

UTILITY COORDINATION		
UTILITY	CONTACT	PHONE NO.
CITY OF TULSA UTILITY COORDINATION	TONY GLYNN	918-596-9245
AEP/PSO	LONNIE HICKS	918-250-6211
ONG	CODY YOST	918-831-8292
AT&T	ALFORD NICHOLS	539-444-1069
COX COMMUNICATION	JASON HOLT	918-830-7238
MTTA	BILL NORMAN	918-398-1424
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# CITY OF TULSA, OKLAHOMA CONSTRUCTION PLANS FOR SPAVINAW PUMP HOUSE

PROJECT NO. TMUA-W 23-09 TO-01

## WATER AND SEWER DEPARTMENT TULSA, OKLAHOMA

ADVERTISING DATE: NOVEMBER 22, 2024

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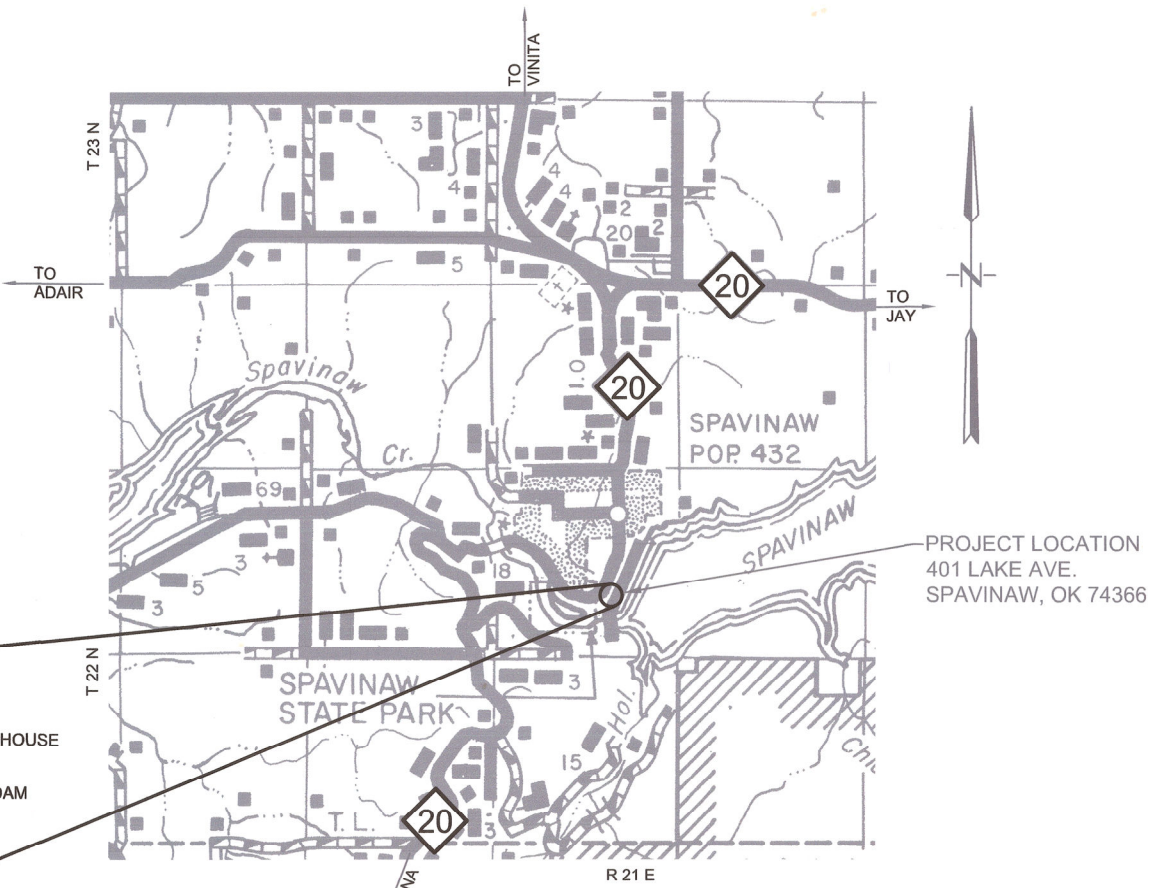
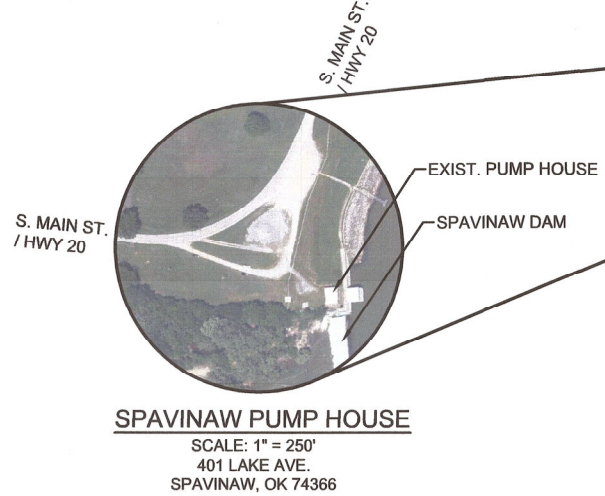
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SYMBOL LEGEND	
	ASPHALT
	CONCRETE
	GRAVEL
	UNDERGROUND TELEPHONE
	UNDERGROUND SANITARY SEWER
	UNDERGROUND GAS
	UNDERGROUND CABLE
	UNDERGROUND WATER
	UNDERGROUND STORM SEWER
	OVERHEAD ELECTRIC
	FENCE
	UNDERGROUND FIBER OPTIC
	WATER VALVE
	WATER METER
	FIRE HYDRANT
	SHRUB
	DECIDUOUS TREE
	CONIFEROUS TREE
	GUY WIRE
	TELEPHONE UNDERGROUND MARKER
	TELEPHONE PEDESTAL
	SIGN
	MAIL BOX
	GAS METER
	FIBER OPTIC PEDESTAL
	TRAFFIC SIGNAL POLE
	ELECTRIC METER
	LIGHT POLE
	TRAFFIC JUNCTION BOX
	CABLE TV UNDERGROUND MARKER
	BOLLARD/FENCE POST
	SANITARY SEWER MANHOLE
	GAS VALVE
	STORM SEWER MANHOLE
	FOUND MONUMENTS
	SET MONUMENTS
	POWER POLE

**NOTE:**  
THIS PROJECT COMPLIES WITH ALL OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ) REQUIREMENTS.

**BENCHMARK**  
CHISELED "X" NORTHEAST CORNER CONCRETE VAULT.  
NORTHING: 516,873.30'  
EASTING: 2,837,036.48'  
ELEV. = 664.42' (NAVD 88)

CONTROL POINT #902  
#3 REBAR W/RPC  
STAMPED "TULSA CONTROL"  
NORTHING: 516,948.94'  
EASTING: 2,837,116.58'  
ELEV. 674.73'



**LOCATION MAP**  
N.T.S.  
NOTE: ENTIRE PROJECT IS OUTSIDE THE CORPORATE AND CITY LIMITS OF TULSA, OKLAHOMA  
ENTIRE PROJECT SITE IS ON CITY OF TULSA PROPERTY  
ATLAS PAGE 10629

**APPROVED BY:**  
  
DIRECTOR, WATER & SEWER DEPARTMENT  
DATE: 11-26-2024

**PREPARED BY:**  
STACY LOEFFLER, P.E., S.E.  
PROJECT MANAGER  
BKL, INCORPORATED

**VERTICAL CONTROL**  
NAVD 1988

**HORIZONTAL CONTROL**  
OKLAHOMA STATE PLANE COORDINATE SYSTEM  
NAD 1983 (1993)

**NOTE:**  
CURRENT CITY OF TULSA STANDARD SPECIFICATIONS AND STANDARD DETAILS AS WELL AS CONTRACT DOCUMENT SPECIFICATIONS GOVERN. ALL OTHER CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH 2019 OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.



**ARCHITECTS ENGINEERS**  
C.A. 0049 (ARCH) 06-30-2025  
C.A. 00262 (PE) 06-30-2026  
1623 E 6TH STREET  
TULSA, OKLAHOMA 74120  
TEL: 918-835-9588  
FAX: 918-835-9119  
MAIL@BKLINC.COM



**MECHANICAL | ELECTRICAL | PLUMBING**  
C.A. 8292 RENEWAL DATE: 06-30-2026  
1350 S. BOULDER AVE STE #950  
TULSA, OK 74119  
918.629.4291  
km@greenacorn.com

PAY ITEM SCHEDULE

Table with columns: ITEM NO., SPEC NO., BID ITEM DESCRIPTION, PAY ITEM NOTE, UNIT, QTY. Rows include MOBILIZATION, OWNER'S ALLOWANCE, BUILDING, SELECTIVE DEMOLITION, STRUCTURAL STEEL FRAMING, BAR GRATING, BRIDGE CRANE, VALVE ACTUATORS, WATER REPELLANTS, MECHANICAL, ELECTRICAL, AND PLUMBING.

PAY ITEM NOTES

- 1. PROVIDE ALL MATERIALS, EQUIPMENT, LABOR, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE ALL WORK REQUIRED BY THE CONTRACT BUT NOT SPECIFICALLY IDENTIFIED IN THE PAY ITEM SCHEDULE. THE WORK IS DESCRIBED IN PROJECT DESCRIPTION NOTES, THIS SHEET.
2. ITEM INCLUDES ALL MOBILIZATION COSTS FOR THE ENTIRE PROJECT, INCLUDING SITE AND BUILDING.
3. ITEM IS IN ACCORDANCE WITH CITY OF TULSA STANDARD SPECIFICATIONS DIVISION III PART 303, MOBILIZATION.
4. THE PRICES SHALL BE PAYMENT IN FULL FOR PERFORMING AND COMPLETING THE WORK AND FOR FURNISHING ALL LABOR AND MATERIALS NECESSARY INCLUDING REMOVAL OF EXISTING STRUCTURE, PIPE MATERIALS, SURFACE RESTORATION, ALL TESTING, AND ALL INCIDENTAL COSTS.
5. REMOVE AND RETAIN EXISTING VALVE ACTUATORS AND INSTALL DIRECTLY TO VALVE GEAR BOX. COORDINATE FINAL HEIGHT AND ORIENTATION WITH OWNER.

GENERAL NOTES:

- 1. FOR ITEMS PROVIDED "BY OTHERS" PROVIDE AND INSTALL BLOCKING, MECHANICAL, ELECTRICAL, AND PLUMBING. REFERENCE MEP DOCUMENTS. CONTRACTOR IS RESPONSIBLE FOR INSTALLATION COORDINATION.
2. STRUCTURAL, ARCHITECTURAL, AND MEP SHEETS ARE DRAWN ACCORDING TO A PLAN NORTH. REFER CIVIL DRAWINGS FOR TRUE NORTH.
3. REFER CIVIL DRAWINGS FOR ALL ELEVATIONS 100'-0" F.F. = 665.02'
4. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CURRENT CITY OF TULSA STANDARDS AND THE STANDARD SPECIFICATIONS FOR SPECIAL PROJECT CONSTRUCTION.
5. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS GOVERNING SAFETY, HEALTH AND SANITATION. THE CONTRACTOR SHALL PROVIDE ALL SAFEGUARDS, SAFETY DEVICES, AND PROTECTIVE EQUIPMENT AND TAKE ANY OTHER NEEDED ACTIONS ON AS THEIR OWN RESPONSIBILITY PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THE CONTRACT.
6. ALL PUBLIC FEATURES OF THIS PROJECT RENOVATION SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT, ACCESSIBILITY GUIDELINES, AND THE INTERIM FINAL RULES FOR PUBLIC RIGHT-OF-WAY, PUBLISHED IN THE FEDERAL REGISTRY, TUESDAY, SEPTEMBER 3, 2002. WHERE SPATIAL LIMITATIONS OR EXISTING FEATURES WITHIN THE LIMITS OF THE PROJECT PREVENT FULL COMPLIANCE WITH THIS ACT, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER UPON DISCOVERY OF SUCH FEATURES. THE CONTRACTOR SHALL NOT PROCEED WITH ANY ASPECT OF THE WORK, WHICH IS NOT IN FULL COMPLIANCE WITH THE ADA WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER. ANY WORK, WHICH IS NOT PERFORMED WITHIN THE GUIDE LINES OF THE ADA, FOR WHICH THE CONTRACTOR DOES NOT HAVE WRITTEN APPROVAL, SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
7. AREAS DISTURBED BY THE CONSTRUCTION OUTSIDE THE LIMITS OF THE CONSTRUCTION SHALL BE RETURNED TO THEIR PREVIOUS CONDITION AT CONTRACTOR'S EXPENSE AS DIRECTED BY ENGINEER, THERE WILL BE NO PARKING OF VEHICLES OR EQUIPMENT, OR STORING OF MATERIALS WITHIN THIS AREA. ORANGE PROTECTIVE FENCING SHALL BE INSTALLED AROUND THE DRIP LINE OF ALL TREES TO REMAIN WITHIN THE LIMITS OF CONSTRUCTION AND STAGING AREA. ALL AREAS DISTURBED WITHIN AND BEYOND THE LIMIT OF CONSTRUCTION LINE SHALL BE RE-VEGETATED.

GENERAL NOTES (CONT.):

- 8. IN ORDER TO ALLEVIATE DUST CONDITIONS DURING GRADING OR SIMILAR OPERATIONS AND BEFORE WORK IS COMPLETED, THE CONTRACTOR SHALL SPRINKLE GRADING AT INTERVALS APPROVED BY THE OWNER'S REPRESENTATIVE. COST OF SPRINKLING TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS OF WORK.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES INFLICTED TO THE EXISTING UNDERGROUND UTILITIES WITHIN THE PROJECT AREA AS A RESULT OF DIGGING, TRENCHING, BORING, ETC. DEPTH OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. PRIOR TO DIGGING, THE CONTRACTOR SHALL CALL THE CITY OF TULSA TO VERIFY UTILITIES SHOWN ON DRAWINGS AND FOR A LIST OF ALL UNDERGROUND FACILITIES REGISTERED IN THE AREA OF CONSTRUCTION LISTED WITH THE FOLLOWING AGENCIES:
A. THE "OKIE" NOTIFICATION CENTER 1-800-522-6543,
B. FACILITIES MAINTENANCE 918-527-0209
10. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND VERIFYING LOCATION OF ALL UNDERGROUND UTILITIES. CONTRACTOR IS RESPONSIBLE FOR GIVING THE NOTIFICATION CENTER OF THE OKLAHOMA ONE-CALL SYSTEM, INC., NOTICE OF ANY EXCAVATION NO SOONER THAN TEN DAYS OR LATER THAN 48 HOURS, EXCLUDING SATURDAYS, SUNDAYS, LEGAL HOLIDAY PRIOR TO COMMENCEMENT OF WORK.
11. THE CONTRACTOR IS RESPONSIBLE FOR MEETING ALL ENVIRONMENTAL PROTECTION AGENCY (EPA) AND OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ) REQUIREMENTS FOR STORM WATER MANAGEMENT FOR THIS PROJECT. ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK.
12. COORDINATE THE CONSTRUCTION STAGING AREA WITH THE OWNER'S REPRESENTATIVE. IF REQUIRED THE AREA SHALL BE STABILIZED WITH AGGREGATE BASE TO A DEPTH OF 6". ALL COSTS TO BE INCLUDED IN LINE ITEM GENERAL REQUIREMENTS/MOBILIZATION, DEMOBILIZATION, AND MISCELLANEOUS. GRAVEL MAY BE LEFT IN PLACE AT COMPLETION OF PROJECT.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE INCURRED TO THE EXISTING LIGHTING AND AMENITIES DURING CONSTRUCTION IF CAUSED BY CONSTRUCTION ACTIVITIES PERFORMED BY THE CONTRACTOR OR THEIR SUBCONTRACTORS.
14. WHERE IT IS NECESSARY TO CROSS CURBING, PROTECTION AGAINST DAMAGE SHALL BE PROVIDED BY THE CONTRACTOR AND ANY DAMAGE TO THE ROADWAY PAVEMENT, CURBS, SIDEWALKS, VEGETATION, OR DRIVEWAYS CAUSED BY THE CONTRACTOR'S OPERATION SHALL BE REPLACED AT THE CONTRACTOR'S SOLE EXPENSE.
15. FOR ITEMS PROVIDED "BY OTHERS" PROVIDE AND INSTALL BLOCKING AND POWER/DATA AS REQUIRED. COORDINATE INSTALLATION.
16. CONTRACTOR IS TO CONFIRM ALL DIMENSIONS IN THE FIELD BEFORE ORDERING MATERIAL.
17. CONTRACTOR SHALL PROTECT ALL ITEMS, PIPE, VALVES, MOTORS, & EQUIPMENT FROM DAMAGE DURING CONSTRUCTION.
A. ALL MOTORS TO BE AFFECTED BY CONSTRUCTION SHALL BE FULLY WRAPPED AND PROTECTED FROM DUST INFILTRATION.
B. ALL LIMITORQUE ACTUATORS TO BE FULLY WRAPPED AND PROTECTED FROM DUST INFILTRATION AND CONSTRUCTION DEBRIS.
C. ALL EXISTING PIPES & EQUIPMENT IN BASEMENT TO BE PROTECTED FROM CONSTRUCTION DAMAGE.
D. IF ANY EXISTING EQUIPMENT IS DAMAGED, OWNER MUST BE NOTIFIED. FOR AND OWNER MUST APPROVE REPAIR PLAN AND CLOSE OUT.
18. CONTRACTOR TO ALLOW TEMP ACCESS TO BASEMENT FOR STAFF (LADDER).
19. ANY EQUIPMENT THAT IS REMOVED AND REPLACED OR PERMANENTLY REMOVED ON THIS CONTRACT MUST BE SUBMITTED TO THE OWNER FOR FIRST RIGHT OF REFUSAL FOR ANY AND ALL PARTS. ALL PARTS OR EQUIPMENT NOT RETAINED BY CITY OF TULSA SHALL BE REMOVED FROM THE PROJECT SITE AND DISCARDED BY THE CONTRACTOR AT CONTRACTORS EXPENSE.

GENERAL NOTES - DEMOLITION:

- 1. THE DEVICES SHOWN ON THE DEMOLITION PLANS ARE DIAGRAMMATIC AND REPRESENT THE GENERAL QUANTITY AND LOCATIONS. FIELD VERIFY ALL EXISTING CONDITIONS AND COORDINATE DEMOLITION WITH ALL OTHER DISCIPLINES.
2. ALL EXISTING MATERIAL IS REQUIRED TO BE REMOVED IF NECESSARY TO MAKE THE NEW INSTALLATION. THE CONTRACTOR IS TO HAVE ALL NECESSARY DEMOLITION IN THE BID WHETHER SHOWN ON DRAWINGS OR NOT SHOWN.

ADD ALTERNATE #1

Table with columns: ITEM NO., SPEC NO., BID ITEM DESCRIPTION, PAY ITEM NOTE, UNIT, QTY. Rows include NEW REMOTE CONTROLS FOR VALVE ACTUATORS, OWNER'S ALLOWANCE.

ADD ALTERNATE #1 PAY ITEM NOTES

- 7. INSTALLATION OF FIVE NEW REMOTE CONTROLS FOR VALVE ACTUATORS ON FIRST FLOOR LEVEL. WORK SHALL INCLUDE INSTALLING ALL SUPPORTS, POWER AND CONTROLS INFRASTRUCTURE TO ENSURE PROPER OPERATION OF ACTUATORS IN BASEMENT WITH NEW REMOTE OPERATOR.

ADD ALTERNATE #2

Table with columns: ITEM NO., SPEC NO., BID ITEM DESCRIPTION, PAY ITEM NOTE, UNIT, QTY. Rows include INSTALLATION OF VALVE PROCURED BY OWNER, OWNER'S ALLOWANCE.

ADD ALTERNATE #2 PAY ITEM NOTES

- 8. REMOVE EXISTING 48" VALVE AS SHOWN. RETAIN AND STORE EXISTING LIMITORQUE ACTUATOR. INSTALL AND PAINT NEW 48" BUTTERFLY VALVE IN SAME LOCATION. CONNECT EXISTING LIMITORQUE ACTUATOR. CONTRACTOR TO RECEIVE, STORE, AND INSTALL NEW 48" BUTTERFLY VALVE ORDERED BY SEPARATE PURCHASE CONTRACT BY OWNER. CONTRACTOR TO INSTALL PER MANUFACTURERS INSTRUCTIONS. EXPECTED DELIVERY BETWEEN APRIL 1ST, 2025 AND OCT 1ST, 2025. REMOVAL & INSTALLATION MUST TAKE PLACE BETWEEN OCT 15, 2025 AND MARCH 15, 2026. COORDINATE ISOLATION WITH OWNER.

GENERAL NOTES - DEMOLITION (CONT.):

- 3. REMOVE ALL ABANDONED DEVICES. CAP OFF, PATCH, AND REPAIR, AND PREP SURFACE FOR INSTALLATION OF NEW DEVICES AND NEW FINISHES.
4. REMOVE ALL EQUIPMENT AND MEP FIXTURES UNO. TYPICAL ALL AREAS OF WORK. REFER TO MEP DRAWINGS FOR ADDITIONAL INFORMATION. ALL EQUIPMENT TO BE SAFELY STORED AND REINSTALLED IN WORKING CONDITION.
5. FURNISH ALL LABOR AND EQUIPMENT FOR THE DEMOLITION, AND MATERIAL REMOVAL, REQUIRED TO COMPLETE THE NEW WORK INDICATED IN THE DOCUMENTS AND SPECIFICATIONS. INCLUDE REMOVAL OF ANY ABANDON DEVICES IN THE SAME AREA OR ASSOCIATED WITH MEP ITEMS. SEND AS MANY MATERIALS AS POSSIBLE TO BE RECYCLED SUCH AS CARPET, METAL PIPING, ETC. VERIFY WITH OWNER ANY MATERIAL OR ITEMS THAT ARE TO BE SALVAGED AND DELIVERED TO THE CITY'S STORAGE BUILDING LOCATED WITHIN THE CITY OF TULSA.
6. CONTRACTOR TO PROVIDE A DEMOLITION PLAN TO ENGINEER FOR REVIEW AT START OF PROJECT.

PROJECT DESCRIPTION NOTES:

CONTRACTOR IS REQUIRED TO SUBMIT A PROJECT CONSTRUCTION SCHEDULE AND SCHEDULE OF VALUES BEFORE BEGINNING WORK. THE WORK SCHEDULE IS TO BE UPDATED AND PROVIDED TO THE OWNER AND ENGINEER MONTHLY. BELOW IS A DESCRIPTION OF WORK AND ANTICIPATED SEQUENCE OF CONSTRUCTION:

PROJECT DESCRIPTION: SPAVINAW PUMP HOUSE MODIFICATIONS.

PROJECT SCOPE INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING. PROVIDE ALL ACCESSORIES AND SPECIALTIES SPECIFIED IN THE CONSTRUCTION DOCUMENTS. PROVIDE ALL REQUIRED CONNECTIONS TO SITE UTILITIES. INCLUDE TESTING OF THE INSTALLED PRODUCTS AS REQUIRED BY INDIVIDUAL SPECIFICATION SECTIONS. INCLUDE ALL MATERIALS AND LABOR.

- 1. REMOVING THE EXISTING INTERIOR CONCRETE FLOOR AND BEAMS AND REPLACING WITH BOLTED, GALVANIZED STEEL BEAMS, GIRDERS AND GRATING.
2. REMOVING EXISTING 5-TON BRIDGE CRANE AND HOIST AND ADDING A 5-TON BRIDGE CRANE IN THE EXISTING BUILDING WITH SWITCH AND STATIONARY TRACK EXTENDING TO DOCK.
3. REMOVING EXISTING VALVE ACTUATORS AND INSTALLING DIRECTLY ONTO VALVES.
4. POWER WASHING AND SEALING EXTERIOR WALLS, REF. SPEC SECTION 079100.
5. VARIOUS ELECTRICAL AND PLUMBING MODIFICATIONS.
6. TWO ADD ALTERNATES:
A. INSTALLING REMOTE CONTROLS FOR VALVE ACTUATORS
B. REMOVING A 48" VALVE AND INSTALLING AND PAINTING A NEW 48" BUTTERFLY VALVE PURCHASED BY OWNER

ANTICIPATED SEQUENCE OF CONSTRUCTION:
1. PREPARE SITE FOR CONSTRUCTION VEHICLES.

- 2. REMOVE VALVE ACTUATORS FROM THE UPPER FLOOR AND REINSTALL DIRECTLY ON THE VALVES BELOW.
3. PROTECT REMAINING PIPES AND EQUIPMENT FROM CONSTRUCTION DAMAGE. SHIELD MOTORS AND ACTUATORS FROM DUST.

PROJECT DESCRIPTION NOTES (CONT.):

- 4. INSTALL TEMPORARY LATERAL BRACING NEAR FLOOR LEVEL FOR WALLS, PLAN TO BE DESIGNED AND SEALED BY ENGINEER REGISTERED IN THE STATE OF OKLAHOMA, AND PROVIDED BY CONTRACTOR.
5. DEMOLISH CONCRETE FLOOR AND BEAMS. (PROVIDE TEMPORARY ACCESS TO BASEMENT FOR STAFF.)
6. INSTALL PERIMETER CHANNEL AND NEW GALVANIZED BEAMS AND GRATING.
7. INSTALL CRANE TRACK, TROLLEY AND HOIST AS AVAILABLE.
8. REINSTALL ALL EQUIPMENT IN THE EXISTING BUILDING.
9. INSTALL REMOTE VALVE ACTUATOR OPERATORS (ADD ALTERNATE 1).
10. INSTALL LIGHTING.
11. DEPENDING ON THE DELIVERY TIME FOR THE NEW VALVE (ALTERNATE 2), INSTALLATION MAY TAKE PLACE ANYWHERE BETWEEN STEPS 5 AND 10.
12. POWER WASHING AND SEALING EXTERIOR WALLS MAY TAKE PLACE AT ANY TIME IN THE PROJECT. ENSURE NO DUST IS EMBEDDED IN SEALANT.



SPAVINAW PUMP HOUSE
PROJECT NO. TMUA-W-23-09 TO-01
CITY OF TULSA, OKLAHOMA
WATER & SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
BKL, INCORPORATED
ENGINEERS & ARCHITECTS

Table with columns: NO, REVISION, BY, DATE. Includes drawing scale (1/8" = 1'-0"), horizontal/vertical scale, file name (PAY QUANTITIES & NOTES), sheet number (G1-01), and date (11/15/2024).

# ABBREVIATIONS:

ABV..... ABOVE  
 AFF..... ABOVE FINISH FLOOR  
 AC..... ACOUSTICAL  
 ACT..... ACOUSTICAL CEILING TILE  
 ADA-SS..... ADA SHOWER SEAT  
 ADD..... ADDENDUM  
 ADDL..... ADDITIONAL  
 ADH..... ADHESIVE  
 ADJ..... ADJUSTABLE  
 ADMIN..... ADMINISTRATION  
 A/C..... AIR CONDITIONING  
 AHU..... AIR HANDLING UNIT  
 AL..... ALUMINUM  
 ALUM..... ALUMINUM  
 ALT..... ALTERNATE  
 ANCH..... ANCHOR  
 AB..... ANCHOR BOLT  
 ANG..... ANGLE  
 ANOD..... ANODIZED  
 APPROX..... APPROXIMATE  
 ARCH..... ARCHITECT, ARCHITECTURAL  
 A/E..... ARCHITECT-ENGINEER  
 AD..... AREA DRAIN  
 ASB..... ASBESTOS  
 ASP..... ASPHALT  
 ASSY..... ASSEMBLY  
 AUTO..... AUTOMATIC  
 BCS..... BABY CHANGING STATION  
 BD..... BOARD  
 BDRM..... BEDROOM  
 BEL..... BELOW  
 BK..... BRICK  
 BKT..... BRACKET  
 BL..... BUILDING LINE  
 BLDG..... BUILDING  
 BLK..... BLOCK, BLOCKING  
 BM..... BEAM  
 BNCHMK..... BENCH MARK  
 BO..... BY OWNER  
 BOD..... BOTTOM OF DECK  
 BOM..... BOTTOM OF MULLION  
 BOT..... BOTTOM  
 BP..... BRICK PAVER  
 BR..... BACKER ROD  
 BS..... BATH STATION PULL CORD  
 BSMT..... BASEMENT  
 BT..... BENT  
 BTM..... BITUMINOUS  
 BTM..... BATHROOM  
 BTW..... BETWEEN  
 BUT..... BUTT JOINT  
 BVL..... BEVELED  
 CAB..... CABINET  
 CO2..... CARBON DIOXIDE  
 CP..... CARPET  
 CO..... CASED OPENING  
 CSG..... CASING  
 CI..... CAST IRON  
 CLG..... CEILING  
 CHPTP..... CLG HUNG PLASTIC TLT PARTITION  
 CSS..... CEILING SUPPORT SYSTEM  
 CEM..... CEMENT  
 CTR..... CENTER LINE  
 CL..... CENTER LINE  
 C/C..... CENTER TO CENTER  
 CER..... CERAMIC  
 CT..... CERAMIC TILE  
 CK..... CHAIR RAIL  
 CHKBD..... CHALK BOARD  
 BM..... BLOCK, BLOCKING  
 BNCHMK..... BENCH MARK  
 BO..... BY OWNER  
 BOD..... BOTTOM OF DECK  
 BOM..... BOTTOM OF MULLION  
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 BP..... BRICK PAVER  
 BR..... BACKER ROD  
 BS..... BATH STATION PULL CORD  
 BSMT..... BASEMENT  
 BT..... BENT

# SYMBOLS

1.1 KEY NOTE  
 MATERIAL OR COLOR CHANGE  
 WINDOW NUMBER  
 PARTITION TYPE  
 S100 SIGNAGE NUMBER (STARTING WITH "S")  
 ? HEIGHT CEILING TYPE AND HEIGHT  
 ? ROOM NAME AND NUMBER  
 REVISION INDICATION AND KEY  
 LEVEL AND ELEVATION INDICATION  
 PLAN NORTH ARROW  
 SECTION KEY  
 EXTERIOR ELEVATION  
 INTERIOR ELEVATION  
 DETAIL SECTION KEY  
 DETAIL PLAN KEY  
 NEW DOOR AND NUMBER  
 EXISTING DOOR AND NUMBER

# MATERIALS

CONCRETE  
 CONCRETE MASONRY UNIT  
 BRICK  
 GYPSUM, PLASTER, MORTAR  
 EARTH  
 AGGREGATE BASE  
 STEEL  
 ALUMINUM  
 RIGID INSULATION  
 INSULATION BATT  
 BLOCKING  
 BLOCKING - SHIM  
 PLYWOOD  
 WOOD


## SPAVINAW PUMP HOUSE

PROJECT NO. TMUA-W-23-09 TO-01

CITY OF TULSA, OKLAHOMA  
WATER & SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:  
**BKL, INCORPORATED  
ENGINEERS & ARCHITECTS**

NO	REVISION	BY	DATE

PLAN SCALE:	DRAWN	HTS	APPROVED
As indicated	DESIGNED	JDH	 11/15/2024
PROFILE SCALE:	PROJ. MGR.	/K	
HORIZONTAL:	LEAD ENGR.	11/15/24	
	FIELD MGR.	11/29	
VERTICAL:	DESIGN MGR.		
FILE:	DRAWING:	DATE: 11/15/2024	
ATLAS PAGE NO:	10629	PAGE NO: 3	OF 23
SHEET NAME:	<b>ABBREVIATIONS &amp; LEGENDS</b>	SHEET NO. <b>G1-02</b>	

# GENERAL ARCHITECTURAL CODE REVIEW

## BUILDING DESCRIPTION:

STRUCTURE REPLACEMENT FOR SPAVINAW PUMP HOUSE

## APPLICABLE CODES:

2018 INTERNATIONAL BUILDING CODE (IBC)  
 2018 INTERNATIONAL EXISTING BUILDING CODE (IEBC)  
 2018 INTERNATIONAL MECHANICAL CODE (IMC)  
 2020 NATIONAL ELECTRIC CODE (NEC)  
 2018 INTERNATIONAL PLUMBING CODE (IPC)  
 2018 INTERNATIONAL FIRE CODE (IFC)  
 2009 ACCESSIBILITY CODE (ICC/ANSI 117.1)

## USE AND OCCUPANCY:

312.1 USE GROUP U (UTILITY AND MISCELLANEOUS)

## GENERAL BUILDING AREA:

502.1 BUILDING AREA - GROSS 2,630 SF

## TYPE OF CONSTRUCTION:

602.2 TYPE IIB

## LEVEL OF ALTERATION:

IEBC 604.1 LEVEL 3 - WORK AREA EXCEEDS 50 PERCENT OF THE BUILDING AREA

## OCCUPANCY LOAD:

TABLE 1004.1.1	FLOOR AREA (SF)	LOAD FACTOR	OCCUPANTS
MECHANICAL EQUIPMENT	1300 SF	300 GROSS	4
ACCESSORY STORAGE (EXISTING)	1330 SF	300 GROSS	5
<b>BUILDING TOTAL</b>			<b>9</b>

## MEANS OF EGRESS:

TABLE 1005.1	EGRESS WIDTH PER OCCUPANT	LOAD	FACTOR	REQUIRED	PROVIDED
	BASEMENT	4	0.20	0.8 IN.	36 IN.
	FIRST FLOOR	5	0.20	1.0 IN.	36 IN.

TABLE 1006.2.1 COMMON PATH OF TRAVEL SHALL NOT BE MORE THAN 100 FEET FOR GROUP U OCCUPANCY. THIS PROJECT COMPLIES WITH THIS REQUIREMENT.

TABLE 1017.2 LENGTH OF EXIT ACCESS TRAVEL 300 FEET MAX FOR GROUP U WITHOUT SPRINKLER SYSTEM. THIS PROJECT COMPLIES WITH THIS REQUIREMENT.

1020.4 DEAD END CORRIDORS SHALL NOT BE MORE THAN 20 FEET. THIS PROJECT COMPLIES WITH THIS REQUIREMENT.

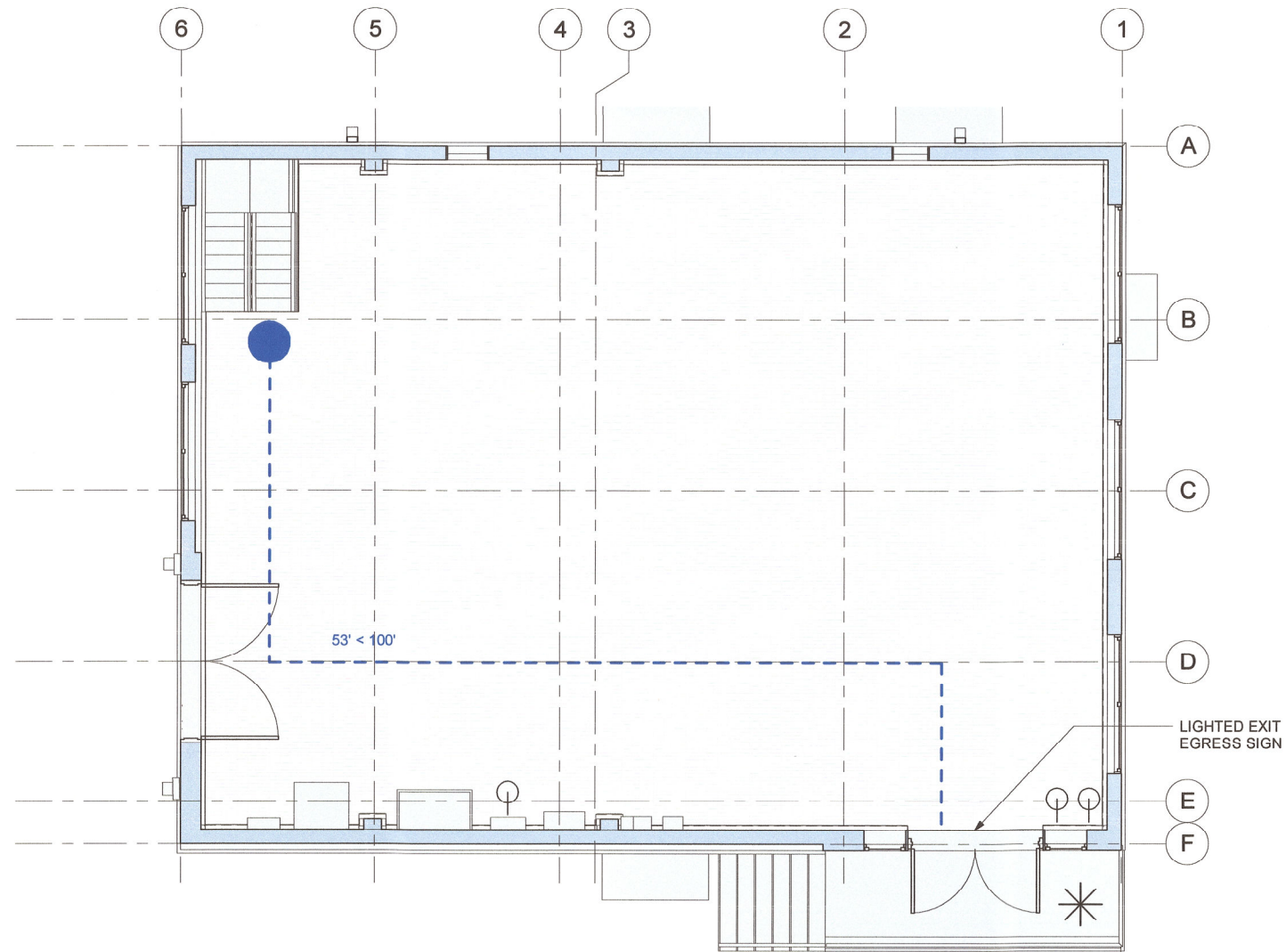
TABLE 1006.3.3(2) MINIMUM NUMBER OF EXITS FOR OCCUPANT LOAD UNDER 30 AND COMMON PATH OF EGRESS TRAVEL < 100 FEET: 1 EXIT PROVIDED ON WEST SIDE OF BUILDING.

## PLUMBING:

IBC 312.1 RESTROOM NOT REQUIRED

## LEGEND:

- \* BUILDING EXIT
- - -> MEANS OF EGRESS
- φ FIRE EXTINGUISHER



**1 EGRESS PLAN**  
1/4" = 1'-0"



**SPAVINAW PUMP HOUSE**

PROJECT NO. TMUA-W-23-09 TO-01

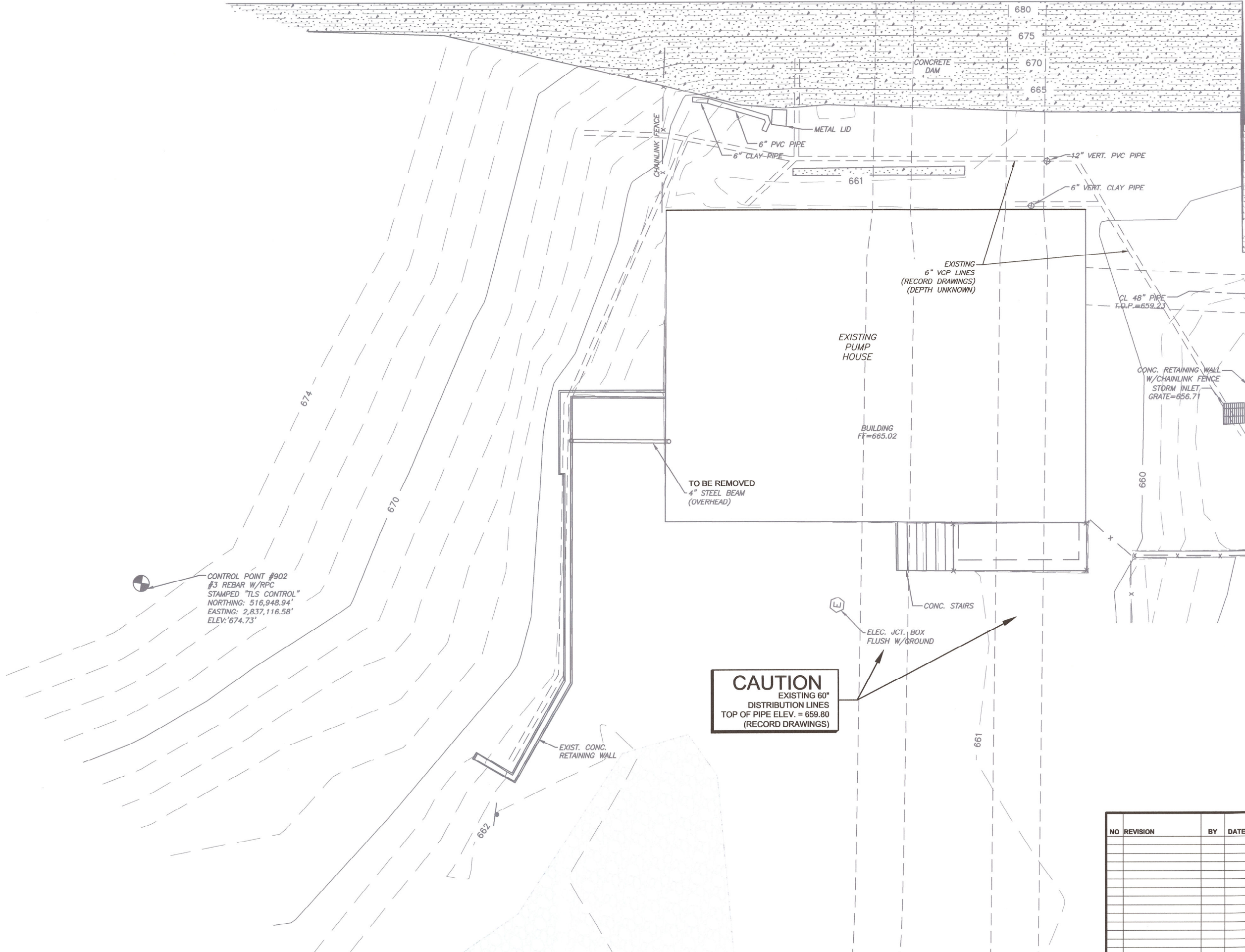
CITY OF TULSA, OKLAHOMA  
WATER & SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:  
**BKL, INCORPORATED ENGINEERS & ARCHITECTS**

NO	REVISION	BY	DATE	PLAN SCALE:	DRAWN	HTS	APPROVED
				As indicated	DESIGNED	JDH	
					SURVEY		
				PROFILE SCALE:	PROJ. MGR.	1/15/2024	
					LEAD ENGR.	11/24	
				HORIZONTAL:	FIELD MGR.	1/15	
				VERTICAL:			
				FILE:	DRAWING:		DATE: 11/15/2024
				ATLAS PAGE NO:	10629		PAGE NO: 4 OF 23
				SHEET NAME:	<b>CODE SHEET</b>		SHEET NO: <b>G1-03</b>

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SPAVINAW PUMP HOUSE TMUA-W-23-09 TO-01



CONTROL POINT #902  
 #3 REBAR W/RPC  
 STAMPED "TLS CONTROL"  
 NORTHING: 516,948.94'  
 EASTING: 2,837,116.58'  
 ELEV: 674.73'

**CAUTION**  
 EXISTING 60"  
 DISTRIBUTION LINES  
 TOP OF PIPE ELEV. = 659.80  
 (RECORD DRAWINGS)

0' 2.5' 5' 10'  
 BAR SCALE SHOULD EQUAL 1" AT  
 THE 5' MARK.

**SPAVINAW PUMP HOUSE**

PROJECT NO. TMUA-W 23-09

CITY OF TULSA, OKLAHOMA  
 PUBLIC WORKS DEPARTMENT

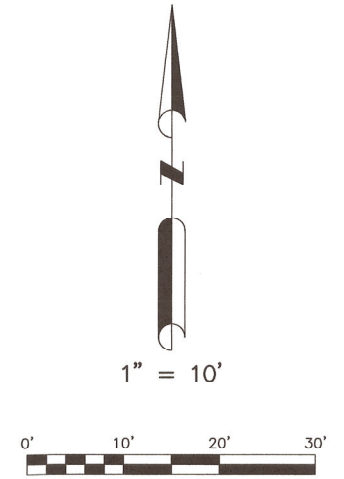
PLANS AND ESTIMATES PREPARED BY:  
**BKL, INCORPORATED**  
**ENGINEERS & ARCHITECTS**

NO	REVISION	BY	DATE	PLAN SCALE:	DRAWN	FLK	11/24	APPROVED
				DESIGNED	RJM	11/24		
				SURVEY	JRL	08/23		
PROFILE SCALE:	PROJ. MGR.	CEW	11/24	DATE:	11/15/2024			
HORIZONTAL:	LEAD ENGR.	CEW	11/24	ATLAS PAGE NO.:	10629			
	FIELD MGR.	CEW	11/24	SHEET NAME:	<b>SITE PLAN</b>			
				FILE:	DRAWING:			
				SHEET NO.:	5 OF 23			
				SHEET NO.:	<b>C1-01</b>			

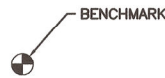
SPAVINAW PUMP HOUSE - TMUA-W 23-09 TC-01

**GENERAL NOTES**

- A. NO CURRENT TITLE OPINION OR COMMITMENT FOR TITLE INSURANCE WAS PROVIDED TO THE SURVEYOR, THEREFORE, NO CERTIFICATION IS MADE OR IMPLIED THAT ALL EASEMENTS, DEDICATIONS OR ENCUMBRANCES ARE SHOWN OR NOTED HEREON.
- B. DATE OF LAST FIELD VISIT: JULY 28, 2023.
- C. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES AND MAKES NO CERTIFICATION THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. CALL OKIE TICKET NO. 23072409151705 WAS ISSUED ON JULY 24, 2023.
- D. THIS IS NOT A BOUNDARY SURVEY. APPARENT PROPERTY CORNERS, RIGHT-OF-WAY LINES, OR PROPERTY LINES AS SHOWN ARE DERIVED FROM RECORD SURVEY PLATS, RIGHT-OF-WAY MAPS, OR DEEDS REFERENCED HEREON AND ARE NOT GUARANTEED OR TO BE RELIED ON FOR THE ESTABLISHMENT OF PROPERTY LINES.

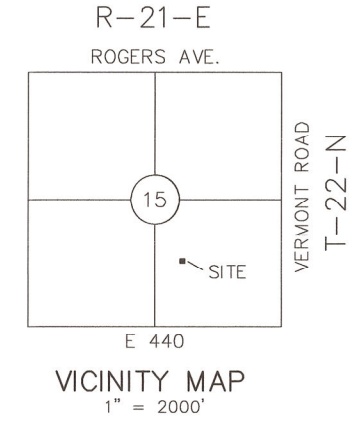
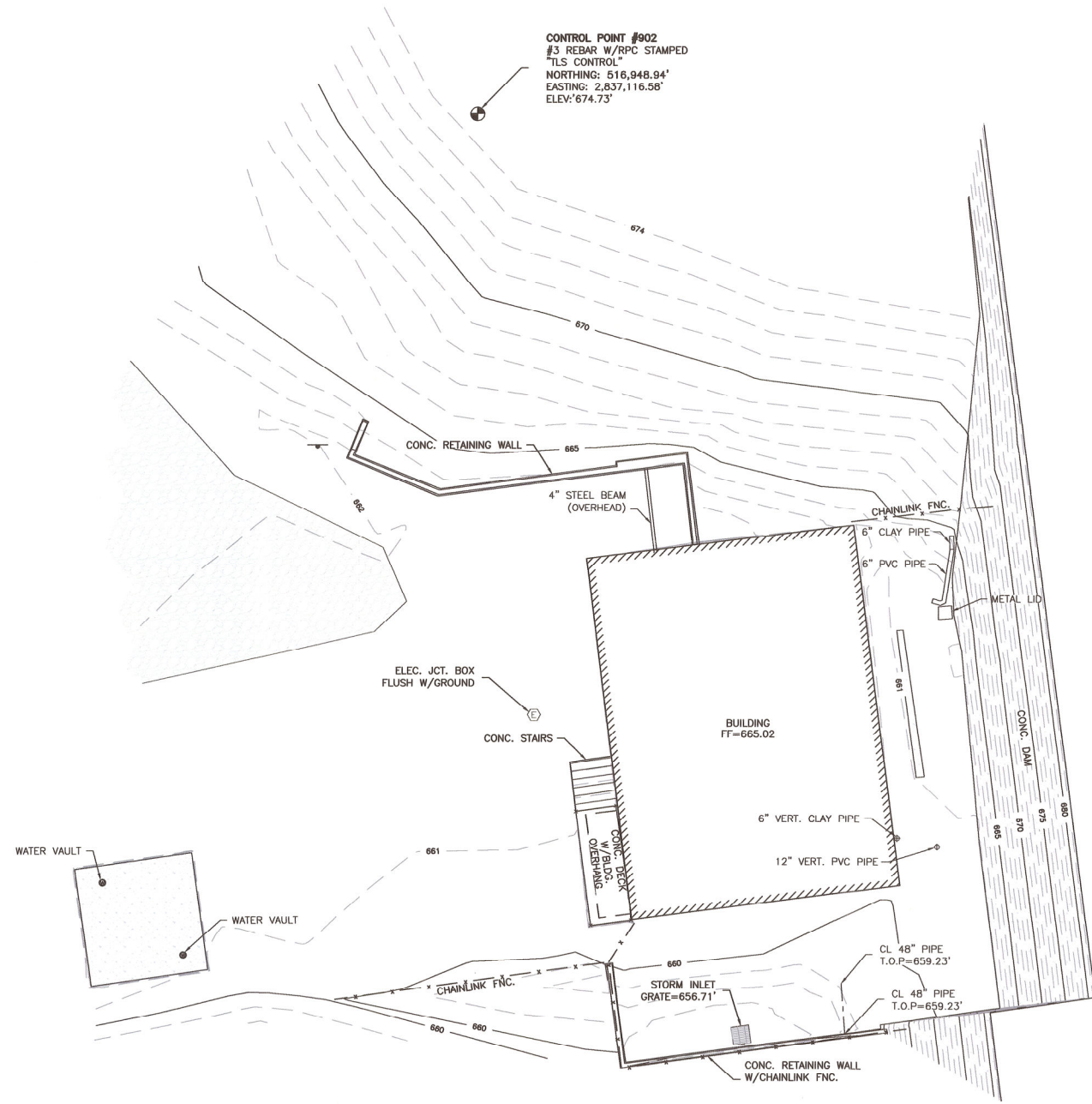


**BENCHMARK**  
 CHISELED "X" NORTHEAST CORNER  
 CONCRETE VAULT.  
 NORTHING: 516,873.30'  
 EASTING: 2,837,036.48'  
 ELEV. = 664.42' (NAVD 88)

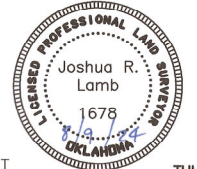


**LEGEND**

	ASPHALT		GUY WIRE
	CONCRETE		TELEPHONE UNDERGROUND MARKER
	GRAVEL		TELEPHONE PEDESTAL
	UNDERGROUND TELEPHONE		MAIL BOX
	UNDERGROUND SANITARY SEWER		GAS METER
	UNDERGROUND GAS		FIBER OPTIC PEDESTAL
	UNDERGROUND CABLE		TRAFFIC SIGNAL POLE
	UNDERGROUND WATER		ELECTRIC METER
	UNDERGROUND STORM SEWER		LIGHT POLE
	OVERHEAD ELECTRIC		TRAFFIC JUNCTION BOX
	FENCE		CABLE TV UNDERGROUND MARKER
	WATER VALVE		BOLLARD/FENCE POST
	WATER METER		SANITARY SEWER MANHOLE
	FIRE HYDRANT		GAS VALVE
	SHRUB		STORM SEWER MANHOLE
	DECIDUOUS TREE		FOUND MONUMENTS
	CONIFEROUS TREE		SET MONUMENTS
	POWER POLE		



**TOPOGRAPHIC SURVEY**  
 A PART OF  
**SE/4 SECTION 15, T-22-N, R-21-E**  
**SPAVINAW PUMP STATION**  
 MAYES COUNTY, STATE OF OKLAHOMA



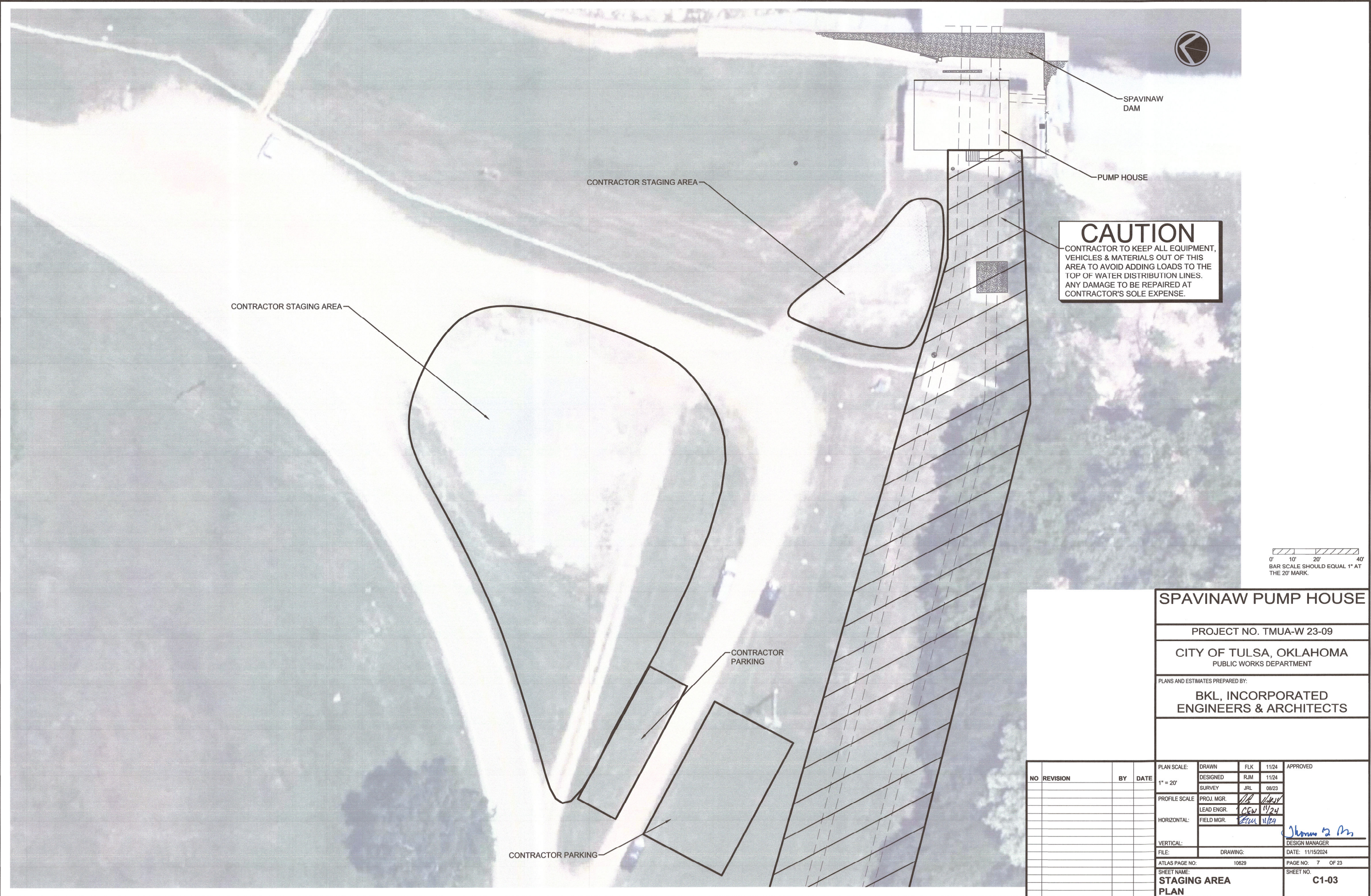
I, JOSHUA R. LAMB, HEREBY STATE THAT THE INFORMATION SHOWN HEREON IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

*Joshua R. Lamb*  
 JOSHUA R. LAMB  
 OKLAHOMA PLS NO. 1678

TULSA LAND SURVEYING LLC  
 1501 EAST 6TH STREET  
 TULSA, OK 74120  
 (918) 794-6777  
 CA 6038  
 EXPIRES 6/30/2025

DRAWING PREPARED: AUGUST 9, 2024  
 TLS NO.: 23-071 BKL - SPAVINAW LIFT STATION

Z:\TULSA\Projects\2023\23-071 BKL - Spavinaw Lift Station\2023-071 BKL - Spavinaw Lift Station.dwg PLOT DATE: 6/29/2024



SPAVINAW DAM

PUMP HOUSE

CONTRACTOR STAGING AREA

CONTRACTOR STAGING AREA

**CAUTION**  
 CONTRACTOR TO KEEP ALL EQUIPMENT, VEHICLES & MATERIALS OUT OF THIS AREA TO AVOID ADDING LOADS TO THE TOP OF WATER DISTRIBUTION LINES. ANY DAMAGE TO BE REPAIRED AT CONTRACTOR'S SOLE EXPENSE.

0' 10' 20' 40'  
 BAR SCALE SHOULD EQUAL 1" AT THE 20' MARK.


**SPAVINAW PUMP HOUSE**

PROJECT NO. TMUA-W 23-09

CITY OF TULSA, OKLAHOMA  
 PUBLIC WORKS DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:  
**BKL, INCORPORATED**  
**ENGINEERS & ARCHITECTS**

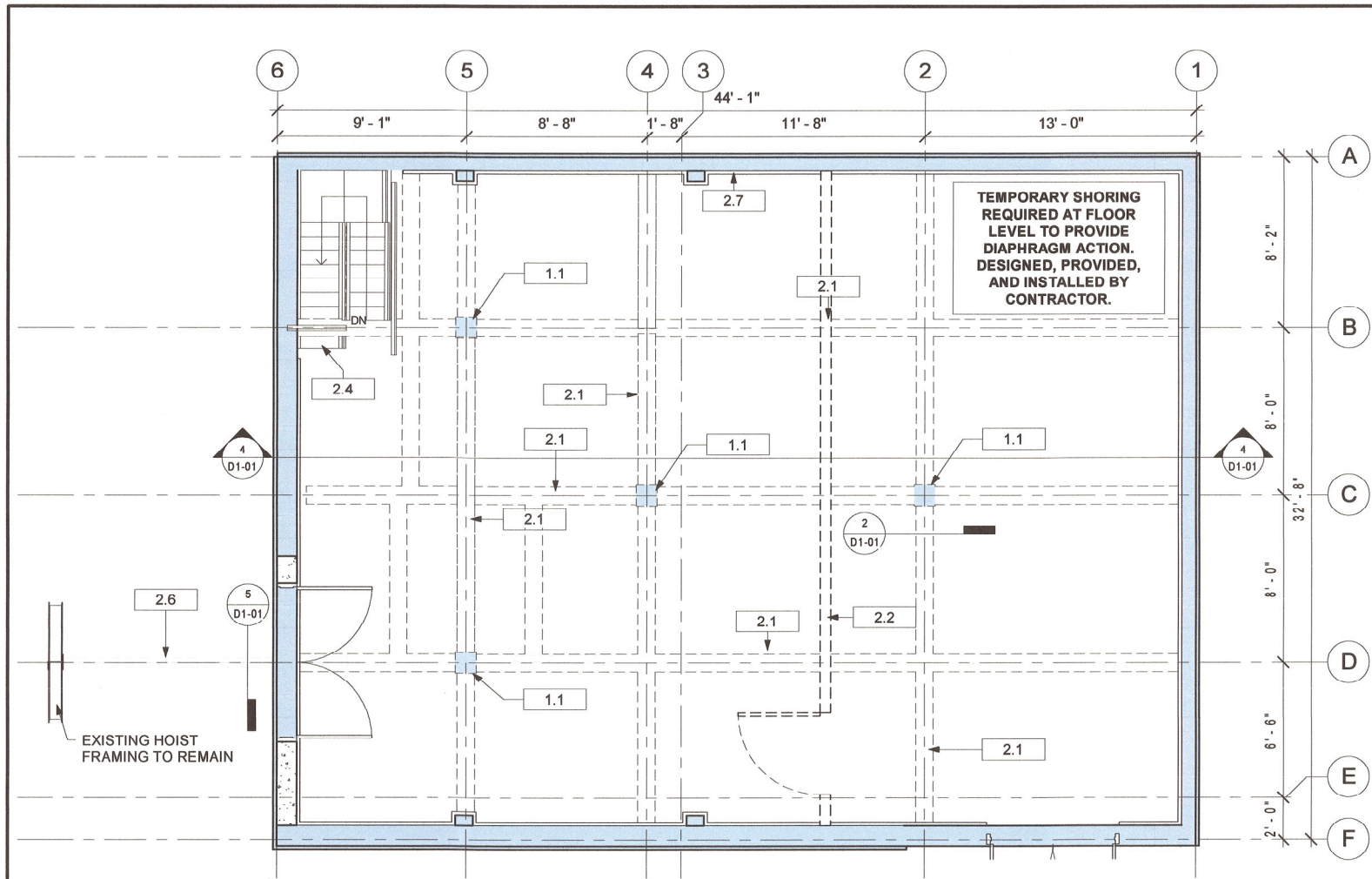
NO	REVISION	BY	DATE

PLAN SCALE:	DRAWN	FLK	11/24	APPROVED
1" = 20'	DESIGNED	RJM	11/24	 DESIGN MANAGER
PROFILE SCALE:	SURVEY	JRL	08/23	
HORIZONTAL:	PROJ. MGR.	<i>[Signature]</i>	<i>[Date]</i>	
VERTICAL:	LEAD ENGR.	<i>[Signature]</i>	<i>[Date]</i>	
FILE:	DRAWING:	<i>[Signature]</i>	<i>[Date]</i>	DATE: 11/15/2024

ATLAS PAGE NO. 10629  
 SHEET NAME: **STAGING AREA PLAN**

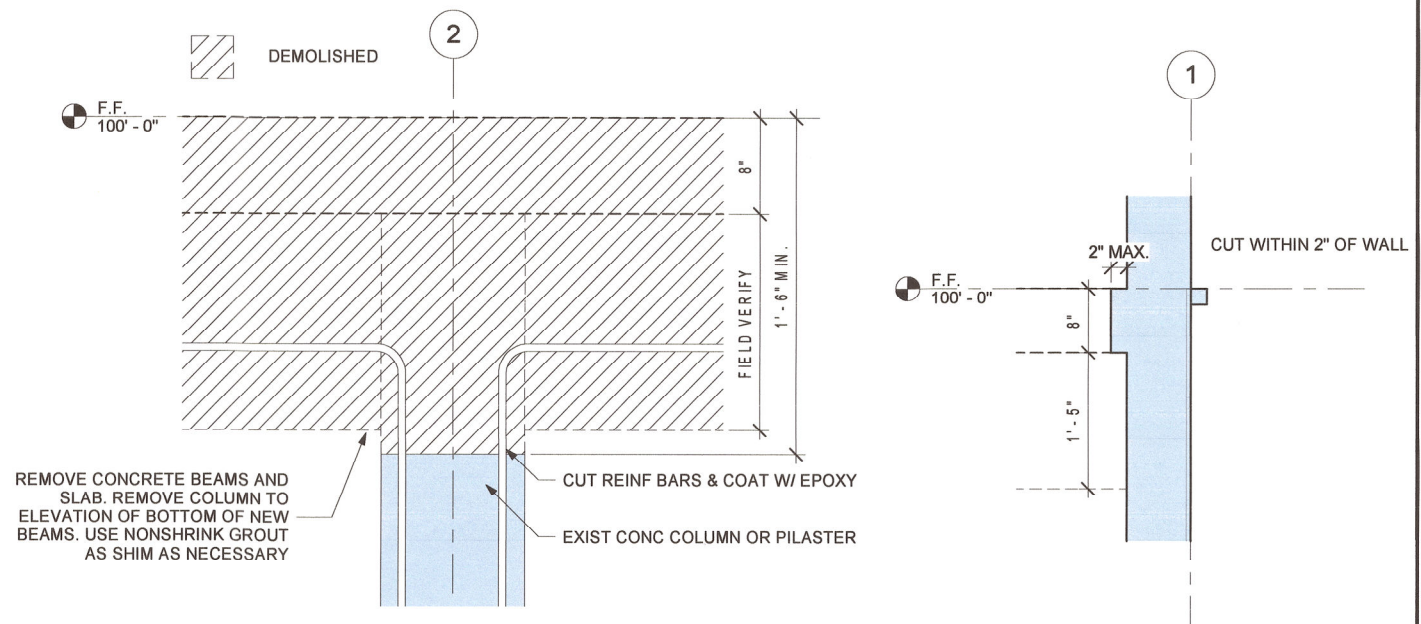
PAGE NO. 7 OF 23  
 SHEET NO. **C1-03**

SPAVINAW PUMP HOUSE - TMUA-W 23-09 TO-01



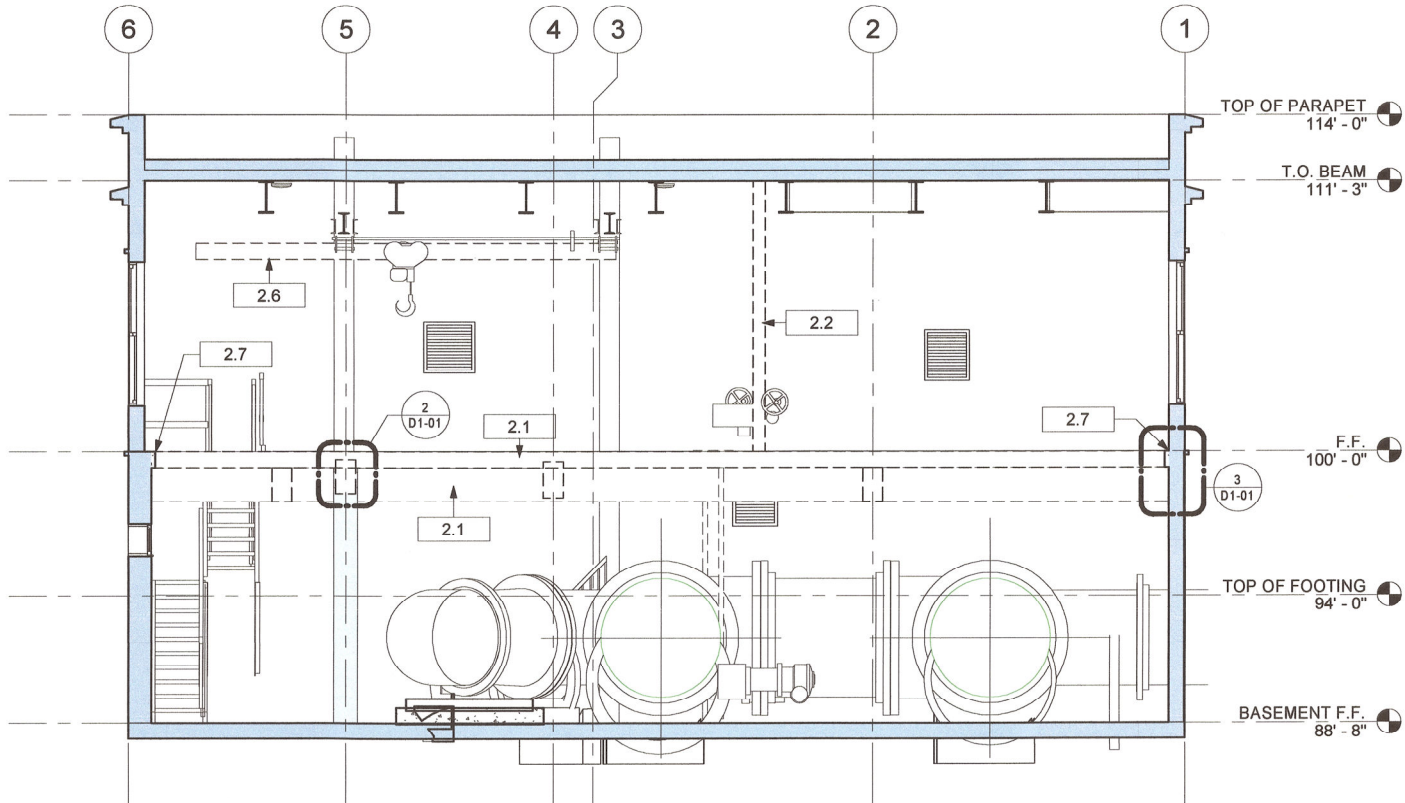
**1 DEMOLITION PLAN**  
1/4" = 1'-0"

Keynote Legend	
Key Value	Keynote Text
1.1	EXISTING CONCRETE COLUMNS TO REMAIN
2.1	REMOVE 8" SLAB AND CONCRETE BEAMS. CUT OFF REINFORCING BARS AND COAT WITH EPOXY AT THE LINES OF REMOVAL.
2.2	REMOVE INTERIOR WALL.
2.4	REMOVE AND REINSTALL EXISTING STEEL STAIRS. PROVIDE TEMPORARY ACCESS FOR CITY OF TULSA STAFF.
2.6	REMOVE CRANE AND RAIL.
2.7	CUT WITHIN 2" OF WALL & PAINT EXPOSED REBAR WITH EPOXY.

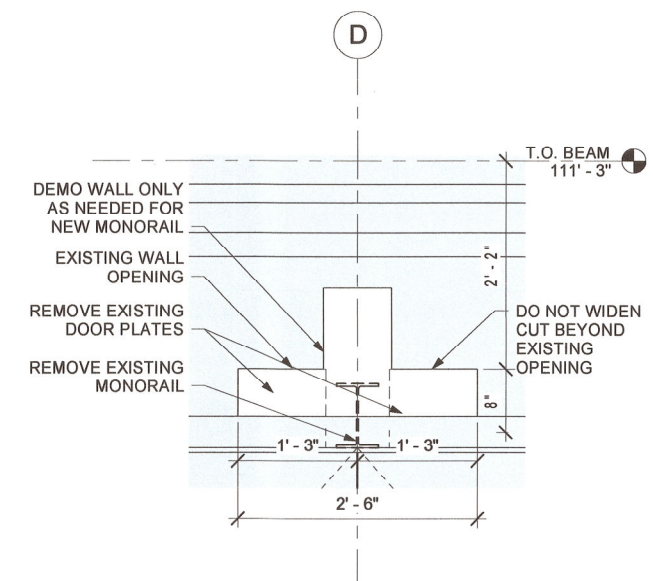


**2 DEMOLITION DETAIL @ CONCRETE COLUMNS**  
1 1/2" = 1'-0"

**3 SLAB DEMOLITION @ WALL TYP.**  
1" = 1'-0"



**4 DEMOLITION SECTION**  
1/4" = 1'-0"



**5 CRANE TRANSFER DEMO DETAIL**  
1" = 1'-0"

**SPAVINAW PUMP HOUSE**

PROJECT NO. TMUA-W-23-09 TO-01

CITY OF TULSA, OKLAHOMA  
WATER & SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:  
**BKL, INCORPORATED**  
ENGINEERS & ARCHITECTS



NO	REVISION	BY	DATE	PLAN SCALE:	DRAWN:	HTS:	APPROVED:
				As indicated	DESIGNED	SAL	
				PROFILE SCALE:	SURVEY		
				HORIZONTAL:	PROJ. MGR.	CEW	
				VERTICAL:	LEAD ENGR.	CEW	
				FILE:	FIELD MGR.	CEW	
							DESIGN MANAGER
				ATLAS PAGE NO.:	DRAWING:		DATE: 11/15/2024
				SHEET NAME:			PAGE NO. 8 OF 23
				<b>DEMOLITION PLAN &amp; SECTION</b>			SHEET NO. <b>D1-01</b>

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SPAVINAW PUMP HOUSE TMUA-W-23-09 TO-01



**STRUCTURAL NOTES:**

**GENERAL**

- G1. **SCOPE**  
THE NOTES ON THIS SHEET AND THE STANDARD STRUCTURAL DETAILS ARE GENERAL AND APPLY TO THE ENTIRE PROJECT WHETHER SPECIFICALLY CALLED OUT OR NOT, EXCEPT WHERE THERE ARE SPECIFIC INDICATIONS TO THE CONTRARY ON STRUCTURAL SHEETS. IF THERE ARE QUESTIONS, THEY SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER AND ANSWERED IN WRITING PRIOR TO CONSTRUCTION.
- G2. **APPLICABLE SPECIFICATIONS AND CODES**
  - A. INTERNATIONAL BUILDING CODE (IBC) 2018 WITH APPLICABLE EDITIONS OF THE CODE REFERENCED STANDARDS.
  - B. ACI 318-14
  - C. ASCE 7-16
  - D. AISC 14TH EDITION
  - E. LOCAL JURISDICTION AMENDMENTS
- G3. **DESIGN CRITERIA – APPLIES TO ALL STRUCTURES**
  - A. RISK CATEGORY II
  - B. DEAD LOAD:
    - 1. ACTUAL TRIBUTARY STRUCTURE WEIGHT
    - 2. SUPERIMPOSED DEAD LOAD: 5 PSF
  - C. LIVE LOAD:
    - 1. WALKWAYS, STAIRS, GRATING: 100 PSF + 10,000 LB POINT LOAD
    - 2. ROOF: 20 PSF
  - D. WIND:
    - 1. BASIC WIND SPEED: 105 MPH
    - 2. EXPOSURE: C
    - 3. RISK CATEGORY: II
    - 4. ALL STRUCTURES ARE ENCLOSED
  - E. SNOW LOAD:
    - 1. GROUND SNOW LOAD = 10 PSF
  - F. SEISMIC:
    - 1. DESIGN CATEGORY II
    - 2. SITE CLASS D
- G4. **GEOTECH**  
THE FOLLOWING NON-CONTRACTUAL GEOTECHNICAL REPORT WAS DEVELOPED FOR THIS PROJECT AND IS THE BASIS OF THIS STRUCTURAL DESIGN:  
GEOTECHNICAL FIRM NAME: AIMRIGHT TESTING & ENGINEERING  
ADDRESS: 2120 S 130TH E AVE, TULSA, OK, 74134  
PROJECT NUMBER: 13320723  
REPORT DATE: AUGUST 10, 2023  
ALLOWABLE [NET] SOIL BEARING = 2,000 PSF
- G5. **SAFETY**  
SAFETY AND STRUCTURE STABILITY DURING CONSTRUCTION ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. STRUCTURES HAVE BEEN DESIGNED TO RESIST THE DESIGN LIVE LOADS ONLY AS A COMPLETED STRUCTURE.
- G6. **OPENINGS**  
OPENINGS FOR PIPES, DUCTS, CONDUITS, ETC. ARE NOT ALL SHOWN ON THE STRUCTURAL DRAWINGS. COORDINATE AND PROVIDE OPENINGS AS REQUIRED TO ACCOMMODATE ALL WORK SHOWN OR SPECIFIED IN THE CONTRACT DOCUMENTS AND OTHERWISE REQUIRED FOR THE FURNISHING OF A FUNCTIONALLY COMPLETE PROJECT. REINFORCE AROUND OPENINGS PER STANDARD STRUCTURAL DETAILS UNLESS OTHERWISE SHOWN.
- G7. **STANDARD DETAILS**  
THE STANDARD DETAILS DEPICT TYPICAL DETAILING TO BE USED ON THIS PROJECT. IF CONDITIONS ARE NOT EXPLICITLY SHOWN ON THE DRAWINGS THEY SHALL BE MADE SIMILAR TO THE STANDARD DETAILS. OBTAIN APPROVAL OF ENGINEER IN WRITING FOR SIMILAR CONDITIONS PRIOR TO CONSTRUCTION.
- G8. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS OF EXISTING CONSTRUCTION AS REQUIRED TO COORDINATE NEW CONSTRUCTION. SUBMIT REQUIRED CHANGES FOR APPROVAL.
- G9. CONTRACTOR TO SUBMIT FOR REVIEW ALL EQUIPMENT SIZES, OPERATING WEIGHTS, VIBRATION FORCES, SUPPORT LOCATIONS, ALONG WITH ANY FLOOR OPENINGS, NOTCHES, AND RECESSES REQUIRED BY SUCH EQUIPMENT. CONCRETE SUPPORT PADS AND/OR FRAMING REQUIRED TO SUPPORT SAID EQUIPMENT SHALL NOT BE FABRICATED AND PLACED UNTIL THE CONCRETE SUPPORT PADS AND/OR FRAMING IS APPROVED TO SUPPORT THE EQUIPMENT.
- G10. UNLESS SPECIFICALLY NOTED, THERE ARE NOT PROVISIONS MADE FOR FUTURE FLOORS, ROOFS, OR OTHER LOADS.

**STEEL**

- S1. DESIGN STRENGTHS:  
WIDE FLANGE AND TEES: Fy=50 KSI  
PIPES: Fy=35 KSI  
STAINLESS STEEL: Fy=33 KSI  
HSS SECTIONS: Fy=46 KSI  
ALL OTHER PLATES AND SHAPES: Fy=36 KSI
- S2. DIMENSIONS:  
TO CENTERLINES OF COLUMNS AND BEAMS, TOP SURFACES OF BEAMS AND TUBES AND BACKS OF CHANNELS AND ANGLES UNO.
- S3. ELEVATIONS:  
TOP OF STEEL REFERS TO TOP SURFACE OF MEMBER OR FLANGE UNO.
- S4. WHEN FILLET WELD SIZE IS NOT INDICATED, PROVIDE MAXIMUM WELD SIZE BASED ON MATERIAL THICKNESS IN ACCORDANCE WITH AISC SPECIFICATIONS.
- S5. ALL BOLTED STRUCTURAL CONNECTIONS ARE BEARING TYPE CONNECTIONS UNLESS OTHERWISE SPECIFIED TO BE SLIP-CRITICAL. PROVIDE LOAD INDICATING WASHERS AT SLIP-CRITICAL CONNECTIONS. REFER SPECIFICATIONS.
- S6. CONFORM TO AISC STEEL CONSTRUCTION MANUAL AND AISC 341, SEISMIC DESIGN MANUAL.
- S7. ALL STEEL BEAMS SHALL RECEIVE STANDARD CAMBER PER THE SPECIFICATIONS UNLESS NOTED OTHERWISE ON THE PLANS. BEAMS REQUIRING SPECIAL CAMBER ARE DENOTED ON THE BEAMS SHOWN ON THE FRAMING PLANS. EXAMPLE: (+1/2") INDICATES 1/2".
- S8. UNO WELD ALL STRUCTURAL STEEL CONNECTIONS OR BOLT WITH ASTM A325-N BOLTS. BEAM CONNECTIONS SHALL BE EQUIVALENT TO "FRAMED BEAM CONNECTIONS" (AISC). WELDING SHALL CONFORM TO AWS "WELDING IN BUILDING CONSTRUCTION".

**POST-INSTALLED ANCHORS**

- A1. ALL POST-INSTALLED ANCHORS SHALL BE INSTALLED WITH HILTI HIT-RE 100 OR APPROVED EQUAL PER MANUFACTURER RECOMMENDATIONS.
- A2. ALL POST-INSTALLED ANCHORS TO BE HOT-DIPPED GALVANIZED STEEL.

**SPECIAL INSPECTIONS**

- 1. SPECIAL INSPECTIONS ARE REQUIRED IN ACCORDANCE WITH CHAPTER 1 AND CHAPTER 17 OF THE 2018 INTERNATIONAL BUILDING CODE (IBC) CONTRACTOR SHALL PROVIDE FOR FULL ACCESS TO THE WORK BY THE SPECIAL INSPECTOR & SHALL PROVIDE FOR THESE INSPECTIONS IN HIS CONSTRUCTION SCHEDULE IN ACCORDANCE WITH THE SPECIFICATIONS. A SPECIAL INSPECTION PLAN WILL BE SUBMITTED UNDER SEPARATE COVER WITH THE PERMIT APPLICATION.
- 2. IN ACCORDANCE WITH IBC CHAPTER 17, THE FOLLOWING TYPES OF WORK REQUIRE SPECIAL INSPECTIONS AND TESTING.

**STATEMENT OF SPECIAL INSPECTIONS - STRUCTURAL**

VERIFICATION AND INSPECTION	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL
<b>STEEL CONSTRUCTION</b>	
1. MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS AND WASHERS:	
a. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	P
b. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.	P
2. INSPECTION OF HIGH-STRENGTH BOLTING:	
a. SNUG-TIGHT JOINTS.	P
b. PRE-TENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITH MATCH-MARKING, TWIST-OFF BOLT OR DIRECT TENSION INDICATOR METHODS OF INSTALLATION.	P
c. PRE-TENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITHOUT MATCH-MARKING OR CALIBRATED WRENCH METHODS OF INSTALLATION.	C
3. MATERIAL VERIFICATION OF STRUCTURAL STEEL AND COLD-FORMED STEEL DECK:	
a. FOR STRUCTURAL STEEL, IDENTIFICATION MARKINGS TO CONFORM TO AISC 360.	S
b. FOR OTHER STEEL, IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	S
c. MANUFACTURERS' CERTIFIED TEST REPORTS	S
4. MATERIAL VERIFICATION OF WELD FILLER MATERIALS:	
a. IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS.	S
b. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.	S
5. INSPECTION OF WELDING:	
a. STRUCTURAL STEEL AND COLD-FORMED STEEL DECK:	
1. COMPLETE AND PARTIAL JOINT PENETRATION GROOVE WELDS.	C
2. MULTI-PASS FILLET WELDS.	C
3. PLUG AND SLOT WELDS.	C
4. SINGLE-PASS FILLET WELDS ≤ 5/16".	P
5. FLOOR AND ROOF DECK WELDS.	P
6. INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE WITH APPROVED CONSTRUCTION DOCUMENTS:	
a. DETAILS SUCH AS BRACING AND STIFFENING.	P
b. MEMBER LOCATIONS.	P
c. APPLICATION OF JOINT DETAILS AT EACH CONNECTION.	P
<b>FABRICATION AND IMPLEMENTATION PROCEDURES - STRUCTURAL STEEL</b>	
1. FABRICATIONS PROCEDURES:	S
a. REVIEW OF FABRICATOR'S WRITTEN PROCEDURAL AND QUALITY CONTROL MANUALS AND PERIODIC AUDITING OF FABRICATION PRACTICES BY AN APPROVED SPECIAL INSPECTION AGENCY. AT THE COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE BUILDING CODE OFFICIAL STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.	
-OR-	
b. AISC CERTIFICATION	
-OR-	
c. SPECIAL INSPECTION OF THE FABRICATED ITEMS, INCLUDING WELDING, SHALL BE REQUIRED IN ACCORDANCE WITH IBC SECTION 1704.3	
2. AT COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE BUILDING CODE OFFICIAL STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.	S

**SPAVINAW PUMP HOUSE**

PROJECT NO. TMUA-W-23-09 TO-01

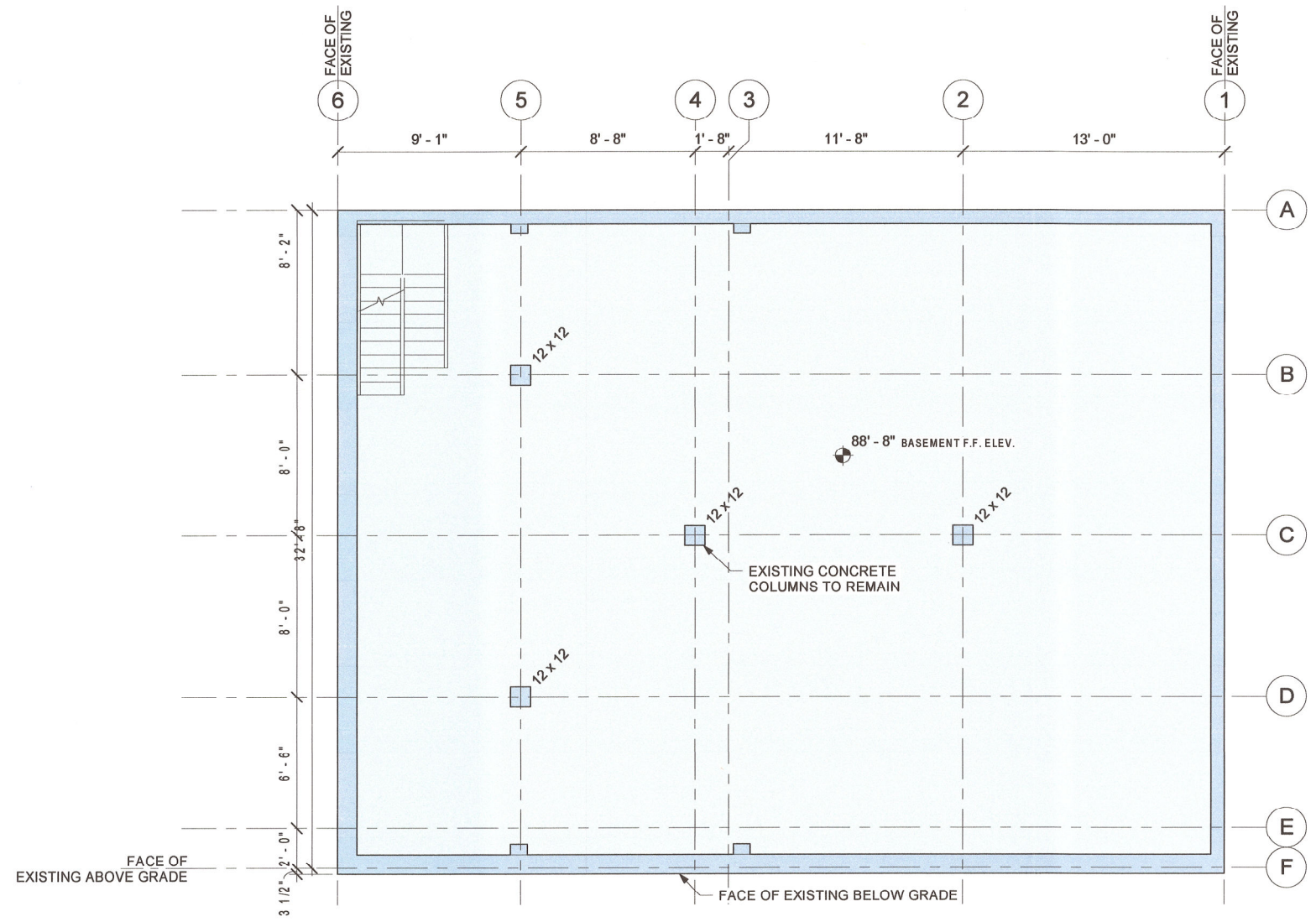
**CITY OF TULSA, OKLAHOMA**  
WATER & SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:  
**BKL, INCORPORATED**  
ENGINEERS & ARCHITECTS



NO	REVISION	BY	DATE	PLAN SCALE:	DRAWN	HTS	APPROVED
				1/8" = 1'-0"	DESIGNED	SAL	
				PROFILE SCALE:	PROJ. MGR.	11/15/24	
				HORIZONTAL:	LEAD ENGR.	11/15/24	
				VERTICAL:	FIELD MGR.	11/15/24	
				FILE:	DRAWING:		DATE: 11/15/2024
				ATLAS PAGE NO:	10629		PAGE NO: 9 OF 23
				SHEET NAME:	<b>STRUCTURAL NOTES &amp; SPECIAL INSPECTIONS</b>		SHEET NO. <b>S0-01</b>

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**1 FOUNDATION PLAN**  
1/4" = 1'-0"



**SPAVINAW PUMP HOUSE**

PROJECT NO. TMUA-W-23-09 TO-01

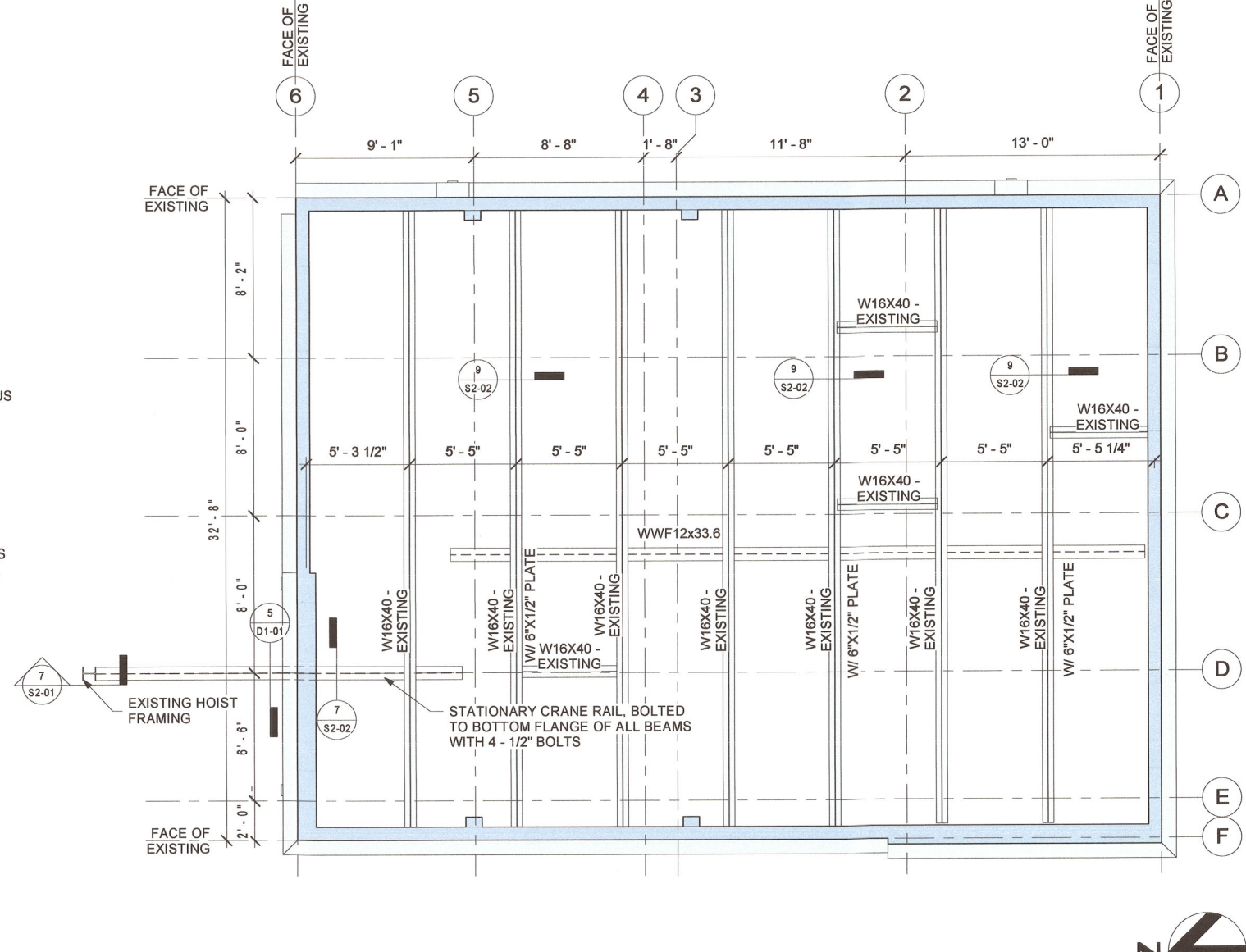
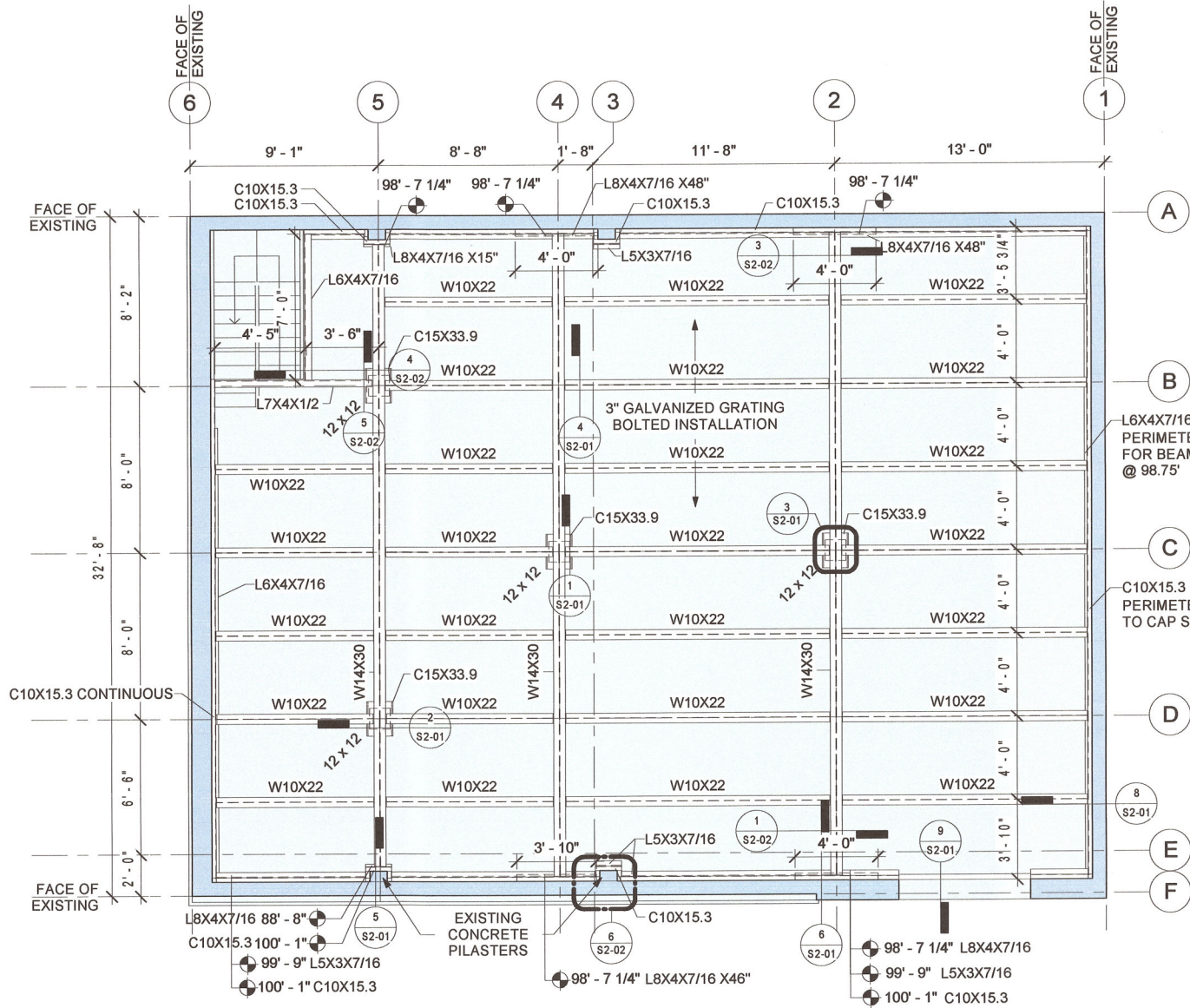
CITY OF TULSA, OKLAHOMA  
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PLANS AND ESTIMATES PREPARED BY:  
**BKL, INCORPORATED  
ENGINEERS & ARCHITECTS**

NO	REVISION	BY	DATE

PLAN SCALE: 1/4" = 1'-0"	DRAWN DESIGNED SURVEY	HTS SAL	APPROVED
PROFILE SCALE	PROJ. MGR. LEAD ENGR. FIELD MGR.	HTS SAL CEW 11/24 BKL 11/24	 DESIGN MANAGER
HORIZONTAL:	FILE:	DRAWING:	
ATLAS PAGE NO:	10629	PAGE NO:	10 OF 23
SHEET NAME:	<b>FOUNDATION PLAN</b>		SHEET NO: <b>S1-01</b>

SPAVINAW PUMP HOUSE TMUA-W-23-09 TO-01



**1 FIRST FLOOR FRAMING PLAN**  
1/4" = 1'-0"

**2 ROOF FRAMING PLAN**  
1/4" = 1'-0"



**SPAVINAW PUMP HOUSE**

PROJECT NO. TMUA-W-23-09 TO-01

**CITY OF TULSA, OKLAHOMA**  
WATER & SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

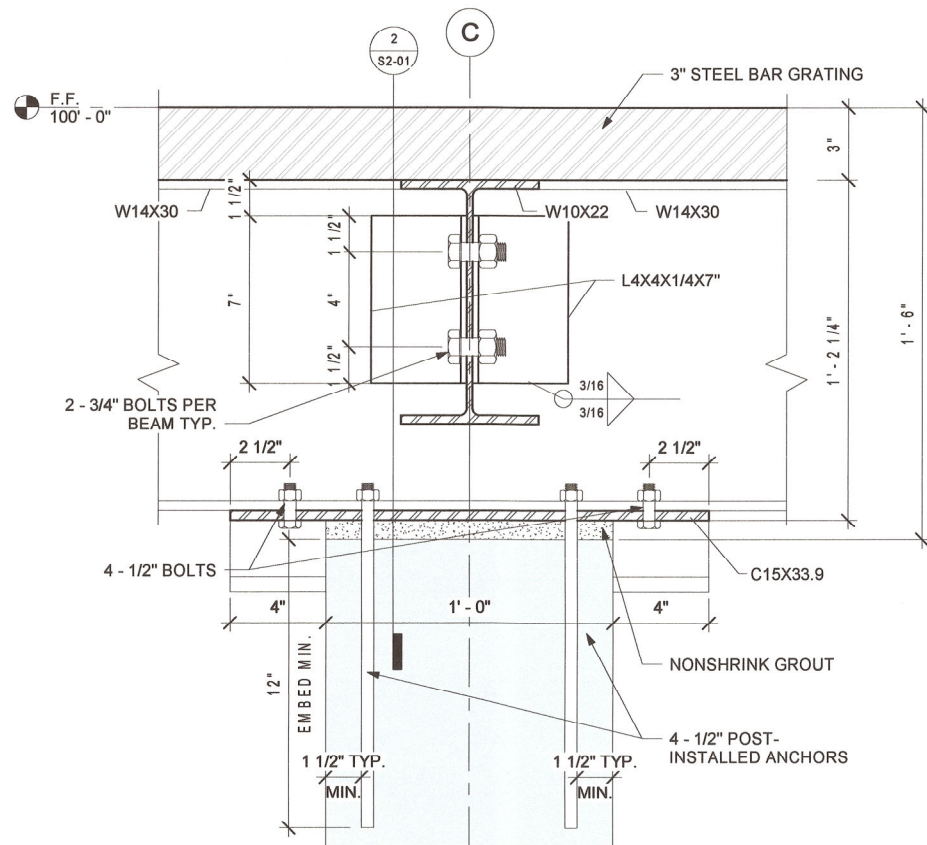
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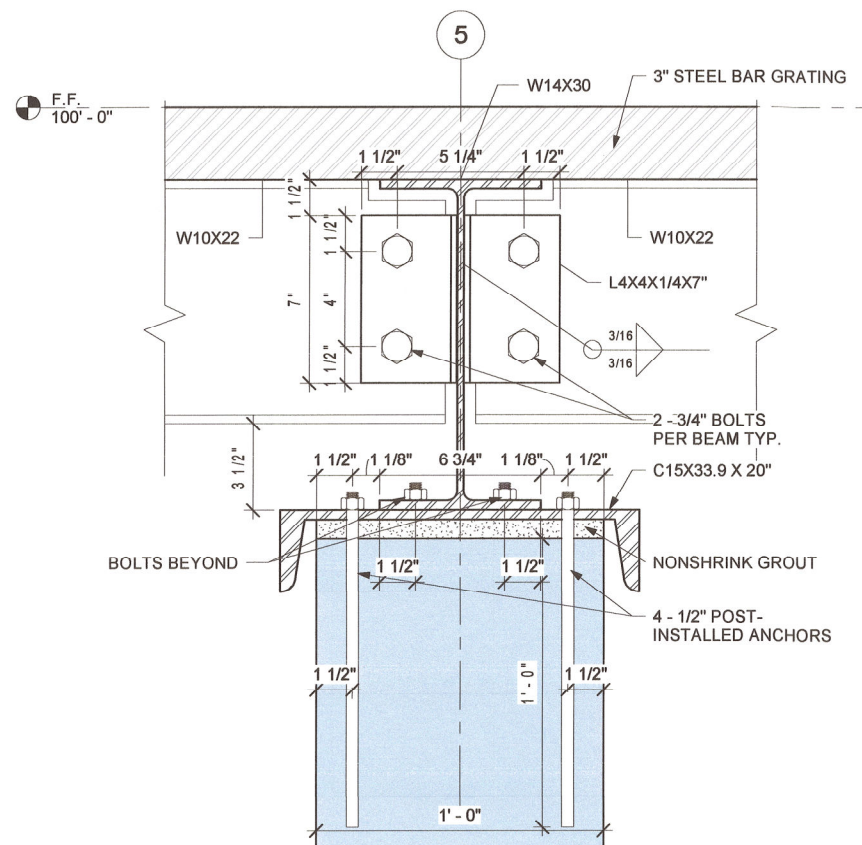
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				ATLAS PAGE NO:	10829		PAGE NO: 11 OF 23
				SHEET NAME:	<b>FLOOR FRAMING PLAN</b>		SHEET NO. <b>S1-02</b>

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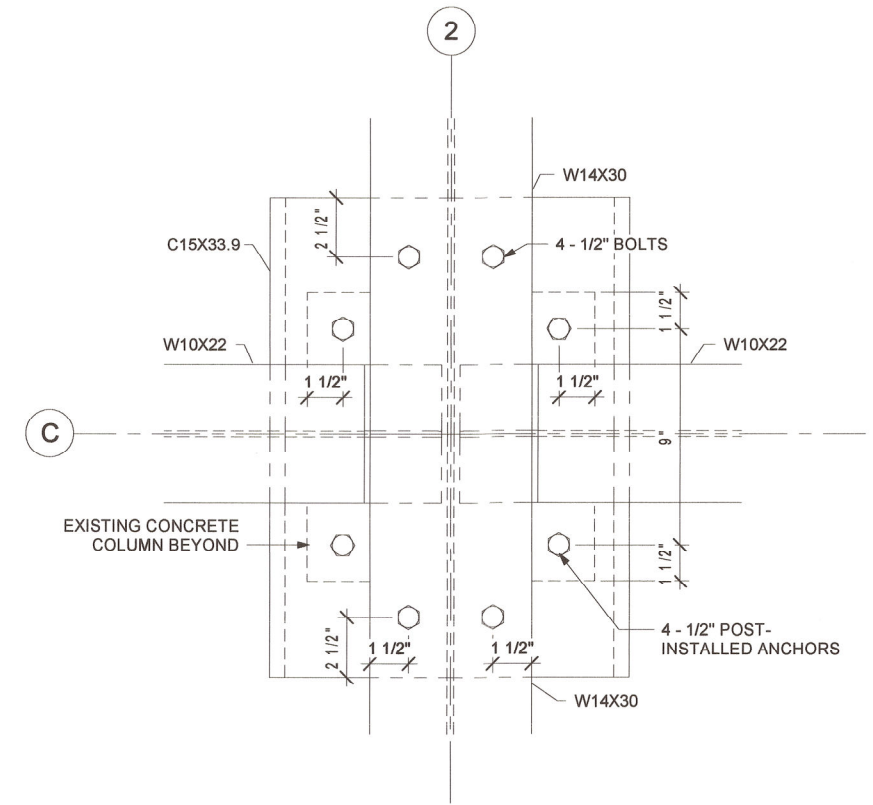
SPAVINAW PUMP HOUSE TMUA-W-23-09 TO-01



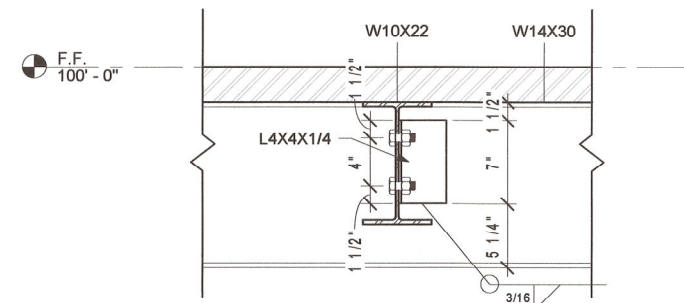
**1 BEAM TO GIRDER DETAIL AT CONC. COLUMN**  
3" = 1'-0"



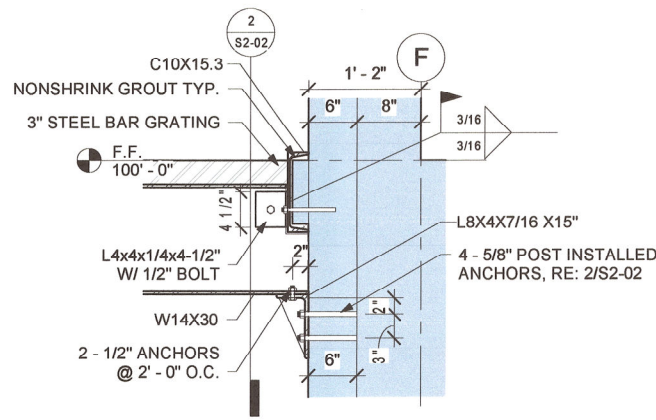
**2 GIRDER TO COLUMN DETAIL**  
3" = 1'-0"



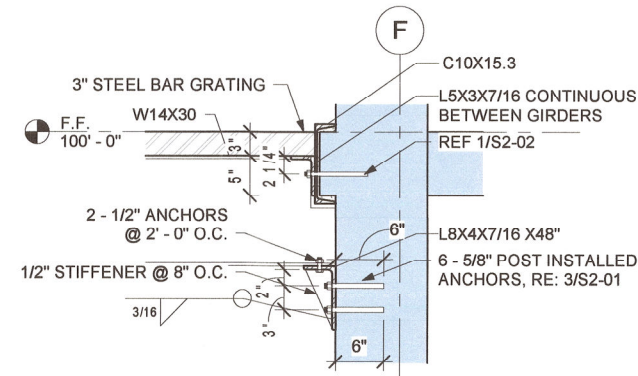
**3 CHANNEL ANCHOR LAYOUT AT COLUMN**  
3" = 1'-0"



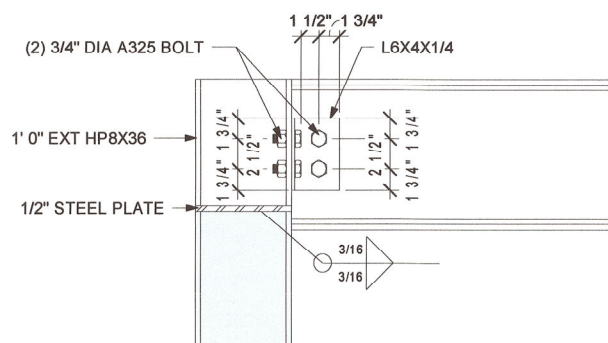
**4 SINGLE BEAM GIRDER CONNECTION**  
1 1/2" = 1'-0"



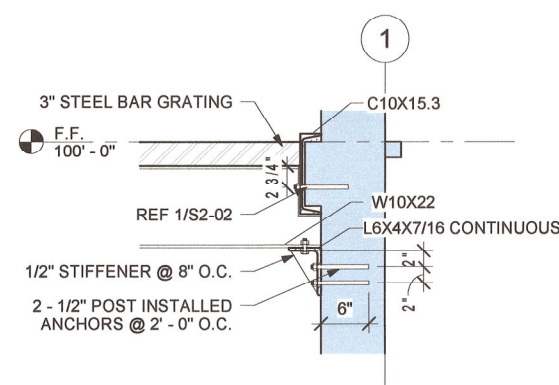
**5 GIRDER TO PILASTER SECTION**  
1" = 1'-0"



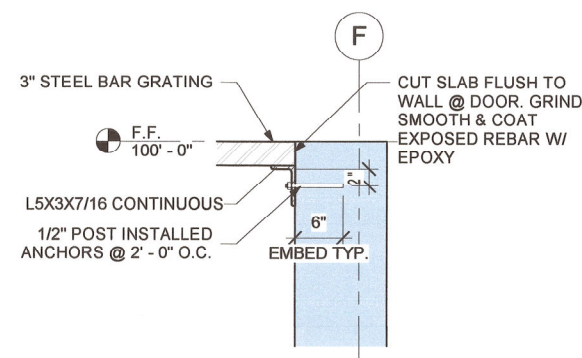
**6 GIRDER TO WALL SECTION**  
1" = 1'-0"



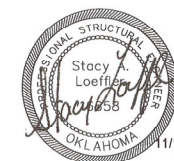
**7 HOIST EXTENSION**  
1 1/2" = 1'-0"



**8 BEAM TO WALL SECTION**  
1" = 1'-0"



**9 DOOR ANGLE DETAIL**  
1" = 1'-0"



**SPAVINAW PUMP HOUSE**

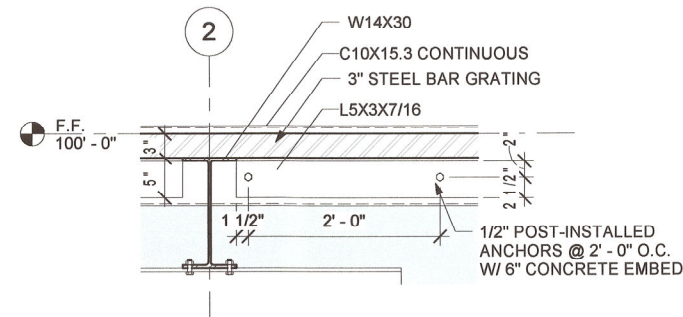
PROJECT NO. TMUA-W-23-09 TO-01

**CITY OF TULSA, OKLAHOMA**  
WATER & SEWER DEPARTMENT

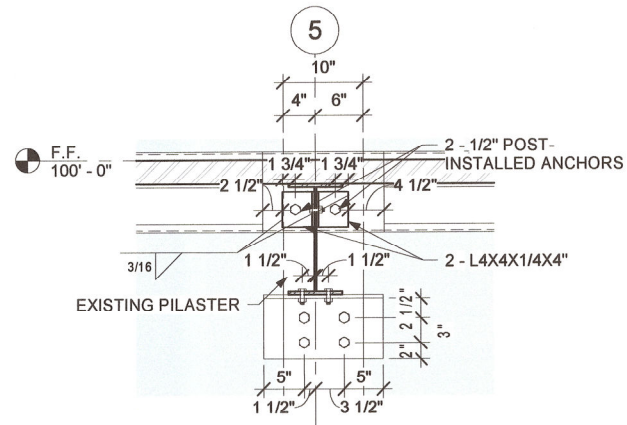
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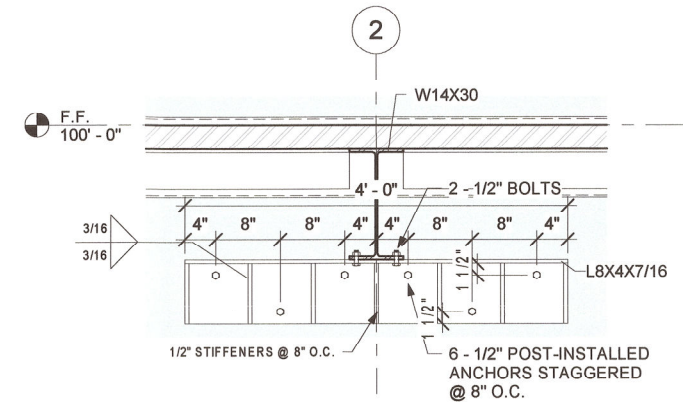
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				SHEET NAME:	STRUCTURAL DETAILS		PAGE NO: 12 OF 23
							SHEET NO. S2-01



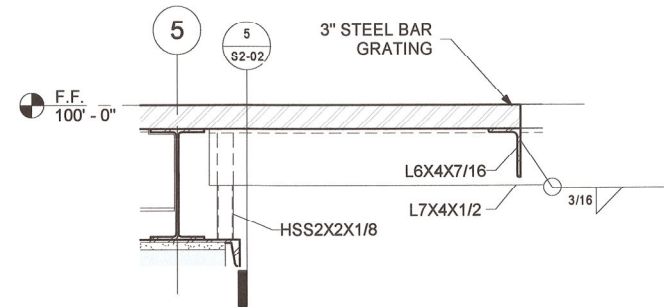
**1 PERIMETER ANGLE BOLT PATTERN**  
1" = 1'-0"



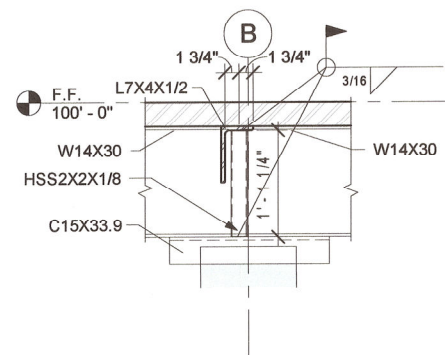
**2 SEAT ANGLE @ PILASTER ELEVATION**  
1" = 1'-0"



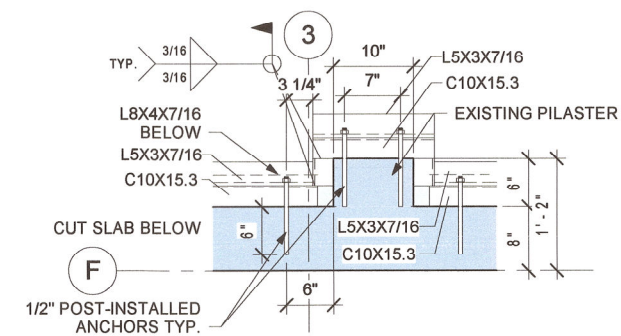
**3 SEAT ANGLE @ WALL ELEVATION**  
1" = 1'-0"



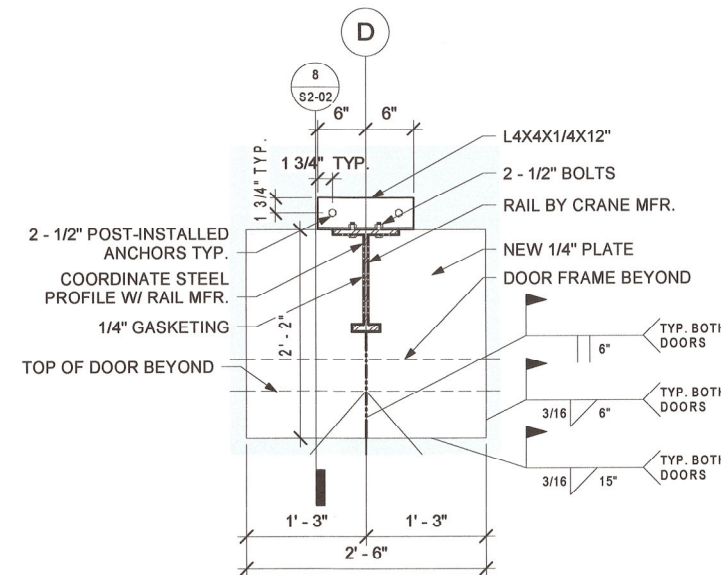
**4 STAIR FRAMING CONNECTION**  
1" = 1'-0"



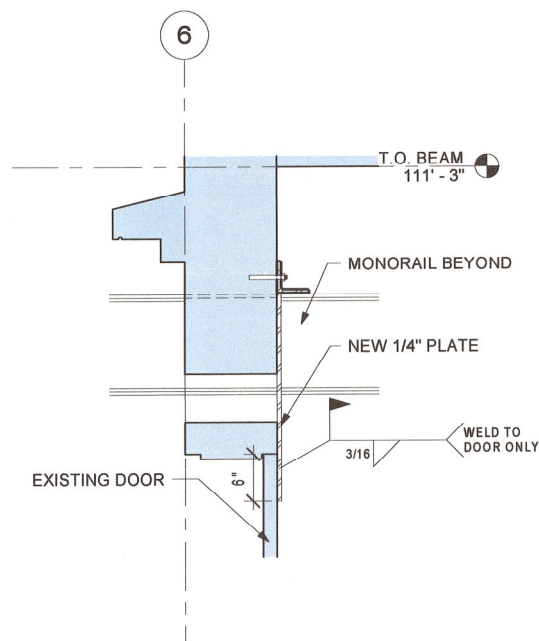
**5 STAIR FRAMING SUPPORT**  
1" = 1'-0"



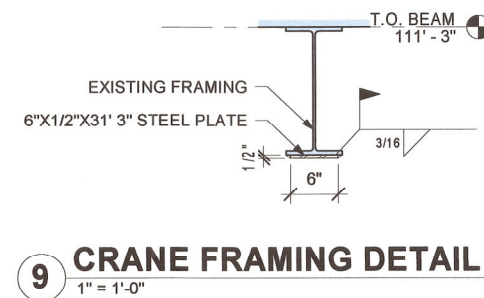
**6 ANGLE TO PILASTER PLAN**  
1" = 1'-0"



**7 CRANE TRANSFER DETAIL**  
1" = 1'-0"



**8 SECTION THROUGH CRANE TRANSFER**  
1" = 1'-0"



**9 CRANE FRAMING DETAIL**  
1" = 1'-0"



**SPAVINAW PUMP HOUSE**

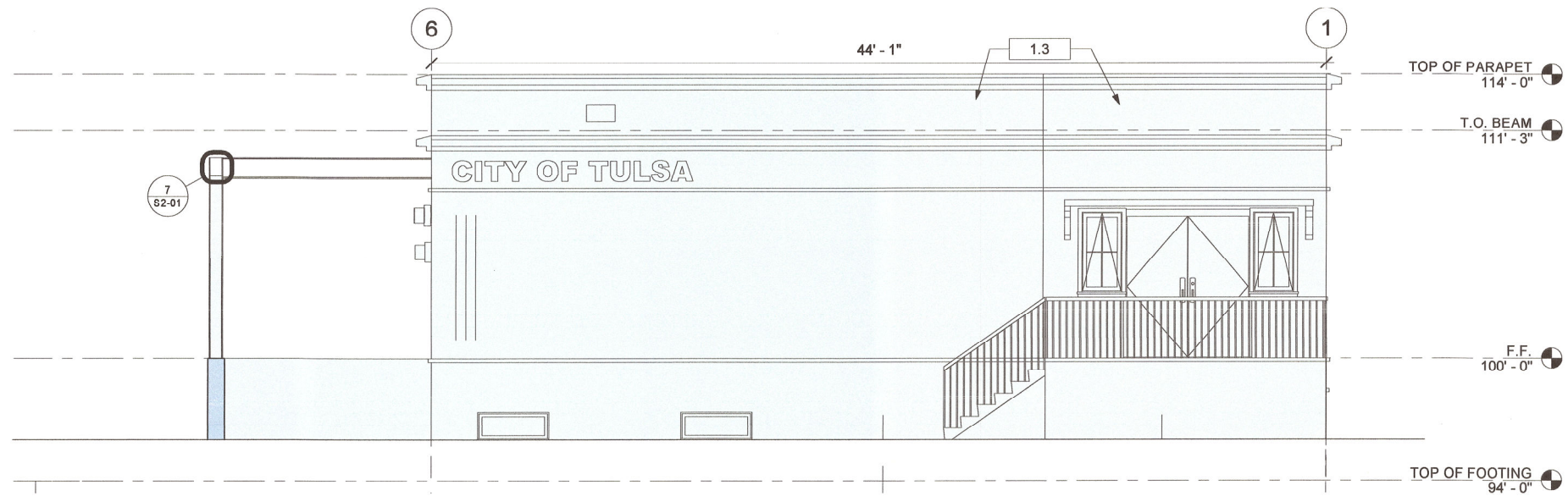
PROJECT NO. TMUA-W-23-09 TO-01

**CITY OF TULSA, OKLAHOMA**  
WATER & SEWER DEPARTMENT

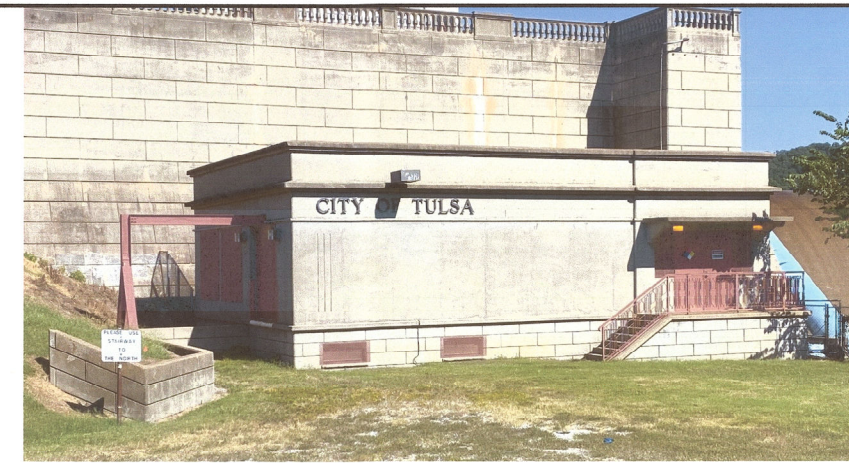
PLANS AND ESTIMATES PREPARED BY:

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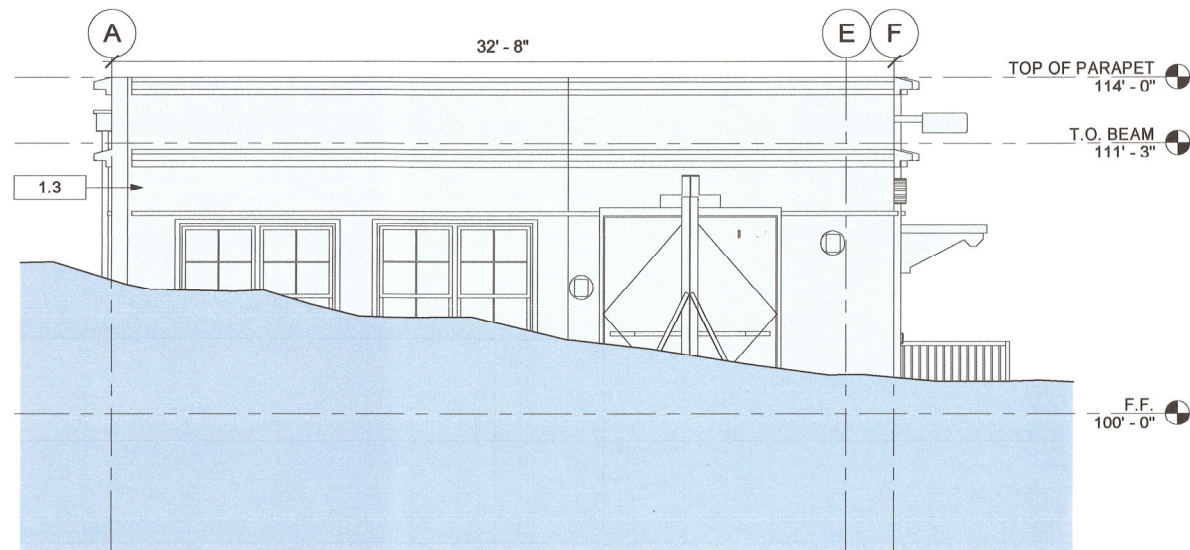
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				FILE:	DRAWING:		DATE: 11/15/2024
				ATLAS PAGE NO. 10629			PAGE NO: 13 OF 23
				SHEET NAME:			SHEET NO.
				<b>STRUCTURAL DETAILS</b>			<b>S2-02</b>



**1 WEST ELEVATION**  
1/4" = 1'-0"



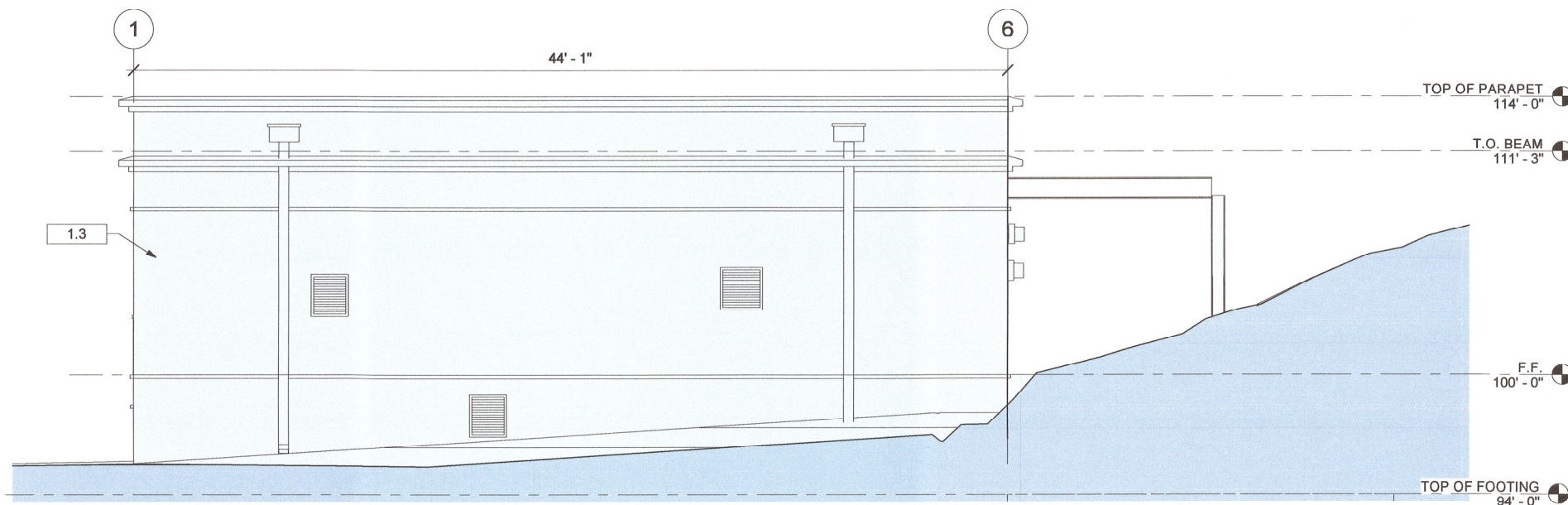
Keynote Legend	
Key Value	Keynote Text
1.3	CLEAN AND SEAL EXISTING CONCRETE



**2 NORTH ELEVATION**  
1/4" = 1'-0"



**3 SOUTH ELEVATION**  
1/4" = 1'-0"



**4 EAST ELEVATION**  
1/4" = 1'-0"



**SPAVINAW PUMP HOUSE**

PROJECT NO. TMUA-W-23-09 TO-01

CITY OF TULSA, OKLAHOMA  
WATER & SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

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				SHEET NAME:			PAGE NO: 14 OF 23
				<b>ELEVATIONS</b>			SHEET NO. <b>A1-01</b>

### GENERAL MECHANICAL NOTES

1. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE MECHANICAL SYSTEMS AS INDICATED ON THE DRAWINGS AND AS REQUIRED BY CODE.
2. DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED TO CONVEY SCOPE AND GENERAL ARRANGEMENT ONLY.
3. INSTALL ALL MECHANICAL EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS, AND APPLICABLE CODES AND REGULATIONS.
4. COORDINATE CONSTRUCTION OF ALL MECHANICAL WORK WITH ARCHITECTURAL, STRUCTURAL, CIVIL, ELECTRICAL WORK, ETC., SHOWN ON OTHER CONTRACT DOCUMENT DRAWINGS.
5. CONTRACTOR TO COMPLY WITH ALL LOCAL CODES AND REQUIREMENTS.
6. REFER TO SPECIFICATIONS AND PROJECT MANUAL FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
7. COORDINATION OF ALL MODIFICATIONS TO EACH DISCIPLINE WHICH RESULT FROM SUBSTITUTION OF EQUIPMENT OR MATERIALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. SUBSTITUTIONS WHICH ARE INSTALLED AND SUBSEQUENTLY ARE PROVEN UNSATISFACTORY BY OWNER AND/OR ENGINEER WITHIN THE WARRANTY PERIOD, SHALL BE REMOVED COMPLETELY BY THE CONTRACTOR AND REPLACED WITH THE ORIGINAL DESIGN OR CORRECTED AS DIRECTED BY THE ENGINEER WITHOUT ADDITIONAL COST TO OWNER.
8. ALL NEW EQUIPMENT SHALL BE TAGGED PER SPECIFICATION SECTION 17300.

### PROJECT SCOPE NOTES

THE SCOPE OF THIS PROJECT IS MODIFY EXISTING MECHANICAL SYSTEMS FOR THE SPAVINAW PUMP STATION LOCATED IN SPAVINAW, OK.

#### DEMOLITION SCOPE NOTES:

1. REMOVE AND RETAIN EXISTING ELECTRIC VALVE ACTUATORS & HANDWHEELS FOR REUSE.
2. REFER TO SHEET MD1-01 FOR DETAILS.
3. ALL COMPONENTS RETAINED FOR REINSTALLATION SHALL BE SAFELY STORED IN SECURED LOCATION. ALL RETAINED EQUIPMENT IS FULLY FUNCTIONAL. IT IS THE CONTRACTORS RESPONSIBILITY ENSURE PROPER FUNCTIONALITY OF ALL SYSTEMS AFTER RE-INSTALLATION.

#### NEW CONSTRUCTION SCOPE NOTES:

1. RELOCATE EXISTING MANUAL AND ELECTRIC VALVE ACTUATORS IN PUMP HOUSE.

#### ADD ALTERNATE #1:

1. PROVIDE 5 NEW LIMIT TORQUE REMOTE SURFACE MOUNT ACTUATOR CONTROLLERS ON FIRST FLOOR FOR (4) RETAINED/RELOCATED ACTUATORS AND (1) EXISTING ACTUATOR. PROVIDE REQUIRED ELECTRICAL AND CONTROL INFRASTRUCTURE FOR PROPER OPERATION.

### MECHANICAL ABBREVIATIONS:

AAV	AUTOMATIC AIR VENT (VALVE)	ID	INSIDE DIAMETER
AC	AIR CONDITIONING UNIT OR AIR COMPRESSOR	IN OR "	INCH
ACH	AIR CHANGES PER HOUR	IN W.C.	INCHES WATER COLUMN
AFF	ABOVE FINISHED FLOOR	IN W.G.	INCHES WATER GAUGE
AHU	AIR HANDLING UNIT	INSUL.	INSULATION
APD	AIR PRESSURE DROP	KW	KILOWATT
APPROX	APPROXIMATE	LAT	LEAVING AIR TEMPERATURE
ARCH	ARCHITECT/ARCHITECTURAL	LBS	POUNDS
AVG	AVERAGE	LDB	LEAVING DRY BULB TEMPERATURE
BAS	BUILDING AUTOMATION SYSTEM	LL	LANDLORD
BDD	BACK DRAFT DAMPER	LP	LIQUID PROPANE
BFW	BOILER FEED WATER	LPS	LOW PRESSURE STEAM
BHP	BRAKE HORSEPOWER	LVG	LEAVING
BOD	BOTTOM OF DUCT	LWB	LEAVING WET BULB TEMPERATURE
BOP	BOTTOM OF PIPE	LWT	LEAVING WATER TEMPERATURE
BTUH	BRITISH THERMAL UNIT PER HOUR	MAINT	MAINTENANCE
CA	COMPRESSED AIR	MAX	MAXIMUM
CAV	CONSTANT AIR VOLUME TERMINAL UNIT	MBH	THOUSAND BTU PER HOUR
CCW	COUNTER CLOCKWISE	MCA	MINIMUM CIRCUIT AMPACITY
CD	CONDENSATE DRAIN	MOD	MOTOR OPERATED DAMPER
CFH	CUBIC FEET PER HOUR	MECH	MECHANICAL
CFM	CUBIC FEET PER MINUTE	MIN	MINIMUM OR MINUTE(S)
CH	CHILLER	MISC	MISCELLANEOUS
CHWR	CHILLED WATER RETURN	MOCP	MAXIMUM OVERCURRENT PROTECTION
CHWS	CHILLED WATER SUPPLY	NC	NORMALLY CLOSED OR NOISE CRITERIA
CL	CENTER LINE	NG	NATURAL GAS
CMB	COMBUSTION AIR	NIC	NOT IN CONTRACT
CONT	CONTINUOUS, CONTINUATION	NK	NECK
CR	CONDENSATE RETURN	NO	NORMALLY OPEN
CT	COOLING TOWER	NO. OR #	NUMBER
CU	CONDENSING/ER UNIT	NR	NOT REQUIRED
CU FT	CUBIC FEET	NTS	NOT TO SCALE
CUH	CABINET UNIT HEATER	OA	OUTSIDE AIR
CW	CLOCKWISE	OBD	OPPOSED BLADE DAMPER
CWR	CONDENSER WATER RETURN	OD	OUTSIDE DIAMETER
CWS	CONDENSER WATER SUPPLY	P	PUMP
DB	DRY BULB TEMPERATURE	PC	PLUMBING CONTRACTOR
DDC	DIRECT DIGITAL CONTROL	PD	PRESSURE DROP
DIA	DIAMETER	PH	PHASE
DIM	DIMENSION	PLBG	PLUMBING
DN	DOWN	PRESS	PRESSURE
DP	DIFFERENTIAL PRESSURE	PRV	PRESSURE REDUCING VALVE
DWG	DRAWING	R	RETURN
DX	DIRECT EXPANSION	RA	RETURN AIR
(E)	EXISTING	RC	REHEAT COIL
EA	EACH OR EXHAUST AIR	REQD	REQUIRED
EAT	ENTERING AIR TEMPERATURE	RF	RETURN FAN
EBB	ELECTRIC BASEBOARD HEATER	RH	RELATIVE HUMIDITY
EC	ELECTRICAL CONTRACTOR	RHG	REFRIGERANT HOT GAS
EDB	ENTERING DRY BULB TEMPERATURE	RL	REFRIGERANT LIQUID
EER	ENERGY EFFICIENCY RATIO	RM	ROOM
EF	EXHAUST FAN	RO	REVERSE OSMOSIS
EFF	EFFICIENCY	RPM	REVOLUTIONS PER MINUTE
ELEV	ELEVATION	RS	REFRIGERANT SUCTION
ELC	ELECTRICAL	S	SUPPLY
EOR	ENGINEER OF RECORD	SA	SUPPLY AIR OR SOUND ATTENUATOR
EQUIP	EQUIPMENT	SD	SMOKE DAMPER OR SMOKE DETECTOR
ESP	EXTERNAL STATIC PRESSURE	SF	SUPPLY FAN
ET	EXPANSION TANK	SPECS	SPECIFICATIONS
EUH	ELECTRIC UNIT HEATER	SQ	SQUARE
EWB	ENTERING WET BULB TEMPERATURE	SQFT	SQUARE FEET
EWT	ENTERING WATER TEMPERATURE	SS	STAINLESS STEEL
EXIST	EXISTING	STD	STANDARD
FD	FIRE DAMPER	STRUC	STRUCTURE/STRUCTURAL
FLA	FULL LOAD AMPERES	T	THERMOSTAT
FLEX	FLEXIBLE	TEF	TOILET EXHAUST FAN
FP	FIRE PROTECTION	TEMP	TEMPERATURE
FPB	FAN POWERED TERMINAL UNIT	TSP	TOTAL STATIC PRESSURE
FPM	FEET PER MINUTE	TYP	TYPICAL
FPS	FEET PER SECOND	UC	UNDER-CUT (DOOR)
FRP	FIBERGLASS REINFORCED PLASTIC	UGRD	UNDERGROUND
FRP	FIBERGLASS REINFORCED PLASTIC	UH	UNIT HEATER (HYDRONIC OR STEAM)
FSD	FIRE/SMOKE DAMPER	V	VOLT
FT	FEET OR FLASH TANK	VAV	VARIABLE AIR VOLUME
FV	FACE VELOCITY	VD	VOLUME DAMPER
GAL	GALLON	VEL	VELOCITY
GC	GENERAL CONTRACTOR	VERT	VERTICAL
GD	GRAVITY DAMPER	VFD	VARIABLE FREQUENCY DRIVE
GPH	GALLONS PER HOUR	VSD	VARIABLE SPEED DRIVE
GPM	GALLONS PER MINUTE	VTR	VENT THROUGH ROOF
H	HUMIDISTAT	W	WATT
HC	HEATING COIL	WV	WITH
HEPA	HIGH EFFICIENCY PARTICULATE AIR FILTER	WB	WET BULB TEMPERATURE
HHWR	HEATING HOT WATER RETURN	WC	WATER COLUMN
HHWS	HEATING HOT WATER SUPPLY	WMS	WIRE MESH SCREEN
HP	HORSEPOWER OR HEAT PUMP	WPD	WATER PRESSURE DROP
HR	HOUR	WT	WEIGHT
HRP	HYDRONIC RADIANT PANEL		
HTG	HEATING		
HVAC	HEATING, VENTILATION & AIR CONDITIONING		
HX	HEAT EXCHANGER		
HZ	HERTZ		

### JOB SPECIFIC MECHANICAL NOTES

1. ALL EXISTING FAN AND LOUVERS AND THEIR ASSOCIATED CONTROLS ARE TO REMAIN.
2. CONTRACTOR SHALL REVIEW ALL MATERIALS, EQUIPMENT & PARTS THAT HAVE BEEN REMOVED WITH OWNER. SHOULD THE OWNER WANT TO RETAIN ANY MATERIALS THE CONTRACTOR SHALL REMOVE AND DELIVER RETAINED MATERIAL TO THE OWNER ON THE SITE WHERE SO DIRECTED. OTHERWISE ALL DEMOLISHED OR REMOVED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE AND BE DISPOSED OF IN A LEGAL MANNER.
3. FURNISH A CONSTRUCTION RECORD SET OF RECORD DOCUMENTS TO THE OWNER AND ENGINEER OF RECORD REFLECTING ANY VARIANCES OF INSTALLED EQUIPMENT CONTRARY TO THE CONSTRUCTION DOCUMENTS PREPARED BY THE ENGINEER-OF-RECORD AFTER FINAL INSPECTION OF INSTALLED MECHANICAL SYSTEMS.
4. CONTRACTOR SHALL REINSTALL RETAINED ELECTRICAL ACTUATORS AS NOTED ON DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR OBTAINING REQUIRED VALVE ACTUATOR AND ASSEMBLY DATA TO COMPLETE RELOCATION AND ENSURE PROPER OPERATION PRIOR TO START OF WORK. CONTRACTOR SHALL EXTEND POWER & CONTROLS TO NEW LOCATION AND VERIFY NEW ARRANGEMENT IS FULLY TESTED AND OPERATIONAL. COORDINATE INSTALLATION AND START-UP WITH ACTUATOR MANUFACTURER. ALL OBTAINED VALVE, ACTUATOR, AND DIMENSIONAL DATA SHALL BE INCLUDED IN RECORD DRAWINGS.
5. CONTRACTOR SHALL ADAPT EXISTING PUMP DISCHARGE VALVE ACTUATOR TO REPLACED VALVE. NEW ARRANGEMENT SHALL BE FULLY TESTED TO ENSURE PROPER OPERATION. COORDINATE START-UP AND INSTALLATION WITH ACTUATOR MANUFACTURER.

### MECHANICAL SYMBOL LEGEND

	WALL GRILLE		EQUIPMENT TAG
	MANUAL VOLUME DAMPER		SUPPLY DIFFUSER - CEILING
	CONTINUATION		RETURN GRILLE - CEILING
	FLOW ARROW		EXHAUST GRILLE - CEILING
			THERMOSTAT

### SPAVINAW PUMP HOUSE

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CITY OF TULSA, OKLAHOMA  
ENGINEERING SERVICES DEPARTMENT

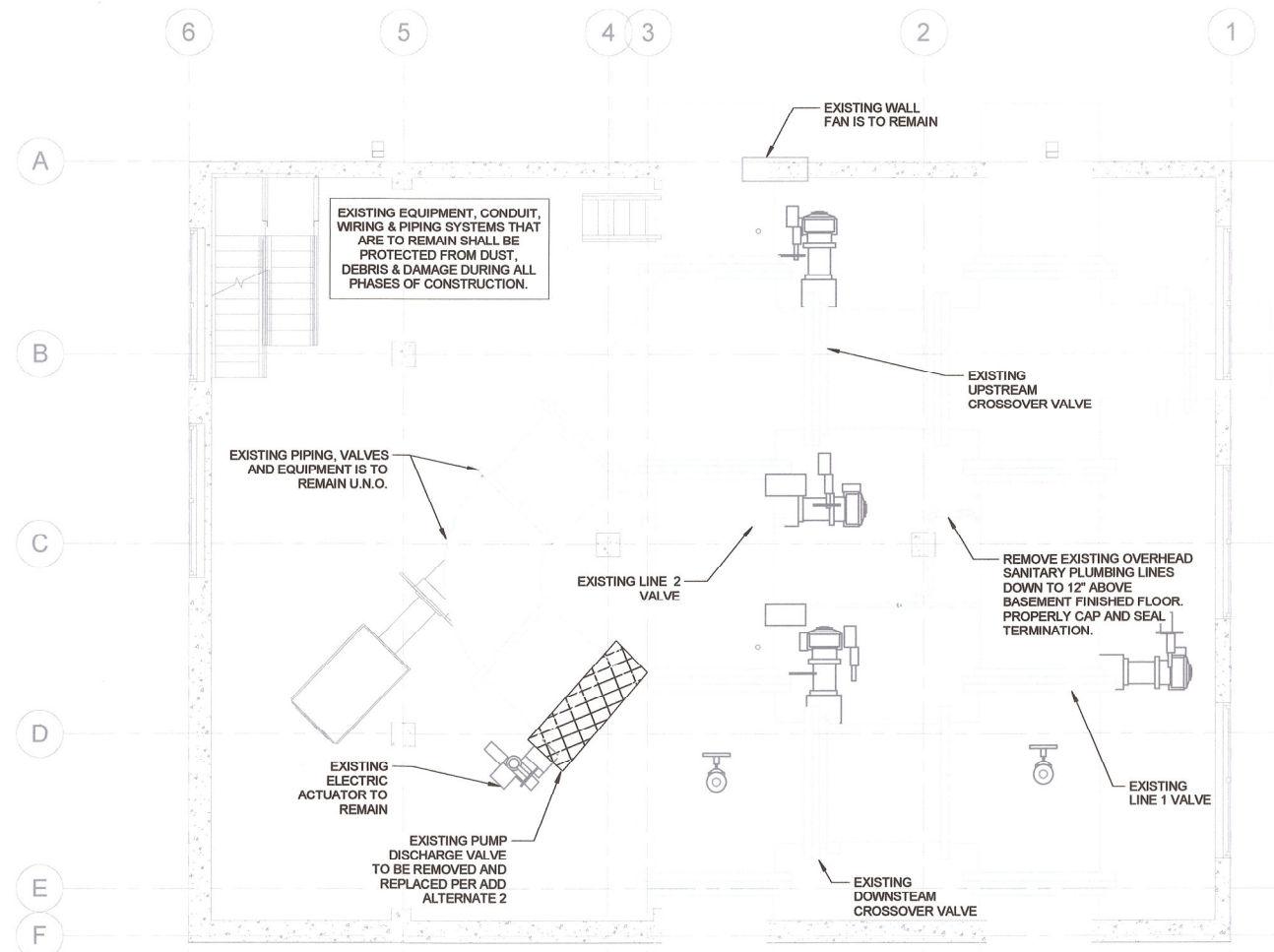
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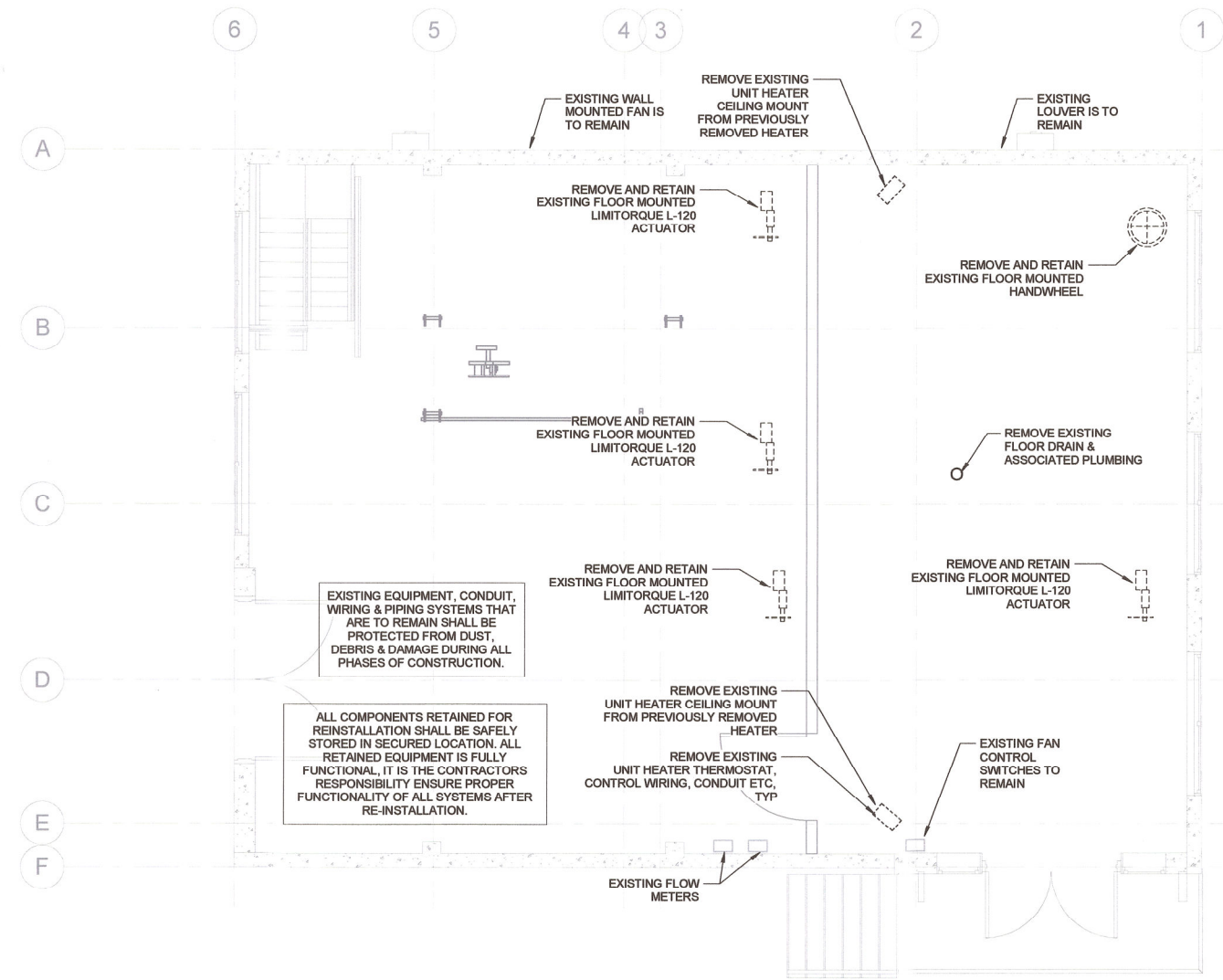
GREEN ACORN  
MECHANICAL, ELECTRICAL & PLUMBING



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				ATLAS PAGE NO:	10629		PAGE NO. 15 OF 23
				SHEET NAME:	<b>MECHANICAL SYMBOLS, LEGENDS, &amp; NOTES</b>		SHEET NO. <b>M0-01</b>



1 BASEMENT DEMO PLAN  
1/4" = 1'-0"



2 FIRST FLOOR DEMO PLAN  
1/4" = 1'-0"



**SPAVINAW PUMP HOUSE**

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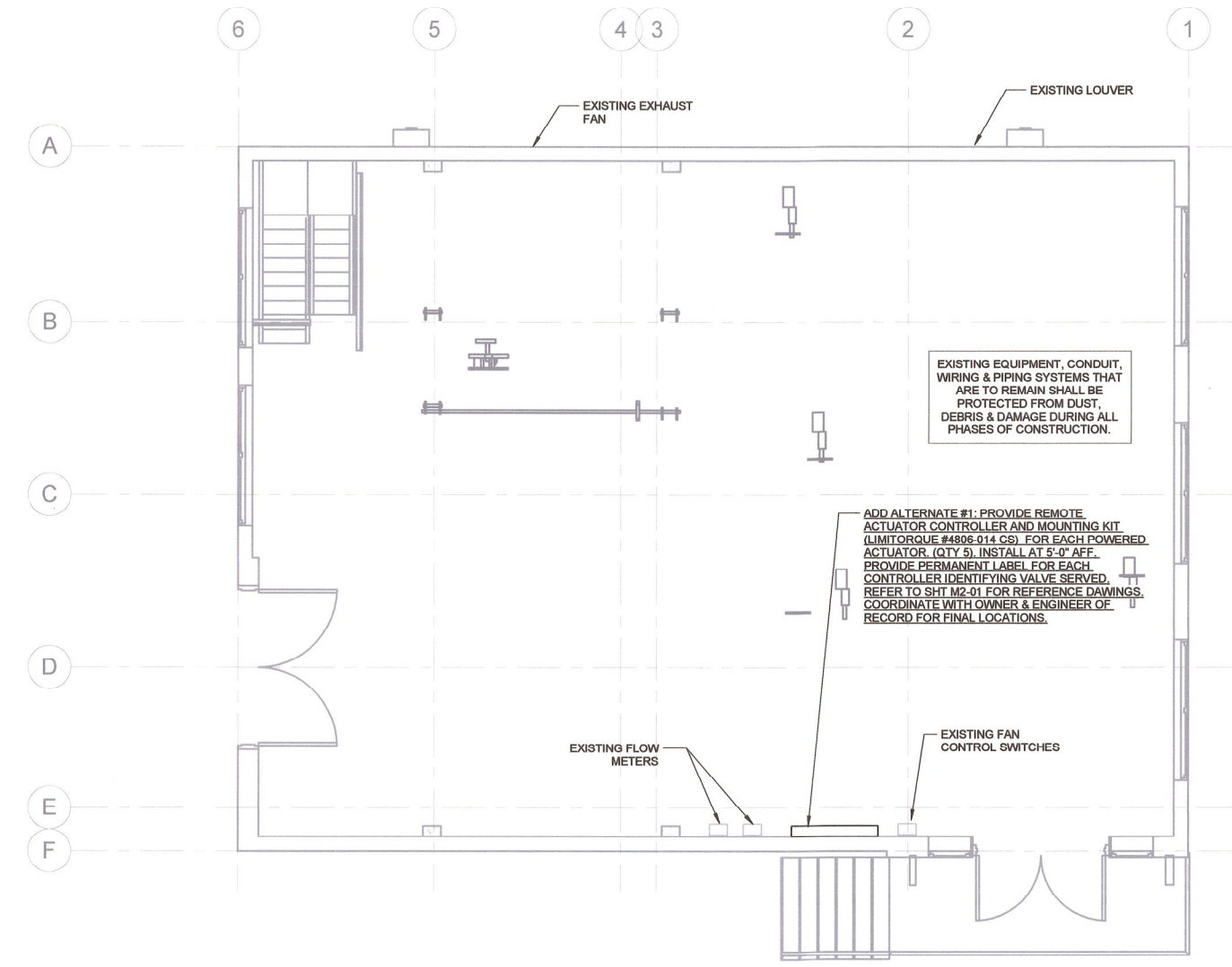
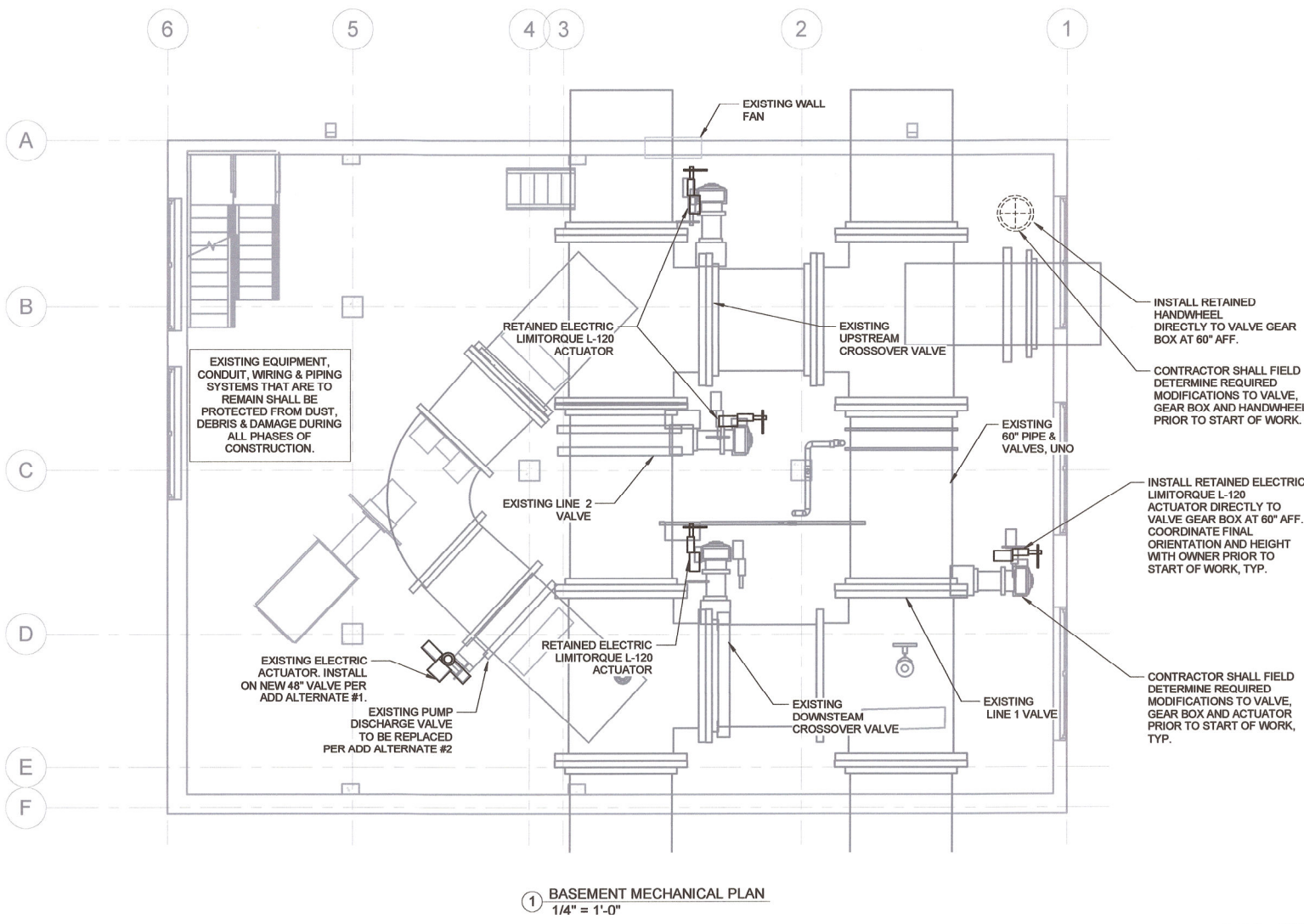
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MECHANICAL, ELECTRICAL & PLUMBING



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				ATLAS PAGE NO:	10629		PAGE NO. 16 OF 23
				SHEET NAME:	<b>MECH &amp; PLUMBING DEMOLITION PLAN</b>		SHEET NO. <b>MD1-01</b>



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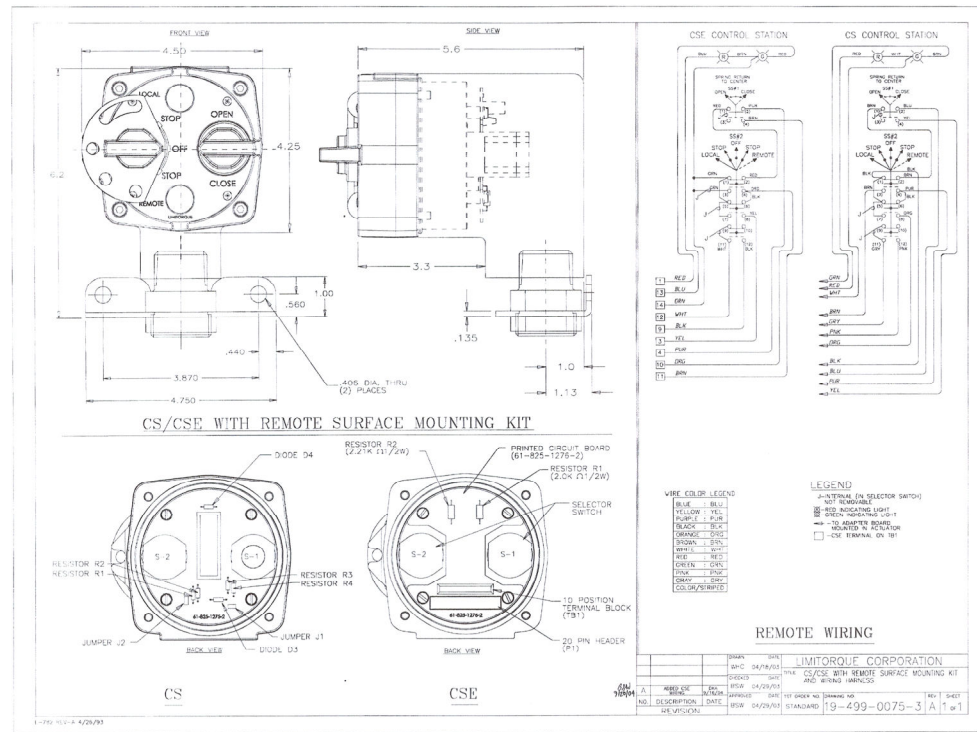
GREEN ACORN  
MECHANICAL, ELECTRICAL & PLUMBING



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VERTICAL:	FIELD MGR.	<i>[Signature]</i>	11/21
FILE:	DRAWING:	DATE:	11/15/2024
ATLAS PAGE NO:	10629	PAGE NO. 17 OF 23	
SHEET NAME:	<b>MECHANICAL PLAN</b>		SHEET NO. <b>M1-01</b>

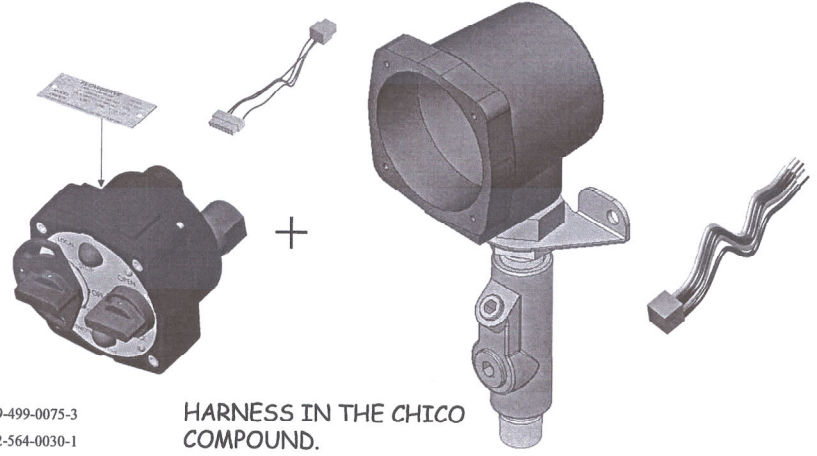
SPAVINAW PUMP HOUSE TMUA-W-23-09 TO-01



### 4806-014 FM xp REMOTE CS, 120VAC

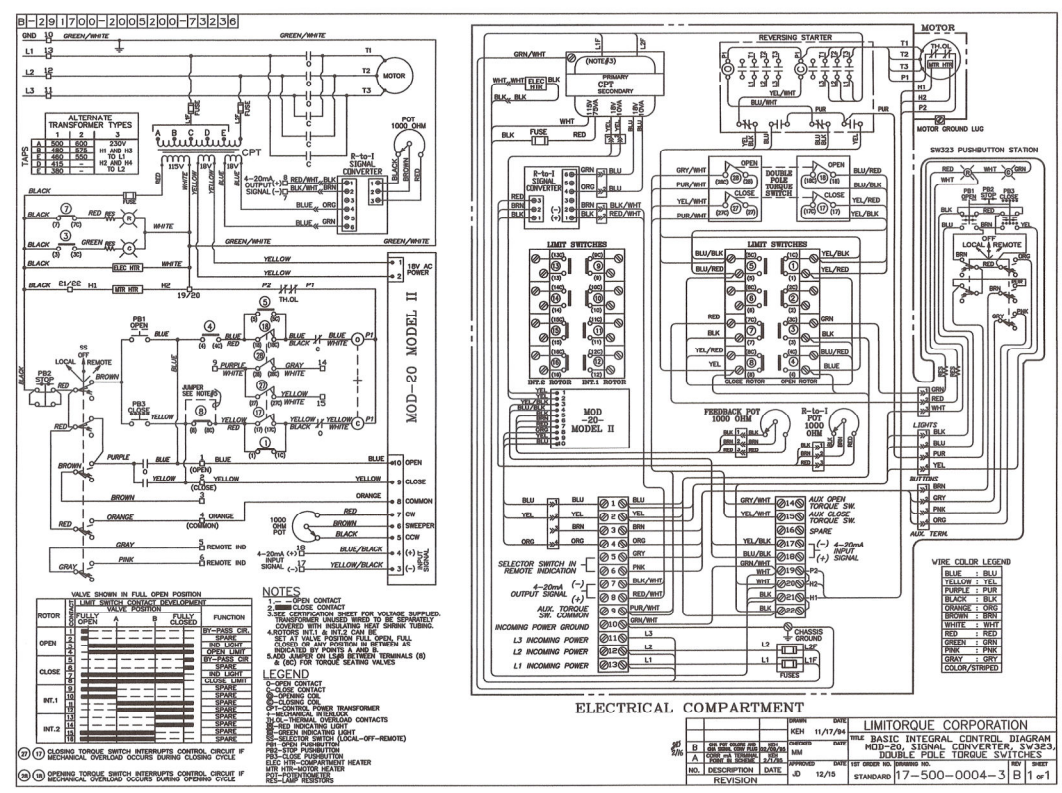
REMOTE DISTANCE FOR  
THE CS IS 300' MAX,  
18AWG WIRE

L120/SMB/LY NOT MX



19-499-0075-3  
02-564-0030-1

**HARNES IN THE CHICO  
COMPOUND.**



**SPAVINAW PUMP HOUSE**

PROJECT NO. TMUA-W-23-09 TO-01

**CITY OF TULSA, OKLAHOMA**  
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:  
**BKL, INCORPORATED**  
ENGINEERS & ARCHITECTS

**GREEN ACORN**  
MECHANICAL, ELECTRICAL & PLUMBING

**FOR  
INFORMATION  
ONLY**

NO	REVISION	BY	DATE	APPROVED

## GENERAL ELECTRICAL NOTES

- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VISIT THE PROJECT SITE PRIOR TO SUBMITTING BID IN ORDER TO VERIFY THE EXTENT OF THE CONSTRUCTION WORK AND THE ACTUAL CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED. SUBMITTAL OF BID SHALL BE CONSIDERED PROOF THAT THE CONTRACTOR HAS VISITED THE JOB SITE AND IS FAMILIAR WITH THE SITE SPECIFIC CONSTRUCTION REQUIREMENTS.
- CONTRACTOR IS RESPONSIBLE FOR PROCURING ALL NECESSARY PERMITS AND LICENSES REQUIRED FOR WORK. PAY ALL LAWFUL FEES, INCLUDING, BUT NOT LIMITED TO UTILITY DEPOSITS, INSPECTION FEES, AND TEMPORARY AND PERMANENT CONSTRUCTION FEES.
- PROVIDE ELECTRICAL UTILITY WITH THE CONSTRUCTION SCHEDULE WHEN IT BECOMES AVAILABLE.
- CONTRACTOR SHALL COORDINATE INSTALLATION OF ELECTRICAL SYSTEMS WITH OTHER TRADES. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATIONS OF EQUIPMENT. FAILURE TO COORDINATE WITH OTHER TRADES SHALL NOT RESULT IN A CHANGE ORDER.
- NOTIFY ENGINEER AND REQUEST ADDITIONAL INFORMATION FOR PROPOSED ALTERNATE OR ALTERNATE EQUIPMENT OTHER THAN LISTED IN CONTRACT DOCUMENTS OR SUBMITTED DURING PRODUCT REVIEW WHICH REQUIRES ADDITIONAL SPACE, SUPPORT, LAYOUT OR ELECTRICAL REQUIREMENT. PROVIDE WORK ONLY AFTER WRITTEN NOTICE TO PROCEED FROM BOTH ENGINEER OF RECORD AND OWNER.
- SERVICE EQUIPMENT SHALL BE MARKED WITH THE AVAILABLE FAULT CURRENT ON THE PANEL PER NEC 110.24. COORDINATE WITH LOCAL UTILITY.
- PROVIDE HANDLE TIES ON ALL MULTIWIRE BRANCH CIRCUITS TO MEET THE REQUIREMENTS OF NEC 210.4(B).
- PROVIDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR (SIZED PER NEC) IN ALL CONDUITS CONTAINING POWER CIRCUITS. CONDUIT SHALL BE SIZED PER NEC BASED ON THWN 600 VOLT COPPER SINGLE CONDUCTORS, PLUS THE EQUIPMENT GROUNDING CONDUCTOR.
- PROVIDE A COMPLETE TYPED PANELBOARD IDENTIFICATION SCHEDULE AND PANELBOARD NAMEPLATE FOR ALL PANELS.
- PROVIDE DEVICE LABELS (STICK ON MYLAR TAPE LABEL WITH PANEL AND BRANCH CIRCUIT-1/4" HIGH BLACK LETTER) FOR ALL ELECTRICAL DEVICES WITHIN THE SCOPE OF THIS PROJECT.
- BRANCH CIRCUIT CONDUCTORS SHALL BE MINIMUM #12 AWG IN 3/4" C UNLESS NOTED OTHERWISE IN SCHEDULES. WHERE 20A BRANCH CIRCUITS HAVE #8 AND LARGER WIRE SPECIFIED, #10 AWG WIRE MAY BE USED FOR THE FINAL 15-FT OF RUN.
- CONTRACTOR SHALL SIZE CONDUIT AND DERATE CURRENT CARRYING CONDUCTORS PER NEC 310.15(B)(3)(a) WHERE CIRCUITS ARE GROUPED.
- ALL FEEDER AND BRANCH CIRCUITS SHALL BE INSTALLED ABOVE GROUND, UNLESS SPECIFICALLY NOTED IN PLANS TO BE BELOW GRADE.
- MINIMIZE VISIBILITY OF SURFACE-MOUNTED CONDUIT. GROUP CONDUITS AND ROUTE HORIZONTALLY TO NEAREST BREAK IN WALL. TURN 90 DEGREES AND ROUTE TO STRUCTURE. GROUP BRANCH CIRCUITS WHEN POSSIBLE TO REDUCE CONDUITS. UTILIZE NEAREST WALL CHASES WHEN POSSIBLE.
- PROVIDE ARC FLASH WARNING LABELS ON ALL REQUIRED EQUIPMENT.
- HOMERUNS ARE SHOWN SEPARATELY TO PRESERVE DRAWING CLARITY. CONTRACTOR IS PERMITTED TO COMBINE HOMERUNS SERVING LIGHTING AND WIRING DEVICES AS ALLOWED BY THE NEC.
- WIRING DEVICES: DEVICE MOUNTING HEIGHTS ARE FROM FINISHED FLOOR TO CENTER OF OUTLET BOX UNLESS NOTED OTHERWISE ON PLANS. COORDINATE THE STANDARD MOUNTING HEIGHTS WITH MASONRY:
  - RECEPTACLES +18"
  - GFI RECEPTACLES +24"
  - TELEPHONE/DATA +18"
  - DATA +18"
  - FIRE ALARM PULL STATION +48"
- UPON COMPLETION OF ELECTRICAL INSTALLATION AND PRIOR TO ENERGIZING THE CIRCUIT:
  - INSPECT WIRE AND CABLE FOR PHYSICAL DAMAGE.
  - PERFORM CONTINUITY TEST.
  - VERIFY PROPER PHASING CONNECTION TO ALL THREE PHASE MOTOR LOADS.
- ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ACCEPTABLE MANUFACTURERS SHALL BE AS INDICATED FOR EQUIPMENT SCHEDULED UNLESS OTHERWISE NOTED. CONTRACTOR SHALL PROVIDE ALL NECESSARY WIRING AND EQUIPMENT AND MAKE ALL FINAL CONNECTIONS FOR A COMPLETE AND OPERATIONAL SYSTEM IN CONFORMANCE WITH EQUIPMENT MANUFACTURER WIRING DIAGRAMS.
- COORDINATE EXACT ELECTRICAL REQUIREMENTS OF ALL MECHANICAL EQUIPMENT PRIOR TO ROUGH-IN. WHERE PROVIDED EQUIPMENT NAMEPLATE PROTECTIVE DEVICE RATING DIFFERS FROM SIZE SPECIFIED, PROVIDE WIRING AND OVERCURRENT DEVICE WITH APPROPRIATE RATING PER NEC.
- PROVIDE LIQUID-TIGHT FLEXIBLE METAL CONDUIT AND WIRING FROM DISCONNECT SWITCH OR JUNCTION BOX TO EQUIPMENT KNOCKOUT OR ELECTRICAL CONNECTION POINT FOR ALL OUTDOOR OR OTHER WET-LOCATION EQUIPMENT CONNECTIONS.
- COORDINATE EXACT LOCATION AND REQUIREMENTS OF ALL APPLIANCES AND OTHER DEVICES WITH OTHER TRADES, VENDORS, AND OWNER PRIOR TO ROUGH-IN. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ELECTRICAL REQUIREMENTS AS REQUIRED BY EQUIPMENT PROVIDER AND/OR EQUIPMENT DRAWINGS. PROVIDE A COMPLETE AND OPERATIONAL SYSTEM.
- ALL NEW EQUIPMENT SHALL BE TAGGED PER SPECIFICATION SECTION 17300.

## GENERAL LIGHTING NOTES

- THE LOCATION OF DUCTS, PIPE AND EQUIPMENT AS SHOWN ON THE DRAWINGS IS DIAGRAMMATIC AND SCHEMATIC AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH ALL OTHER TRADES BEFORE INSTALLATION. LIGHT FIXTURE LOCATIONS SUPERSEDE HVAC DUCTWORK, GRILLES AND DIFFUSERS. OFFSET TO AVOID STRUCTURE AND/OR ANY OTHER PIPING.
- COORDINATE EXACT FIXTURE LOCATIONS WITH STRUCTURE, DIFFUSERS, ETC.
- WHERE FIELD CONDITIONS WILL INTERFERE WITH THE INTENDED LIGHTING LAYOUT, CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE ARCHITECT AND ENGINEER OF RECORD.
- REFERENCE ARCHITECTURAL DRAWINGS FOR EXACT LIGHT FIXTURE LOCATIONS AND MOUNTING HEIGHTS.
- EXIT LIGHTS AND EMERGENCY LIGHTS SHALL BE CONNECTED TO UNSWITCHED PORTION OF LIGHTING CIRCUIT SERVING AREA.
- LIGHT FIXTURES WITH EMERGENCY BATTERY BACKUP SHALL HAVE ADDITIONAL UNSWITCHED HOT/NEUTRAL PAIR OF CONDUCTORS ROUTED TO BATTERY PACK.
- PROVIDE ALL ACCESSORIES REQUIRED FOR FUNCTIONAL ELECTRICAL INSTALLATION AND SUPPORT.
- EXIT SIGN MOUNTING:
  - WALL: CENTER 12" ABOVE DOOR OPENING.
  - CEILING/PENDANT: ON CEILING OR AT HEIGHT SPECIFIED ON DRAWINGS.
- EMERGENCY LIGHT MOUNTING:
  - COMPLY WITH MANUFACTURER'S REQUIREMENTS FOR MAINTAINED LIGHTING LEVELS AND COORDINATE ELEVATIONS WITH ARCHITECT AND ENGINEER.
  - AFTER EMERGENCY LIGHT HAS BEEN POWERED DO NOT REMOVE POWER FOR EXTENDED PERIODS OF TIME.
- EMERGENCY LIGHT ELECTRICAL CONNECTION:
  - REFER TO MANUFACTURER'S WRITTEN INSTRUCTIONS. ALLOW BATTERY TO CHARGE CONTINUOUSLY FOR A MINIMUM OF 168 HOURS BEFORE INITIAL TESTING.
  - AFTER EMERGENCY LIGHT HAS BEEN POWERED DO NOT REMOVE POWER FOR EXTENDED PERIODS OF TIME.
- PROVIDE TWO COPIES AND A DIGITAL COPY OF OPERATION AND MAINTENANCE MANUALS FOR ALL LIGHT FIXTURES TO OWNER.

## POWER SYMBOL LEGEND

	ELECTRICAL SWITCHBOARD
	ELECTRICAL DISCONNECT SWITCH
	FUSED ELECTRICAL DISCONNECT SWITCH
	COMBINATION MOTOR STARTER
	MOTOR STARTER
	ENCLOSED CIRCUIT BREAKER
	HOMERUN, CONCEALED IN WALLS AND CEILINGS
	HOMERUN, CONCEALED IN SLAB OR BELOW GRADE
	CIRCUIT AND (assigned switch group)
	LOW VOLTAGE WIRING
	MANUAL MOTOR STARTER SWITCH
	ELECTRICAL POINT OF CONNECTION OR GROUND ROD
	ELECTRICAL JUNCTION BOX
	DUPLEX RECEPTACLE
	DOUBLE-DUPLEX RECEPTACLE
	6" ABOVE COUNTER, COORDINATE FINAL HEIGHTS WITH MILLWORK ELEVATIONS
	GFCI RECEPTACLE
	SIMPLEX RECEPTACLE, NEMA TYPE NOTED ON PLANS
	DUPLEX/USB COMBO RECEPTACLE
	LEGRAND RFB4 OR EQUAL (2) DUPLEX RECEPTACLES AND (4) COMMUNICATIONS PORTS.
	SMOKE DETECTOR
	TIMECLOCK

## LIGHTING SYMBOL LEGEND

	STRIP LIGHT FIXTURE
	2x2' LIGHT FIXTURE, SHADING INDICATES EMERGENCY BACKUP
	DOWNLIGHT
	EMERGENCY FIXTURE
	WALL/CEILING MOUNTED EXIT SIGN, ARROWS INDICATE EGRESS PATH
	PHOTOCELL, 120V
	SINGLE POLE SWITCH
	SWITCH - LOWER CASE INDICATES SWITCH GROUP
	INFRARED OCCUPANCY SENSOR SWITCH
	DIMMER - FORWARD PHASE
	INFRARED OCCUPANCY SENSOR SWITCH, 0-10V DIMMING
	3-WAY SWITCH
	4-WAY SWITCH
	DUAL TECHNOLOGY PIR/ULTRASONIC SENSOR SWITCH
	LOW VOLTAGE SWITCH, RE-CONTROL NOTES FOR MORE INFORMATION
	LIGHTING POWER PACK. RE-CONTROL NOTES FOR MORE INFORMATION
	IR OCCUPANCY SENSOR, WIDE OPTICS. 'C' - CORNER IR. 'W' - WALL IR.
	UL924 EMERGENCY RELAY

## ABBREVIATIONS

A	Amperes	IDF	Intermediate Distribution Frame
AC	Air Conditioning	IMC	Intermediate Metal Conduit
AFF	Above Finished Floor	kV	Kilovolts
AFG	Above Finished/Final Grade	kVA	KiloVolt-Amperes
AIC	Amperes Interrupting Capacity	kW	Kilowatts
ATS	Automatic Transfer Switch	LCD	Liquid Crystal Display
AWG	American Wire Gauge	LED	Light Emitting Diode
BAS	Building Automation System	LV	Low Voltage
BPS	Bolted Pressure Switch	MC	Momentary Contact
C	Conduit	MDF	Main Distribution Frame
CB	Circuit Breaker	N	Neutral
CDF	Cable Distribution Frame	O.C.	On Center
CKT	Circuit	P	Pole
ded	dedicated	PC	Photocell
DIA	Diameter	PNL	Panel
DP	Distribution Panel	PVC	Polyvinyl Chloride
EB	Electronic Ballast	SPD	Surge Protective Device
EMT	Electric Metallic Tubing	SW	Switch
fc	Footcandles	SWBD	Switchboard
G	Ground	UPS	Uninterruptible Power Supply
GFI	Ground Fault Circuit Interrupter	UTP	Unshielded Twisted Pair
GFCI	Ground Fault Circuit Interrupter	V	Volts
GFP	Ground Fault Protection	VA	Volt-Amperes
GND	Ground	VFD	Variable Frequency Drive
GRC	Galvanized Rigid Conduit	W	Watts
HID	High Intensity Discharge	w/	with
HP	Heat Pump / Horsepower	WP	Weatherproof
HVAC	Heating, Ventilation, and Air Conditioning	WR	Weather-resistant
HWG	Heavy Wall Gauge	XFMR	Transformer

## PROJECT SPECIFIC NOTES

- ALL WORK SHALL BE PERFORMED IN STRICT COMPLIANCE WITH THE 2020 NATIONAL ELECTRICAL CODE (NEC) (INCLUDING LOCAL AMENDMENTS), AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES. WHERE CONFLICTS ARISE, THE MOST STRINGENT REQUIREMENT SHALL APPLY.
- USE OF METALCLAD CABLE IS ACCEPTABLE FOR LIGHTING WHIPS. OTHER USES ARE SUBJECT TO APPROVAL BY ENGINEER OF RECORD PRIOR TO INSTALLATION.
- ALL CONDUIT FITTINGS SHALL BE COMPRESSION TYPE. SET-SCREW TYPE NOT ALLOWED.
- ALL COMPONENTS RETAINED FOR REINSTALLATION SHALL BE SAFELY STORED IN SECURED LOCATION. ALL RETAINED EQUIPMENT IS FULLY FUNCTIONAL, IT IS THE CONTRACTOR'S RESPONSIBILITY ENSURE PROPER FUNCTIONALITY OF ALL SYSTEMS AFTER RE-INSTALLATION.

## PROJECT SCOPE NOTES

THE SCOPE OF THIS PROJECT IS TO PROVIDE MODIFICATIONS TO THE EXISTING POWER AND LIGHTING SYSTEMS AS PART OF A RENOVATION TO AN EXISTING PUMP STATION AT SPAVINAW LAKE. THE EXISTING BUILDING IS A TWO STORY STRUCTURE CONSISTING OF A BASEMENT AND A FIRST FLOOR. THE EXISTING FIRST FLOOR IS TWO ROOMS. THE WALL BETWEEN THE TWO ROOMS WILL BE REMOVED. THE CONCRETE FLOOR SEPARATING THE BASEMENT AND THE FIRST FLOOR WILL BE REMOVED AND REPLACED WITH METAL GRATING.

- REMOVE AND RETAIN ALL EXISTING FLOOR MOUNTED ELECTRICAL EQUIPMENT ON FIRST FLOOR FOR RE-INSTALLATION.
- WHERE MECHANICAL EQUIPMENT IS TO BE REMOVED AND REINSTALLED, DISCONNECT REMOVED MECHANICAL EQUIPMENT AND DEMO ALL CONDUIT AND WIRE BACK TO WALL.
- WHERE MECHANICAL EQUIPMENT IS TO BE REMOVED AND NOT REINSTALLED, DISCONNECT REMOVED MECHANICAL EQUIPMENT AND DEMO ALL CONDUIT AND WIRE TO SOURCE.
- REMOVE AND RETAIN ALL EXISTING CEILING MOUNTED FIXTURES AND EQUIPMENT ATTACHED TO BASEMENT CEILING. DEMO ALL CONDUITS AND WIRE BACK TO WALL.
- CONTRACTOR SHALL REVIEW ALL MATERIALS, EQUIPMENT & PARTS THAT HAVE BEEN REMOVED WITH OWNER. SHOULD THE OWNER WANT TO RETAIN ANY MATERIALS THE CONTRACTOR SHALL REMOVE AND DELIVER RETAINED MATERIAL TO THE OWNER ON THE SITE WHERE SO DIRECTED. OTHERWISE ALL DEMOLISHED OR REMOVED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE AND BE DISPOSED OF IN A LEGAL MANNER.
- AFTER METAL GRATING IS INSTALLED, RE-INSTALL ALL STORED EQUIPMENT AND FIXTURES. PROVIDE NEW CONDUIT AND WIRE TO RE-FEED THIS EQUIPMENT AND FIXTURES.

## SPAVINAW PUMP HOUSE

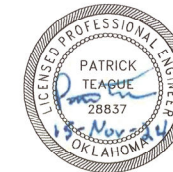
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CITY OF TULSA, OKLAHOMA  
ENGINEERING SERVICES DEPARTMENT

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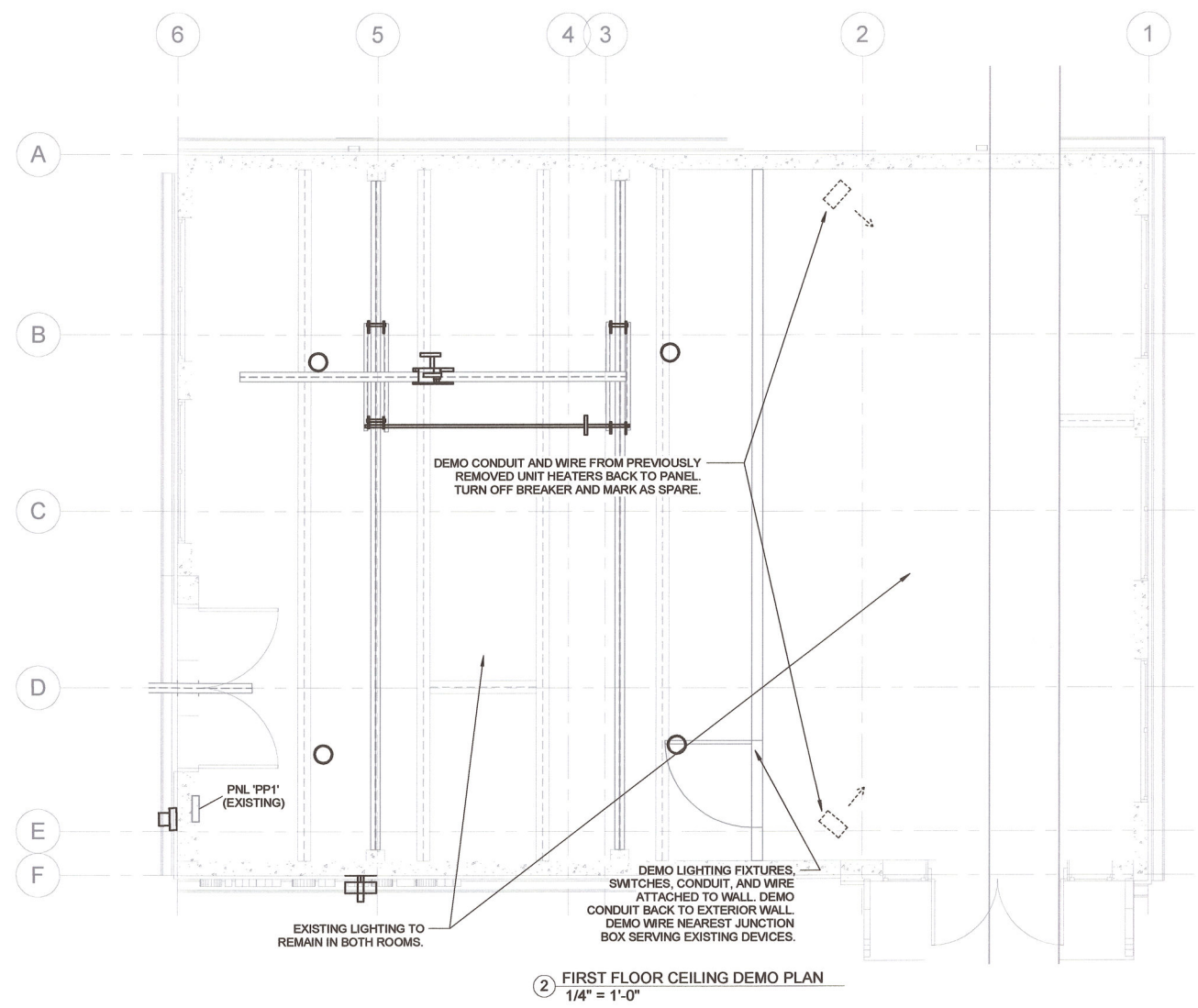
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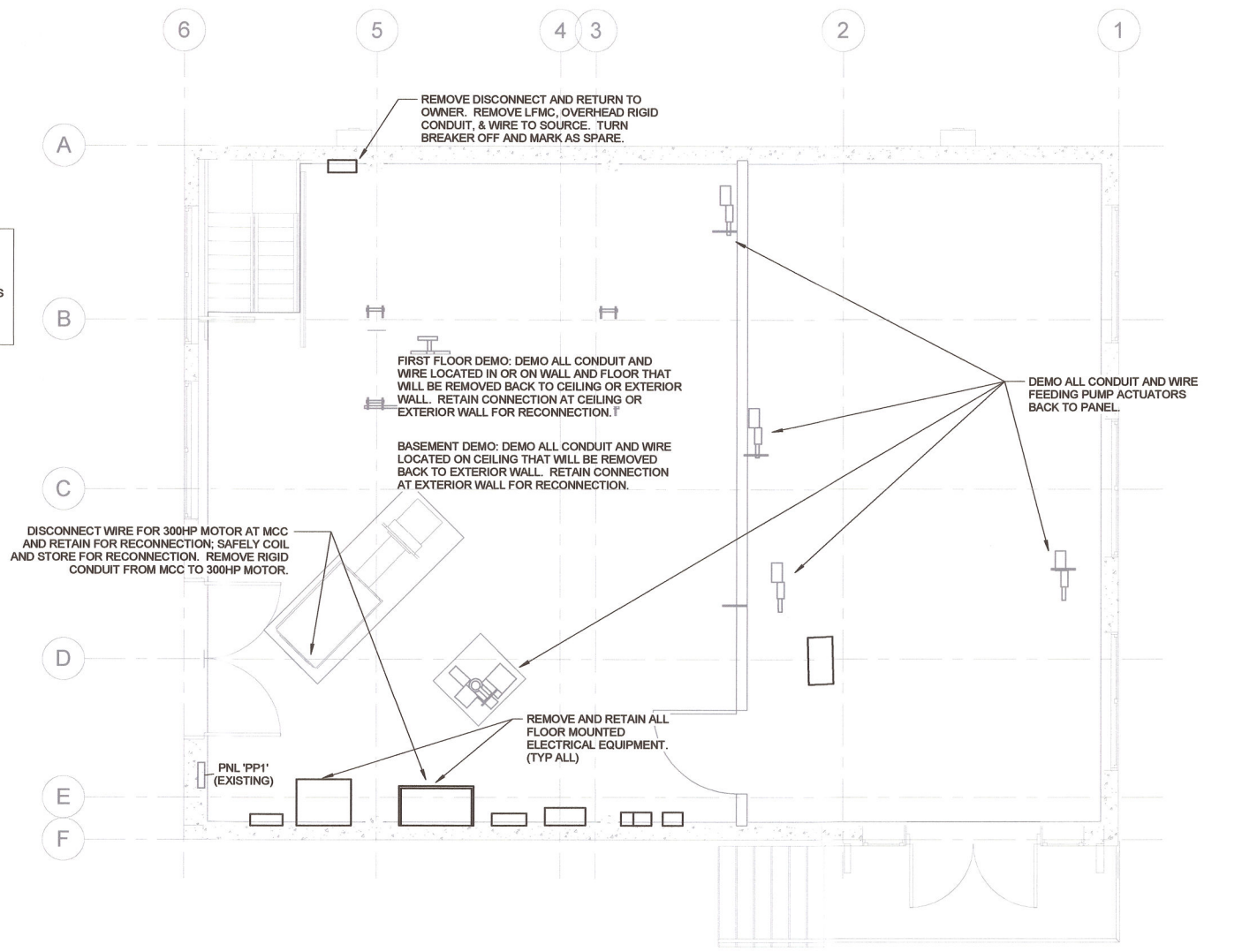
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				FILE:	DRAWING:		DATE: 11/15/2024
				ATLAS PAGE NO:	10629		PAGE NO. 19 OF 23
				SHEET NAME:	<b>ELECT NOTES, SYMBOLS, &amp; ABBREV.</b>		SHEET NO. <b>E0-01</b>

EXISTING EQUIPMENT, CONDUIT, WIRING & PIPING SYSTEMS THAT ARE TO REMAIN SHALL BE PROTECTED FROM DUST, DEBRIS & DAMAGE DURING ALL PHASES OF CONSTRUCTION.

ALL COMPONENTS RETAINED FOR REINSTALLATION SHALL BE SAFELY STORED IN SECURED LOCATION. ALL RETAINED EQUIPMENT IS FULLY FUNCTIONAL. IT IS THE CONTRACTORS RESPONSIBILITY ENSURE PROPER FUNCTIONALITY OF ALL SYSTEMS AFTER RE-INSTALLATION.



② FIRST FLOOR CEILING DEMO PLAN  
1/4" = 1'-0"



① ELECTRICAL POWER DEMO PLAN  
1/4" = 1'-0"



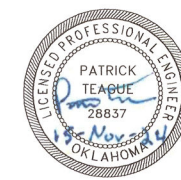
**SPAVINAW PUMP HOUSE**

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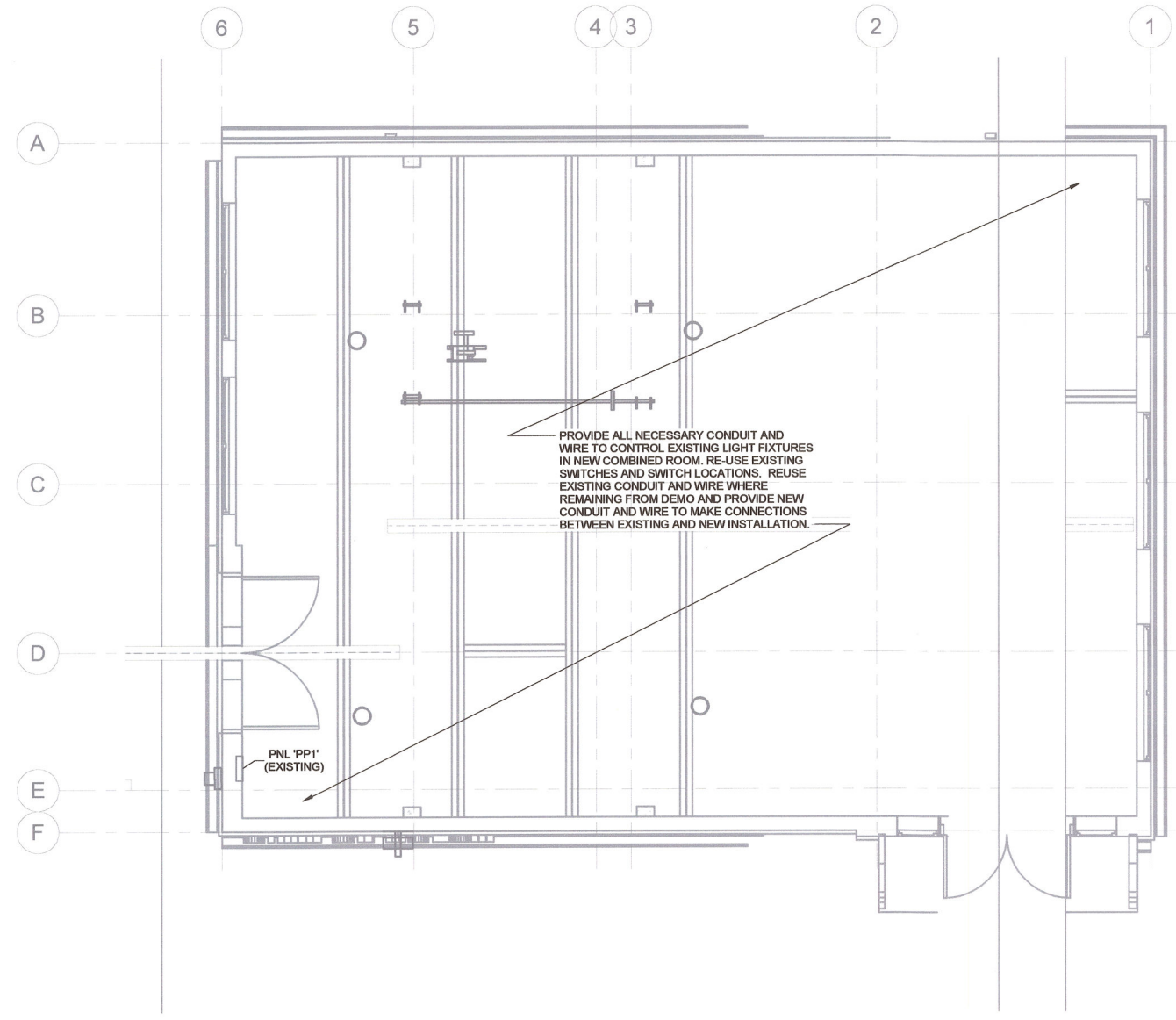
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				ATLAS PAGE NO:	10629		
				SHEET NAME:	FIRST FLOOR ELECTRICAL DEMO PLAN		
							DESIGN MANAGER
							DATE: 11/15/2024
							PAGE NO. 20 OF 23
							SHEET NO. ED1-01

ALL COMPONENTS RETAINED FOR REINSTALLATION SHALL BE SAFELY STORED IN SECURED LOCATION. ALL RETAINED EQUIPMENT IS FULLY FUNCTIONAL, IT IS THE CONTRACTORS RESPONSIBILITY ENSURE PROPER FUNCTIONALITY OF ALL SYSTEMS AFTER RE-INSTALLATION.



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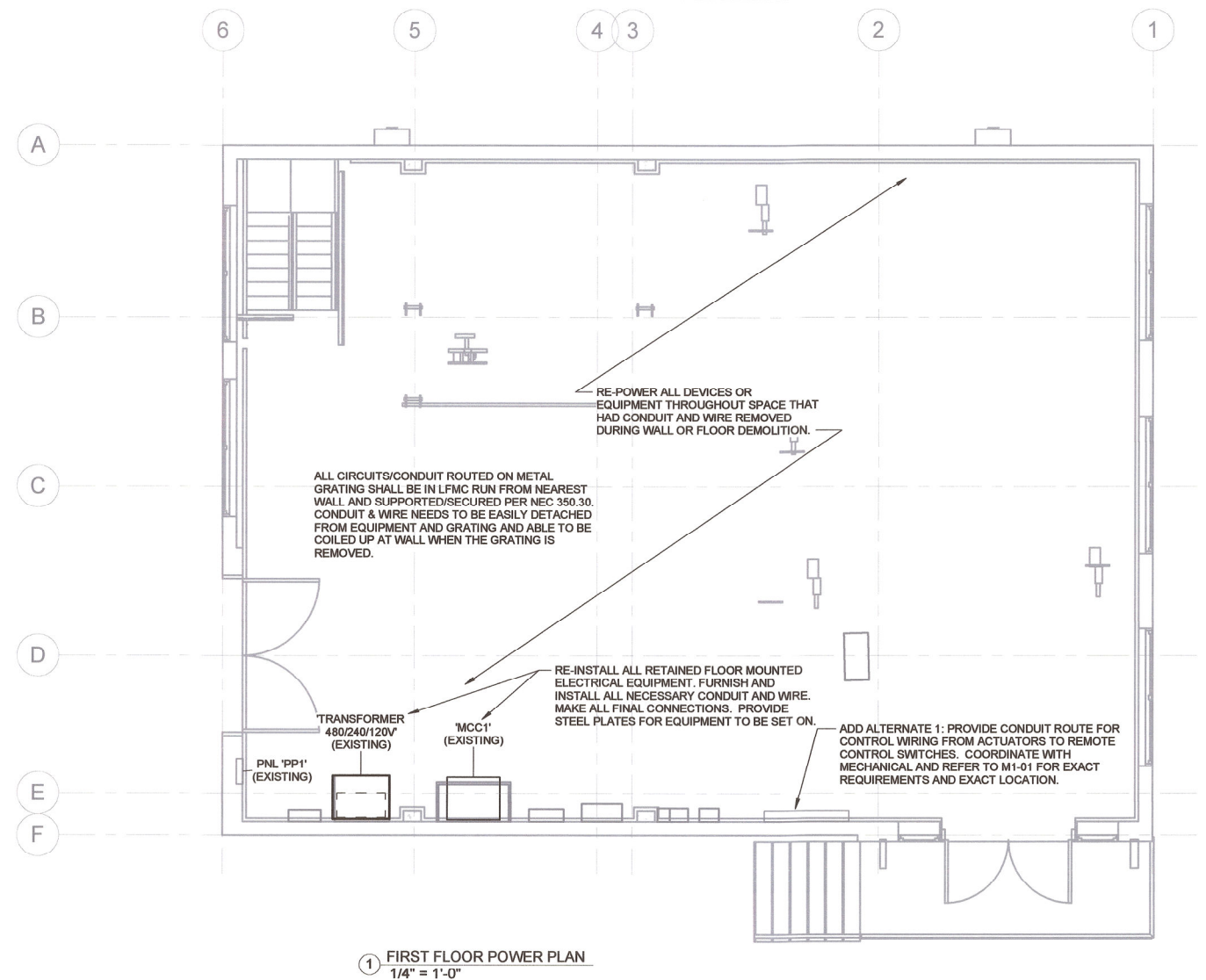
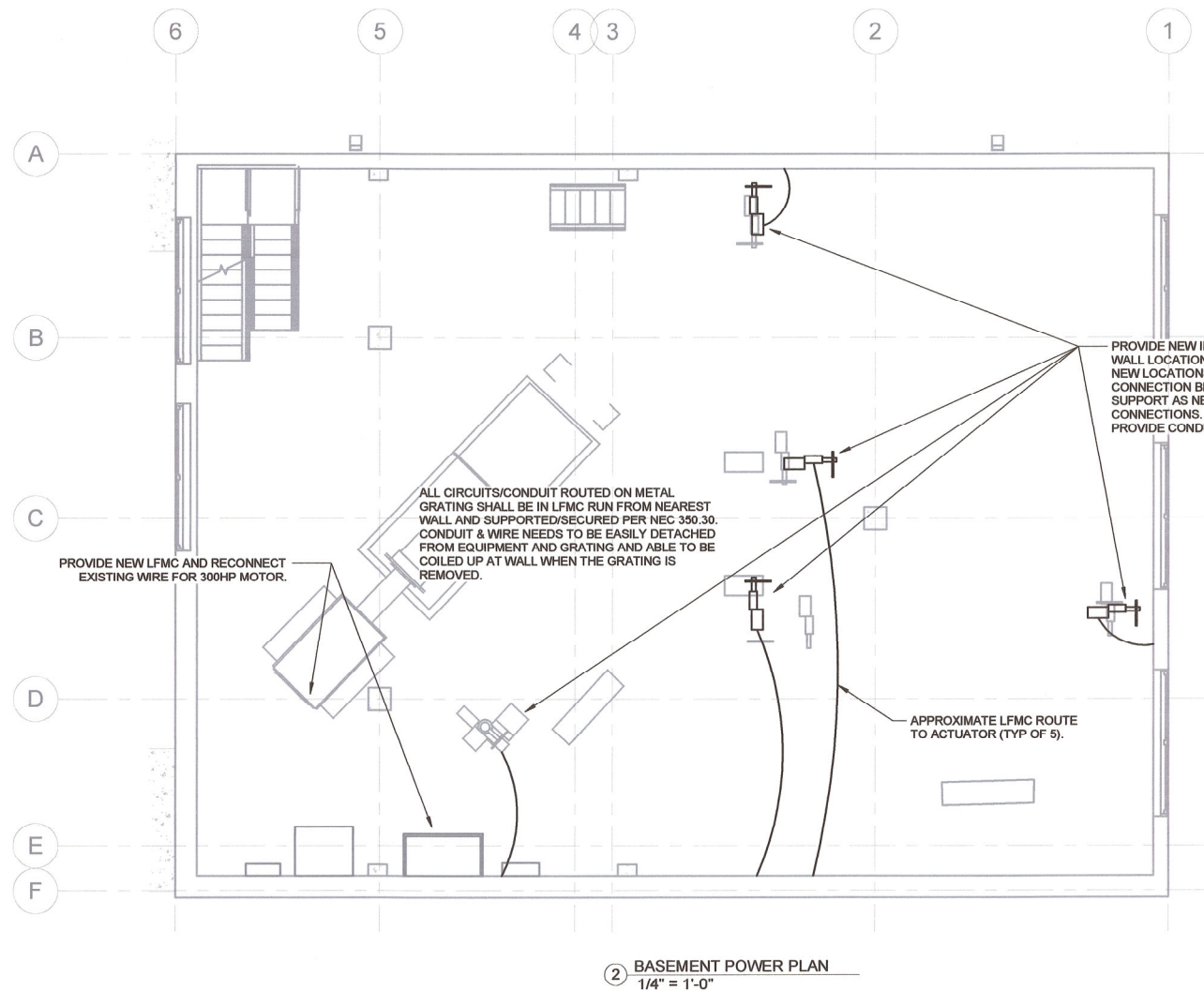
① **FIRST FLOOR LIGHTING PLAN**  
1/4" = 1'-0"

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				ATLAS PAGE NO:	10629		PAGE NO. 21 OF 23
				SHEET NAME:	<b>LIGHTING PLAN</b>		SHEET NO. <b>E1-01</b>

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SPAVINAW PUMP HOUSE TMUA-W-23-09 TO-01

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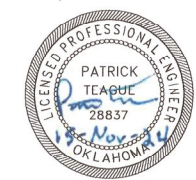
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FILE:	DRAWING:		DATE: 11/15/2024
ATLAS PAGE NO:	10629		PAGE NO. 22 OF 23
SHEET NAME:	<b>POWER PLAN</b>		SHEET NO. <b>E2-01</b>

SPAVINAW PUMP HOUSE TMUA-W-23-09 TO-01

**MOTOR CONTROL CENTER: MCC1 (EXISTING)**

LOCATION:  
 SUPPLY FROM: UTILITY TRANSFORMER  
 MOUNTING: Floor  
 ENCLOSURE: NEMA 1

VOLTS/PHASE: 480/277V, Wye, 3PH, 4W  
 A.I.C. RATING: EXISTING  
 MAINS TYPE: MCB  
 MAINS RATING: 1200 A  
 (EXISTING, ESTIMATED)

CKT	CIRCUIT DESCRIPTION	NOTES	TRIP #	A (kVA)	B (kVA)	C (kVA)	#	TRIP	NOTES	CIRCUIT DESCRIPTION	CKT
1				99.98	40.00						2
3	300 HP PUMP	6	500 A		99.98	40.00		3	200 A	6	4
5						99.98	40.00				6
7				9.80							8
9	300 HP PUMP	--	--		4.00			3	175 A	6	10
11						13.46					12
13				0.00							14
15	300 HP PUMP	--	--		0.00			3	20 A	--	16
17						0.00					18
				Total Load:							

TURN OFF BREAKER PREVIOUSLY SERVING AIR COMPRESSOR AND MARK AS SPARE.

BREAKER NOTES	LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS
1) SHUNT TRIP	Existing Load	147260 VA	125.00%	184075 VA	
2) LOCK-OUT DEVICE	Pumps	299940 VA	100.00%	299940 VA	TOTAL CONNECTED LOAD: 447.20 KVA
3) GFEP					TOTAL ESTIMATED DEMAND: 484.02 KVA
4) GFCI					TOTAL EST. DEMAND CURRENT: 582 A
5) AFCI (DED. NEUTRAL REQUIRED)					EXISTING LOADS ARE ESTIMATED
6) EXISTING CIRCUIT TO REMAIN					
7) THROUGH RELAY PANEL					
8) THROUGH LIGHTING INVERTER					

**PANELBOARD: PP1 (EXISTING, MODIFIED)**

LOCATION:  
 SUPPLY FROM: TRANSFORMER 480/240/120V  
 MOUNTING: Flush  
 ENCLOSURE: NEMA 1

VOLTS/PHASE: 240/120V, High Leg, 3PH, 4W  
 A.I.C. RATING: EXISTING  
 MAINS TYPE: MCB  
 MAINS RATING: 200 A

CKT	CIRCUIT DESCRIPTION	WIRE SIZE (H,N,G) OR (H,G)	NOTES	TRIP #	A (kVA)	B (kVA)	C (kVA)	#	TRIP	NOTES	WIRE SIZE (H,N,G) OR (H,G)	CIRCUIT DESCRIPTION	CKT		
1	SPACE	--	--	1	--	--	--		1	--	--	SPACE	2		
3	** HIGH LEG **	--	--	1	--	--	--		1	--	--	** HIGH LEG **	4		
5	SPACE	--	--	1	--	--	--		1	--	--	SPACE	6		
7	SPACE	--	--	1	--	--	--		1	--	--	SPACE	8		
9	** HIGH LEG **	--	--	1	--	--	--		1	--	--	** HIGH LEG **	10		
11	SCADA	1-#12, 1-#12, 1-#12	6	20 A			0.50	0.20	1	20 A	6	1-#12, 1-#12, 1-#12	EXTERIOR LIGHTS (NORTH)	12	
13	1ST FLR LIGHTS (SOUTH)	1-#12, 1-#12, 1-#12	6	20 A	0.20	0.00								14	
15	** HIGH LEG **	--	--	1	--	0.00			3	20 A	--	SPARE	16		
17	1ST FLR LIGHTS (NORTH)	1-#12, 1-#12, 1-#12	6	20 A			0.20	0.00						18	
19	1ST FLR RECEPES	1-#12, 1-#12, 1-#12	6	20 A	0.90	0.20			1	20 A	6	1-#12, 1-#12, 1-#12	BASEMENT LIGHTS	20	
21	** HIGH LEG **	--	--	1	--	--	--		1	--	--	** HIGH LEG **	22		
23	1ST FLOOR FAN	1-#12, 1-#12, 1-#12	6	20 A			0.70	0.90	1	20 A	6	1-#12, 1-#12, 1-#12	BASEMENT RECEPES	24	
25	BASEMENT FAN	1-#12, 1-#12, 1-#12	6	20 A	0.70	0.20			1	20 A	6	1-#12, 1-#12, 1-#12	BASEMENT LIGHTS	26	
27	** HIGH LEG **	--	--	1	--	--	--		1	--	--	** HIGH LEG **	28		
29	FLOW METERS	1-#12, 1-#12, 1-#12	6	20 A			1.50	3.60	2	40 A	6	2-#8, 1-#10	GATE CHAMBER LIGHTS	30	
31	SPARE	--	--	20 A	0.00	3.60			1	--	--	--	** HIGH LEG **	32	
33	SPARE	--	--	20 A		0.00			1	--	--	--	** HIGH LEG **	34	
35	SPARE	--	--	20 A	0.00	4.00		0.00	0.36	1	20 A	6	1-#12, 1-#12, 1-#12	FLOW METER PIT RECEP	36
37	SPARE	--	--	20 A	0.00	4.00								38	
39	** HIGH LEG **	--	--	1	--	4.00			3	60 A	6	3-#6, 1-#10	GATE HOUSE	40	
41	SIEMENS FLOW METER	1-#12, 1-#12, 1-#12	6	20 A			1.50	4.00						42	
				Total Load:											

TURN OFF BREAKER PREVIOUSLY SERVING HEATER AND MARK AS SPARE.  
 TURN OFF BREAKER PREVIOUSLY SERVING HEATER AND MARK AS SPARE.

BREAKER NOTES	LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS
1) PROVIDE NEW BREAKER	Existing Load	27260 VA	125.00%	34075 VA	
2) LOCK-OUT DEVICE					TOTAL CONNECTED LOAD: 27.26 KVA
3) GFEP					TOTAL ESTIMATED DEMAND: 34.08 KVA
4) GFCI					TOTAL EST. DEMAND CURRENT: 82 A
5) AFCI (DED. NEUTRAL REQUIRED)					EXISTING LOADS ARE ESTIMATED
6) EXISTING CIRCUIT TO REMAIN					
7) THROUGH RELAY PANEL					
8) THROUGH LIGHTING INVERTER					

**SPAVINAW PUMP HOUSE**

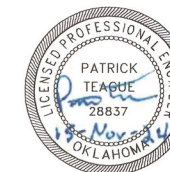
PROJECT NO. TMUA-W-23-09 TO-01

CITY OF TULSA, OKLAHOMA  
 ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

**BKL, INCORPORATED**  
 ENGINEERS & ARCHITECTS

GREEN ACORN  
 MECHANICAL, ELECTRICAL & PLUMBING



NO	REVISION	BY	DATE	PLAN SCALE:	DRAWN	AC	APPROVED
				DESIGNED	PT		
				SURVEY			
				PROFILE SCALE	PROJ. MGR.	<i>PT</i>	<i>11/24/24</i>
				LEAD ENGR.	<i>Cew</i>	<i>11/24</i>	
				HORIZONTAL:	FIELD MGR.	<i>BKL</i>	<i>11/24</i>
				VERTICAL:			
				FILE:	DRAWING:		DATE: 11/15/2024
				ATLAS PAGE NO:	10629		PAGE NO. 23 OF 23
				SHEET NAME:	<b>ELECTRICAL PANEL SCHEDULES</b>		SHEET NO. <b>E5-01</b>