CITY OF TULSA

WATER AND SEWER
Engineering Design

DATE:
September 10, 2026

TO:
Plan Holders
Contractors

FROM:
Jenna Richardson
918-596-9637
jennarichardson@cityoftulsa.org

EMAIL TRANSMITTAL

ADDENDUM NO. 1

PROJECT NO. TMUA-W 24-05

A.B. Jewell WTP Residuals Improvements Phase 2

1836 × 1898

TUL × USA

Number of pages: 23

All addenda to the contract documents should be denoted on the last page of the Proposal in the space provided.

Thank you,
Contract Administration

CITY OF TULSA

WATER AND SEWER
Engineering Design

DATE:
September 10, 2026

ADDENDUM NO. 1
TO
PROJECT NO. TMUA-W 24-05
A.B. Jewell WTP Residuals Improvements Phase 2

This Addendum No. 1 consisting of (5) five items, submitted by Jacobs, is hereby made a part of the Contract Documents to the same extent as though it were originally included therein and shall supersede anything contained in the Plans and Specifications with which it might conflict. **All addenda to the contract documents should be denoted on the last page of the Proposal in the space provided.**

1836 × 1898

TUL × USA

This Addendum No. 1 consists of the following:

1. The attached documents list the detailed items that have been modified in Addendum No. 1. These documents shall be inclusive and apply to this project.

2. **Bid Opening Date** changing from September 18, 2026, to **September 25th, 2026.**

All other provisions of the Plans and Specifications shall remain in full force and effect.

CITY OF TULSA

9/10/26

FOR Eric Lee
Director

HAS/TGP/CW/JR/kt

Jacobs

September 11, 2026

ADDENDUM NO. 1

PROJECT NO. TMUA-W 24-05

A.B. JEWELL WTP RESIDUALS IMPROVEMENTS PHASE 2

This Addendum No.1 consisting of 4 Items is hereby made a part of the Contract Documents to the same extent as though it were originally included therein and shall supersede anything contained in the Plans and Specifications with which it might conflict. **All addenda to the contract documents should be denoted on the last page of the Proposal in the space provided.**

This Addendum No. 1 consists of the following:

CLARIFICATION

1) QUESTION: The contract allows 800 calendar days for completion. Please confirm the City's anticipated Notice to Proceed and target completion date. Please also identify any required interim milestones or completion dates beyond the overall 800-calendar-day requirement.
ANSWER: Anticipated notice to proceed date will be November 2026, contract requirement is 800 days. 800 days is considered conservative to allow for low pumpage season and potential lead times. The blend tank decant pipe installation shall be performed as an early construction activity. This work is expected to be completed no later than August 2027 and shall occur prior to any shutdown or modification of the existing dewatering systems, as the decant pipe provides critical operational flexibility and significantly reduces the risk of the dewatering facility going offline. Because this installation is a low-effort, high-impact activity that immediately alleviates the plant's current critical operating state, the Contractor shall incorporate this sequencing priority and deadline into their means and methods and overall project schedule. Reference 01 31 13 for other Project Coordination activities.

2) QUESTION: Certain portions of the work must be coordinated with the plant's low-pumpage season. Is the field-mobilization date flexible, provided the Contractor meets the required sequencing and seasonal restrictions and completes the project within the 800-calendar-day contract duration? If so, please identify the acceptable field-mobilization window.

ANSWER: Anticipated notice to proceed date will be November 2026, contract requirement is 800 days. 800 days is considered conservative to allow for low pumpage season and potential lead times. The blend tank decant pipe installation shall be performed as an early construction activity. This work is expected to be completed no later than August 2027 and shall occur prior to any shutdown or modification of the existing dewatering systems, as the decant pipe provides critical operational flexibility and significantly reduces the risk of the dewatering facility going offline. Because this installation is a low-effort, high-impact activity that immediately alleviates the plant's current critical operating state, the Contractor shall incorporate this sequencing priority and deadline into their means and methods and overall project schedule. Reference 01 31 13 for other Project Coordination activities.

3) QUESTION: The pre-bid presentation indicated that long-lead equipment will help drive the project schedule. Please identify the equipment or materials expected to have significant lead times and provide the anticipated lead times, if known. Will these lead times prevent certain field activities from starting immediately after NTP, and are there any field activities the City expects to begin before the long-lead equipment is available?

   ANSWER: The blend tank decant pipe installation shall be performed as an early construction activity. This work is expected to be completed no later than August 2027 and shall occur prior to any shutdown or modification of the existing dewatering systems, as the decant pipe provides critical operational flexibility and significantly reduces the risk of the dewatering facility going offline. Because this installation is a low-effort, high-impact activity that immediately alleviates the plant's current critical operating state, the Contractor shall incorporate this sequencing priority and deadline into their means and methods and overall project schedule. Reference 01 31 13 for other Project Coordination activities and bid items expected to be impacted by long lead items, and those that can be completed prior to long lead items arriving on-site

4) QUESTION: Is the 10" Gate Valve on Sheet Y-1 to be a part of the tapping sleeve for the 24" Tie in bid item? It looks to be separate on the drawing. If it is a separate 10" Valve, can we get a bid item for a 10" Gate Valve?

   ANSWER: 10" Gate valve is intended to be part of the tapping sleeve for the 24-inch tap bid item. Separation is for clarity.

5) QUESTION: Can we get a 6" PVC bid item for the line to the fire hydrants off of the 10" PVC line? Right now it looks to be included in the linear foot total for the 10" PVC (RJ).

ANSWER: Refer to the City of Tulsa's Standard Detail 309 for information related to the pay limit associated with the hydrants.

6) QUESTION: The Belt Filter Press Rehabilitation bid item shows 1 EA for the quantity although the plans call for all 3 Belt filter presses to be rehabilitated. Can this be changed to 3 EA on the bid form?

ANSWER: No change is required. The bid item 5 quantity of 1 EA is correct. As specified in 01 29 00 Section 1.07 B.5, Belt Filter Press rehabilitation is described as the refurbishment of a total of three (3) Belt Filter Presses

7) QUESTION: The Polymer System Complete bid item shows 1 EA for the quantity although the plans call for 2 polymer systems to be installed. Can this be changed to 2 EA on the bid form?

ANSWER: No change is required. The bid item 8 quantity of 1 EA is correct. As specified in 44 44 63.02 Section 2.02.B, a complete polymer system includes a total of two (2) dry polymer feeders and all associated components required for a fully functional polymer mixing system.

8) QUESTION: On the 24" existing line that will need to be tapped, what type of pipe material is the existing line?

ANSWER: Contractor to verify depth and pipe material prior to installation as shown on note 3 on sheet Y-1

9) QUESTION: Will there be an engineer's office trailer required for this project onsite?

ANSWER: No, an engineer's office trailer is not required. Reference specification 01 50 00 for all temporary facilities.

10) QUESTION: For the temporary belt filter press, does the contractor need to provide a backup belt filter press unit as well as the primary?

ANSWER: No backup temporary belt filter press is specified. The Contractor shall be responsible for maintaining continuous temporary dewatering operations and providing any contingency measures necessary to

ensure the required level of service is maintained during construction in the event of equipment malfunction or downtime.

11) QUESTION: Section 01 11 00 expressly includes installation of a new decant pipe on the existing blend tank, and the work is shown on Drawing SM-1, Sheet 38 of 47. However, the decant pipe is not separately identified in the Summary of Contract Quantities. Please confirm whether the complete decant pipe installation, including piping, fittings, supports, tank penetration, valves, and connection to the yard piping, should be included under Bid Item 9, Residuals Blend Tank Modifications Complete, In Place.

ANSWER: Correct, the complete decant pipe installation, including piping, fittings, supports, tank penetration, valves, and connection to the yard piping, should be included under Bid Item 9, Residuals Blend Tank Modifications Complete, In Place.

12) QUESTION: Please confirm whether the scheduled excavation, bedding, backfill, and haul-off quantities include the earthwork required for the new blend tank decant pipe and its connection to the yard piping. If this earthwork is not included in the scheduled quantities, please clarify where it should be included in the bid and how it will be measured and paid.

ANSWER: Correct, the excavation, bedding, backfill, and haul-off quantities include the earthwork required for the new blend tank decant pipe and its connection to the yard piping should be included under Bid item 9, Residuals Blend Tank Modifications Complete, In Place.

13) QUESTION: Section 2.01, B, 1 - Does the City have a reference form to be used for listing these projects, assuming we need to submit with the scope?

ANSWER: No, there is no standard form.

14) QUESTION: Verify quantity of belt presses to be overhauled. The drawings page 47 note 1 and 2 indicates belt press #2 might be the only one getting refurbished.

ANSWER: Three belt filter presses will be refurbished.

15) QUESTION: Note 2 on page 47 of the drawings shows to leave the access platforms intact during the refurbishment. Can these be removed (by contractor)?

ANSWER: The Contractor may determine that temporary removal of access grating or walkway sections is necessary to facilitate installation of the specified equipment. This removal is not a requirement of the Contract

Documents and is left entirely to the Contractor's chosen means and methods. Any removal, protection, and reinstallation of grating performed for installation purposes shall be the Contractor's responsibility. See drawing E-1 for location of the existing belt filter press control panels.

16) QUESTION: I do not see anything related to the temporary dewatering skid specifications in volume II, locations are listed in the drawings.

ANSWER: Refer to 01 50 00 Section 2.01 for Temporary Dewatering Skid

17) QUESTION: Detail 1 on plan sheet 33 shows a repair and reconnect for the overflow piping. Can we get some more detail to the repair required for this piping? Will a rubber flexible coupling be suitable for the connection, or will there be some concrete removal and patching that will need to go along with the repair?

ANSWER: Flexible coupling is accepted for repair and reconnecting the overflow piping.

18) QUESTION: On Sheet 38 of the plans, the 45 degree elbows all have a reference to see note 13. Note 13 calls for a cleanout at 45 degree bends. Does this mean we will need a cleanout at 5 locations on this line?

ANSWER: A single cleanout is required at the 45-degree bend as shown on drawing SM-1.

19) QUESTION: Will the contractor be responsible for damage to the existing asphalt that is to remain around the proposed paving work in the residuals storage area? The paving appeared to have some bad spots in it currently that could be damaged during regular construction activities.

ANSWER: Contractor should make all reasonable effort to avoid damaging areas outside of the portions of the area of work and protect existing asphalt. Any significant damage shall be restored to original, pre-construction conditions at no additional cost.

20) QUESTION: Is the manhole to the south of the residuals building in the drive connected to the sewer?

ANSWER: Yes.

SPECIFICATIONS

21) **REMOVE AND REPLACE** the following Specifications:

a. 44 46 16 – Belt Filter Press Dewatering Equipment

DRAWINGS

22) **REMOVE AND REPLACE** the following Plan Sheets:

a. D-1
b. M-1
c. M-2

STANDARD DETAILS

None

All other provisions of the Plans and Specifications shall remain in full force and effect.

Jacobs Engineering Group Inc.

Luke Lenard, PE
Engineer of Record

END OF ADDENDUM

SECTION 44 46 16
BELT FILTER PRESS DEWATERING EQUIPMENT

EQUIPMENT AND COMPONENT NUMBER(S)

Belt Filter Press(es): ABJ BFP 1705 01, ABJ BFP 1705 02, and ABJ BFP 1705 ~~01~~03.[ADD. 1]

PART 1 GENERAL

1.01 WORK OF THIS SECTION

A. The Work of this section covers the work necessary to provide a refurbishment of the existing belt filter press(es), and all appurtenances as specified herein.

B. Standardization of Similar Equipment: Provide **refurbished** belt filter presses that are the end product of one responsible system manufacturer or supplier to accommodate standardization of similar equipment operation and maintenance, spare parts, and replacement and manufacturer's services.

1.02 GENERAL

A. Unit Responsibility:

1. Minimum responsibilities of experienced belt filter press manufacturer named in qualification submittal include:
   a. Supply Belt Filter Press (BFP) equipment, complete with all accessories and appurtenances (including, but not necessarily limited to shafting, safety guards, speed reducers, and spare parts).
   b. Design, assembly, delivery, installation supervision, startup, and testing of BFP equipment.
   c. Furnish all components and accessories of the system to enhance compatibility, provide for ease of operation and maintenance, and as necessary to place the equipment in operation in conformance with the specified performance, features, and functions.

B. Like items of equipment provided hereunder shall be the end products of one manufacturer in order to achieve standardization for operation, maintenance, spare parts, and manufacturers' services.

C. System Interfaces: Coordinate the interfaces between the dewatering belt filter press and Section 44 46 13.01, Belt Conveyor System.

1.03 REFERENCES

A. The following is a list of standards which may be referenced in this section:

1. American Gear Manufacturers Association (AGMA).
2. American National Standards Institute (ANSI).
3. American Society of Mechanical Engineers (ASME): PTC-36, Measurement of Industrial Sound.
4. American Welding Society (AWS).
5. Anti-Friction Bearing Manufacturers Association (AFBMA).
6. ASTM International (ASTM): G65, Procedure A, Standard Practice for Conducting Dry Sand/Rubber Wheel Abrasion Tests.
7. British Standards Institute (BSI): BS 5490.
8. German Industrial Standards (DIN).
9. Institute of Electrical and Electronics Engineers (IEEE).
10. Instrument Society of American (ISA).
11. National Electric Code (NEC).
12. Occupational Safety and Health Act (OSHA).

1.04 SUBMITTALS

A. Informational Submittals:

1. Provide Operation and Maintenance Manual with Maintenance Summary Form in accordance with Section 01 78 23, Operation and Maintenance Data, and the following requirements:
   a. Operation, maintenance, recommended spare parts, and renewal parts information for all equipment furnished under this section.
   b. Set of complete as-reviewed Shop Drawing submittals.
   c. As-built electric and instrumentation and control wiring diagrams and equipment drawings.
   d. Index of all equipment suppliers listing current names, addresses, and telephone numbers of contacts for service, information, and assistance.
   e. Detailed operational procedures including step-by-step startup, normal operation, shutdown, and troubleshooting procedures.
   f. Detailed preventative maintenance requirements and recommended schedule.

1.05 SAFETY REQUIREMENTS

A. Refurbish all equipment specified herein with due regard to safety of operation, accessibility, and durability of parts, in compliance with all applicable OSHA, state, and local safety regulations.

1.06 BASIS OF DESIGN

A. Design of the refurbishment of the BFP equipment as shown on the Drawings is based on the original equipment manufacturer: Andritz-Ruthner, Inc.; Model CPF 2.0 meter SMX-S8.

1.07 WARRANTY

A. Provide manufacturer's extended guarantee or warranty, with Owner named as beneficiary, in writing, as special guarantee. Special guarantee shall provide for correction, or removal and replacement of Work provided under this specification section (including but not limited to the belt filter press, components) found defective during a warranty period of 2 years. With the exception of warranty period, all other requirements specified in the General Conditions remain in effect. Duties and obligations for correction or removal and replacement of defective Work shall be as specified in the General Conditions.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Materials, equipment, and accessories specified in this section shall be products of:

1. Andritz-Ruthner, Inc.
2. GSM Engineered Fabrics.
3. Or Engineer approved equivalent.

B. Meet the following BFP Manufacturer Qualifications:

1. Selected manufacturer must have a minimum of 4 years' experience in refurbishing belt presses provided through references.
   a. Provide a list of five projects for complete belt press refurbishment projects of similar scope and complexity.
   b. Submit list of reference installations including model number, location, residuals stream and characteristics, number of units, contract title, reference contact information (name, email, and phone number), project description, scope of work, year completed, and contract value.
   c. Manufacturers not meeting minimum reference installation requirement shall not be acceptable.
2. The successful bidder shall use only new parts (including lubricants) in the repair of the City's equipment.

3. If the successful bidder plans to use any part other than an OEM-specified part, the successful bidder shall obtain written authorization from the Owner and Engineer for the use of such parts.

2.02 SERVICE CONDITIONS

A. Suitable for installation indoors, for exposure to continuous 100 percent relative humidity conditions, for operation in ambient air temperature from 40 degrees F to 110 degrees F, and for exposure to drinking water residuals, splash, spill, and washdown conditions.

B. Material to be Dewatered:

	Maximum	Average	Minimum
Residuals Type	**Drinking Water Residuals**		
Feed Solids (%TS)	3.0	2.0	1.0
pH	7.5	7.0	6.8

2.03 PERFORMANCE REQUIREMENTS

A. Continuously receive, flocculate, condition and dewater the feed Residuals specified herein, and neatly discharge the dewatered Residuals cake onto a belt conveyor.

B. Operate continuously or intermittently on demand. Suitable for dewatering the specified Residuals continuously for 24 hours per day, 7 days a week, and shall perform the required dewatering operations at the loading and operating conditions specified herein without side extrusion of Residuals between the belts or spillage of Residuals beyond the BFP envelope.

C. Numeric Performance Requirements:

1. Guarantee to match or exceed by the following numeric performance requirements during performance testing:

BFP Performance Requirements	
Item	**Required**
Minimum cake solids concentration, dry weight, percent total solids	15
Minimum overall solids capture, percent	95

BFP Performance Requirements	
Item	**Required**
Maximum polymer dose in pounds active polymer per dry ton of feed solids	15
Minimum solids loading, pounds of dry feed solids per hour per BFP (2.0 meter) at 2.0 percent solids	1,600

D. Prior to establishing final performance guarantees, the Contractor shall review, document, and confirm the existing BFP operating conditions including throughput, cake solids, polymer usage, and residuals characteristics. This shall occur after the blend tank decant valve has been installed and before any BFP rehabilitation work begins. The resulting measurements shall be submitted to the Engineer and Owner for review. Only measurements formally accepted by the Engineer shall serve as the baseline conditions for all performance evaluations and guarantees.

E. For the purpose of this specification, "Solids Capture (SC)" will be defined as:

1. Solids Capture:

$$\% \text{ Capture} = \frac{T}{F} \, x \, \frac{F - C}{T - C} \, x \, 100$$

Where:

T = Cake total solids (TS) (mg/kg).

F = Feed TS (mg/kg) - where feed is defined as the Residuals stream, excluding any dilution due to polymer solution addition.

C = Filtrate TSS (mg/kg) - where filtrate is defined as the stream attributable to the dewatering (all three zones of the BFP) of the Residuals feed only, excluding any dilution due to belt washwater.

2.04 EQUIPMENT

A. Provide the following refurbished parts from the existing units:

1. Clean and inspect shower boxes and other stainless components.

2. Disassemble shower pipes, and provide new nozzles, wire brush and seals installed.

B. Provide the following new parts listed in the table below (or approved equal) for refurbishment of each of the three the existing units:

New Part	Part Number/ID
Complete set of new rollers and bearing assemblies (supplied for entire BFP)[1]	DMM6753E
30" Dia perforated roll with bearing assembly	DMM6522D-T
24" Dia S-roll with bearing assembly	DMM9714D
18" Dia S-roll with bearing assembly	DMM9718
16" Dia S-roll with bearing assembly	DMM9718
14" Dia S-roll with bearing assembly	DMM9722D
12" Dia S-roll with bearing assembly	DMM9724
10" Dia tension roll with bearing assembly	DMM9706
12" Dia deflection roll with bearing assembly	DMM6497
9.5" Dia drive roll with bearing assembly	DMM6540
9.5" Dia drive roll with (geared) bearing assembly	DMM6541
6.5" Dia tracking roll with bearing assembly	DMM5567D
6" Dia deflection roll with bearing assembly	DMM9707
Side wall seals	60112325
Splash guard seals	DMM6626C (Side seal) DMM9165B (Seal)
Set of dewatering belts	--
Top belt[2]	ID: 13140911
Bottom belt[3]	ID: 131410878
Distribution chute splash guard seal	SK1629 (Seal/chute cover)
Plow chicanes	DMM3525C
Wear strips (gravity and wedge zone)	300036431

New Part	Part Number/ID
Upper shower box seals	DMM10254B DMM10253B
Lower shower box seals	DMM9254B
Shower bar nozzles	131410772
Shower bar internal brush	131410779
Shower bar seal kit	131684784
Doctor blades[4]	DMM9226C
Doctor blade tensioning Rosta's[5]	RSU27X40
Belt tension bellows[6]	AB-20C-2-6910
Support bushings for tension rods[7]	DMM8305C DMM5587C
Belt tracking bellows (air bellows)	AY-131
Tracking control valves (Automatic control valve)	E260
Tracking sensing arm and paddles	E261 (sensor palm arm) E262 (palm)
Gearbox and bull gears[8]	DMM9239D (gear) ID: 131454291 (bull gear 80 teeth)
Electrical switches and electrical wiring[9]	--
Conduit and wiring[10]	--
Stainless steel terminal box	--
Distribution chute	DMM6747E-T
Gravity Zone cross members	DMM6447D (Cross member #1) DMM6448D (Cross member #2)

New Part	Part Number/ID
1. All rollers bearing housings will be coated to OEM specifications or approved equal. 2. 2.134 m wide by 20.574 m long (clipper seam). 3. 2.134 m wide by 11.760 m long (clipper seam); Material: Monofilament polyester; Clipper Seams: Style, 8 hooks per inch; Seam Width: 3/4" full penetration; applied from both sides; Hook and Splice Material: ASTM A167, Type 316L stainless steel, or acceptable equivalent. 4. 1 upper roll and 1 lower roll. 5. Lovejoy-Rosta rubber suspension unit. 6. Upper and lower air bellows. 7. Upper and lower tension shaft bushings. 8. Interior diameter of the bore should be 2.730 inches. Outside diameter of the gear should be 16.5 inches. 9. 2 limit switches, 2 E-stops. 10. Reference Section 26 05 01, Electrical, for details on conduit and wiring.	

2.05 INSTRUMENTATION AND CONTROLS

A. No additional instrumentation and control work is required on the BFPs as a part of this project scope. The last instrumentation and control upgrades for the BFPs occurred in 2018.

2.06 ACCESSORIES

A. Equipment Bolts: Type 316L stainless steel, A4-70, or equivalent, sized by manufacturer, and as specified in Section 05 50 00, Metal Fabrications.

2.07 MISCELLANEOUS MATERIALS AND ACCESSORIES

A. Piping Connections: Contractor to disassemble all BFP piping connections prior to refurbishment. Contractor to assemble all BFP piping connections after refurbishment is completed.

B. Corrosion Protection:

1. All parts of the equipment in contact with the belts including doctor blade support frames shall be Type 316L stainless steel or coated as specified under Paragraph Drum and Roller Assemblies hereinbefore.
2. Coatings: Suitable for the expected service conditions.
3. Wetted Parts: Suitable for the service conditions specified.
4. Splash Guards: Type 316L stainless steel.
5. Miscellaneous Hardware Including Bolts, Nuts, Washers, and Fastener Clips: Type 316L stainless steel.

C. Dissimilar Metals: Properly electrically insulate any dissimilar metals or connectors in direct contact. Provide 1/8-inch thick continuous neoprene gaskets to isolate aluminum from all steel members.

2.08 FACTORY FINISHING

A. Prepare, prime, and finish coat in accordance with Section 09 90 00, Painting and Coating, System No. 5, unless items are stainless steel or galvanized or are otherwise specified herein.

PART 3 EXECUTION

3.01 GENERAL

A. Manufacture and test the BFP replacement components in accordance with the applicable trade and industry practices and in compliance with state, OSHA, and other governing code requirements.

B. Install equipment components in conformance with the manufacturer's written instructions, with supervision and inspection performed by manufacturer's representative.

3.02 FIELD QUALITY CONTROL

A. Coordinate timing and schedule test with Owner and be dependent upon quantity of Residuals available for testing.

B. Performance Test:

1. Demonstrate through performance testing actual system operating conditions and verify that BFPs meet or exceed minimum performance requirements specified in Article Performance Requirements, while dewatering the Residuals stream specified in Article Service Conditions.
   a. Conduct testing at the solids loading rates specified in Article Service Conditions.
   b. Establish minimum performance requirements according to item D. of Article Performance Requirements.
2. Notify Owner in writing at least 14 days prior to scheduled performance test.

3. Manufacturer's representative, assisted by installing contractor and Owner, shall startup and operate each BFP on the Residuals stream specified herein, for a period of 4 hours per day for 1-day, with no interruptions allowed during the 4-hour period.
    a. Provide BFP operations and associated manufacturer's field services required to adjust machine settings prior to and exclusive of the above specified performance test duration.
4. Provide qualified manufacturer's representative to supervise each test, analyze data, and certify the BFP's performance during the test.
5. Maintain steady state operation at the specified residuals feed solids rates throughout the test, and all hourly quantities shall be the average during the test period.
    a. Maintain acceptable performance while dewatering feed Residuals with properties within plus or minus 10 percent of the specified criteria listed in Article Service Conditions.
6. During each performance test, take measurements and collect all required samples for analysis to make the following determinations:
    a. Residuals Feed Rate: gpm.
    b. Residuals Feed Concentration: The total dry solids concentration of the feed Residuals entering the BFP (percent TS).
    c. Dewatered Cake Concentration: The total dry solids concentration of the dewatered Residuals cake discharged from the BFP (percent TS). Take two duplicate samples per sample interval.
    d. Filtrate Concentration: The total suspended solids concentration of the filtrate discharged from the BFP (percent TSS).
    e. Solids Capture: Percent.
    f. Feed Hydraulic Loading Rate (Exclusive of Polymer): gpm.
    g. Feed Solids Loading Rate (Exclusive of Polymer): Pounds per hour of total dry solids.
    h. Polymer Feed Rate: gpm.
    i. Polymer Dose: Pounds active per dry ton of feed solids.
7. Collect samples at approximate 1-hour intervals.
8. Variations in Residuals Feed Characteristics:
    a. Make compensating calculations for the effects if feed Residuals characteristics are not within the ranges specified herein. Provide supporting data to be considered by Engineer in determining conformance with the specified design conditions. Engineer will be sole judge of conformance with performance testing requirements.
    b. If retesting to document compliance is required due solely to feed Residuals characteristics outside of the specified range, Owner may waive retesting or may compensate Contractor for reasonable costs to witness retesting at Owner's sole option.

9. Performance will be based upon the arithmetic average of the test results obtained during the test period.
   a. Owner reserves the right to discard obviously high or low erroneous test results.
   b. As specified below, laboratory testing will be performed by Owner.
   c. Turnaround time for cake concentration samples are approximately 24 hours.
   d. Laboratory standard methods results will be used for performance evaluation.
10. If a BFP does not meet the requirements of these Specifications during the performance test:
   a. Make changes to equipment and methods of operation as recommended by manufacturer and as approved by Engineer as soon as practical, but within a period not to exceed 30 days.
   b. Following adjustments, perform a second test run similar to the first run.
   c. If BFP still does not achieve specified performance during the second test, equipment will be subject to rejection.
   d. The BFP manufacturer retains responsibility for the BFPs until the acceptance test has been successfully completed.
   e. After initial startup, Owner shall have the right to use the BFP as needed to process Residuals.
11. If, after a maximum of two test runs, in the opinion of Engineer, a BFP meets the performance requirements specified herein, Engineer will recommend acceptance of the BFP. If, in the opinion of Engineer, performance test results do not meet the requirements specified herein, Engineer will notify the BFP manufacturer and Owner of nonacceptable performance.
12. Laboratory tests necessary to confirm the Residuals characteristics for the initial performance test on a BFP will be provided by Owner.
   a. Laboratory tests for performance testing will be performed by Owner in conformance with applicable portions of standard methods.
   b. If retesting is required, BFP manufacturer shall pay Owner for all laboratory tests subsequent to the initial test.
13. Owner will provide power, water, polymer, feed residuals, and disposal for the initial test.

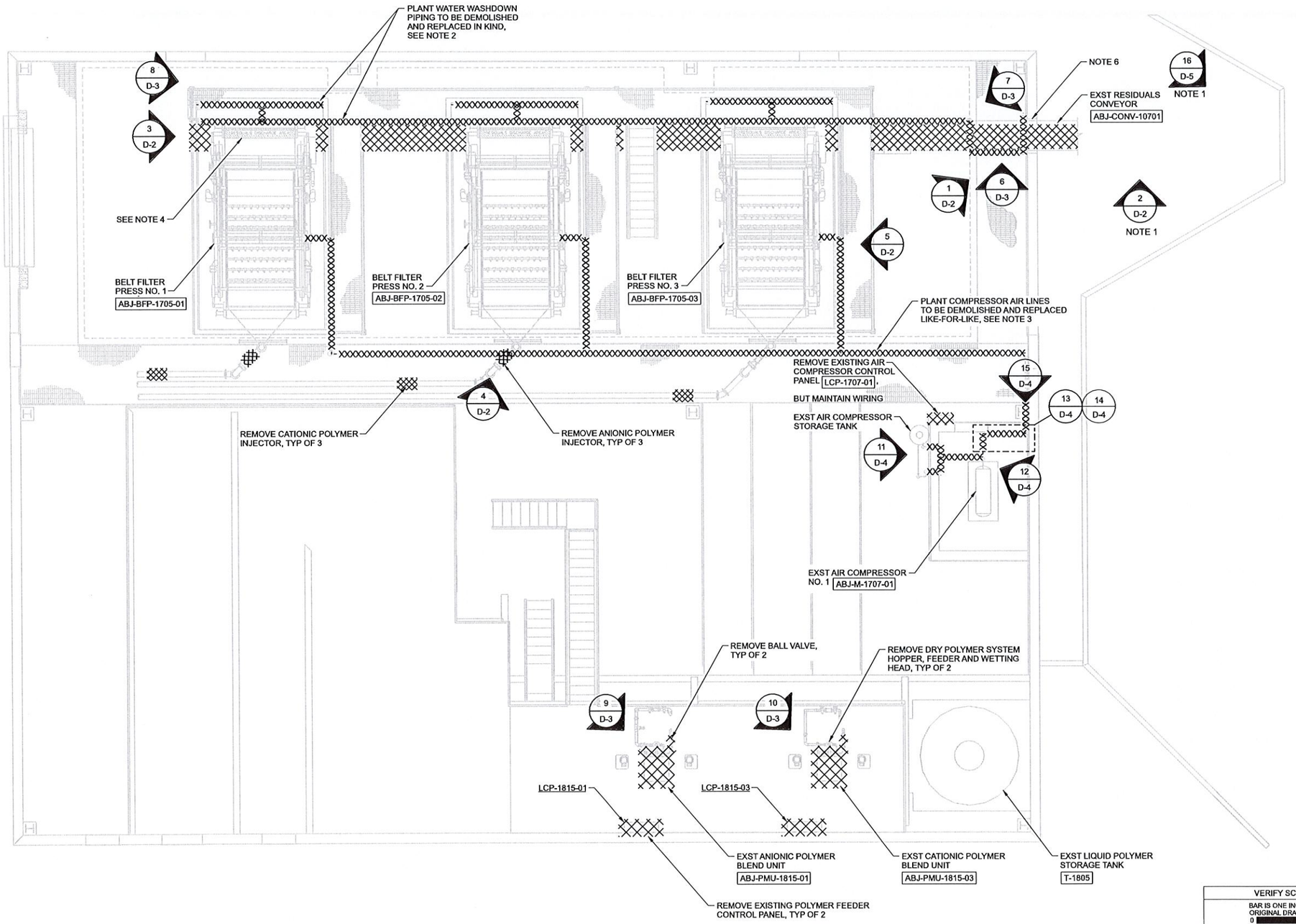
3.03 MANUFACTURER'S FIELD SERVICES

A. For each BFP refurbishment, provide a minimum of two service technicians for the minimum days and trips listed below, travel time excluded:

1. 5 days for BFP disassembly.
2. 10 days for BFP reassembly and start up to check systems for proper operation.
3. Minimum of 15 days total over a minimum of three trips, per each BFP.

B. See Section 01 43 33, Manufacturers' Field Services, and Section 01 91 14, Equipment Testing and Facility Startup.

END OF SECTION



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DEWATERING BUILDING DEMOLITION PLAN

3/16"=1'-0"

GENERAL NOTES

1. DEMOLITION VIEW IS LOCATED OUTSIDE THE DEWATERING BUILDING, TYPICAL 2 VIEWS.
2. LOCATION OF EXISTING PLANT WATER WASHDOWN PIPING IS SHOWN TO BE APPROXIMATE.
3. LOCATION OF COMPRESSOR AIR LINES IS SHOWN TO BE APPROXIMATE. DEMOLITION OF AIR LINES IS FROM THE AIR COMPRESSOR STORAGE TANK OUTLET TO THE BFP AS SHOWN ON DETAIL 5 ON DWG D-2.
4. CONVEYOR IS TO BE DEMOLISHED AND REPLACED.
5. CONTRACTOR MAY DETERMINE THAT TEMPORARY REMOVAL OF ACCESS GRATING OR WALKWAY SECTIONS IS NECESSARY TO FACILITATE INSTALLATION OF THE SPECIFIED EQUIPMENT. ANY REMOVAL, PROTECTION, AND RE-INSTALLATION OF GRATING PERFORMED FOR INSTALLATION PURPOSES SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND THEIR CHOSEN MEANS AND METHOD. (1)
6. EXISTING WALL OPENING TO BE REUSED FOR NEW CONVEYOR. SEE STRUCTURAL DRAWINGS.
7. DEMOLISH ALL CONDUCTORS AND EXPOSED CONDUIT ASSOCIATED WITH EQUIPMENT (POLYMER FEEDERS AND CONVEYOR) TO BE DEMOLISHED.

PATHNAME: 040-D-1001_D3910200.dgn PLOT DATE: 09/09/2026 PLOT TIME: 9:27:01 AM

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

REVISION	BY	DATE
1 ADDENDUM NO. 1	JH	09/09/2026

B. LUKE LENARD 28364 LICENSED PROFESSIONAL ENGINEER OKLAHOMA 9/9/26

DEMOLITION
DEWATERING BUILDING FLOOR PLAN

PROJECT NO. TMUA-W 24-05

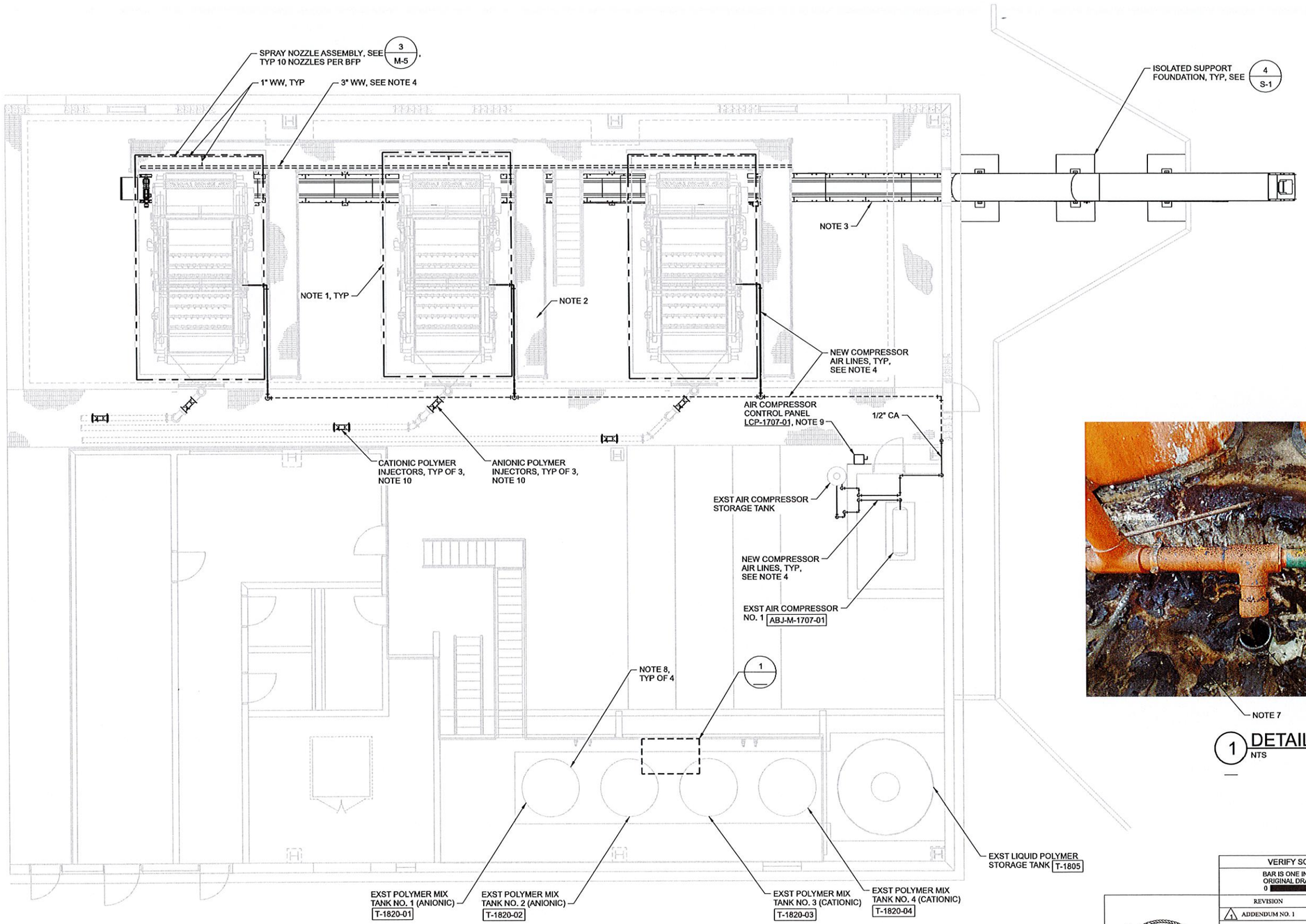
A.B. JEWELL WTP RESIDUALS IMPROVEMENTS PHASE 2

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY: Jacobs

PLAN SCALE: 3/16"=1'-0"	DRAWN	SM	09/2026	APPROVED:
	DESIGNED	BS	09/2026	
PROFILE SCALE:	SURVEY			
HORIZONTAL: N/A	PROJ. MGR.			
	LEAD ENGR.			
VERTICAL N/A	FIELD MGR.			DESIGN MANAGER
FILE:	DRAWING: D-1			DATE: SEPTEMBER 2026
ATLAS PAGE NO: 543				SHEET 28 OF 47 SHEETS

ISSUED FOR BID



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DEWATERING BUILDING PLAN AT EL 645.50

3/16"=1'-0"

1 DETAIL
NTS

GENERAL NOTES

1. REFER TO BELT FILTER PRESS SPECIFICATION 44 46 16S, BELT FILTER PRESS DEWATERING EQUIPMENT FOR COMPONENTS TO BE REPLACED. ORIGINAL EQUIPMENT MANUFACTURER (OR EQUAL) SHALL SUPPLY REPLACEMENT COMPONENTS AND EXECUTE INSTALLATION. CONTRACTOR TO COORDINATE INSTALLATION WITH OTHER PROJECT SCOPE REQUIREMENTS
2. CONTRACTOR MAY DETERMINE THAT TEMPORARY REMOVAL OF ACCESS GRATING OR WALKWAY SECTIONS IS NECESSARY TO FACILITATE INSTALLATION OF THE SPECIFIED EQUIPMENT. ANY REMOVAL, PROTECTION, AND RE-INSTALLATION OF GRATING PERFORMED FOR INSTALLATION PURPOSES SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND THEIR CHOSEN MEANS AND METHOD. (1)
3. CONVEYOR NOT SHOWN FOR CLARITY. SEE DWG M-2 FOR THE PROPOSED CONVEYOR PLAN VIEW.
4. LOCATION OF NEW PLANT WATER WASHDOWN PIPING AND COMPRESSOR AIR LINES ARE APPROXIMATE. CONTRACTOR TO FIELD ROUTE AND VERIFY WITH NEW EQUIPMENT LOCATIONS AND SUPPORTS. SEE DEMO DRAWINGS FOR EXISTING CONDITIONS.
5. ONLY EXISTING EQUIPMENT RELATING TO THE PROJECT SCOPE IS SHOWN.
6. CONTRACTOR TO REPAIR AND RECONNECT DAMAGED OVERFLOW POLYMER PIPING, SEE DETAIL 1.
7. CONTRACTOR TO CLEAN POLYMER CONTAINMENT AREA AND REMOVE ALL DRIED POLYMER FROM CONCRETE, TANKS AND PIPING.
8. CONTRACTOR SHALL REPLACE LEVEL SENSORS IN ALL (4) DRY POLYMER TANKS. INSTRUMENT TAG NUMBERS ARE LE/LIT 1820-01, -02, -03 AND -04 RESPECTIVELY.
9. DEMOLISH THE AIR COMPRESSOR CONTROL PANEL AND REPLACE IT WITH A NON-FUSED DISCONNECT SWITCH. MAINTAIN WIRING.
10. POLYMER INJECTOR KOMLINE-SANDERSON CORPORATION CKO50 OR APPROVED EQUAL.

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

REVISION	BY	DATE
1 ADDENDUM NO. 1	JH	09/09/2026

OKLAHOMA PROFESSIONAL ENGINEER
B. LUKE LENARD
28364
9/9/26

PROCESS MECHANICAL
DEWATERING BUILDING FLOOR PLAN

PROJECT NO. TMUA-W 24-05

A.B. JEWELL WTP RESIDUALS IMPROVEMENTS PHASE 2

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
Jacobs

PLAN SCALE: 3/16"=1'-0"	DRAWN	SM	09/2026	APPROVED:
	DESIGNED	BS	09/2026	
PROFILE SCALE:	SURVEY			
HORIZONTAL: N/A	PROJ. MGR.			
	LEAD ENGR.			
VERTICAL N/A	FIELD MGR.			DESIGN MANAGER
FILE:	DRAWING: M-1			DATE: SEPTEMBER 2026
ATLAS PAGE NO: 543				SHEET 33 OF 47 SHEETS

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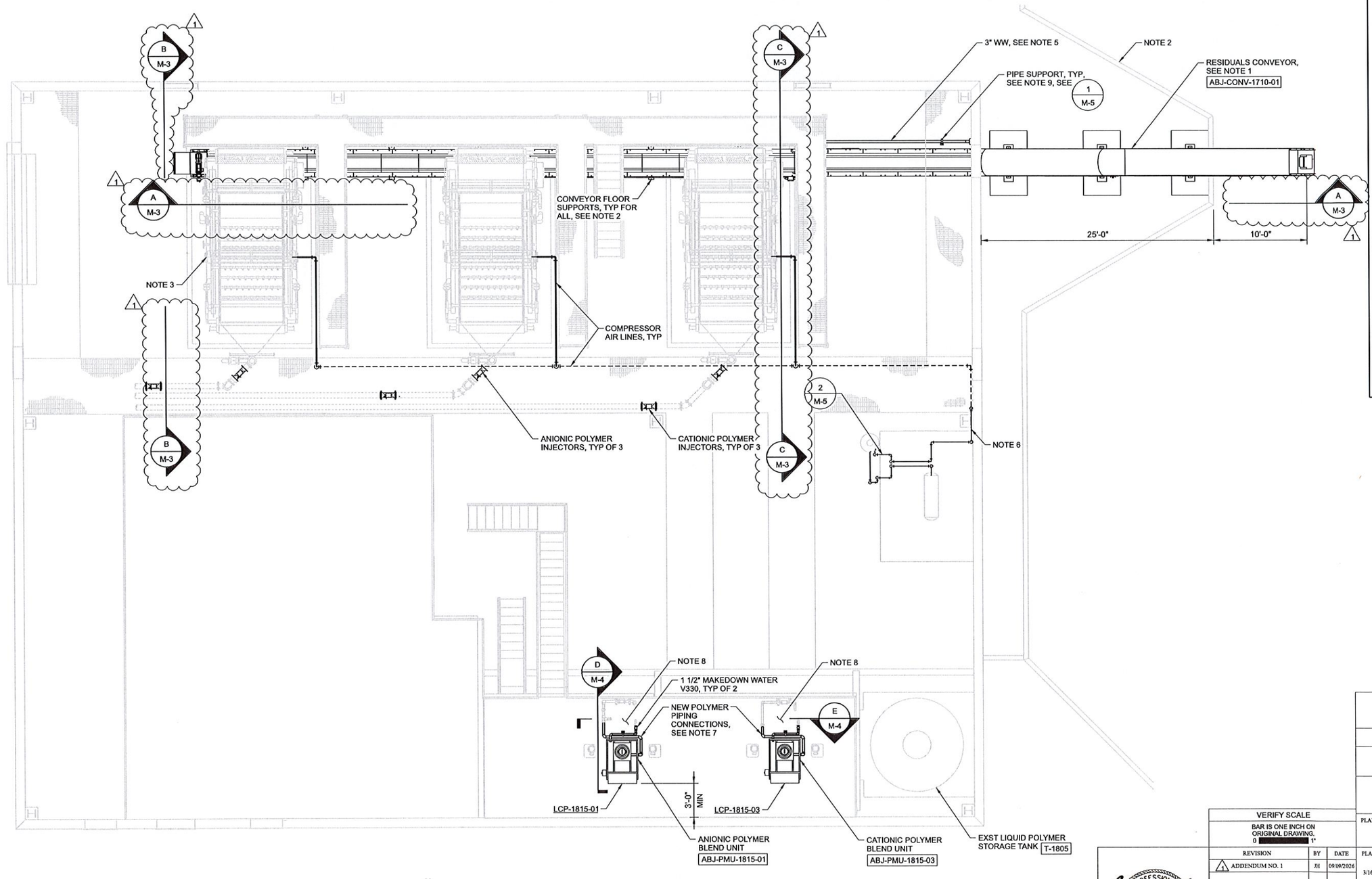

DEWATERING BUILDING PLAN

3/16"=1'-0"

GENERAL NOTES

1. CONTRACTOR TO FIELD VERIFY AND COORDINATE WITH MANUFACTURER ON LOCATION OF CONVEYOR. CONVEYOR SUPPORTS AND CONCRETE PADS. SEE SHEET S-1 FOR PAD DETAILS.
2. CONTRACTOR TO FIELD VERIFY LOCATION OF EXISTING PUSH WALL AND LOCATE CONVEYOR SUPPORTS ACCORDINGLY. COORDINATE CONVEYOR INSTALLATION SUCH THAT THE DISCHARGE IS EAST OF EXISTING PUSH WALL.
3. BELT FILTER PRESSES SHOWN TO IMPROVE CLARITY. CONVEYOR TO BE REPLACED UNDER BFP RESIDUALS DROP.
4. DEWATERING EQUIPMENT NOT INCLUDED IN PROJECT SCOPE IS NOT SHOWN ON DRAWINGS.
5. FIELD ROUTE WASHWATER PIPING TO MIMIC EXISTING ROUTING. SEE DEMOLITION DETAILS 16-18 ON DRAWING D-5 FOR EXTENT OF PIPING REPLACEMENT. 3" WW ISOLATION VALVES SHALL BE V331. REPLACE IN KIND ANY EXISTING SOLENOIDS WITHIN 1" OR 3" WW DEMOLITION SCOPE.
6. FIELD ROUTE AIR COMPRESSOR PIPING TO MATCH EXISTING ROUTING. SEE DEMOLITION DETAILS 11-15 ON DRAWING D-4 FOR EXTENT OF PIPING REPLACEMENT AND TANK PIPING CONNECTIONS. 1/2" CA ISOLATION VALVES SHALL BE V300. 1/2" CA SHALL USE WALL AND OVERHEAD PIPE SUPPORTS AS SHOWN IN DETAIL 2 M-5.
7. SEE DEMOLITION DETAILS 9 AND 10 ON DRAWING D-3 FOR LOCATIONS OF NEW POLYMER EQUIPMENT NPW.
8. CLEAN GRATING AND AREA AROUND THE POLYMER FEED SYSTEMS AND ASSOCIATED VALVING. PROTECT BELOW TANKS DURING POLYMER FEED SYSTEM INSTALL TO AVOID ANY ITEMS OR DEBRIS ENTERING TANKS.
9. CONTRACTOR TO FIELD VERIFY PIPE SUPPORT DESIGN.

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

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LICENSED PROFESSIONAL ENGINEER
B. LUKE LENARD
28364
OKLAHOMA
9/9/26

PROCESS MECHANICAL
DEWATERING BUILDING OVERALL PLAN

PROJECT NO. TMUA-W 24-05

A.B. JEWELL WTP RESIDUALS IMPROVEMENTS PHASE 2

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
Jacobs

PLAN SCALE: 3/16"=1'-0"	DRAWN	SM	09/2026	APPROVED:
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	FIELD MGR.			DESIGN MANAGER
FILE:	DRAWING: M-2			DATE: SEPTEMBER 2026
ATLAS PAGE NO: 543				SHEET 34 OF 47 SHEETS

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