

City of Scottsbluff, Nebraska

Monday, June 5, 2017

Regular Meeting

Item Consent4

Council to approve the bids and specifications for the Broadway water main replacement and authorize the City Clerk to advertise for bids to be received by June 27, 2017, 11:00 a.m.

Staff Contact: Mark Bohl, Public Works Director

Advertisement for Bids
Broadway Water Main Replacement Project – 20th Street to 27th Street – Scottsbluff

Owner: City of Scottsbluff
Address: 2525 Circle Drive, Scottsbluff, NE 69361

Sealed Bids for the Broadway Water Main Replacement Project – 20th Street to 27th Street, for the City of Scottsbluff, will be received by Cindy Dickinson, City Clerk at City Hall, 2525 Circle Drive, Scottsbluff, Nebraska until 11:00 A.M., (Local Time) June 27, 2017, and then, at said office, publicly opened and read aloud.

The project consists of the construction of approximately 2,600 feet of 16-inch water main, and approximately 500 feet of various sizes of water main. Work shall also include water services, hydrants, pavement removal & replacement, and related work.

The Contract Documents may be examined at the following locations:
City of Scottsbluff
2525 Circle Drive
Scottsbluff, NE 69361

M.C. Schaff & Associates
818 South Beltline Highway East
Scottsbluff, NE 69361

The Contract Documents may be obtained online at www.mcschaff.com upon payment of \$25.00 for each set, none of which will be refunded.

/s/ Cindy Dickinson
City Clerk

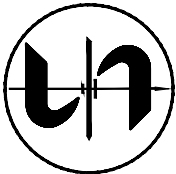
Publish three times:
6/9/2017
6/16/2017
6/23/2017

BROADWAY WATER MAIN REPLACEMENT PROJECT - 20TH ST TO 27TH ST - SCOTTSBLUFF CONSTRUCTION DRAWINGS



SHEET INDEX

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M. C. SCHAFF AND ASSOCIATES, INC.
818 SOUTH BELTLINE HIGHWAY EAST
SCOTTSBLUFF, NEBRASKA 69361

ENGINEERS ♦ PLANNERS ♦ DESIGNERS ♦ LAND SURVEYORS
PH: 308-635-1926 FAX: 308-635-7807 INTERNET: WWW.MCSCHAFF.COM

QUANTITIES			LEGEND			ABBREVIATIONS		GENERAL NOTES
ITEM	DESCRIPTION	ESTIMATED QUANTITY	SYMBOL	EXISTING	PROPOSED			
A-1.	MOBILIZATION	1 LUMP SUM	PROPERTY CORNER			ADA	AMERICANS WITH DISABILITIES ACT	THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS PRIOR TO COMMENCEMENT OF ANY WORK ON THE PROJECT.
A-2.	FIRE HYDRANT W/6" AUXILIARY VALVE & VALVE BOX	7 EA	RIGHT OF WAY MARKER			AUX	AUXILIARY	
A-3.	16" PVC WATER MAIN	2,584 LF	STOP SIGN			BB	BACK TO BACK	
A-4.	12" PVC WATER MAIN	55 LF	ROAD SIGN			BDC	BEGIN DROP CURB	IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE ENGINEER OF ANY PROBLEMS IN CONFORMING TO THE APPROVED PLANS FOR ANY ELEMENT OF THE PROPOSED IMPROVEMENTS PRIOR TO ITS CONSTRUCTION.
A-5.	8" PVC WATER MAIN	190 LF	DELINEATOR			BL	BURY LINE	
A-6.	6" PVC WATER LINE	245 LF	BOLLARD			BOP	BEGINNING OF PROJECT	
A-7.	16" WATER VALVE AND VALVE BOX	8 EA	MAILBOX			C, C/L	CENTERLINE	IT IS THE RESPONSIBILITY OF THE ENGINEER DURING CONSTRUCTION ACTIVITIES TO RESOLVE CONSTRUCTION PROBLEMS DUE TO CHANGED CONDITIONS, OR DESIGN ERRORS ENCOUNTERED BY THE CONTRACTOR DURING THE PROGRESS OF ANY PORTION OF THE PROJECT. IF, IN THE OPINION OF THE CITY, THE MODIFICATIONS PROPOSED BY THE ENGINEER, TO THE APPROVED PLANS, INVOLVE SIGNIFICANT CHANGES TO THE CHARACTER OF THE WORK, OR TO THE FUTURE CONTIGUOUS PUBLIC OR PRIVATE IMPROVEMENTS, THE ENGINEER SHALL BE RESPONSIBLE FOR RESUBMITTING THE REVISED PLANS TO THE CITY OF SCOTTSBLUFF FOR APPROVAL PRIOR TO ANY FURTHER CONSTRUCTION RELATED TO THAT PORTION OF THE PROJECT. ANY IMPROVEMENTS NOT CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PLANS, OR THE APPROVED REVISED PLANS, SHALL BE REMOVED AND RECONSTRUCTED ACCORDING TO THE APPROVED PLANS.
A-8.	12" WATER VALVE AND VALVE BOX	1 EA	FIRE HYDRANT			CMP	CORRUGATED METAL PIPE	
A-9.	8" WATER VALVE AND VALVE BOX	3 EA	VALVE			CY	CUBIC YARDS	
A-10.	CONNECT TO EXISTING MAIN	11 EA	CURB STOP			D	DEGREE OF CURVATURE	ANY CONSTRUCTION DEBRIS OR MUD TRACKING ONTO THE PUBLIC RIGHT OF WAY, RESULTING FROM THE PROJECT, SHALL BE REMOVED IMMEDIATELY, BY THE CONTRACTOR. THE CONTRACTOR SHALL IMMEDIATELY FIX ANY EXCAVATION, OR EXCESSIVE PAVEMENT FAILURE CAUSED BY THE FAILURE, AND SHALL PROPERLY BARRICADE THE SITE UNTIL CONSTRUCTION IS COMPLETE. FAILURE BY THE CONTRACTOR, TO CORRECT ANY OF THE ABOVE WITHIN 48 HOURS OF WRITTEN NOTICE, BY THE CITY, SHALL CAUSE THE CITY TO ISSUE A STOP WORK ORDER (RED TAG) AND/OR DO THE WORK AND MAKE A CLAIM AGAINST THE PROJECTS LETTER OF CREDIT FOR ANY COSTS INCURRED BY THE CITY OF SCOTTSBLUFF.
A-11.	1" PE SERVICE LINE	1,400 LF	METER PIT			DC	TOP OF DROP CURB	
A-12.	1 1/2" PE SERVICE LINE	85 LF	MANHOLE			DIA	DIAMETER	
A-13.	2" PE SERVICE LINE	480 LF	STORM INLET			E	EAST,EASTING	THE CONTRACTOR SHALL BE SOLELY, AND COMPLETELY RESPONSIBLE FOR THE CONDITIONS AT, AND ADJACENT TO THE JOB SITE, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY, DURING THE PERFORMANCE OF THE WORK, THIS REQUIREMENT SHALL APPLY CONTINUOUSLY, AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS, THE DUTY OF THE CITY TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN, ON OR NEAR THE CONSTRUCTION SITE.
A-14.	FITTINGS	12,800 LBS	POWER POLE			EA	EACH	
A-15.	1" WATER SERVICE CONNECTION AND CURB STOP	46 EA	LIGHT POLE			EDC	END DROP CURB	
A-16.	1 1/2" WATER SERVICE CONNECTION AND CURB STOP	2 EA	GUY WIRE			EL,ELEV	ELEVATION	THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING UTILITY LOCATIONS AT LEAST 48 HOURS (2 BUSINESS DAYS) PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION. FOR INFORMATION CONTACT DIGGERS HOTLINE: 1-800-331-5866. THE CONTRACTOR SHALL FIELD VERIFY SIZE, HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING FACILITIES PRIOR TO ANY CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
A-17.	2" WATER SERVICE CONNECTION AND CURB STOP	11 EA	ELECTRIC TRANSFORMER			FES	FLARED END SECTION	
A-18.	REMOVE FIRE HYDRANT AND AUX. VALVE	5 EA	TRAFFIC SIGNAL W/ LUMINARY			FL	FLOW LINE	
B-1.	MOBILIZATION	1 LS	TELEPHONE PEDESTAL			FT	FEET, FOOT	THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAG PERSONS OR OTHER DEVICES NECESSARY TO PROVIDE FOR THE PUBLIC SAFETY IN ACCORDANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
B-2.	TRAFFIC CONTROL AND SAFETY	1 LS	TELEPHONE MARKER			HOR	HORIZONTAL	
B-3.	REMOVE EXISTING PAVEMENT, CURB, SIDEWALK, ETC	43,000 SF	GAS MARKER			IE	INVERT ELEVATION	
B-4.	8-INCH P.C. CONCRETE PAVEMENT	26,000 SF	CABLE TV PEDESTAL			LBS	POUNDS	THE CONTRACTOR SHALL NOTIFY THE INSPECTOR AND TESTING AGENCY AT LEAST 24 HOURS PRIOR TO THE DESIRED INSPECTION.
B-5.	30-INCH P.C. CONCRETE CURB & GUTTER	2,200 LF	DECIDUOUS TREE			LF	LINEAL FEET	
B-6.	10-FOOT INTERSECTION RADIUS	13 EA	CONIFER			LIN	LINEAL	
B-7.	6-INCH P.C. CONCRETE DRIVEWAY	3,500 SF	MONITORING WELL			LT	LEFT	COMPACTION OF ALL TRENCHES AND ANY OTHER REQUIRED AREAS MUST BE ATTAINED AND THE TEST RESULTS SUBMITTED TO THE ENGINEER AND THE OWNER PRIOR TO ACCEPTANCE.
B-8.	4-INCH P.C. CONCRETE SIDEWALK	6,500 SF	RIGHT OF WAY			MAX	MAXIMUM	
B-9.	HANDICAP RAMP	26 EA	CENTERLINE			MIN	MINIMUM	
B-10.	REMOVE & REPLACE STORM SEWER INLET	6 EA	WATER MAIN			OC	ON CENTER	THE CONTRACTOR SHALL HAVE IN HIS/HER POSSESSION AT ALL TIMES AT LEAST ONE COPY OF THE PLANS APPROVED BY THE CITY OF SCOTTSBLUFF.
B-11.	ABANDON WATER MAIN VALVE	4 EA	6" WATER MAIN			OFF	OFFSET	
B-12.	ABANDON WATER MAIN MANHOLE	8 EA	8" WATER MAIN			P.C.	PORTLAND CEMENT	
B-13.	ADJUST EXISTING STRUCTURE TO GRADE	3 EA	12" WATER MAIN			PC	POINT OF CURVATURE	THE CONTRACTOR SHALL NOTIFY THE OWNER AT LEAST 48 HOURS PRIOR TO THE START OF ANY CONSTRUCTION.
B-14.	SODDING	4,000 SF	2" WATER SERVICE LINE			PI	POINT OF INTERSECTION	
			4" NONPOTABLE MAIN			PREP	PREPARATION	
			8" SANITARY SEWER			PT	POINT OF TANGENCY	ALL TRENCHES SHALL BE ADEQUATELY SUPPORTED AND THE SAFETY OF WORKERS PROVIDED FOR AS REQUIRED BY THE MOST RECENT OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION. THESE REGULATIONS ARE DESCRIBED IN SUBPART P., PART 1926 OF THE CODE OF FEDERAL REGULATIONS, UTILIZE SHEETING AND SHORING WHERE REQUIRED TO PREVENT ANY EXCESSIVE WIDENING OR SLOUGHING OF THE TRENCH WHICH MAY BE DETRIMENTAL TO HUMAN SAFETY, TO THE PIPE BEING PLACED, TO TREES, OR TO ANY EXISTING STRUCTURE, WHERE EXCAVATIONS ARE MADE UNDER SEVERE WATER CONDITIONS, THE CONTRACTOR MAY BE REQUIRED TO USE AN APPROVED PILING INSTEAD OF SHEETING AND SHORING. EXCAVATED MATERIAL SHALL NOT BE PLACED NEARER THAN 2 FEET FROM THE SIDES OF THE TRENCH. HEAVY EQUIPMENT SHALL NOT BE PLACED NEAR THE SIDES OF THE TRENCH UNLESS THE TRENCH IS ADEQUATELY BRACED.
			12" SANITARY SEWER			PVC	POLYVINYL CHLORIDE	
			15" SANITARY SEWER			R,RAD	RADIUS	
			STORM DRAIN			RCCP	REINFORCED CONCRETE CULVERT PIPE	NO PORTION OF THE NEW WATER SYSTEM SHALL BE PLACED IN SERVICE UNTIL APPROVED BY THE ENGINEER AND NHHS.
			IRRIGATION LATERAL			RE:	REFERENCE	
			OVERHEAD ELECTRIC			REINF	REINFORCE,REINFORCING	
			UNDERGROUND ELECTRIC			RGSV	RESILIENT SEATED GATE VALVE	THE CITY SHALL OPERATE ALL VALVES FOR THE CONSTRUCTION OF THIS PROJECT.
			UNDERGROUND TELEPHONE			ROW	RIGHT OF WAY	
			UNDERGROUND CABLE TV			RT	RIGHT	
			UNDERGROUND FIBER OPTIC			SQ	SQUARE	THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING DUST CONTROL MEASURES AT ALL TIMES DURING CONSTRUCTION.
			GAS MAIN			STA	STATION	
			FENCE			SY	SQUARE YARDS	
			EDGE OF PAVEMENT			T	TANGENT	DETECTOR WIRE IS REQUIRED FOR THIS PROJECT FOR ALL WATER MAINS AND SERVICES LINES.
			CURB AND GUTTER			TC	TOP OF CURB	
			CONSTRUCTION LIMITS			TEMP	TEMPORARY	
						TP	TOP OF PAVEMENT	THE CONTRACTOR SHALL NOT CONNECT TO THE EXISTING WATER MAINS UNTIL THE CITY GRANTS PERMISSION TO DO SO.
						TW	TOP OF SIDEWALK	
						TYP	TYPICAL	
						VER	VERTICAL	DESIGN STANDARDS: STATE OF NEBRASKA TITLE 179 NAC 7 & RECOMMENDED STANDARDS FOR WATER WORKS, 2007 EDITION.
						VO	VERTICAL OPERATING	
						VPI	VERTICAL POINT OF INTERSECTION	
						YDS	YARDS	

GENERAL DESIGN PARAMETERS

DESIGN PRESSURE: 55 PSI

DEPTH OF BURY: 5.0' MINIMUM

S C605 INSTALLATION OF PVC PIPE.

DESIGN STANDARDS: STATE OF NEBRASKA TITLE 179 NAC 7 & RECOMMENDED STANDARDS FOR WATER WORKS, 2007 EDITION.

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PROJECT: BROADWAY WATER MAIN REPLACEMENT PROJECT
BETWEEN 20TH AND 27TH
LEGEND/SUMMARY OF QUANTITIES

CLIENT: CITY OF SCOTTSBLUFF

PROJECT NUMBER:
RM150430-00

PROJECT DATE:
04-20-17

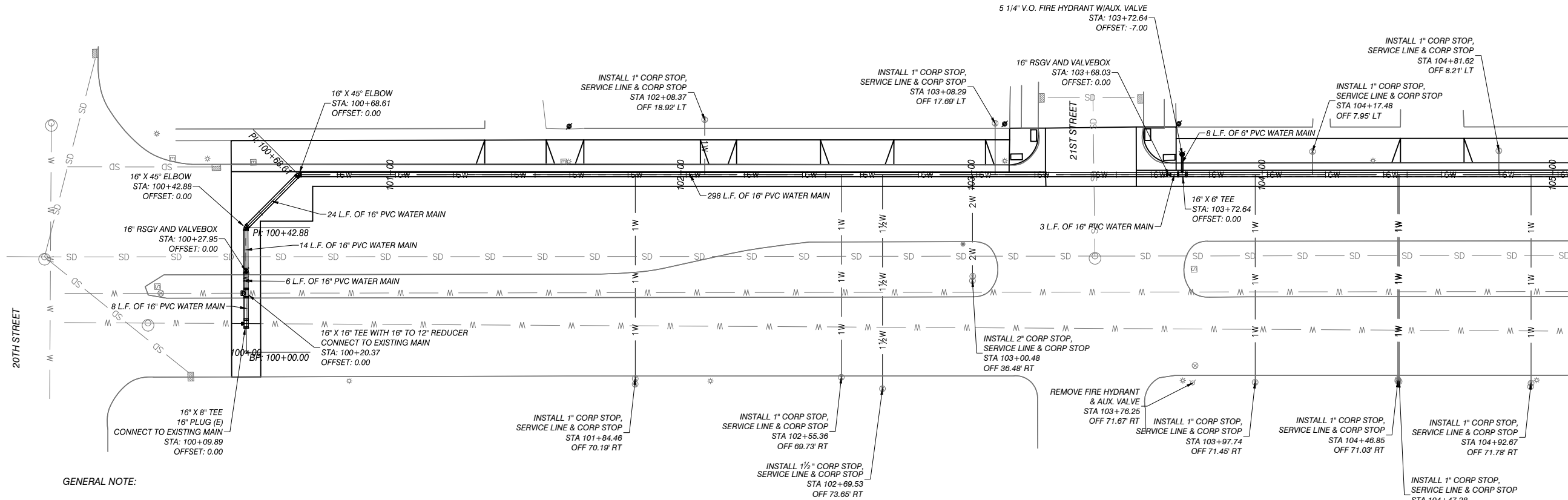
PROJECT MGR:
D.J.D.

PROJECT TEAM:
D.D./D.B./G.S.

SEAL

DATE	REVISION

SHEET 2 OF 13
LEG-1



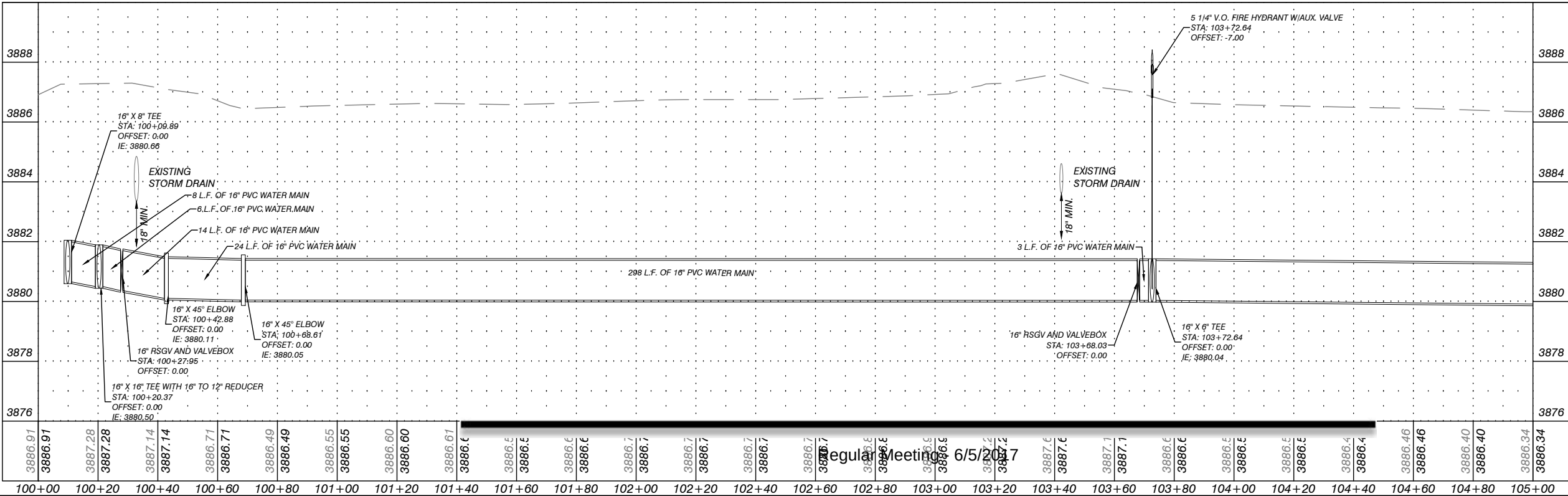
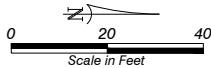
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AT ALL SEWER CROSSING A MINIMUM SEPERATION OF 18-INCHES SHALL BE PROVIDED. THE CONTRACTOR SHALL CENTER A 20-FOOT SECTION OF PVC WATER MAIN UNDER OR OVER THE SEWER.

CONTRACTOR SHALL FIELD VERIFY LOCATION OF EXISTING STORM SEWER AND WATER MAIN

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CLIENT: CITY OF SCOTTSBLUFF

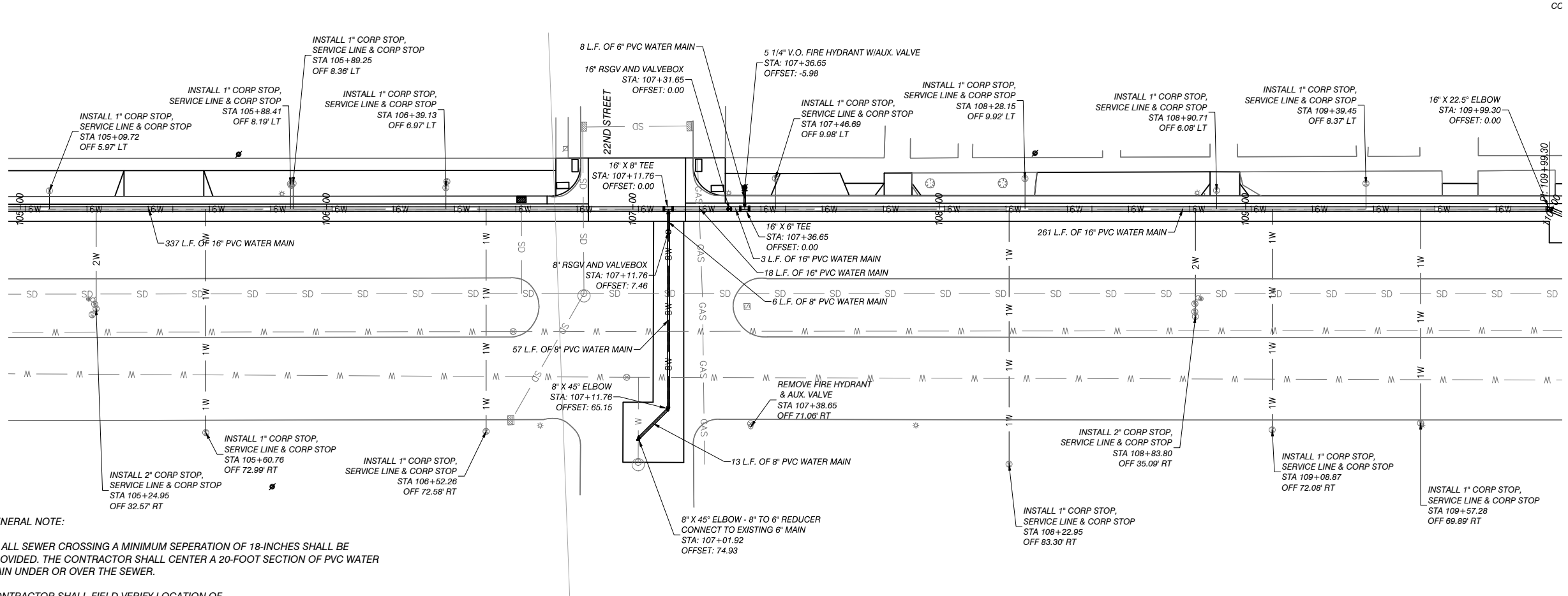
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SHEET 3 OF 13

W-1



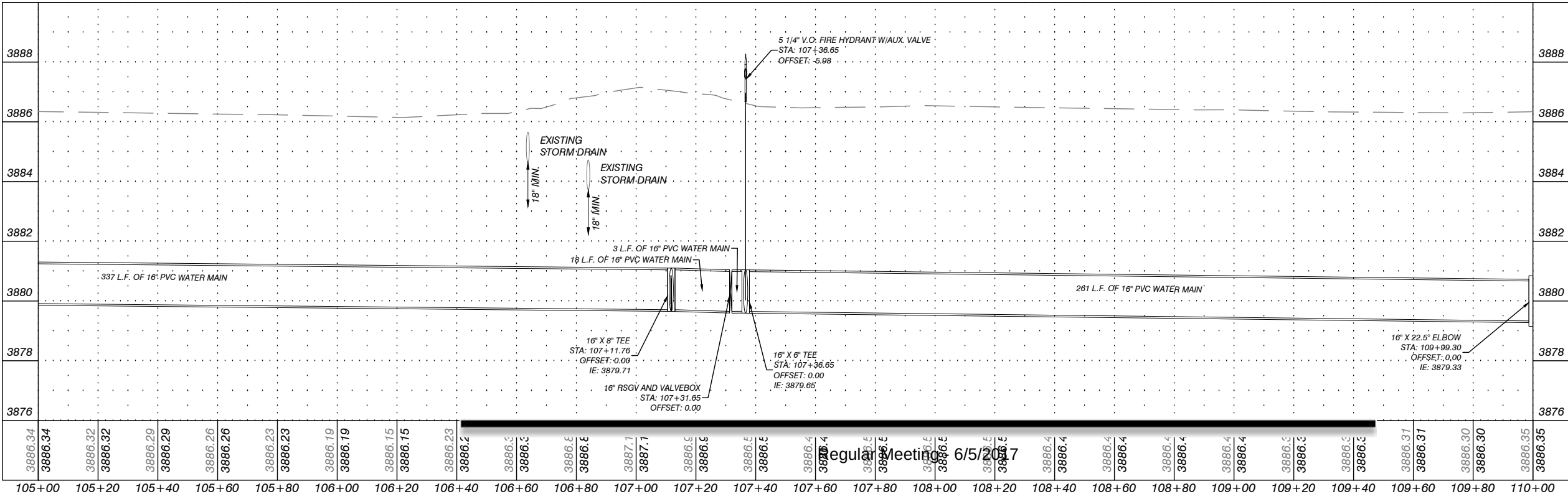
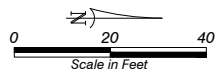
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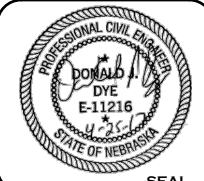
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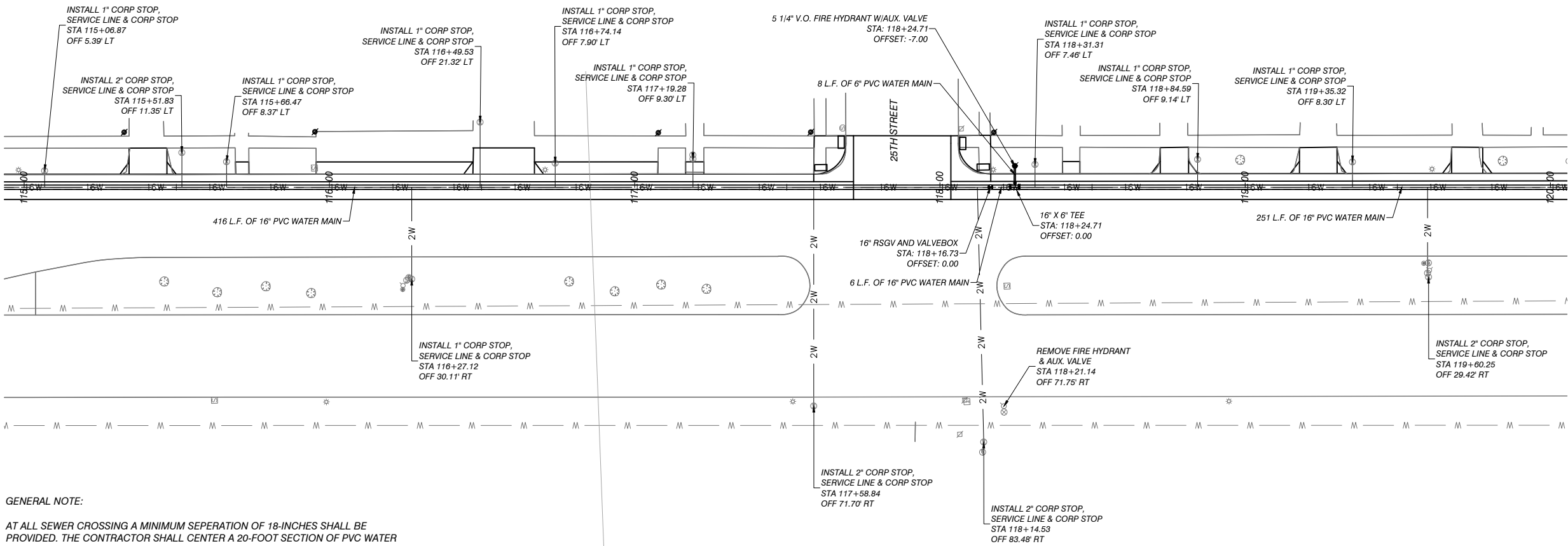
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W-2



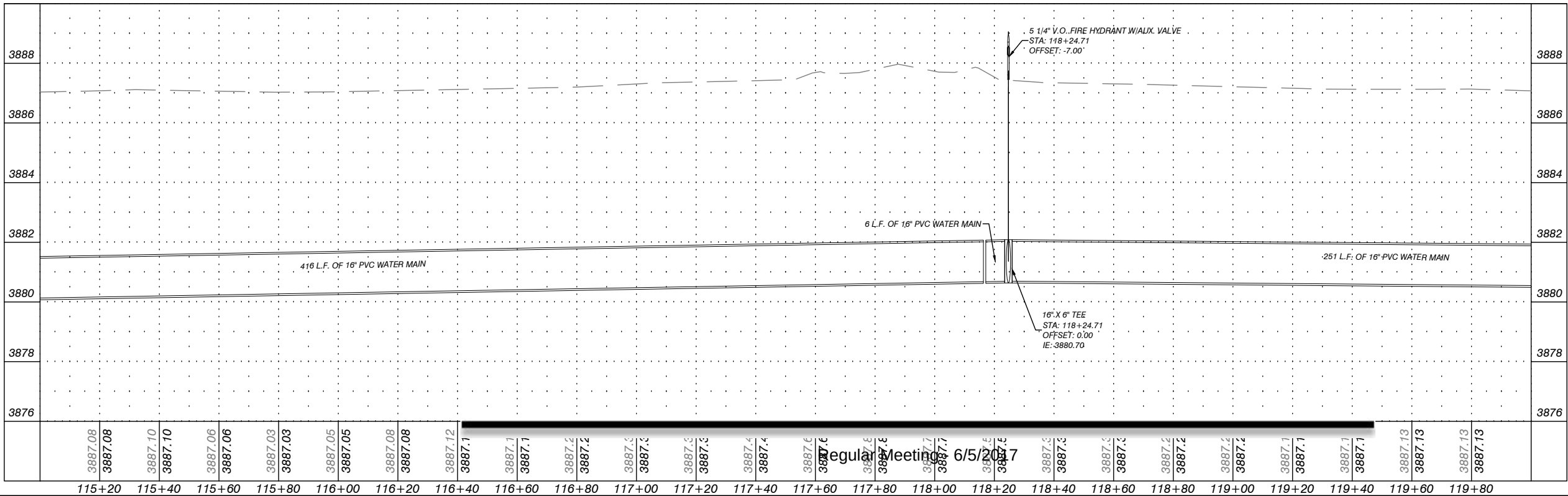
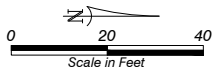
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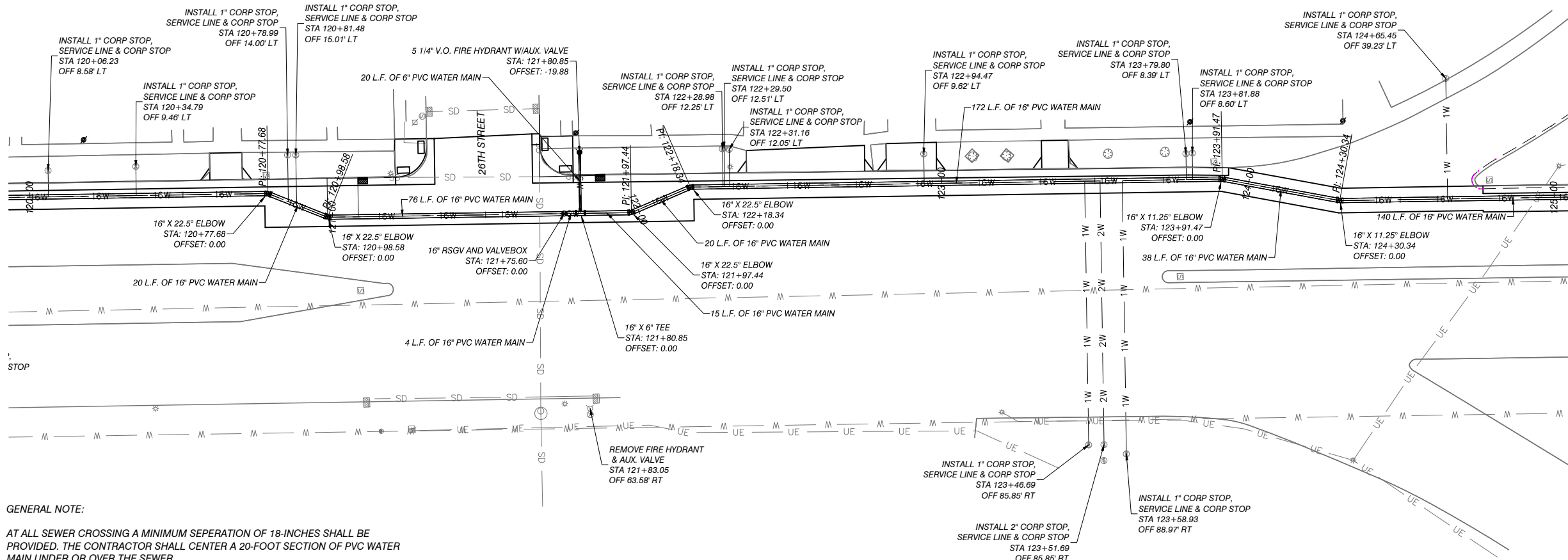
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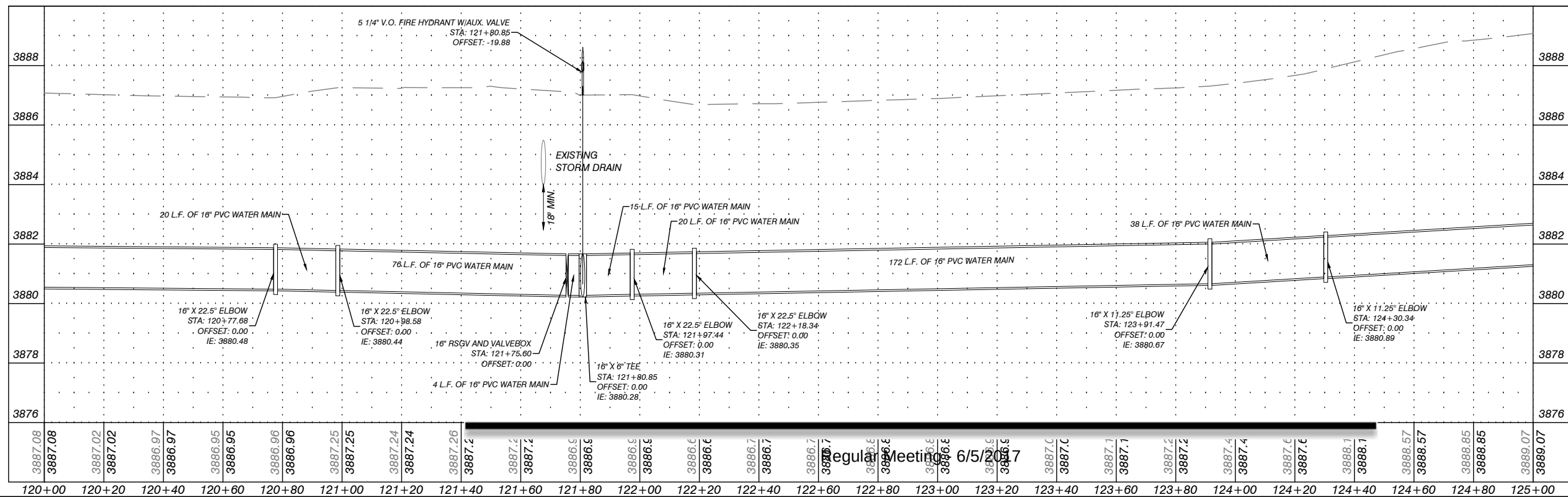
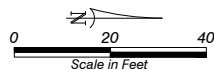
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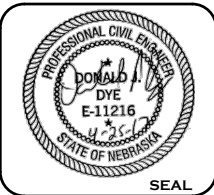
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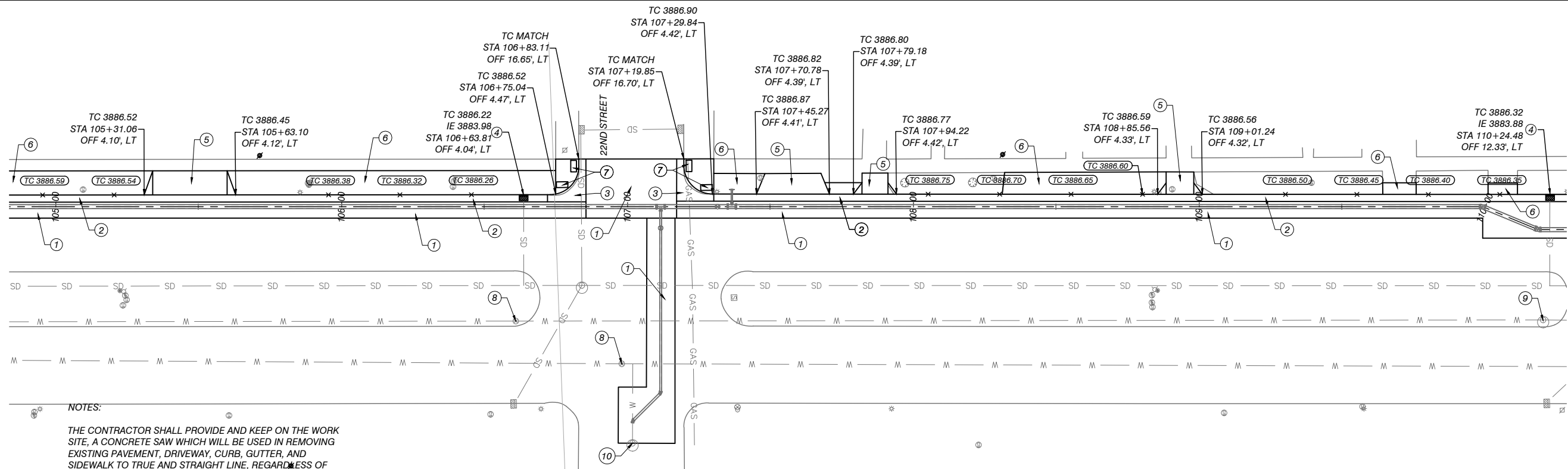
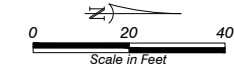
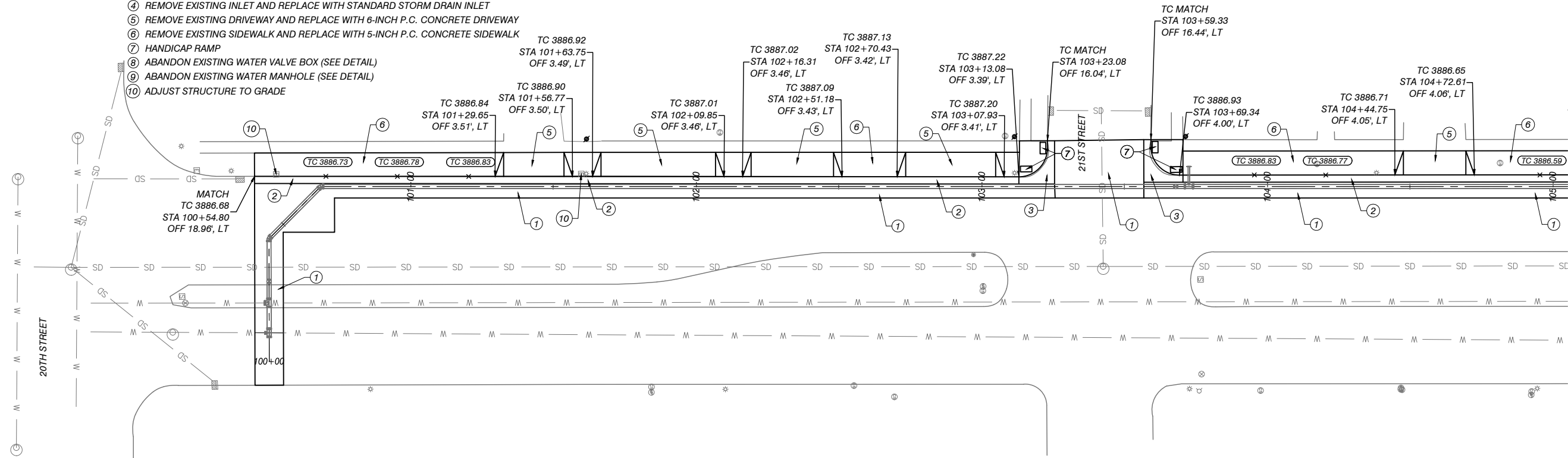
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SHEET 7 OF 13
W-5

- ① REMOVE EXISTING PAVEMENT AND REPLACE WITH 8-INCH P.C. CONCRETE PAVEMENT
- ② REMOVE EXISTING CURB AND GUTTER AND REPLACE WITH 30-INCH P.C. CONCRETE CURB & GUTTER
- ③ REMOVE EXISTING RADIUS AND REPLACE WITH 10-FOOT P.C. CONCRETE INTERSECTION RADIUS
- ④ REMOVE EXISTING INLET AND REPLACE WITH STANDARD STORM DRAIN INLET
- ⑤ REMOVE EXISTING DRIVEWAY AND REPLACE WITH 6-INCH P.C. CONCRETE DRIVEWAY
- ⑥ REMOVE EXISTING SIDEWALK AND REPLACE WITH 5-INCH P.C. CONCRETE SIDEWALK
- ⑦ HANDICAP RAMP
- ⑧ ABANDON EXISTING WATER VALVE BOX (SEE DETAIL)
- ⑨ ABANDON EXISTING WATER MANHOLE (SEE DETAIL)
- ⑩ ADJUST STRUCTURE TO GRADE



NOTES:

THE CONTRACTOR SHALL PROVIDE AND KEEP ON THE WORK SITE, A CONCRETE SAW WHICH WILL BE USED IN REMOVING EXISTING PAVEMENT, DRIVEWAY, CURB, GUTTER, AND SIDEWALK TO TRUE AND STRAIGHT LINE, REGARDLESS OF JOINTING IN SUCH SURFACES. ALL SAW CUTS SHALL BE FULL DEPTH TO PREVENT DAMAGE TO ADJACENT PANELS. THERE SHALL BE NO DIRECT PAYMENT FOR SAW CUTTING IT SHALL BE SUBSIDIARY TO REMOVALS.

ALL REMOVAL ITEMS SHALL BE PAID UNDER THE REMOVAL PAY ITEM. ALL REPLACEMENT ITEMS SHALL BE PAID FOR UNDER THE CORRESPONDING PAY ITEM.

MEDIAN CURB AND COI BROADWAY CROSSINGS SHALL BE PAID FOR AS 8-INCH PAVEMENT.

EXTREME CARE SHALL BE TAKEN BY THE CONTRACTOR TO PREVENT DAMAGE TO ANY ADJACENT CONCRETE/PAVEMENT, UTILITIES, VEGETATION, AND ALL OTHER OBJECTS THAT ARE TO REMAIN IN PLACE.

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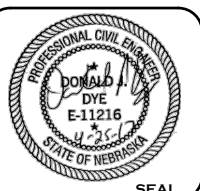


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 CONSTRUCTION PLANS**

CLIENT: CITY OF SCOTTSBLUFF

PROJECT NUMBER:
 RM150430-00
PROJECT DATE:
 04-20-17
PROJECT MGR:
 D.J.D.
PROJECT TEAM:
 D.D./D.B./G.S.

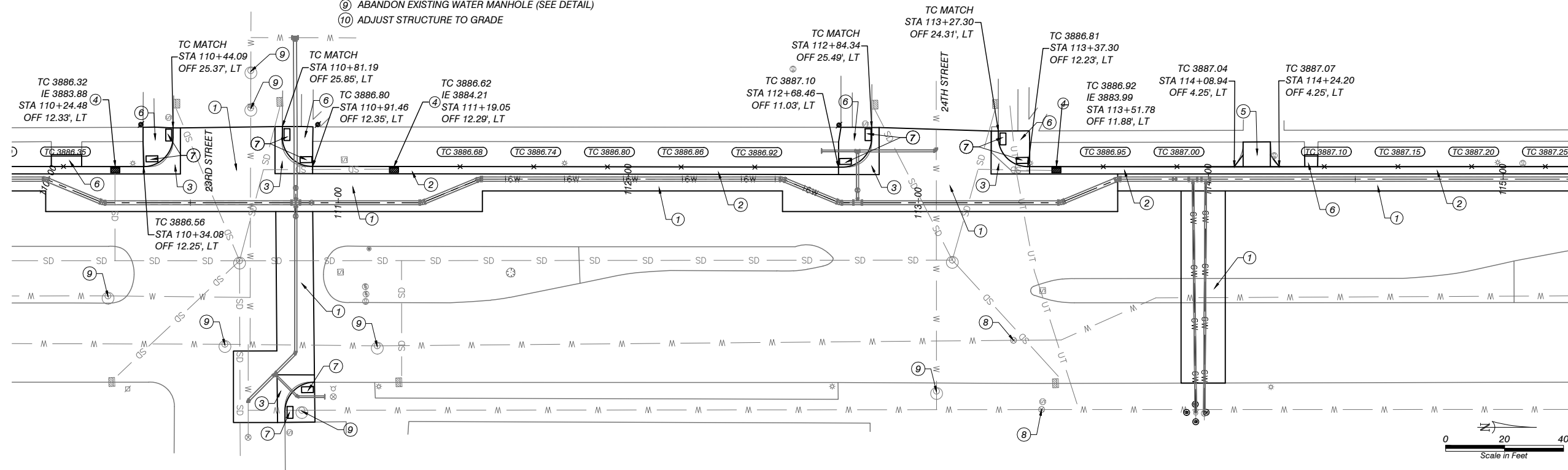


DATE	REVISION

SHEET 9 OF 13

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- ① REMOVE EXISTING PAVEMENT AND REPLACE WITH 8-INCH P.C. CONCRETE PAVEMENT
- ② REMOVE EXISTING CURB AND GUTTER AND REPLACE WITH 30-INCH P.C. CONCRETE CURB & GUTTER
- ③ REMOVE EXISTING RADIUS AND REPLACE WITH 10-FOOT P.C. CONCRETE INTERSECTION RADIUS
- ④ REMOVE EXISTING INLET AND REPLACE WITH STANDARD STORM DRAIN INLET
- ⑤ REMOVE EXISTING DRIVEWAY AND REPLACE WITH 6-INCH P.C. CONCRETE DRIVEWAY
- ⑥ REMOVE EXISTING SIDEWALK AND REPLACE WITH 5-INCH P.C. CONCRETE SIDEWALK
- ⑦ HANDICAP RAMP
- ⑧ ABANDON EXISTING WATER VALVE BOX (SEE DETAIL)
- ⑨ ABANDON EXISTING WATER MANHOLE (SEE DETAIL)
- ⑩ ADJUST STRUCTURE TO GRADE



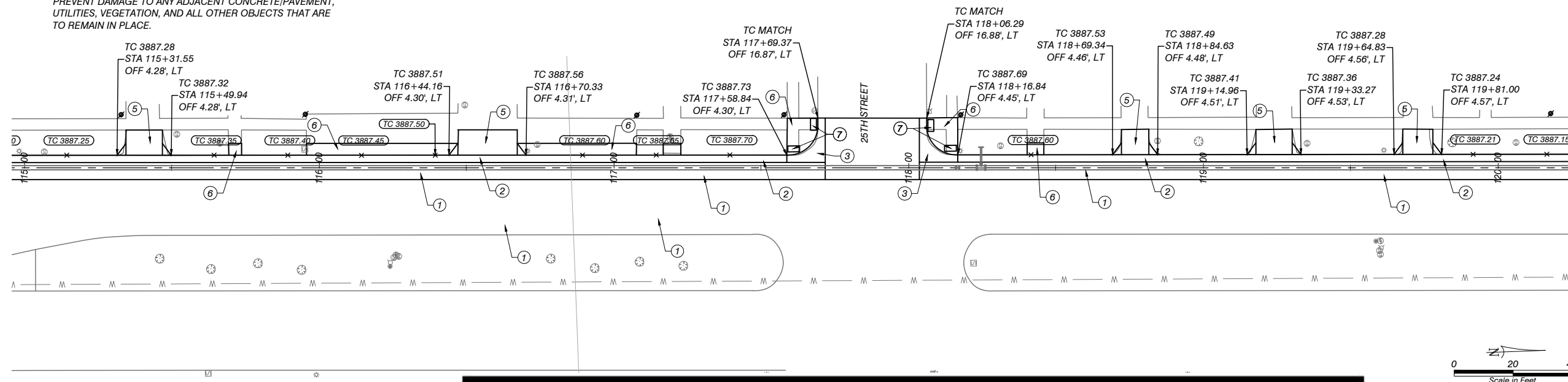
NOTES:

THE CONTRACTOR SHALL PROVIDE AND KEEP ON THE WORK SITE, A CONCRETE SAW WHICH WILL BE USED IN REMOVING EXISTING PAVEMENT, DRIVEWAY, CURB, GUTTER, AND SIDEWALK TO TRUE AND STRAIGHT LINE, REGARDLESS OF JOINTING IN SUCH SURFACES. ALL SAW CUTS SHALL BE FULL DEPTH TO PREVENT DAMAGE TO ADJACENT PANELS. THERE SHALL BE NO DIRECT PAYMENT FOR SAW CUTTING IT SHALL BE SUBSIDIARY TO REMOVALS.

EXTREME CARE SHALL BE TAKEN BY THE CONTRACTOR TO PREVENT DAMAGE TO ANY ADJACENT CONCRETE/PAVEMENT, UTILITIES, VEGETATION, AND ALL OTHER OBJECTS THAT ARE TO REMAIN IN PLACE.

ALL REMOVAL ITEMS SHALL BE PAID UNDER THE REMOVAL PAY ITEM. ALL REPLACEMENT ITEMS SHALL BE PAID FOR UNDER THE CORRESPONDING PAY ITEM.

MEDIAN CURB AND CONCRETE ISLANDS REMOVED ON BROADWAY CROSSINGS SHALL BE PAID FOR AS 8-INCH PAVEMENT.



M. C. SCHAFF & ASSOCIATES, INC.
818 SOUTH BELTLINE HIGHWAY EAST
SCOTTSBLUFF, NEBRASKA 69361

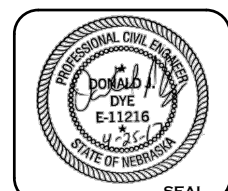


ENGINEERS ♦ PLANNERS ♦ DESIGNERS ♦ LAND SURVEYORS
 PH: 308-635-1926 FAX: 308-635-7807 INTERNET: WWW.MCSCHAFF.COM

**PROJECT: BROADWAY WATER MAIN
 REPLACEMENT PROJECT
 BETWEEN 20TH AND 27TH
 CONSTRUCTION PLANS**

CLIENT: CITY OF SCOTTSBLUFF

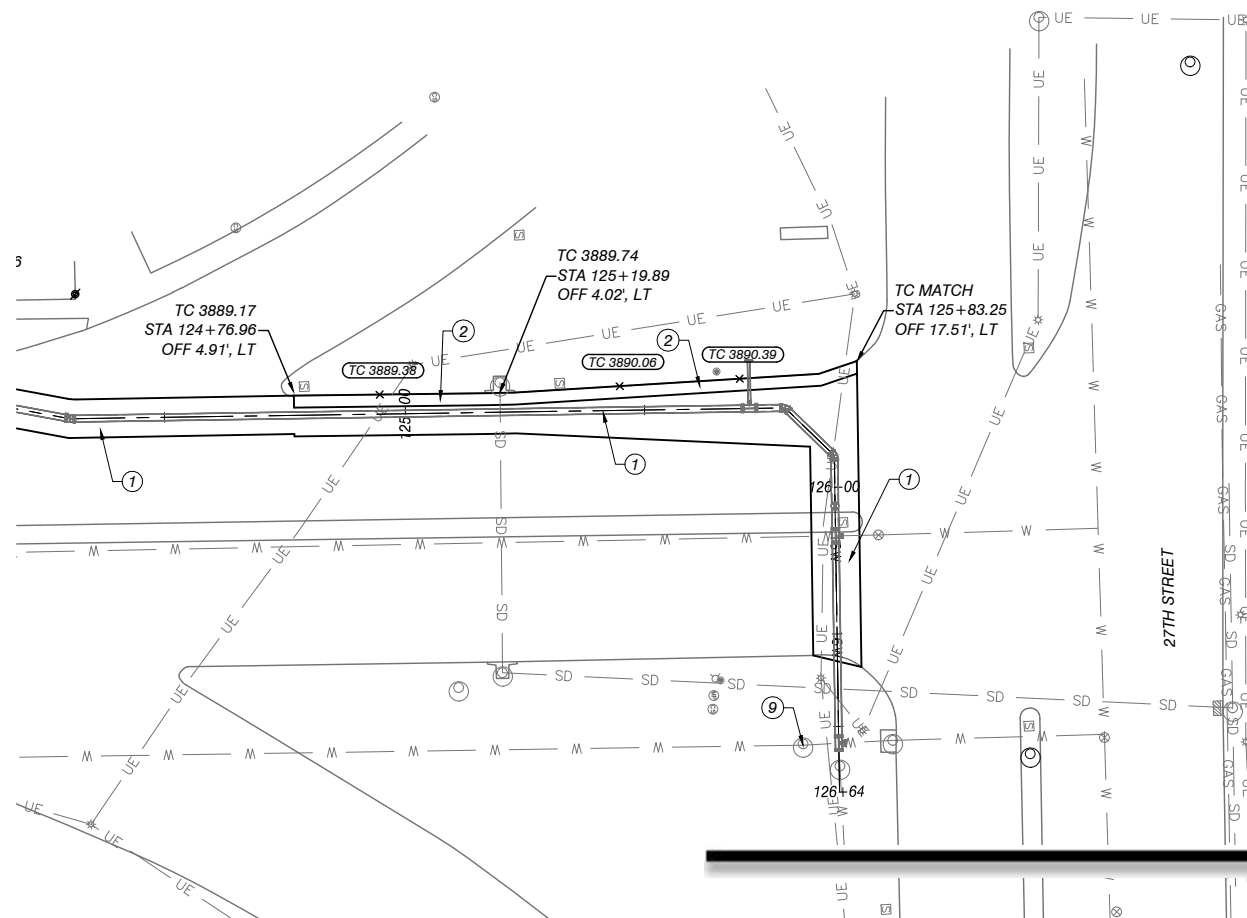
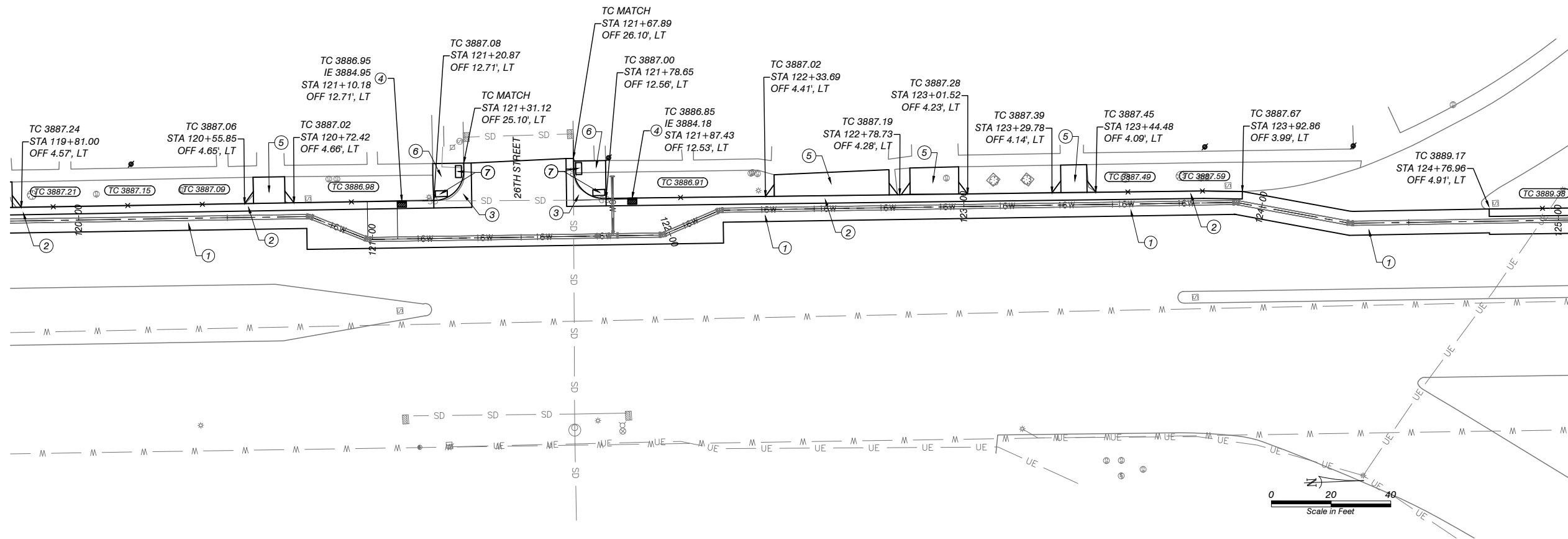
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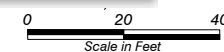
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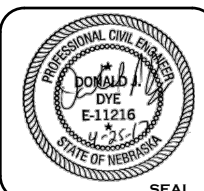
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PROJECT: BROADWAY WATER MAIN REPLACEMENT PROJECT BETWEEN 20TH AND 27TH CONSTRUCTION PLANS

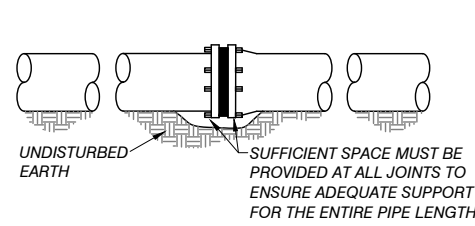
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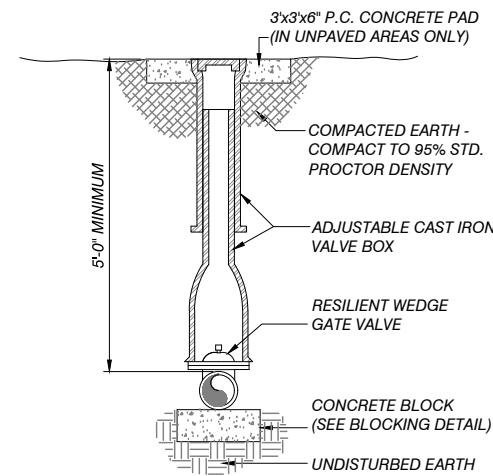


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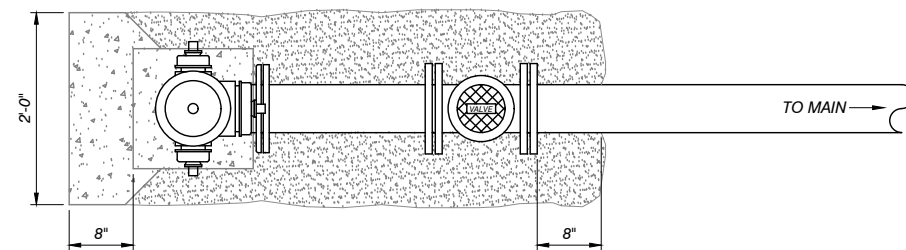
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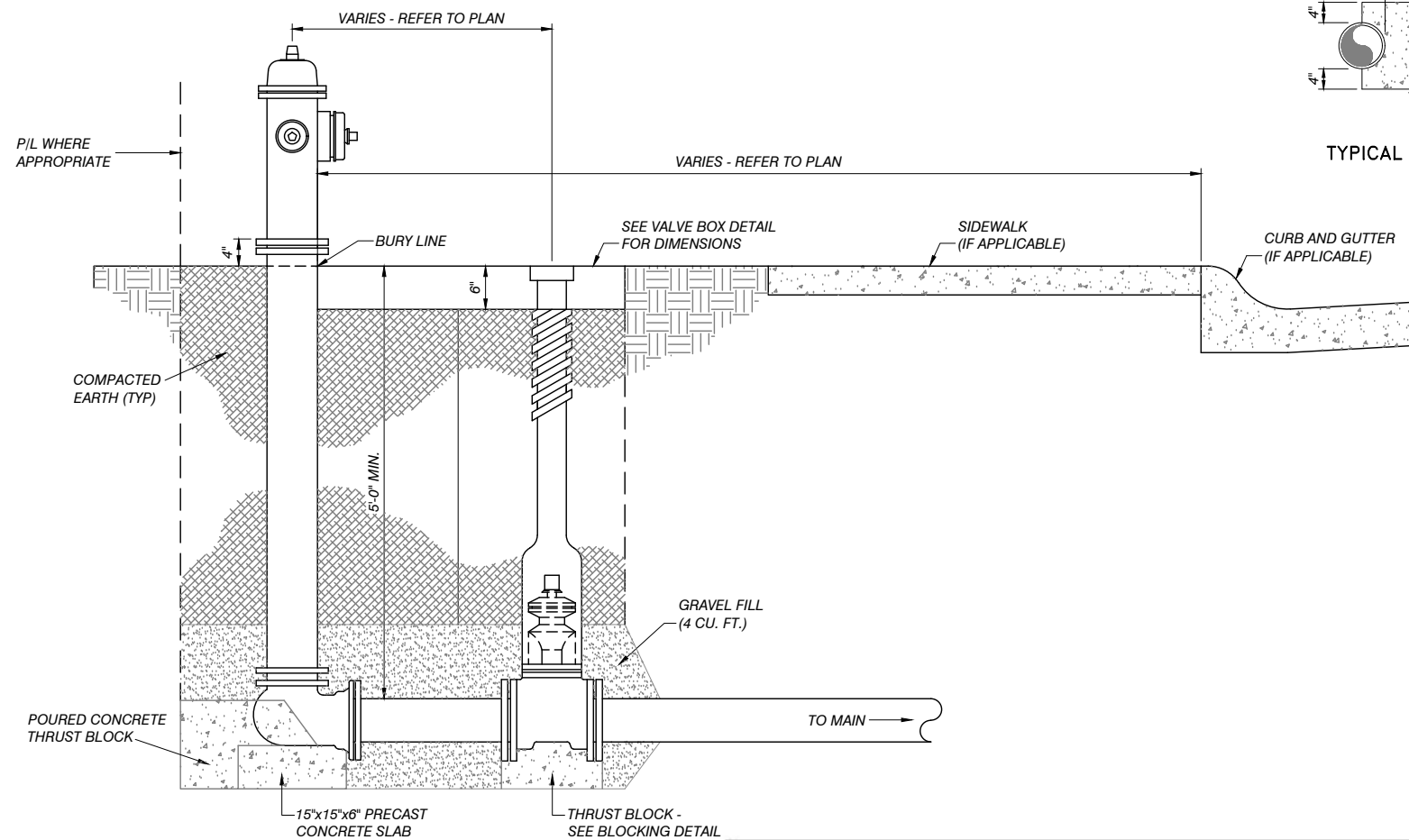
BEDDING DETAIL



GATE VALVE IN A VALVE BOX

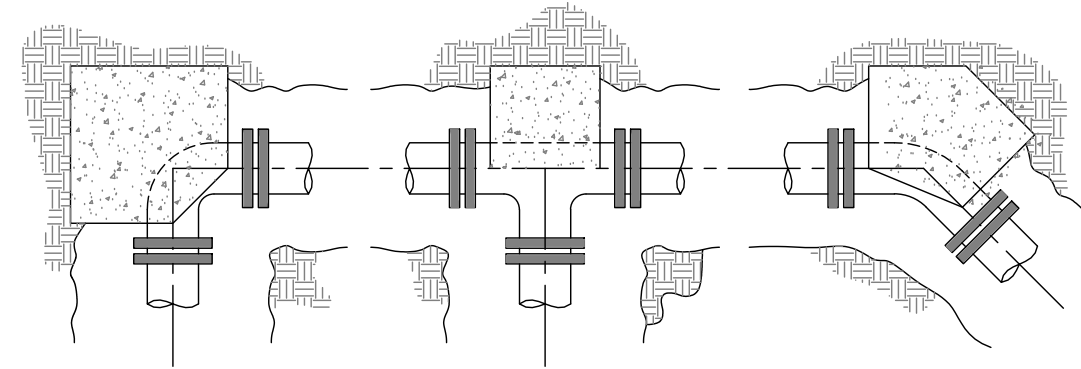


PLAN VIEW

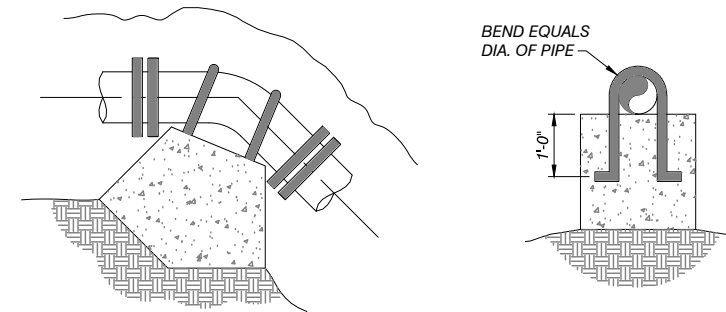


SIDE VIEW

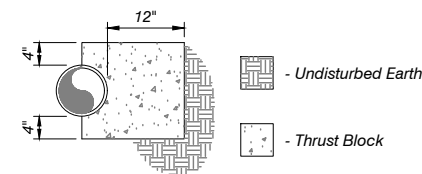
FIRE HYDRANT SETTING



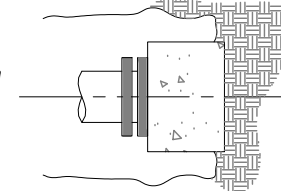
TYPICAL CROSS SECTION OF HORIZONTAL ELBOWS, TEE'S AND BENDS



TYPICAL CROSS SECTION OF VERTICAL BEND



TYPICAL CROSS SECTION



NOTES:

PLACE DOUBLE LAYER OF TAR PAPER BETWEEN CONCRETE BLOCK AND THE PLUG OR CAP.

ALL JOINTS, BOLTS, ETC. SHALL REMAIN FREE FROM CONCRETE AND SHALL BE OTHERWISE ACCESSIBLE.

ALL BLOCKS SHALL BE PLACED AGAINST UNDISTURBED EARTH.

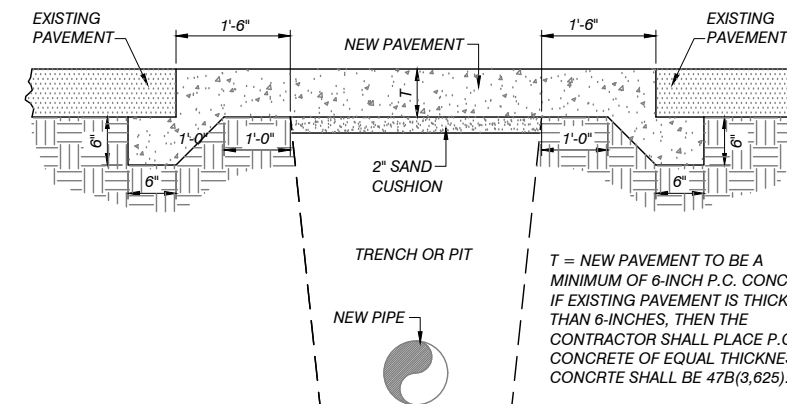
BLOCKS SHALL BE CAST IN PLACE CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI AT 28 DAYS, UNLESS OTHERWISE SPECIFIED.

MINIMUM AREA IN SQUARE FEET OF THRUST BLOCK ON UNDISTURBED TRENCH BANK

PIPE SIZE (INCHES)	90° BEND	45° BEND	DEAD END
4	2	2	2
6	3	3	3
8	5	5	5
10	8	8	8
12	12	12	12
14	16	16	16
16	20	20	20

MINIMUM THICKNESS OF THRUST BLOCK: 18"

WATER MAIN BLOCKING DETAIL



CONCRETE PAVEMENT REPLACEMENT DETAIL

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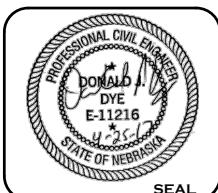


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PROJECT: BROADWAY WATER MAIN REPLACEMENT PROJECT BETWEEN 20TH AND 27TH STANDARD DETAILS

CLIENT: CITY OF SCOTTSBLUFF

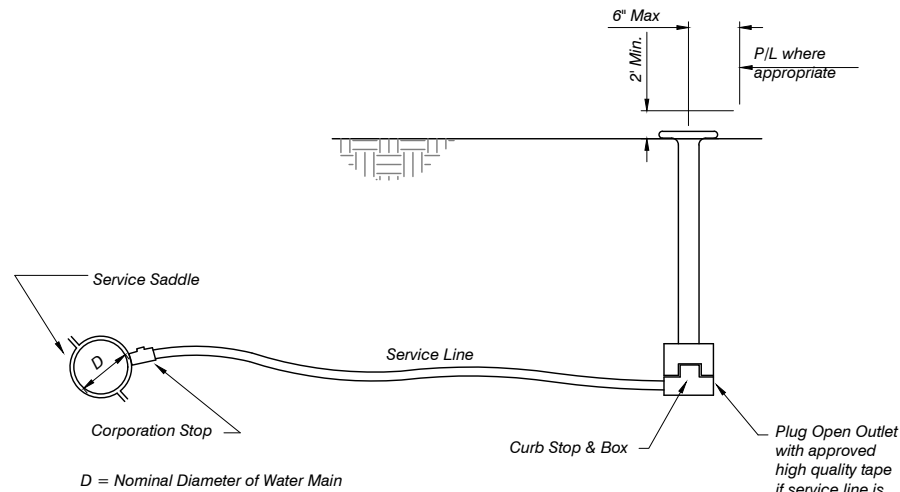
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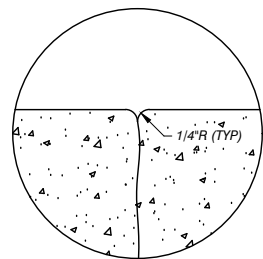
SHEET 9 OF 10

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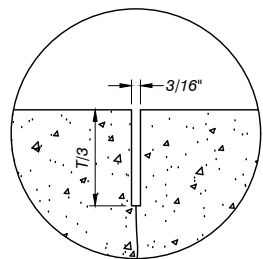
DETAIL OF WATER SERVICE LINE

Not to Scale

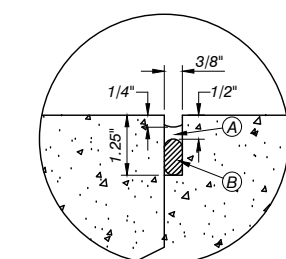


A TOOLED JOINT SHALL HAVE A WEAKENED PLANE INDUCED AT THE JOINT BY SLICING THE PAVEMENT ALONG THE JOINT WITH A MASON'S TROWEL (OR OTHER SUITABLE METHOD)

TYPICAL TOOLED CURB, SIDEWALK, DRIVEWAY OR MEDIAN JOINT



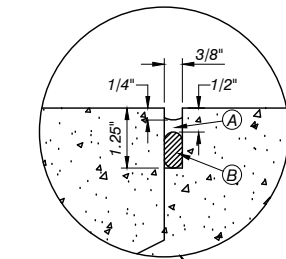
TYPICAL SAWN CURB, SIDEWALK, DRIVEWAY OR MEDIAN JOINT



(A) JOINT SEALANT (B) 1/2" CLOSED CELL BACKER ROD



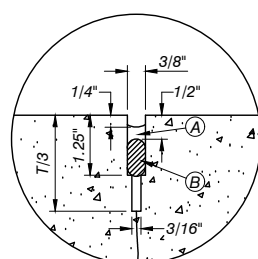
TYPICAL TRANSVERSE ROADWAY CONSTRUCTION JOINT



(A) JOINT SEALANT (B) 1/2" CLOSED CELL BACKER ROD



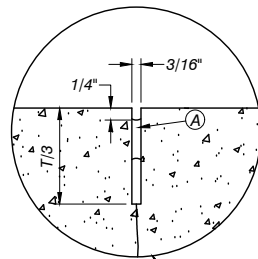
TYPICAL LONGITUDINAL ROADWAY CONSTRUCTION JOINT



(A) JOINT SEALANT (B) 1/2" CLOSED CELL BACKER ROD



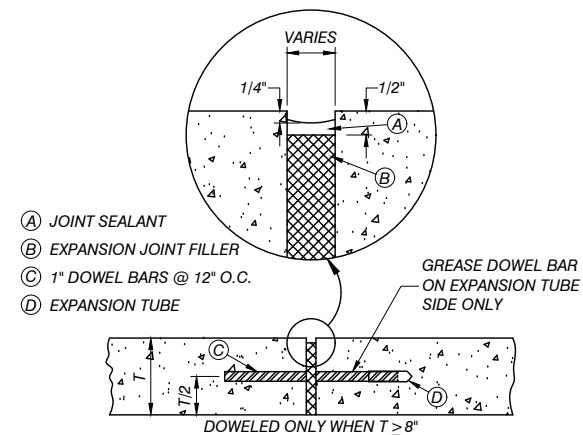
TYPICAL SAWN TRANSVERSE ROADWAY CONTRACTION JOINT



(A) JOINT SEALANT (B) 1/2" CLOSED CELL BACKER ROD



TYPICAL SAWN LONGITUDINAL ROADWAY CONTRACTION JOINT



TYPICAL EXPANSION JOINT

CONCRETE JOINTING NOTES

CONCRETE PAVEMENT JOINTS SHALL NOT BE PAID FOR DIRECTLY BUT SHALL BE SUBSIDIARY TO THE PAVEMENT.

TRANSVERSE ROADWAY JOINTS SHALL BE SPACED AT 12 FEET EXCEPT AT LOCATIONS SUCH AS UTILITY FIXTURES AND INTERSECTION RADII WHERE TRANSVERSE JOINT SPACING MAY VARY FROM 9.5 TO 14.5 FEET.

TRANSVERSE CURB AND GUTTER JOINTS SHALL MATCH THE TRANSVERSE ROADWAY JOINTS.

LONGITUDINAL ROADWAY JOINTS SHALL EVENLY DIVIDE THE WIDTH OF THE ROADWAY, WITH A SPACING OF BETWEEN 9.5 AND 14.5 FEET. AS AN OPTION, A LONGITUDINAL CONSTRUCTION JOINT MAY BE PLACED 30 INCHES FROM THE BACK OF CURB. WHERE APPLICABLE, LONGITUDINAL JOINTS SHALL NOT BE PLACED WHERE THEY WILL DIRECTLY COINCIDE WITH ANY LONGITUDINAL PAVEMENT MARKINGS. INSTEAD, LONGITUDINAL JOINTS SHALL BE PLACED SUCH THAT THERE IS A 1 TO 2 INCH GAP BETWEEN THE JOINT AND THE EDGE OF THE PAVEMENT MARKING.

DRIVEWAY, SIDEWALK AND MEDIAN JOINTS SHALL RESULT IN RECTANGULAR PANELS WITH EACH EDGE MEASURING BETWEEN 12 AND 24 TIMES THE SLAB THICKNESS. ADDITIONALLY, THE LENGTH ANY PANEL SHALL NOT EXCEED 1.5 TIMES THE WIDTH.

TRANSVERSE ROADWAY, DRIVEWAY, SIDEWALK AND MEDIAN JOINTS SHALL BE PERPENDICULAR TO BOTH THE SURFACE OF THE SUBGRADE AND THE DIRECTION OF TRAVEL.

IN GENERAL, ALL JOINTS SHALL INTERSECT AT 90° ANGLES, EXCEPT AT LOCATIONS SUCH AS UTILITY FIXTURES AND INTERSECTION RADII. WHEREVER JOINTS (IF EXTENDED) WOULD INTERSECT AT AN ANGLE OF LESS THAN 60°, A DOG LEG OF LUG SHALL BE CONSTRUCTED AS SHOWN IN THE DETAIL.

ROADWAY EXPANSION JOINTS SHALL BE CONTINUOUS FROM BACK OF CURB TO BACK OF CURB, AND CONTINUOUS THROUGH MEDIANS. ROADWAY EXPANSION JOINTS SHALL BE SPACED AT INTERVALS NOT TO EXCEED 300 FEET, AND JUST PRIOR TO ALL ROADWAY INTERSECTIONS, OR AS SHOWN ON THE PAVING PLANS. EXPANSION JOINTS OUTSIDE THE ROADWAY (INCLUDING MEDIANS) SHALL BE PLACED AT INTERVALS NOT TO EXCEED 100 FEET, OR AS SHOWN IN THE DETAILS OR ON THE PAVING PLANS. EXPANSION JOINTS WITHIN THE ROADWAY SHALL HAVE DOWEL BARS AS SHOWN IN THE DETAILS. DOWEL BARS SHALL BE SUPPORTED AT MID-DEPTH OF THE SLAB AT ALL EXPANSION JOINTS BY THE USE OF CHAIRS AND SPACER BARS. CHAIRS SHALL BE PLACED NO FURTHER THAN 30 INCHES ON CENTER WITH THREE NO. 4 SPACER BARS. ALL DOWEL BARS SHALL BE WIRED TO ALL SPACER BARS. ROADWAY EXPANSION JOINTS WITH DOWEL BARS SHALL BE PLACED PERPENDICULAR TO BOTH THE ROADWAY AND THE ROADBED. DOWEL BARS SHALL BE SECURED PARALLEL TO BOTH THE ROADWAY AND ROADBED. EXPANSION JOINTS OUTSIDE THE ROADWAY SHALL NOT HAVE DOWEL BARS. EXPANSION JOINT FILLER SHALL BE 1 INCH THICK FOR ALL EXPANSION JOINTS PERPENDICULAR TO THE ROADWAY, AND 1/2 INCH THICK WHERE PLACED PARALLEL WITH THE ROADWAY. THE DEPTH OF THE EXPANSION JOINT FILLER SHALL BE 1/2 INCH LESS THAN THAT OF THE THINNEST ADJACENT PAVEMENT.

ISOLATION JOINTS SHALL BE PLACED BETWEEN ANY STRUCTURES, SUCH AS MANHOLES, INLETS, LIGHT POLES AND THE ADJACENT PAVEMENT. ALL ISOLATION JOINTS SHALL BE 1/2 INCH THICK AND

ALL ROADWAY JOINTS SHALL BE SEALED WITH A JOINT SEALANT THAT MEETS THE REQUIREMENTS SET FORTH IN THE SPECIFICATIONS FOR THIS PROJECT. JOINTS OUTSIDE THE FLOW LINE OF THE CURB, NEED NOT BE SEALED, INCLUDING MEDIAN JOINTS.

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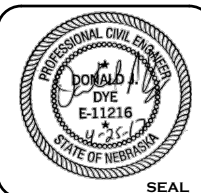


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