

STATE OF SOUTH DAKOTA  
 DEPARTMENT OF TRANSPORTATION  
 PLANS FOR PROPOSED  
**PROJECT 2211 01441( )**  
**US HIGHWAY 18**  
**SD HIGHWAY 407**  
**OGLALA LAKOTA COUNTY**  
 WATER MAIN IMPROVEMENTS  
 PCN X06L

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	2211 01441( )	1	29
Plotting Date: 6/25/2024		Revised: 8/6/2024 JRW	

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**END EM-NH-CR 0018(195)103**

Station 228+00.00 = Station 15+57.80 on BRF-NH 0018(71)103 Approximately 915.43 Feet South and 837.94 Feet West of the Northwest corner of Section 7 - Township 35 North - Range 44 West MRM 103.34

**BEGIN EM-NH-CR 0018(195)103**

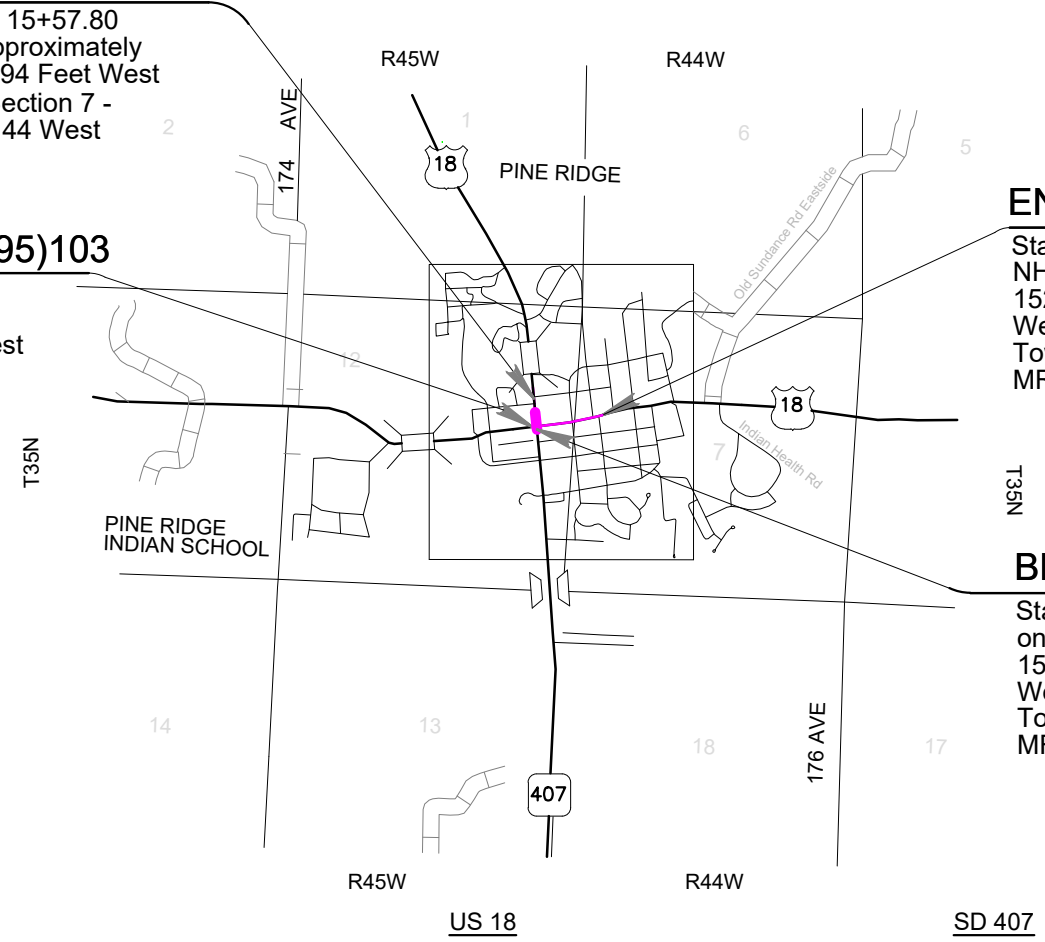
Station 99+00 US 18 Approximately 2201.00 Feet South and 822.08 Feet West of the Northwest corner of Section 7 - Township 35 North - Range 44 West

**END EM-NH-CR 0018(195)103**

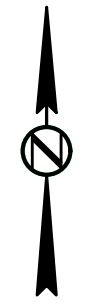
Station 136+50.00 = Station 36+13.00 on NH-PH 0018(177)104 Approximately 1528.91 Feet South and 2290.88 Feet West of the Northeast corner of Section 7 - Township 35 North - Range 44 West MRM = 104.00+0.289

**BEGIN P 0407(00)01**

Station 200+00 = Station 81+08.14 on HES0407(02)0 Approximately 1581.84 Feet North and 409.82 Feet West of the Southeast corner of Section 12 - Township 35 North - Range 45 West MRM = 1.53



	<u>US 18</u>	<u>SD 407</u>	
GROSS LENGTH	5132.20 FEET	0.972 MILES	1317.80 FEET 0.250 MILES
LENGTH OF EXCEPTIONS	0.00 FEET	0.000 MILES	0.00 FEET 0.000 MILES
NET LENGTH	5132.20 FEET	0.972 MILES	1317.80 FEET 0.250 MILES



FOR BIDDING PURPOSES ONLY



LEGEND		
EXISTING	ITEM	PROPOSED
	FIRE HYDRANT	
	GATE VALVE	
	CURB STOP	
	YARD HYDRANT	
	BEND	
	TEE	
	CROSS	
	REDUCER	
	COUPLER	
	VERTICAL BEND	
	WATER MANHOLE	
	SPRINKLER HEAD	
	WATER METER	
	CATHODIC TEST STATION	
	TRACER WIRE ACCESS BOX	
	SANITARY MANHOLE	
	SANITARY FORCE MAIN MANHOLE	
	SANITARY MANHOLE W. VALVE	
	CLEANOUT	
	STORM SEWER MANHOLE	
	CURB INLET	
	CATCH BASIN	
	POWER POLE	
	GUY WIRE	
	LIGHT POLE	
	ELECTRICAL PEDESTAL	
	ELECTRICAL METER	
	ELECTRICAL JUNCTION (PULL BOX)	
	ELECTRICAL BOX	
	ELECTRICAL OUTLET/PLUG-IN	
	ELECTRICAL MANHOLE	
	TELEPHONE MANHOLE	
	TELEPHONE PEDESTAL	
	CABLE TV PEDESTAL	
	FIBER OPTIC PEDESTAL	
	GAS METER	
	GAS MANHOLE	
	FUEL DISPENSER	
	UTILITY MARKER	
	GAS VENT PIPE	
	TREES CONIFEROUS/ DECIDUOUS	
	BUSH/SHRUB	
	SIGN	
	CONTROL POINT	
	BENCHMARK	
	PIPE CAP	
	MAIL BOX	
	PROPERTY PIN	

LEGEND		
EXISTING	ITEM	PROPOSED
	ASPHALT EDGE	
	BUILDING CANOPY	
	CABLE TV - UNDERGROUND	
	CENTERLINE	
	CONSTRUCTION LIMITS	
	ELECTRICAL - OVERHEAD	
	ELECTRICAL - UNDERGROUND	
	FENCE - BARBED WIRE	
	FENCE - CHAINLINK	
	FENCE - PLASTIC, VINYL	
	FENCE - WOOD	
	FENCE - WOVEN WIRE	
	FIBER - UNDERGROUND	
	GAS - UNDERGROUND	
	GRAVEL EDGE	
	SANITARY SEWER FORCE MAIN	
	SANITARY SEWER SERVICE LINE	
	SANITARY SEWER (LESS THAN 24")	
	SANITARY SEWER (24" OR MORE)	
	STORM SEWER EDGEDRAIN	
	STORM SEWER (LESS THAN 24")	
	STORM SEWER (24" OR MORE)	
	TELEPHONE - OVERHEAD	
	TELEPHONE - UNDERGROUND	
	WATER SERVICE LINE	
	WATER MAIN	

AC ASPHALT CEMENT	EXC EXCAVATION
AGGR AGGREGATE	FES FLARED END SECTION
AHD AHEAD	FF FINISHED FLOOR
APPROX APPROXIMATE OR APPROXIMATELY	FG FINISHED GRADE
ARV AIR RELEASE VALVE	GR GRAVEL
ASPH ASPHALT	HDPE HIGH DENSITY POLYETHYLENE PIPE
BIT BITUMINOUS	HORZ HORIZONTAL
BK BACK	HP HIGH POINT
BM BENCH MARK	HYD HYDRANT
BLDG BUILDING	INST INSTALL
C&G CURB & GUTTER	INV INVERT
CI CAST IRON	JB JUNCTION BOX
CL CENTERLINE	L LENGTH
CMES CORRUGATED METAL END SECTION	LF LINEAR OR LINEAL FEET
CMP CORRUGATED METAL PIPE	LONG LONGITUDINAL
CP CONTROL POINT	LP LOW POINT OR LIGHT POLE
CPP CORRUGATED PLASTIC PIPE	LS LUMP SUM
CONST CONSTRUCTION	LT LEFT
CONC CONCRETE	MAX MAXIMUM
CPLG COUPLING	ME MATCH EXISTING
CS CURB STOP	MH MANHOLE
CY CUBIC YARD	MIN MINIMUM
D DEGREE OF CURVATURE	PVC POLYVINYL CHLORIDE PIPE
DB DITCH BLOCK	P & P PLAN & PROFILE
DEFL DEFLECTION	PC POINT OF CURVATURE
DG DITCH GRADE	PCC POINT OF COMPOUND CURVE
EA EACH	PI POINT OF INTERSECTION
EL ELEVATION	PIV POST INDICATOR VALVE
ELEC ELECTRIC	POC POINT ON CURVE
EMB EMBANKMENT	POT POINT ON TANGENT
EQ EQUATION	PP POWER POLE
ES END SECTION	PRC POINT OF REVERSE CURVATURE
ESMT EASEMENT	PRV PRESSURE REDUCING VALVE
EX EXISTING	PT POINT OF TANGENCY

PVI POINT OF VERTICAL INTERSECTION
R RADIUS
RCES REINFORCED CONCRETE END SECTION
RCP REINFORCED CONCRETE PIPE
RDWY ROADWAY
RR RAILROAD
RT RIGHT
R/W ROW RIGHT-OF-WAY
SALV SALVAGE
SAN SANITARY
SE SUPERELEVATION
SEC SECTION
SF SQUARE FEET
SHLDR SHOULDER
SSD STOPPING SIGHT DISTANCE
SEC LINE SECTION LINE
SPEC SPECIFICATION
STA STATION
STD STANDARD
STRUCT STRUCTURE
SURV SURVEY
SW SIDEWALK
SY SQUARE YARD
T TANGENT
TA TOP OF ASPHALT
TBC TOP BACK OF CURB
TC TOP OF CONCRETE
TEL TELEPHONE
TEMP TEMPORARY
THEOR THEORETICAL
TP TOP OF PAVEMENT
TR TRAFFIC
VC VERTICAL CURVE
VCP VITRIFIED CLAY PIPE
VERT VERTICAL
WM WATER MAIN
WV WATER VALVE
XSEC CROSS SECTION

**PRIVATE UTILITY  
PROFILE VIEW LEGEND**

- T, T/F, TFO, UNDERGROUND FIBER OPTIC LINE
- UNDERGROUND POWER



**PINE RIDGE WATER IMPROVEMENTS**  
 OGLALA SIOUX TRIBE  
 PINE RIDGE, SOUTH DAKOTA  
**LEGEND & ABBREVIATIONS**

NO.	DATE	REVISION

DRAFTED	MJK
REVIEWED	JRW
PROJECT NUMBER	2211-01441
ISSUE DATE	6/25/2024



Non-Section Method

Table with 4 columns: BID ITEM NUMBER, ITEM, QUANTITY, UNIT. Lists various construction items like Mobilization, Staking, Grading, and Pipe Installation.

Non-Section Method

Table with 4 columns: BID ITEM NUMBER, ITEM, QUANTITY, UNIT. Lists items like Temporary Water Service, Reconnect Water Service, Abandon Water Main, etc.

\* - Denotes Non-Participating

Abandon Water Main Summary Table. Item Description, Quantity, Unit. Includes 451E6103 - Abandon Water Main with sub-items for 4, 6, and 8 inch mains.

Pipe Bend Summary Table. Item Description, Quantity, Unit. Includes 451E3004 - 4" Pipe Bend, 451E3006 - 6" Pipe Bend, and 451E3008 - 8" Pipe Bend.

Revision table with columns: NO., DATE, REVISION.

Project information table with fields: DRAFTED (MJK), REVIEWED (JRW), PROJECT NUMBER (2211-01441), ISSUE DATE (6/25/2024).

PINE RIDGE WATER IMPROVEMENTS
OGLALA SIOUX TRIBE
PINE RIDGE, SOUTH DAKOTA
SUMMARY OF QUANTITIES





**GENERAL NOTES:**

ALL WORK REQUIREMENTS SHOWN ON THESE DRAWINGS AND NOT OTHERWISE DETAILED MUST BE ACCOMPLISHED AS SPECIFIED IN THE LATEST SPECIFICATIONS FROM THE STATE OF SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION (SDDOT).

CONTRACTOR WILL CONDUCT HIS WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, DEPT OF LABOR.

1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL UTILITIES AND PROTECT THEM FROM DAMAGE. THE LOCATION OF ALL AERIAL AND UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE AND SOME ITEMS MAY NOT BE INDICATED IN THE PLANS. UNDERGROUND UTILITIES, WHETHER INDICATED OR NOT, WILL BE LOCATED AND FLAGGED BY THE UTILITIES AT THE REQUEST OF THE CONTRACTOR. THE CONTRACTOR MUST NOT BEGIN EXCAVATION IN THE AREA OF UNDERGROUND UTILITIES UNTIL ALL SUCH UTILITIES HAVE BEEN LOCATED AND IDENTIFIED AND THEN ONLY WITH EXTREME CARE TO AVOID ANY POSSIBILITY OF DAMAGE TO THE UTILITY FACILITY. THE CONTRACTOR MUST BEAR THE TOTAL EXPENSE OF REPAIR OR REPLACEMENT OF SAID UTILITIES DAMAGED BY OPERATION IN CONNECTION WITH EXECUTION OF THE WORK. THE CONTRACTOR MUST COORDINATE CONSTRUCTION EFFORTS WITH ALL LOCAL UTILITY COMPANIES PERTINENT TO THE WORK.

2. THE INFORMATION ON THESE DRAWINGS CONCERNING THE TYPE, SIZE AND LOCATION OF UTILITIES HAS BEEN BASED UPON THE INFORMATION AVAILABLE DURING TOPOGRAPHIC SURVEYS. SIZE AND TYPE OF UTILITIES WAS PROVIDED BY THE UTILITY OWNER. THE CONTRACTOR MUST BE RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITIES IN PLACE UNLESS THEY ARE SCHEDULED FOR RELOCATION. THE CONTRACTOR MUST COORDINATE ALL WORK WITH THE UTILITY COMPANIES. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS WORK.

3. THE CONTRACTOR MUST UTILIZE THE SOUTH DAKOTA ONE CALL NOTIFICATION PROCESS TO PROVIDE ADVANCE NOTICE OF AT LEAST 48 HOURS, EXCLUDING WEEKENDS AND HOLIDAYS, TO INFORM ALL SOUTH DAKOTA UNDERGROUND FACILITY OPERATORS OF INTENDED EXCAVATION. THE CONTRACTOR MUST CONTACT ALL UTILITY COMPANIES BEFORE WORK IS COMMENCED.

4. ALL WATER IMPROVEMENT PROJECT MATERIAL TO BE REMOVED FOR DISPOSAL MUST BECOME THE PROPERTY OF THE CONTRACTOR, UNLESS NOTED OTHERWISE, AND MUST BE DISPOSED OF IN ACCORDANCE WITH LOCAL & STATE REGULATIONS.

9. ALL BARRICADES, WARNING SIGNS, LIGHTS, DEVICES, ETC. FOR THE GUIDANCE AND PROTECTION OF TRAFFIC AND PEDESTRIANS MUST CONFORM TO THE LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

**SHOP DRAWINGS**

THE CONTRACTOR MUST SUBMIT ELECTRONIC PDF COPIES OF ALL WATER IMPROVEMENT PROJECT SUBMITTALS FOR REVIEW TO:

[james.ainslie@ths.gov](mailto:james.ainslie@ths.gov)

AFTER REVIEW, COPIES WILL BE RETURNED TO THE CONTRACTOR WITH ANY REVISIONS NOTED.

**CONTRACTOR FURNISHED PROGRESS SCHEDULES**

AT LEAST TWO WEEKS PRIOR TO THE START OF THE WATER IMPROVEMENT WORK, THE CONTRACTOR MUST FURNISH TWO COPIES OF A BAR CHART METHOD PROGRESS SCHEDULE. THE SCHEDULE MUST CONSIST OF A CONSTRUCTION SCHEDULE AND A BRIEF WRITTEN NARRATIVE. THE SCHEDULE MUST CONTAIN THE FOLLOWING INFORMATION:

- USE A TIME SCALE TO GRAPHICALLY SHOW PERCENTAGE OF WORK SCHEDULED FOR COMPLETION WITHIN THE CONTRACT COMPLETION REQUIREMENTS.
- DEFINE AND RELATE WORK ACTIVITIES TO CONTRACT PAY ITEMS.
- SHOW WORK ACTIVITIES (PRIME CONTRACTOR AND ALL SUBCONTRACTOR ACTIVITIES) IN THE ORDER THE WORK WILL BE PERFORMED INCLUDING SUBMITTALS, APPROVALS, DELIVERIES, TEMPORARY TRAFFIC CONTROL, AND PERMANENT SIGNING/STRIPING.
- SHOW ALL MAJOR WORK ACTIVITIES THAT ARE CONTROLLING FACTORS IN THE COMPLETION OF THE WORK.
- SHOW THE TIME REQUIRED FOR EACH ACTIVITY AND ITS RELATIONSHIP IN TIME TO OTHER ACTIVITIES.
- SHOW THE TOTAL EXPECTED TIME TO COMPLETE ALL WORK.
- SHOW THE EXPECTED WORK SHIFTS IN DAYS PER WEEK AND HOURS PER DAY AND THE DAYS WHEN WORK IS NOT EXPECTED TO BE PERFORMED. THE SCHEDULE MUST BE UPDATED, REVISED AND RESUBMITTED ON A MONTHLY INTERVAL UNTIL THE PROJECT IS SUBSTANTIALLY COMPLETE. THERE WILL BE NO DIRECT PAYMENT FOR THE CONTRACTOR-FURNISHED SCHEDULE. ALL COSTS ASSOCIATED WITH THE SCHEDULE MUST BE INCLUDED IN RELATED ITEMS. FAILURE TO PROPERLY SUBMIT THE REQUIRED CONSTRUCTION SCHEDULES WILL RESULT IN HOLDING OF PROGRESS PAYMENTS UNTIL AN APPROVED SCHEDULE IS RECEIVED.

**EXPLORATORY EXCAVATION**

PLANS REFLECT BEST AVAILABLE DATA AND ANY EXPLORATORY EXCAVATION TO IDENTIFY EXISTING SERVICE LINES, MAINS, PRIVATE UTILITIES, ETC. MUST BE CONSIDERED INCIDENTAL TO THE PROJECT. PLANS NOTE EXISTING SERVICES THAT WILL REQUIRE VERIFICATION OF LOCATION AND SIZE.

**CERTIFICATION AND TESTING**

SUBMITTALS AND CERTIFICATION DOCUMENTS RELATED TO THE WATER IMPROVEMENT PROJECT MUST BE PROVIDED TO THE ENGINEER FOR ALL MATERIALS DELIVERED TO THE SITE.

**TRENCH EXCAVATION AND BACKFILL**

THE CONTRACTOR MUST BE RESPONSIBLE FOR MAINTAINING A SAFE EXCAVATION COMPLYING WITH APPLICABLE STATE AND FEDERAL REGULATIONS. IT IS POSSIBLE THAT IN SOME AREAS SPECIAL FOUNDATIONS MAY BE REQUIRED TO PROVIDE ADEQUATE SUPPORT FOR THE PIPE. SUCH FOUNDATIONS WILL CONSIST OF SUB-EXCAVATION TO A DEPTH AS REQUIRED BY THE ENGINEER AND PLACEMENT OF FOUNDATION MATERIAL.

OPEN TRENCHES WILL NOT BE PERMITTED OVERNIGHT. DROP OFF AND SLOPE RESTRICTIONS LISTED IN THE SDDOT PLANS WILL APPLY TO ALL WATER AND SANITARY SEWER WORK AREAS. IF EXTRAORDINARY CIRCUMSTANCES REQUIRE OPEN TRENCHES OVER NIGHT, THE CONTRACTOR WILL FURNISH AND INSTALL CONCRETE BARRIERS AS APPROVED BY THE ENGINEER. THE COST FOR FURNISHING AND INSTALLING AND ANY INCIDENTALS TO THIS WORK WILL BE INCIDENTAL TO THE VARIOUS BID ITEMS. NO EXTRA PAYMENT WILL BE MADE.

**TRENCH CHECK DAM**

CONTRACTOR MUST PLACE WITHIN THE TRENCH A COMPACTED COHESIVE CLAY CHECK DAM. DURING CONSTRUCTION, CHECK DAM LOCATIONS MAY BE MOVED DUE TO FIELD CONDITIONS. THE CHECK DAM MUST EXTEND FROM THE BOTTOM OF THE EXCAVATION THROUGH THE BEDDING MATERIAL TO THE BACKFILL AND MUST EXTEND COMPLETELY TO EACH TRENCH SIDEWALL. THE CHECK DAM IS USED AS A MEANS TO

PREVENT THE CONVEYANCE OF WATER THROUGH THE TRENCH BEDDING. COMPACTED COHESIVE CLAY MUST CONSIST OF MATERIAL THAT CONTAINS A MINIMUM OF 25% MINUS NO. 200 SIEVE MATERIAL WITH 70% PASSING A 3/4" SIEVE AND A PI OF 10%. THE MATERIAL MUST CONSIST OF CLAY, SILTY SAND OR SILTY CLAY. IF THE NORMAL EXCAVATED MATTER IS NOT SUITABLE FOR CONSTRUCTION OF THE CHECK DAM, THEN THE CONTRACTOR MUST OBTAIN MATERIAL FROM OUTSIDE SOURCES. CHECK DAM INSTALLATION AND MATERIAL MUST BE CONSIDERED AS INCIDENTAL TO THE PIPE INSTALLATION.

**PVC WATER MAIN PIPE**

PIPE FOR WATER MAINS MUST BE PVC PRESSURE PIPE AND MUST CONFORM TO AWWA SPECIFICATIONS C-900, DR18. THE PIPE MUST MEET ALL OTHER REQUIREMENTS SPECIFIED IN THE STANDARD SPECIFICATIONS.

**BOLTS FOR FITTING AND JOINT RESTRAINING DEVICES**

BOLTS AND NUTS FOR WATER MAIN FITTING AND JOINT RESTRAINING DEVICES MUST BE SERIES 300 STAINLESS STEEL.

**TEMPORARY WATER SERVICE**

CONTRACTOR MUST PROVIDE TEMPORARY WATER SERVICE TO ALL HOMES ALONG PROJECT DURING PROJECT DURATION. ALL PIPING, FITTINGS, MAINTENANCE AND HOOKUPS MUST BE INCLUDED.

**WATER SHUTOFF**

MAXIMUM WATER SHUTOFF MUST BE 4 HOURS.

**CONNECT TO EXISTING WATER MAIN**

PAYMENT INCLUDED CONNECTING NEW WATER MAIN TO EXISTING WATER MAIN PER EACH, COMPLETE AND MUST CONSIDERED FULL COMPENSATION FOR ALL LABOR, TOOLS, EQUIPMENT, MATERIALS, FITTINGS AND INCIDENTALS NECESSARY TO COMPLETE THE ITEM.

**FIRE HYDRANT COATINGS**

ANY FIRE HYDRANT THAT DOESN'T HAVE THE INTERNAL EPOXY COATING PER THE SPECIFICATIONS MUST DOUBLE THE CATHODIC PROTECTION (ANODES) REQUIRED FOR THE FIRE HYDRANT. THE COST OF THE EXTRA CATHODIC PROTECTION MUST BE ABSORBED INTO THE UNIT PRICE OF THE FIRE HYDRANT. FIRE HYDRANTS WITH THE INTERNAL EPOXY COATING DO NOT NEED TO HAVE DOUBLE THE CATHODIC PROTECTION.

**CATHODIC PROTECTION**

ALL ANODES FOR THIS PROJECT MUST BE BLACK.

**WARRANTY PERIOD**

THE WARRANTY PERIOD FOR THIS PROJECT MUST START WHEN THE PROJECT IS COMPLETE. WARRANTY PERIOD 1 YEAR.

**AS-BUILT PLANS**

THE CONTRACTOR MUST MEASURE AND RECORD ANY HORIZONTAL OR VERTICAL DEVIATIONS FROM THE WATER IMPROVEMENT CONTRACT DRAWINGS. THE CHANGES MUST BE RECORDED IN AN ACCURATE, NEAT FASHION ON THE DRAWINGS AND FURNISHED TO THE ENGINEER UPON COMPLETION OF THE PROJECT. SPECIFICALLY, ALL CONNECTIONS, ANODES AND BURIED FITTINGS MUST BE RECORDED FOR THE WORK. THE AS-BUILT DRAWINGS MUST BE ON-SITE AND AVAILABLE FOR REVIEW BY THE ENGINEER UPON REQUEST.

**EXISTING UTILITY CROSSINGS**

REFER TO PLANS AND SPECIFICATIONS FOR CROSSINGS OF EXISTING STORM SEWERS, SANITARY SEWERS, WATER MAINS AND LOWERINGS. AT ALL LOCATIONS WHERE THE PROPOSED UTILITY IMPROVEMENT CROSSES OR IS ADJACENT TO EXISTING STORM SEWERS, SANITARY SEWERS, OR WATER MAINS, THE CONTRACTOR MUST BE RESPONSIBLE FOR SAFEGUARDING THE EXISTING UTILITIES TO ENSURE THAT THEY ARE NOT DISTURBED DURING THE WORK.

TEMPORARY STRUCTURAL SUPPORT FOR THE UTILITIES MAY BE REQUIRED. NO SEPARATE PAYMENT MUST BE MADE FOR CROSSED UTILITY PROTECTION. ANY REPAIR WORK NECESSARY TO A CROSSED UTILITY RESULTING FROM THE CONTRACTOR'S ACTIVITY MUST BE AT THE CONTRACTOR'S EXPENSE.

**REMOVALS AND SURFACE RESTORATION**

REFER TO THE DOT CONSTRUCTION DOCUMENTS FOR REMOVALS AND SURFACE RESTORATION PER PROJECT EM-NH-CR 0018(195)103 US HIGHWAY 18 & P 0407(00)01 SD HIGHWAY 407.

**DEWATERING**

DEWATERING IS CONSIDERED INCIDENTAL.

**CONSTRUCTION LIMITS**

CONTRACTOR MUST CONFINE CONSTRUCTION WORK WITHIN THE CONSTRUCTION LIMITS DEFINED AS SHOWN. THE CONTRACTOR MUST NOT OPERATE OR PLACE EQUIPMENT, MATERIALS OR STOCKPILES ON PRIVATE PROPERTY WITHOUT THE PROPERTY OWNER'S WRITTEN CONSENT. THE CONTRACTOR MUST FURNISH A COPY OF OWNER'S WRITTEN CONSENT TO THE ENGINEER AND THE OWNER.

**WASTE DISPOSAL**

WASTE DISPOSAL SITE CONSTRUCTION AND/OR DEMOLITION DEBRIS MAY NOT BE DISPOSED OF WITHIN THE ROW. THE WASTE DISPOSAL SITE(S) MUST NOT BE LOCATED IN A WETLAND, WITHIN 200 FEET OF SURFACE WATER OR IN AN AREA THAT ADVERSELY AFFECTS WILDLIFE, RECREATION, THE AESTHETIC VALUE OF AN AREA, OR ANY THREATENED OR ENDANGERED SPECIES, AS APPROVED BY THE PROJECT ENGINEER. ALL COSTS ASSOCIATED WITH DISPOSING OF WASTE, MAINTAINING CONTROL OF ACCESS (FENCE, GATES AND SIGNS), AND RECLAMATION OF THE WASTE DISPOSAL SITES(S) MUST BE INCIDENTAL TO THE VARIOUS CONTRACT

**RESIDENTS NOTIFICATION**

CONTRACTOR MUST COORDINATE WITH IHS AND OST. WATER AND SEWER FOR RESIDENTIAL NOTIFICATIONS. OST SEWER AND WATER WILL PREPARE FLIERS AND RADIO ANNOUNCEMENTS TO BE RELEASED 2 WEEKS PRIOR TO ANY PLANNED WATER SERVICE OUTAGES.

**COORDINATION**

CONTRACTOR SHALL COORDINATE ALL WORK ON THE WATER MAIN PROJECT (PCN #X06L) WITH THE DOT ROAD PROJECT (PCN 04FC).

**BUILD AMERICA, BUY AMERICA PREFERENCE**

THE BUILD AMERICA, BUY AMERICA REQUIREMENTS WILL APPLY TO THIS UTILITY PROJECT.

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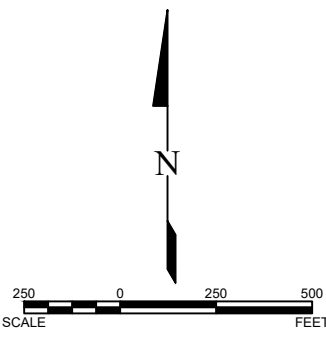
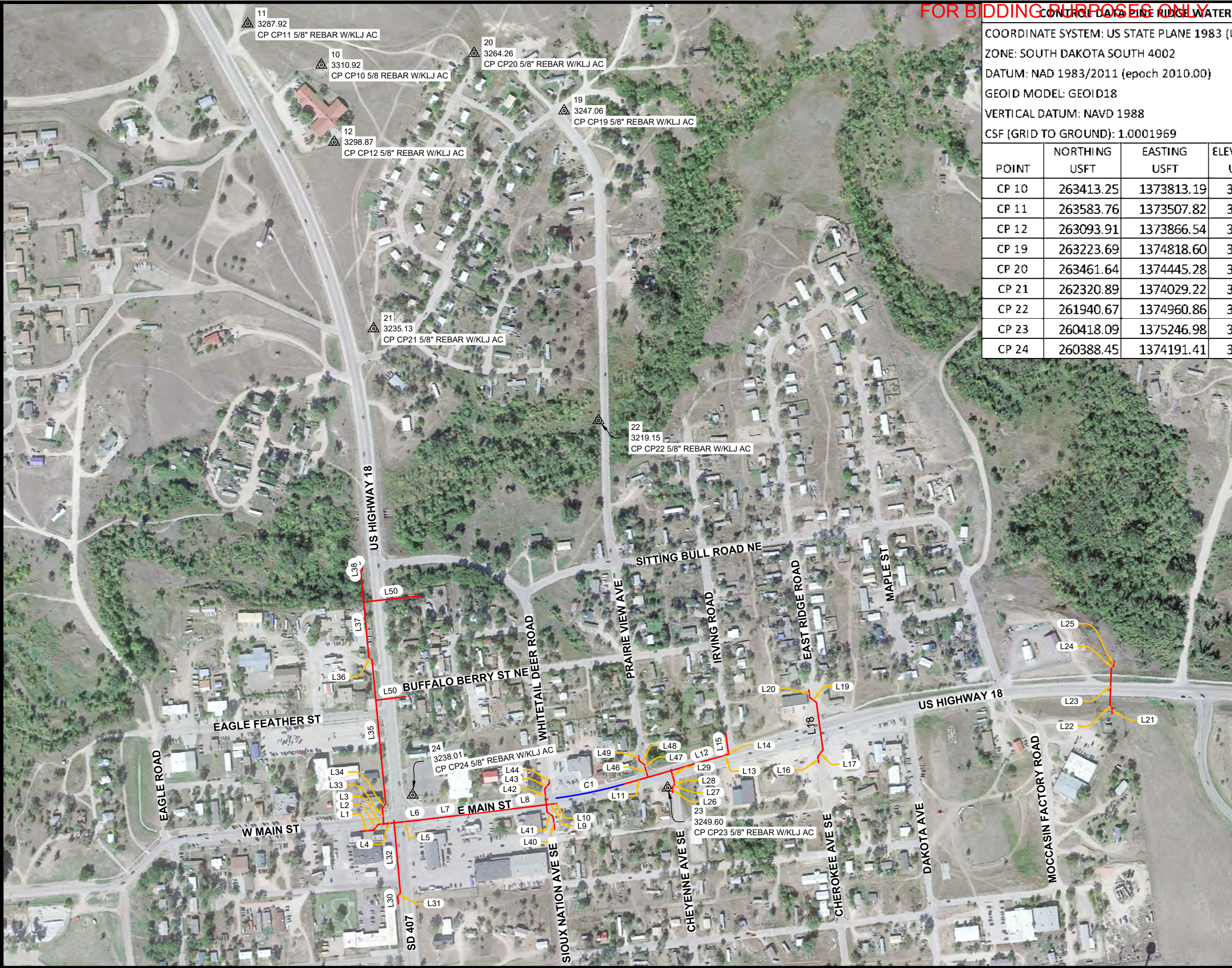
**PINE RIDGE WATER IMPROVEMENTS**  
OGLALA SIOUX TRIBE  
PINE RIDGE, SOUTH DAKOTA  
**GENERAL NOTES**




**FOR BIDDING PURPOSES ONLY** CONTROL POINTS FOR PINE RIDGE WATER SYSTEM IMPROVEMENTS

COORDINATE SYSTEM: US STATE PLANE 1983 (US SURVEY FEET)  
 ZONE: SOUTH DAKOTA SOUTH 4002  
 DATUM: NAD 1983/2011 (epoch 2010.00)  
 GEOID MODEL: GEOID18  
 VERTICAL DATUM: NAVD 1988  
 CSF (GRID TO GROUND): 1.0001969

POINT	NORTHING USFT	EASTING USFT	ELEVATION USFT	MARKER
CP 10	263413.25	1373813.19	3310.92	5/8" REBAR W/KUJ AC
CP 11	263583.76	1373507.82	3287.92	5/8" REBAR W/KUJ AC
CP 12	263093.91	1373866.54	3298.87	5/8" REBAR W/KUJ AC
CP 19	263223.69	1374818.60	3247.06	5/8" REBAR W/KUJ AC
CP 20	263461.64	1374445.28	3264.26	5/8" REBAR W/KUJ AC
CP 21	262320.89	1374029.22	3235.13	5/8" REBAR W/KUJ AC
CP 22	261940.67	1374960.86	3219.15	5/8" REBAR W/KUJ AC
CP 23	260418.09	1375246.98	3249.60	5/8" REBAR W/KUJ AC
CP 24	260388.45	1374191.41	3238.01	5/8" REBAR W/KUJ AC





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**PINE RIDGE WATER IMPROVEMENTS**  
 OGLALA SIOUX TRIBE  
 PINE RIDGE, SOUTH DAKOTA

**HORIZONTAL ALIGNMENT & SURVEY CONTROL**

SHEET  
**2.01**



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PINE RIDGE WATER IMPROVEMENTS  
OGLALA SIOUX TRIBE  
PINE RIDGE, SOUTH DAKOTA  
HORIZONTAL ALIGNMENT & SURVEY CONTROL

SHEET  
2.02

**EAST MAIN STREET 1**

NAME	STATION	DISTANCE	RADIUS	DIRECTION	BEGIN	END
L1	1+00.00	56.62'		N85° 02' 26.87"E	N: 260,237.85 E: 1,373,972.92	N: 260,242.75 E: 1,374,029.32
L2	1+56.62	31.64'		N39° 29' 08.46"E	N: 260,242.75 E: 1,374,029.32	N: 260,267.17 E: 1,374,049.45
L3	1+88.26	24.08'		N84° 22' 35.62"E	N: 260,267.17 E: 1,374,049.45	N: 260,269.53 E: 1,374,073.41
L4	2+12.34	41.29'		N84° 22' 34.94"E	N: 260,269.53 E: 1,374,073.41	N: 260,273.58 E: 1,374,114.50
L5	2+53.63	87.43'		N83° 57' 47.97"E	N: 260,273.58 E: 1,374,114.50	N: 260,282.77 E: 1,374,201.45
L6	3+41.07	4.98'		N83° 39' 29.90"E	N: 260,282.77 E: 1,374,201.45	N: 260,283.32 E: 1,374,206.41
L7	3+46.05	350.46'		N83° 06' 57.89"E	N: 260,283.32 E: 1,374,206.41	N: 260,325.33 E: 1,374,554.34
L8	6+96.51	192.11'		N83° 01' 57.83"E	N: 260,325.33 E: 1,374,554.34	N: 260,348.63 E: 1,374,745.03
L9	8+88.62	30.25'		N83° 01' 57.83"E	N: 260,348.63 E: 1,374,745.03	N: 260,352.30 E: 1,374,775.06
L10	9+18.88	13.13'		N82° 50' 12.96"E	N: 260,352.30 E: 1,374,775.06	N: 260,353.94 E: 1,374,788.09

**EAST MAIN STREET 2**

NAME	STATION	DISTANCE	RADIUS	DIRECTION	BEGIN	END
C1	PC: 10+00.00 PI: 11+43.34 PT: 12+86.13	286.13'	1,898.86'	Δ= 8° 38' 00.92"	N: 260,375.80 E: 1,374,785.58	N: 260,433.69 E: 1,375,065.52
L11	12+86.13	204.02'		N73° 59' 52.97"E	N: 260,433.69 E: 1,375,065.52	N: 260,489.93 E: 1,375,261.63
L12	14+90.15	215.19'		N73° 59' 52.97"E	N: 260,489.93 E: 1,375,261.63	N: 260,549.25 E: 1,375,468.48
L13	17+05.33	33.34'		N73° 59' 52.97"E	N: 260,549.25 E: 1,375,468.48	N: 260,558.44 E: 1,375,500.52
L14	17+38.67	7.02'		N16° 00' 07.03"W	N: 260,558.44 E: 1,375,500.52	N: 260,565.19 E: 1,375,498.59
L15	17+45.69	79.31'		N7° 55' 23.85"W	N: 260,565.19 E: 1,375,498.59	N: 260,643.74 E: 1,375,487.66

**EAST RIDGE ROAD**

NAME	STATION	DISTANCE	RADIUS	DIRECTION	BEGIN	END
L16	20+00.00	25.02'		N6° 41' 23.81"W	N: 260,522.71 E: 1,375,871.99	N: 260,547.56 E: 1,375,869.07
L17	20+25.02	35.57'		N37° 30' 07.37"E	N: 260,547.56 E: 1,375,869.07	N: 260,575.78 E: 1,375,890.73
L18	20+60.59	198.02'		N7° 48' 24.50"W	N: 260,575.78 E: 1,375,890.73	N: 260,771.96 E: 1,375,863.83
L19	22+58.61	34.90'		N52° 29' 52.63"W	N: 260,771.96 E: 1,375,863.83	N: 260,793.21 E: 1,375,836.14
L20	22+93.52	31.48'		N7° 55' 23.85"W	N: 260,793.21 E: 1,375,836.14	N: 260,824.40 E: 1,375,831.80

**HIGHWAY 18 CROSSING**

NAME	STATION	DISTANCE	RADIUS	DIRECTION	BEGIN	END
L21	30+00.00	25.67'		N2° 07' 57.75"E	N: 260,725.25 E: 1,377,087.81	N: 260,750.90 E: 1,377,088.76
L22	30+25.67	14.14'		N42° 52' 02.25"W	N: 260,750.90 E: 1,377,088.76	N: 260,761.27 E: 1,377,079.14
L23	30+39.81	152.14'		N2° 07' 57.75"E	N: 260,761.27 E: 1,377,079.14	N: 260,913.30 E: 1,377,084.80
L24	31+91.94	14.14'		N47° 07' 57.75"E	N: 260,913.30 E: 1,377,084.80	N: 260,922.92 E: 1,377,095.17
L25	32+06.09	18.91'		N2° 07' 57.75"E	N: 260,922.92 E: 1,377,095.17	N: 260,941.81 E: 1,377,095.87

**CHEYENNE AVE SE**

NAME	STATION	DISTANCE	RADIUS	DIRECTION	BEGIN	END
L26	40+00.00	21.42'		N6° 37' 31.38"W	N: 260,399.20 E: 1,375,269.16	N: 260,420.48 E: 1,375,266.69
L27	40+21.42	15.05'		N38° 22' 28.62"E	N: 260,420.48 E: 1,375,266.69	N: 260,432.28 E: 1,375,276.03
L28	40+36.48	12.58'		N6° 37' 31.38"W	N: 260,432.28 E: 1,375,276.03	N: 260,444.77 E: 1,375,274.58
L29	40+49.05	50.95'		N16° 00' 07.03"W	N: 260,444.77 E: 1,375,274.58	N: 260,493.74 E: 1,375,260.53





SD 407						
NAME	STATION	DISTANCE	RADIUS	DIRECTION	BEGIN	END
L30	50+00.00	29.91'		N5° 35' 19.40"W	N: 259,939.27 E: 1,374,131.89	N: 259,969.04 E: 1,374,128.98
L31	50+29.91	18.42'		N39° 49' 49.76"E	N: 259,969.04 E: 1,374,128.98	N: 259,983.18 E: 1,374,140.78
L32	50+48.33	301.67'		N5° 10' 10.24"W	N: 259,983.18 E: 1,374,140.78	N: 260,283.63 E: 1,374,113.59

PRAIRIE VIEW AVE 1						
NAME	STATION	DISTANCE	RADIUS	DIRECTION	BEGIN	END
L46	100+00.00	39.38'		N16° 00' 07.03"W	N: 260,464.49 E: 1,375,165.39	N: 260,502.34 E: 1,375,154.54
L47	100+39.38	11.20'		N7° 43' 58.39"W	N: 260,502.34 E: 1,375,154.54	N: 260,513.45 E: 1,375,153.03
L48	100+50.59	28.88'		N53° 50' 25.41"W	N: 260,513.45 E: 1,375,153.03	N: 260,530.49 E: 1,375,129.71
L49	100+79.46	20.54'		N7° 45' 11.40"W	N: 260,530.49 E: 1,375,129.71	N: 260,550.83 E: 1,375,126.94

HIGHWAY 18						
NAME	STATION	DISTANCE	RADIUS	DIRECTION	BEGIN	END
L33	60+00.00	68.46'		N5° 25' 10.45"W	N: 260,266.93 E: 1,374,072.08	N: 260,335.09 E: 1,374,065.62
L34	60+68.46	22.02'		N39° 34' 49.55"E	N: 260,335.09 E: 1,374,065.62	N: 260,352.06 E: 1,374,079.65
L35	60+90.48	599.55'		N5° 25' 10.45"W	N: 260,352.06 E: 1,374,079.65	N: 260,948.93 E: 1,374,023.02
L36	66+90.04	16.97'		N50° 25' 10.45"W	N: 260,948.93 E: 1,374,023.02	N: 260,959.74 E: 1,374,009.94
L37	67+07.01	354.71'		N5° 25' 10.45"W	N: 260,959.74 E: 1,374,009.94	N: 261,312.87 E: 1,373,976.44
L39	70+61.72	10.09'		N39° 02' 58.73"E	N: 261,312.87 E: 1,373,976.44	N: 261,320.70 E: 1,373,982.80
L38	70+71.81	8.84'		N5° 20' 22.42"W	N: 261,320.70 E: 1,373,982.80	N: 261,329.51 E: 1,373,981.97

BUFFALO BERRY ST NE 1						
NAME	STATION	DISTANCE	RADIUS	DIRECTION	BEGIN	END
L50	150+00.00	125.00'		N83° 08' 57.75"E	N: 260,781.49 E: 1,374,038.91	N: 260,796.40 E: 1,374,163.01

CROSSING S OF WHITETAIL DEERE RD						
NAME	STATION	DISTANCE	RADIUS	DIRECTION	BEGIN	END
L50	170+00.00	237.30'		N83° 53' 20.19"E	N: 261,188.36 E: 1,373,988.25	N: 261,213.62 E: 1,374,224.20

WHITETAIL DEER RD 1						
NAME	STATION	DISTANCE	RADIUS	DIRECTION	BEGIN	END
L40	80+00.00	54.32'		N7° 26' 08.47"W	N: 260,246.38 E: 1,374,779.56	N: 260,300.24 E: 1,374,772.53
L41	80+54.32	30.35'		N53° 44' 26.64"W	N: 260,300.24 E: 1,374,772.53	N: 260,318.19 E: 1,374,748.05
L42	80+84.67	96.82'		N5° 47' 13.81"W	N: 260,318.19 E: 1,374,748.05	N: 260,414.51 E: 1,374,738.29
L43	81+81.49	29.81'		N39° 31' 48.21"E	N: 260,414.51 E: 1,374,738.29	N: 260,437.51 E: 1,374,757.26
L44	82+11.30	13.70'		N6° 00' 55.11"W	N: 260,437.51 E: 1,374,757.26	N: 260,451.13 E: 1,374,755.83

NO.	DATE	REVISION

DRAFTED	MJK
REVIEWED	JRW
PROJECT NUMBER	2211-01441
ISSUE DATE	6/25/2024



PINE RIDGE WATER IMPROVEMENTS  
 OGLALA SIOUX TRIBE  
 PINE RIDGE, SOUTH DAKOTA  
 HORIZONTAL ALIGNMENT & SURVEY CONTROL

FOR BIDDING PURPOSES ONLY

REVISED: 8/6/2024 JRW



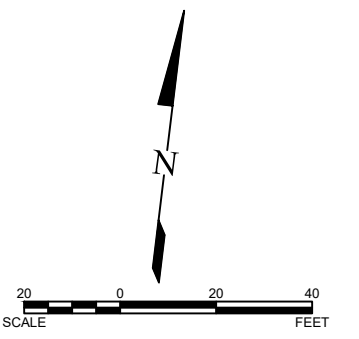
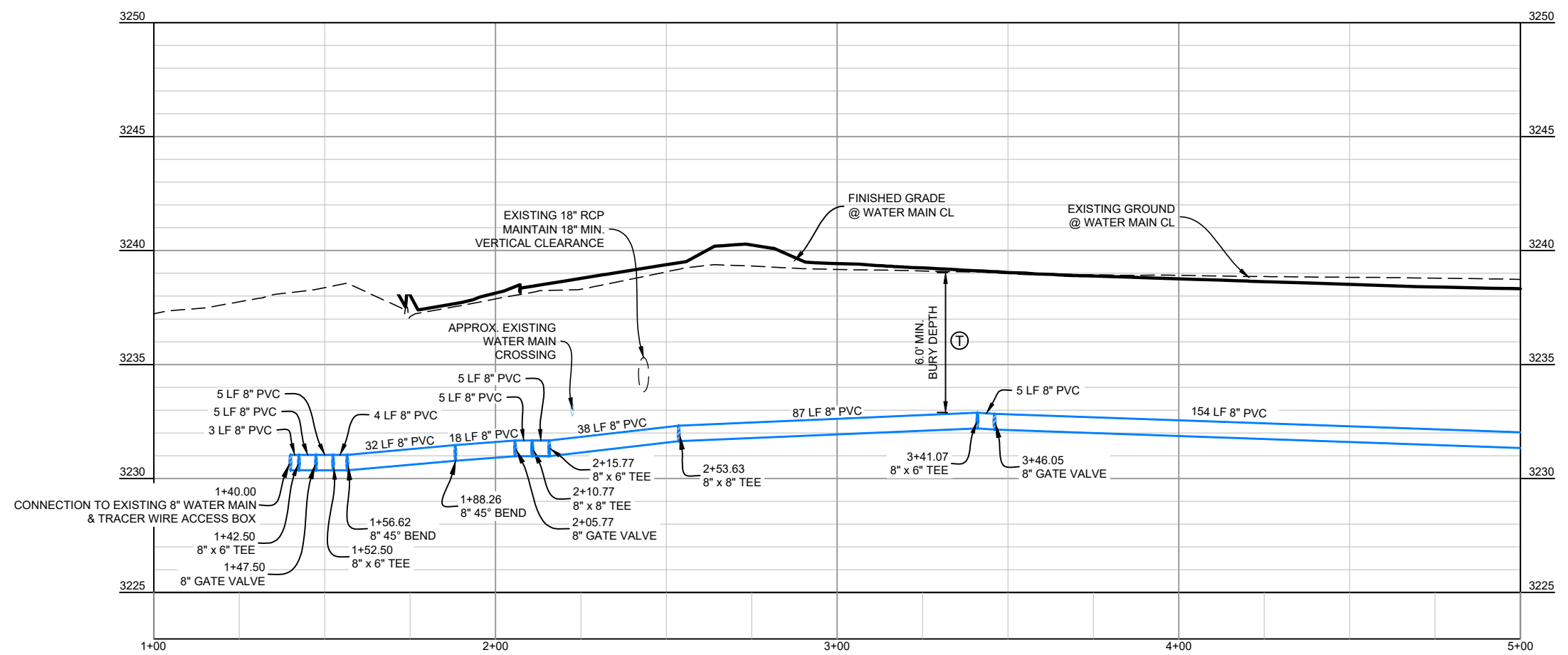
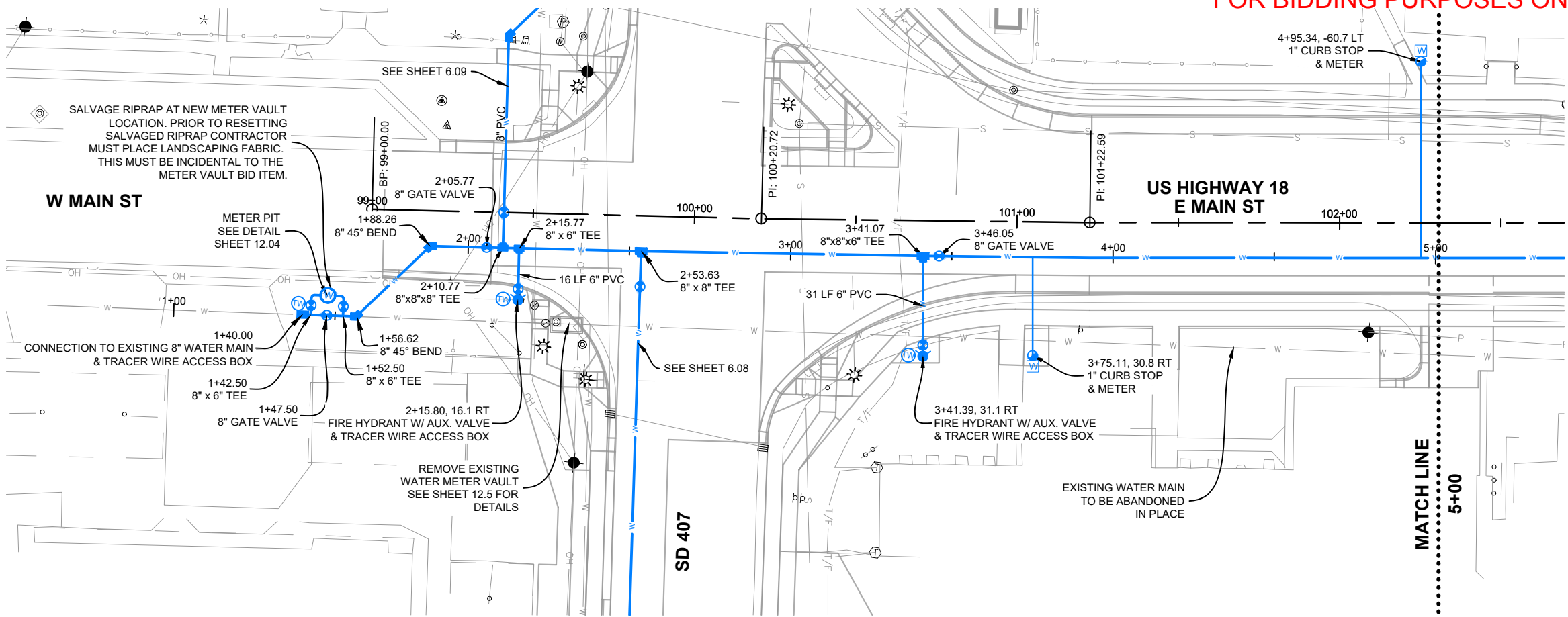
MAP KEY  
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QUANTITIES THIS SHEET

1" PE WATER SERVICE LINE	91 LF
6" PVC WATER MAIN	47 LF
8" PVC WATER MAIN	360 LF
8" 45 DEGREE BEND	2 EA
8"x8"x6" TEE	4 EA
8"x8"x8" TEE	2 EA
FIRE HYDRANT W/AUX. VALVE	2 EA
1" CURB STOP, BOX AND METER	2 EA
8" GATE VALVE	3 EA
TRACER WIRE ACCESS BOX - 2 WIRE	3 EA
RECONNECT WATER SERVICE	2 EA
CONNECT TO EXISTING WATER MAIN	1 EA
WATER METER VAULT	1 EA
REMOVAL OF METER VAULT	1 EA

NOTES:

1. ALL WATER SERVICE LINES MUST BE 1" PE.
2. MINIMUM BURY DEPTH OF WATER MAIN & SERVICE LINES MUST BE 6' FROM PROPOSED FINISH GRADE.
3. EXISTING WATER MAIN MUST BE ABANDONED IN PLACE. THIS MUST INCLUDE FILLING THE PIPE WITH FLOWABLE FILL AND CAPPING THE ENDS.
4. ONCE ABANDONED, A PORTION OF EXISTING WATER MAIN CAN BE REMOVED AND DISPOSED OF TO ALLOW FOR INSTALLATION OF THE PROPOSED WATER SERVICE LINES.
5. CURB STOP LOCATIONS ARE APPROXIMATE AND NEED TO BE FIELD VERIFIED.
6. LOCATION FOR CONNECTION TO EXISTING WATER MAIN MUST BE CONFIRMED BY CONTRACTOR PRIOR TO ANY WORK ON THE WATER MAIN. ALL NECESSARY PIPING, COUPLINGS AND FITTINGS MUST BE ON-SITE PRIOR TO THE WATER MAIN BEING TURNED OFF.



PINE RIDGE WATER IMPROVEMENTS  
OGLALA SIOUX TRIBE  
PINE RIDGE, SOUTH DAKOTA  
WATER PLAN & PROFILE - E MAIN ST

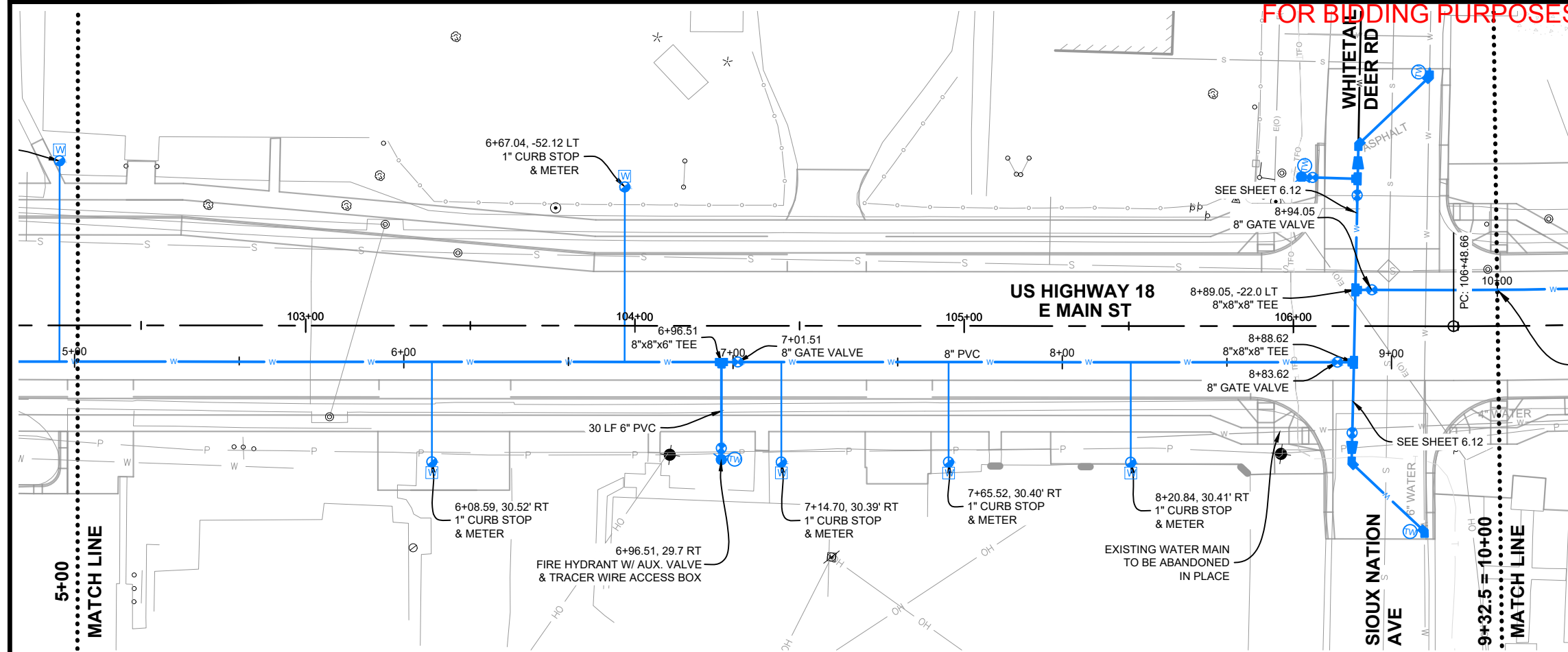
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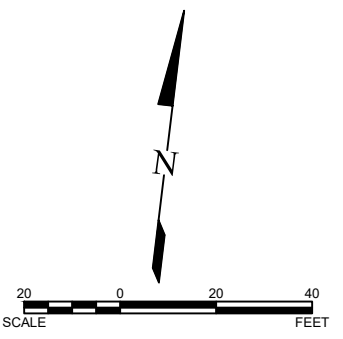
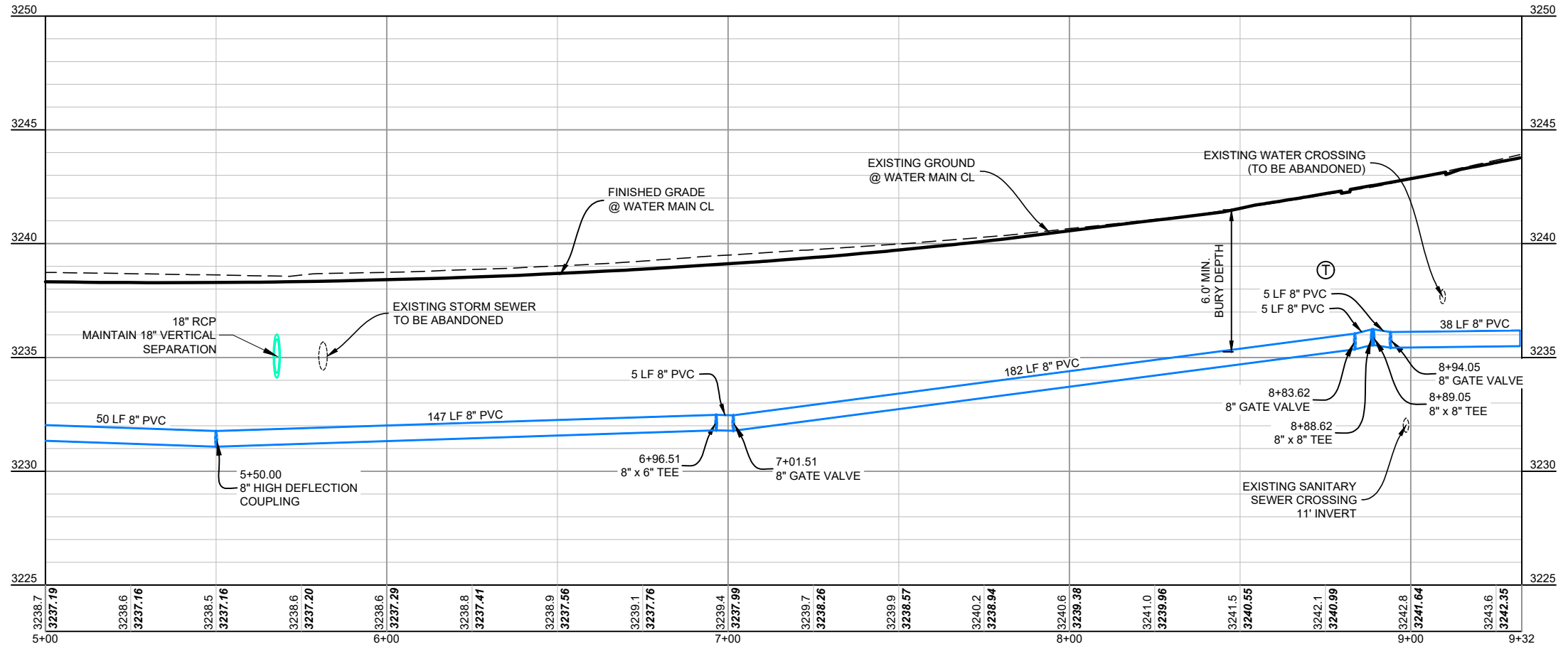


**QUANTITIES THIS SHEET**

1" PE WATER SERVICE LINE	173 LF
8" PVC WATER MAIN	432 LF
6" PVC WATER MAIN	30 LF
8"x8"x6" TEE	1 EA
8"x8"x8" TEE	2 EA
FIRE HYDRANT W/AUX. VALVE	1 EA
1" CURB STOP, BOX AND METER	5 EA
8" HIGH DEFLECTION COUPLING	1 EA
8" GATE VALVE	3 EA
TRACER WIRE ACCESS BOX - 2 WIRE	1 EA
RECONNECT WATER SERVICE	5 EA

**NOTES:**

1. ALL WATER SERVICE LINES MUST BE 1" PE.
2. MINIMUM BURY DEPTH OF WATER MAIN & SERVICE LINES MUST BE 6' FROM PROPOSED FINISH GRADE.
3. EXISTING WATER MAIN MUST BE ABANDONED IN PLACE. THIS MUST INCLUDE FILLING THE PIPE WITH FLOWABLE FILL AND CAPPING THE ENDS. ONCE ABANDONED, A PORTION OF EXISTING WATER MAIN CAN BE REMOVED AND DISPOSED OF TO ALLOW FOR INSTALLATION OF THE PROPOSED WATER SERVICE LINES.
4. CURB STOP LOCATIONS ARE APPROXIMATE AND NEED TO BE FIELD VERIFIED.
5. LOCATION FOR CONNECTION TO EXISTING WATER MAIN MUST BE CONFIRMED BY CONTRACTOR PRIOR TO ANY WORK ON THE WATER MAIN. ALL NECESSARY PIPING, COUPLINGS AND FITTINGS MUST BE ON-SITE PRIOR TO THE WATER MAIN BEING TURNED OFF.



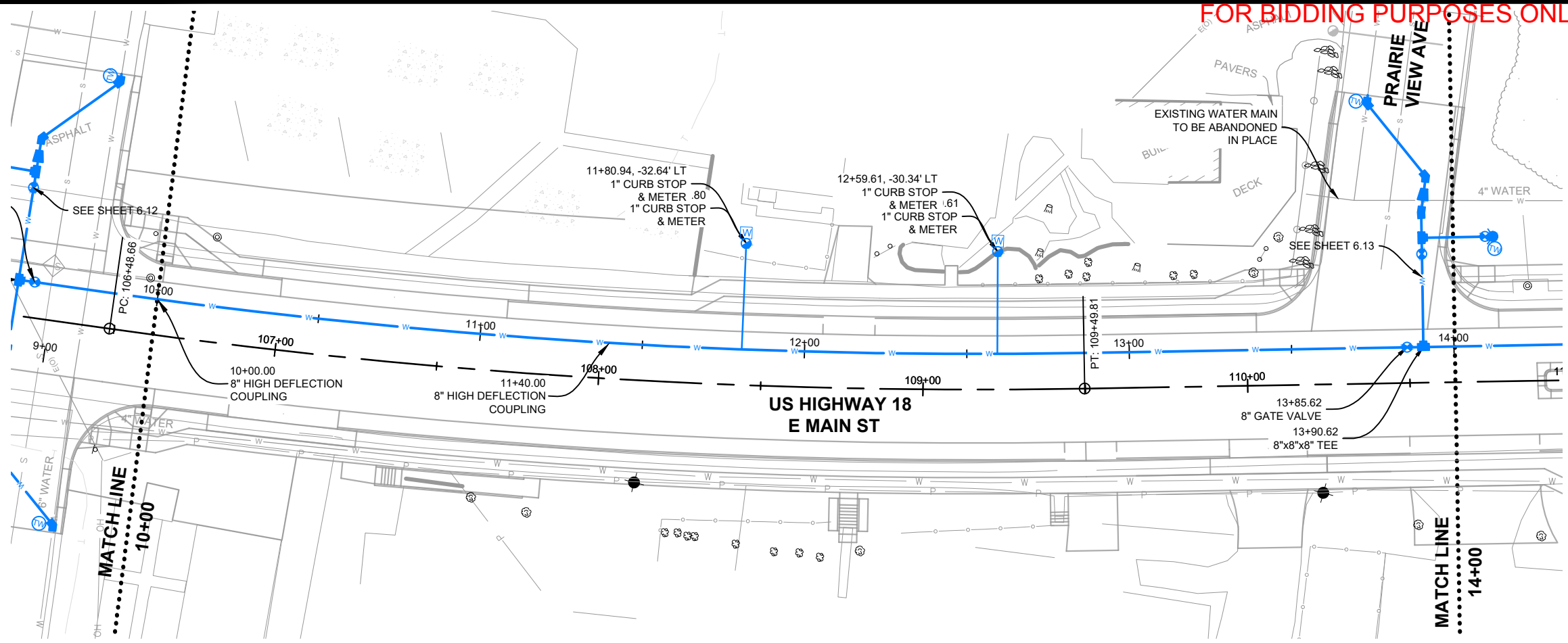
**PINE RIDGE WATER IMPROVEMENTS**  
 OGLALA SIOUX TRIBE  
 PINE RIDGE, SOUTH DAKOTA  
**WATER PLAN & PROFILE - E MAIN ST**

FOR BIDDING PURPOSES ONLY

REVISED: 8/6/2024 JRW



MAP KEY  
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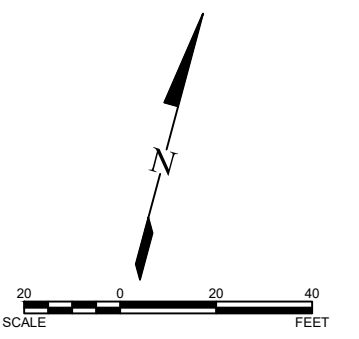
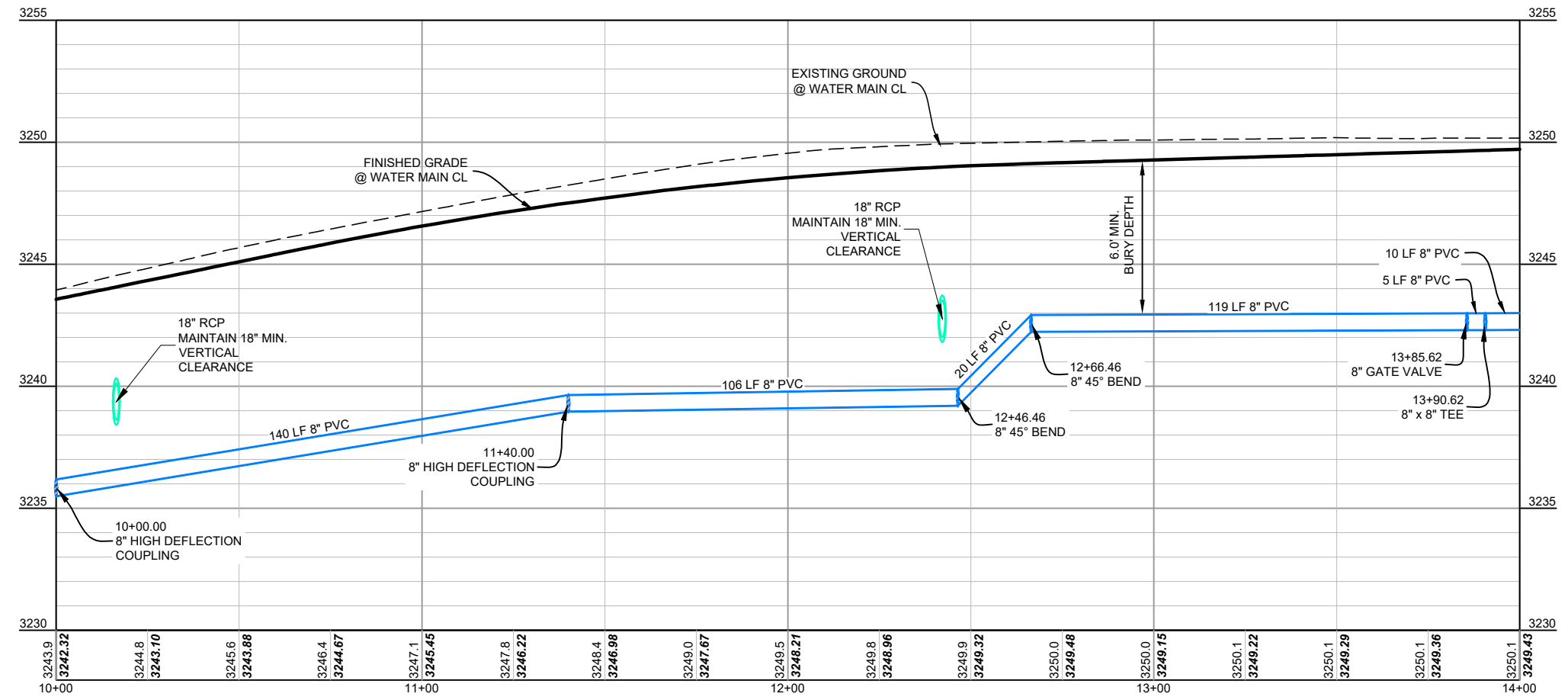


**QUANTITIES THIS SHEET**

1" PE WATER SERVICE LINE	63 LF
8" PVC WATER MAIN	400 LF
8" 45° BEND	2 EA
8"x8"x8" TEE	1 EA
8" HIGH DEFLECTION COUPLING	2 EA
1" CURB STOP, BOX AND METER	2 EA
8" GATE VALVE	1 EA
RECONNECT WATER SERVICE	2 EA

**NOTES:**

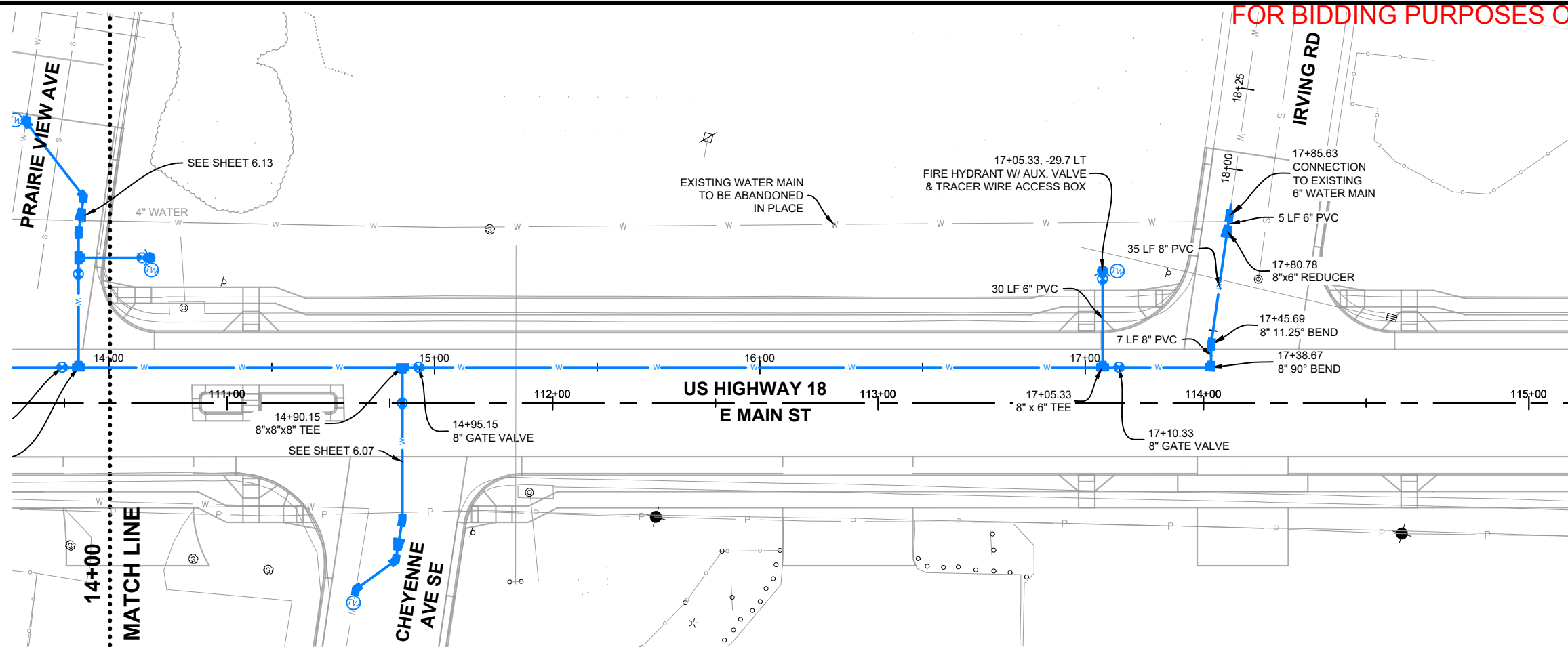
1. ALL WATER SERVICE LINES MUST BE 1" PE.
2. MINIMUM BURY DEPTH OF WATER MAIN & SERVICE LINES MUST BE 6' FROM PROPOSED FINISH GRADE.
3. EXISTING WATER MAIN MUST BE ABANDONED IN PLACE. THIS MUST INCLUDE FILLING THE PIPE WITH FLOWABLE FILL AND CAPPING THE ENDS. ONCE ABANDONED, A PORTION OF EXISTING WATER MAIN CAN BE REMOVED AND DISPOSED OF TO ALLOW FOR INSTALLATION OF THE PROPOSED WATER SERVICE LINES.
4. CURB STOP LOCATIONS ARE APPROXIMATE AND NEED TO BE FIELD VERIFIED.
5. LOCATION FOR CONNECTION TO EXISTING WATER MAIN MUST BE CONFIRMED BY CONTRACTOR PRIOR TO ANY WORK ON THE WATER MAIN. ALL NECESSARY PIPING, COUPLINGS AND FITTINGS MUST BE ON-SITE PRIOR TO THE WATER MAIN BEING TURNED OFF.



**PINE RIDGE WATER IMPROVEMENTS**  
 OGLALA SIOUX TRIBE  
 PINE RIDGE, SOUTH DAKOTA  
**WATER PLAN & PROFILE - E MAIN ST**

SHEET  
**6.03**

FOR BIDDING PURPOSES ONLY



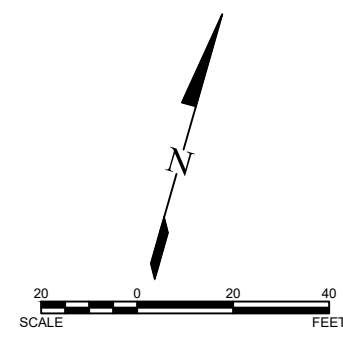
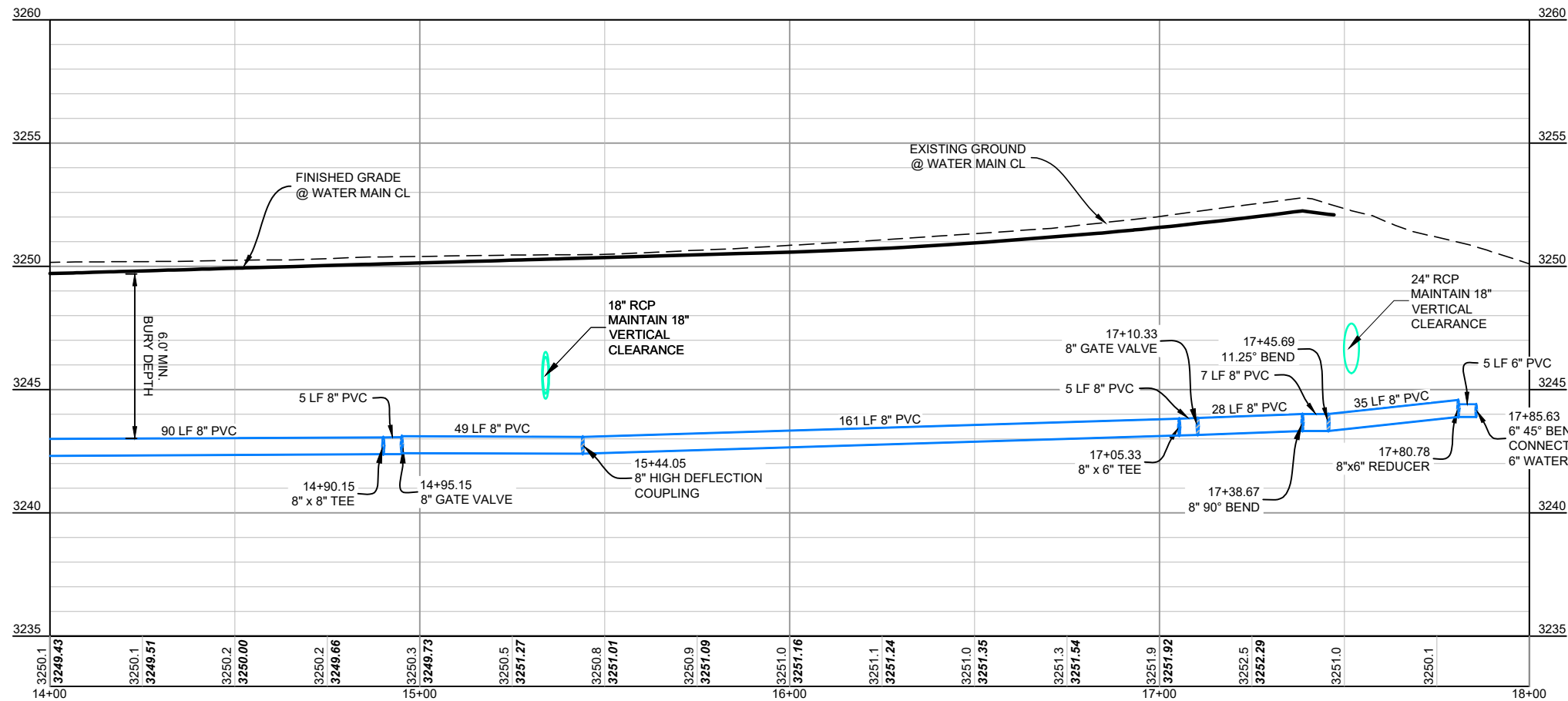
**QUANTITIES THIS SHEET**

8" PVC WATER MAIN	380 LF
6" PVC WATER MAIN	35 LF
8" 11.25 DEGREE BEND	1 EA
8" HIGH DEFLECTION COUPLING	1 EA
8" 90 DEGREE BEND	1 EA
8"x6" REDUCER	1 EA
8"x8"x8" TEE	1 EA
8"x8"x6" TEE	1 EA
FIRE HYDRANT W/AUX. VALVE	1 EA
8" GATE VALVE	2 EA
TRACER WIRE ACCESS BOX - 2 WIRE	1 EA
CONNECT TO EXISTING WATER MAIN	1 EA

- NOTES:**
1. ALL WATER SERVICE LINES MUST BE 1" PE.
  2. MINIMUM BURY DEPTH OF WATER MAIN & SERVICE LINES MUST BE 6' FROM PROPOSED FINISH GRADE.
  3. EXISTING WATER MAIN MUST BE ABANDONED IN PLACE. THIS MUST INCLUDE FILLING THE PIPE WITH FLOWABLE FILL AND CAPPING THE ENDS.
  4. ONCE ABANDONED, A PORTION OF EXISTING WATER MAIN CAN BE REMOVED AND DISPOSED OF TO ALLOW FOR INSTALLATION OF THE PROPOSED WATER SERVICE LINES.
  5. CURB STOP LOCATIONS ARE APPROXIMATE AND NEED TO BE FIELD VERIFIED.
  6. LOCATION FOR CONNECTION TO EXISTING WATER MAIN MUST BE CONFIRMED BY CONTRACTOR PRIOR TO ANY WORK ON THE WATER MAIN. ALL NECESSARY PIPING, COUPLINGS AND FITTINGS MUST BE ON-SITE PRIOR TO THE WATER MAIN BEING TURNED OFF.

NO.	DATE	REVISION
		DRAFTED MJK
		REVIEWED JRW
		PROJECT NUMBER 2211-01441
		ISSUE DATE 6/25/2024

**PINE RIDGE WATER IMPROVEMENTS**  
 OGLALA SIOUX TRIBE  
 PINE RIDGE, SOUTH DAKOTA  
**WATER PLAN & PROFILE - E MAIN ST**

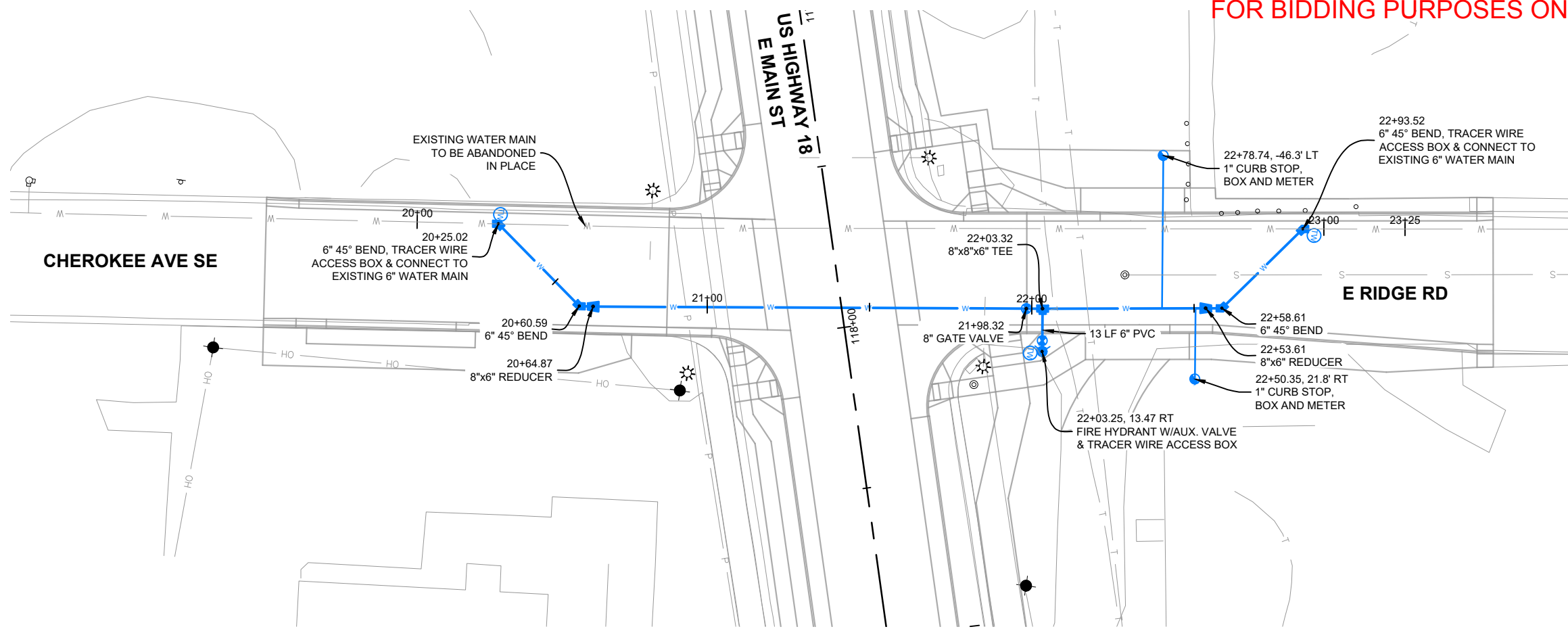


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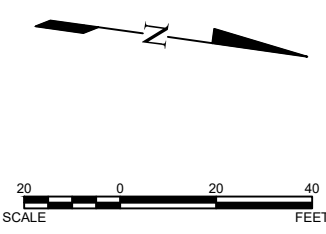
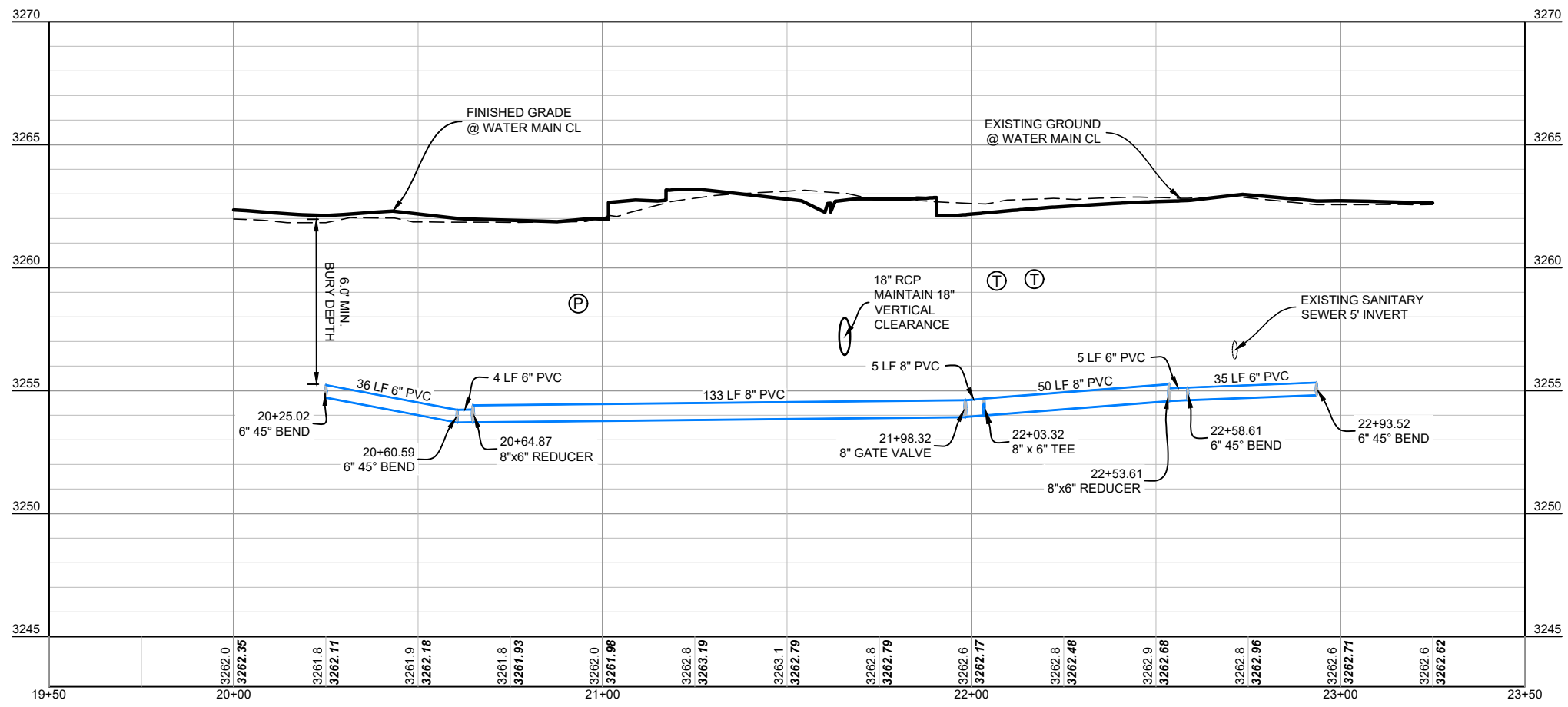
MAP KEY  
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**QUANTITIES THIS SHEET**

1" PE WATER SERVICE LINE	68 LF
8" PVC WATER MAIN	188 LF
6" PVC WATER MAIN	93 LF
6" 45 DEGREE BEND	4 EA
8"x6" REDUCER	2 EA
8"x8"x6" TEE	1 EA
FIRE HYDRANT W/AUX. VALVE	1 EA
1" CURB STOP, BOX AND METER	2 EA
8" GATE VALVE	1 EA
TRACER WIRE ACCESS BOX - 2 WIRE	3 EA
RECONNECT WATER SERVICE	2 EA
CONNECT TO EXISTING WATER MAIN	2 EA

- NOTES:**
1. ALL WATER SERVICE LINES MUST BE 1" PE.
  2. MINIMUM BURY DEPTH OF WATER MAIN & SERVICE LINES MUST BE 6' FROM PROPOSED FINISH GRADE.
  3. EXISTING WATER MAIN MUST BE ABANDONED IN PLACE. THIS MUST INCLUDE FILLING THE PIPE WITH FLOWABLE FILL AND CAPPING THE ENDS.
  4. ONCE ABANDONED, A PORTION OF EXISTING WATER MAIN CAN BE REMOVED AND DISPOSED OF TO ALLOW FOR INSTALLATION OF THE PROPOSED WATER SERVICE LINES.
  5. CURB STOP LOCATIONS ARE APPROXIMATE AND NEED TO BE FIELD VERIFIED.
  6. LOCATION FOR CONNECTION TO EXISTING WATER MAIN MUST BE CONFIRMED BY CONTRACTOR PRIOR TO ANY WORK ON THE WATER MAIN. ALL NECESSARY PIPING, COUPLINGS AND FITTINGS MUST BE ON-SITE PRIOR TO THE WATER MAIN BEING TURNED OFF.



**PINE RIDGE WATER IMPROVEMENTS**  
 OGLALA SIOUX TRIBE  
 PINE RIDGE, SOUTH DAKOTA  
**WATER PLAN & PROFILE - E RIDGE RD**

NO.	DATE	REVISION

DRAFTED	MJK
REVIEWED	JRW
PROJECT NUMBER	2211-01441
ISSUE DATE	6/25/2024

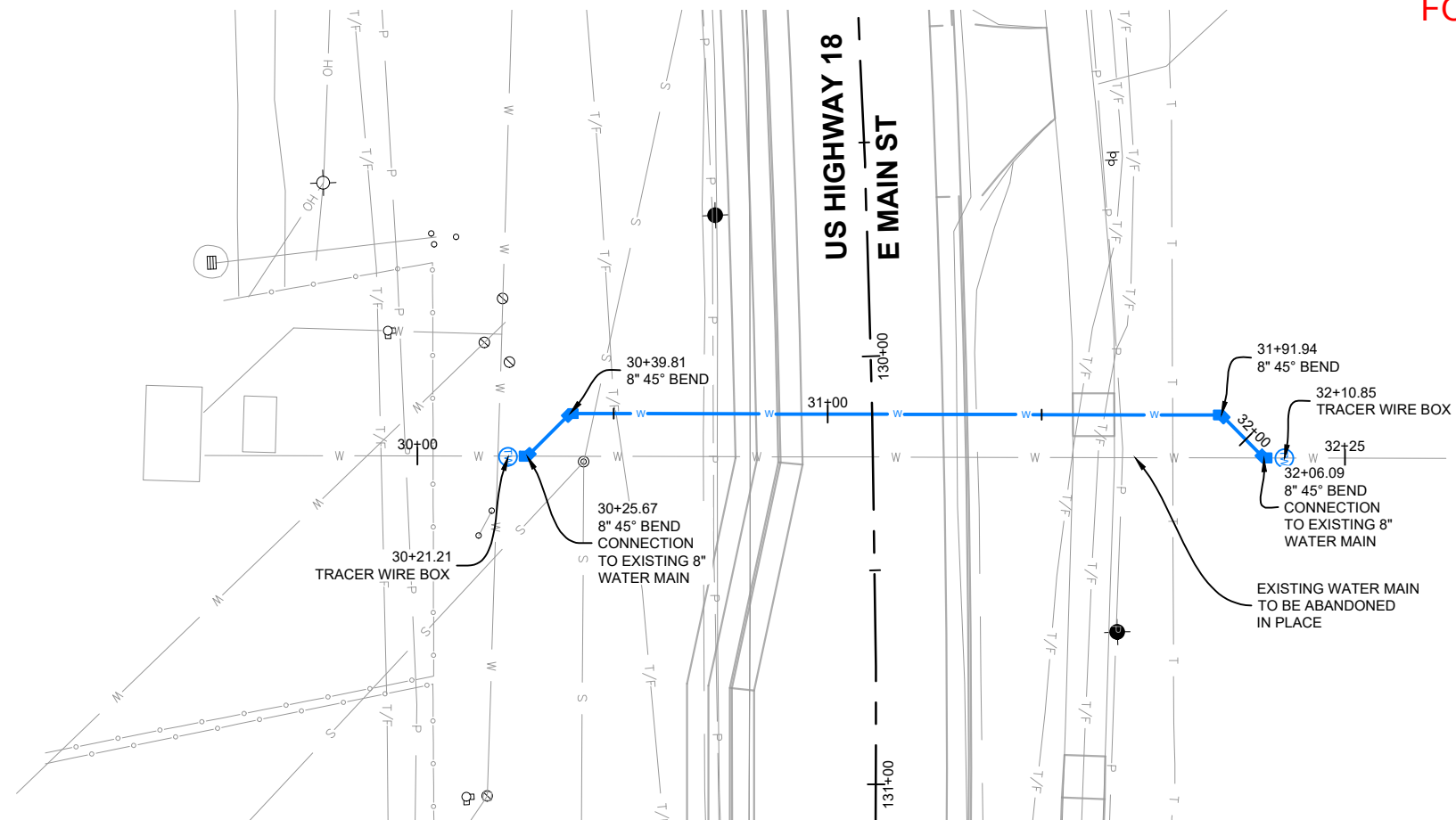
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FOR BIDDING PURPOSES ONLY

REVISED: 8/6/2024 JRW



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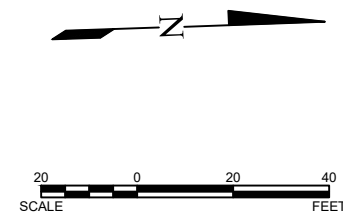
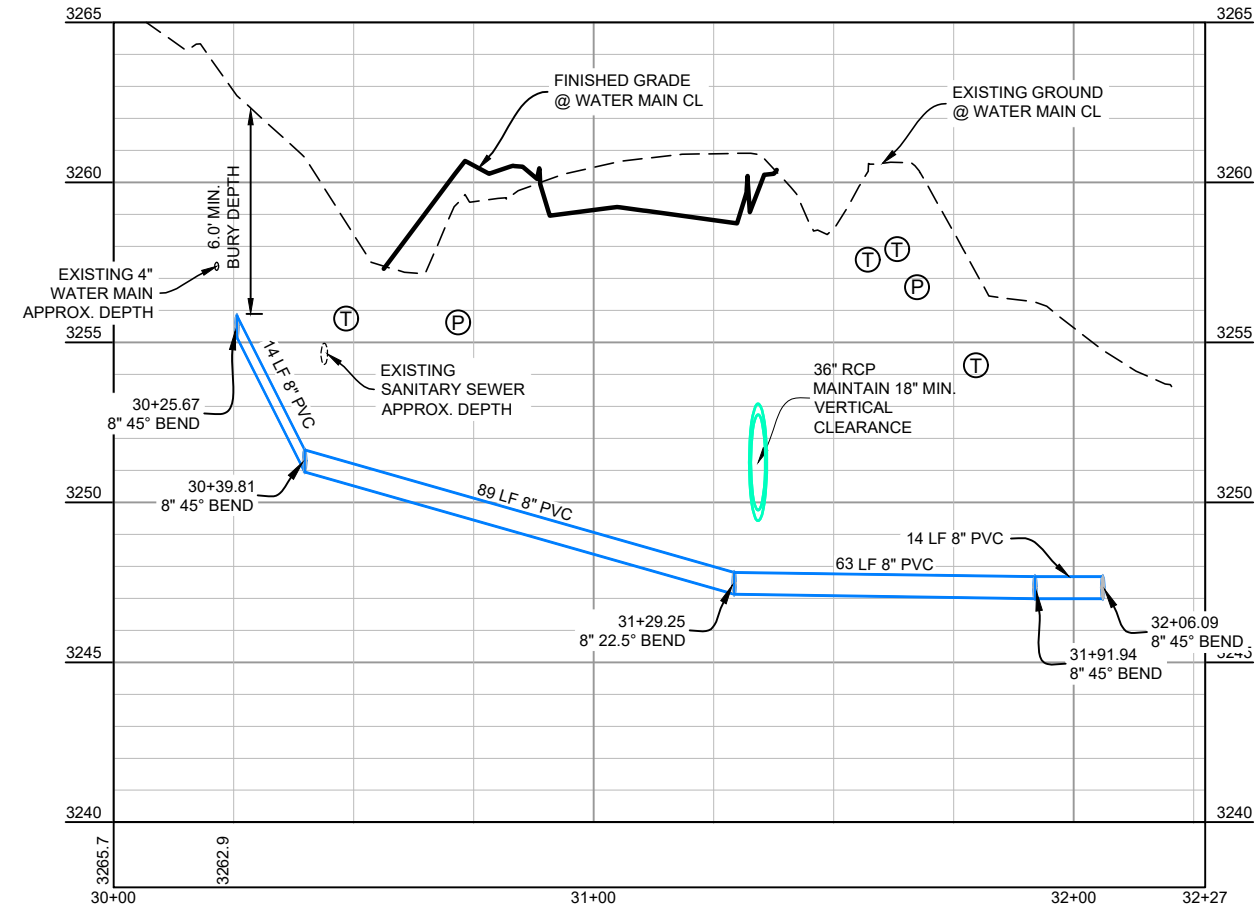


QUANTITIES THIS SHEET

8" PVC WATER MAIN	180 LF
8" 45 DEGREE BEND	4 EA
8" 22.5 DEGREE BEND	1 EA
TRACER WIRE ACCESS BOX - 2 WIRE	2 EA
CONNECT TO EXISTING WATER MAIN	2 EA

NOTES:

1. ALL WATER SERVICE LINES MUST BE 1" PE.
2. MINIMUM BURY DEPTH OF WATER MAIN & SERVICE LINES MUST BE 6' FROM PROPOSED FINISH GRADE.
3. EXISTING WATER MAIN MUST BE ABANDONED IN PLACE. THIS MUST INCLUDE FILLING THE PIPE WITH FLOWABLE FILL AND CAPPING THE ENDS.
4. ONCE ABANDONED, A PORTION OF EXISTING WATER MAIN CAN BE REMOVED AND DISPOSED OF TO ALLOW FOR INSTALLATION OF THE PROPOSED WATER SERVICE LINES.
5. CURB STOP LOCATIONS ARE APPROXIMATE AND NEED TO BE FIELD VERIFIED.
6. LOCATION FOR CONNECTION TO EXISTING WATER MAIN MUST BE CONFIRMED BY CONTRACTOR PRIOR TO ANY WORK ON THE WATER MAIN. ALL NECESSARY PIPING, COUPLINGS AND FITTINGS MUST BE ON-SITE PRIOR TO THE WATER MAIN BEING TURNED OFF.



**PINE RIDGE WATER IMPROVEMENTS**  
 OGLALA SIOUX TRIBE  
 PINE RIDGE, SOUTH DAKOTA  
**WATER PLAN & PROFILE - HIGHWAY 18 CROSSING**

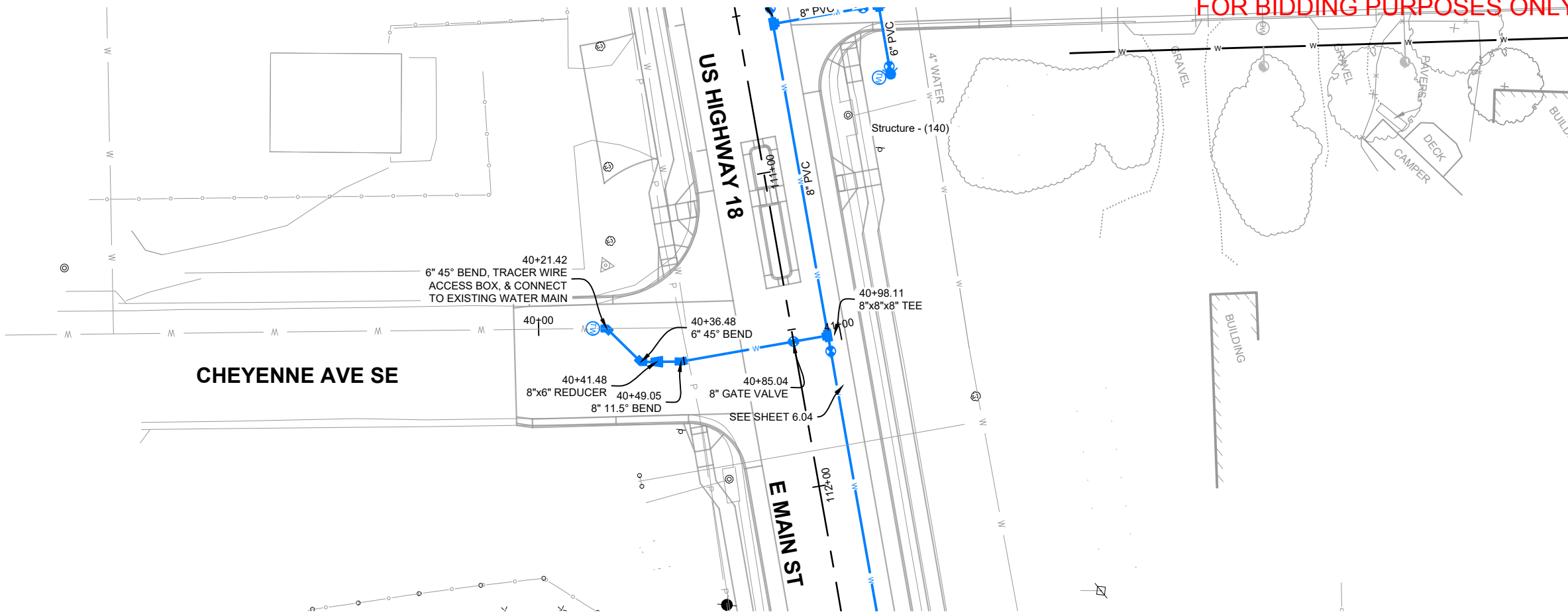
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FOR BIDDING PURPOSES ONLY

REVISED: 8/6/2024 JRW



MAP KEY  
1"=2000'

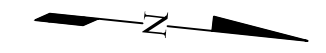
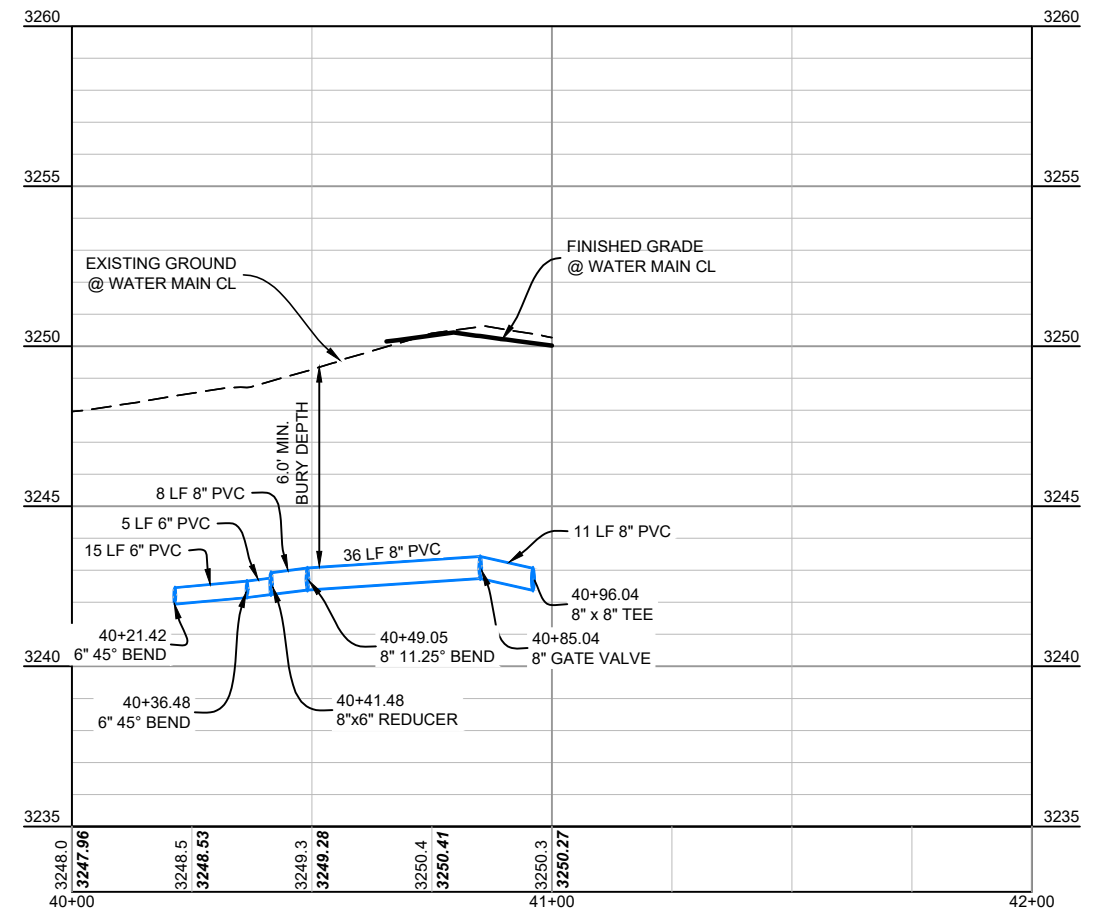


QUANTITIES THIS SHEET

8" PVC WATER MAIN	55 LF
6 PVC WATER MAIN	20 LF
8" 11.25 DEGREE BEND	1 EA
6" 45 DEGREE BEND	2 EA
8"x6" REDUCER	1 EA
8"x8"x8" TEE	1 EA
8" GATE VALVE	1 EA
TRACER WIRE ACCESS BOX - 2 WIRE	1 EA
CONNECT TO EXISTING WATER MAIN	1 EA

NOTES:

1. ALL WATER SERVICE LINES MUST BE 1" PE.
2. MINIMUM BURY DEPTH OF WATER MAIN & SERVICE LINES MUST BE 6' FROM PROPOSED FINISH GRADE.
3. EXISTING WATER MAIN MUST BE ABANDONED IN PLACE. THIS MUST INCLUDE FILLING THE PIPE WITH FLOWABLE FILL AND CAPPING THE ENDS.
4. ONCE ABANDONED, A PORTION OF EXISTING WATER MAIN CAN BE REMOVED AND DISPOSED OF TO ALLOW FOR INSTALLATION OF THE PROPOSED WATER SERVICE LINES.
5. CURB STOP LOCATIONS ARE APPROXIMATE AND NEED TO BE FIELD VERIFIED.
6. LOCATION FOR CONNECTION TO EXISTING WATER MAIN MUST BE CONFIRMED BY CONTRACTOR PRIOR TO ANY WORK ON THE WATER MAIN. ALL NECESSARY PIPING, COUPLINGS AND FITTINGS MUST BE ON-SITE PRIOR TO THE WATER MAIN BEING TURNED OFF.



**PINE RIDGE WATER IMPROVEMENTS**  
 OGLALA SIOUX TRIBE  
 PINE RIDGE, SOUTH DAKOTA  
**WATER PLAN & PROFILE - CHEYENNE AVE SE**

NO.	DATE	REVISION

DRAFTED	MJK
REVIEWED	JRW
PROJECT NUMBER	2211-01441
ISSUE DATE	6/25/2024

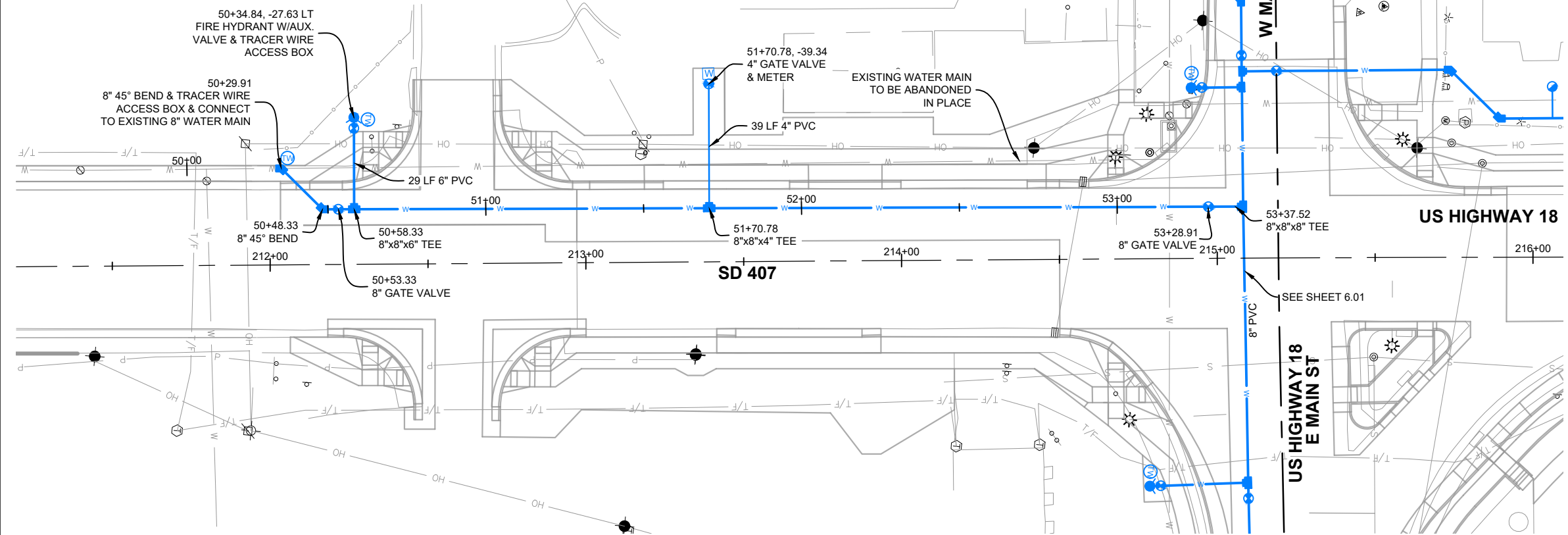
SHEET  
6.07

FOR BIDDING PURPOSES ONLY

REVISED: 8/6/2024 JRW



MAP KEY  
1"=2000'



QUANTITIES THIS SHEET

4" PVC WATER MAIN	39 LF
8" PVC WATER MAIN	312 LF
8" 45 DEGREE BEND	2 EA
8"x8"x4" TEE	1 EA
8"x8"x6" TEE	1 EA
8"x8"x8" TEE	1 EA
FIRE HYDRANT W/AUX. VALVE	1 EA
8" GATE VALVE	2 EA
TRACER WIRE ACCESS BOX - 2 WIRE	2 EA
CONNECT TO EXISTING WATER MAIN	1 EA
4" GATE VALVE & METER	1 EA

NOTES:

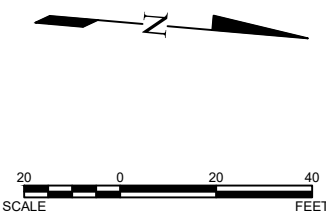
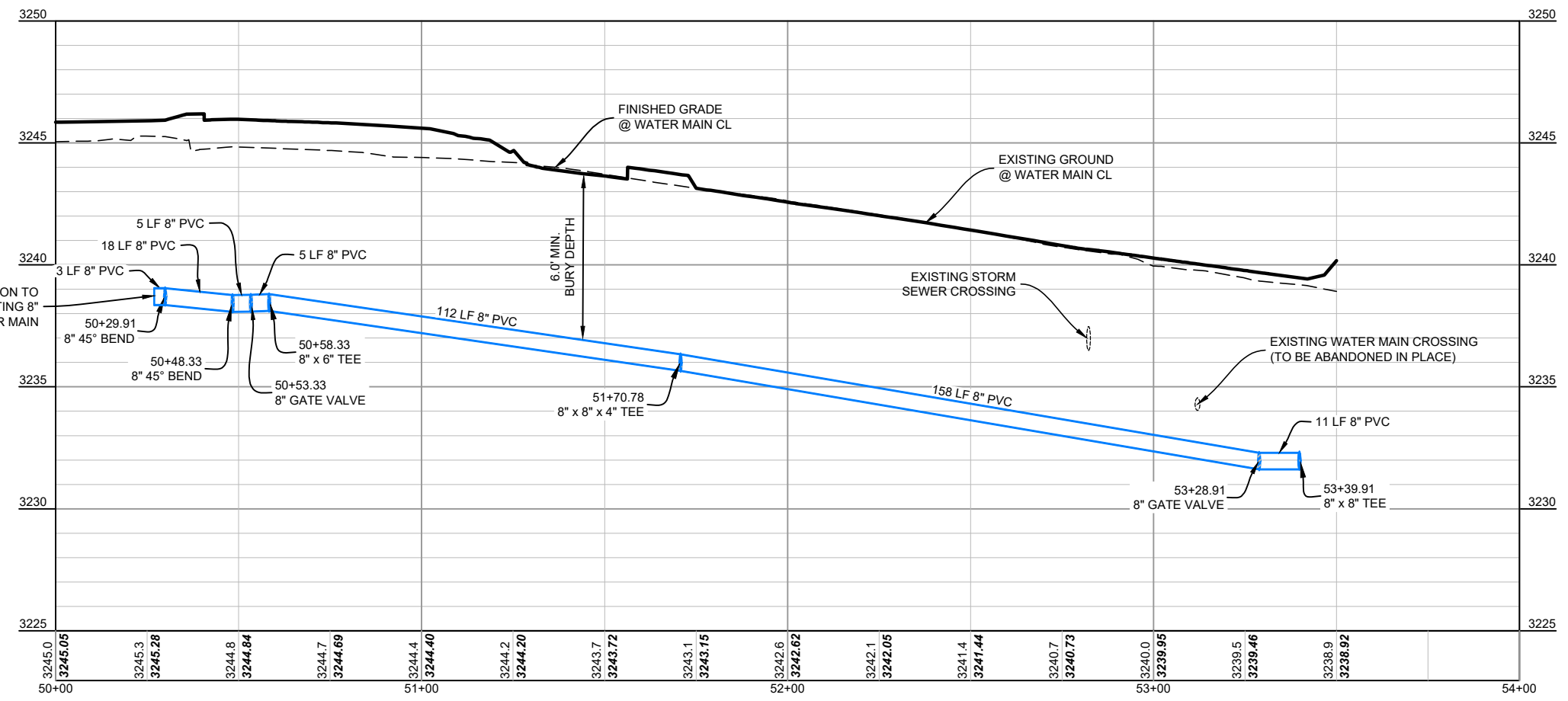
1. ALL WATER SERVICE LINES MUST BE 1" PE.
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3. EXISTING WATER MAIN MUST BE ABANDONED IN PLACE. THIS MUST INCLUDE FILLING THE PIPE WITH FLOWABLE FILL AND CAPPING THE ENDS.
4. ONCE ABANDONED, A PORTION OF EXISTING WATER MAIN CAN BE REMOVED AND DISPOSED OF TO ALLOW FOR INSTALLATION OF THE PROPOSED WATER SERVICE LINES.
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6. LOCATION FOR CONNECTION TO EXISTING WATER MAIN MUST BE CONFIRMED BY CONTRACTOR PRIOR TO ANY WORK ON THE WATER MAIN. ALL NECESSARY PIPING, COUPLINGS AND FITTINGS MUST BE ON-SITE PRIOR TO THE WATER MAIN BEING TURNED OFF.

NO.	DATE	REVISION

DRAFTED  
MJK  
REVIEWED  
JRW  
PROJECT NUMBER  
2211-01441  
ISSUE DATE  
6/25/2024

**PINE RIDGE WATER IMPROVEMENTS**  
 OGLALA SIOUX TRIBE  
 PINE RIDGE, SOUTH DAKOTA  
 WATER PLAN & PROFILE - SD 407

SHEET  
6.08



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REVISED: 8/6/2024 JRW



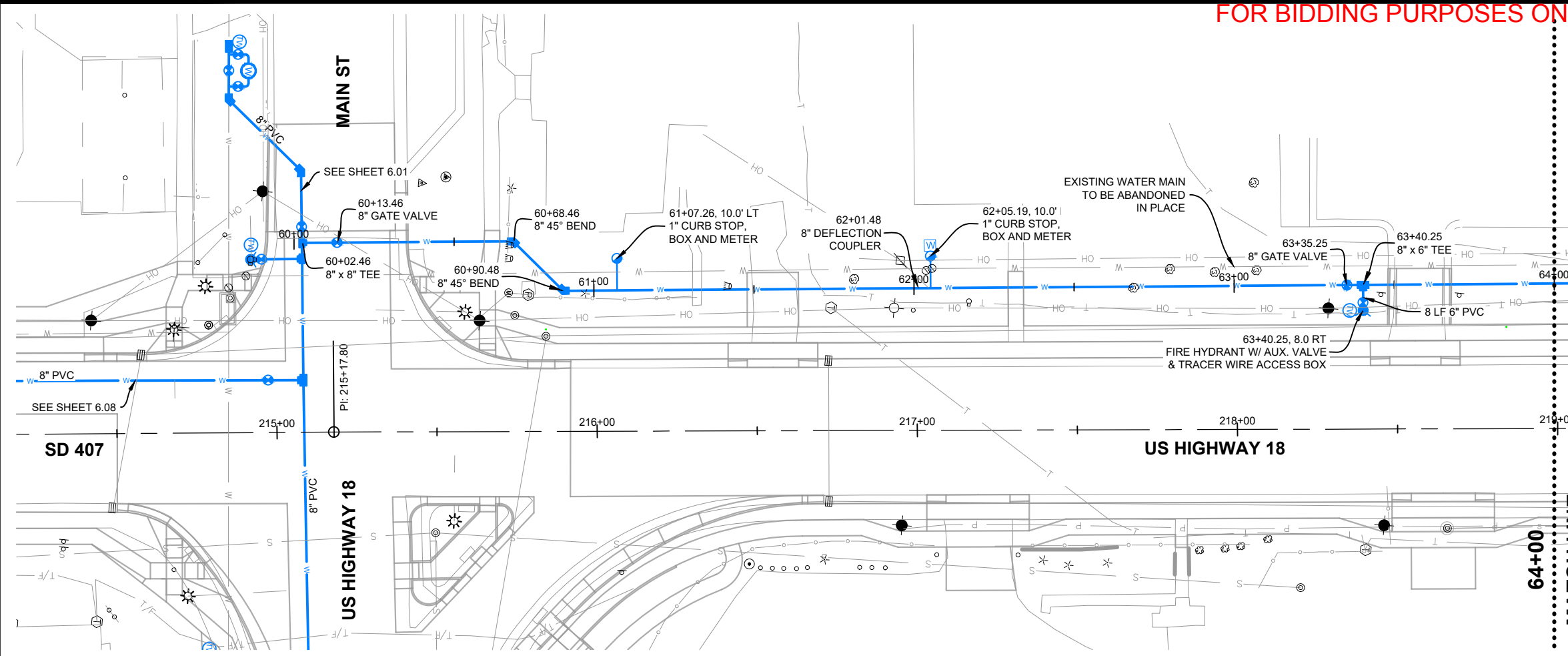
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QUANTITIES THIS SHEET

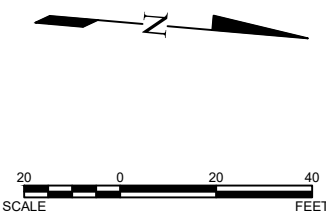
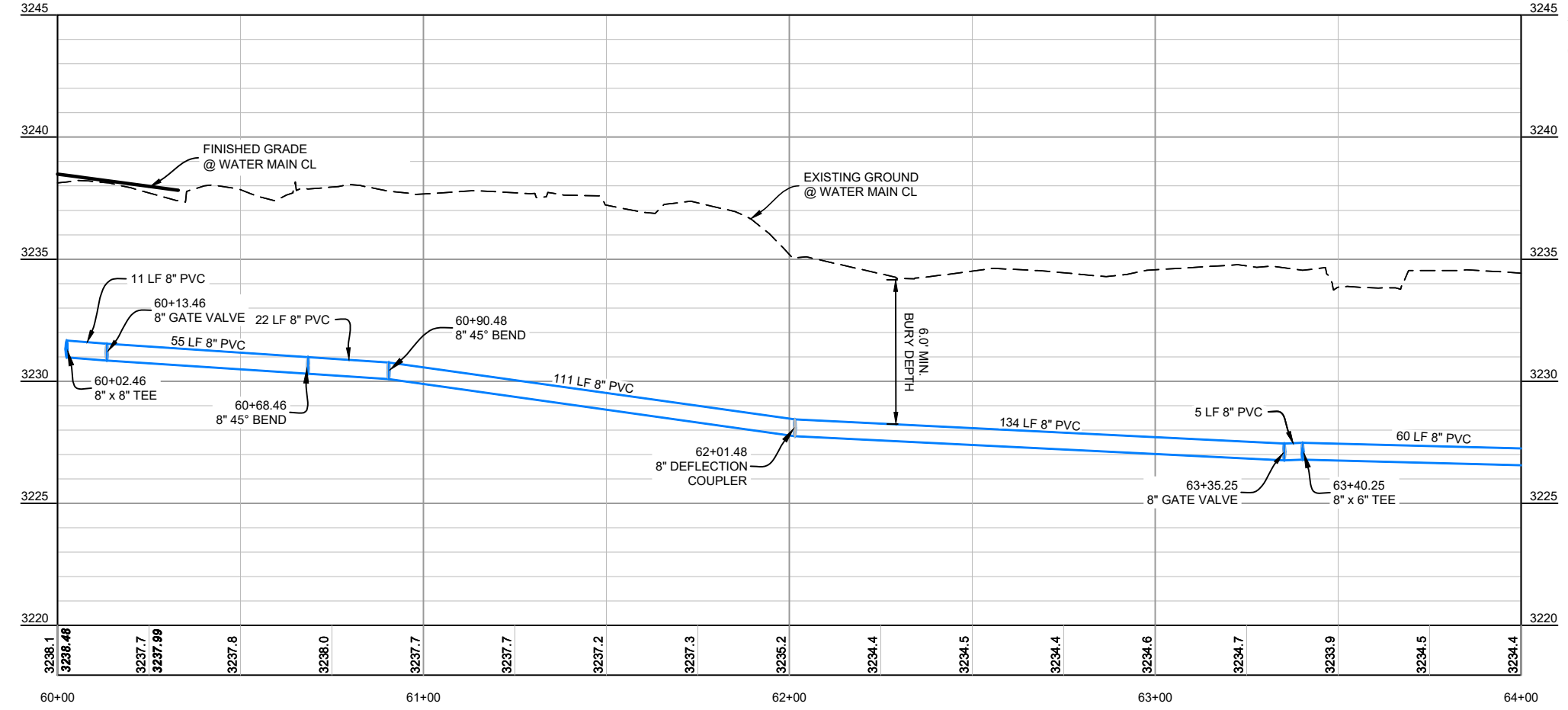
1" PE WATER SERVICE LINE	20 LF
8" PVC WATER MAIN	398 LF
6" PVC WATER MAIN	8 LF
8"x8"x6" TEE	1 EA
8"x8"x8" TEE	1 EA
8" HIGH DEFLECTION COUPLER	1 EA
FIRE HYDRANT W/AUX. VALVE	1 EA
1" CURB STOP, BOX AND METER	2 EA
8" GATE VALVE	2 EA
8" 45 DEGREE BENDS	2 EA
TRACER WIRE ACCESS BOX - 2 WIRE	1EA

NOTES:

1. ALL WATER SERVICE LINES MUST BE 1" PE.
2. MINIMUM BURY DEPTH OF WATER MAIN & SERVICE LINES MUST BE 6' FROM PROPOSED FINISH GRADE.
3. EXISTING WATER MAIN MUST BE ABANDONED IN PLACE. THIS MUST INCLUDE FILLING THE PIPE WITH FLOWABLE FILL AND CAPPING THE ENDS.
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6. LOCATION FOR CONNECTION TO EXISTING WATER MAIN MUST BE CONFIRMED BY CONTRACTOR PRIOR TO ANY WORK ON THE WATER MAIN. ALL NECESSARY PIPING, COUPLINGS AND FITTINGS MUST BE ON-SITE PRIOR TO THE WATER MAIN BEING TURNED OFF.



64+00  
MATCH LINE



PINE RIDGE WATER IMPROVEMENTS  
OGLALA SIOUX TRIBE  
PINE RIDGE, SOUTH DAKOTA  
WATER PLAN & PROFILE - HIGHWAY 18

NO.	DATE	REVISION

DRAFTED	MJK
REVIEWED	JRW
PROJECT NUMBER	2211-01441
ISSUE DATE	6/25/2024

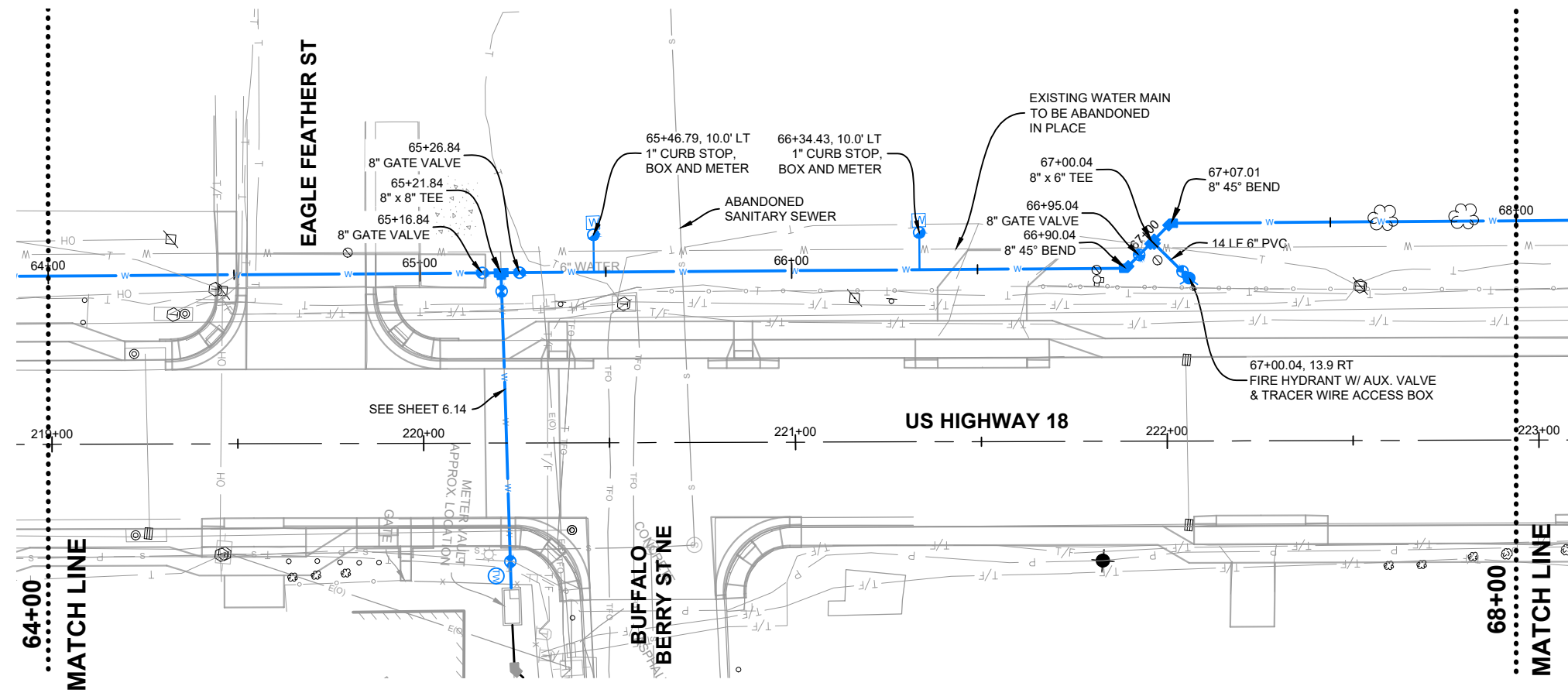
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FOR BIDDING PURPOSES ONLY



REVISED: 8/6/2024 JRW

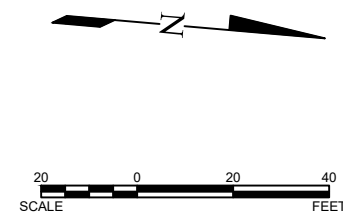
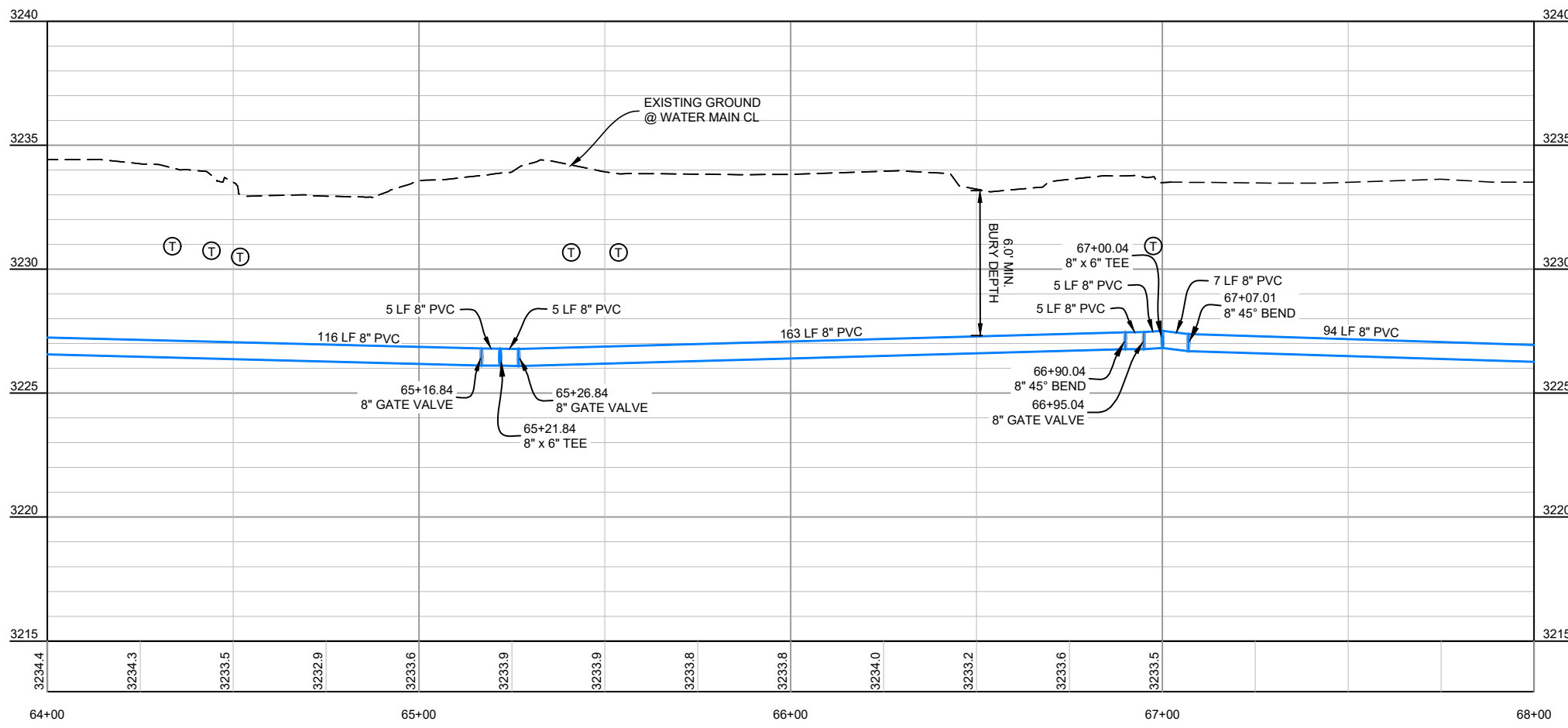


**QUANTITIES THIS SHEET**

1" PE WATER SERVICE LINE	20 LF
8" PVC WATER MAIN	400 LF
6" PVC WATER MAIN	14 LF
8" 45 DEGREE BEND	2 EA
8"x8"x8" TEE	1 EA
8"x8"x6" TEE	1 EA
8" GATE VALVE	3 EA
FIRE HYDRANT W/AUX. VALVE	1 EA
1" CURB STOP, BOX AND METER	2 EA
RECONNECT WATER SERVICE	2 EA
TRACER WIRE ACCESS BOX - 2 WIRE	1 EA

**NOTES:**

1. ALL WATER SERVICE LINES MUST BE 1" PE.
2. MINIMUM BURY DEPTH OF WATER MAIN & SERVICE LINES MUST BE 6' FROM PROPOSED FINISH GRADE.
3. EXISTING WATER MAIN MUST BE ABANDONED IN PLACE. THIS MUST INCLUDE FILLING THE PIPE WITH FLOWABLE FILL AND CAPPING THE ENDS.
4. ONCE ABANDONED, A PORTION OF EXISTING WATER MAIN CAN BE REMOVED AND DISPOSED OF TO ALLOW FOR INSTALLATION OF THE PROPOSED WATER SERVICE LINES.
5. CURB STOP LOCATIONS ARE APPROXIMATE AND NEED TO BE FIELD VERIFIED.
6. LOCATION FOR CONNECTION TO EXISTING WATER MAIN MUST BE CONFIRMED BY CONTRACTOR PRIOR TO ANY WORK ON THE WATER MAIN. ALL NECESSARY PIPING, COUPLINGS AND FITTINGS MUST BE ON-SITE PRIOR TO THE WATER MAIN BEING TURNED OFF.

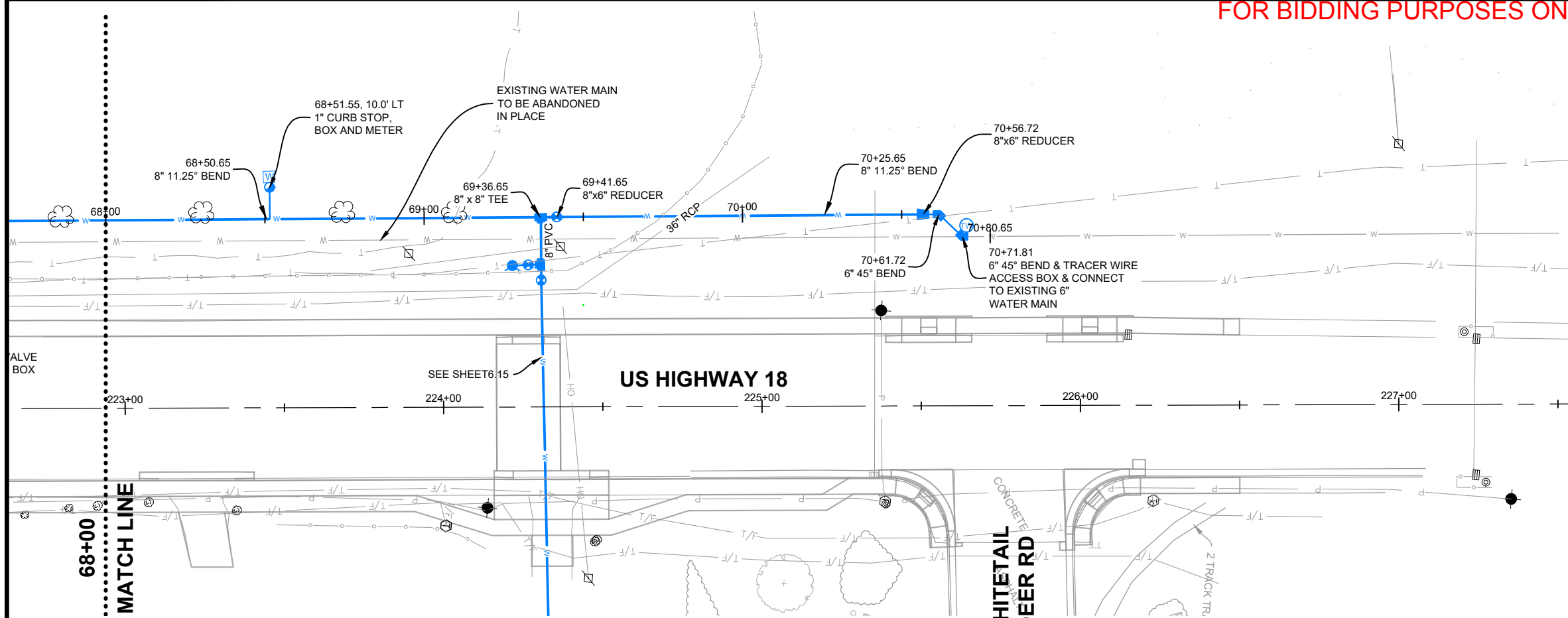


**PINE RIDGE WATER IMPROVEMENTS**  
 OGLALA SIOUX TRIBE  
 PINE RIDGE, SOUTH DAKOTA  
**WATER PLAN & PROFILE - HIGHWAY 18**

NO.	DATE	REVISION
		DRAFTED MJK
		REVIEWED JRW
		PROJECT NUMBER 2211-01441
		ISSUE DATE 6/25/2024

SHEET  
**6.10**

FOR BIDDING PURPOSES ONLY



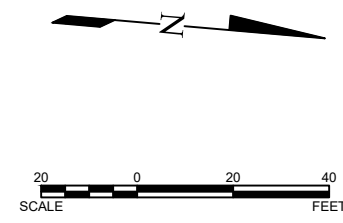
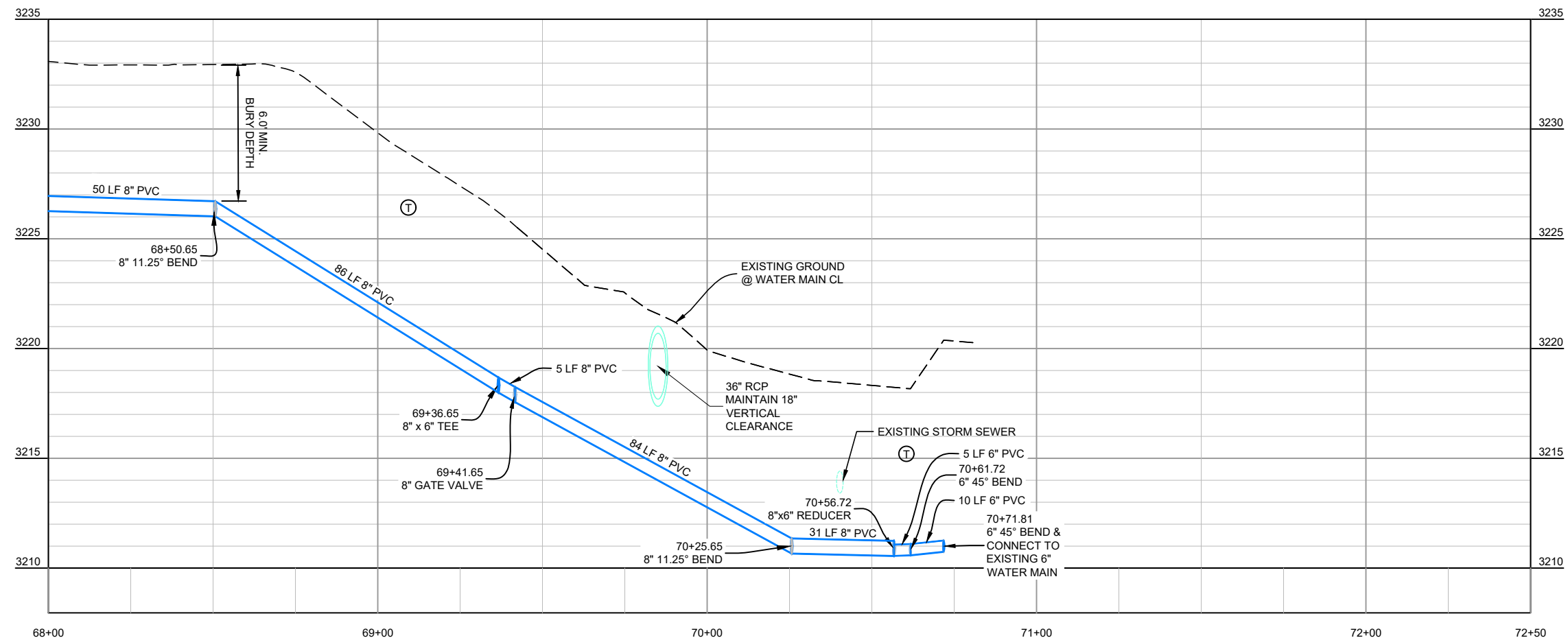
**QUANTITIES THIS SHEET**

1" PE WATER SERVICE LINE	10 LF
8" PVC WATER MAIN	256 LF
6" PVC WATER MAIN	15 LF
6" 45 DEGREE BEND	2 EA
8" 11.25 DEGREE BEND	2 EA
8"x6" REDUCER	1 EA
8"x8"x8" TEE	1 EA
1" CURB STOP, BOX METER	1 EA
8" GATE VALVE	1 EA
CONNECT TO EXISTING WATER MAIN	1 EA
RECONNECT WATER SERVICE	1 EA
TRACER WIRE ACCESS BOX - 2 WIRE	1 EA

- NOTES:**
1. ALL WATER SERVICE LINES MUST BE 1" PE.
  2. MINIMUM BURY DEPTH OF WATER MAIN & SERVICE LINES MUST BE 6' FROM PROPOSED FINISH GRADE.
  3. EXISTING WATER MAIN MUST BE ABANDONED IN PLACE. THIS MUST INCLUDE FILLING THE PIPE WITH FLOWABLE FILL AND CAPPING THE ENDS.
  4. ONCE ABANDONED, A PORTION OF EXISTING WATER MAIN CAN BE REMOVED AND DISPOSED OF TO ALLOW FOR INSTALLATION OF THE PROPOSED WATER SERVICE LINES.
  5. CURB STOP LOCATIONS ARE APPROXIMATE AND NEED TO BE FIELD VERIFIED.
  6. LOCATION FOR CONNECTION TO EXISTING WATER MAIN MUST BE CONFIRMED BY CONTRACTOR PRIOR TO ANY WORK ON THE WATER MAIN. ALL NECESSARY PIPING, COUPLINGS AND FITTINGS MUST BE ON-SITE PRIOR TO THE WATER MAIN BEING TURNED OFF.

NO.	DATE	REVISION

DRAFTED  
MJK  
REVIEWED  
JRW  
PROJECT NUMBER  
2211-01441  
ISSUE DATE  
6/25/2024



**PINE RIDGE WATER IMPROVEMENTS**  
 OGLALA SIOUX TRIBE  
 PINE RIDGE, SOUTH DAKOTA  
**WATER PLAN & PROFILE - HIGHWAY 18**

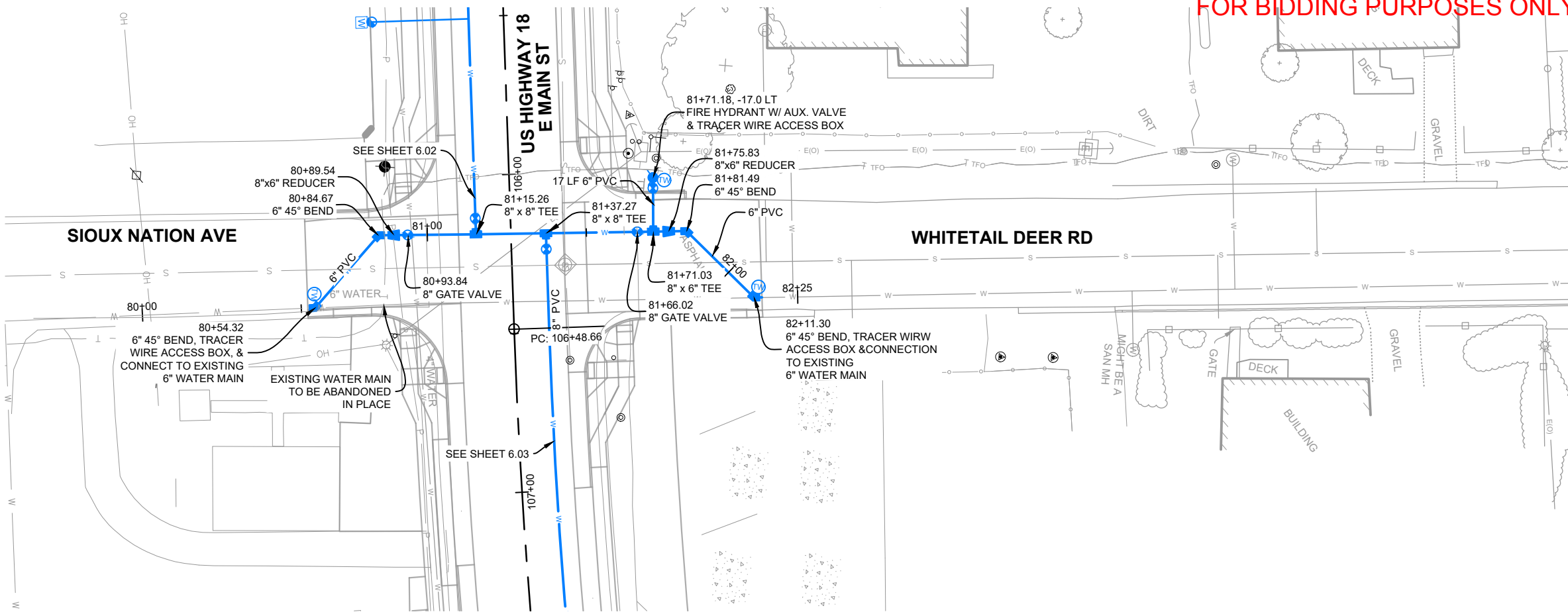
SHEET  
**6.11**

FOR BIDDING PURPOSES ONLY

REVISED: 8/6/2024 JRW



MAP KEY  
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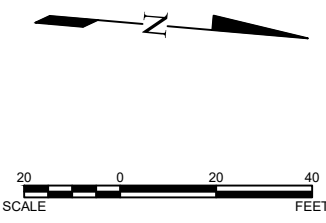
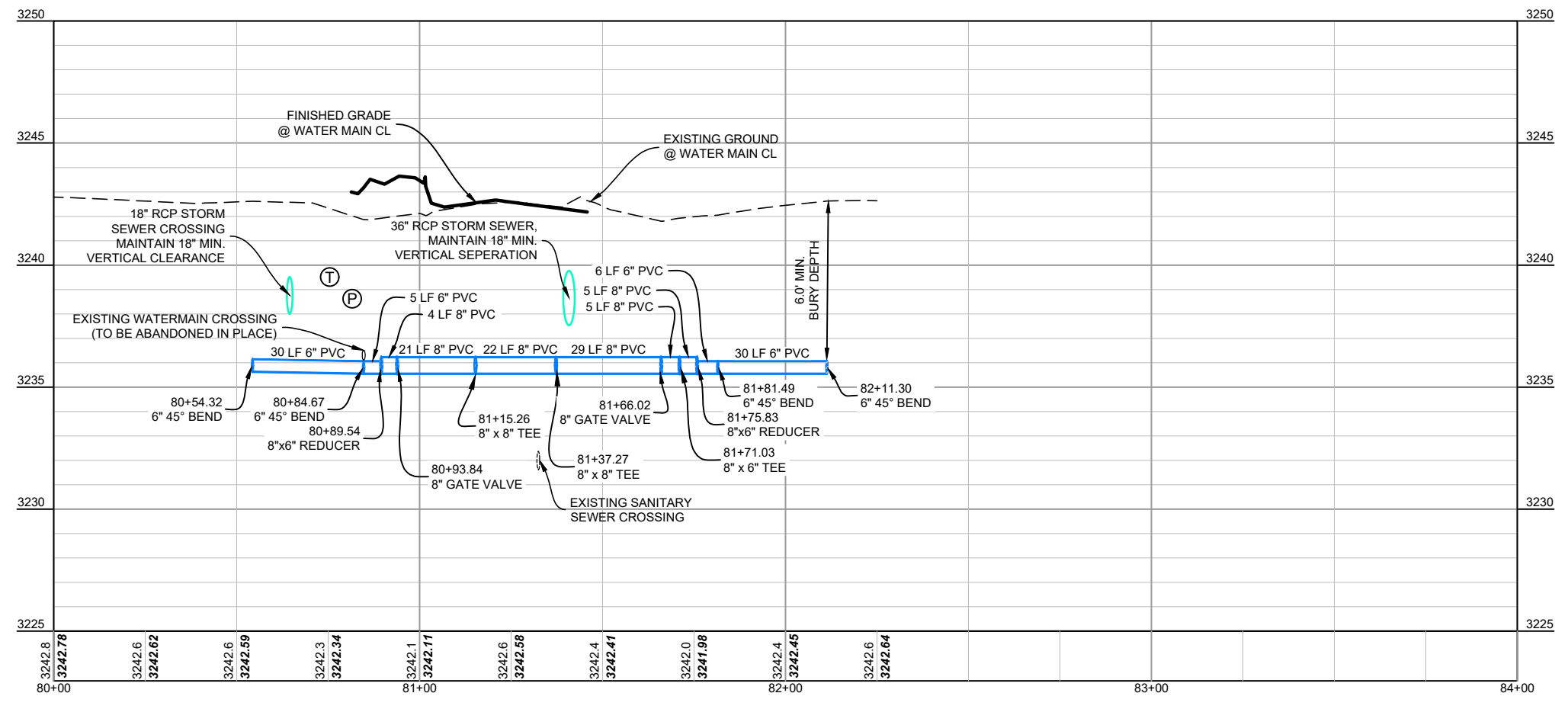


QUANTITIES THIS SHEET

8" PVC WATER MAIN	86 LF
6" PVC WATER MAIN	88 LF
6" 45 DEGREE BEND	4 EA
8"x6" REDUCER	2 EA
8"x8"x6" TEE	1 EA
8"x8"x8" TEE	2 EA
FIRE HYDRANT W/AUX. VALVE	1 EA
8" GATE VALVE	2 EA
TRACER WIRE ACCESS BOX - 2 WIRE	3 EA
CONNECT TO EXISTING WATER MAIN	2 EA

NOTES:

1. ALL WATER SERVICE LINES MUST BE 1" PE.
2. MINIMUM BURY DEPTH OF WATER MAIN & SERVICE LINES MUST BE 6' FROM PROPOSED FINISH GRADE.
3. EXISTING WATER MAIN MUST BE ABANDONED IN PLACE. THIS MUST INCLUDE FILLING THE PIPE WITH FLOWABLE FILL AND CAPPING THE ENDS.
4. ONCE ABANDONED, A PORTION OF EXISTING WATER MAIN CAN BE REMOVED AND DISPOSED OF TO ALLOW FOR INSTALLATION OF THE PROPOSED WATER SERVICE LINES.
5. CURB STOP LOCATIONS ARE APPROXIMATE AND NEED TO BE FIELD VERIFIED.
6. LOCATION FOR CONNECTION TO EXISTING WATER MAIN MUST BE CONFIRMED BY CONTRACTOR PRIOR TO ANY WORK ON THE WATER MAIN. ALL NECESSARY PIPING, COUPLINGS AND FITTINGS MUST BE ON-SITE PRIOR TO THE WATER MAIN BEING TURNED OFF.



PINE RIDGE WATER IMPROVEMENTS  
OGLALA SIOUX TRIBE  
PINE RIDGE, SOUTH DAKOTA  
WATER PLAN & PROFILE - WHITETAIL DEER RD

NO.	DATE	REVISION

DRAFTED	MJK
REVIEWED	JRW
PROJECT NUMBER	2211-01441
ISSUE DATE	6/25/2024

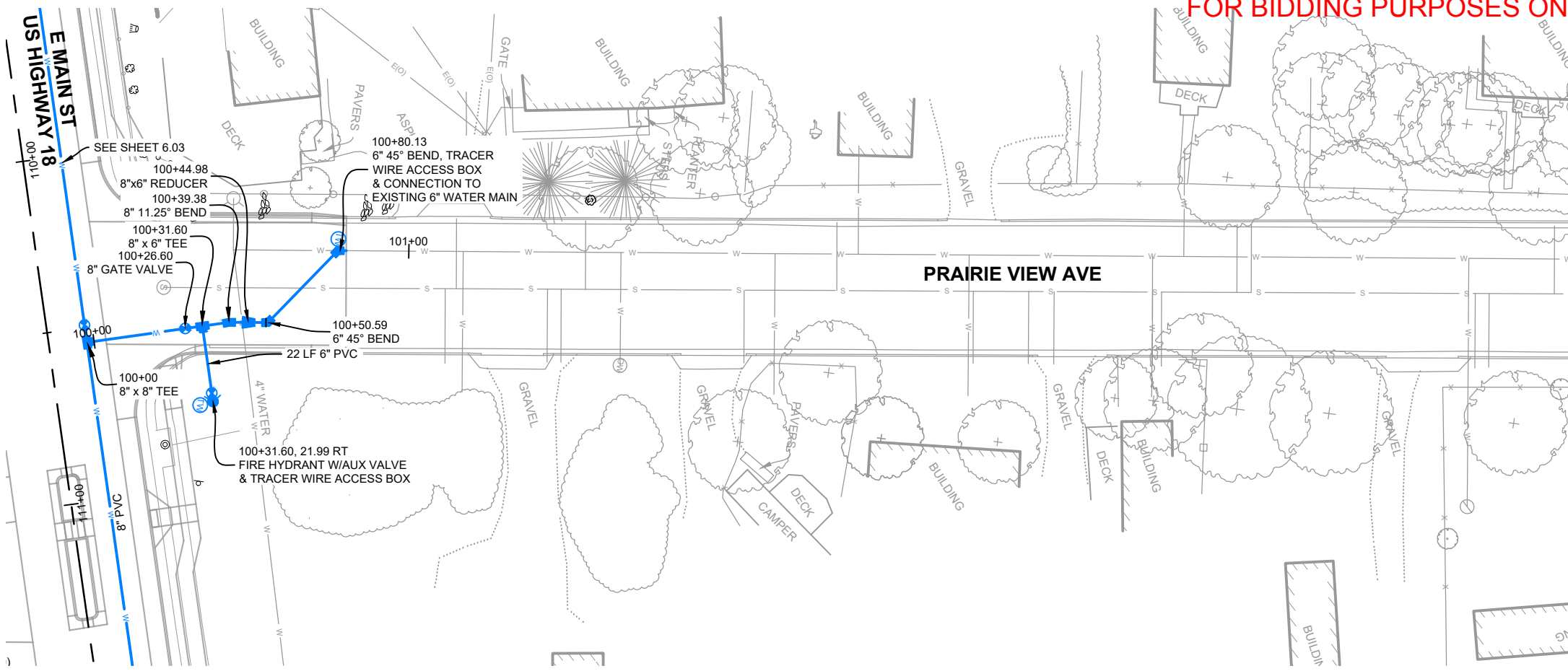
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FOR BIDDING PURPOSES ONLY

REVISED: 8/6/2024 JRW



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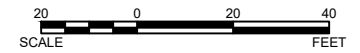
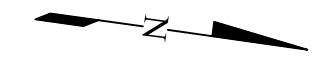
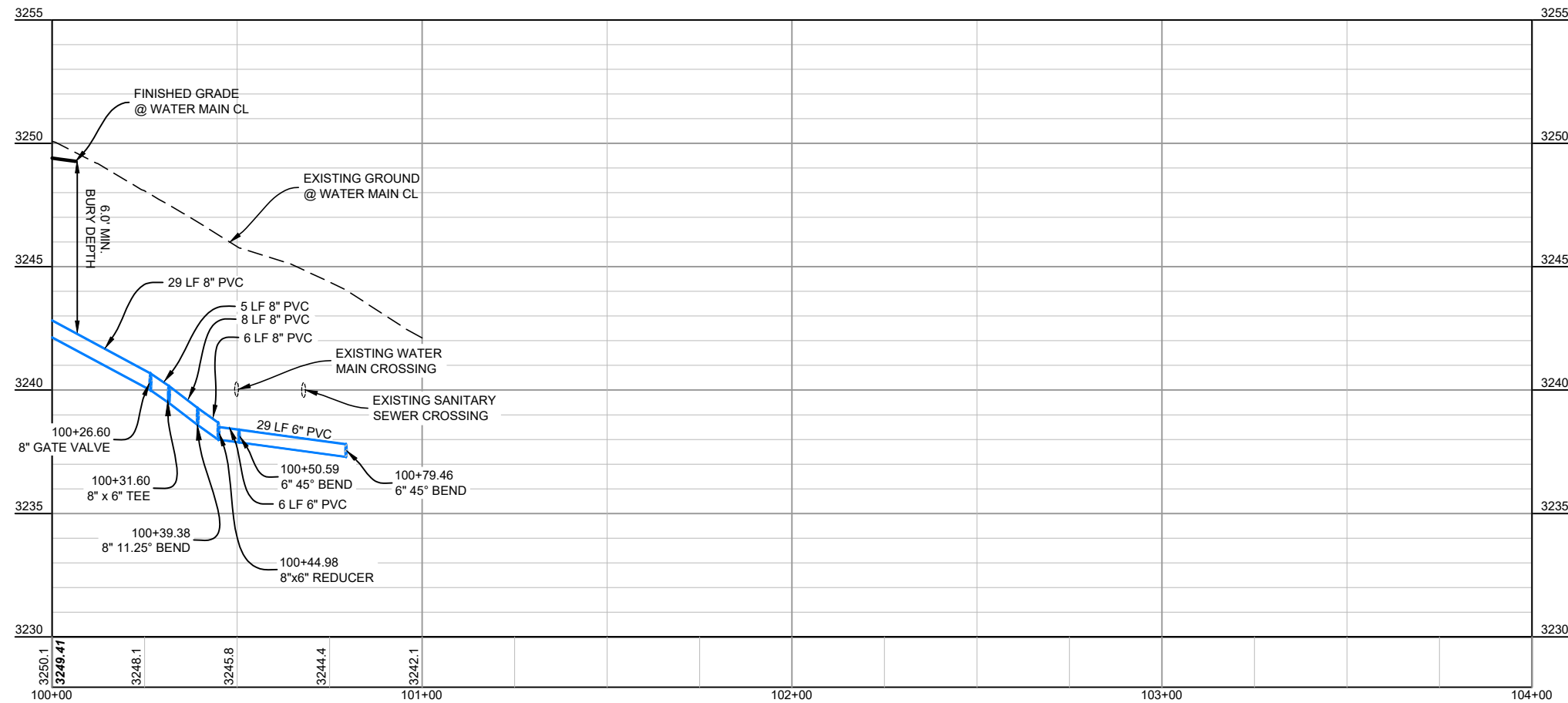


QUANTITIES THIS SHEET

8" PVC WATER MAIN	48 LF
6" PVC WATER MAIN	57 LF
8" 11.5 DEGREE BEND	1 EA
6" 45 DEGREE BEND	2 EA
8"x6" REDUCER	1 EA
8"x8"x6" TEE	1 EA
8"x8"x8" TEE	1 EA
FIRE HYDRANT W/AUX. VALVE	1 EA
8" GATE VALVE	1 EA
TRACER WIRE ACCESS BOX - 2 WIRE	2 EA
CONNECT TO EXISTING WATER MAIN	1 EA

NOTES:

1. ALL WATER SERVICE LINES MUST BE 1" PE.
2. MINIMUM BURY DEPTH OF WATER MAIN & SERVICE LINES MUST BE 6' FROM PROPOSED FINISH GRADE.
3. EXISTING WATER MAIN MUST BE ABANDONED IN PLACE. THIS MUST INCLUDE FILLING THE PIPE WITH FLOWABLE FILL AND CAPPING THE ENDS.
4. ONCE ABANDONED, A PORTION OF EXISTING WATER MAIN CAN BE REMOVED AND DISPOSED OF TO ALLOW FOR INSTALLATION OF THE PROPOSED WATER SERVICE LINES.
5. CURB STOP LOCATIONS ARE APPROXIMATE AND NEED TO BE FIELD VERIFIED.
6. LOCATION FOR CONNECTION TO EXISTING WATER MAIN MUST BE CONFIRMED BY CONTRACTOR PRIOR TO ANY WORK ON THE WATER MAIN. ALL NECESSARY PIPING, COUPLINGS AND FITTINGS MUST BE ON-SITE PRIOR TO THE WATER MAIN BEING TURNED OFF.



PINE RIDGE WATER IMPROVEMENTS  
OGLALA SIOUX TRIBE  
PINE RIDGE, SOUTH DAKOTA  
WATER PLAN & PROFILE - PRAIRIE VIEW AVE

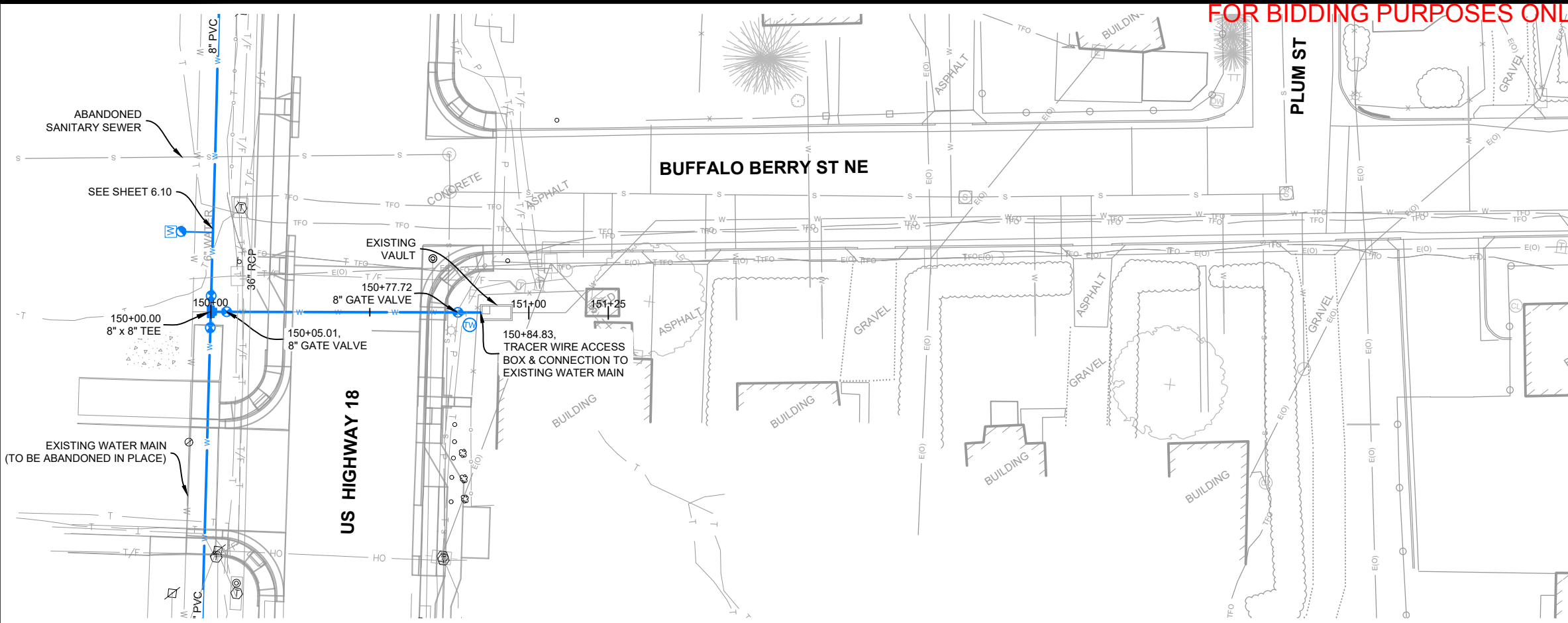
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FOR BIDDING PURPOSES ONLY

REVISED: 8/6/2024 JRW



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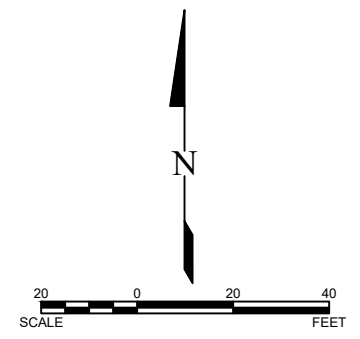


QUANTITIES THIS SHEET

8" PVC WATER MAIN	85 LF
8"x8"x8" TEE	1 EA
8" 45 DEGREE BEND	3 EA
8" GATE VALVE	2 EA
CONNECT TO EXISTING WATER MAIN	1 EA
TRACER WIRE ACCESS BOX - 2 WIRE	1 EA

NOTES:

1. ALL WATER SERVICE LINES MUST BE 1" PE.
2. MINIMUM BURY DEPTH OF WATER MAIN & SERVICE LINES MUST BE 6' FROM PROPOSED FINISH GRADE.
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PINE RIDGE WATER IMPROVEMENTS  
OGLALA SIOUX TRIBE  
PINE RIDGE, SOUTH DAKOTA  
WATER PLAN & PROFILE - BUFFALO BERRY ST NE

NO.	DATE	REVISION
		DRAFTED MJK
		REVIEWED JRW
		PROJECT NUMBER 2211-01441
		ISSUE DATE 6/25/2024

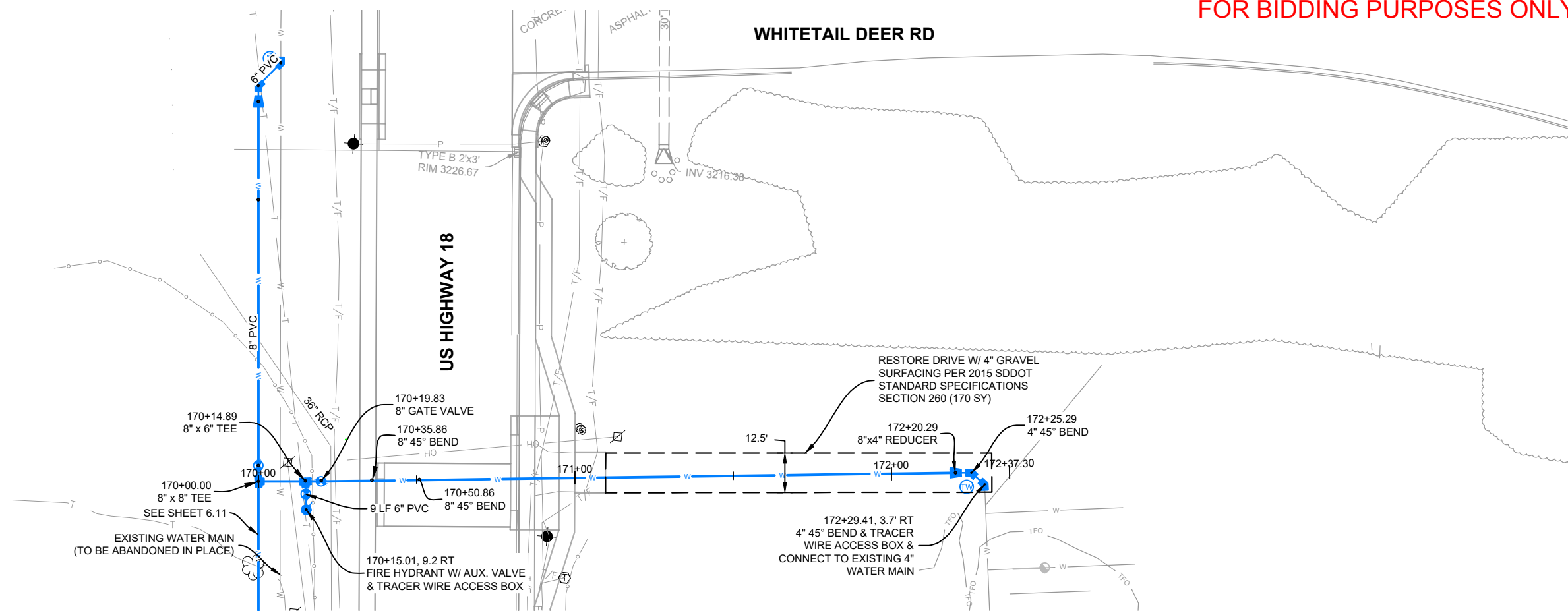
SHEET  
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FOR BIDDING PURPOSES ONLY

REVISED: 8/6/2024 JRW



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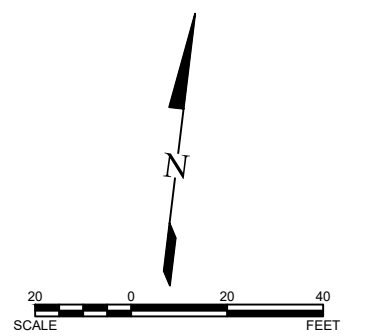
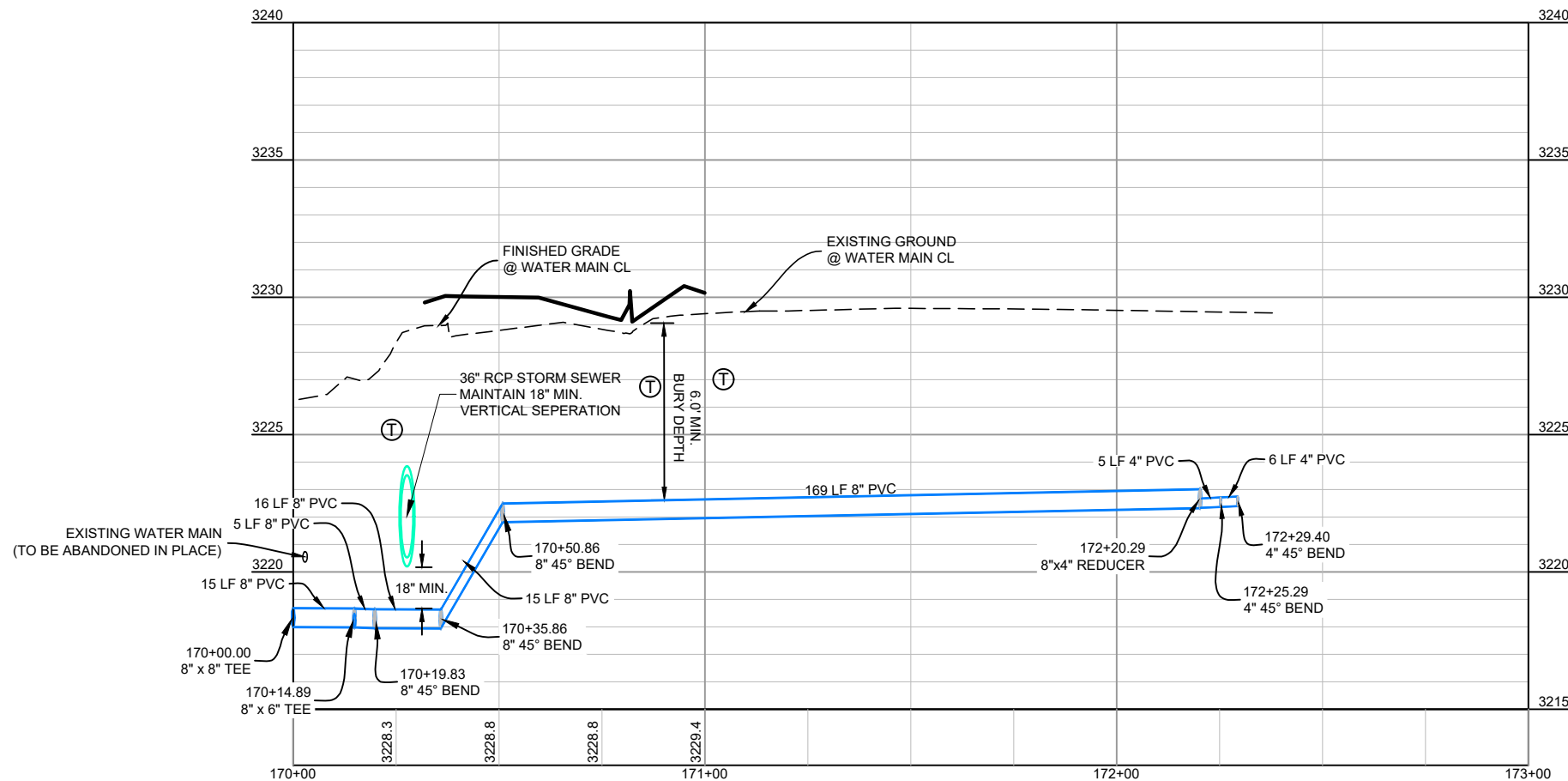


QUANTITIES THIS SHEET

8" PVC WATER MAIN	220 LF
6" PVC WATER MAIN	9 LF
4" PVC WATER MAIN	11 LF
8"x4" REDUCER	1 EA
8"x8"x8" TEE	1 EA
8"x8"x6" TEE	2 EA
4" 45 DEGREE BEND	1 EA
FIRE HYDRANT W/AUX. VALVE	1 EA
8" GATE VALVE	1 EA
CONNECT TO EXISTING WATER MAIN	1 EA
TRACER WIRE ACCESS BOX - 2 WIRE	2 EA

NOTES:

1. ALL WATER SERVICE LINES MUST BE 1" PE.
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PINE RIDGE WATER IMPROVEMENTS  
OGLALA SIOUX TRIBE  
PINE RIDGE, SOUTH DAKOTA  
WATER PLAN & PROFILE - S OF WHITETAIL DEER RD

SHEET  
6.15



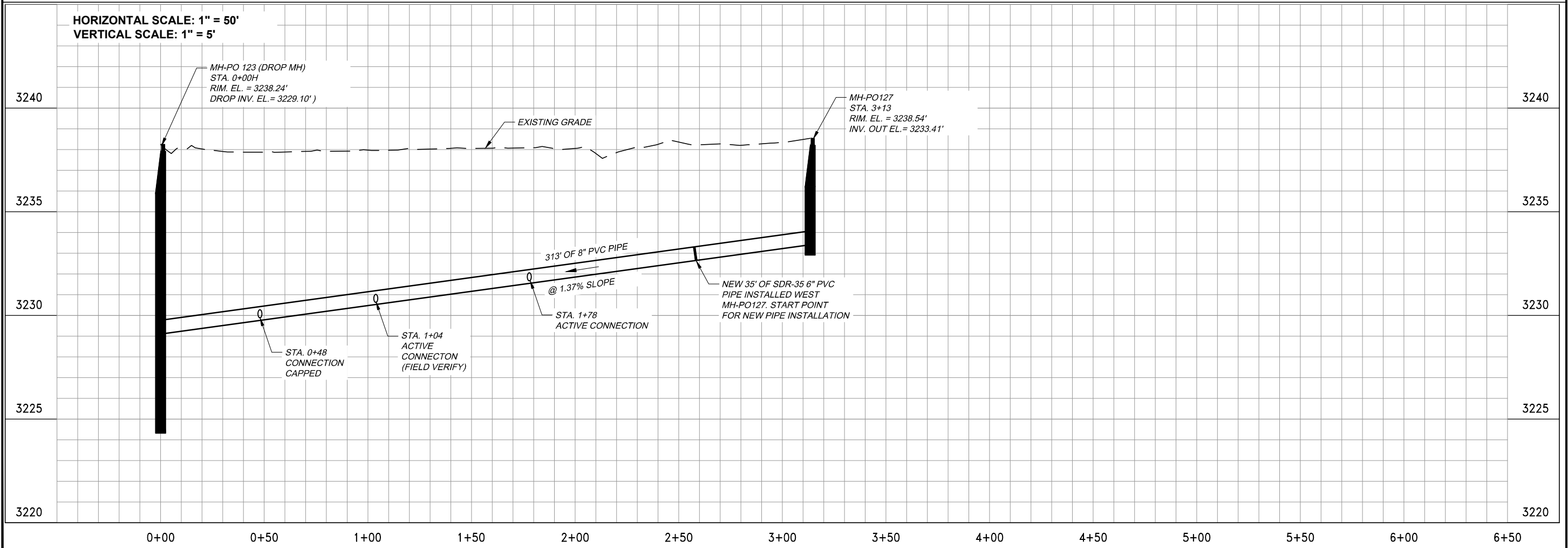
FOR BIDDING PURPOSES ONLY

REVISED: 8/7/2024 JEB

DATE	REVISIONS	INIT.
8/7/24	CHANGE SHEET TITLE AND NO.	JEB

GREAT PLAINS AREA INDIAN HEALTH SERVICE  
 OFFICE OF ENVIRONMENTAL  
 HEALTH & ENGINEERING

SANITATION FACILITIES CONSTRUCTION  
 115 4th Ave SE: FEDERAL BUILDING RM. 309  
 Aberdeen, SD 57401  
 (605)226-7451



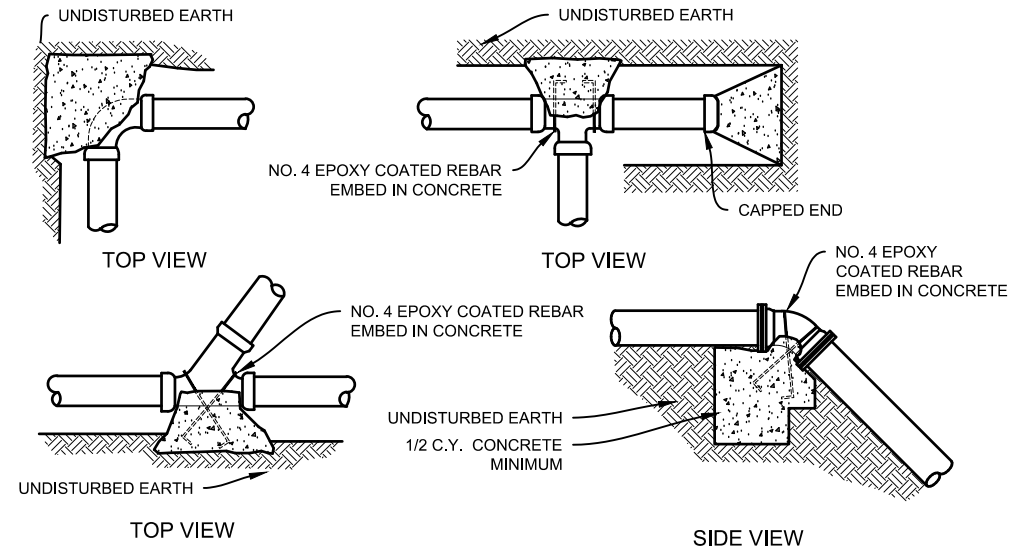
**Sanitary Sewer Plan & Profile - E Main Street**  
 PINE RIDGE RESERVATION, SOUTH DAKOTA  
 SEWER MAIN REPLACEMENT  
 PUBLIC LAW 86-121  
 GP-21-J96

FILE NAME: PINE RIDGE SEWER  
 LAYOUT NAME: SS P&P - E Main Street  
 PROJ ENG: J AINSLIE SCALE: 1" = 50'

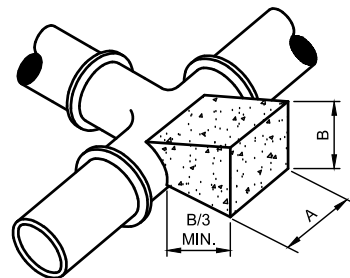
DRAWN BY: S HYDE  
 CHECKED BY: J AINSLIE  
 APPROVED BY: J BEGEMAN

SHEET  
**6.16**

NOTES: POUR ALL THRUST BLOCKS AGAINST UNDISTURBED EARTH  
TRANSITION GASKETS WILL NOT BE APPROVED



THRUST BLOCK SETTINGS  
NOT TO SCALE

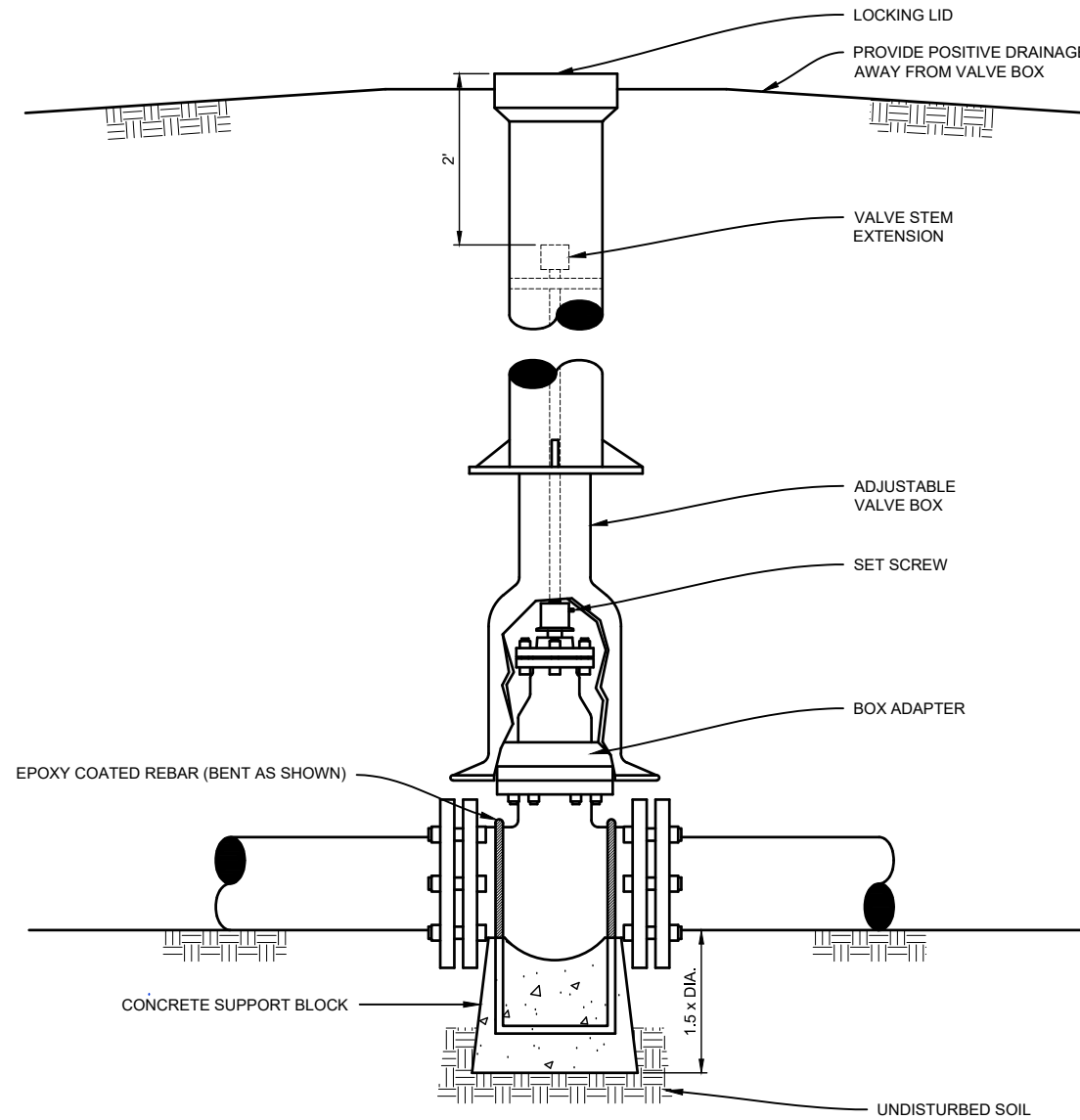


THRUST BLOCK MINIMUM DIMENSIONS

NOTE: THIS TABLE IS BASED ON 150 PSI MAIN PRESSURE AND 2000 PSF SOIL BEARING PRESSURE. DIMENSIONS FOR THRUST BLOCKING

FITTING SIZES	TEES AND PLUGS		90 DEG. BEND		45 DEG. BEND & WYES		REDUCERS & 22 1/2 DEG. BEND	
	A	B	A	B	A	B	A	B
4"	1'-7"	1'-2"	1'-9"	1'-6"	1'-8"	0'-10"	1'-7"	0'-8"
6"	2'-0"	1'-11"	2'-5"	2'-2"	1'-10"	1'-7"	1'-9"	0'-10"
8"	2'-8"	2'-8"	3'-2"	3'-0"	2'-5"	2'-1"	1'-9"	1'-6"
10"	3'-4"	3'-3"	4'-0"	3'-10"	3'-0"	2'-9"	2'-2"	1'-11"
12"	4'-0"	3'-10"	4'-8"	4'-8"	3'-8"	3'-3"	2'-7"	2'-3"
14"	5'-5"	3'-10"	6'-6"	4'-11"	4'-9"	3'-5"	3'-5"	2'-5"

THRUST BLOCK SETTINGS & MINIMUM DIMENSIONS  
NO SCALE



GATE VALVE & BOX  
NO SCALE



NO.	DATE	REVISION
DRAFTED: MJK		
REVIEWED: JRW		
PROJECT NUMBER: 2211-01441		
ISSUE DATE: 6/25/2024		

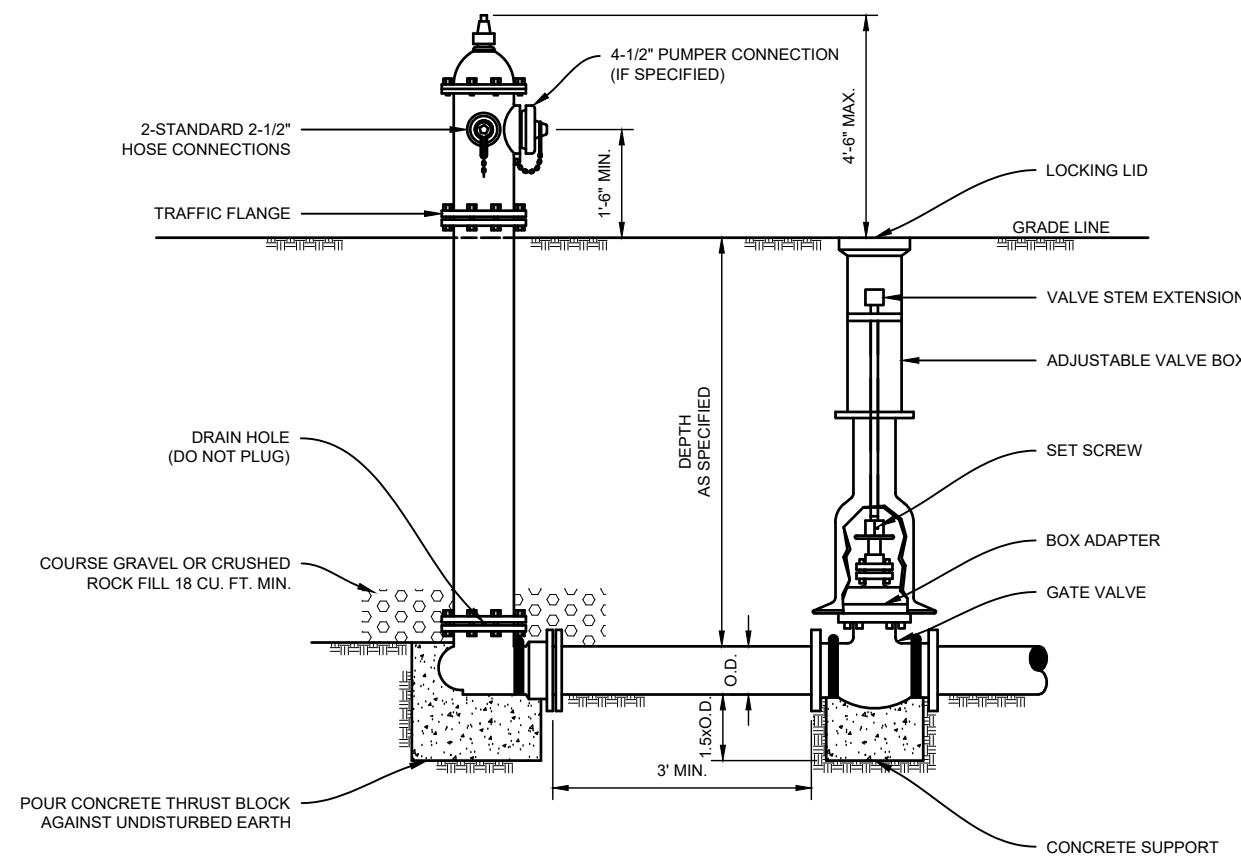
PINE RIDGE WATER IMPROVEMENTS  
OGLALA SIOUX TRIBE  
PINE RIDGE, SOUTH DAKOTA

DETAILS

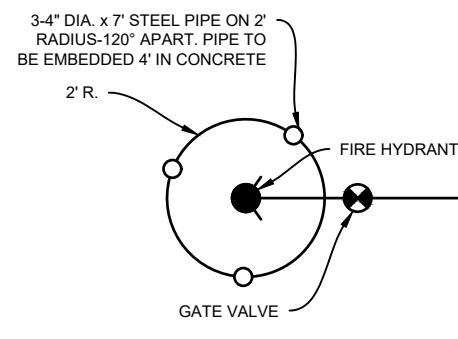


NO.	DATE	REVISION

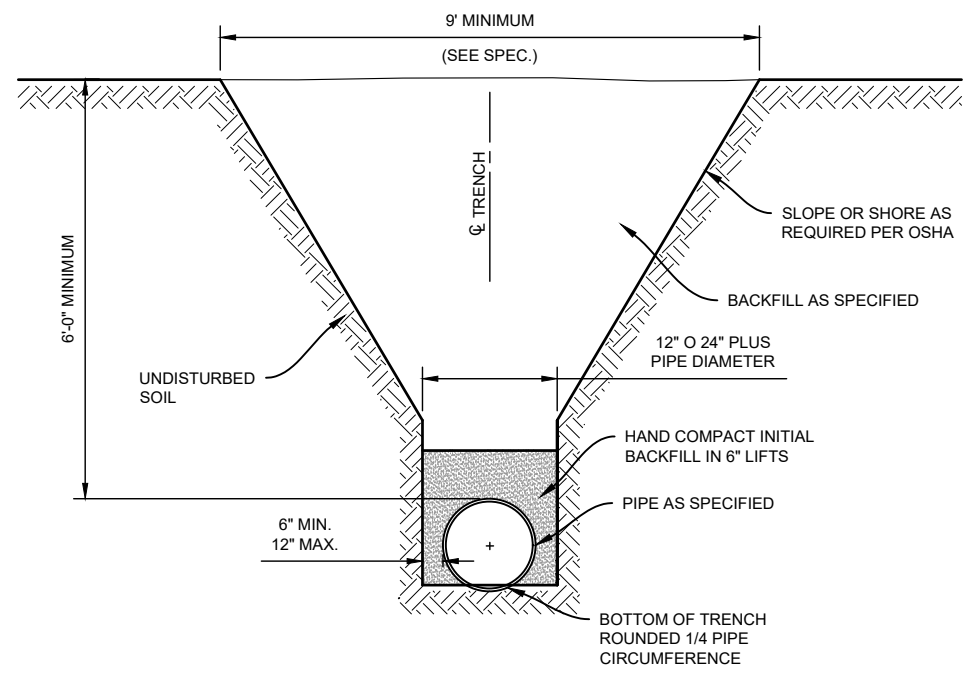
DRAFTED MJK  
 REVIEWED JRW  
 PROJECT NUMBER 2211-01441  
 ISSUE DATE 6/25/2024  
**PINE RIDGE WATER IMPROVEMENTS**  
 OGLALA SIOUX TRIBE  
 PINE RIDGE, SOUTH DAKOTA  
**DETAILS**



**HYDRANT WITH GATE VALVE & BOX**  
NO SCALE



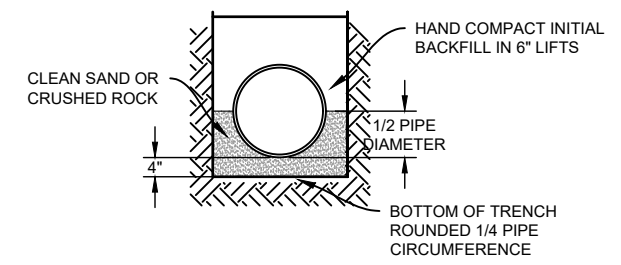
NOTE: IF PVC PIPE IS USED BETWEEN HYDRANT AND GATE VALVE, WALL THICKNESS MUST BE A MINIMUM OF 0.30" FOR CONNECTION BY MECHANICAL JOINT.



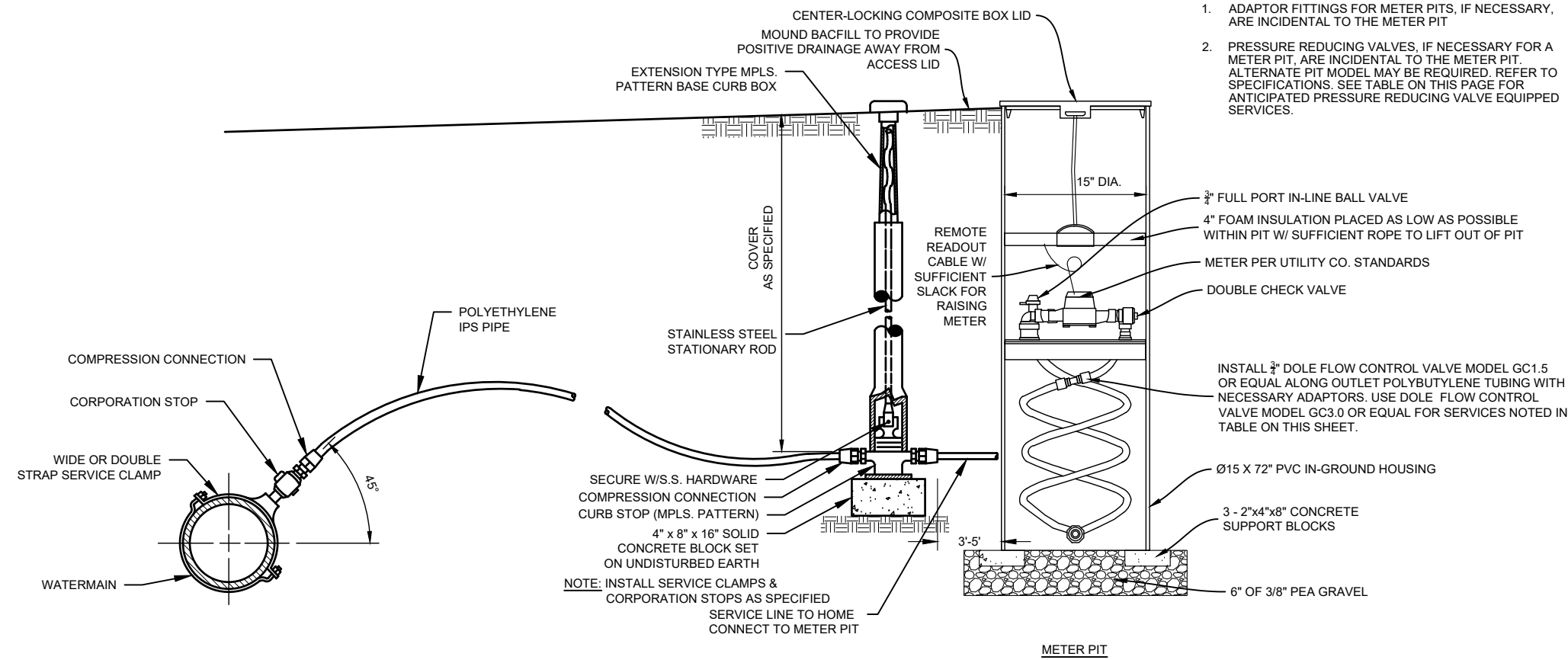
**TYPICAL TRENCH DETAIL**  
NO SCALE

**NOTES**

- ADAPTOR FITTINGS FOR METER PITS, IF NECESSARY, ARE INCIDENTAL TO THE METER PIT
- PRESSURE REDUCING VALVES, IF NECESSARY FOR A METER PIT, ARE INCIDENTAL TO THE METER PIT. ALTERNATE PIT MODEL MAY BE REQUIRED. REFER TO SPECIFICATIONS. SEE TABLE ON THIS PAGE FOR ANTICIPATED PRESSURE REDUCING VALVE EQUIPPED SERVICES.



**IMPORTED BEDDING**  
NO SCALE

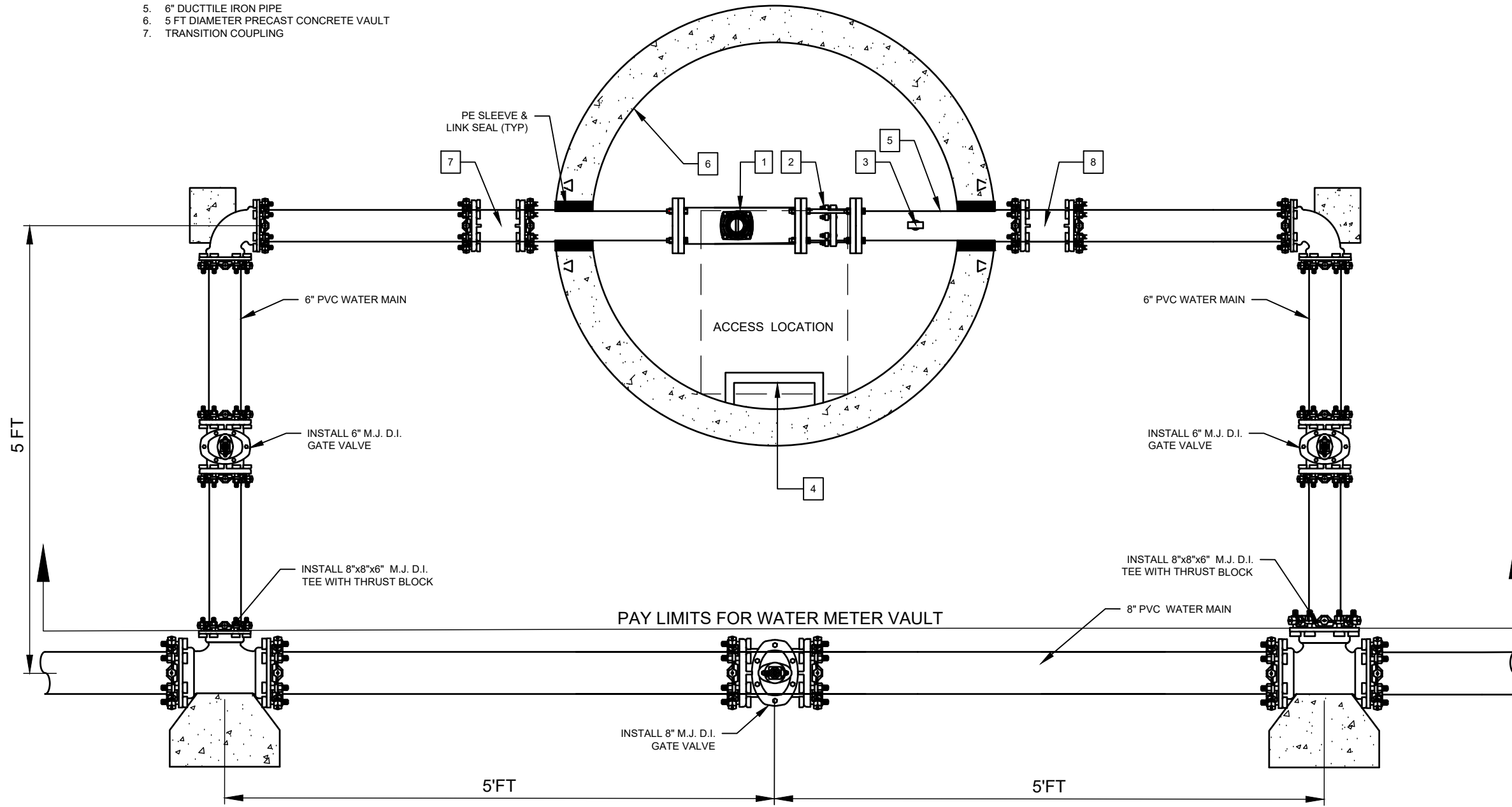


**WATER SERVICE CONNECTION**  
NO SCALE



**KEY NOTES**

1. 6" WATER METER
2. 6" FLANGED DISMANTLING JOINT
3. 3-1/2" LIQUID FILLED S.S. PRESSURE GAUGE W/ REDUCER BUSHINGS AS NEEDED
4. MANHOLE STEPS
5. 6" DUCTILE IRON PIPE
6. 5 FT DIAMETER PRECAST CONCRETE VAULT
7. TRANSITION COUPLING



PAY LIMITS FOR WATER METER VAULT

**WATER METER SITE PLAN VIEW**  
NO SCALE

NO.	DATE	REVISION

DRAFTED	MJK
REVIEWED	JRW
PROJECT NUMBER	2211-01441
ISSUE DATE	6/25/2024

**PINE RIDGE WATER IMPROVEMENTS**  
 OGLALA SIOUX TRIBE  
 PINE RIDGE, SOUTH DAKOTA  
**DETAILS**



FOR BIDDING PURPOSES ONLY



NO.	DATE	REVISION

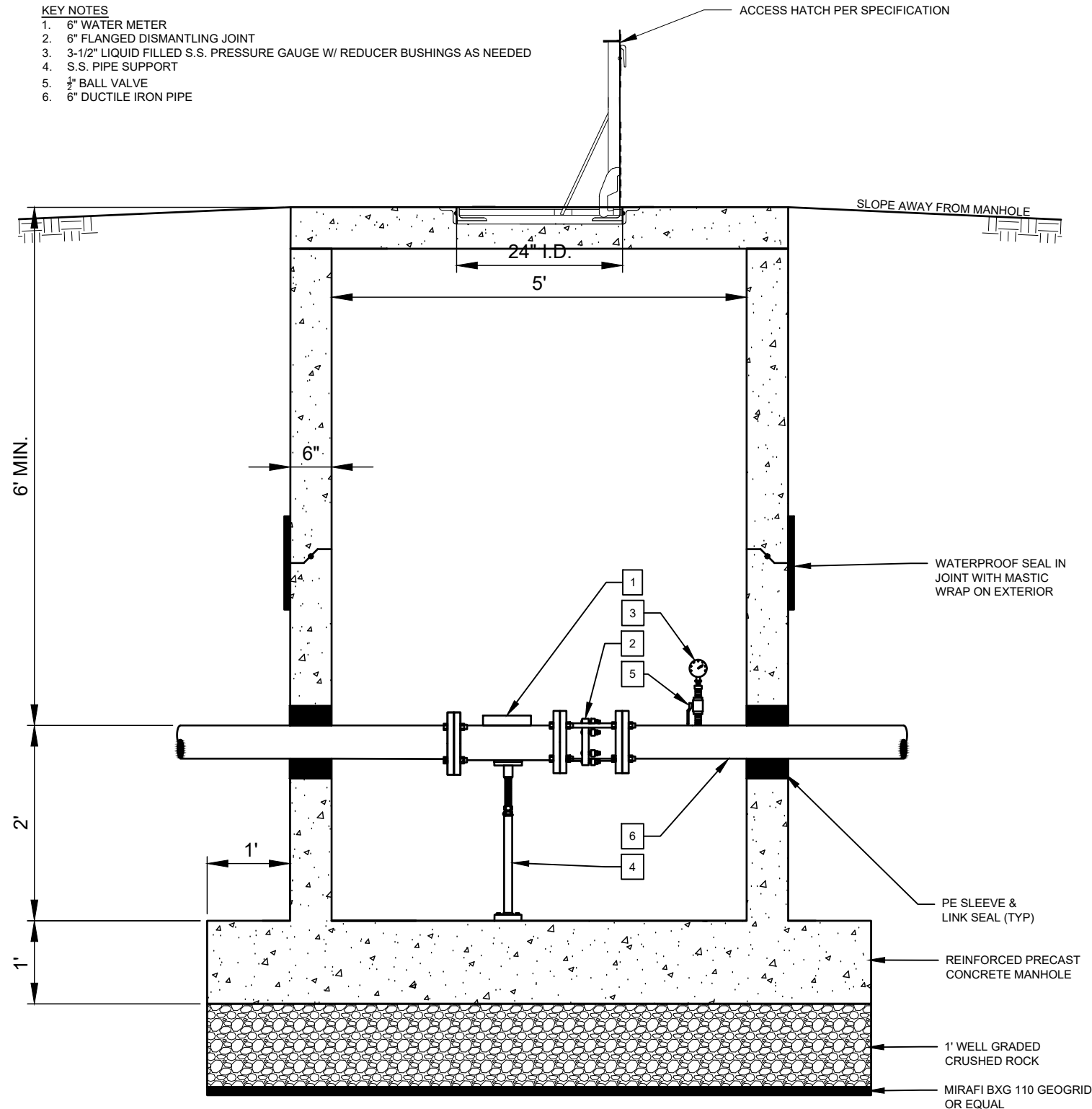
DRAFTED	MJK
REVIEWED	JRW
PROJECT NUMBER	2211-01441
ISSUE DATE	6/25/2024

**PINE RIDGE WATER IMPROVEMENTS**  
 OGLALA SIOUX TRIBE  
 PINE RIDGE, SOUTH DAKOTA

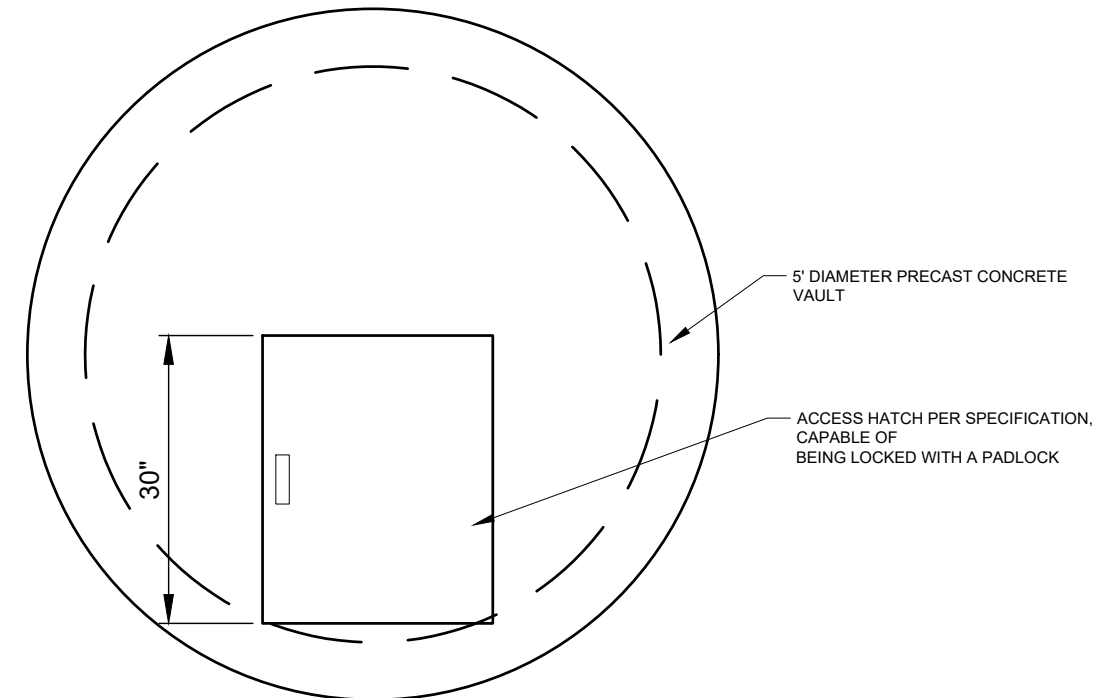
**DETAILS**  
 SHEET  
 12.04

**KEY NOTES**

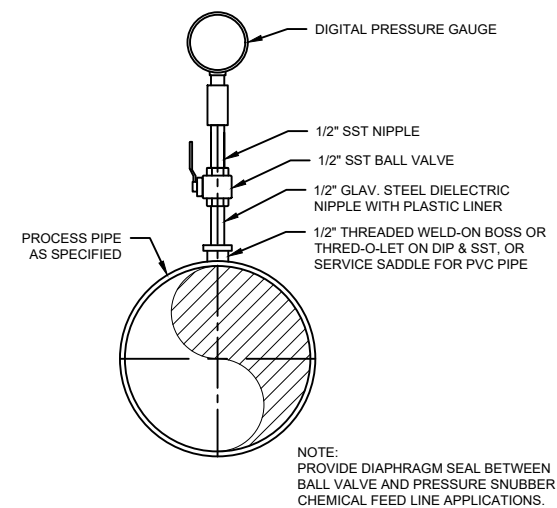
1. 6" WATER METER
2. 6" FLANGED DISMANTLING JOINT
3. 3-1/2" LIQUID FILLED S.S. PRESSURE GAUGE W/ REDUCER BUSHINGS AS NEEDED
4. S.S. PIPE SUPPORT
5. 1/2" BALL VALVE
6. 6" DUCTILE IRON PIPE



**WATER METER VAULT PROFILE VIEW**  
 NO SCALE

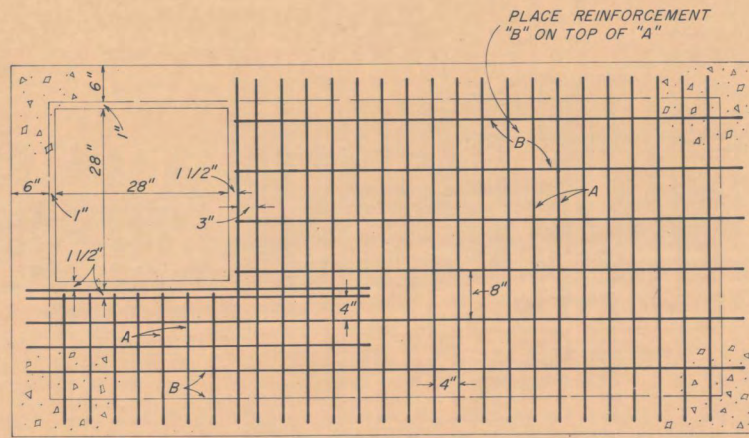


**WATER METER VAULT PLAN VIEW**  
 NO SCALE

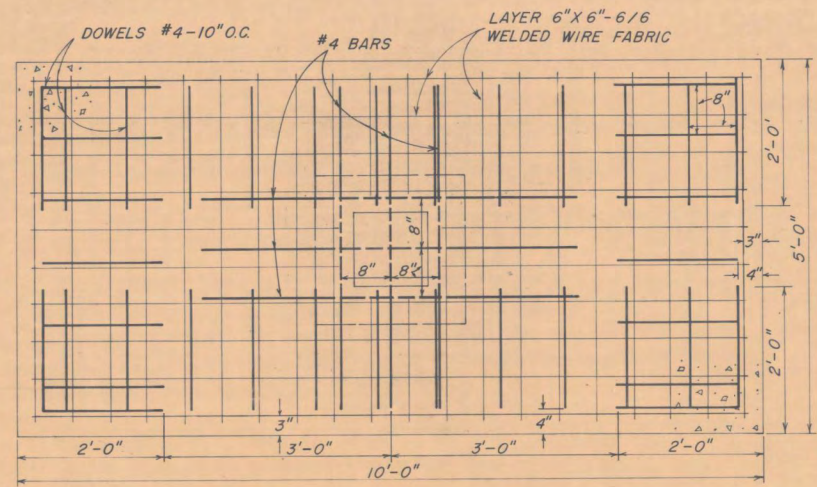
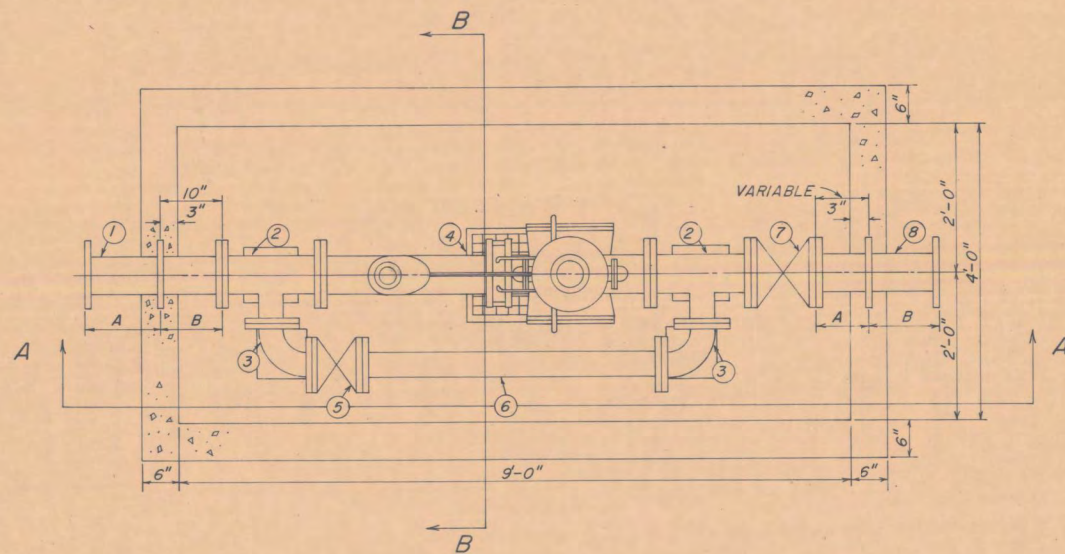


**PRESSURE GAUGE MOUNTING DETAIL**  
 NO SCALE

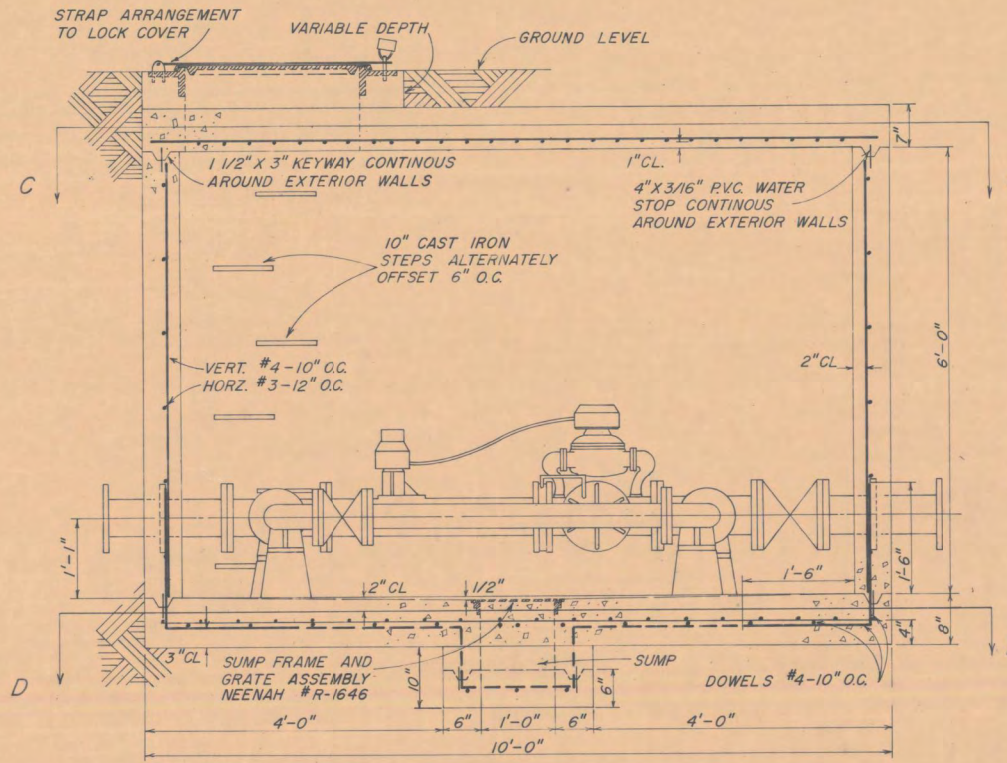




USE #4 BARS IN BOTH DIRECTIONS  
SECTION C-C



SECTION D-D

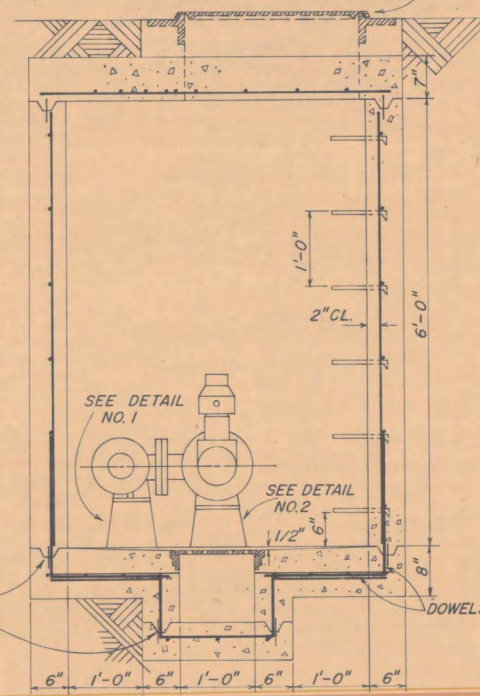


SECTION A-A

SCHEDULE OF PIPING & FITTINGS

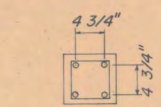
LINE	DESCRIPTION	NO. REQ'D	SIZE	LENGTH	REMARKS
1	WALL CASTING FL'GE	1	6"	A = 20" B = 10"	
2	BASE TEE FL'GE	2	6" X 4"	8" C. TO F.	FABRICATED AS SHOWN
3	90° BASE ELBOW FL'GE	2	4"	6 1/2" C. TO F.	FABRICATED AS SHOWN
4	WATER METER FL'GE	1	6"		SEE SPECIFICATIONS
5	GATE VALVE FL'GE	1	4"	9" F. TO F.	
6	PIPE FL'GE	1	4"		TO FIT EQUIP- MENT FURNISHED
7	GATE VALVE FL'GE	1	6"	10 1/2" F. TO F.	
8	WALL CASTING FL'GE	1	6"	λ — B = 24"	A - TO FIT EQUIP- MENT FURNISHED

NEENAH FOUNDRY CO. #R-1913F  
WATER METER COVER ASSEMBLY

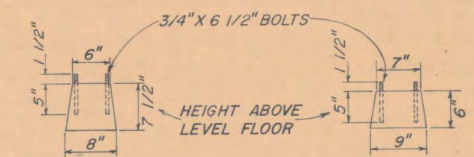
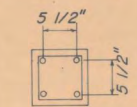


SECTION B-B

DETAIL NO. 1



DETAIL NO. 2



AS CONSTRUCTED

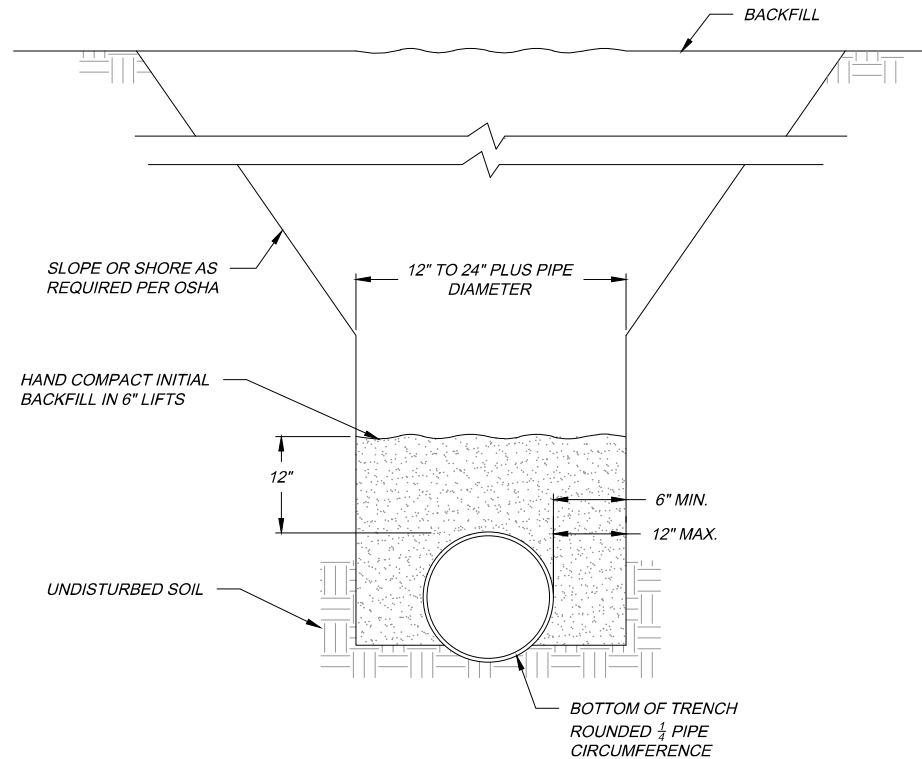


NO.	DATE	REVISION

PINE RIDGE WATER IMPROVEMENTS  
 OGLALA SIOUX TRIBE  
 PINE RIDGE, SOUTH DAKOTA  
 DETAILS

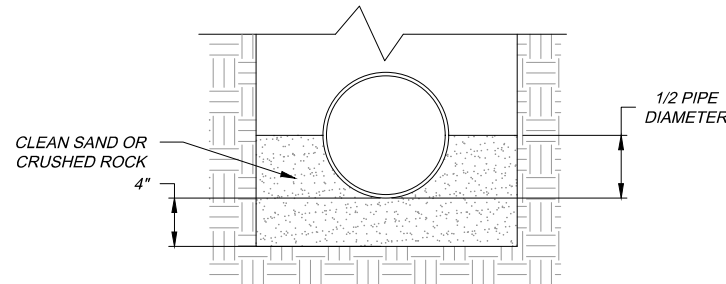
**FOR BIDDING PURPOSES ONLY**

- NOTE:**
- MANHOLES SPECIFIED IN SECTION 02532.
  - EXCAVATION, TRENCHING, AND BACKFILL SPECIFIED IN SECTION 02315.
  - CONNECT TO NEW MANHOLES WITH CAST IN BOOTS CONFORMING TO ASTM C923, CONNECT TO EXISTING MANHOLES WITH SANDED MANHOLE ADAPTER.
  - FORM SMOOTH CHANNEL IN EXISTING MANHOLES.

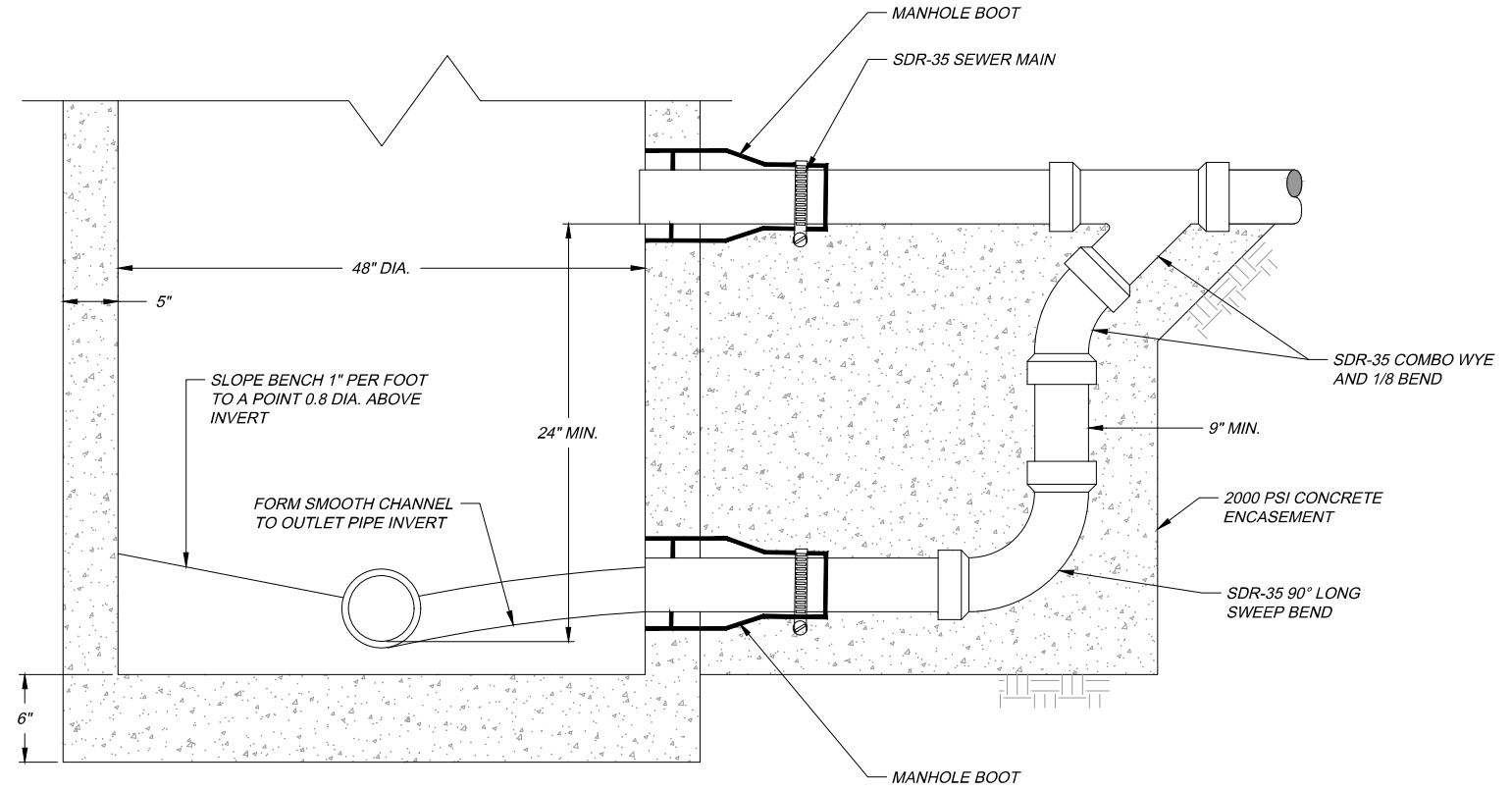


**TYPICAL TRENCH DETAIL**  
NOT TO SCALE

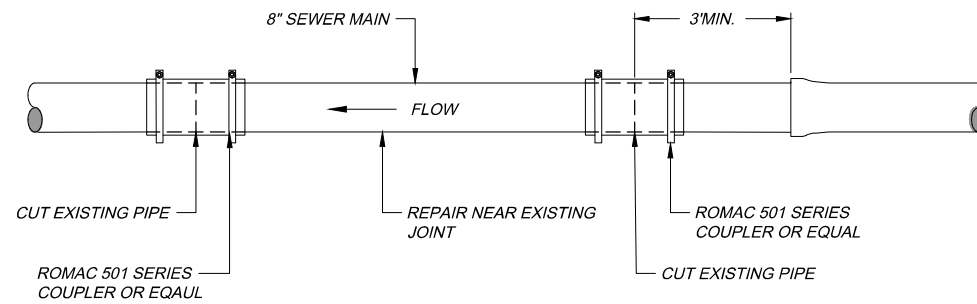
- NOTE:**
- EXCAVATION, TRENCHING, AND BACKFILL SPECIFIED IN SECTION 02315.
  - KEEP LOWER 4" OF TRENCH VERTICAL WHEN POSSIBLE. UPPER PART OF TRENCH MAY VARY IN WIDTH TO COMPENSATE FOR UNSTABLE SOIL.
  - USE IMPORTED BEDDING MATERIAL WHEN EXISTING SOIL CAN NOT PROVIDE UNIFORM, STABLE BEARING SUPPORT.
  - USE CLEAN SAND OR CRUSHED ROCK ACCEPTABLE TO ENGINEER.



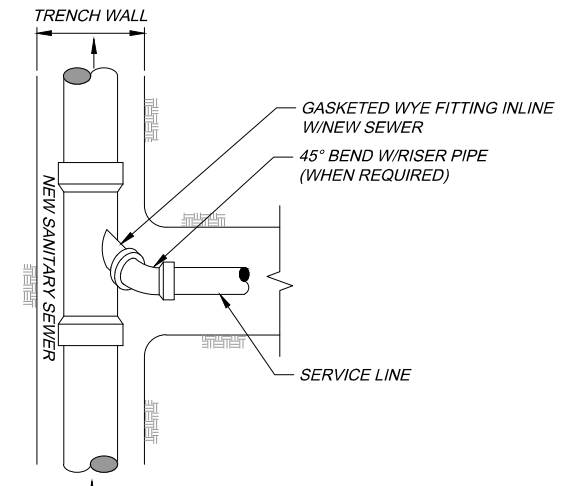
**IMPORTED BEDDING**  
NOT TO SCALE



**OUTSIDE DROP MANHOLE**  
NOT TO SCALE



**PROPOSED REPAIR NEAR EXISTING JOINT**  
NOT TO SCALE



**SEWER SERVICE CONNECTION - PLAN VIEW**  
NOT TO SCALE

DATE	REVISIONS	INIT.
8/7/24	CHANGE SHEET NUMBER	JEB

GREAT PLAINS AREA INDIAN HEALTH SERVICE  
OFFICE OF ENVIRONMENTAL  
HEALTH & ENGINEERING

SANITATION FACILITIES CONSTRUCTION  
115 4TH AVE SE. FEDERAL BUILDING RM 309  
ABERDEEN, SD 57401  
(605) 226-7451



**STANDARD DETAILS**  
Pine Ridge Reservation, South Dakota  
Sewer Main Replacement  
PUBLIC LAW 86-121  
GP-21-J96

FILE NAME: PINE RIDGE SEWER  
LAYOUT NAME: Standard Details  
DRAWN BY: S HYDE  
CHECKED BY: J AINSLIE  
PROJECT ENG: J BEGEMAN  
SCALE: N.T.S.