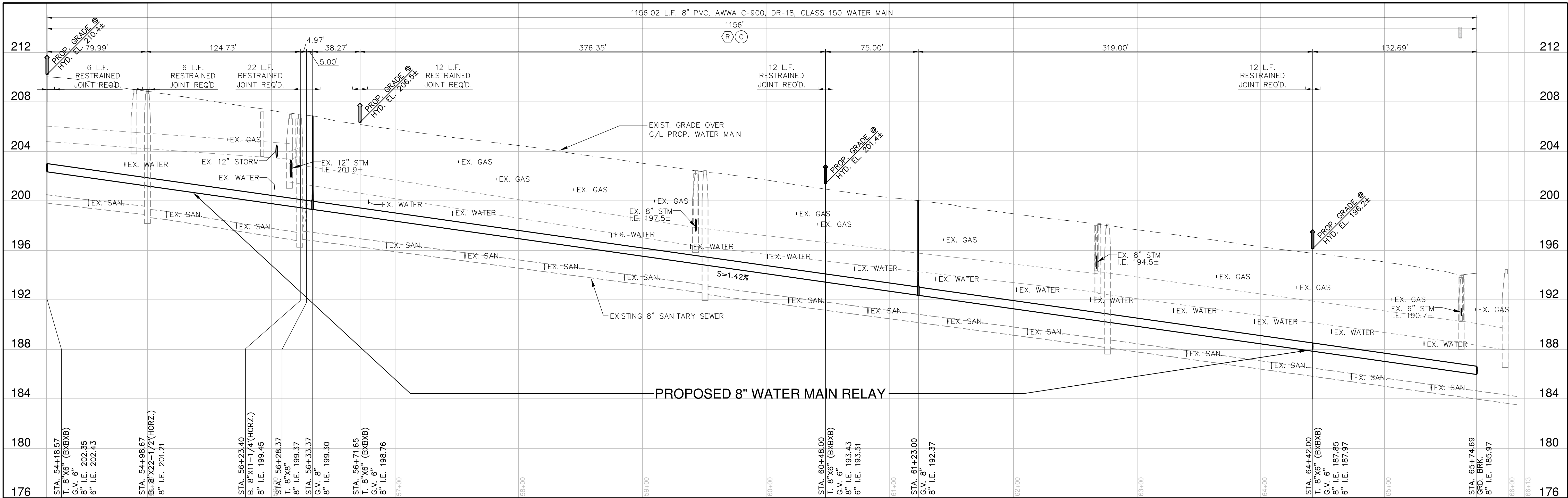
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125 South 84th Street, Suite 401
Milwaukee, WI 53214-1469
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414 / 259 0037 fax
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ESTIMATE OF QUANTITIES		
BID ITEM NOS.		
3	8" PVC Water Main, 3/4-inch T.B.B.F.	776 L.F.
7	Hydrant, Lead and 6-Inch Gate Valve	3 EA.
8	8" Gate Valve	1 EA.
10	1-1/4" Water Service Laterals (Polyethylene) Directional Drill	9 EA.
17	Curb and Gutter Replacement	50 L.F.

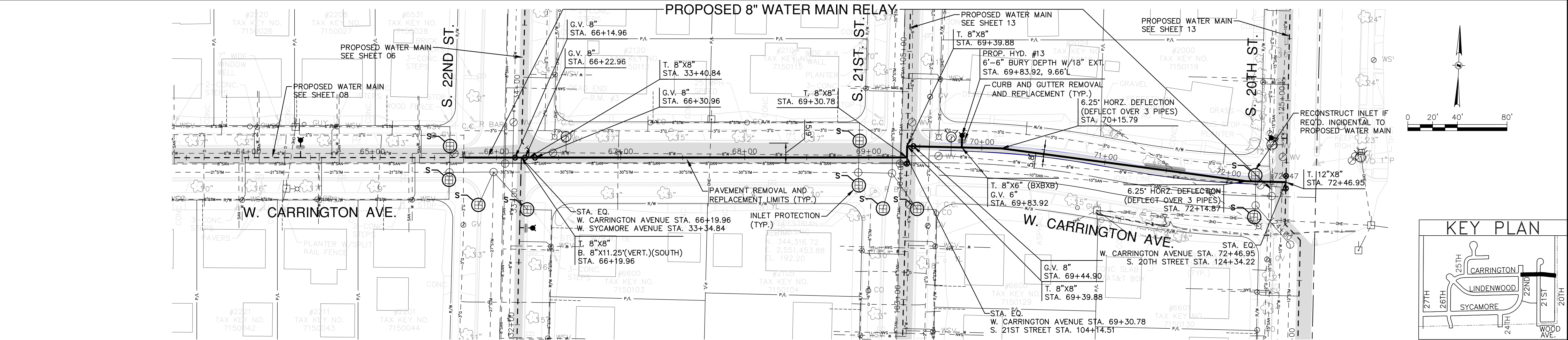
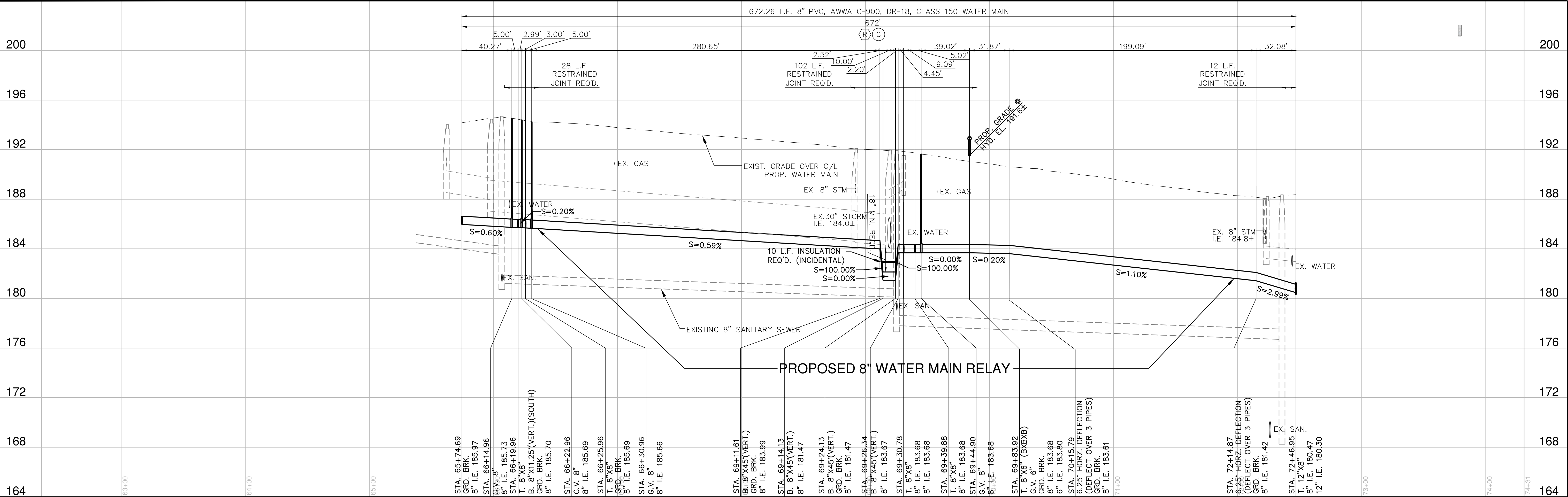
WATER MAIN	
CONTRACTOR:	
MAINLINE INSPECTED BY:	
LATERALS INSPECTED BY:	
DATE COMPLETED:	
TYPE OF PIPE, ASTM NO.	
TYPE OF PIPE, ASTM NO.	
AS-BUILTS BY:	
DATE:	
This is to certify that this plan was approved by the Water Works and Sewer Utility Commission of Oak Creek at a regular meeting.	
Utility Engineer	Date


SAFKO	ST.FKO
W. FKO	G. FKO
E. FKO	T. FKO
I. FKO	TS.FKO
PP.	
REVISION BY	DATE

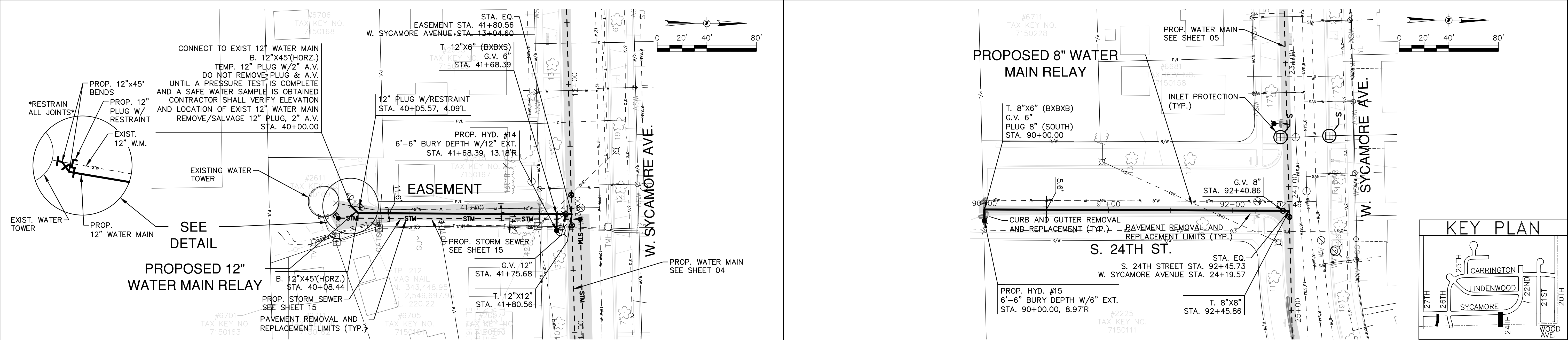
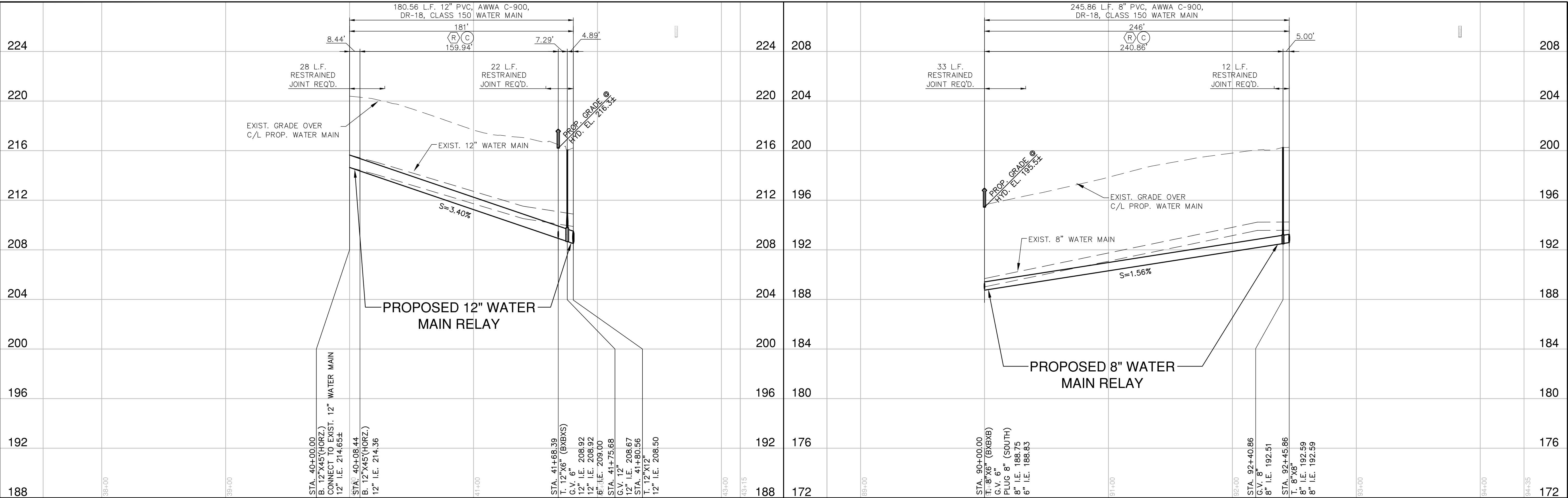
CITY OF OAK CREEK, WISCONSIN				APPROVED BY	
DESIGNED BY	DATE	DRAWN BY	DATE	UTILITY ENGINEER	DATE
AS	3-13-14	CTS	3-13-14	APPROVED BY	
CEDAR HILLS WATER MAIN RELAY				CITY ENGINEER	DATE
IN: S. 22ND ST.				SCALE	SHEET
FR: 275 FT. EAST OF S. 24TH ST.				PLAN HOR. 1"=40'	06
TO: 160 FT. NORTH OF W. CARRINGTON AVE.				PROFILE HOR. 1"=40'	OF
				VER. 1"=4'	17
FILE NO: 14102-6C-2246					



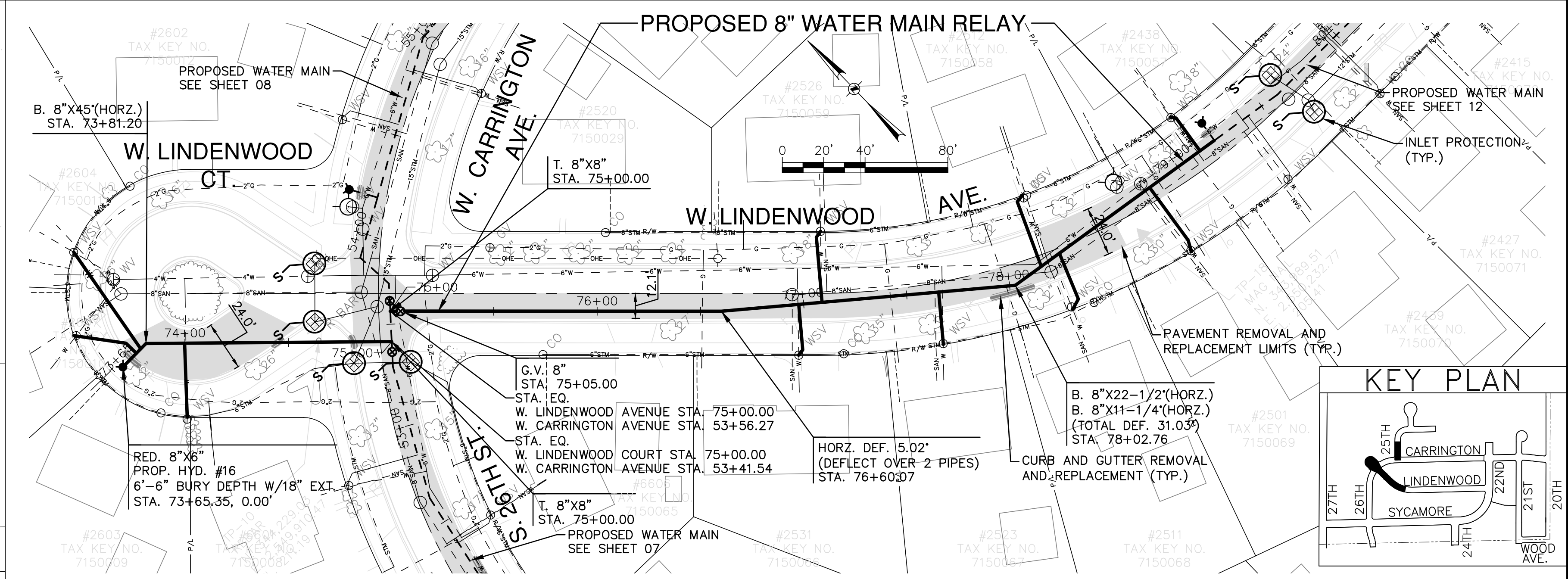
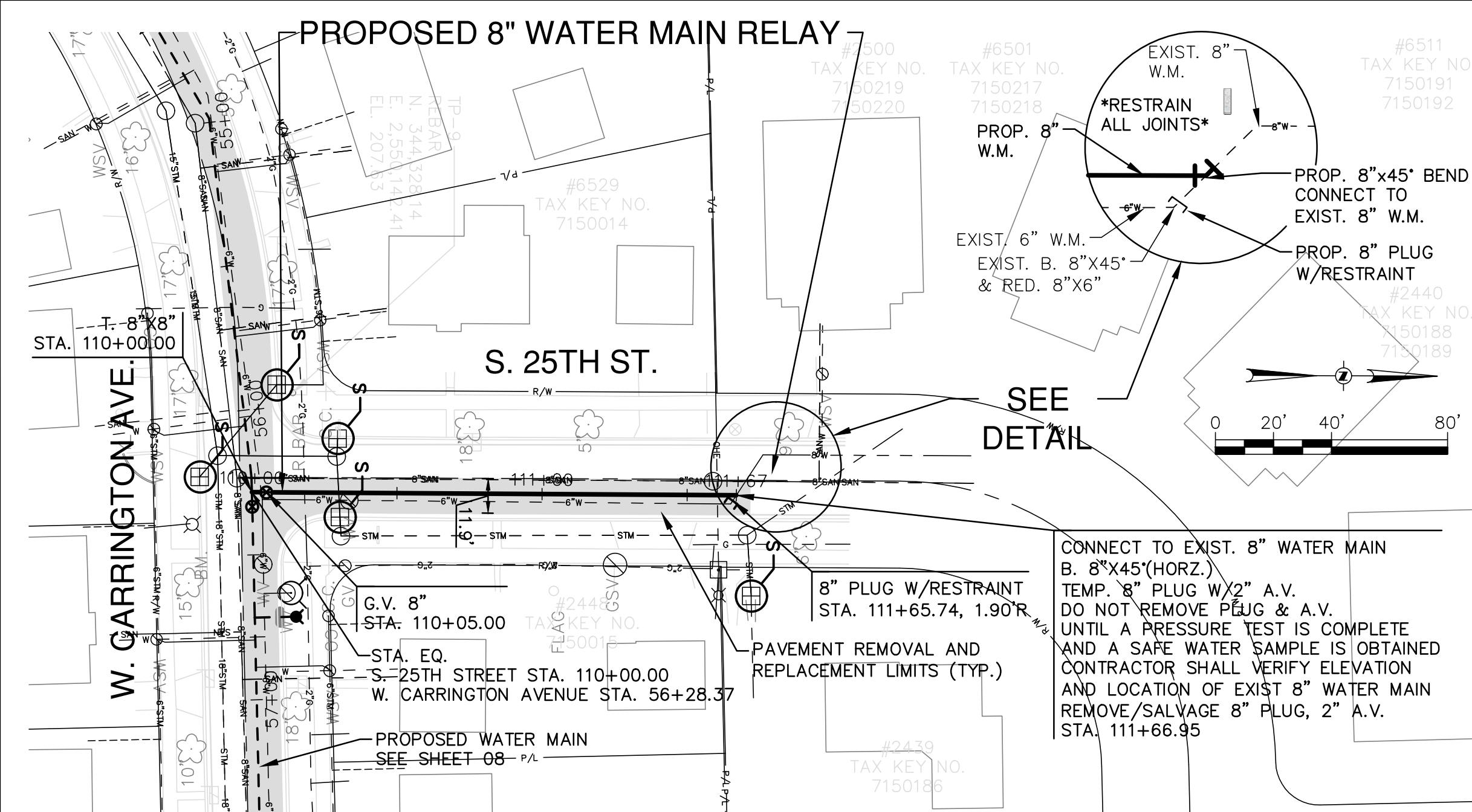
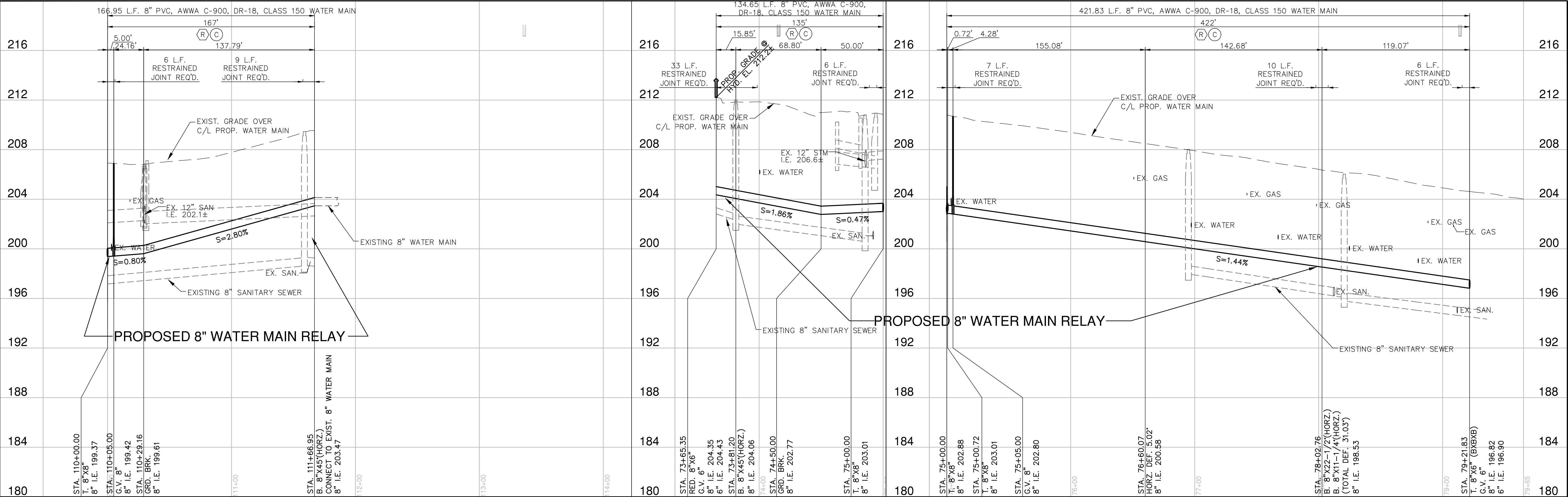
<div>NOTICE:</div> <div>In accordance with Wisconsin statute 182.0175, damage to facilities, excavator shall be solely responsible to provide advance notice to the designated "ONE CALL SYSTEM" not less than three working days prior to commencement of any excavation required to perform work contained on this drawing, and further, excavator shall comply with all other requirements of this statute relative to excavator's work.</div> <div>DISCLAIMER:</div> <div>The underground utilities shown have been located from field survey information and existing drawings. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated although he does certify that they are located as accurately as possible from information available. The surveyor has not physically located the underground utilities.</div>	<div><div>GRAEF</div><div>One Honey Creek Corporate Center</div><div>125 South 84th Street, Suite 401</div><div>Milwaukee, WI 53214-1469</div><div>414 / 259 1500</div><div>414 / 259 0037 fax</div><div>www.graef-usa.com</div></div>	ESTIMATE OF QUANTITIES		WATER MAIN		SA.FKO		CITY OF OAK CREEK, WISCONSIN											
		BID ITEM NOS.			CONTRACTOR:		ST.FKO												
		3	8" PVC Water Main, 3/4-inch T.B.B.F.		1156 L.F.	MAINLINE INSPECTED BY:		W. FKO		DESIGNED BY		DATE	DRAWN BY		DATE	CHECKED BY		DATE	
		7	Hydrant, Lead and 6-Inch Gate Valve		3 EA.	LATERALS INSPECTED BY:		G. FKO		AS		3-13-14	CTS		3-13-14	MNP		3-13-14	
		8	8" Gate Valve		2 EA.	DATE COMPLETED:		E. FKO		CEDAR HILLS WATER MAIN RELAY									
		10	1-1/4" Water Service Laterals (Polyethylene) Directional Drill		33 EA.	TYPE OF PIPE, ASTM NO.		T. FKO		IN: W. CARRINGTON AVE.									
		17	Curb and Gutter Replacement		15 L.F.	TYPE OF PIPE, ASTM NO.		I. FKO		FR: W. LINDENWOOD AVE.									
						AS-BUILTS BY:		DATE:		TS.FKO		TO: S. 22ND ST.							
						This is to certify that this plan was approved by the Water Works and Sewer Utility Commission of Oak Creek at a regular meeting.				PP.		REVISION BY DATE							
						Utility Engineer Date													



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		CONTRACTOR:		ST.FKO																	
		MAINLINE INSPECTED BY:		W. FKO																	
		LATERALS INSPECTED BY:		G. FKO																	
		DATE COMPLETED:		E. FKO																	
		TYPE OF PIPE, ASTM NO.		T. FKO																	
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		AS-BUILTS BY: DATE:		TS.FKO																	
		This is to certify that this plan was approved by the Water Works and Sewer Utility Commission of Oak Creek at a regular meeting.		PP.																	
		Utility Engineer		Date																	
3		8" PVC Water Main, 3/4-inch T.B.B.F.		672 L.F.				APPROVED BY													
7		Hydrant, Lead and 6-inch Gate Valve		2 EA.				UTILITY ENGINEER				DATE									
8		8" Gate Valve		3 EA.				APPROVED BY													
17		Curb and Gutter Replacement		16 L.F.				DESIGNED BY				DATE		DRAWN BY		DATE		CHECKED BY		DATE	
								AS				3-13-14		CTS		3-13-14		MNP		3-13-14	
												CEDAR HILLS WATER MAIN RELAY									
												IN:				W. CARRINGTON AVE.					
												FR:				S. 22ND ST.					
												TO:				S. 20TH ST.					
												REVISION BY		DATE							
																FILE NO: 14102-9C-2249					
																CITY ENGINEER				DATE	
																SCALE				SHEET	
																PLAN					
																HOR. 1"=40'				09	
																PROFILE				OF	
																HOR. 1"=40'					
																VER. 1"=4'				17	



<div>NOTICE:</div> <div>In accordance with Wisconsin statute 182.0175, damage to transmission facilities, excavator shall be solely responsible to provide advance notice to the designated "ONE CALL SYSTEM" not less than three working days prior to commencement of any excavation required to perform work contained on this drawing, and further, excavator shall comply with all other requirements of this statute relative to excavator's work.</div> <div>DISCLAIMER:</div> <div>The underground utilities shown have been located from field survey information and existing drawings. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated although he does certify that they are located as accurately as possible from information available. The surveyor has not physically located the underground utilities.</div>	<div><div>GRAEF</div><div>One Honey Creek Corporate Center</div><div>125 South 84th Street, Suite 401</div><div>Milwaukee, WI 53214-1469</div><div>414 / 259 1500</div><div>414 / 259 0037 fax</div><div>www.graef-usa.com</div></div>	ESTIMATE OF QUANTITIES		WATER MAIN		SA.FKO		CITY OF OAK CREEK, WISCONSIN				APPROVED BY									
		CONTRACTOR:		ST.FKO		PP.															
		MAINLINE INSPECTED BY:		W. FKO		G. FKO		DESIGNED BY		DATE		DRAWN BY		DATE		CHECKED BY		DATE		APPROVED BY	
		LATERALS INSPECTED BY:		E. FKO		T. FKO		AS		3-13-14		CTS		3-13-14		MNP		3-13-14		APPROVED BY	
		DATE COMPLETED:		I. FKO		TS.FKO		FR: WATER TOWER		250 FT. SOUTH OF W. SYCAMORE AVE.		TO: W. SYCAMORE AVE.		W. SYCAMORE AVE.		CITY ENGINEER		DATE		APPROVED BY	
		TYPE OF PIPE, ASTM NO.		This is to certify that this plan was approved by the Water Works and Sewer Utility Commission of Oak Creek at a regular meeting.		PP.		VER. 1"=4'		17		FILE NO: 14102-10C-2250									
		TYPE OF PIPE, ASTM NO.		Utility Engineer		Date		REVISION BY		DATE											
		AS-BUILTS BY:																			



NOTICE:
In accordance with Wisconsin statute 182.0175, damage to transmission facilities, excavator shall be solely responsible to provide advance notice to the designated "ONE CALL SYSTEM" not less than three working days prior to commencement of any excavation required to perform work contained on this drawing, and further, excavator shall comply with all other requirements of this statute relative to excavator's work.

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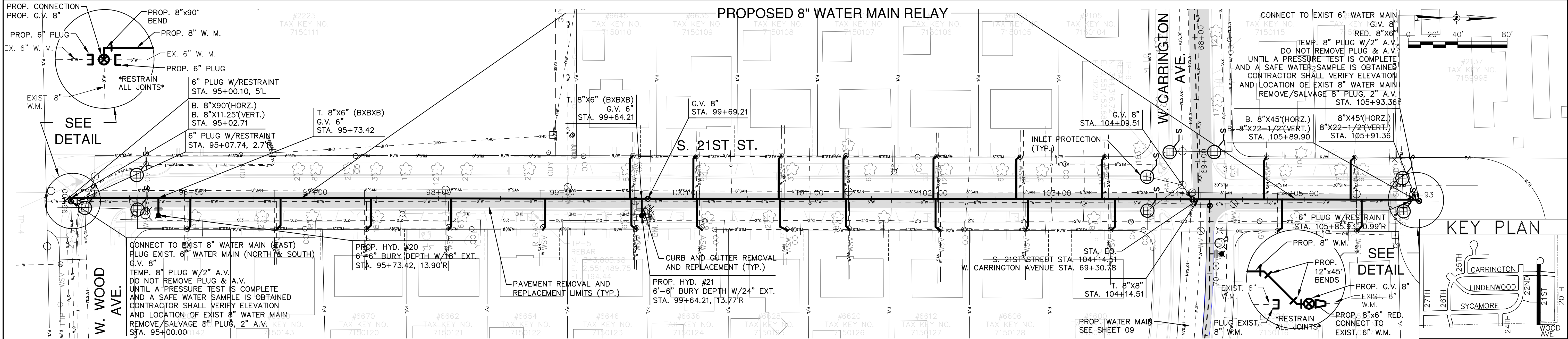
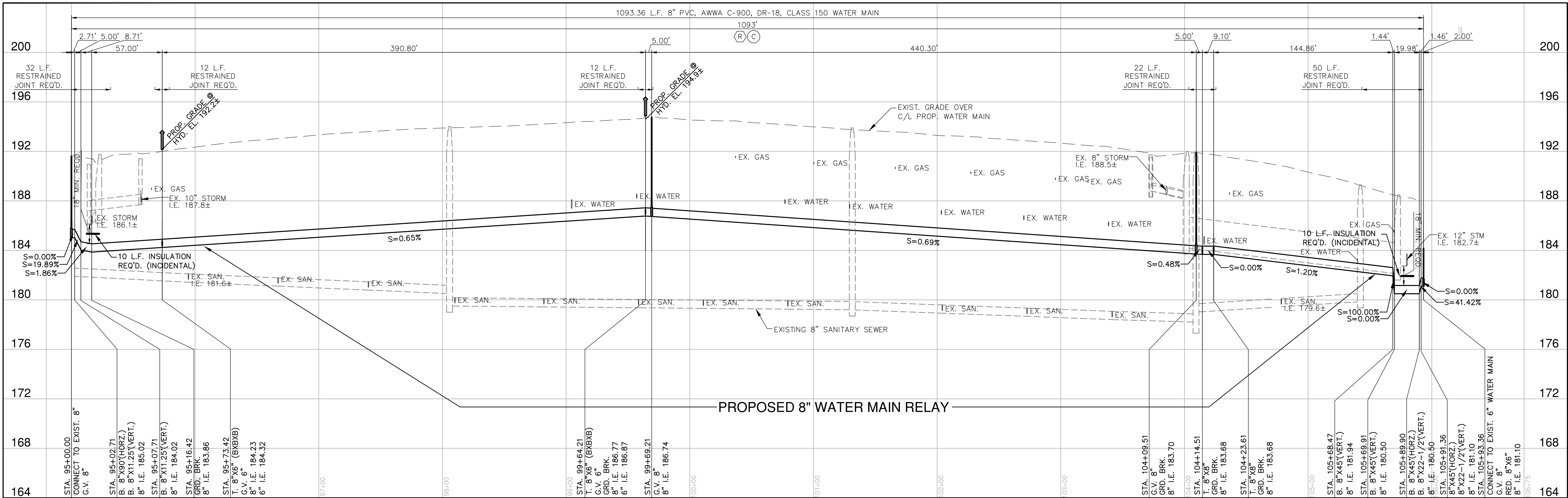
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Milwaukee, WI 53214-1469
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414 / 259 0037 fax
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BID ITEM NOS.	ESTIMATE OF QUANTITIES	
3	8" PVC Water Main, 3/4-inch T.B.B.F.	724 L.F.
5	Connect to Existing 8" Water Main	1 EA.
7	Hydrant, Lead and 6-Inch Gate Valve	1 EA.
8	8" Gate Valve	2 EA.
10	1-1/4" water Service Laterals (Polyethylene) Directional Drill	10 EA.
17	Curb and Gutter Replacement	40 L.F.

WATER MAIN	SAFKO
CONTRACTOR:	ST.FKO
MAINLINE INSPECTED BY:	W. FKO
LATERALS INSPECTED BY:	G. FKO
DATE COMPLETED:	E. FKO
TYPE OF PIPE, ASTM NO.	T. FKO
TYPE OF PIPE, ASTM NO.	I. FKO
AS-BUILTS BY:	TS.FKO
DATE:	PP.
This is to certify that this plan was approved by the Water Works and Sewer Utility Commission of Oak Creek at a regular meeting.	
Utility Engineer	Date

REVISION BY	DATE
-------------	------

CITY OF OAK CREEK, WISCONSIN	APPROVED BY
DESIGNED BY DATE DRAWN BY DATE CHECKED BY DATE	UTILITY ENGINEER DATE
AS 3-13-14 CTS 3-13-14 MNP 3-13-14	APPROVED BY
CEDAR HILLS WATER MAIN RELAY	CITY ENGINEER DATE
IN: S. 25TH ST. W. LINDENWOOD AVE. & CT.	SCALE SHEET
FR: W. CARRINGTON AVE. 135' W. OF S. 26TH ST.	PLAN HOR. 1"=40' 11
TO: 167' N. OF W. CARRINGTON AVE. 422' E. OF S. 26TH ST.	PROFILE HOR. 1"=40' OF
	VER. 1"=4' 17
	FILE NO: 14102-11C-2251



<div>NOTICE:</div> <div>In accordance with Wisconsin statute 182.0175, damage to facilities, excavator shall be solely responsible to provide advance notice to the designated "ONE CALL SYSTEM" not less than three working days prior to commencement of any excavation required to perform work contained on this drawing, and further, excavator shall comply with all other requirements of this statute relative to excavator's work.</div> <div>DISCLAIMER:</div> <div>The underground utilities shown have been located from field survey information and existing drawings. The surveyor makes no guarantee that the underground utilities shown comprise all such utilities in the area, either in service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated although he does certify that they are located as accurately as possible from information available. The surveyor has not physically located the underground utilities.</div>	<div><div><div></div><div>GRAEF</div></div><div>One Honey Creek Corporate Center</div><div>125 South 84th Street, Suite 401</div><div>Milwaukee, WI 53214-1469</div><div>414 / 259 1500</div><div>414 / 259 0037 fax</div><div>www.graef-usa.com</div></div>	ESTIMATE OF QUANTITIES		WATER MAIN		SA.FKO		CITY OF OAK CREEK, WISCONSIN							
		BID ITEM NOS.		ST.FKO		CONTRACTOR:									
		3	8" PVC Water Main, 3/4—inch T.B.B.F.	1093 L.F.	MAINLINE INSPECTED BY:		W. FKO		DESIGNED BY DATE DRAWN BY DATE CHECKED BY DATE						
		4	Connect to Existing 6" Water Main	2 EA.	LATERALS INSPECTED BY:		G. FKO								AS 3-13-14 CTS 3-13-14 MNP 3-13-14
		7	Hydrant, Lead and 6—inch Gate Valve	2 EA.	DATE COMPLETED:		E. FKO		CEDAR HILLS WATER MAIN RELAY						
		8	8" Gate Valve	4 EA.	TYPE OF PIPE, ASTM NO.		T. FKO								IN: S. 21ST ST.
		10	1—1/4" water Service Laterals (Polyethylene) Directional Drill	23 EA.	TYPE OF PIPE, ASTM NO.		I. FKO		FR: W. WOOD AVE.						
		17	Curb and Gutter Replacement	20 L.F.	AS-BUILTS BY: DATE:		TS.FKO								TO: 180 FT. NORTH OF W. CARRINGTON AVE.
						This is to certify that this plan was approved by the Water Works and Sewer Utility Commission of Oak Creek at a regular meeting.		PP.		REVISION BY DATE					
						Utility Engineer Date									

UTILITY ENGINEER

DATE

APPROVED BY

CITY ENGINEER

DATE

SCALE

SHEET

PLAN HOR. 1"=40'

13

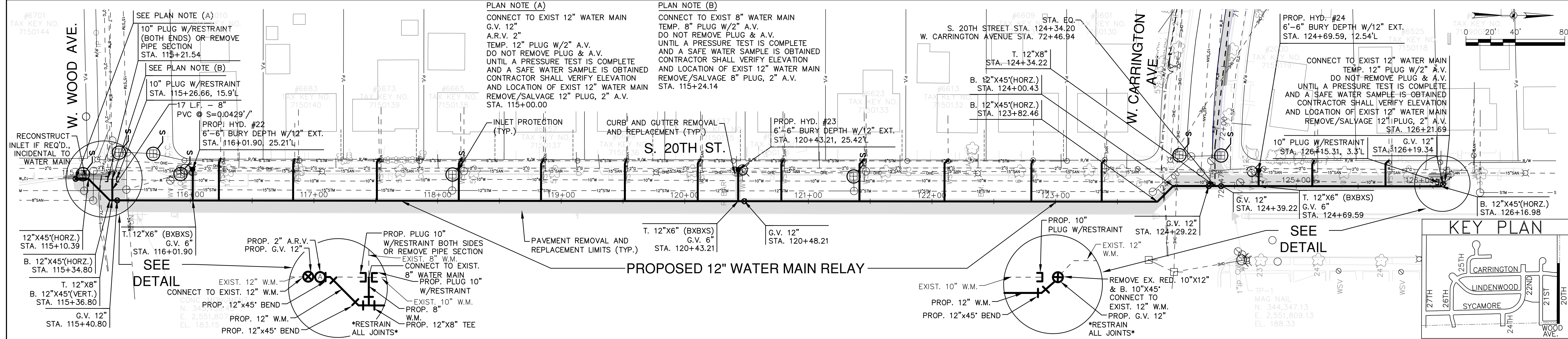
OF

PROFILE HOR. 1"=40'

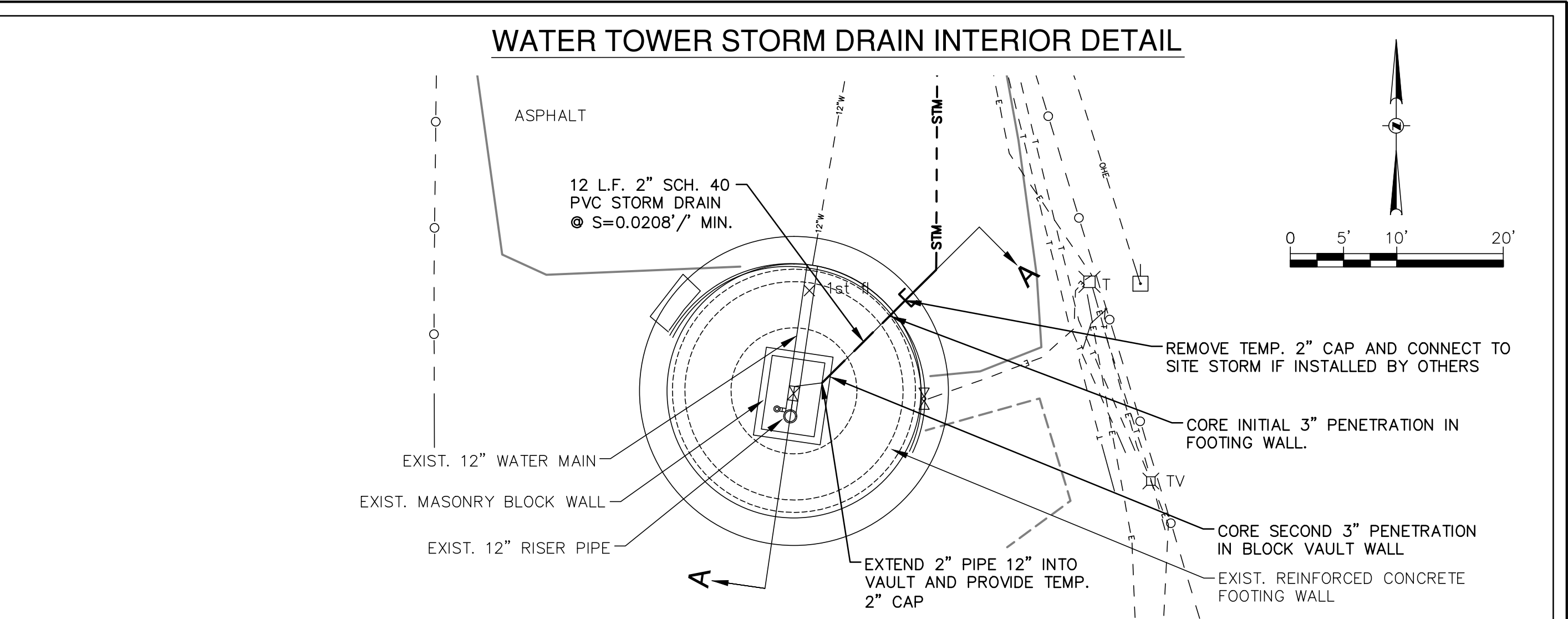
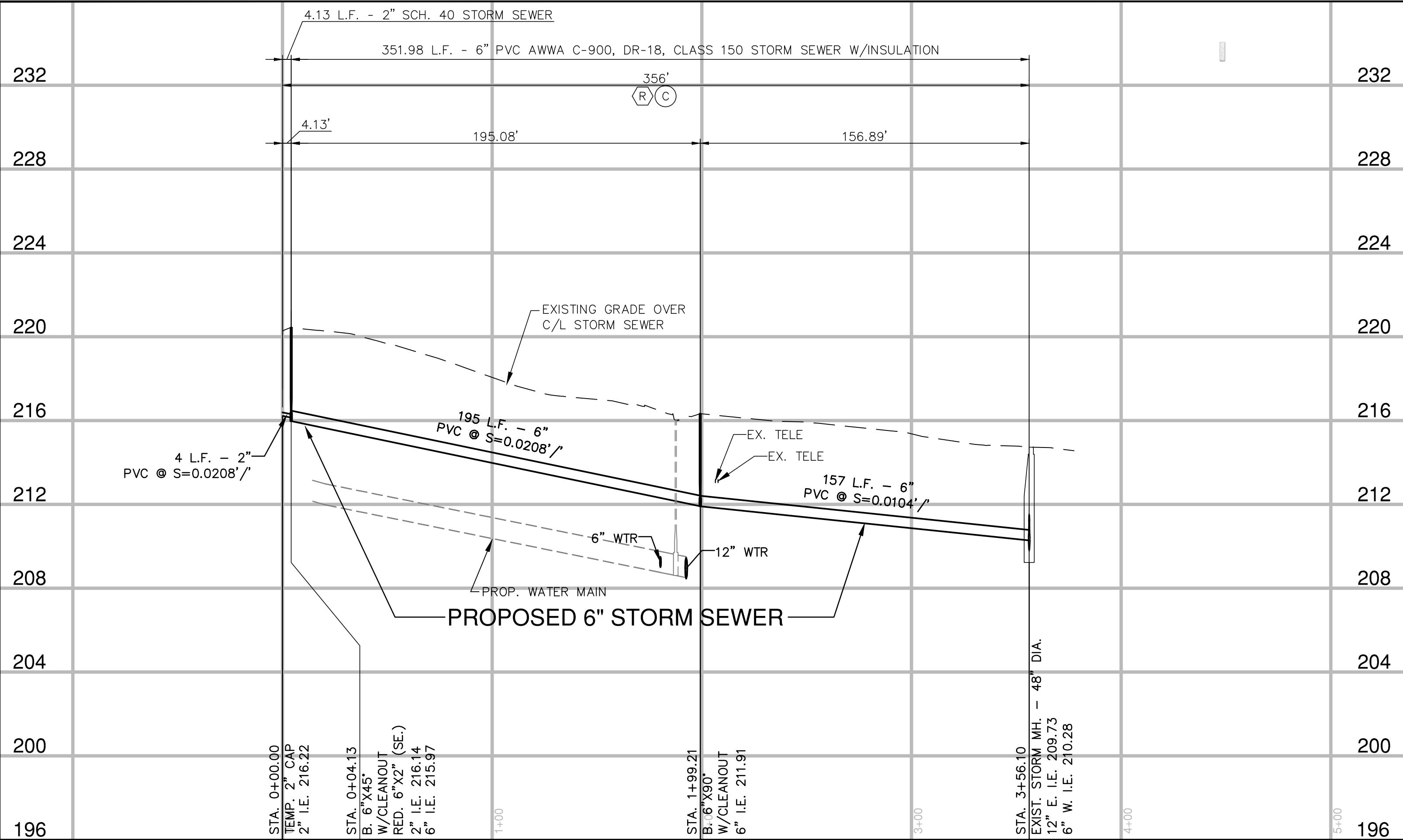
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VER. 1"=4'

FILE NO: 14102-13C-2253



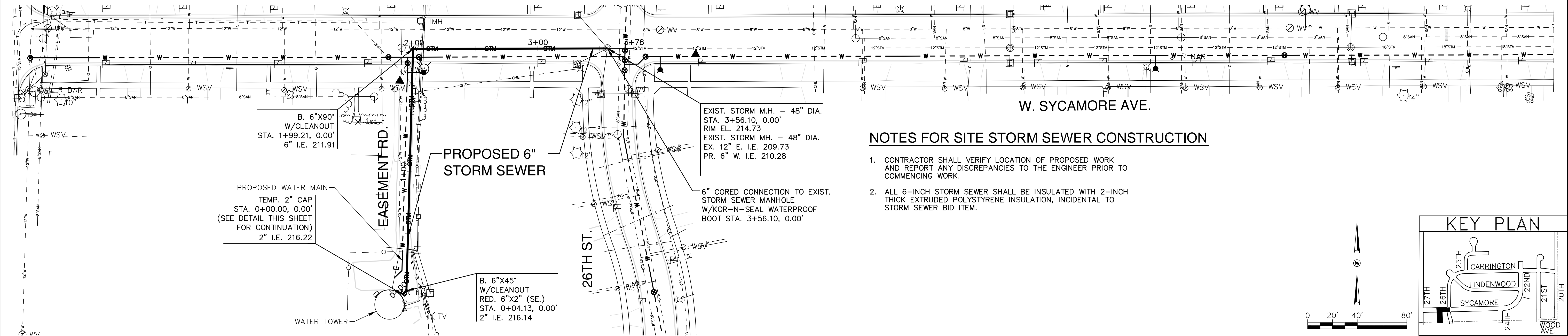
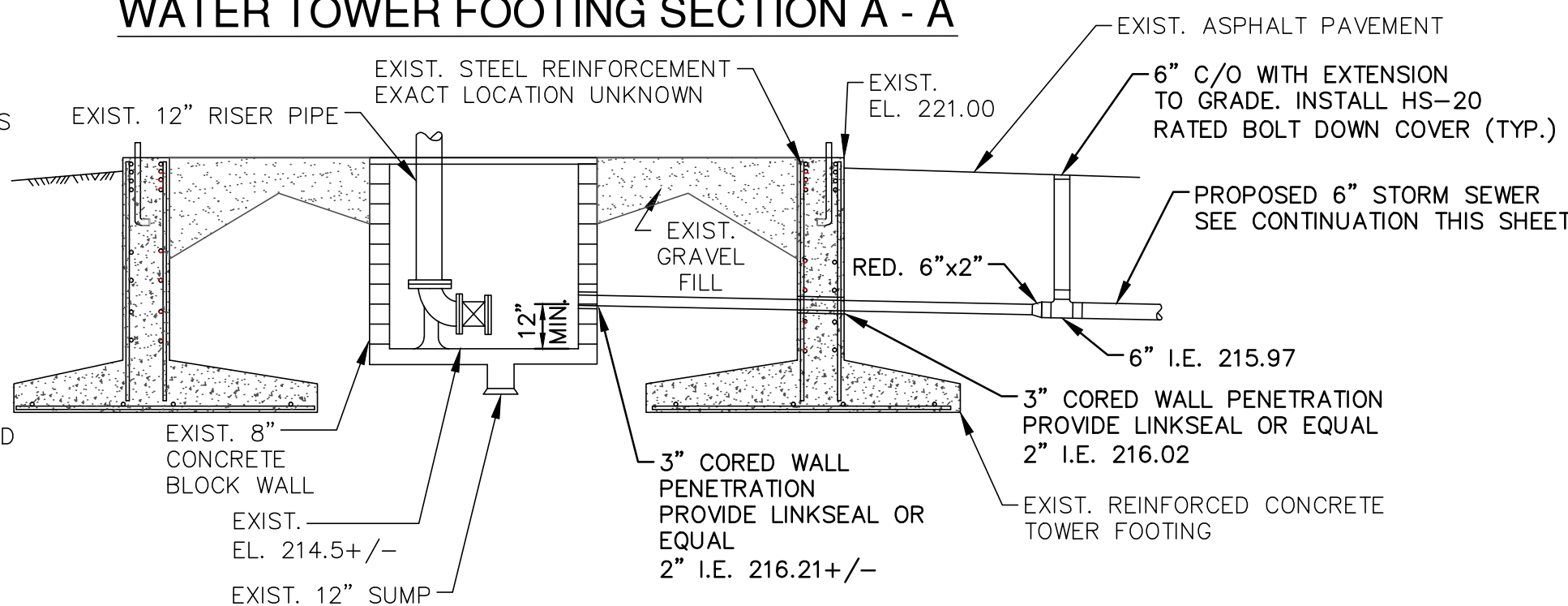
CITY OF OAK CREEK, WISCONSIN				APPROVED BY _____	
				UTILITY ENGINEER _____ DATE _____	
				APPROVED BY _____	
				CITY ENGINEER _____ DATE _____	
DESIGNED BY _____ DATE _____		DRAWN BY _____ DATE _____		CHECKED BY _____ DATE _____	
AS 3-13-14		CTS 3-13-14		MNP 3-13-14	
CEDAR HILLS WATER MAIN RELAY IN: S. 20TH ST. FR: W. WOOD AVE. TO: 188 FT. NORTH OF W. CARRINGTON AVE..				SCALE _____	
				SHEET _____	
				PLAN HOR. 1"=40' _____ 14	
				PROFILE HOR. 1"=40' _____ OF	
				VER. 1"=4' _____ 17	
REVISION BY _____ DATE _____		FILE NO: 14102-14C-2254			



NOTES FOR INTERIOR DRAIN CONSTRUCTION

1. CONTRACTOR SHALL SEAL ALL WALL PENETRATIONS WITH WATERTIGHT MECHANICAL CONNECTIONS.
2. THE CONTRACTOR SHALL ATTEMPT TO CORE THE FOOTING WALL SO AS TO AVOID EXISTING STEEL REINFORCEMENT.
3. INTERIOR DRAIN SHALL BE SLOPED AT 1/4" PER FOOT MINIMUM SLOPE.
4. CONTRACTOR SHALL VERIFY FOOTING AND VAULT BASE ELEVATIONS PRIOR TO SITE STORM SEWER CONSTRUCTION TO ASSURE POSITIVE DRAINAGE AND CONTRACTIBILITY.
5. CONTRACTOR SHALL FILL GAPS WITH NON-SHRINK GROUT.

WATER TOWER FOOTING SECTION A - A



NOTES FOR SITE STORM SEWER CONSTRUCTION

1. CONTRACTOR SHALL VERIFY LOCATION OF PROPOSED WORK AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO COMMENCING WORK.
2. ALL 6-INCH STORM SEWER SHALL BE INSULATED WITH 2-INCH THICK EXTRUDED POLYSTYRENE INSULATION, INCIDENTAL TO STORM SEWER BID ITEM.

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125 South 84th Street, Suite 401
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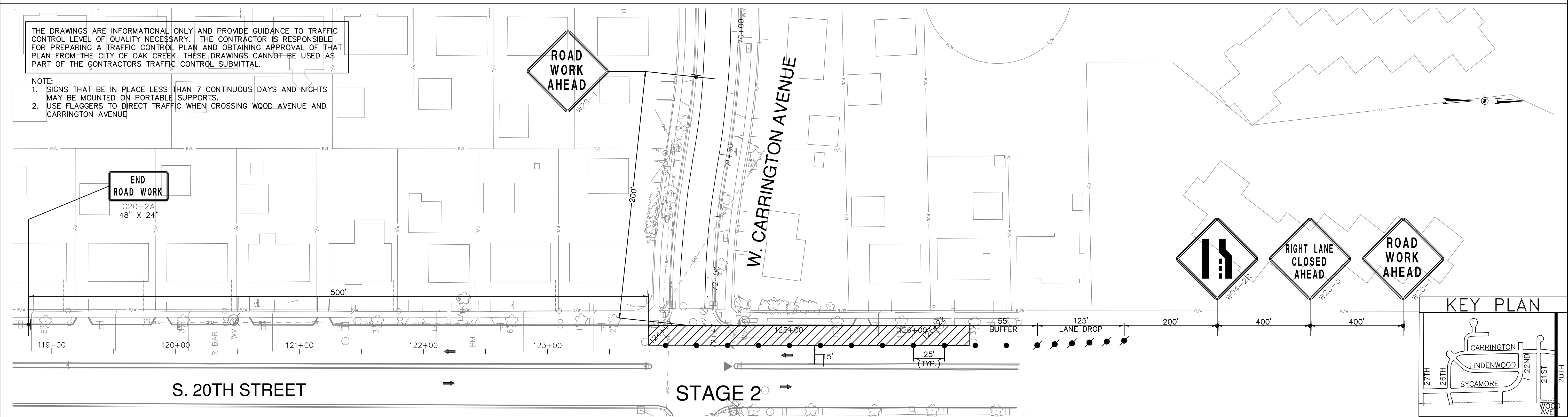
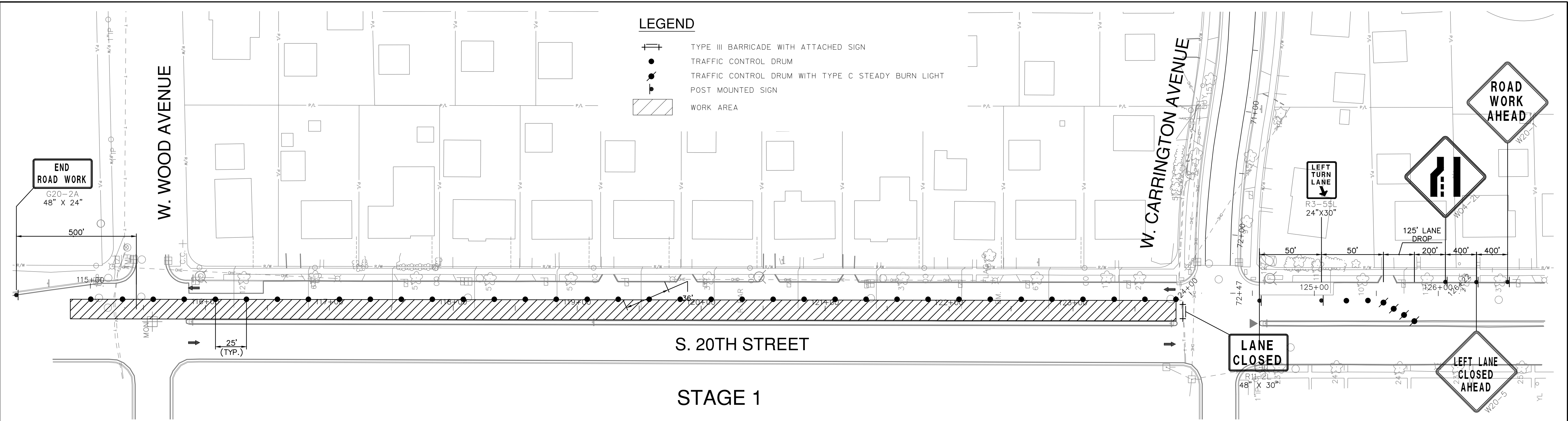
BID ITEM NOS.	ESTIMATE OF QUANTITIES	
23	4" PVC Storm Sewer Main w/ Cleanouts, 3/4" T.B.B.F.	356 L.F.
24	Core connection to tower, and install 2" SCH. 40 PVC interior drain.	1 L.S.

WATER MAIN	
CONTRACTOR:	
MAINLINE INSPECTED BY:	
LATERALS INSPECTED BY:	
DATE COMPLETED:	
TYPE OF PIPE, ASTM NO.	
TYPE OF PIPE, ASTM NO.	
AS-BUILTS BY:	
DATE:	
This is to certify that this plan was approved by the Water Works and Sewer Utility Commission of Oak Creek at a regular meeting.	
Utility Engineer	Date

SAFKO
ST.FKO
W. FKO
G. FKO
E. FKO
T. FKO
I. FKO
TS.FKO
PP.

REVISION BY	DATE
-------------	------

CITY OF OAK CREEK, WISCONSIN				APPROVED BY	
DESIGNED BY	DATE	DRAWN BY	DATE	UTILITY ENGINEER	DATE
AS	3-13-14	CTS	3-13-14	APPROVED BY	
CEDAR HILLS WATER MAIN RELAY				CITY ENGINEER	DATE
IN: EASEMENT (WATER TOWER)-STORM SEWER				SCALE	SHEET
FR: WATER TOWER				PLAN HOR. 1"=40'	15
TO: 195' N. OF TOWER & 160' E. TO S. 26TH ST.				PROFILE HOR. 1"=40'	OF
				VER. 1"=4'	17
				FILE NO: 14102-15C-2255	



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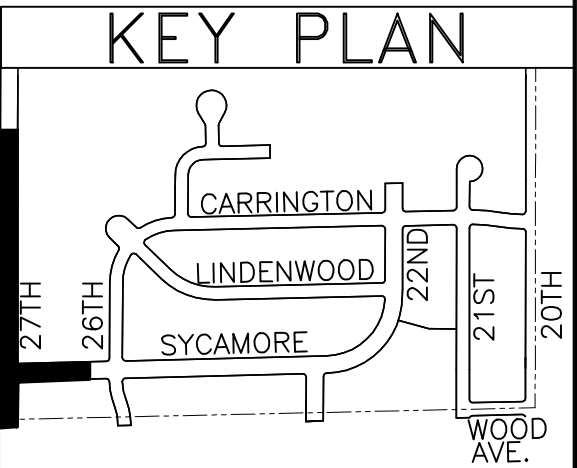
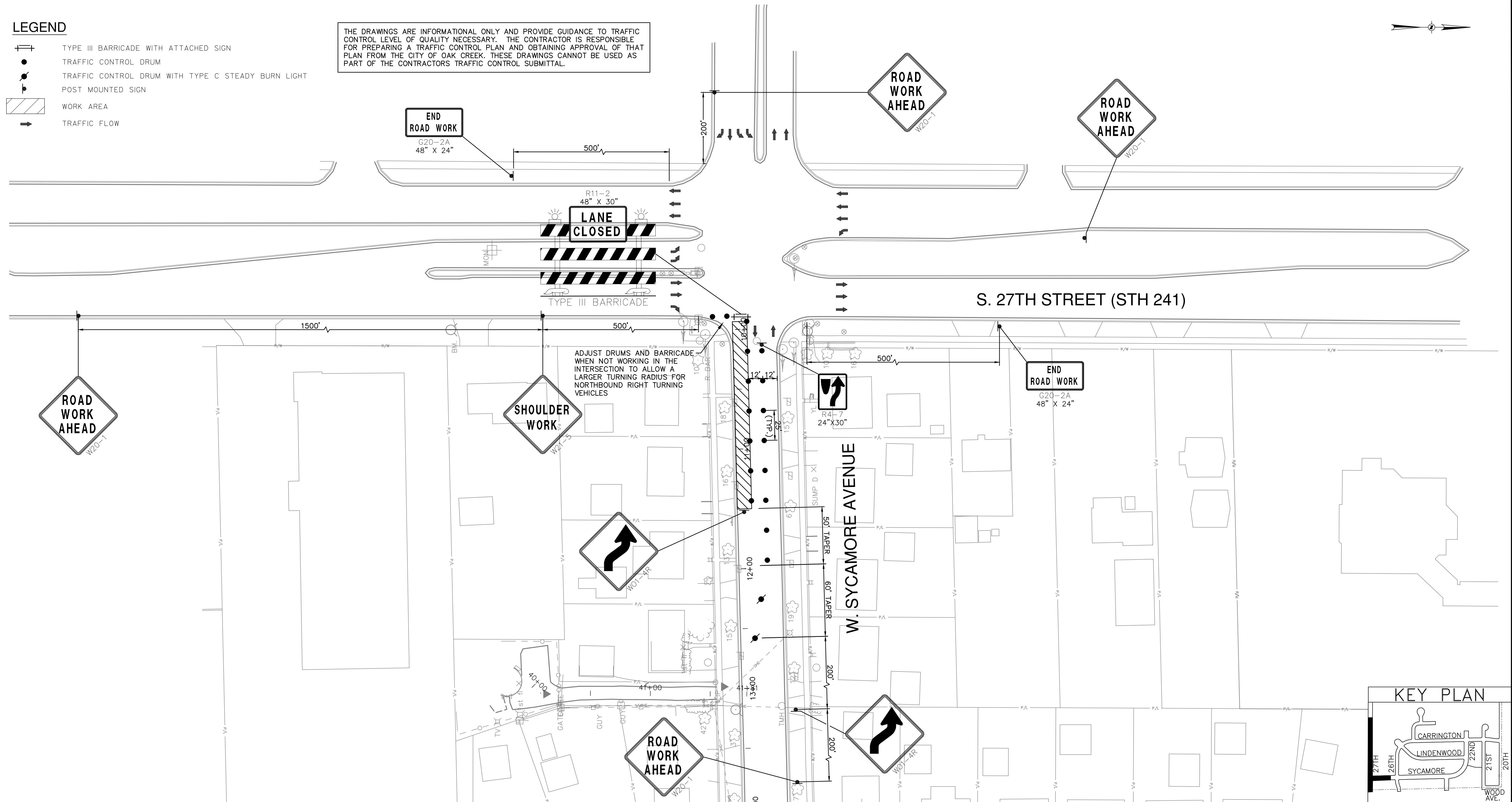
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One Honey Creek Corporate Center
125 South 84th Street, Suite 401
Milwaukee, WI 53214-1469
414 / 259 1500
414 / 259 0037 fax
www.graef-usa.com

BID ITEM NOS.	ESTIMATE OF QUANTITIES	WATER MAIN	SA.FKO	CITY OF OAK CREEK, WISCONSIN				APPROVED BY			
		CONTRACTOR:	ST.FKO								
		MAINLINE INSPECTED BY:	W. FKO	DESIGNED BY	DATE	DRAWN BY	DATE	CHECKED BY	DATE	UTILITY ENGINEER	DATE
		LATERALS INSPECTED BY:	G. FKO	AS	6-10-13	CTS	6-10-13	MNP	6-10-13	APPROVED BY	
		DATE COMPLETED:	E. FKO	CEDAR HILLS TRAFFIC CONTROL				CITY ENGINEER		DATE	
		TYPE OF PIPE, ASTM NO.	T. FKO					SCALE		SHEET	
		TYPE OF PIPE, ASTM NO.	I. FKO					PLAN			
		AS-BUILTS BY:	TS.FKO					HOR. 1"=40'		16	
		This is to certify that this plan was approved by the Water Works and Sewer Utility Commission of Oak Creek at a regular meeting.		PP.	IN:	S. 20TH ST.		PROFILE			
					FR:	W. WOOD AVE.		HOR. 1"=40'		OF	
	TO:			230 FT. NORTH OF W. CARRINGTON AVE..		VER. 1"=4'		17			
	FILE NO: 14102-16C-2256										
Utility Engineer		Date	REVISION BY	DATE							

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- POST MOUNTED SIGN
- WORK AREA
- TRAFFIC FLOW

THE DRAWINGS ARE INFORMATIONAL ONLY AND PROVIDE GUIDANCE TO TRAFFIC CONTROL LEVEL OF QUALITY NECESSARY. THE CONTRACTOR IS RESPONSIBLE FOR PREPARING A TRAFFIC CONTROL PLAN AND OBTAINING APPROVAL OF THAT PLAN FROM THE CITY OF OAK CREEK. THESE DRAWINGS CANNOT BE USED AS PART OF THE CONTRACTORS TRAFFIC CONTROL SUBMITTAL.



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www.graef-usa.com

BID ITEM NOS.	ESTIMATE OF QUANTITIES	WATER MAIN	SA.FKO	CITY OF OAK CREEK, WISCONSIN	APPROVED BY				
		CONTRACTOR:	ST.FKO						
		MAINLINE INSPECTED BY:	W. FKO		UTILITY ENGINEER DATE				
		LATERALS INSPECTED BY:	G. FKO		APPROVED BY				
		DATE COMPLETED:	E. FKO						
		TYPE OF PIPE, ASTM NO.	T. FKO		DESIGNED BY DATE DRAWN BY DATE CHECKED BY DATE				
		TYPE OF PIPE, ASTM NO.	I. FKO		AS 6-10-13 CTS 6-10-13 MNP 6-10-13				
		AS-BUILTS BY: DATE:	TS.FKO						
		This is to certify that this plan was approved by the Water Works and Sewer Utility Commission of Oak Creek at a regular meeting.			PP.	CEDAR HILLS TRAFFIC CONTROL			
			IN: S. 27TH ST. (STH 241)						
			FR: W. SYCAMORE AVE.						
			TO: WATER TOWER EASEMENT						
Utility Engineer Date			REVISION BY DATE	FILE NO: 14102-17C-2257					