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Metropolitan Water Reclamation District of Greater Chicago

100 EAST ERIE STREET CHICAGO, ILLINOIS 60611-3154 312.751.5600

Darlene A. LoCascio
 Director of Procurement and Materials Management
 312.751.6600 f: 312.894.2011
 darlene.locascio@mwrdd.org

January 16, 2026

Dear Bidder:

Enclosed herewith is "Notice of Revision and Addendum in Contract Documents," Addendum 7, consisting of eleven (11) pages and other attachments as referenced in the addendum. This addendum is dated January 16, 2026, and pertains to Contract 21-092-3P "Battery E Activated Sludge Facility, O'Brien Water Reclamation Plant."

Proposers must download Addendum 7 and the attachments in their entirety from the District's Portal at www.mwrdd.org. The path is as follows: **Doing Business** → **Procurement and Materials Management** → **Contract Announcements**. Scroll to Contract 21-092-3P and click "Addenda" to obtain this and all other addenda. If you are unable to download this addendum or any other contract documents, please email the Contract Desk at contractdesk@mwrdd.org or call (312) 751-6629 for assistance.

The Notice must also be signed, dated, inserted in the Contract Documents, and submitted with the Proposal, OR the Bidder may identify the addendum number in the space provided on the Proposal signature page.

Very truly yours,

Darlene A. LoCascio
 Director of Procurement and
 Materials Management

Attachment

Acknowledgment of receipt of the above-cited Notice:

DATE _____
 NAME _____
 FIRM _____
 SIGNED _____

Metropolitan Water Reclamation District of Greater Chicago

100 EAST ERIE STREET CHICAGO, ILLINOIS 60611-3154 312.751.5600

Page 1 of 11

NOTICE OF REVISION AND ADDENDUM IN CONTRACT DOCUMENTS

ADDENDUM

JANUARY 16, 2026

**CONTRACT 21-092-3P
BATTERY E ACTIVATED SLUDGE FACILITY
O'BRIEN WATER RECLAMATION PLANT**

All bidders are hereby notified of the following revisions:

Volume 1 of 4 – Signature Book for Submission of Bid

1. INVITATION TO BID – PAGE I-1

Delete line nine in its entirety and replace it with “**PROPOSALS ARE DUE TUESDAY, MARCH 3, 2026**”.

2. INVITATION TO BID – PAGE I-1

Refer to the paragraph beginning with “Sealed Proposals, endorsed...”

Delete the phrase “January 27, 2026” from the referenced paragraph and replace it with “March 3, 2026”.

3. TABLE OF CONTENTS – PAGE T-1

Refer to table line for title beginning with the words “APPENDIX B...”

Replace the date entry “08/22” with “9/25”.

4. TABLE OF CONTENTS – PAGE T-1

Refer to table line for title beginning with the words “APPENDIX I...”

Replace the date entry “08/22” with “9/25”.

5. INVITATION TO BID – PAGE I-5

Refer to the paragraph beginning with “Any contract or contracts awarded under this invitation for bids are expected...”

Delete the referenced paragraph in its entirety and replace it with the following:

“Any contract or contracts awarded under this invitation for bids are expected to be funded in part by a loan from the Illinois Environmental Protection Agency (IEPA). Neither the State of Illinois nor any of its departments, agencies, or employees is or will be a party to this invitation for bids or any resulting contract. The procurement will be subject to regulations contained in the Procedures for Issuing Loans from the Water Pollution Control Loan Program (35 IAC Part 365), the Davis-Bacon Act (40 USC 276a through 276a-5) as defined by the United States Department of Labor, the Employment of Illinois Workers on Public Works Act (30 ILCS 570), Illinois Works Jobs Program Act (30 ILCS 559/20-1) Apprenticeship Initiative, DBE Policy per 40 CFR Part 33, as amended, and the federal “Build America, Buy America Act” requirements contained in the Infrastructure and Investment and Jobs Act, Pub. L. No. 117-58. This procurement is also subject to the loan recipient’s policy regarding the increased use of disadvantaged business enterprises. The loan recipient’s policy requires all bidders to undertake specified affirmative efforts at least sixteen (16) days prior to bid opening. The policy is contained in the specifications.”

6. INVITATION TO BID – PAGES I-5 and I-6

Refer to the paragraph beginning with “Federal Regulations regarding...” and ending with “...shall comply with the same.”

Delete “1,” from both instances of the phrase “Grant Form Nos. 1, 2, 3, 4, 5 and 6” in the referenced paragraph.

7. REQUIRED DOCUMENTS TO BE INCLUDED WITH THE BID SUBMISSION – PAGE EUNA-2

Refer to Paragraph 8.i.

Delete Paragraph 8.i. in its entirety and replace with “i. Grant Form #1 (RESERVED)”.

8. PROPOSAL – PAGE P-7

Refer to the paragraph beginning with “A State of Illinois Environmental...” and ending with “shall comply with same”.

Delete the referenced paragraph in its entirety and replace it with the following paragraph.

“A State of Illinois Environmental Protection Agency loan agreement is anticipated for this project. This contract is subject to regulations contained in the Procedures for Issuing Loans

from the Water Pollution Control Loan Program (35 IAC Part 365), the Davis-Bacon Act (40 USC 276a through 276a-5) as defined by the United States Department of Labor, the Employment of Illinois Workers on Public Works Act (30 ILCS 570), Illinois Works Jobs Program Act (30 ILCS 559/20-1) Apprenticeship Initiative, DBE Policy per 40 CFR Part 33, as amended, and the federal "Build America, Buy America Act" requirements contained in the Infrastructure and Investment and Jobs Act, Pub. L. No. 117-58. Federal regulations regarding labor standards, the Copeland Anti-Kickback Act, equal employment opportunity and access to work shall also be in effect. These regulations appear in Appendices B and I in the Contract Documents and form a part thereof. The undersigned must execute Grant Forms Nos. 2, 3, 4, 5 and 6 in the appropriate place in Appendix B as part of this proposal. **Any proposal submitted without being accompanied by the executed Grant Forms Nos. 2, 3, 4, 5 and 6 will be rejected as non-responsive.** The Bidder shall specifically take note of Section 7, "Certification," of Appendix I regarding non-collusion requirements, and shall comply with same."

9. AGREEMENT – PAGE A-4

Refer to table line for title beginning with the words "APPENDIX B..."

Replace the date entry "08/22" with "9/25".

10. AGREEMENT – PAGE A-4

Refer to table line for title beginning with the words "APPENDIX I..."

Replace the date entry "08/22" with "9/25".

11. AGREEMENT – PAGE A-7

Refer to the row for SECTION 07750 SBS-MODIFIED BITUMINOUS PROTECTED MEMBRANE ROOFING.

Delete the wording "SBS-MODIFIED BITUMINOUS PROTECTED MEMBRANE ROOFING" and replace it with "COLD APPLIED SBS-MODIFIED BITUMINOUS MEMBRANE ROOFING".

Delete the page number "07750-1 TO 07750-13" and replace it with "07750-1X TO 07750-16X".

12. AGREEMENT – PAGE A-8

Refer to the row for SECTION 09615 PROTECTIVE COATING SCHEDULE.

Delete the page number "09615-1 TO 09615-2" and replace it with "09615-1X TO 09615-2X".

13. AGREEMENT – PAGE A-29

Refer to the paragraph beginning with “A State of Illinois Environmental...” and ending with “shall comply with same”.

Delete the referenced paragraph in its entirety and replace it with the following paragraph.

“A State of Illinois Environmental Protection Agency loan agreement is anticipated for this project. This contract is subject to regulations contained in the Procedures for Issuing Loans from the Water Pollution Control Loan Program (35 IAC Part 365), the Davis-Bacon Act (40 USC 276a through 276a-5) as defined by the United States Department of Labor, the Employment of Illinois Workers on Public Works Act (30 ILCS 570), Illinois Works Jobs Program Act (30 ILCS 559/20-1) Apprenticeship Initiative, DBE Policy per 40 CFR Part 33, as amended, and the federal “Build America, Buy America Act” requirements contained in the Infrastructure and Investment and Jobs Act, Pub. L. No. 117-58. Federal regulations regarding labor standards, the Copeland Anti-Kickback Act, equal employment opportunity and access to work shall also be in effect. These regulations appear in Appendices B and I in the Contract Documents and form a part thereof. The undersigned must execute Grant Forms Nos. 2, 3, 4, 5 and 6 in the appropriate place in Appendix B as part of this proposal. **Any proposal submitted without being accompanied by the executed Grant Forms Nos. 2, 3, 4, 5 and 6 will be rejected as non-responsive.** The Bidder shall specifically take note of Section 7, “Certification,” of Appendix I regarding non-collusion requirements, and shall comply with same.”

14. APPENDIX B

Delete APPENDIX B in its entirety and replace it with the attached revised APPENDIX B, Pages B-1X through B-10X.

15. APPENDIX I

Delete APPENDIX I in its entirety and replace it with the attached revised APPENDIX I, Pages I-1X through I-13X.

Volumes 2 and 3 of 4 – Specifications

16. TABLE OF CONTENTS — PAGE TOC-3

Refer to the row for SECTION 07750 SBS-MODIFIED BITUMINOUS PROTECTED MEMBRANE ROOFING.

Delete the wording “SBS-MODIFIED BITUMINOUS PROTECTED MEMBRANE ROOFING” and replace it with “COLD APPLIED SBS-MODIFIED BITUMINOUS MEMBRANE ROOFING”.

Delete the page number “07750-1 TO 07750-13” and replace it with “07750-1X TO 07750-16X”.

17. Section 01130 – PAGE 7

Delete Paragraph 3.02 K.2. and replace it with the following:

- “2. The Contractor will be allowed one (1) maximum 10-day shutdown for each watermain and the ductbank east of Battery D Gallery for the installation of the air main. Portions of the existing watermains can be isolated by closing gate valves located inside the lower level of the Battery D Operating Gallery Building near the west end and buried gate valves located immediately south of Battery C.”

Delete Paragraph 3.02 M.2. and replace it with the following:

- “2. The Contractor will be allowed one (1) maximum 5-day shutdown for each watermain. Portions of the existing watermains can be isolated by closing gate valves located inside the lower level of the Battery D Operating Gallery Building near the west end and buried gate valves located immediately south of Battery C.”

18. Section 01130 – PAGE 9

Refer to Paragraph 3.02 T.4.

Add the following subsection after the referenced paragraph:

- “U. Rerouting Existing Watermains Near the Southwest Corner of Battery D for the Installation of 48-inch Diameter Air Main.
1. The rerouting of existing Potable Water (WP) and Non-Potable Water (WNP) piping will require a shutdown request. Notify the District with a written notice five (5) working days in advance of the proposed shutdowns. Do not commence with the shutdowns until the District has provided written approval for the shutdowns and the work to be conducted during the shutdowns.
 2. The Contractor will be allowed one (1) maximum 5-day shutdown for each watermain. Portions of the existing watermains can be isolated by closing gate valves located inside the lower level of the Battery D Operating Gallery Building near the west end and buried gate valves located immediately south of Battery C.
 3. Potable Water (WP) and Non-Potable Water (WNP) lines shall be constructed, pressure tested and, for the potable water lines, chlorinated and a passing result obtained before they are connected to the existing water lines.”

19. Section 01131 – PAGE 5

Delete Paragraph 1.06 B.7.j. and renumber subsequent paragraphs.

20. Section 01131 – PAGE 8

Refer to Paragraph 1.14 A, which was added in Addendum No. 5.

Add the following after the referenced paragraph.

“B. Contractor can use the existing Service Water hydrants along the perimeter of Battery D and C as shown on Sheets C-026 and C-027. Contractor can also use Service Water hose bibbs inside the Battery D Operating Gallery Building, Meter Building, and Process Control Building.”

21. Section 02300 – PAGE 13

Refer to Paragraph 3.09 B.1.

Add the following at the end of the referenced paragraph:

“Onsite excavated material that contains clay may be used only for backfill in grass areas. This backfill shall be placed and compacted in accordance with Section 02300 Part 3.12. A.2.”

22. Section 02317 – PAGE 3

Delete Paragraph 1.06 D. and replace it with the following:

“D. Testing shall be provided by the Contractor as detailed in Section 02300 Part 3.16.”

23. Section 03800 – PAGE 3

Delete Part 3.02 in its entirety and renumber subsequent parts.

24. Section 03800 – PAGE 3

Refer to Paragraph 3.01 C.

Add the following subparagraph after the referenced paragraph.

“1. Portions of the Mixed Liquor (ML) conduits underneath the Final Settling Tanks (FSTs) may be leak tested after backfilling and placement of the FST floor slabs. Contractor to use bulkheads to isolate the portions of the ML conduits underneath the FSTs. The remainder of the ML conduits shall be leak tested prior to backfilling.”

25. SECTION 07550 – SBS-MODIFIED BITUMINOUS PROTECTED MEMBRANE ROOFING

Delete this section in its entirety and replace it with the attached revised Section 07550 – Cold Applied SBS-Modified Bituminous Membrane Roofing, pages 07750-1X TO 07750-16X.

26. SECTION 09615 – PROTECTIVE COATINGS SCHEDULE

Delete this section in its entirety and replace with the attached revised Section 09615 – Protective Coatings Schedule, pages 09615-1X to 09615-2X.

27. SECTION 11219 – PAGE 11

Refer to Paragraph 3.05 C.1.a.

Delete the wording “and field testing”.

Add the following after the referenced paragraph and renumber subsequent paragraphs.

“b. Equipment Field Testing: two person-days (one for functional testing and one for field performance testing).”

Refer to Paragraph 3.05 C.2.a.

Delete the wording “Two person-days” and replace it with “Three person-days”.

28. SECTION 11282 – PAGE 3

Delete Subsection 1.03 A.25 in its entirety.

29. SECTION 11340 – PAGE 9

Refer to Paragraph 2.04 B.1.

Delete the wording “100,000 ft-lbs” and replace it with “125,000 ft-lbs with the torque setting adjusted to 100,000 ft-lbs”.

Refer to Paragraph 2.04 B.1.a.

Delete the wording “100,000 ft-lbs” and replace it with “125,000 ft-lbs”.

Refer to Paragraph 2.04 B.1.b.

Delete the wording “200,000 ft-lbs” and replace it with “250,000 ft-lbs (output torque adjusted to 200,000 ft-lbs)”.

30. SECTION 11341 – PAGE 7

Refer to Paragraph 1.06 G.

Add the following after the referenced paragraph.

“H. The manufacturer is not required to comply with Part 1.05 A.1. of 05500.”

31. SECTION 11355 – PAGE 4

Delete Paragraph 1.06 E.3.a. and replace it with the following:

“a. 2 person-days per final settling tank weir or per adjacent pair of aeration tank weirs.”

Delete Paragraph 1.06 E.4.a. and replace it with the following:

“a. 1 person-day per final settling tank weir or per adjacent pair of aeration tank weirs.”

32. SECTION 11901 – PAGE 7

Delete Paragraph 2.02 A.3. and renumber subsequent paragraphs.

33. SECTION 11901 – PAGE 12

Refer to Paragraph 2.08 N.

Delete the wording “Alternatively, push on system may be acceptable when recommended by manufacturer and must be submitted to Engineer for review.”

34. SECTION 13200 – PAGE 4

Delete Paragraphs 2.03 A.5.a. and 2.03 A.5.b. and renumber subsequent paragraphs.

35. SECTION 13200 – PAGE 14

Refer to Paragraph 2.06 B.5.c.

Add the following after the referenced paragraph.

“d. Or approved equal.”

36. SECTION 13200 – PAGE 16

Refer to Paragraph 2.06 D.5.c.

Add the following after the referenced paragraph.

“d. Or approved equal.”

37. SECTION 13300 – PAGE 8

Refer to Paragraph 2.06 B.

Add following to the end of the last sentence:

“, or until February 27, 2031, whichever occurs first.”

38. SECTION 13300 – PAGE 8

Refer to Paragraph 2.06 B.

Add the following subsection after the referenced paragraph:

“2.07 RETAINAGE

- A. Work performed under this Section by the Distributed Control System (DCS) vendor under the District’s negotiated agreement is not subject to retainage, unless expressly stated otherwise in the Contract Documents.
- B. Payment for DCS hardware, software, programming, engineering services, commissioning, and related deliverables shall follow the milestone-based payment schedule included in the negotiated DCS agreement. These DCS line items shall be listed separately in the Contractor’s Schedule of Values and shall be excluded from the automatic retainage calculations applied to the remainder of the Work.
- C. The Contractor shall provide separate payment schedule line items for all DCS vendor costs associated with Section 13100. These line items will be identified as “Non-Retention Items” for the purpose of payment processing.”

39. SECTION 15810 – PAGE 4

Delete Paragraph 2.01 D.1.a. and replace it with the following:

“a. Composites USA.”

Delete Paragraph 2.01 D.1.b. and replace it with the following:

“b. Monoxivent.”

Delete Paragraph 2.01 D.1.c. and replace it with the following:

“c. Or approved equal.”

40. SECTION 16123 – PAGE 4

Refer to Paragraph 2.05 H.

Delete the wording “multi-mode, 62.5/125 microns” and replace it with “OM4, multi-mode, 25/125 microns”.

Refer to Paragraph 2.05 M.

Delete the wording “ST” and replace it with “LC”.

Refer to Paragraph 2.05 M.

Add the following after the referenced paragraph.

“N. Maximum number of active tube positions: 2 tubes, unless otherwise noted.”

41. ADDENDUM 4 – PAGE 9

Refer to Item 46.

Delete the wording “2.01 B.5.” and replace it with “2.01 B.4”.

Delete the number “6” in the paragraph to be added and replace it with “5”.

42. PLANS

The following revised plans are included in this Addendum. The revised plans replace previously issued plans having corresponding sheet numbers:

<u>PAGE</u> <u>NO.</u>	<u>SHEET</u> <u>NO.</u>	<u>REV#</u>	<u>TITLE OF SHEET</u>
36	C-020	1	STANDARD DETAILS – 9
42	C-026	2	SITE DEMOLITION PLAN – 3
43	C-027	3	SITE DEMOLITION PLAN – 4
44	C-028	3	SITE DEMOLITION PLAN – 5
48	C-032	2	SITE FACILITY PLAN – 3
64	C-048	2	STORM SEWER SCHEDULE TABLES
66	C-050	2	SITE YARD PIPING – 1
67	C-051	2	SITE YARD PIPING – 2
69	C-053	2	SITE YARD PIPING – 4
71	C-055	1	SITE YARD PIPING – PROFILE
72	C-056	2	SITE YARD PIPING – PROFILE
73	C-057	2	SITE YARD PIPING DETAILS
101	S-218	1	STRUCTURAL DETAILS
102	S-219	1	STRUCTURAL DETAILS

<u>PAGE NO.</u>	<u>SHEET NO.</u>	<u>REV#</u>	<u>TITLE OF SHEET</u>
103	S-220	1	STRUCTURAL DETAILS
215	S-702	2	AIR MAIN CONNECTIONS – SECTIONS AND DETAILS
239	A-415	1	ARCHITECTURAL SCHEDULES
298	P-404	2	OPERATING GALLERY – SECTIONS

This Notice must also be signed, dated, inserted in the Contract Documents, and submitted with the Proposal, OR the Bidder may identify the addendum number in the space provided on the Proposal signature page.

Catherine A. O'Connor
Director of Engineering

Darlene A. LoCascio
Director of Procurement and
Materials Management

The bidder acknowledges that he/she has read this Notice of Revision, dated January 16, 2026, to the Contract Documents and that he/she has taken the provisions thereof into consideration when preparing and submitting this Proposal.

APPENDIX B
PROVISIONS
for
FEDERALLY ASSISTED CONSTRUCTION CONTRACTS

CONTENTS

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II. Build America Buy America Act	B-2
III. Summary of Contractor's Responsibilities	B-3
IV. Grant Forms	B-4

**PROVISIONS
for
FEDERALLY ASSISTED CONSTRUCTION CONTRACTS**

U.S. ENVIRONMENTAL PROTECTION AGENCY

I. LABOR STANDARDS

DAVIS-BACON ACT (40 U.S.C. 276a-276a-7)

(a) All mechanics and laborers, including apprentices and trainees, employed or working directly upon the site of the work shall be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions, as are permitted by the Copeland Regulations (29 CFR Part 3), the full amounts due at time of payment computed at wage rates not less than the aggregate of the basic hourly rates and the rates of payments, contributions, or costs for any fringe benefits contained in the wage determination decision of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor or subcontractor and such laborers and mechanics. A copy of such wage determination decision shall be kept posted by the Contractor at the site of the work in a prominent place where it can be easily seen by the workers.

(b) The Contractor may discharge his obligation under this clause to workers in any classification for which the wage determination decision contains:

- (1) Only a basic hourly rate of pay by making payment at not less than such basic hourly rate, except as otherwise provided in the Copeland Regulations (29 CFR Part 3); or
- (2) Both a basic hourly rate of pay and fringe benefits payments, by making payment in cash, by irrevocably making contributions pursuant to a fund, plan, or program for, and/or by assuming an enforceable commitment to bear the cost of bona fide fringe benefits contemplated by the Davis-Bacon Act, or by any combination thereof. Contributions made, or costs assumed, on other than a weekly basis shall be considered as having been constructively made or assumed during a weekly period to the extent that they apply to such period. Where a fringe benefit is expressed in a wage determination in any manner other than as an hourly rate and the Contractor pays a cash equivalent or provides an alternative fringe benefit, he shall furnish information with his payroll

showing how he determined that the cost incurred to make the cash payment or to provide the alternative fringe benefit is equal to the cost of the wage determination fringe benefit. In any case where the Contractor provides a fringe benefit different from any contained in the wage determination, he shall similarly show how he arrived at the hourly rate shown therefor. In the event of disagreement between or among the interested parties as to an equivalent of any fringe benefit, the Contracting Officer shall submit the question, together with his recommendation, to the Secretary of Labor for final determination.

(c) The assumption of an enforceable commitment to bear the cost of fringe benefits, or the provision of any fringe benefits not expressly listed in section 1 (b) (2) of the Davis-Bacon Act or in the wage determination decision forming a part of the contract, may be considered as payment of wages only with the approval of the Secretary of Labor pursuant to a written request by the Contractor. The Secretary of Labor may require the Contractor to set aside assets, in a separate account, to meet his obligations under any unfunded plan or program.

(d) The Contracting Officer shall require that any class of laborers or mechanics, including apprentices and trainees, which is not listed in the wage determination decision and which is to be employed under the contract shall be classified or reclassified conformably to the wage determination decision, and shall report the action taken to the Secretary of Labor. If the interested parties cannot agree on the proper classification or reclassification of a particular class of laborers or mechanics to be used, the Contracting Officer shall submit the question, together with his recommendation, to the Secretary of Labor for final determination. Apprentices and trainees may be added under this clause only where they are employed pursuant to an apprenticeship or trainee program meeting the requirements of the Apprentices and Trainees clause below.

(e) In the event it is found by the Contracting Officer that any laborer or mechanic, including apprentices and trainees, employed by the Contractor or any

subcontractor directly on the site of the work covered by this contract has been or is being paid at a rate of wages less than the rate of wages required by paragraph 9(a) of this clause, the Contracting Officer may (1) by written notice to the Prime Contractor terminate his right to proceed with the work, or such of the work as to which there has been a failure to pay said required wages, and (2) prosecute the work to completion by contract or otherwise, whereupon such Contractor and his sureties shall be liable to the Government for any excess costs occasioned the Government thereby.

(f) Paragraphs (a) through (e) of the clause shall apply to this contract to the extent that it is (1) a prime contract subject to the Davis-Bacon Act, or (2) a subcontract also subject to the Davis-Bacon Act under such prime contract.

COMPLIANCE WITH COPELAND REGULATIONS

The Contractor shall comply with the Copeland Regulations of the Secretary of Labor (29 CFR Part 3) which are incorporated herein by reference.

(b) If any Contractor fails to pay any laborer, mechanic, apprentice, trainees, watchman, or guard, employed or working on the site of the work, all or part of the wages required by the contract, the Contracting Officer may, after written notice to the Prime Contractor, take such action as may be necessary to cause suspension of any further payment or advances until such violations have ceased.

SUBCONTRACTS

The Contractor agrees to insert the clauses hereof entitled "Davis-Bacon Act," "Compliance with Copeland Regulations," "Subcontracts," and "Contract Termination-Debarment" in all subcontracts. The term "Contractor" used in such clauses in any subcontract shall be deemed to refer to the subcontractor except in the phase "Prime Contractor."

CONTRACT TERMINATION-DEBARMENT

A breach of the clause hereof entitled "Davis-Bacon Act," "Compliance with the Copeland Regulations," and "Subcontracts" may be grounds for termination of the contract, and for debarment as provided in 29 CFR 5.6.

NONDISCRIMINATION PROVISIONS

During the performance of this contract, the Contractor agrees as follows:

(a) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will ensure that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

(b) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(c) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

II. BUILD AMERICA, BUY AMERICA ACT

(Infrastructure Investment and Jobs Act ("IIJA"), Pub. L. No. 117-58, which includes the Build America, Buy America Act ("the Act"). Pub. L. No. 117-58, §§ 70901-52)

A) None of the funds made available for a Federal financial assistance program for infrastructure, including each deficient program, may be obligated for a project unless all of the iron, steel, manufactured products, and construction materials used in the project are produced in the United States

B) Pursuant to Section 70914(c) of the BABA Act, EPA may waive Buy America preference where EPA finds that (1) Applying the domestic content procurement preference would be inconsistent with the public interest (a "public interest waiver"); (2) Types of iron, steel, manufactured products, or construction

materials are not produced in the United States in sufficient and reasonably available quantities or of a satisfactory quality (a “nonavailability waiver”); or (3) Inclusion of iron, steel, manufactured products, or

construction materials produced in the United States will increase the cost of the overall project by more than 25 percent (an “unreasonable cost waiver”).

III. SUMMARY OF CONTRACTOR’S RESPONSIBILITY

1. (Reserved)
2. Submit executed Grant Form #2, Certification of Nonsegregated Facilities, together with proposal.
3. Submit executed Grant Form #3, Certification Regarding Debarment, Suspension, and Other Responsibility Matters, together with proposal.
4. Submit executed Grant Form #4, Bidder Certification in Compliance with Article 33E to the “Criminal Code of 2012,” together with proposal.
5. Submit executed Grant Form # 5, Bidder Certification Regarding the Use of Iron, Steel, Manufactured Products, and Construction Materials produced in the United States (Build America, Buy America Act)
6. Submit executed Grant Form # 6, Employment of Illinois Workers on Public Works Act.

SUBCONTRACTS

1. It is the responsibility of the Contractor to obtain from each subcontractor (whether under contract directly to him or to one of his subcontractors) a certification of Nonsegregated Facilities, Grant Form #2, and a Certification Regarding Debarment, Suspension and other Responsibility Matters, Grant Form #3.

CONTRACT NO. _____

IV. GRANT FORMS

MWRDGC GRANT FORM #1
U.S. ENVIRONMENTAL PROTECTION AGENCY
(RESERVED)

CONTRACT NO. _____

MWRDGC GRANT FORM #2

U.S. ENVIRONMENTAL PROTECTION AGENCY

CERTIFICATION OF NONSEGREGATED FACILITIES

(Applicable to federally assisted construction contracts and related subcontracts exceeding \$10,000 which are not exempt from the Equal Opportunity clause.)

The federally assisted construction contractor certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally assisted construction contractor certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit this employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally assisted construction contractor agrees that a breach of this certification is a violation of the Equal Opportunity clause in this

Contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color, or national origin, because of habit, local custom, or otherwise. The federally assisted construction contractor agrees that (except where he has obtained identical certifications from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause, and that he will retain such certifications in his files.

SIGNATURE

DATE

NAME AND TITLE OF SIGNER (Please Type)

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

CONTRACT NO. _____

MWRDGC GRANT FORM #3
U.S. ENVIRONMENTAL PROTECTION AGENCY

**CERTIFICATION REGARDING
DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS**

The prospective certifies to the best of its knowledge and belief that it and its principals:

- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- (b) Have not within a three year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property.
- (c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and
- (d) Have not within a three-year period preceding this application proposal had one or more public transaction (Federal, State or local) terminated for cause or default.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 USC Sec. 1001, a false statement may result in a fine of up to \$10,000 or imprisonment for up to 5 years, or both.

Typed Name & Title of Authorized Representative

Signature of Authorized Representative

DATE

I am unable to certify to the above statement. My explanation is attached.

**INSTRUCTION FOR PREPARATION OF
CERTIFICATION REGARDING
DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS**

Under Executive Order 12549, an individual or organization debarred or exclude from participation in Federal assistance or benefit programs may not receive any assistance award under a Federal program, or a subagreement thereunder for \$25,000 or more.

Accordingly, each prospective recipient of an EPA grant, loan or cooperative agreement and any contract or subagreement participant thereunder must complete the attached certification or provide an explanation why they cannot. For further details, see 40 CFR 32.510, Participants' responsibilities, in the attached regulation.

Where To Submit Forms:

The prospective EPA grant, loan or cooperative agreement recipient must return the signed certification or explanation with its application to the appropriate EPA Headquarters or Regional office, as required in the application instructions.

A prospective prime contractor must submit a completed certification or explanation to the individual or organization awarding the contract.

Each prospective subcontractor must submit a completed certification or explanation to the prime contractor for the project.

How To Obtain Forms:

EPA includes the certification form, instructions, and a copy of its implementing regulation (40 CFR Part 32) in each application kit. Applicants may reproduce this materials as needed and provide them to their prospective prime contractor, who, in turn, may reproduce and provide them to prospective subcontractors.

Additional copies/assistance may be requested from:

Compliance Branch
Grants Administration Division (PM-216F)
U.S. Environmental Protection Agency
401 M Street, SW
Washington, DC. 20460
(Telephone: 202/475-8025)

CONTRACT NO. _____

MWRDGC GRANT FORM #5

Bidder Certification Regarding the Use of Iron, Steel, Manufactured Products, and Construction Materials produced in the United States (Build America, Buy America Act)

I, _____, do hereby certify that:
Name

1. I am _____ of the _____
Position Firm
and have authority to execute this certification on behalf of the firm.

2. This firm is aware and understands that all iron, steel, manufactured products, and construction materials used for this project must be produced in the United States per the federal Build America, Buy America Act (BABA) signed by President Biden on November 15, 2021. Pub. L No. 117-58, §§ 70901-52.

3. This firm is aware and understands the term "iron and steel products" refers to the following products made primarily of iron or steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete and construction materials.

4. This firm is aware and understands that all manufactured products used in the project must be produced in the United States. This means the manufactured product was manufactured in the United States, and the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55 percent of the total cost of all components of the manufactured product.

5. This firm is aware and understands that construction materials for this project must be manufactured in the United States. This means all manufacturing processes for the construction materials occurred within the United States.

6. This firm is aware and understands that loan recipients must be able to verify that products used in their State Revolving Fund (SRF) projects comply with the BABA requirements.

Information regarding the Build America, Buy America Act is available on IEPA's website, <https://www2.illinois.gov/epa/topics/grants-loans/state-revolving-fund/guidance/Pages/default.aspx>, or by calling the Infrastructure Financial Assistance Section at (217) 782-2027.

Name of Firm _____

Signature _____

Title _____

Date _____

Corporate Seal (where appropriate)

MWRDGC GRANT FORM #6

Employment of Illinois Workers on Public Works Act

This law comes into effect following two consecutive months of a state unemployment rate above 5 percent. More information about the Employment of Illinois Workers on Public Works Act can be found here: <http://www.ilga.gov/legislation/ilcs/ilcs3.asp?ActID=549&ChapterID=7>.

The Employment of IL Workers on Public Works Act requires the workforce on all public works projects to be comprised of a minimum of 90% Illinois residents. The Illinois Department of Labor (IDOL) administers the Employment of Illinois Workers on Public Works Act, which was enacted to alleviate unemployment in Illinois by ensuring that most workers on public works projects live in the state.

The requirement applies to all labor on public works projects or improvements. That includes public works projects that are funded in whole or in part with state funds or funds administered by the state of Illinois. Any public works project financed in whole or in part by federal funds administered by the State of Illinois is covered under the provisions of this act.

By signing below, the Contractor confirms awareness of this requirement.

(Typed Name & Title of Authorized Representative)

(Signature of Authorized Representative) (Date)

(Company/Organization)

(Date)

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APPENDIX I

ILLINOIS WATER POLLUTION CONTROL REVOLVING FUND REGULATIONS

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APPENDIX I

ILLINOIS WATER POLLUTION CONTROL REVOLVING FUND REGULATIONS

1) Audit; Access to Records:

- A) The Contractor shall maintain books, records, documents and other evidence directly pertinent to performance on loan work in accordance with generally accepted accounting principles. The Contractor shall also maintain the financial information and data used by the Contractor in the preparation or support of any cost submissions required under Section 365.420(b)(2) of the Illinois Administrative Code and a copy of the cost summary submitted to the owner. The Illinois Auditor General, the owner, the IEPA, or any of their authorized representatives shall have access to the books, records, papers, documents, and other evidence for purposes of inspection, audit, examination, excerpts, transcriptions, and copying. The Contractor shall provide facilities for access and inspection.
- B) For a formally advertised, competitively awarded, fixed price contract, the Contractor shall include access to records as required by subsection (1)(A) for all negotiated change orders and contract amendments in excess of \$150,000 that affect the contract price. In the case of all other prime contracts, the Contractor shall agree to include access to records required by subsection (1)(A) in all contracts and all tier subcontracts or change orders in excess of \$150,000 that are directly related to project performance.
- C) Audits shall be in accordance with auditing standards generally accepted in the United States .
- D) The Contractor shall agree to the disclosure of all information and reports resulting from access to records required by subsection (1)(A). When the audit concerns the Contractor, the auditing agency shall afford the Contractor an opportunity for an audit exit conference and an opportunity to comment on the pertinent portions of the draft audit report. The final audit report shall include the written comments, if any, of the audited parties.
- E) The records required by subsection (1) (A) shall be maintained and made available during performance of the work under the loan agreement and for 3 years after the date of final loan audit. In addition, records that relate to any dispute or litigation or the settlement of claims arising out of any performance, costs or items to which an audit exception has been taken shall be maintained and made available for 3 years after resolution of the dispute, appeal, litigation, claim, or exception.
- F) The right of access generally be exercised with respect to financial records under:
- i) negotiated prime contracts;
 - ii) negotiated change orders or contract amendments in excess of \$150,000 affecting the price of any formally advertised, competitively awarded, fixed price contract; and
 - iii) subcontracts or purchase orders under any contract other than a formally advertised, competitively awarded, fixed price contract.
- G) The right of access will generally not be exercised with respect to a prime contract, subcontract, or purchase order awarded after effective price competition. In any event, the right of access shall be exercised under any type of contract or subcontract:
- i) with respect to records pertaining directly to contract performance, excluding any financial records of the Contractor; and
 - ii) if there is any indication that fraud, gross abuse, or corrupt practices may be involved in the award or performance of the contract or subcontract.

2) Covenant against Contingent Fees

The Contractor shall warrant that no person or selling agency has been employed or retained to solicit or secure the contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee. For breach or violation of this warranty, the owner shall have the right to annul the contract without liability or in its discretion to deduct from the contract price or consideration, or otherwise recover, the full amount of such commission, percentage, brokerage or contingent fee.

3) Wage Provisions

The Contractor shall pay prevailing wages in accordance with the federal Davis-Bacon wage provisions, "AN ACT regulating wages of laborers, mechanics and other workers employed in any public works by the State, county, city, or any public body or any political subdivision or by anyone under contract for public works" (Ill. Rev. Stat. 1987, ch. 48, pars. 39s-1 et seq.).

(A) Minimum wages.

- (i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage

determination for the classification of work actually performed, without regard to skill, except as provided in § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)1(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

Subrecipients may obtain wage determination from the U.S. Department of Labor's web site, www.wdol.gov.

- (ii)(a) The subrecipient, on behalf of USEPA, shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The USEPA award official shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:
 - (1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
 - (2) The classification is utilized in the area by the construction industry; and
 - (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.
- (b) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the subrecipient agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the subrecipient to IEPA. IEPA will transmit the report, to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify or disapprove

every additional classification action within 30 days of receipt and so advise IEPA or will notify IEPA within the 30-day period that additional time is necessary.

- (c) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the subrecipient do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the award official shall refer the questions, including the views of all interested parties and the recommendation of the award official, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
- (d) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii)(B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.
- (iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.
- (iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, that the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.
- (B) Withholding, the subrecipient shall upon written request of the USEPA Award Official or an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor,

or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the (Agency) may, after written notice to the contractor, sponsor, applicant, or owner, take such actions as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(C) Payrolls and basic records.

- (i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics, including guards and watchmen, working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and

wage rates prescribed in the applicable programs.

- (ii)(a) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the subrecipient, that is, the entity that receives the sub-grant or loan from IEPA. Such documentation shall be available on request of IEPA or USEPA. As to each payroll copy received, the subrecipient shall provide written confirmation in a form satisfactory to IEPA indicating whether or not the project is in compliance with the requirements of 29 CFR 5.5(a)(1) based on the most recent payroll copies for the specified week. The payrolls shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on the weekly payrolls. The payrolls need only to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the subrecipient for transmission to IEPA or USEPA, if requested by USEPA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the subrecipient.
- (b) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:
- (1) That the payroll for the payroll period contains the information required to be provided under § 5.5 (a)(3)(ii) of Regulations, 29 CFR Part 5, the appropriate information is being maintained under § 5.5 (a)(3)(i) of Regulations, 29 CFR Part 5, and that such information is correct and complete.
 - (2) That each laborer and mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR Part 3;
 - (3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.
- (c) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347, available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site, shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.
- (d) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.
- (iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of IEPA, USEPA or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency or IEPA may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make

such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(D) Apprentices and trainees –

(i) Apprentices. Apprentices will be permitted to work at less than predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the

full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually

performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(E) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(F) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the USEPA determines may be appropriate, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(G) Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(H) Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(i) The subrecipient shall periodically interview a sufficient number of employees entitled to Davis-Bacon Act prevailing wages (covered employees) to verify that contractors or subcontractors are paying the appropriate wage rates. As provided in 29 CFR 5.6(a)(6), all interviews must be conducted in confidence. The subrecipient must use Standard Form 1445 or equivalent documentation to memorialize the interviews. Copies of the SF 1445 are available from USEPA on request.

(ii) The subrecipient shall establish and follow an interview schedule based on its assessment of the risks of noncompliance with Davis-Bacon Act posed by contractors or subcontractors and the duration of the contract or subcontract. At a minimum, the subrecipient must conduct interviews with a representative group of covered employees within two weeks of each contractor or subcontractor's submission of its initial weekly payroll data and two weeks prior to the estimated completion date for the contract or subcontract. Subrecipients must conduct

more frequent interviews if the initial interviews or other information indicates that there is a risk that the contractor or subcontractor is not complying with Davis-Bacon Act. Subrecipients shall immediately conduct necessary interviews in response to an alleged violation of the prevailing wage requirements. All interviews shall be conducted in confidence.

(iii) The subrecipient shall periodically conduct spot checks of a representative sample of weekly payroll data to verify that contractors and subcontractors are paying the appropriate wage rates. The subrecipient shall establish and follow a spot check schedule based on its assessment of the risks of noncompliance with Davis-Bacon Act posed by contractors and subcontractors and the duration of the contract or subcontract. At a minimum, the subrecipient must spot check payroll data within two weeks of each contractor or subcontractor's submission of its initial payroll data and two weeks prior to the completion date of the contract or subcontract. Subrecipients must conduct more frequent spot checks if the initial spot check or other information indicates that there is a risk that the contractor or subcontractor is not complying with Davis-Bacon Act. In addition, during the examinations the subrecipient shall verify evidence of fringe benefit plans and payments thereunder by contractors and subcontractors who claim credit for fringe benefit contributions.

(iv) The subrecipient shall periodically review contractors and subcontractors use of apprentices and trainees to verify registration and certification with respect to apprenticeship and training programs approved by either the U.S. Department of Labor or a state, as appropriate, and that contractors and subcontractors are not using disproportionate numbers of, laborers, trainees and apprentices. These reviews shall be conducted in accordance with the schedules for spot checks and interviews described in Item 5(b) and (c) above.

(v) Subrecipients must immediately report potential violations of the Davis-Bacon Act prevailing wage requirements to the USEPA Davis-Bacon Act contact listed above and to the appropriated Department of Labor Wage and Hour District Office listed at <http://www.dol.gov/esa/contacts/whd/america2.htm>.

(I) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes

shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and subrecipients, IEPA, USEPA, the U.S. Department of Labor, or the employees or their representatives.

(J) Certification of eligibility.

- (i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
- (ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
- (iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

As used, the terms laborers and mechanics include watchmen and guards.

(K) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(L) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (b)(1) of this section the contractor and any subcontractor responsible therefore shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clauses set forth in paragraph (b)(1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the

standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.

(M) Withholding for unpaid wages and liquidated damages. The subrecipient, upon written request of the USEPA Award Official or an authorized representative of the Department of Labor, shall withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.

(N) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (b)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (4) of this section.

4) DBW (MBE/WBE) Requirements

The Contractor must meet the intent of USEPA's Disadvantaged Business Enterprise (DBE) program (40 CFR part 33).

5) Debarred or Suspended Provisions

Successful bidder(s) shall submit certification of compliance with Federal Executive Order 12549 regarding debarment, suspension and other responsibility matters.

6) Subcontracts under Construction Contract

The award or execution of all subcontracts by a prime Contractor and the procurement and negotiation procedures used by such prime Contractor in awarding or executing such subcontracts shall comply with:

- A) All provisions of federal, State and local law;
- B) All provisions of this Part with respect to fraud and other unlawful or corrupt practices; and

- C) All provisions of this Part with respect to access to facilities, records and audit of records.
- D) The provision requiring a certification that the services of anyone that has been debarred or suspended under federal Executive Order 12549 will not be used for construction work.

7) Certification

- A) By submission of the bid, each bidder certifies, and in the case of a joint bid each party thereto certifies as to his own organization, that in connection with the bid:
 - i) The prices in the bid have been arrived at independently, without consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor;
 - ii) Unless otherwise required by law, the prices which have been quoted in the bid have not knowingly been disclosed by the bidder, prior to opening, directly or indirectly to any other bidder or to any competitor; and
 - iii) No attempt has been made or will be made by the bidder to induce any other person or firm to submit or not to submit a bid for the purpose of restricting competition; and
- B) Each person signing the bid shall certify that:
 - i) He is the person in the bidder's organization responsible for the decision as to the prices being bid and that he has not participated, and will not participate, in any action contrary to subsection (7)(A) above; or
 - ii) He is not the person in the bidder's organization responsible for the decision as to the prices being bid, but that he has been authorized to act as agent for the persons responsible for such decision in certifying that such persons have not participated, and will not participate, in any action contrary to subsection (7)(A) above, and as their agent shall also certify. He shall also certify that he has not participated, and will not participate, in any action contrary to subsection (7)(A) above.

8) Access

The Contractor, and all sub-tier contractors, shall provide the Auditor General, the owner, the IEPA, or any of their duly authorized representatives with access to the work and sites of work under this project, including access to any books, documents, papers, and records of the contractor or subcontractor which are pertinent to the project. The Contractor shall provide facilities for such access and inspection when requested.

9) Contractor Bankruptcy

In the event of a contractor bankruptcy, the District shall notify the IEPA and shall keep the IEPA advised of any negotiations with the bonding company including any proposed settlement. The IEPA may participate in those negotiations and will advise the District of the impact of any proposed settlement to the loan agreement. The District shall be responsible for assuring that every appropriate procedure and incidental legal requirement is observed in advertising for bids and re-awarding a construction contract.

10) Non-discrimination Provisions

The contractor shall abide by any applicable Federal anti-discrimination laws and must certify that it does not operate any programs promoting diversity, equality, and inclusion (DEI) that violate these laws. The contractor shall not discriminate on the basis of race, color, national origin or sex in the performance of this contract. The contractor shall carry out applicable requirements of 40 CFR Part 33 in the award and administration of contracts awarded under EPA financial assistance agreements. Failure by the contractor to carry out these requirements is a material breach of this contract which may result in the termination of this contract or other legally available remedies.

11) Requirements Specific to Build America, Buy America Act (BABA)

On November 15, 2021, President Biden signed into law the Infrastructure Investment and Jobs Act ("IIJA"), Pub. L. No. 117-58, which includes the Build America, Buy America Act ("BABA"). The purpose of BABA is to ensure that federally funded infrastructure projects only utilize iron, steel, manufactured products, and construction materials produced in the United States. The requirement to use products produced in the United States applies to all projects for the construction, alteration, maintenance, or repair of publicly owned treatment works (POTW) or public water systems. Since Illinois' Clean Water State Revolving Fund (CWSRF) and Drinking Water State Revolving Fund (DWSRF) utilize federal funds, loan

recipients must use iron, steel, manufactured products, and construction materials that are produced in the United States. Guidance is available on USEPA's website: <https://www.epa.gov/cwsrf/build-america-buy-america-baba>. Waivers from the requirements are available under certain circumstances. BABA requires the following:

1. All iron and steel used in the project are produced in the United States. This means all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States. Final Manufacturer Certification – The final manufacturer that delivers the iron and steel products to the worksite or contractor, provides certification that all manufacturing processes occurred in the US.
2. All manufactured products used in the project are produced in the United States. This means the manufactured product was manufactured in the United States, and the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55 percent of the total cost of all components of the manufactured product, unless another standard for determining the minimum amount of domestic content of the manufactured product has been established under applicable law or regulation.
3. All construction materials are manufactured in the United States. This means that all manufacturing processes for the construction material occurred in the United States.

BABA only applies to items that are consumed in, incorporated into, or affixed to an infrastructure project. It does not apply to tools, equipment, and supplies, such as temporary scaffolding, brought to the construction site and removed at project completion. BABA does not apply to equipment and furnishings, such as movable chairs, desks, and portable computer equipment, that are used at or within the finished infrastructure project but are not an integral part of or permanently affixed to the structure. BABA requirements apply to an entire infrastructure project, even if it is funded by both Federal and non-Federal funds under one or more awards.

Construction Materials includes an article, material, or supply that consists primarily of:

- non-ferrous metals;

- plastic and polymer-based products including polyvinylchloride, composite building materials, and polymers used in fiber optic cables;
- glass including optic glass;
- lumber; or
- drywall.

Construction Materials does NOT include items made primarily of iron or steel; manufactured products; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives. (See 11.2 for definition of covered manufactured products.)

Requirements Specific to Iron and Steel

The existing American Iron and Steel (AIS) Requirements will continue as part of BABA. An iron or steel product is one of the items listed below and is made primarily of iron or steel that is permanently incorporated into the public water system or treatment works.

- Pipes (lined or unlined) and pipe fittings
- Pipe clamps and restraints
- Valves
- Structural steel
- Hydrants
- Flanges
- Tanks
- Reinforced precast concrete
- Manhole Covers and other municipal castings such as valves boxes, drainage grates, bollards, etc.
- Construction materials such as trusses, wire, grating, wire, ductwork, fence tubing, wall panels, etc.

For one of the listed iron or steel products to be considered subject to the BABA requirements, it must be made of greater than 50% iron or steel, measured by the material costs. "Steel" means an alloy that includes at least 50 percent iron, between .02 and 2 percent carbon, and may include other elements. Metallic elements such as chromium, nickel, molybdenum, manganese, and silicon may be added during the melting of steel for the purpose of enhancing properties such as corrosion resistance, hardness, or strength. The definition of steel covers carbon steel, alloy steel, stainless steel, tool steel and other specialty steels. AIS Guidance is available at: <https://www2.illinois.gov/epa/topics/grants-loans/staterevolving-fund/guidance/Pages/american-iron-and-steel-requirements.aspx>.

Recordkeeping and Documenting the Country of Origin for Iron, Steel, Manufactured

Products, & Construction Materials used in Loan Funded Projects

Loan recipients with assistance from their general contractor must be able to verify that products used in their projects comply with the BABA requirements. USEPA recommends loan recipients use a “Step Certification” process to ensure that producers adhere to the BABA requirements. Step certification is a process under which each handler (supplier, fabricator, manufacturer, etc.) of the iron, steel, manufactured products, or construction materials certifies that their step in the process was domestically performed. Each time a step in the manufacturing process takes place, the manufacturer delivers its work along with a certification of its origin.

A certification can be quite simple if it includes the name of the manufacturer, the location of the manufacturing facility (not company headquarters), a description of the product or item being delivered, and a signature by a manufacturer’s responsible party. Certification could be achieved by other methods such as requiring the final manufacturer, who delivers the products to the worksite, to provide certification that all manufacturing processes occurred in the US. While this type of certification is easier and acceptable, it may not provide the same degree of assurance and additional documentation Page 64 of 68 may be needed. USEPA auditors recommend keeping records of when and where the products were delivered. Records from the manufacturer should refer to specific items such as pipes, valves, meters. Try to avoid records containing broad statements such as, “All products delivered were USA made”.

Regardless of the method, documents regarding the country of origin for all covered items should be collected and maintained by the loan recipients. Having a good paper trail is invaluable during an inspection or audit.

Sample Certification Letter

Below is a sample step certification letter for BABA compliance. The completed letter is provided to the construction contractor or loan applicant by the supplier, fabricator, manufacturer, etc. of covered products. Documentation must be provided on company letterhead.

Company Letterhead
Date _____
Company Name _____
Company Address _____
City, State Zip _____
Subject: Build American, Buy America Act Step Certification for Project XX-XXX-XX
I, (company representative), certify that the (melting, bending, coating, galvanizing, cutting, etc., or all manufacturing) process(es) for (manufacturing or fabricating) the following products and/or materials shipped or provided for the subject project is in full compliance with the federal Build America, Buy America Act requirements as required in EPA’s State Revolving Fund Programs.
Item, Products and/or Materials:
1. _____
2. _____
3. _____
Such process took place at the following location(s) (include City and State): _____
If any of the above compliance statements change while providing material to this project we will immediately notify the prime contractor and the Engineer.
<u>Signed by company representative</u> Printed Name _____

12) Employment of Illinois Workers on Public Works Act:

The Employment of Illinois Workers on Public Works Act comes into effect following two consecutive months of a state unemployment rate above 5 percent. More information about the Employment of Illinois Workers on Public Works Act can be found here:

<http://www.ilga.gov/legislation/ilcs/ilcs3.asp?ActID=549&ChapterID=7>.

The Employment of IL Workers on Public Works Act requires the workforce on all public works projects to be comprised of a minimum of 90% Illinois residents.

The Illinois Department of Labor (IDOL) administers the Employment of Illinois Workers on Public Works Act, which was enacted to alleviate unemployment in Illinois by ensuring that most workers on public works projects live in the state. The requirement applies to all labor on public works projects or improvements. That includes public works projects that are funded in whole or in part with state funds or funds administered by the state of Illinois. Any public works project financed in whole or in part by federal funds administered by the state of Illinois is covered under the provisions of this act.

13) Illinois Works Jobs Program Act – Apprenticeship Initiative Information for Contractors Summary:

The Illinois Works Jobs Program Act, 30 ILCS 559/Art. 20, is a statewide initiative to ensure that all Illinois residents have access to State capital projects and careers in the construction industry and building trades and to provide contracting and employment opportunities to historically underrepresented populations in the construction industry. This will be accomplished through three programs created by the Illinois Works Jobs Program Act: the Illinois Works Apprenticeship Initiative, the Illinois Works Pre-Apprenticeship Program, and the Illinois Works Bid Credit Program. Additional information is available at the following website: <https://www2.illinois.gov/dceo/WorkforceDevelopment/Pages/IllinoisWorksJobsProgramAct.aspx>.

The goal of the Illinois Works Apprenticeship Initiative (“10% apprenticeship goal”) is that for projects estimated to cost \$500,000 or more, apprentices will perform either 10% of the total labor hours actually worked in each prevailing wage classification or 10% of the estimated labor hours in each prevailing wage classification, whichever is less. The 10% apprenticeship goal applies to projects being paid for in whole or in part by appropriated capital funds to construct a public work either through a contract or grant issued by a State agency. A determination was made that this requirement also applies to IEPA loans. The \$500,000 threshold applies to the total project cost and NOT the total cost or value of an individual construction contract.

Certification: Apprentices are required to be U.S. Dept. of Labor certified (not limited to pre-apprentice program graduates).

Applicability

If a project is estimated to received \$500,000 or more of State Capital Funding for the Project:

If the state’s contribution to the project amount equals 50% or more of the cost for the project, the 10% apprenticeship requirement applies to all prevailing wage eligible work performed by contractors on the public works project.

If the state’s contribution to the project is less than 50% of the cost for the project, the 10% apprenticeship requirement applies only to prevailing wage eligible work being funded from state funds.

The Project has less than \$500,000 of State Capital Funding, but the Total Estimated Project Cost is \$500,000 or more:

If the state’s contribution to the project amount equals 50% or more of the estimated cost for the project, the 10% apprenticeship requirement applies to all prevailing wage eligible work performed by contractors on the public works project.

If the state’s contribution to the project is less than 50% of the estimated cost for the project, the 10% apprenticeship requirement does not apply.

Total Estimated Project Cost is less than \$500,000:

The 10% apprenticeship requirement does not apply. The \$500,000 threshold applies to the total project cost and NOT the total cost or value of an individual construction contract.

Waivers from the Requirements: If goals cannot be met, the state has discretion to grant waivers, reductions or to hold public hearings on the issue. Factors to be considered include the scale of the project and whether the contractor or subcontractor seeking the action has previously requested reductions or waivers. A waiver form is available on the IEPA website at: <https://www2.illinois.gov/epa/Documents/epa-forms/water/financial-assistance/apprenticeship/Waiver-Request.pdf>. The form can also be obtained from DCEO.

Reporting: The Illinois Works Apprenticeship Initiative Periodic Reporting Form shall be submitted quarterly. An example quarterly reporting form (Page 1 of 3) is attached. A fillable version is available on the IEPA website:

<https://www2.illinois.gov/epa/topics/grants-loans/state-revolving-fund/Documents/ILLINOIS%20WORKS%20APPRENTICE-SHIP%20INITIATIVE%20QUARTERLY%20PERIODIC%20REPORT%20072022.pdf>

Contractors should coordinate with the loan applicant and their consultant for further instructions regarding these forms. Loan applicants are ultimately responsible for reporting quarterly labor hours to the state, but coordination with their contractor is essential. All loan funded projects are subject to payment of Davis Bacon wages.

For general apprenticeship questions, please contact the Illinois Works Office at: CEO.ILWorks@Illinois.gov.

The Contractor shall also complete applicable sections of the Illinois Works Apprenticeship Initiative Budget Supplement Form and submit to the Loan applicant (MWRD) prior to the start of construction. A fillable version of the form is available on the IEPA website: <https://www2.illinois.gov/epa/Documents/epa-forms/water/financial-assistance/apprenticeship/Budget-Supplement.pdf>

ILLINOIS WORKS APPRENTICESHIP INITIATIVE QUARTERLY PERIODIC GRANTEE REPORT

Loan Recipient Organization Name: Unique Entity ID Number:

Loan Awarding Agency: FEIN Number:

Loan Number: Project Start Date: Project End Date:

Estimated Total Project Costs: Estimated Total State Contribution:

REPORTING PERIOD:

Period Start Date: Period End Date:

APPLICABLE APPRENTICESHIP GOAL (SELECT ALL THAT APPLY):

- 10% Total Project Cost
 - 10% Total State Contribution Only
 - Waiver Approved by IL DCEO IL DCEO Waiver Approval Date:
 - Reduction Approved by IL DCEO IL DCEO Reduction Approval Date:
- (If a waiver was granted for any prevailing wage classification, the Grantee does not need to report on those classifications on this form.)
- (If selected, enter the applicable prevailing wage classification(s) and approved reduced percentage(s).)

PREVAILING WAGE CLASSIFICATION	REDUCED PERCENTAGE	PREVAILING WAGE CLASSIFICATION	REDUCED PERCENTAGE

SECTION 07550

COLD APPLIED SBS-MODIFIED BITUMINOUS MEMBRANE ROOFING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The work specified in this section includes but is not limited to: Provide SBS-Modified Bituminous Protected Membrane Roofing system as specified to profiles shown on the contract documents.
- B. Section Includes:
 - 1. 3 ply SBS-modified bituminous protected membrane roofing.
 - 2. Cover board
 - 3. Tapered roof insulation
 - 4. Vapor barrier
- C. Related work specified in other sections includes, but is not limited to, the following:
 - 1. MWRDGC General Specifications
 - 2. Division 01 - General Requirements.
 - 3. Section 03410 – Precast Structural Concrete.
 - 4. Section 04200 – Unit Masonry.
 - 5. Section 05310 – Metal Decking.
 - 6. Section 06100 – Miscellaneous Rough Carpentry.
 - 7. Section 07620 - Stainless Steel Flashing and Trim.
 - 8. Section 07630 - Stainless Steel Scuppers and Downspouts.
 - 9. Section 07920 – Joint Sealants.

1.02 DEFINITIONS

- A. Roofing Terminology: Refer to ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" for definition of terms related to roofing work in this Section.
- B. Design Uplift Pressure: The uplift pressure, calculated according to procedures in SPRI's "Wind Load Design Guide for Fully Adhered and Mechanically Fastened Roofing Systems," before multiplication by a safety factor.
- C. Factored Design Uplift Pressure: The uplift pressure, calculated according to procedures in SPRI's "Wind Load Design Guide for Fully Adhered and Mechanically Fastened Roofing Systems," after multiplication by a safety factor.

1.03 PREINSTALLATION MEETING

- A. Preliminary Roofing Conference: Before starting roof deck construction, conduct conference at Project site.

1. Meet with District, District's insurer if applicable, District Resident Engineer, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Review deck substrate requirements for conditions and finishes, including flatness and fastening.
5. Review structural loading limitations of roof deck during and after roofing.
6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
7. Review governing regulations and requirements for insurance and certificates if applicable.
8. Review temporary protection requirements for roofing system during and after installation.
9. Review roof observation and repair procedures after roofing installation.

1.04 SUBMITTALS

- A. General: Provide all submittals, including the following, as specified in Division 01, Section 01325 and Section 01330.
 1. Product Data: For each type of product indicated.
 2. Wind uplift report per NRCA Roof Wind Designer Software.
 3. Shop Drawings: For roofing system. Include plans, elevations, sections, details, and attachments to other Work.
 4. Base flashings, cants, and membrane terminations.
 5. Tapered insulation, including slopes.
 6. Crickets, saddles, and tapered edge strips, including slopes.
 7. Vapor barrier.
 8. Insulation fastening patterns.
- B. Samples for Verification: For the following products:
 1. 12-by-12-inch square of smooth-surfaced roofing membrane sheet &
 2. flashing backer sheet.
 3. 12-by-12-inch square of mineral-granule-surfaced roofing membrane
 4. cap sheet, of color specified.
 5. 12-by-12-inch square sample of cover board.
 6. 12-by-12-inch square of roof insulation.
 7. 12-by-12-inch square of walkway pad or cap sheet walkway.
 8. 12-by-12-inch square of vapor barrier.
- C. Installer Certificates: Signed by roofing system Manufacturer certifying that Installer is approved, authorized, or licensed by Manufacturer to install roofing system. Installer must also submit documentation that the installer is an active status licensed roofing contractor

with unlimited license qualifiers in the State of Illinois as validated by the Illinois Department of Financial and Professional Regulation.

- D. Submit a statement in a form acceptable to the District, signed by the Contractor, and Installer, stating that the Contract Documents and Specifications, as well as the shop drawings and product data have been reviewed with qualified representatives of the roofing materials Manufacturers, and that they are in agreement that the selected materials and system are proper and adequate for the application required. In addition, the review statement must cover the following:
1. That the Manufacturer has examined the site, specification, and Contract Documents.
 2. That the products specified herein are acceptable for and compatible with the roofing and flashing system's design.
 3. That the roofing and flashing system is compatible with the structure.
 4. Certify that all their products delivered to the site will meet or exceed specified requirements.
 5. That the Manufacturer will issue a warranty covering workmanship and material for the system installed, in accordance with the specifications.
- E. Manufacturer Certificates: Signed by roofing Manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
1. Submit evidence of meeting performance requirements.
 2. Qualification Data: For Installer, Manufacturer and Roofing Inspector. Include letter from manufacturer written for this contract indicating approval of installer and roofing inspector.
 3. Product Test Reports: Based on evaluation of comprehensive tests performed by Manufacturer and witnessed by a qualified testing agency, for components of roofing system.
 4. Maintenance Data: For roofing system to include in maintenance manuals for the specified roofing installed.
 5. Warranties: Special warranties specified in this Section.
 6. Inspection Report: Copy of roofing system Manufacturer's inspection report of completed roofing installation.
- F. Product Test Reports: Based on evaluation of comprehensive tests performed by UL, ASTM, or FM for components of roofing system.
1. Softening Point: ASTM D36.
 2. Flashpoint: ASTM D92.
 3. Acceptable Bitumen Temperatures: As recommended by the bitumen manufacturer and label EVT on containers.
 4. Certification of Class A roof System.
- 1.05 SUBMITTAL REQUIREMENTS FOR COMPLIANCE WITH BUILD AMERICA, BUY AMERICA (BABA) FOR FEDERAL FINANCING
- A. For District Contract receiving federal funding, either through federal grants or SRF loans, the Contractor shall provide a certification letter from the manufacturer for all submittals related to BABA products as specified in Section 11 of Appendix I.

- B. All equipment or material delivered to the Contract site shall be clearly marked and/or stamped as “Made in the USA.”
- C. In order to demonstrate compliance with BABA, requirements detailed in Section 11 of Appendix I, the Contractor shall maintain the document described in the Mobilization section of the Proposal. The Contractor shall use the document to contemporaneously track the status of the certifications for the BABA products. The document, along with all material certifications, shall be saved electronically by the Contractor in the specified project management system. The Contractor shall include an updated document with each monthly application for payment. If the Contractor is allowed to use de minimis waivers for any products required by the Contract, the Contractor shall likewise track the de minimis items in the document and maintain documentation of the waivers electronically in the specified Contract management system.

1.06 QUALITY ASSURANCE

- A. **Manufacturer Qualifications:** A qualified manufacturer that is UL listed, and FM approved for membrane roofing system identical to that used for this Project and listed in this Section, with a minimum five years’ experience in manufacture of comparable products in successful use in similar applications, and able to furnish warranty with provisions matching specified requirements.
- B. **Installer Qualifications:** A qualified firm that is approved, authorized, or licensed by roofing system Manufacturer to install Manufacturer’s product and that is eligible to receive Manufacturer’s warranty. The Installer must have at least three (3) years of successful installation experience with Contract utilizing roofing products similar to that required for this Contract.
- C. **Installers Field Supervision:** Require Installer to maintain a full-time Supervisor/Foreman on the Job Site during all phases of the modified bituminous sheet roofing work and at any time roofing work is in progress, proper supervision of workmen shall be maintained. A copy of the specification shall be in possession of the Supervisor/Foreman and on the roof at all times.
- D. **Roofing Inspector Qualifications:** A technical representative of manufacturer not engaged in the sale of products and experienced in the installation and maintenance of the specified roofing system, qualified to perform roofing observation and inspection specified in Field Quality Control Article, to determine Installer’s compliance with the requirements of this Project and approved by the manufacturer to issue warranty certification. The Roofing Inspector shall be one of the following
 1. An authorized full-time technical employee of the manufacturer.
 2. An independent party certified as a Registered Roof Observer by the Roof Consultants Institute, retained by the Contractor or the Manufacturer and approved by the Manufacturer.
- E. **Source Limitations:** Obtain components for roofing system from a single approved roofing system manufacturer.

- F. Fire-Test-Response Characteristics: Provide roofing materials with the fire-test-response characteristics indicated as determined by testing identical products per test method below by UL or FMG. Materials shall be identified with appropriate markings of applicable testing and inspecting agency.
 - 1. Exterior Fire-Test Exposure: Class A; ASTM E 108, for application and roof slopes indicated.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roofing materials to Contract site in original containers with seals unbroken and labeled with Manufacturer's name, product brand name and type, date of manufacture, and directions for storage.
- B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system Manufacturer. Protect stored liquid material from direct sunlight.
 - 1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
- C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation Manufacturer's written instructions for handling, storing, and protecting during installation.
- D. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

1.08 CONTRACT CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

1.09 WARRANTY

- A. Special Roofing Manufacturer's Warranty: 20 Year Unlimited Labor and Materials in Manufacturer's standard form without monetary limitation, in which manufacturer agrees to repair or replace components of built-up roofing that fail in materials or workmanship within specified 20-year warranty period. Failure includes roof leaks. Special warranty includes roofing membrane, base flashings, roofing membrane accessories, fasteners, roof insulation, cover boards, substrate board, and other components of built-up roofing.
 - 1. Warranty Period: 20 years from date of Substantial Completion as determined by the Engineer from the final approved construction schedule.
 - 2. The Roofing System Manufacturer's Warranty shall include all the metal flashing, coping and counterflashing for leaks and finish on the project. The warranty shall state that the roofing and metal be free from any defect in material or workmanship for a period of Twenty (20) years from the date of Substantial completion of this project. Should any defect or leak occur during the twenty-year warranty period, all necessary

repairs or replacements shall be done at no cost to the District, regardless of the original installed cost of the roofing system. There shall be no ceiling level clauses in the warranty, and it shall not be pro-rated. The warranty shall expressly state, "20 Year Unlimited Labor and Materials," and "No Dollar Limit, (NDL)" or the equivalent of "no specified dollar limit". This must be noted on the Warranty.

- B. Installer's Warranty: Submit roofing Installer's warranty, on warranty form at end of this Section, signed by Installer, covering the Work of this Section and related Sections indicated above, including all components of built-up roofing such as built-up roofing membrane, base flashing, roof insulation, fasteners, cover boards, substrate boards, vapor retarders, roof pavers, and walkway products, for the following warranty period:
- C. Extended Roof System Warranty: Warranties specified in this Section include the following components and systems specified in other sections supplied by the roofing system Manufacturer, and installed by the roofing system Installer:
 - 1. Sheet metal flashing and trim, including roof penetration flashings.
 - 2. Manufactured copings, roof edge, counterflashing's, and reglets.
 - 3. Roof curbs, hatches, and penetration flashings.
 - 4. Roof and parapet expansion joint assemblies.
- D. Guarantees and warranties are exclusive of repairs due to improper maintenance or operation, normal wear and tear, usage, structural movement, and acts of God.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

- A. General Performance: Installed membrane roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Membrane roofing and base flashings shall remain watertight.
- B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by roofing Manufacturer based on testing and field experience.
- C. Wind Uplift Resistance: Selected Roof Manufacturer to run report via NRCA Roof Wind Designer software for wind uplift pressures <https://roofwinddesigner.nrca.net>.
 - 1. Wind Loads: Design all connections to meet an Ultimate Wind Speed design of 114 miles per hour.
- D. FMG Listing: Provide roofing membrane, base flashings, and component materials that comply with requirements in FMG 4450 and FMG 4470 as part of a roofing system and that are listed in FMG's "Approval Guide" for Class 1 or noncombustible construction, as applicable. Identify materials with FMG markings.
 - 1. Fire/Windstorm Classification: Class 1A-90.
 - 2. Hail Resistance: MH

2.02 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, Manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following: The basis of design is by Garland Co. Inc.:

1. SBS-Modified Bituminous Membrane Roofing:

- a. Garland Co., Inc. (The), Cleveland, OH. (800) 321-9336, (216) 641-7500. FMG approved Roof Nav assembly # 343588-22494-0: Concrete Deck with Vapor Barrier and FMG approved Roof Nav assembly # 565159-224938-0 metal deck with vapor barrier.
- b. Tremco, Inc., Beachwood, OH. (800) 852-6013, (216) 292-5000, (773) 640-6254. FMG approved Roof Nav assembly # 443610-544524-0: Concrete Deck with Vapor Barrier and FMG approved Roof Nav assembly # 523313-547862-0 metal deck with vapor barrier.
- c. Or Approved Equal.

2.03 SBS/SEBS-MODIFIED ASPHALT-SHEET MATERIALS

A. Granule-Surface Roofing Membrane Cap Sheet: 160 mils SBS and SEBS (Styrene-Butadiene-Styrene and Styrene-Ethylene-Butylene-Styrene) mineral surfaced rubber modified roofing membrane with fire retardant characteristics and reinforced with dual fiberglass scrim and polyester scrim. ASTM D 6162, Grade G, Type III, , and as follows: Tensile Strength: ASTM D5147; 2 in/min. @ 73.4 = / - 3.6 deg. F MD 700 lbf/in XD 750 lbf/in.

1. Tear Strength: ASTM D5147; 2 in/min. @ 73.4 = / - 3.6 deg. F MD 1300 lbf/in XD 1400 lbf/in.
2. Elongation at Maximum Tensile: ASTM D5147; 2 in/min. @ 73.4 = / - 3.6 deg. MD 6.0% XD 6.0%.
3. Low Temperature Flexibility: ASTM D5147, passes -30 Deg. F .
4. Granule Color: White.

2.04 MODIFIED BASE-SHEET MATERIALS

A. Provide 2-Ply Base Sheet as required by roofing system and manufacturer as follows:

1. Base Sheet: 80 mil SBS (Styrene-Butadiene-Styrene) rubber modified base sheet reinforced with fiberglass scrim, performance requirements according to ASTM D5147.
2. Tensile Strength: ASTM D5147; 2 in/min. @ 73.4 = / - 3.6 deg. F MD 140 lbf/in XD 100 lbf/in.
3. Tear Strength: ASTM 5147; 2 in/min. @ 73.4 = / - 3.6 deg. F MD 130 lbf/in XD 100 lbf/in.
4. Elongation at Maximum Tensile: ASTM D5147; 2 in/min. @ 73.4 = / - 3.6 deg. F MD 4%, XD 4%.
5. Low Temperature Flexibility: ASTM D5147, passes -40 Deg. F.

2.05 BASE FLASHING SHEET MATERIALS

- A. Flashing Cap Sheet: 160 mils SBS and SEBS (Styrene-Butadiene-Styrene and Styrene-Ethylene-Butylene-Styrene) mineral surfaced rubber modified roofing membrane with fire retardant characteristics and reinforced with dual fiberglass scrim and polyester scrim. ASTM D 6162, Grade G, Type III, and as follows:
 - 1. Tensile Strength: ASTM D5147; 2 in/min. @ 73.4 = / - 3.6 deg. F MD 700 lbf/in XD 750 lbf/in.
 - 2. Tear Strength: ASTM D5147; 2 in/min. @ 73.4 = / - 3.6 deg. F MD 1300 lbf/in XD 1400 lbf/in..
 - 3. Elongation at Maximum Tensile: ASTM D5147; 2 in/min. @ 73.4 = / - 3.6 deg. F MD 6%, XD 6%.
 - 4. Low Temperature Flexibility: ASTM D5147, passes -30 Deg. F.
 - 5. Granule Color: White.

- B. Flashing Base Sheet: 80 mil SBS (Styrene-Butadiene-Styrene) rubber modified base sheet reinforced with fiberglass scrim, performance requirements according to ASTM D5147.
 - 1. Tensile Strength: ASTM D5147; 2 in/min. @ 73.4 = / - 3.6 deg. F MD 140 lbf/in XD 100 lbf/in.
 - 2. Tear Strength: ASTM 5147; 2 in/min. @ 73.4 = / - 3.6 deg. F MD 130 lbf/in XD 100 lbf/in.
 - 3. Elongation at Maximum Tensile: ASTM D5147; 2 in/min. @ 73.4 = / - 3.6 deg. F MD 4%, XD 4%.

2.06 AUXILIARY ROOFING MEMBRANE MATERIALS

- A. Tapered General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with roofing membrane.

- B. Vapor Barrier on Metal Deck: self-adhering, reinforced SBS modified membrane.
 - 1. Vapor Smart SA.

- C. Vapor Retarder on Concrete Deck: ASTM D6162. Type III.
 - 1. HPR Tri-Base Premium.

- D. Securement of Vapor Retarder to concrete deck: One-part VOC free, elastomeric asphalt modified urethane adhesive.
 - 1. Wise Products CA Vapor Retarder Adhesive. One-part, VOC free, elastomeric asphalt modified urethane adhesive.

- E. Vapor Retarder on Concrete Deck: ASTM D6162. Type III.
 - 1. Securement of Vapor Retarder to concrete deck: One-part VOC free, elastomeric asphalt modified urethane adhesive.

- F. Asphalt Primer: ASTM D 41. VOC Compliant.

- G. Cold-Applied Adhesive: Roofing system manufacturer's standard asphalt- based, one- or two-part, V.O.C. compliant 250 g/L ASTM D 6511-00, asbestos-free, cold-applied adhesive specially formulated for compatibility and use with roofing membrane and base flashings.

1. Weatherking Plus WC.
 2. Tremco Powerply.
 3. Or Approved Equal.
- H. Asphalt Roofing Cement: ASTM D 4586, asbestos free, of consistency required by roofing system manufacturer for application.
1. Flashing Bond.
- I. Mastic Sealant: Polyisobutylene, plain or modified bitumen, nonhardening, nonmigrating, nonskinning, and nondrying.
1. Silver Flash.
- J. Reinforcing Fabric: Styrene-Butadiene-Rubber (SBR) coated, woven, fiberglass scrim.
1. GarMesh.
- K. Fasteners: Fasteners for metal flashing sheet are specified in Division 7 Section 07620 - "Stainless Steel Flashing and Trim".
- L. Stainless Steel Flashing Sheet: Metal flashing sheet is specified in Division 7 Section 07620 - "Stainless Steel Flashing and Trim".
- M. Vent Stack Flashing: Metal flashing sheet is specified in Division 7 Section 07620 - "Stainless Steel Flashing and Trim".
- N. Miscellaneous Accessories: Provide miscellaneous accessories as recommended by roofing system manufacturer.
- O. Roof Curbs, Equipment Rails and Equipment Supports as recommended by roof-mounted Mechanical Equipment Manufacturers and as specified in Division 7 Section 07721 - "Prefabricated Roof Curbs" and Division 15 Mechanical.
- P. Roof Drains: Roof Drains and Drainage system as specified in Division 15 Mechanical.
- Q. Joint Sealant: Joint Sealant is specified in Division 7 Section 07920 - "Joint Sealants".
- R. Treated Wood Nailers and Blocking: Rough Carpentry is specified in Division 6 Section 06100 - "Miscellaneous Rough Carpentry"

2.07 TAPERED INSULATION

- A. Tapered Insulation: ASTM C 1289, Type II, Class 1, Grade 2 Provide Polyisocyanurate felt or glass-fiber mat facer on both major surfaces, factory-tapered insulation boards fabricated to slope of 1/4 inch per 12 inches, unless otherwise indicated.
1. Manufacturers:
 - a. Atlas Roofing Corporation.
 - b. RMAX
 - c. Hunter Panels LLC.
 - e. Or Approved Equal.

2. Products:

- a. For Tapered Boards: Tapered AC Foam
- b. Or by Approved manufacturers Equal.

- B. Nominal ½” minimum thickness tapered base layer for areas of roofing as required to provide counter slopes as needed to maintain positive roof slopes including but not limited to saddles and crickets.
- C. Insulation per code minimum compliance with current applicable code(s) including Illinois Energy Conservation Code / International Energy Conservation Code (IECC).

2.08 INSULATION ACCESSORIES

- A. General: Roof insulation accessories recommended by insulation Manufacturer for intended use and compatible with membrane roofing.
- B. Provide factory preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain and / or scupper as indicated. Fabricate to slopes indicated.
- C. Cold Fluid-Applied Insulation Adhesive: Manufacturer’s standard cold fluid-applied adhesive formulated to adhere roof insulation to substrate. Include insulation adhesive primer per Manufacturer’s recommendation.
1. Insul-Lock HR.
 2. Tremco FAS-n-FREE.
 3. Tremco Elite Insulation Adhesive.
 4. Or Approved Equal.
- D. Insulation Cant Strips: ASTM C 208, High Density, Class E, Type II, Grade 1, cellulosic wood fibers roof fiberboard and shall be compatible with the roof assembly. Installed as recommended by manufacturer.

2.09 COVER BOARD

- A. Adhered Insulation and Cover Board: Install each layer of insulation and cover board and adhere to substrate as follows:
- B. Horizontal Roof Cover Boards: Glass-Mat Faced Gypsum Roof Boards.
- C. Material Quality Standard: ASTM C 1177 / C 1177M
- D. Description: Glass-mat faced gypsum roof boards specifically manufactured for use beneath roofing systems. Non-combustible moisture-resistant gypsum core with glass-mat facings. Maximum water absorption of 5% and surface water absorption of 1 gram. Provide in maximum lengths and widths available that will minimize short-edge-to-short-edge butt joints and to correspond to support system indicated.
- E. Manufacturers: Georgia-Pacific Gypsum LLC; DensDeck Prime with EONIC™

Technology or USG Securock; as recommended by roofing system manufacturer.

- F. Thickness: Minimum 1/2 in (12.7 mm).

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with the following requirements and other conditions affecting performance of roofing system:
 - 1. Verify that roof openings and penetrations are in place and set and braced and that roof drains are securely clamped in place.
 - 2. Verify that wood cants, blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
 - 3. Proceed with installation only after unsatisfactory conditions have been corrected as directed by the Districts Resident Engineer.

3.02 PREPARATION

- A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system Manufacturer's written instructions. Remove sharp projections.
- B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof- drain plugs when no work is taking place or when rain is forecast.
- C. Prime surface of recovery board and on lightweight concrete substrates with primer as recommended by the roofing manufacturer. Allow primer to dry as recommended by the roofing manufacturer.

3.03 INSULATION INSTALLATION

- A. Comply with roofing system Manufacturer's written instructions for installing roof insulation and comply with approved shop drawings.
- B. Insulation Cant Strips: Install and secure preformed 45-degree insulation cant strips at junctures of roofing membrane system with vertical surfaces or angle changes greater than 45 degrees per Manufacturer's instruction.
- C. Install tapered insulation under area of roofing to conform to slopes indicated.
- D. Install boards with long joints in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch with like material.
 - 1. Cut and fit boards within 1/4 inch of nailers, projections, and penetrations.

- E. Install one or more layers of insulation under area of roofing to achieve required thickness. Where overall insulation thickness is 2 inches or greater, install 2 or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches in each direction.
- F. Trim surface of boards where necessary at roof drains so completed surface is flush and does not restrict flow of water.
- G. Install tapered edge strips at perimeter edges of roof that do not terminate at vertical surfaces.
- H. Fasten base layer of insulation with mechanical fasteners type as recommended by roofing manufacturer.
- I. Adhered Insulation and Cover Board: Install each layer of insulation and cover board and adhere to substrate as follows:
 1. Set each layer in a two-part cold fluid-applied adhesive.
 2. Fasten insulation according to requirements in FM Global's "Approval Guide" for specified Windstorm Resistance Classification.
 3. Fasten insulation to resist uplift pressure at corners, perimeter and field of roof.
 4. Install subsequent layers of insulation in a 2-part foam adhesive, staggering all joints.
 5. Apply adhesive to underside and immediately bond cover board to substrate following roofing and board manufacturer's recommendations.

3.04 ROOFING MEMBRANE INSTALLATION, GENERAL

- A. Install modified bitumen membranes and flashings in accordance with the system manufacturer's written instructions and applicable recommendations provided by the National Roofing Contractors Association's Roofing and Waterproofing Manual, and the Asphalt Roofing Manufacturer's association and applicable codes.
- B. All Work to comply with approved shop drawings.
- C. Start installation of roofing membrane in presence of roofing system Manufacturer's technical personnel and the Districts Resident Engineer.
- D. Start installation of roofing membrane in presence of roofing system manufacturer's technical personnel and the Districts Resident Engineer.
- E. Where roof slope exceeds 1/2 inch per 12 inches (1:24), install roofing membrane sheets parallel with slope.
- F. Cooperate with testing and inspecting agencies engaged or required to perform services for installing roofing system as directed by the Districts Resident Engineer or roofing manufacturer.
- G. Coordinate installing roofing system so insulation and other components of the roofing membrane system not permanently exposed are not subjected to precipitation or left

uncovered at the end of the workday or when rain is forecast.

1. Provide tie-offs at end of each day's work to cover exposed roofing membrane sheets and insulation with a course of coated felt set in roofing cement or hot roofing asphalt with joints and edges sealed.
2. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system.
3. Remove and discard temporary seals before beginning work on adjoining roofing.

H. Adhesive Application: Apply SBS-modified roofing adhesive according to roofing system manufacturer's written instructions.

3.05 INSTALLATION COLD APPLIED ROOF SYSTEM

- A. 2-Ply Modified Base Ply: Cut base ply sheets into 18 foot lengths and allow plies to relax before installing. Install base sheet in Interply Adhesive: applied at the rate required by the manufacturer. Shingle base sheets uniformly to achieve two plies throughout over the prepared substrate. Shingle in proper direction to shed water on each large area of roofing.
1. Lap ply sheet ends 8 inches. Stagger end laps 12 inches minimum.
 2. Solidly bond to the substrate and adjacent ply with specified cold adhesive at the rate of 2 to 2-1/2 gallons per 100 square feet.
 3. Roll must push a puddle of adhesive in front of it with adhesive slightly visible at all side laps. Use care to eliminate air entrapment under the membrane.
 4. Install subsequent rolls of modified across the roof as above with a minimum of 19.5-inch side laps to achieve two plies throughout and 8 inch staggered end laps. Lay modified membrane in the same direction as the underlayers but the laps shall not coincide with the laps of the base layers.
 5. Extend plies 2 inches beyond top edges of cants at wall and projection bases.
 6. Install base flashing ply to all perimeter and projection details.
 7. Allow the base sheet to cure at least 30 minutes before installing the modified membrane. However, the modified membrane must be installed the same day as the base plies.
- B. Modify Cap Ply(s): Cut cap ply sheets into 18 foot lengths and allow plies to relax before installing. Install in interply adhesive applied at the rate required by the manufacturer. Shingle sheets uniformly over the prepared substrate to achieve the number of ply's specified. Shingle in proper direction to shed water on each large area of roofing.
1. Lap ply sheet ends 8 inches. Stagger end laps 12 inches minimum.
 2. Solidly bond to the base layers with specified cold adhesive at the rate of 2 to 2-1/2 gallons per 100 square feet.
 3. Roll must push a puddle of adhesive in front of it with adhesive slightly visible at all side laps. Care should be taken to eliminate air entrapment under the membrane.
 4. Install subsequent rolls of modified across the roof as above with a minimum of 4 inch side laps and 8 inch staggered end laps. Lay modified membrane in the same direction as the underlayers but the laps shall not coincide with the laps of the base layers.
 5. Allow cold adhesive to set for 5 to 10 minutes before installing the top layer of modified membrane.

6. Extend membrane 2 inches beyond top edge of all cants in full mopping's of the cold adhesive as shown on the Drawings.
 7. Use hot air welder to ensure full adhesion of edge and lap seams with minimal bleed out. If hot air welder is not used, an adequate and consistent bleed out is required. Immediately broadcast roofing mineral into wet bleed out.
- C. Fibrous Cant Strips: Provide non-combustible perlite or glass fiber cant strips at all wall/curb detail treatments where angle changes are greater than 45 degrees. Cant may be set in approved cold adhesives, hot asphalt or mechanically attached with approved plates and fasteners.
- D. Wood Blocking, Nailers and Cant Strips: Provide wood blocking, nailers and cant strips as specified in Section 06100 Miscellaneous Rough Carpentry.
1. Provide nailers at all roof perimeters and penetrations for fastening membrane flashings and sheet metal components.
 2. Wood nailers should match the height of any insulation, providing a smooth and even transition between flashing and insulation areas.
 3. Nailer lengths should be spaced with a minimum 1/8 inch gap for expansion and contraction between each length or change of direction.
 4. Nailers and flashings should be fastened in accordance with Factory Mutual "Loss Prevention Data Sheet 1- 49, Perimeter Flashing" and be designed to be capable of resisting a minimum force of 200 lbs./lineal foot in any direction.
- E. Metal Work: Provide metal flashings, counter flashings, parapet coping caps and thru-wall flashings as specified in Section 07620 Stainless Steel Flashing and Trim. Install in accordance with the SMACNA "Architectural Sheet Metal Manual" or the NRCA Roofing Waterproofing manual.
- F. Flashing Base Ply: Install flashing sheets by the same application method used for the base ply.
1. Seal curb, wall and parapet flashings with an application of mastic and mesh on a daily basis. Do not permit conditions to exist that will allow moisture to enter behind, around or under the roof or flashing membrane.
 2. Prepare all walls, penetrations, expansion joints and where shown on the Drawings to be flashed with required primer at the rate of 100 square feet per gallon. Allow primer to dry tack free.
 3. Adhere to the underlying base ply with specified flashing ply adhesive unless otherwise specified. Nail off at a minimum of 8 inches (203 mm) o.c. from the finished roof at all vertical surfaces.
 4. Solidly adhere the entire flashing ply to the substrate. Secure the tops of all flashings that are not run up and over curb through termination bar fastened at 6 inches (152 mm) O.C. and sealed at top.
 5. Seal all vertical laps of flashing ply with a three-course application of trowel-grade mastic and fiberglass mesh.
 6. Coordinate counter flashing, cap flashings, expansion joints and similar work with modified bitumen roofing work as specified.
 7. Coordinate roof accessories, miscellaneous sheet metal accessory items, including

8. piping vents and other devices with the roofing system work.
8. Secure the top edge of the flashing sheet using a termination bar only when the wall surface above is waterproofed or nailed 4 inches on center and covered with an acceptable counter flashing.

G. Flashing Cap Ply:

1. Seal curb, wall and parapet flashings with an application of mastic and mesh on a daily basis. Do not permit conditions to exist that will allow moisture to enter behind, around or under the roof or flashing membrane.
2. Prepare all walls, penetrations, expansion joints and where shown on the Drawings to be flashed with required primer at the rate of 100 square feet per gallon. Allow primer to dry tack free.
3. Adhere to the underlying base flashing ply with specified flashing ply adhesive unless otherwise specified. Nail off at a minimum of 8 inches (203 mm) o.c. from the finished roof at all vertical surfaces.
4. Coordinate counter flashing, cap flashings, expansion joints and similar work with modified bitumen roofing work as specified.
5. Coordinate roof accessories, miscellaneous sheet metal accessory items with the roofing system work.
6. All stripping shall be installed prior to flashing cap sheet installation.
7. Secure the top edge of the flashing sheet using a termination bar only when the wall surface above is waterproofed or nailed 4 inches on center and covered with an acceptable counter flashing.

H. Roof Walkways: Provide walkways in areas indicated on the Drawings.

3.06 FIELD QUALITY CONTROL

- A. Install all roofing system components according to approved shop drawings and manufacturers' written instructions. As Work progresses, follow field directions of manufacturers providing warranties and as directed by the District's Resident Engineer.
- B. When the project is in progress, the Roofing System Manufacturer will provide the following:
 1. Keep the District Resident Engineer informed as to the progress and quality of the work as observed.
 2. Provide daily job site inspections by a full-time employee of the manufacturer.
 3. Report to the Districts Resident Engineer in writing, any failure or refusal of the contractor to correct unacceptable practices called to the Contractor's attention.
 4. Confirm, after completion of the project and based on manufacturer's observations and tests, that manufacturer has observed no applications procedures in conflict with the specifications other than those that may have been previously reported and corrected.
- C. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation upon completion and submit signed final roof inspection report to the Districts Resident Engineer.

1. Notify the Districts Resident Engineer minimum 48 hours in advance of date and time of final roof inspection.
- D. Repair or remove and replace components of roofing system where test results or inspections indicate that they do not comply with specified requirements.
 - E. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
- 3.07 PROTECTING AND CLEANING
- A. Protect roofing system from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to the Districts Resident Engineer.
 - B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

END OF SECTION

SECTION 09615

PROTECTIVE COATINGS SCHEDULE

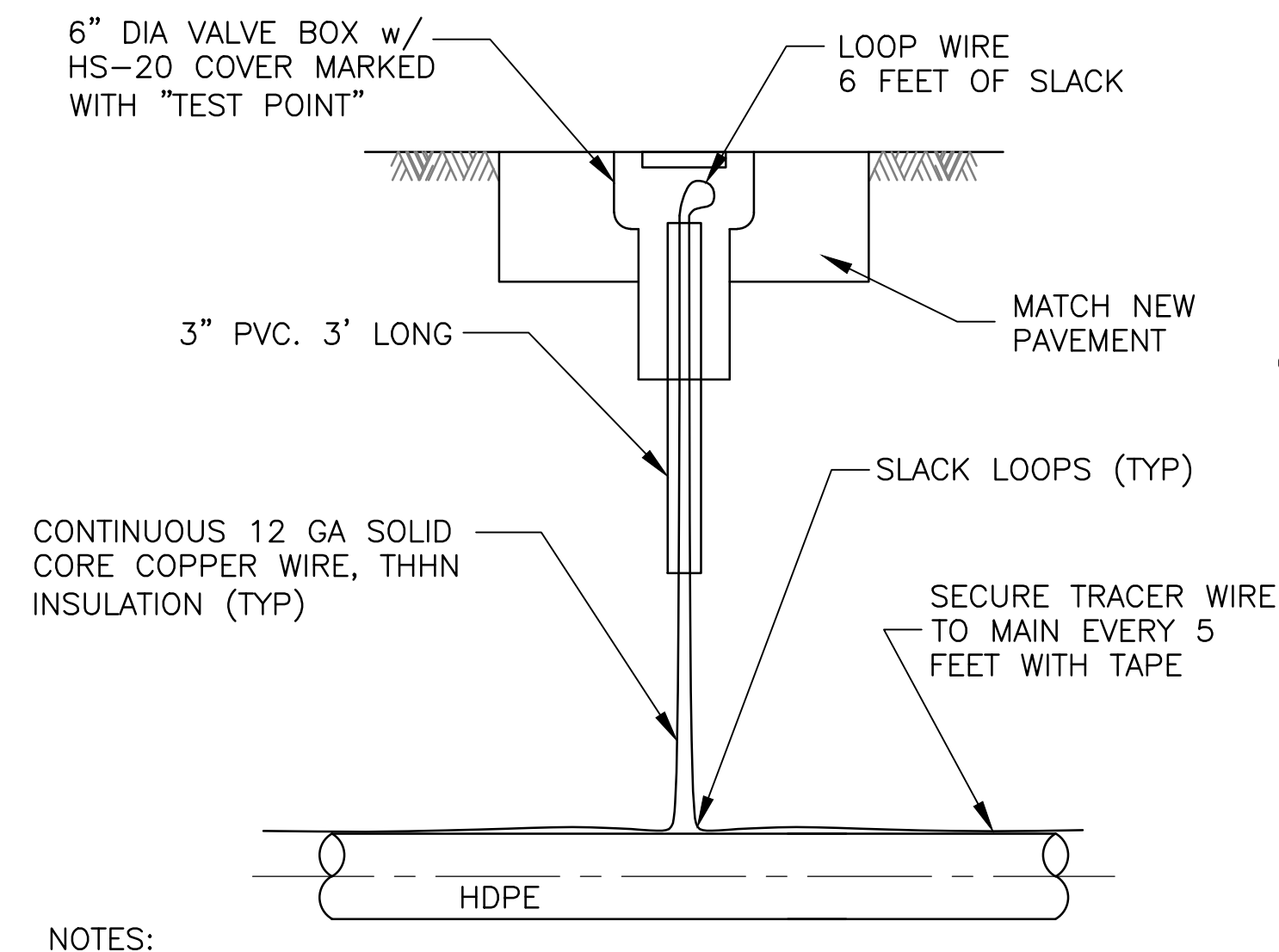
Protective Coatings Schedule							
Substrate Type	New-N Existing-E Overcoat-OC	Component/Part/Structure Description	Spec Section	Environment (Immersion/Atmospheric /Secondary Containment) Interior/Exterior	Surface Preparation	Color	MWRD Coating System #
Ductile Iron	N	WAS Pipe	15072	Interior Exposed - Normal Conditions	NAPF 500-03-04	Note 1	SAS4, Note 2
Ductile Iron	N	WAS Pipe	15072	Exterior Exposed- Normal Conditions	NAPF 500-03-04	Note 1	SAS5, Note 2
Steel	N	RAS Pipe	15061	Interior Exposed	NAPF 500-03-04	Note 1	SAS4, Note 2
Ductile Iron	N	Fermenter RAS Pipe	15072	Interior Exposed- Normal Conditions	NAPF 500-03-04	Note 1	SAS4, Note 2
Ductile Iron	N	Mixed Liquor Pipe	15072	Immersed/Sewage Contact	NAPF 500-03-04	Note 1	SIS2, Note 2
Ductile Iron	N	Mixed Liquor Pipe	15072	Interior Exposed	NAPF 500-03-04	Note 1	SAS4, Note 2
Ductile Iron	N	Plant Drain Pipe	15072	Interior Exposed	NAPF 500-03-04	Note 1	SAS4, Note 2
Ductile Iron	N	Sanitary Drain Pipe	15072	Interior Exposed	NAPF 500-03-04	Note 1	SAS4, Note 2
Cast Iron	N	Sanitary Drain & Vent Pipe	15410	Interior Exposed	NAPF 500-03-04	Note 1	SAS4, Note 2
Galvanized Steel	N	Sanitary Drain & Vent Pipe	15370	Interior Exposed	SSPC-SP16	Note 1	SAS4, Note 2
Galvanized Steel	N	Water Non-Potable Pipe	15370	Interior Exposed	SSPC-SP16	Note 1	SAS4, Note 2
Galvanized Steel	N	Water Potable Pipe	15370	Interior Exposed	SSPC-SP16	Note 1	SAS4, Note 2
Steel	N	Process Air Pipe (LPA)	15061	Interior Exposed- High Temperature	SSPC-SP10/NACE2	Note 1	SIS4, Note 2
Galvanized Steel	N	Effluent Water Sample Pipe	15370	Interior Exposed	SSPC-SP16	Note 1	SAS4, Note 2
Steel	N	Influent Conduit	15061	Interior Exposed	SSPC-SP6/NACE3	Note 1	SAS4, Note 2
Ductile Iron	N	Mixed Liquor Sample Pipe	15072	Interior Exposed	NAPF 500-03-04	Note 1	SAS4, Note 2
Ductile Iron	N	Fire Hydrants	15072	Exterior	NAPF 500-03-04	Note 1	SAS5, Note 2
Steel	N	Gas Pipe	15195	Interior Exposed	SSPC-SP6/NACE3	Note 1	SAS4, Note 2
Steel	N	FST Mechanism (Rake Arms)	11341	Immersion	SSPC-SP10/NACE2	Note 1	SIS2
Steel	N	FST Mechanism (Feedwell)	11341	Immersion	SSPC-SP10/NACE2	Note 1	SIS2

Steel	N	FST Mechanism (Feedwell Supports)	11341	Immersion	SSPC- SP10/NACE2	Note 1	SIS2
Steel	N	FST Mechanism (Skimming Devices)	11341	Immersion	SSPC- SP10/NACE2	Note 1	SIS2
Steel	N	FST Mechanism (Walkway Supports)	11341	Exterior	SSPC- SP10/NACE2	Note 1	SAS13
Steel	N	Structural Steel	05120	Interior	SSPC- SP6/NACE3	Note 1	SAS7, Note 2
Galvanized Steel	N	Structural Steel	05120	Exterior Exposed	SSPC- SP6/NACE3	Note 1	SAS9, Note 2

Note 1: Color can be found in 09600 Table 1 – Color Coding Schedule

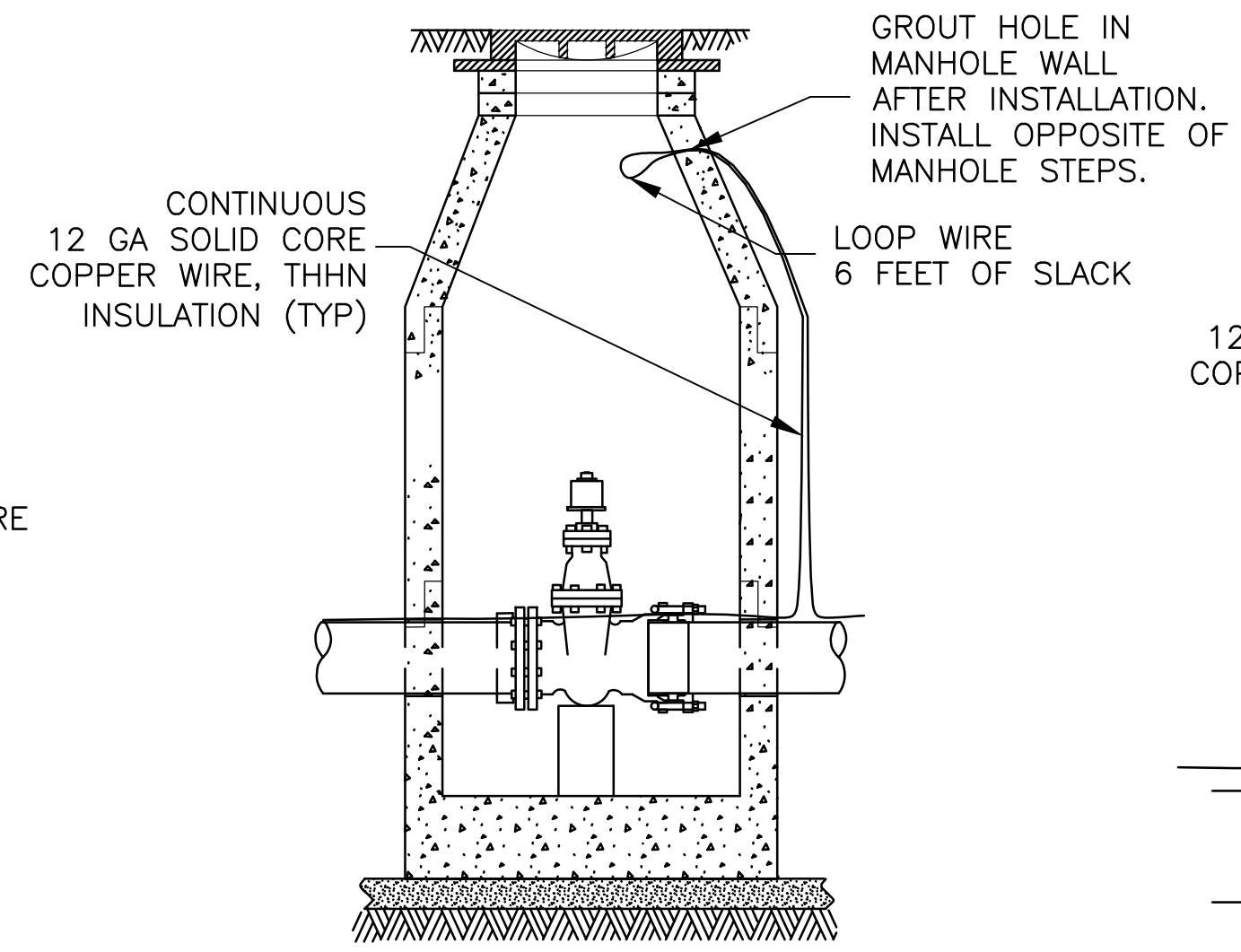
Note 2: Final topcoat for all ferrous metal piping to be coated shall be performed in an approved QP3 shop. Final field installation of piping shall have top coatings touched up in the field as required by the Engineer and Section 09600.

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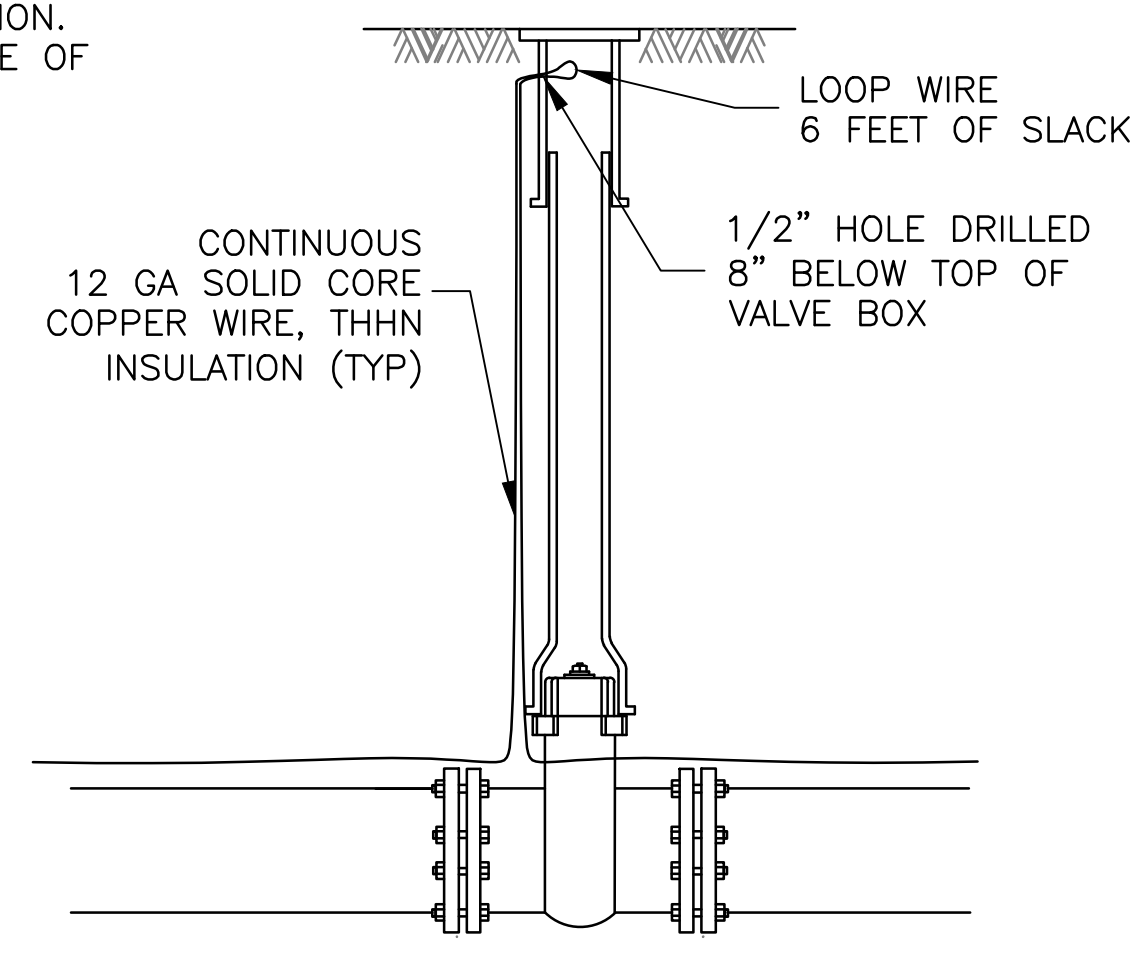


- NOTES:**
1. LOCATE TEST BOX OVER CENTERLINE OF FORCEMAIN.
 2. PROVIDE TEST BOX AT 500' INTERVALS AND AT BENDS.
 3. PROVIDE 12" WIRE LOOP INSIDE VALVE BOX, TYP.
 4. INLINE CONNECTORS ON WIRE ARE NOT ALLOWED.

1 TRACER WIRE ACCESS TEST BOX
NTS



2 TRACER WIRE VALVE VAULT ACCESS
NTS



3 TRACER WIRE VALVE BOX ACCESS
NTS

NOTES:

WATER LINES

1. THE TRENCH DETAIL SHOWN ON THIS SHEET IS INTENDED FOR FLEXIBLE PIPES (INCLUDING HDPE, DUCTILE IRON, AND STEEL) FOR POTABLE AND NON-POTABLE WATER. THE SAME DETAIL SHALL BE UTILIZED FOR INSTALLATION OF RIGID PIPES UNLESS NOTED OTHERWISE AND/OR DIFFERENT DETAILS ARE INCLUDED IN THE PLANS.
2. THE TRENCH SHALL NOT BE WIDER THAN AS PER DETAIL 1. THE CENTERLINE OF THE TRENCH AND OF THE PIPE SHALL COINCIDE.
3. ALL BACKFILL SHALL BE PLACED IN LAYERS AND COMPACTED AS PER THE SPECIFICATIONS.
4. WHEN UNSUITABLE BEARING MATERIAL IS ENCOUNTERED AT A DEPTH BELOW THE BOTTOM OF THE TRENCH, IT SHALL BE REMOVED AND REPLACED WITH CRUSHED STONE BEDDING IDOT GRADE CA-7 IN 6-INCH LAYERS AND COMPACTED, AS ORDERED BY THE ENGINEER. CA-7 SHALL BE COMPACTED TO 70% OF RELATIVE DENSITY IN ACCORDANCE WITH ASTM D4253 AND ASTM D4254. PROVIDE A NON-WOVEN GEOTEXTILE (MIRAFI 180N OR APPROVED EQUAL) TO SEPARATE CA-7 STONE FROM THE PIPE BEDDING (CA-13).
5. ALL WATER LINES SHALL BE INSTALLED A MINIMUM OF 5- FEET CLEAR BELOW GRADE/PAVEMENT SURFACE UNLESS NOTED OTHERWISE.
6. WHERE DUCTILE IRON PIPES ARE SPECIFIED FOR THE WORK, THE ENTIRE LENGTH OF ALL SUCH PIPES, FITTINGS, AND COUPLINGS BURIED UNDERGROUND SHALL BE WRAPPED WITH LINEAR LOW DENSITY, 8 MIL, POLYWRAP, IN ACCORDANCE WITH ANS/AWWA C105/A21.5.
7. FOR DIP, FITTINGS SHALL BE DIP MECHANICAL JOINTS OR DIP FLANGED JOINTS, AS PER SPECIFICATIONS SECTION 02511.
8. ALL POTABLE WATER LINES SHALL BE DISINFECTED IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS.
9. ALL BURIED UTILITY (W, WNP) LINES AS SHOWN ON C-DRAWINGS SHALL BE AS PER THE C-DRAWINGS AND DIVISION 2 SECTIONS OF CONTRACT SPECIFICATIONS. WHERE THE UNDERGROUND UTILITY WORK SHOWN ON CIVIL DRAWINGS AND SPECIFIED IN DIVISION 2 SPECIFICATIONS SECTIONS INTERPHASES WITH WORK FOR OTHER UTILITIES AND/OR STRUCTURES CALLED OUT ELSEWHERE IN THE CONTRACT DOCUMENTS, THE MORE STRINGENT OF THE SEVERAL INSTALLATION REQUIREMENTS SHALL GOVERN.

SEWER LINES

10. THE TRENCH DETAIL ON THIS SHEET SHALL APPLY FOR FLEXIBLE SEWER PIPES AS WELL, UNLESS NOTED OTHERWISE AND/OR DIFFERENT DETAILS ARE INCLUDED IN THE PLANS FOR THE SAME.
11. ALL SEWER LINES SHALL BE INSTALLED A MINIMUM OF 5 FEET CLEAR BELOW GRADE/PAVEMENT SURFACE UNLESS NOTED OTHERWISE.
12. WHERE DUCTILE IRON PIPE IS REQUIRED TO BE USED FOR SEWER LINES, ALL SUCH PIPE FOR THE SEWER LINES SHALL MEET THE SAME REQUIREMENTS AS ON THIS SHEET FOR WATER LINES AND IN SPECIFICATIONS SECTION 02511, EXCEPT FOR PRESSURE TESTING AND DISINFECTION. PRESSURE TESTING OF DIP SEWER LINES WILL BE REQUIRED ONLY WHERE THE SEPARATION REQUIREMENTS FOR WATER AND SEWER LINES ARE NOT MET, ONLY AS SPECIFICALLY ALLOWED UNDER THE CONTRACT.

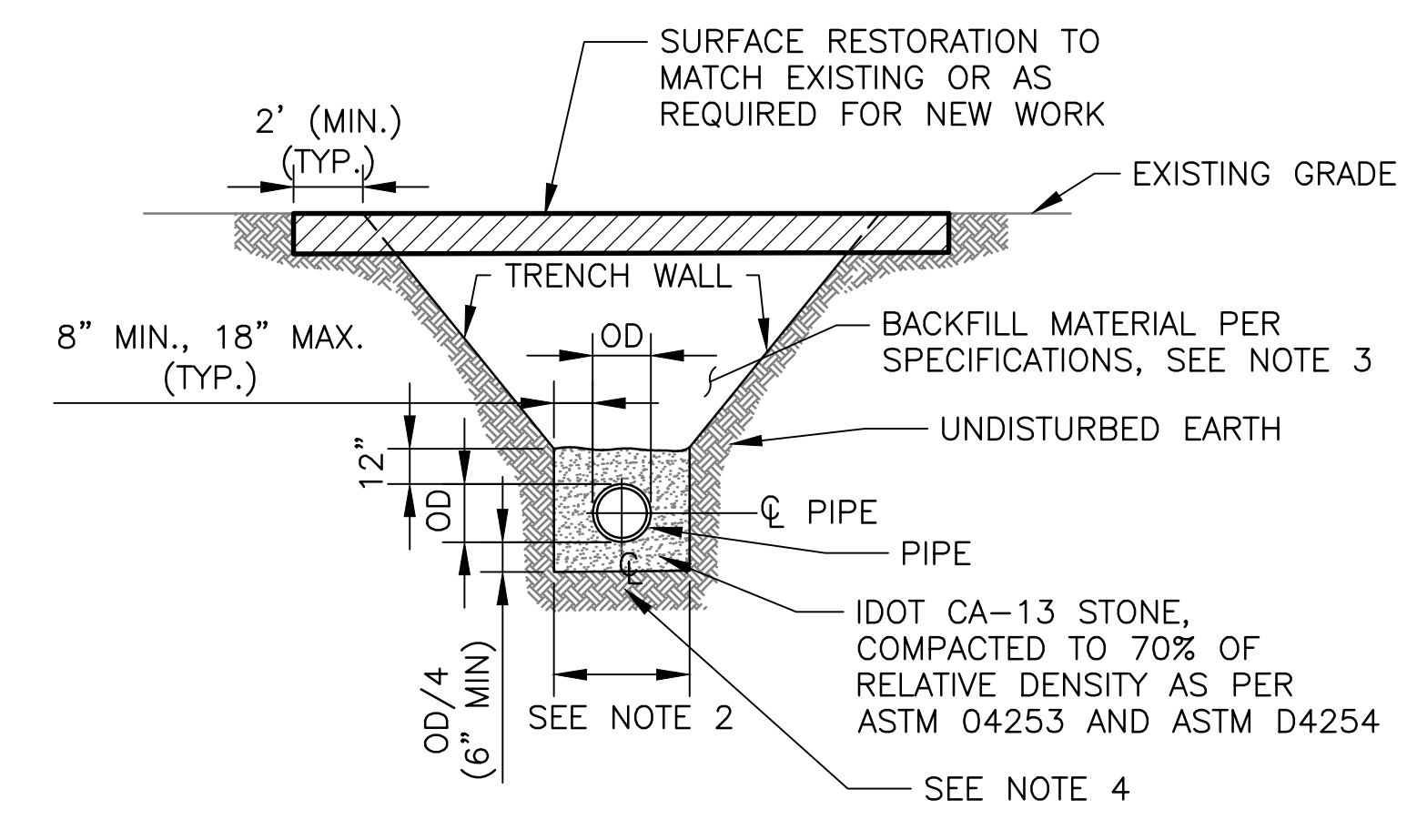
SEPARATION REQUIREMENTS FOR WATER AND SEWER LINES

13. POTABLE WATER LINES SHALL BE INSTALLED MAINTAINING A MINIMUM HORIZONTAL CLEAR DISTANCE OF 10 FEET, OR A MINIMUM OF VERTICAL CLEAR DISTANCE OF 18 INCHES, TO NON-POTABLE WATER LINES AND TO SEWER LINES, WITH THE WATER LINE BEING ABOVE THE OTHER LINES.
14. NON-POTABLE WATER LINES SHALL BE INSTALLED MAINTAINING A MINIMUM HORIZONTAL CLEAR DISTANCE OF 10 FEET, OR A MINIMUM OF VERTICAL CLEAR DISTANCE OF 18 INCHES TO SEWER LINES, WITH THE NON-POTABLE WATER LINE BEING ABOVE THE SEWER LINE.
15. ANY INSTALLATION THAT DOES NOT MEET THE SEPARATION REQUIREMENTS AS ABOVE SHALL BE BROUGHT TO THE ATTENTION OF THE RESIDENT ENGINEER FOR CLARIFICATION AND FURTHER DIRECTION.
16. WHERE A POTABLE WATER LINE CROSSES A NON-POTABLE WATER LINE OR SEWER LINE, OR A NON-POTABLE WATER LINE CROSSES A SEWER LINE, WITHOUT MEETING THE ABOVE VERTICAL SEPARATION REQUIREMENTS, THE POTABLE WATER LINE OR NON-POTABLE WATER LINE AT THE CROSSING SHALL BE ENCASED WITH A HDPE CASING MEETING WATER-MAIN MATERIAL QUALITY, FOR A PERPENDICULAR DISTANCE OF 10 FEET ON BOTH SIDES OF SUCH A CROSSING, AS APPROVED, AS PER THE ENCASEMENT DETAIL ON THIS SHEET. THE CASING SHALL HAVE A MINIMUM INSIDE DIAMETER OF 4 INCHES LARGER THAN THE OUTSIDE DIAMETER OF THE LINE INCLUDING ALL JOINTS AND DETAILS OF THE UTILITY PIPE BEING ENCASED.

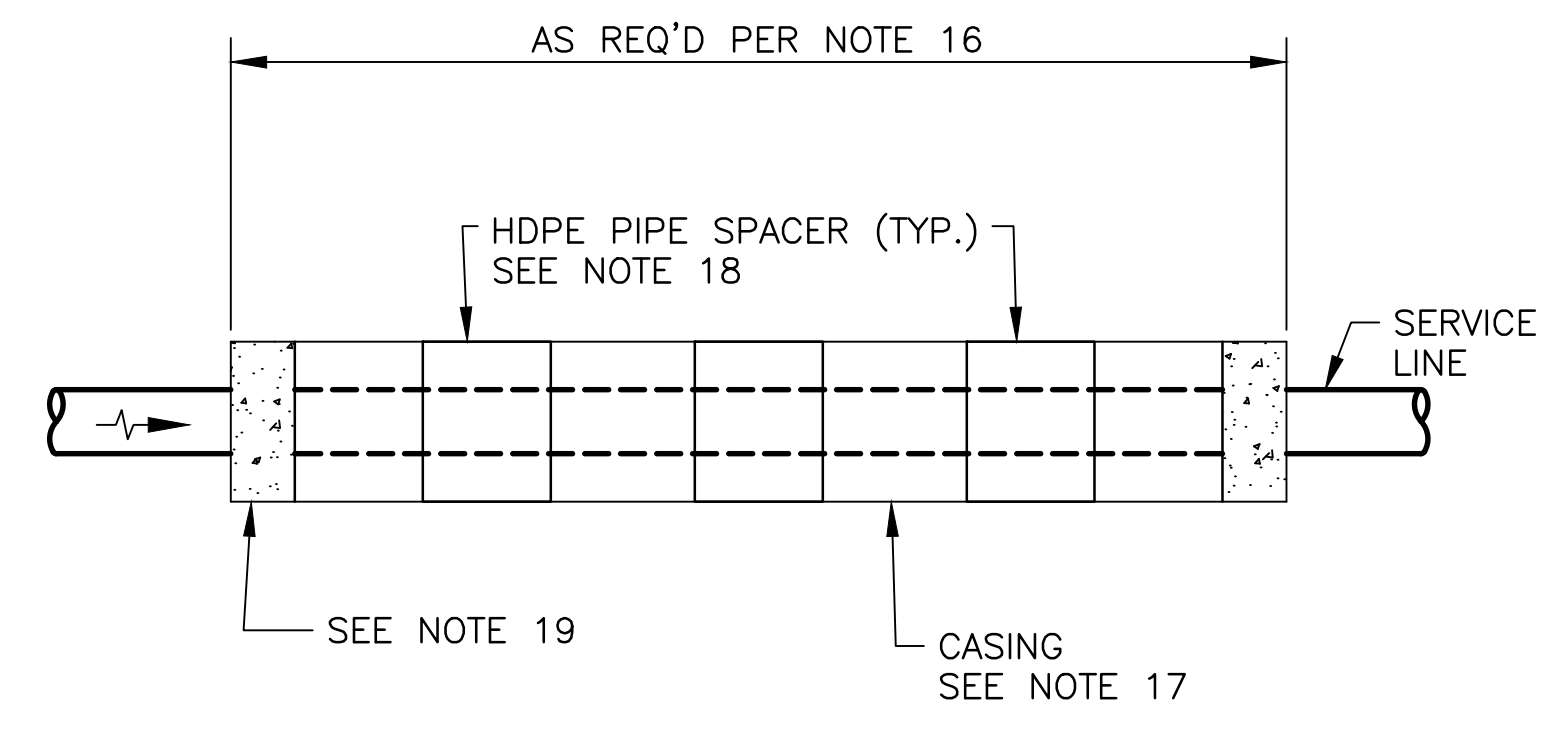
17. THE HDPE PIPE CASING AND FITTINGS SHALL BE MADE FROM VIRGIN RESINS EXHIBITING A CELL CLASSIFICATION OF PE 345434C AS DEFINED IN ASTM D3350 WITH AN ESTABLISHED HYDROSTATIC-DESIGN-BASIS OF 1600 PSI FOR WATER AT 73°F. THE RESIN SHALL BE LISTED BY THE PPI (PLASTIC PIPE INSTITUTE) IN ITS PIPE-GRADE REGISTRY TECHNICAL REPORT #4 (TR-4), "LISTINGS OF PLASTIC PIPE COMPOUNDS". CASING SHALL BE SUITABLE FOR USE AS A POTABLE WATER PRESSURE CONDUIT AND SHALL BE IN DUCTILE IRON PIPE SIZES (DIPS). THE WALL THICKNESS SHALL FOLLOW THE DIMENSION RATIO (DR) SYSTEM PRESCRIBED IN AWWA C901 & AWWA C906. THE MINIMUM WALL THICKNESS OF THE HDPE CASING SHALL BE DR 7.3 (SDR 7.3), AND MINIMUM PRESSURE RATING OF THE CASING SHALL BE 250 PSI.
18. WHERE CASING IS UTILIZED AS REQUIRED ABOVE, THE UTILITY PIPE SHALL BE CENTERED IN THE CASING. CASING SPACERS SHALL BE SPACED APPROXIMATELY EVERY 6 TO 8 FEET APART ALONG THE LENGTH OF THE CASING. IN ADDITION, CASING SPACERS SHALL BE SPACED A MAXIMUM OF ONE FOOT AWAY FROM THE ENDS OF THE CASING AND A MINIMUM OF ONE FOOT AWAY FROM ANY CASING JOINT. WIDTH OF EACH SPACER SHALL EQUAL THE DIAMETER OF THE CASING.
19. THE ENDS OF THE CASING SHALL BE SEALED WITH 6 INCHES OF FLOWABLE, NON-SHRINK WATER-TIGHT GROUT. SUBMIT PRODUCT FOR APPROVAL.

HDPE PIPE CONNECTIONS

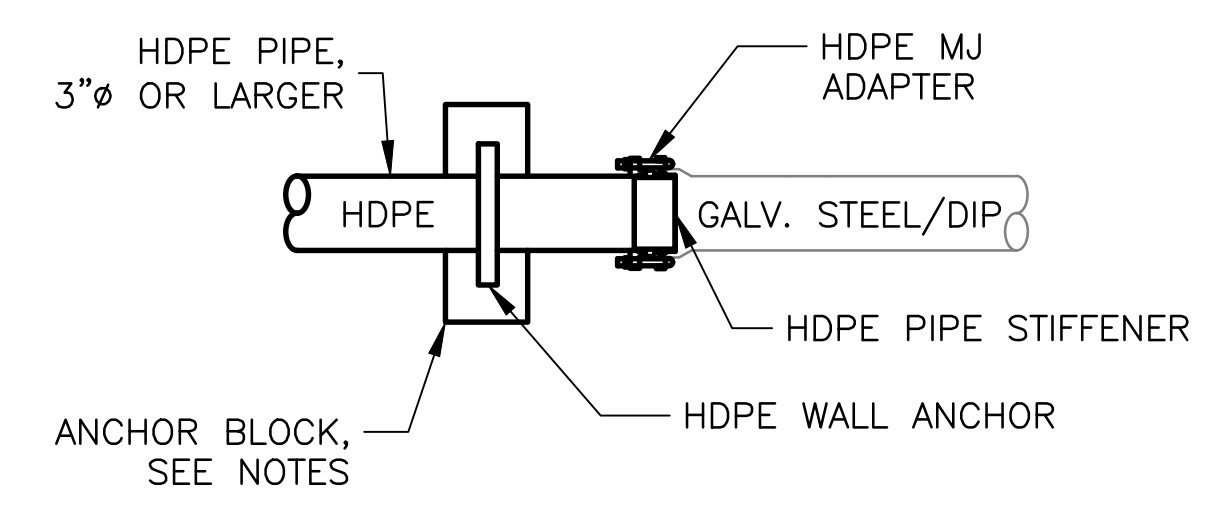
20. SEE DETAILS 3 THROUGH 5 FOR CONNECTION OF EACH END OF A NEW INSTALLATION OF HDPE PIPE UNDER THIS CONTRACT, TO PIPES OF OTHER MATERIALS INCLUDING GALVANIZED STEEL PIPE AND DUCTILE IRON PIPE (DIP), OR TO EXISTING HDPE PIPE.
21. A REINFORCED CONCRETE ANCHOR BLOCK SHALL BE PROVIDED AT EACH END OF A NEW INSTALLATION OF HDPE PIPE. THE CONTRACTOR SHALL SIZE THE CONCRETE ANCHOR BLOCK, AS PER THE RECOMMENDATIONS FROM THE HDPE PIPE MANUFACTURER.



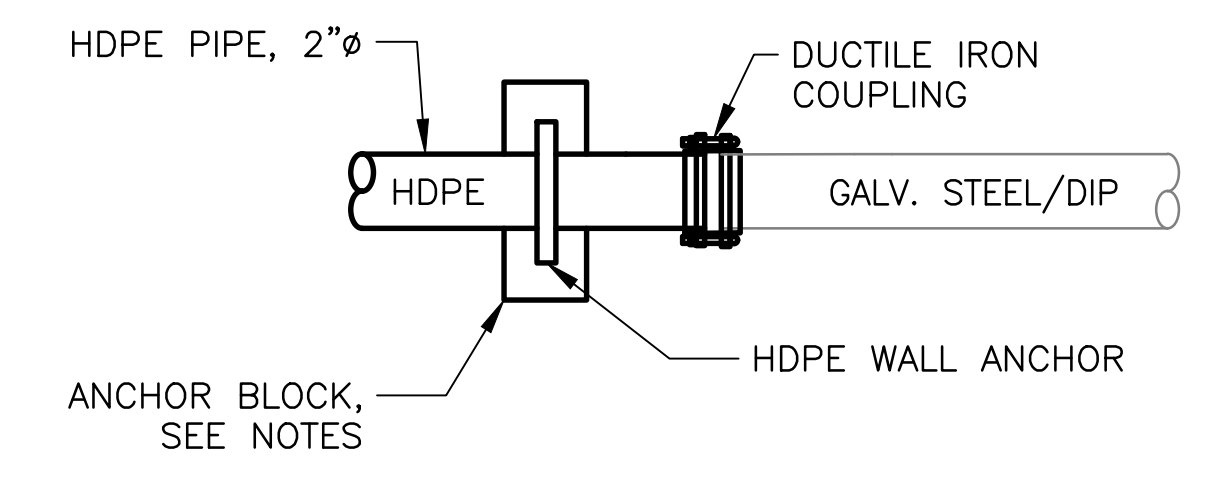
6 UTILITY PIPE TRENCH DETAIL - FOR FLEXIBLE PIPES
SCALE: NTS



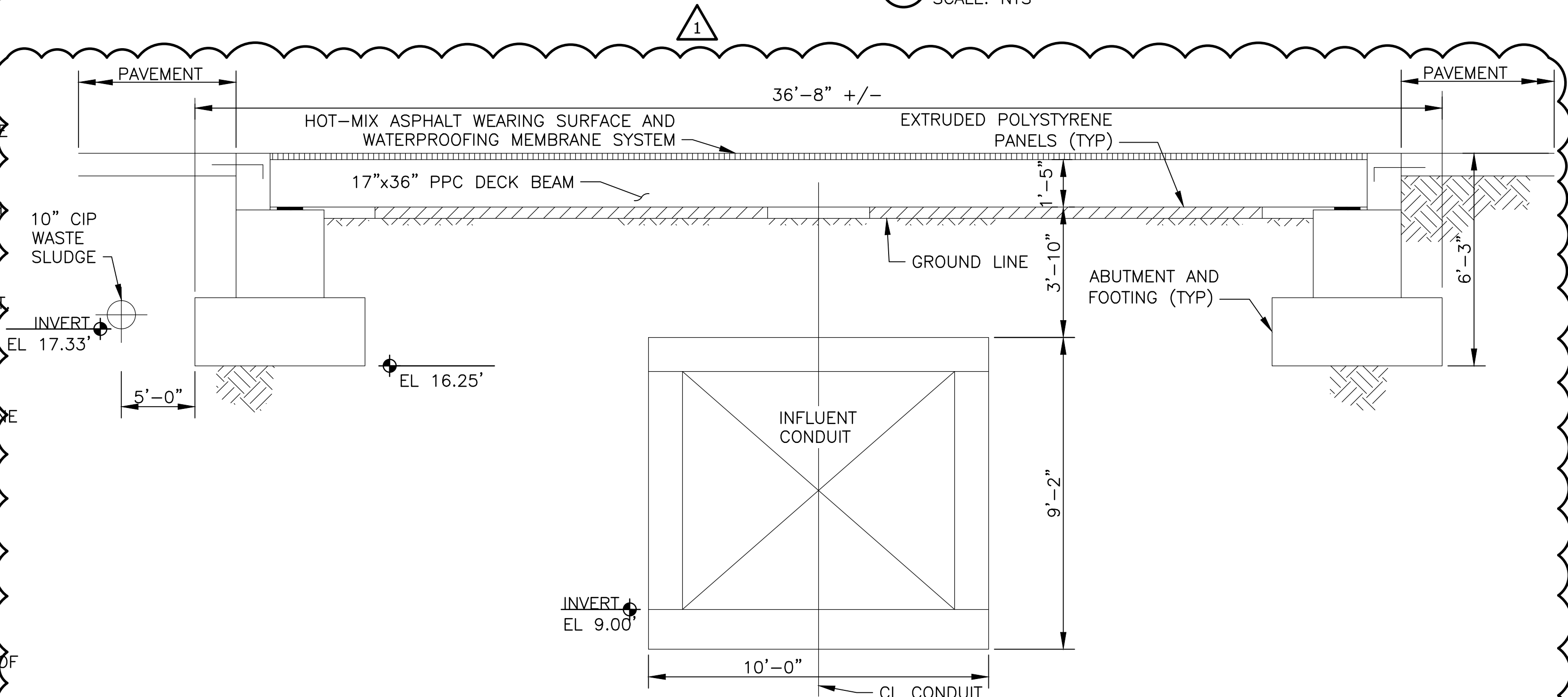
7 CASING OVER WATER LINE
SCALE: NTS



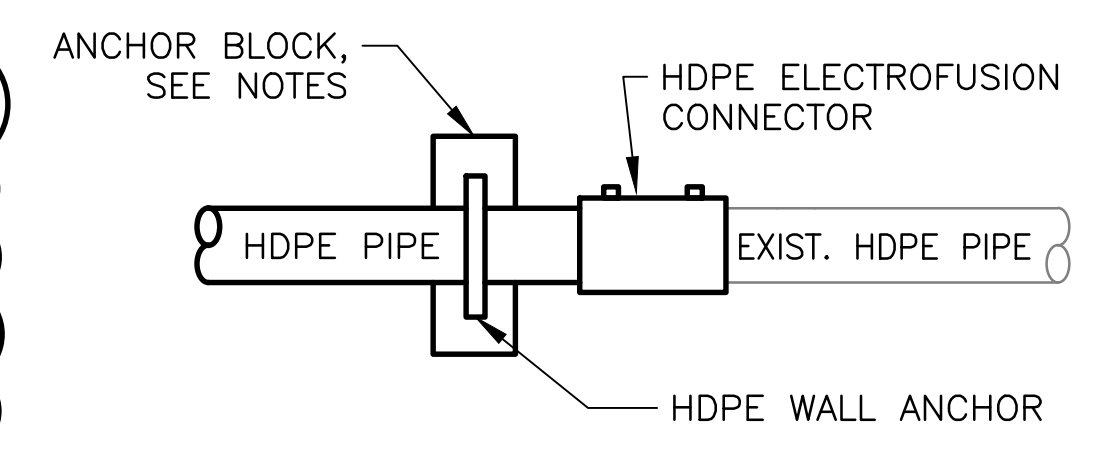
8 HDPE CONNECTION DETAIL - 3" & LARGER PIPE
SCALE: NTS



9 HDPE CONNECTION DETAIL - 2" PIPE
SCALE: NTS



11 EXIST PRECAST BRIDGE OVER BATT D INFLUENT CONDUIT
SCALE: NTS



10 HDPE TO EXIST. HDPE CONNECTION DETAIL
SCALE: NTS

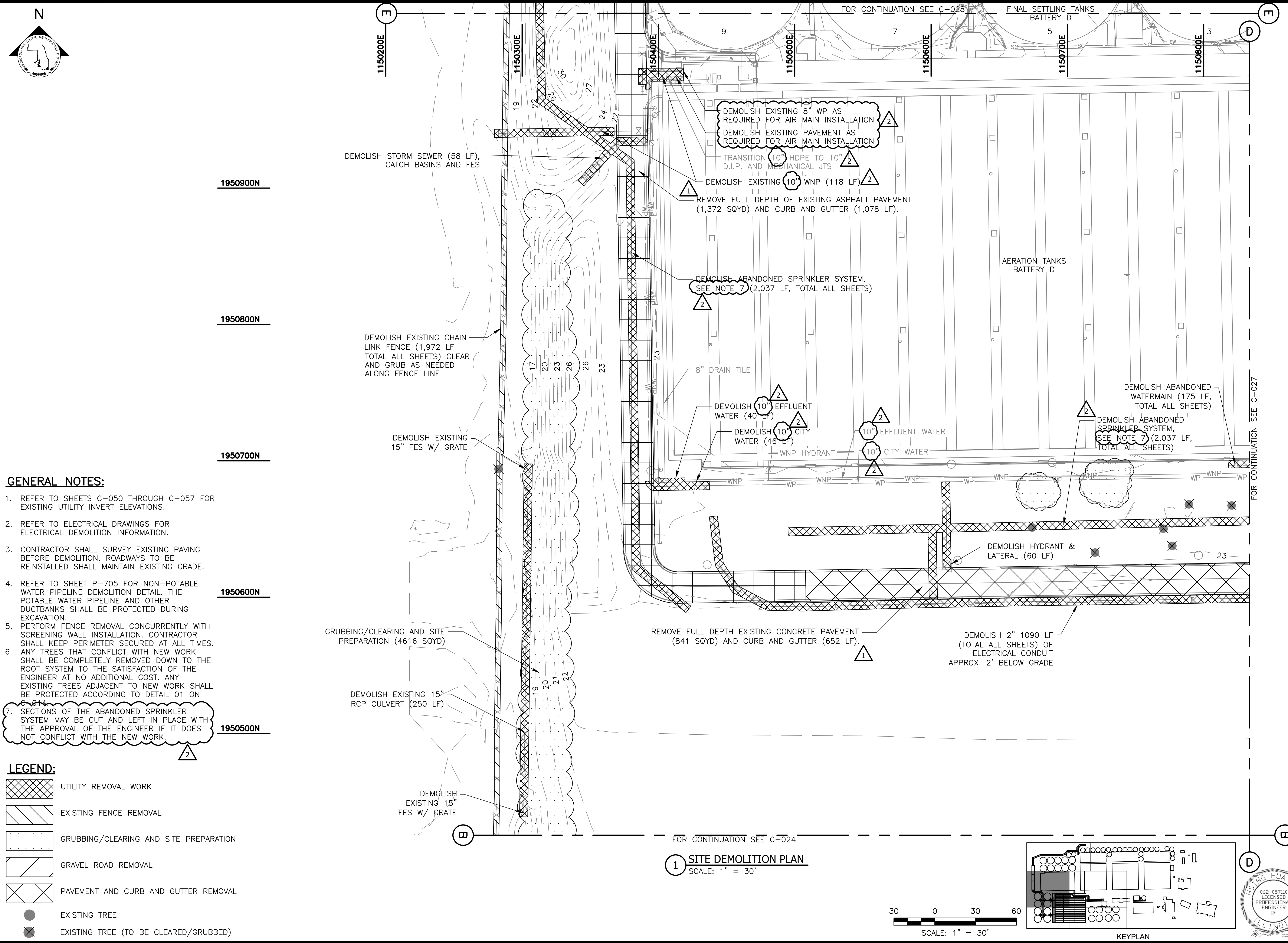
Rev.	Description	Appr.	Date
1	ADDENDUM NO. 7	HC	12/17/25

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO
AECOM
 PRUDENTIAL PLAZA ONE
 130 E RANDOLPH STREET
 SUITE 2400
 CHICAGO, IL 60601, USA
 Checked by: BP
 Reviewed by: BP
 Drawn by: LK
 Date: JULY 2025
 Scale: AS SHOWN

CONTRACT 22-RFP-06
OBRIEN WATER RECLAMATION PLANT
 NEW ACTIVATED SLUDGE BATTERY
STANDARD DETAILS - 9

Sheet Number:
C-020
 Page Number: 36





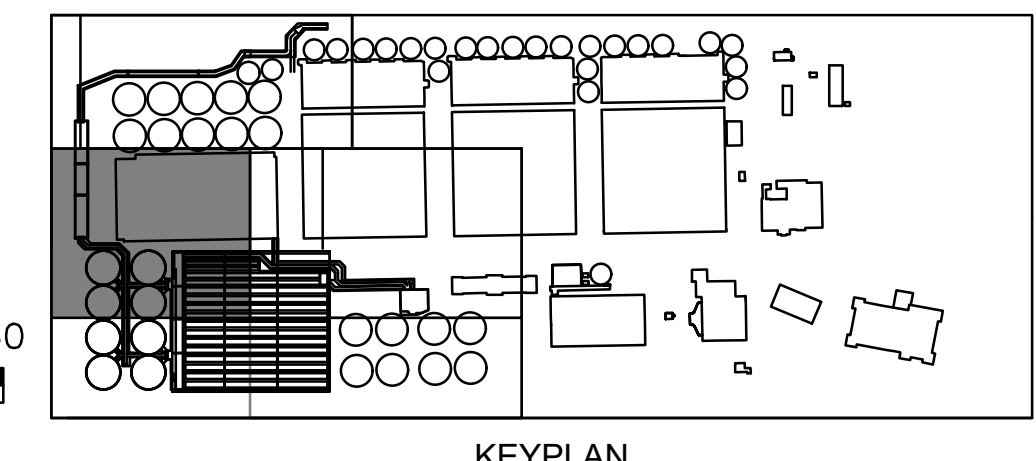
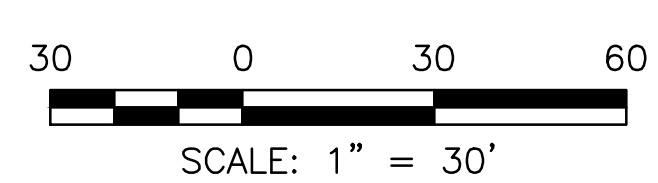
GENERAL NOTES:

- REFER TO SHEETS C-050 THROUGH C-057 FOR EXISTING UTILITY INVERT ELEVATIONS.
- REFER TO ELECTRICAL DRAWINGS FOR ELECTRICAL DEMOLITION INFORMATION.
- CONTRACTOR SHALL SURVEY EXISTING PAVING BEFORE DEMOLITION. ROADWAYS TO BE REINSTALLED SHALL MAINTAIN EXISTING GRADE.
- REFER TO SHEET P-705 FOR NON-POTABLE WATER PIPELINE DEMOLITION DETAIL. THE POTABLE WATER PIPELINE AND OTHER DUCTBANKS SHALL BE PROTECTED DURING EXCAVATION.
- PERFORM FENCE REMOVAL CONCURRENTLY WITH SCREENING WALL INSTALLATION. CONTRACTOR SHALL KEEP PERIMETER SECURED AT ALL TIMES.
- ANY TREES THAT CONFLICT WITH NEW WORK SHALL BE COMPLETELY REMOVED DOWN TO THE ROOT SYSTEM TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST. ANY EXISTING TREES ADJACENT TO NEW WORK SHALL BE PROTECTED ACCORDING TO DETAIL '01 ON C-024.
- SECTIONS OF THE ABANDONED SPRINKLER SYSTEM MAY BE CUT AND LEFT IN PLACE WITH THE APPROVAL OF THE ENGINEER IF IT DOES NOT CONFLICT WITH THE NEW WORK.

LEGEND:

- UTILITY REMOVAL WORK
- EXISTING FENCE REMOVAL
- GRUBBING/CLEARING AND SITE PREPARATION
- GRAVEL ROAD REMOVAL
- PAVEMENT AND CURB AND GUTTER REMOVAL
- EXISTING TREE
- EXISTING TREE (TO BE CLEARED/GRUBBED)

1 SITE DEMOLITION PLAN
SCALE: 1" = 30'



Rev.	Description	Appr.	Date
1	ADDENDUM NO. 4	HC	10/27/25
2	ADDENDUM NO. 7	HC	12/17/25

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

AECOM

Checked by: BP
Reviewed by: BP
Designed by: HHC
Drawn by: LK
Date: JULY 2025
Scale: AS SHOWN

ORION ENGINEERS
ORION ENGINEERS
312 NORTH MAY STREET
SUITE 100
CHICAGO, IL 60607, USA

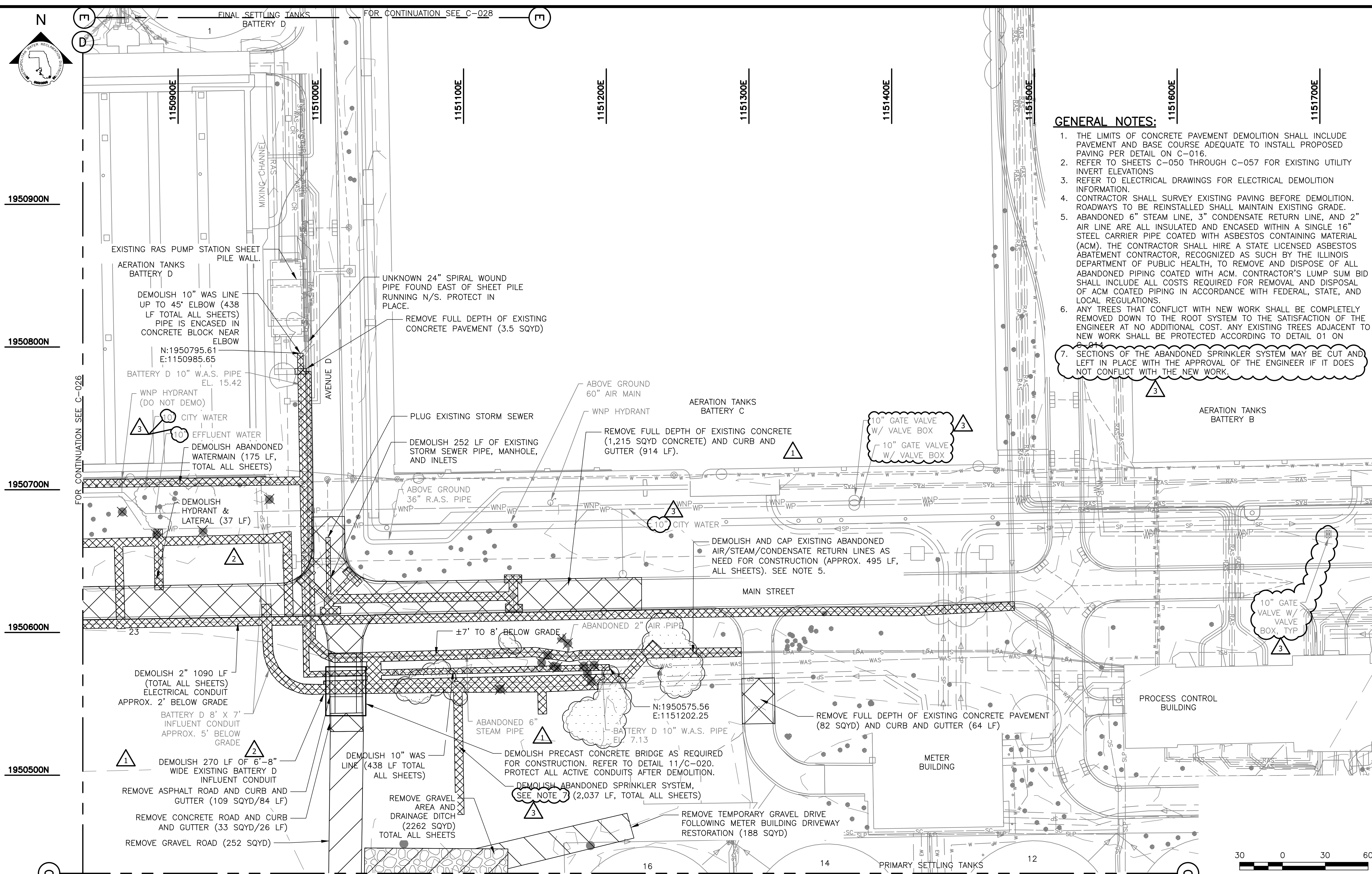
CONTRACT 22-RFP-06
OBRIEN WATER RECLAMATION PLANT
NEW ACTIVATED SLUDGE BATTERY

SITE DEMOLITION PLAN - 3

Sheet Number:
C-026

Page Number: 42

O:\Contracts\22-RFP-06\Civil\Sheets\C-027-rev3.dwg 12/23/2025 9:49 AM
 PLOT DATE: 12/23/2025 10:04 AM PLOTTED BY: KOSTAMO, LISA

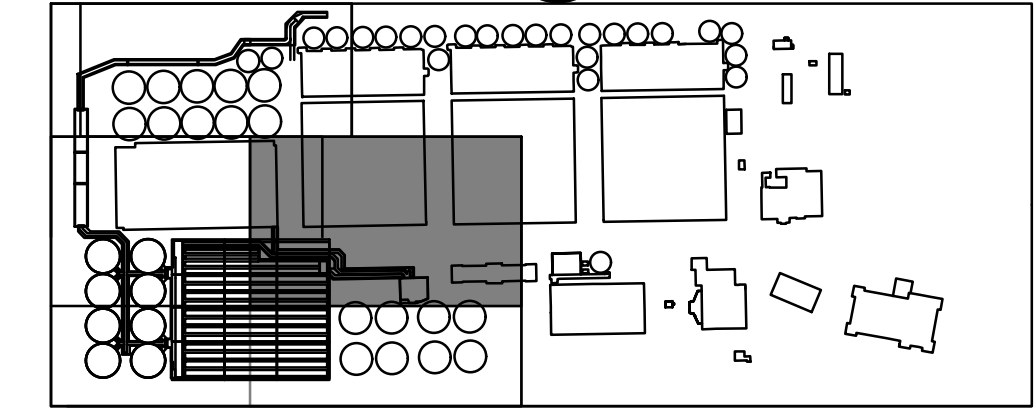
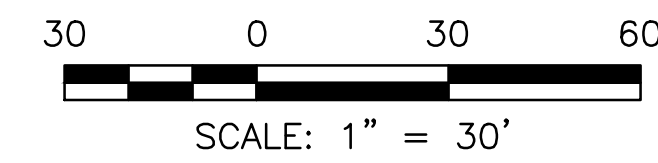


- GENERAL NOTES:**
- THE LIMITS OF CONCRETE PAVEMENT DEMOLITION SHALL INCLUDE PAVEMENT AND BASE COURSE ADEQUATE TO INSTALL PROPOSED PAVING PER DETAIL ON C-016.
 - REFER TO SHEETS C-050 THROUGH C-057 FOR EXISTING UTILITY INVERT ELEVATIONS
 - REFER TO ELECTRICAL DRAWINGS FOR ELECTRICAL DEMOLITION INFORMATION.
 - CONTRACTOR SHALL SURVEY EXISTING PAVING BEFORE DEMOLITION. ROADWAYS TO BE REINSTALLED SHALL MAINTAIN EXISTING GRADE.
 - ABANDONED 6" STEAM LINE, 3" CONDENSATE RETURN LINE, AND 2" AIR LINE ARE ALL INSULATED AND ENCASED WITHIN A SINGLE 16" STEEL CARRIER PIPE COATED WITH ASBESTOS CONTAINING MATERIAL (ACM). THE CONTRACTOR SHALL HIRE A STATE LICENSED ASBESTOS ABATEMENT CONTRACTOR, RECOGNIZED AS SUCH BY THE ILLINOIS DEPARTMENT OF PUBLIC HEALTH, TO REMOVE AND DISPOSE OF ALL ABANDONED PIPING COATED WITH ACM. CONTRACTOR'S LUMP SUM BID SHALL INCLUDE ALL COSTS REQUIRED FOR REMOVAL AND DISPOSAL OF ACM COATED PIPING IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS.
 - ANY TREES THAT CONFLICT WITH NEW WORK SHALL BE COMPLETELY REMOVED DOWN TO THE ROOT SYSTEM TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST. ANY EXISTING TREES ADJACENT TO NEW WORK SHALL BE PROTECTED ACCORDING TO DETAIL 01 ON C-014.
 - SECTIONS OF THE ABANDONED SPRINKLER SYSTEM MAY BE CUT AND LEFT IN PLACE WITH THE APPROVAL OF THE ENGINEER IF IT DOES NOT CONFLICT WITH THE NEW WORK.

LEGEND:

	UTILITY REMOVAL WORK		GRAVEL ROAD REMOVAL
	EXISTING FENCE REMOVAL		CONCRETE PAVEMENT AND CURB AND GUTTER REMOVAL
	GRUBBING/CLEARING AND SITE PREPARATION		EXISTING TREE
			EXISTING TREE (TO BE CLEARED/GRUBBED)

1 FOR CONTINUATION SEE C-025
SITE DEMOLITION PLAN
 SCALE: 1" = 30'



Rev.	Description	Appr.	Date
1	ADDENDUM NO. 4	HC	10/27/25
2	ADDENDUM NO. 5	HC	11/19/25
3	ADDENDUM NO. 7	HC	12/17/25

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

AECOM

Checked by: BP
 HHC

Reviewed by: BP
 LK

Date: JULY 2025
 Scale: AS SHOWN

ORION ENGINEERS
 ORION ENGINEERS
 312 NORTH MAY STREET
 SUITE 100
 CHICAGO, IL 60607

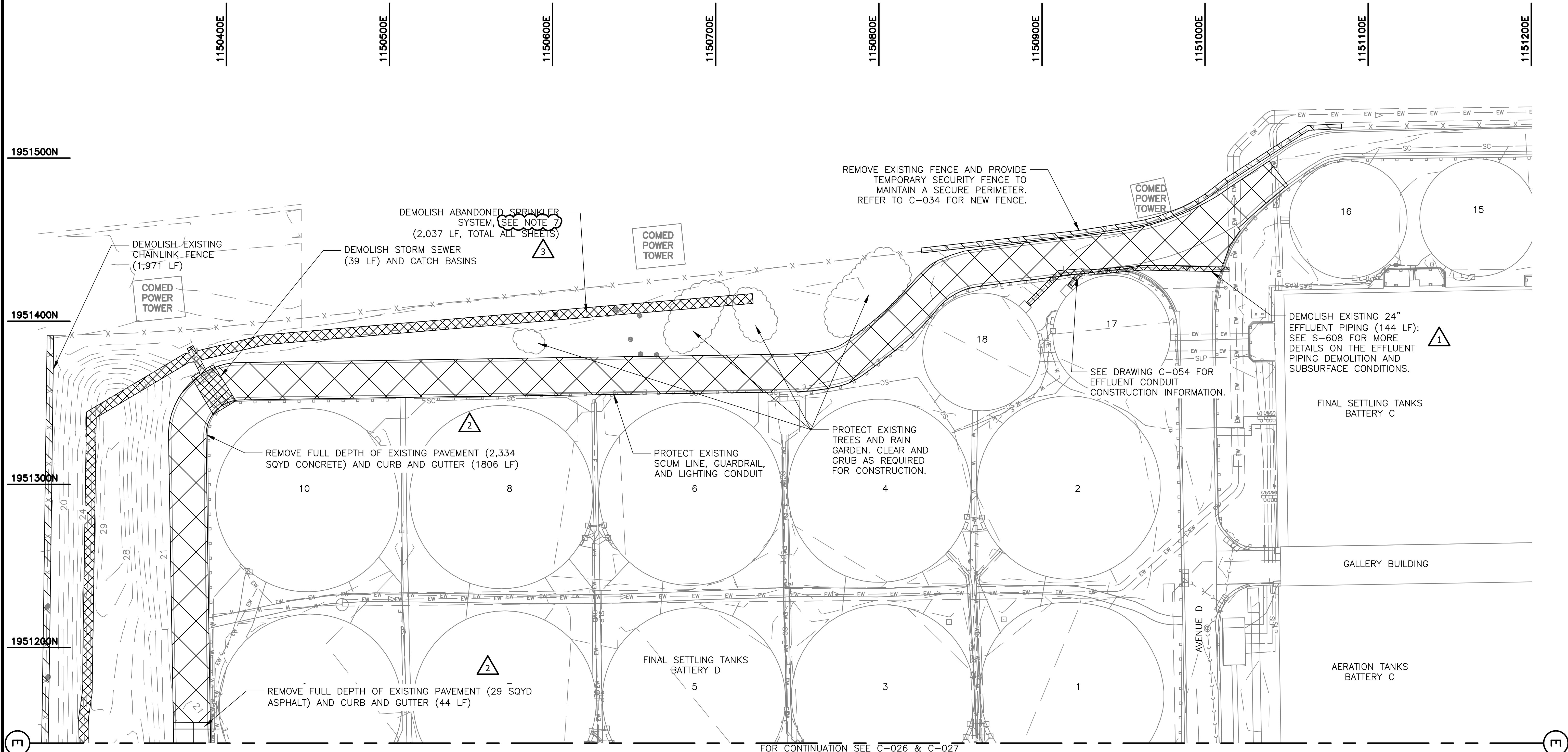
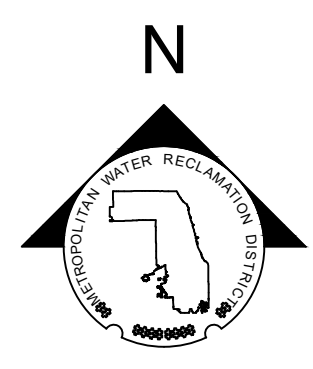
PRUDENTIAL PLAZA ONE
 130 E RANDOLPH STREET
 SUITE 2400
 CHICAGO, IL 60601, USA

CONTRACT 22-RFP-06
 OBRIEN WATER RECLAMATION PLANT
 NEW ACTIVATED SLUDGE BATTERY

SITE DEMOLITION PLAN - 4

Sheet Number:
C-027

Page Number: 43

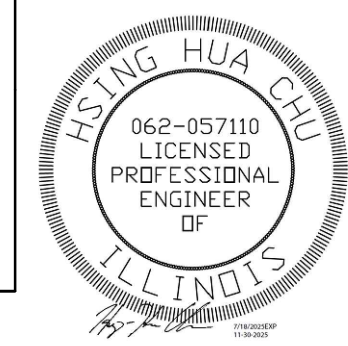
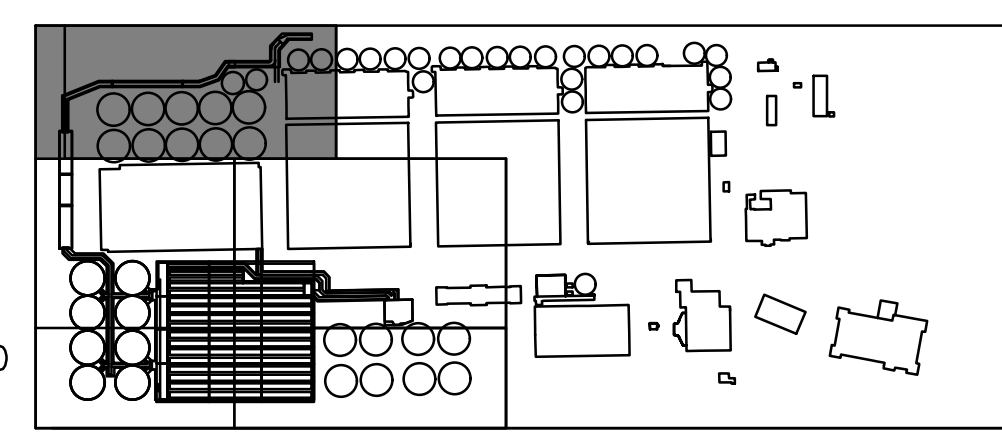
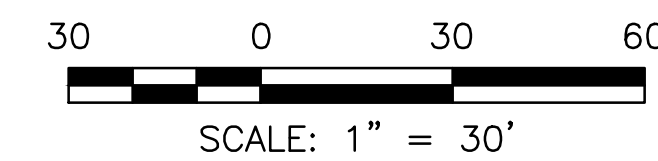


LEGEND:

	UTILITY REMOVAL WORK
	EXISTING FENCE REMOVAL
	CONCRETE PAVEMENT AND CURB AND GUTTER REMOVAL

- GENERAL NOTES:**
1. MAINTAIN 15-FOOT SEPARATION BETWEEN ALL EQUIPMENT OR LOAD AND ANY 138KV TRANSMISSION CIRCUIT
 2. REFER TO SHEETS C-050 THROUGH C-057 FOR EXISTING UTILITY INVERT ELEVATIONS.
 3. REFER TO ELECTRICAL DRAWINGS FOR ELECTRICAL DEMOLITION INFORMATION.
 4. CONTRACTOR SHALL SURVEY EXISTING PAVING AND SUBMIT TO DISTRICT FOR APPROVAL BEFORE DEMOLITION. ROADWAYS TO BE REINSTALLED SHALL MAINTAIN EXISTING GRADE.
 5. CONTRACTOR PHASING TO BE SUBMITTED TO ENGINEER AND DISTRICT. NOTE THAT ACCESS TO AVE D IS REQUIRED AT ALL TIMES.
 6. ANY TREES THAT CONFLICT WITH NEW WORK SHALL BE COMPLETELY REMOVED DOWN TO THE ROOT SYSTEM TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST. ANY EXISTING TREES ADJACENT TO NEW WORK SHALL BE PROTECTED ACCORDING TO DETAIL 01 ON C-014.
 7. SECTIONS OF THE ABANDONED SPRINKLER SYSTEM MAY BE CUT AND LEFT IN PLACE WITH THE APPROVAL OF THE ENGINEER IF IT DOES NOT CONFLICT WITH THE NEW WORK.

1 SITE DEMOLITION PLAN
SCALE: 1" = 30'



Rev.	Description	Appr.	Date
1	ADDENDUM NO. 3	HC	10/15/25
2	ADDENDUM NO. 4	HC	10/07/25
3	ADDENDUM NO. 7	HC	12/17/25

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

AECOM
PRUDENTIAL PLAZA ONE
130 E RANDOLPH STREET
SUITE 2400
CHICAGO, IL 60601, USA

ORION ENGINEERS
ORION ENGINEERS
312 NORTH MAY STREET
SUITE 100
CHICAGO, IL 60607

Designed by:	HHC	Checked by:	BP
Drawn by:	LK	Reviewed by:	BP
Date:	JULY 2025	Scale:	AS SHOWN

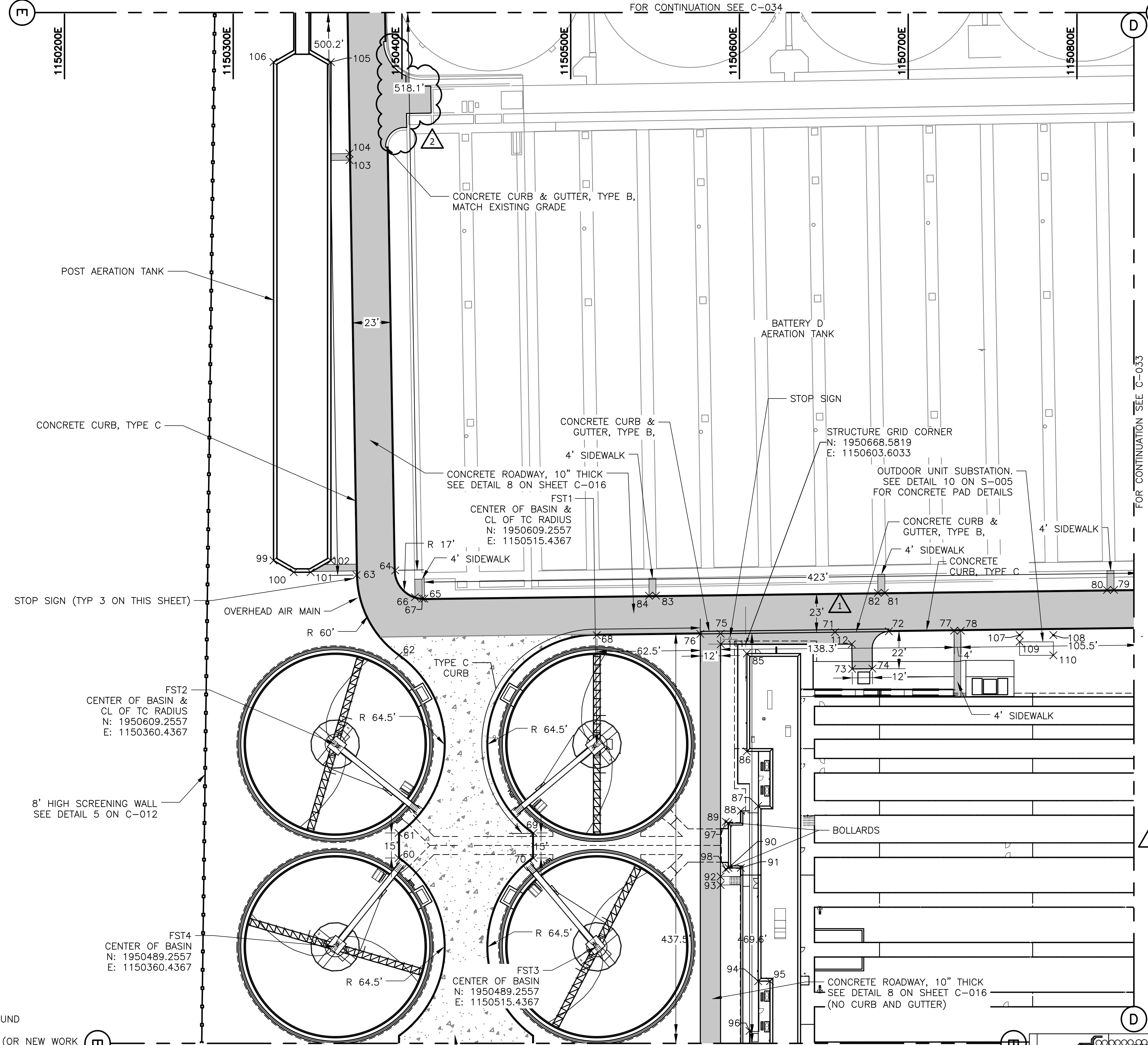
CONTRACT 22-RFP-06
22-RFP-06
NEW ACTIVATED SLUDGE BATTERY

SITE DEMOLITION PLAN - 5

Sheet Number:
C-028

Page Number: 44

PLOT DATE: 12/23/2025 8:39 AM PLOTTED BY: KOSTAMO, LISA



FOR CONTINUATION SEE C-034

FOR CONTINUATION SEE C-033

FOR CONTINUATION SEE C-030

COORDINATES

POINT #	NORTHING	EASTING	DESCRIPTION
60	1950541.83	1150397.94	TC
61	1950556.68	1150397.94	TC
62	1950661.75	1150398.06	TC
63	1950709.51	1150373.02	TC
64	1950712.26	1150395.98	TC
65	1950695.55	1150413.19	TC
66	1950696.40	1150407.66	CONC
67	1950695.57	1150412.02	CONC
68	1950673.83	1150515.44	TC
69	1950556.68	1150477.94	TC
70	1950541.83	1150477.94	TC
71	1950675.61	1150656.59	TC
72	1950676.14	1150688.46	TC
73	1950653.86	1150666.74	EP
74	1950654.01	1150678.73	EP
75	1950674.76	1150588.78	TC
76	1950674.61	1150576.78	TC
77	1950676.51	1150727.10	CONC
78	1950676.56	1150731.10	CONC
79	1950700.70	1150821.89	CONC
80	1950700.65	1150817.75	CONC
81	1950698.99	1150686.08	CONC
82	1950698.94	1150681.95	CONC
83	1950697.28	1150550.48	CONC
84	1950697.23	1150546.35	CONC
85	1950663.00	1150604.34	BLDG
86	1950604.99	1150604.34	BLDG
87	1950572.67	1150611.01	BLDG
88	1950569.76	1150600.77	BLDG
89	1950562.51	1150593.44	BLDG
90	1950536.01	1150593.44	BLDG
91	1950536.01	1150600.77	BLDG
92	1950530.88	1150588.78	CONC
93	1950525.88	1150588.78	CONC
94	1950468.86	1150611.01	BLDG
95	1950468.86	1150618.01	BLDG
96	1950439.45	1150605.94	BLDG
97	1950563.30	1150591.86	BOLLARD
98	1950535.21	1150591.86	BOLLARD
99	1950718.10	1150323.86	TANK
100	1950711.17	1150335.86	TANK
101	1950711.17	1150345.86	TANK
102	1950718.10	1150357.86	TANK
103	1950955.30	1150368.90	CONC
104	1950959.30	1150368.83	CONC
105	1951013.41	1150357.86	TANK
106	1951013.41	1150323.86	TANK
107	1950673.92	1150765.96	BOLLARD
108	1950673.93	1150785.96	BOLLARD
109	1950669.93	1150765.96	CONC
110	1950661.93	1150785.96	CONC
111	1950668.55	1150588.88	TC
112	1950668.56	1150666.55	TC

Rev.	Description	Appr.	Date
1	ADDENDUM NO. 3	HC	10/15/25
2	ADDENDUM NO. 7	HC	12/17/25

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

AECOM | **DBS** | **DB STERLIN CONSULTANTS INC**

PRUDENTIAL PLAZA ONE
130 E RANDOLPH STREET
SUITE 2400
CHICAGO, IL 60601, USA

Checked by: BP
Reviewed by: BP
Designed by: HHC
Drawn by: LK
Date: JULY 2025
Scale: AS SHOWN

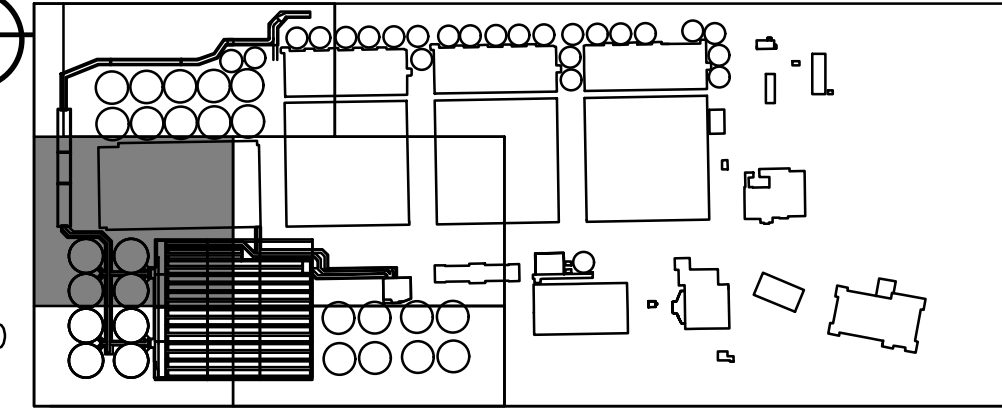
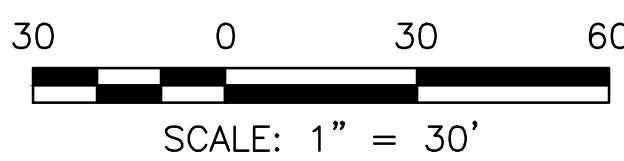
CONTRACT 21-092-3P
OBRIEN WATER RECLAMATION PLANT
BATTERY E ACTIVATED SLUDGE FACILITY

SITE FACILITY PLAN - 3

- LEGEND:**
- NEW OR EXISTING BACKGROUND
 - EXISTING WORK TO REMAIN (OR NEW WORK FURNISHED AND INSTALLED UNDER OTHER CONTRACT ITEMS)
 - NEW WORK
 - CONCRETE PAVEMENT
 - 18" CONCRETE PAVEMENT

- NOTES:**
- REPLACE EXISTING STREET SIGNS FOLLOWING CONSTRUCTION.
 - FOR SIDEWALKS, REFER TO DETAIL 4 ON SHEET C-016

1 SITE FACILITY PLAN
SCALE: 1" = 30'



Sheet Number:
C-032
Page Number: 48

STORM SEWER STRUCTURES SCHEDULE

STRUCTURE NO.	STRUCTURE TYPE	RISER TYPE	FRAME & GRATE	RIM ELEVATION	INVERT ELEVATION				BOTTOM EL
					NORTH	EAST	SOUTH	WEST	
STMH-00	INLET, TYPE A	N/A	TYPE 1, OPEN LID	± 22.58				19.38	18.38
STMH-01	CATCH BASIN, TYPE D**	FLAT TOP	TYPE 1, OPEN LID	± 22.00		18.83	15.37	18.83	14.37
STMH-02	INLET, TYPE B	N/A	TYPE 1, OPEN LID	± 21.60		17.66		17.66	16.66
STMH-03	INLET, TYPE B	N/A	TYPE 1, OPEN LID	± 20.0		15.93		15.93	14.93
STMH-04	INLET, TYPE A	N/A	TYPE 1, OPEN LID	± 20.0		15.50			14.50
STMH-05	CATCH BASIN, TYPE D**	FLAT TOP	TYPE 3	± 19.00	15.60 (NW)	15.02	15.02	15.02	13.52
STMH-06	CATCH BASIN, TYPE D**	FLAT TOP	TYPE 3	± 19.00	14.50			14.50	13.00
STMH-07	CATCH BASIN, TYPE D**	FLAT TOP	TYPE 3	± 19.00	13.90			13.90	12.40
STMH-08	CATCH BASIN, TYPE D**	FLAT TOP	TYPE 3	± 19.00	13.33		13.33		11.83
STMH-09	CATCH BASIN, TYPE D**	FLAT TOP	TYPE 3	± 19.00	12.67	12.67			11.17
MH #1	COMBINED OUTLET	N/A	TYPE 3	± 20.50	13.98	11.03		11.93	0.015
STMH-10	INLET, TYPE A	N/A	TYPE 1, OPEN LID	± 22.84			18.56		17.56
STMH-11	INLET, TYPE B	N/A	TYPE 1, OPEN LID	± 22.83	18.48	18.48			17.48
STMH-12	INLET, TYPE A	N/A	TYPE 1, OPEN LID	± 22.90	18.56				17.56
STMH-13	INLET, TYPE B	N/A	TYPE 1, OPEN LID	± 22.46			18.47	18.47	17.47
STMH-14	CATCH BASIN, TYPE D**	FLAT TOP	TYPE 3	± 22.65		18.27	18.27	18.32	16.97
STMH-15	INLET, TYPE A	N/A	TYPE 1, OPEN LID	± 22.52		17.80			16.80
STMH-16	INLET, TYPE A	N/A	TYPE 1, OPEN LID	± 22.12				17.80	16.80
STMH-17	CATCH BASIN, TYPE D**	FLAT TOP	TYPE 3	± 22.43	17.75	17.70 (NE) 17.77 (E)	17.75	17.77	16.20
STMH-18	INLET, TYPE A	N/A	TYPE 1, OPEN LID	± 20.53		17.14			16.14
STMH-19	INLET, TYPE A	N/A	TYPE 1, OPEN LID	± 20.53				17.14	17.14
STMH-20	CATCH BASIN, TYPE D**	FLAT TOP	TYPE 3	± 20.45	16.91	17.10	16.91	17.10	15.41
STMH-21	INLET, TYPE A	N/A	TYPE 1, OPEN LID	± 18.69			16.30		15.30
STMH-22	INLET, TYPE A	N/A	TYPE 1, OPEN LID	± 18.69			16.30		15.30
STMH-23	CATCH BASIN, TYPE D**	FLAT TOP	TYPE 3	± 18.47	15.19	16.25(NE)		16.25(NW) 15.00 (W)	13.50
STMH-24	INLET, TYPE A	N/A	TYPE 1, OPEN LID	± 21.99		19.00			18.00
STMH-25	INLET, TYPE A	N/A	TYPE 1, OPEN LID	± 21.91				19.00	18.00
STMH-26	CATCH BASIN, TYPE D**	FLAT TOP	TYPE 3	± 21.86	18.25 (EST)	18.95		18.95	16.75
STMH-27	CATCH BASIN, TYPE D**	FLAT TOP	TYPE 3	± 20.24	14.63		14.63		13.13
STMH-28	CATCH BASIN, TYPE D**	FLAT TOP	TYPE 3	± 20.24	15.44		15.44		13.94
STMH-29	CATCH BASIN, TYPE D**	FLAT TOP	TYPE 3	± 20.24			16.07		14.57
STMH-30	INLET, TYPE B	N/A	TYPE 1, OPEN LID	± 19.00	14.18		14.18		13.18
STMH-31	INLET, TYPE B	N/A	TYPE 1, OPEN LID	± 19.00	13.91		13.91		12.91
STMH-32	INLET, TYPE B	N/A	TYPE 1, OPEN LID	± 19.00	13.65		13.65		12.65
STMH-33	INLET, TYPE B	N/A	TYPE 1, OPEN LID	± 19.00	13.50		13.50 (EST)		12.50
STMH-34	CATCH BASIN, TYPE D**	FLAT TOP	TYPE 3	± 22.21		13.00		13.00	11.50
STMH-35	INLET, TYPE A	N/A	TYPE 1, OPEN LID	± 21.88	18.20				17.20
STMH-36	INLET, TYPE B	N/A	TYPE 1, OPEN LID	± 21.82	18.10		18.10		17.10
STMH-37	INLET, TYPE A	N/A	TYPE 1, OPEN LID	± 20.79				16.79	15.79
STMH-38	INLET, TYPE A	N/A	TYPE 1, OPEN LID	± 20.59				16.30	15.30
STMH-39	INLET, TYPE A	N/A	TYPE 1, OPEN LID	± 19.00			15.80		14.80

* REFER TO DETAILS AND PLANS FOR ADDITIONAL PIPE PENETRATIONS FOR THIS STRUCTURE
 ** 4" DIAMETER UNLESS OTHERWISE NOTED

STORM MANHOLE COORDINATES

MH #	NORTHING	EASTING
STMH-00	1950679.28	1150778.49
STMH-01	1950677.84	1150662.53
STMH-02	1950675.96	1150512.78
STMH-03	1950653.51	1150468.65
STMH-04	1950653.51	1150407.17
STMH-05	1950653.51	1150428.44
STMH-06	1950549.26	1150428.44
STMH-07	1950429.26	1150428.44
STMH-08	1950309.26	1150428.44
STMH-09	1950177.44	1150428.49
STMH-10	1950653.90	1151120.26
STMH-11	1950637.61	1151120.26
STMH-12	1950617.13	1151197.95
STMH-13	1950637.73	1151197.95
STMH-14	1950638.03	1151154.15
STMH-15	1950529.51	1151145.70
STMH-16	1950529.51	1151166.10
STMH-17	1950529.51	1151154.15
STMH-18	1950358.38	1151145.70
STMH-19	1950358.38	1151166.10
STMH-20	1950358.38	1151154.15
STMH-21	1950198.38	1151145.70
STMH-22	1950198.38	1151166.10
STMH-23	1950183.99	1151154.17
STMH-24	1950661.51	1150991.35
STMH-25	1950661.42	1151019.59
STMH-26	1950666.67	1151005.09
STMH-27	1950309.28	1150574.89
STMH-28	1950429.26	1150574.87
STMH-29	1950549.23	1150574.87
STMH-30	1950549.26	1150298.85
STMH-31	1950429.26	1150298.85
STMH-32	1950309.26	1150298.85
STMH-33	1950243.21	1150298.81
STMH-34	1950179.80	1150867.55
STMH-35	1951251.35	1150395.72
STMH-36	1951265.50	1150387.56
STMH-37	1951031.68	1150388.66
STMH-38	1951031.35	1150369.42
STMH-39	1950712.43	1150374.21

STORM SEWER PIPE SCHEDULE

PIPE NO.	SIZE (IN)	MATERIAL	CLASS	TYPE	LENGTH	SLOPE (%)	FROM	TO
STORM-00	12	HDPE	A	1	116	0.50%	STMH-00	STMH-01
STORM-01	12	HDPE	A	1	149.8	0.80%	STMH-01	STMH-02
STORM-02	12	HDPE	A	1	49.5	3.50%	STMH-02	STMH-03
STORM-03	12	HDPE	A	1	40.2	2.30%	STMH-03	STMH-05
STORM-04	12	HDPE	A	1	21.3	2.30%	STMH-04	STMH-05
STORM-05	12	HDPE	A	1	104.4	0.50%	STMH-05	STMH-06
STORM-06	12	HDPE	A	1	120.0	0.50%	STMH-06	STMH-07
STORM-07	12	HDPE	A	1	120.0	0.50%	STMH-07	STMH-08
STORM-08	12	HDPE	A	1	131.8	0.50%	STMH-08	STMH-09
STORM-09	15	HDPE	A	1	151.4	0.50%	STMH-09	MH #1
STORM-10	12	HDPE	A	1	16.3	0.50%	STMH-10	STMH-11
STORM-11	12	HDPE	A	1	33.9	0.50%	STMH-11	STMH-14
STORM-12	12	HDPE	A	1	20.6	0.40%	STMH-12	STMH-13
STORM-13	12	HDPE	A	1	43.8	0.50%	STMH-13	STMH-14
STORM-14	12	HDPE	A	1	108.5	0.50%	STMH-14	STMH-17
STORM-15	12	HDPE	A	1	8.5	0.40%	STMH-15	STMH-17
STORM-16	12	HDPE	A	1	12.0	0.30%	STMH-16	STMH-17
STORM-17	12	HDPE	A	1	171.1	0.50%	STMH-17	STMH-20
STORM-18	12	HDPE	A	1	8.5	0.50%	STMH-18	STMH-20
STORM-19	12	HDPE	A	1	12.0	0.30%	STMH-19	STMH-20
STORM-20	12	HDPE	A	1	174.4	1.00%	STMH-20	STMH-23
STORM-21	12	HDPE	A	1	16.7	0.30%	STMH-21	STMH-23
STORM-22	18	HDPE	A	1	18.7	0.30%	STMH-22	STMH-23
STORM-23	18	HDPE	A	1	286.7	0.70%	STMH-23	STMH-34
STORM-24	12	HDPE	A	1	14.7	0.30%	STMH-24	STMH-26
STORM-25	12	HDPE	A	1	15.4	0.30%	STMH-25	STMH-26
STORM-27	12	HDPE	A	1	129.0	0.50%	STMH-27	MH#1
STORM-28	12	HDPE	A	1	120.0	0.70%	STMH-28	STMH-27
STORM-29	12	HDPE	A	1	120.0	0.50%	STMH-29	STMH-28
STORM-30	12	HDPE	A	1	181.8	0.20%	INLET	STMH-30
STORM-31	12	HDPE	A	1	120.00	0.20%	STMH-30	STMH-31
STORM-32	12	HDPE	A	1	120.00	0.20%	STMH-31	STMH-32
STORM-33	18	HDPE	A	1	66.00	0.20%	STMH-32	STMH-33
STORM-34	18	HDPE	A	1	287.00	0.80%	STMH-34	MH#1
STORM-35	12	HDPE	A	1	20.10	0.50%	STMH-35	STMH-36
STORM-36	12	HDPE	A	1	19.00	0.50%	STMH-36	OUTLET
STORM-37	12	HDPE	A	1	22.8	2.10%	STMH-37	STMH-38
STORM-38	12	HDPE	A	1	61.0	2.20%	STMH-38	OUTLET
STORM-39	12	HDPE	A	1	80.0	0.25%	STMH-39	STMH-05

Rev.	Description	Appr.	Date
1	ADDENDUM NO. 4	HC	10/27/25
2	ADDENDUM NO. 7	HC	12/17/25

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

AECOM
ENGINEERS

ORION
ENGINEERS

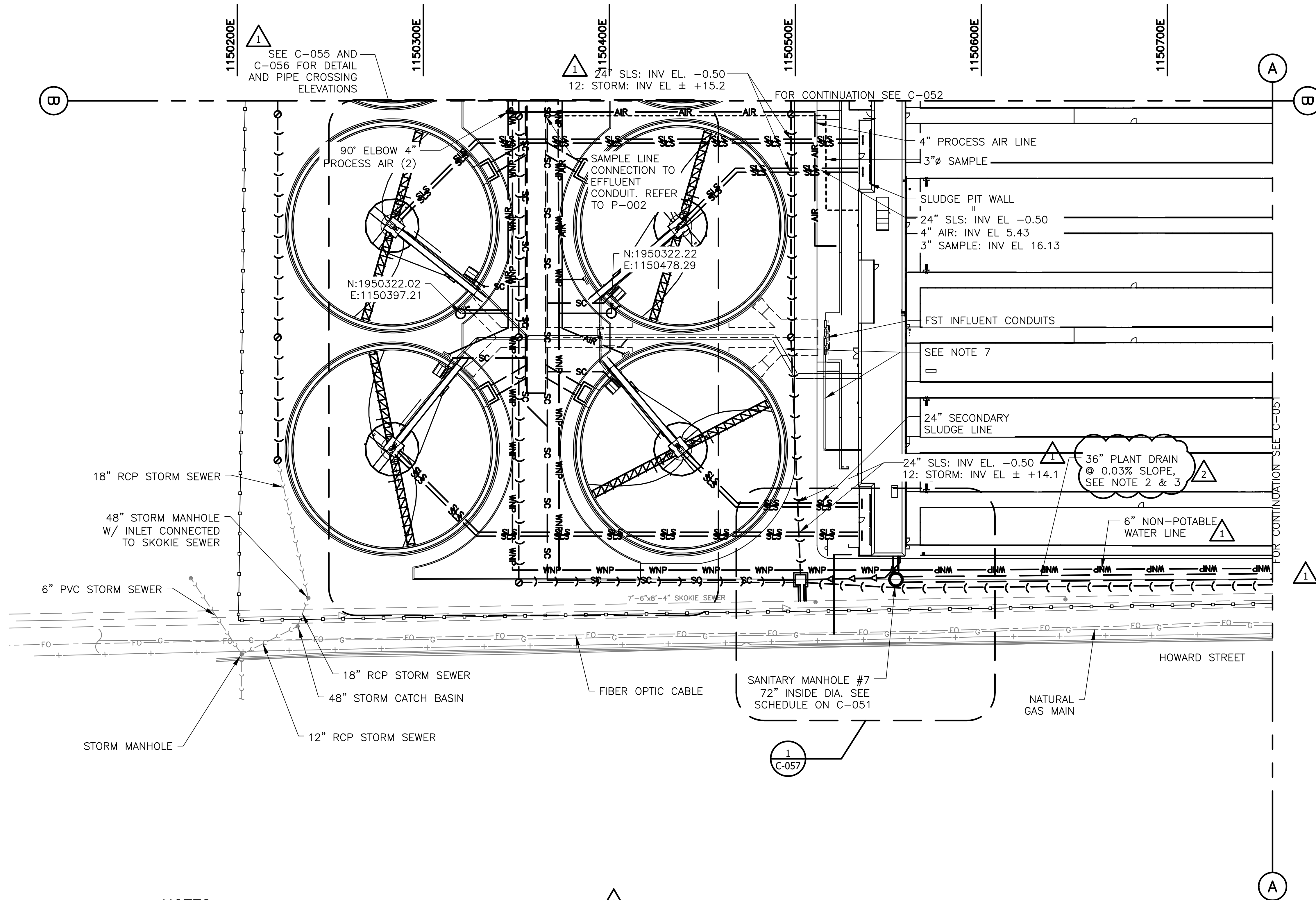
PRUDENTIAL PLAZA ONE
150 E RANDOLPH STREET
SUITE 2400
CHICAGO, IL 60601, USA

Designed by: HHC
Checked by: BP
Drawn by: LK
Reviewed by: BP
Date: JULY 2025
Scale: AS SHOWN

CONTRACT 22-RFP-06
OBRIEN WATER RECLAMATION PLANT
NEW ACTIVATED SLUDGE BATTERY

STORM SEWER SCHEDULE TABLES



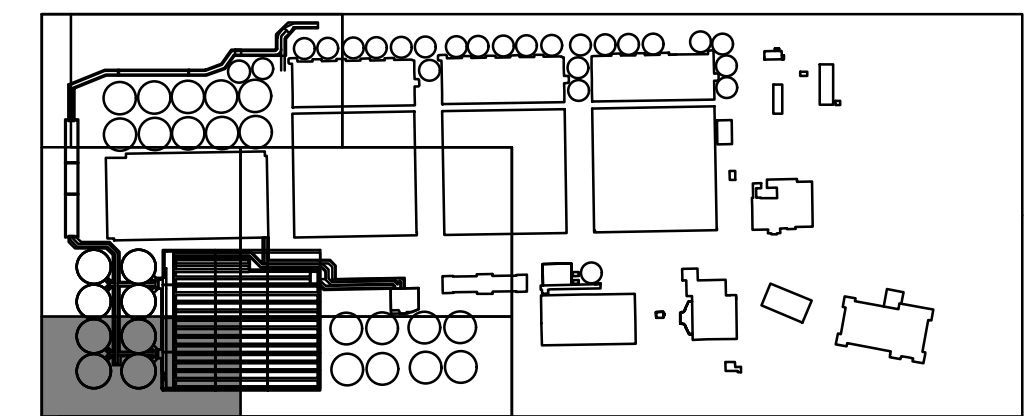
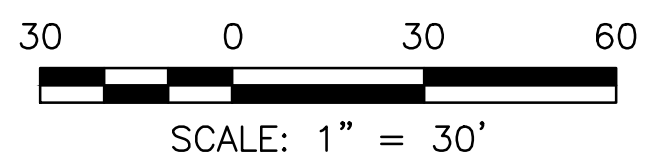


NOTES:

1. FOR PIPE MATERIALS REFER TO PROCESS PIPE SCHEDULE ON SHEET P-019
2. INSTALLATION OF THE 36" PLANT DRAIN (DUCTILE IRON OR HDPE) MAY BE PERFORMED BY OPEN CUT OR TRENCHLESS METHODS. EXISTING HOWARD INTERCEPTOR SHALL BE PROTECTED FROM DAMAGE DURING INSTALLATION OF THE 36" PLANT DRAIN.
3. PLACE OUTSIDE FACE OF NEW PLANT DRAIN MANHOLE A MINIMUM OF 6-FT FROM THE OUTSIDE FACE OF THE NEW BATTERY E AERATION TANK WALL. CONTRACTOR SHALL FIELD VERIFY PLAN LOCATION AND ELEVATION OF EXISTING SEWER TO THE SOUTH OF THE NEW PLANT DRAIN AND MANHOLE TO ALLOW FOR INSTALLATION OF A TEMPORARY ERS BETWEEN THE EXISTING SEWER TO THE SOUTH OF THE NEW PLANT DRAIN AND MANHOLE AND THE NEW BATTERY E AERATION TANKS TO THE NORTH. CONTRACTOR MAY ELECT TO PLACE NEW PLANT DRAIN AND MANHOLE PRIOR TO CONSTRUCTION OF THE NEW BATTERY E AERATION TANK STRUCTURE TO FACILITATE CONSTRUCTION; HOWEVER, MEANS AND METHODS OF CONSTRUCTION ARE THE RESPONSIBILITY OF THE CONTRACTOR.

LEGEND:

- NEW OR EXISTING BACKGROUND
- - - EXISTING WORK TO REMAIN (OR NEW WORK FURNISHED AND INSTALLED UNDER OTHER CONTRACT ITEMS)
- NEW WORK
- - - FUTURE WORK



KEYPLAN

Rev.	Description	Appr.	Date
1	ADDENDUM NO. 4	HC	10/27/25
2	ADDENDUM NO. 7	HC	12/17/25

METROPOLITAN WATER RECLAMATION DISTRICT
OF GREATER CHICAGO

AECOM
 PRUDENTIAL PLAZA ONE
 130 E RANDOLPH STREET
 SUITE 2400
 CHICAGO, IL 60601, USA

DBS
 DB STERLIN
 CONSULTANTS INC.
 123 N UPPER WACKER DR.
 SUITE 20
 CHICAGO, IL 60606

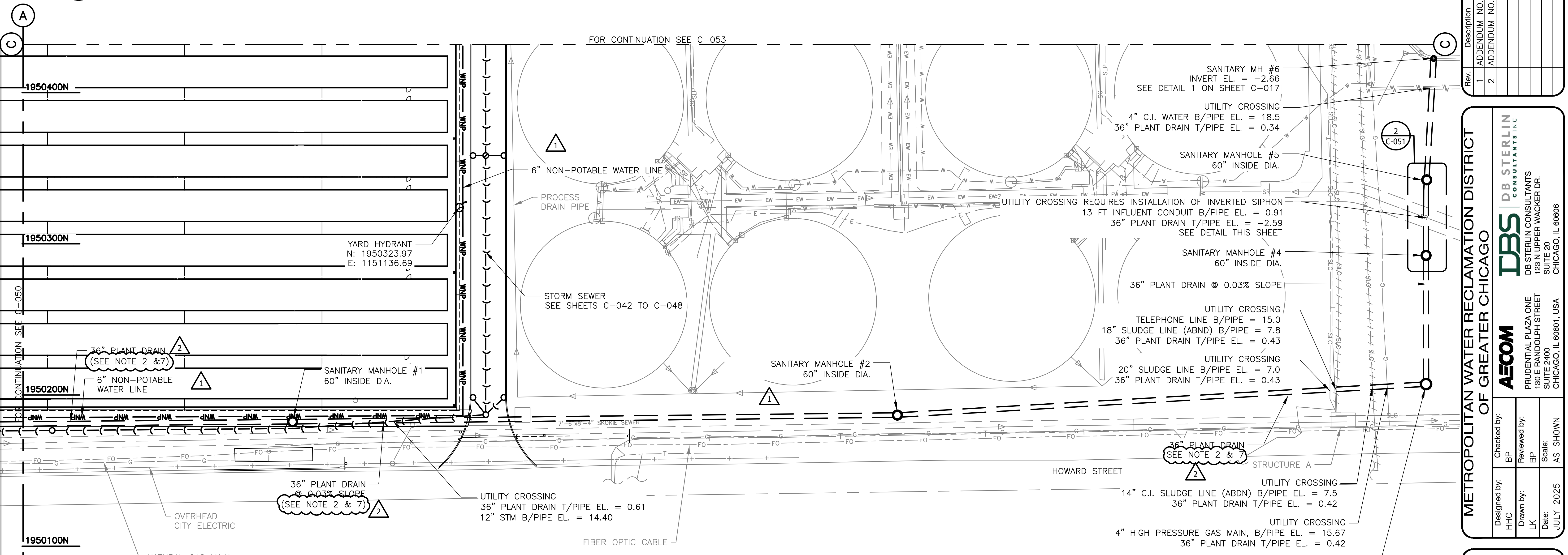
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Drawn by:	LK	Reviewed by:	BP
Date:	JULY 2025	Scale:	AS SHOWN

CONTRACT 21-092-3P
 OBRIEN WATER RECLAMATION PLANT
 BATTERY E ACTIVATED SLUDGE FACILITY

SITE YARD PIPING - 1

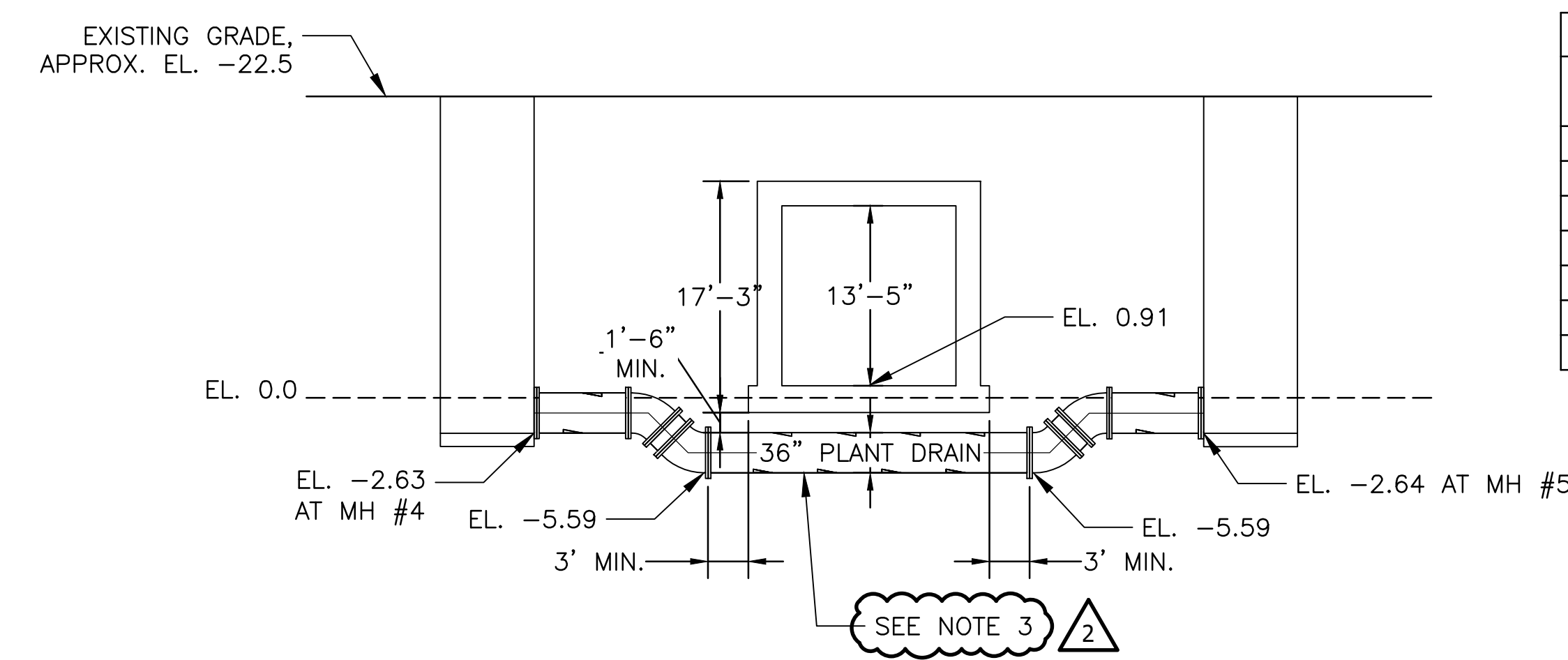
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C-050
 Page Number: 66





1 SITE YARD PIPING
SCALE: 1" = 30'

- NOTE:**
- REFER TO ELECTRICAL/PROCESS SHEETS FOR ELECTRICAL/PROCESS DESIGN DETAILS.
 - INSTALLATION OF THE 36" PLANT DRAIN (DUCTILE IRON OR HDPE) MAY BE PERFORMED BY OPEN CUT OR TRENCHLESS METHODS. EXISTING HOWARD INTERCEPTOR SHALL BE PROTECTED FROM DAMAGE DURING INSTALLATION OF THE 36" PLANT DRAIN.
 - INSTALLATION OF THE 36" PLANT DRAIN (DUCTILE IRON OR HDPE) UNDER THE EXISTING INFLUENT CONDUIT SHALL BE PERFORMED VIA JACK AND BORE OR HORIZONTAL DIRECTIONAL DRILL, SHOULD THE SELECTED PIPE MATERIAL BE HDPE, THE INSTALLATION SHALL BE PERFORMED VIA HORIZONTAL DIRECTIONAL DRILL. THE EXISTING INFLUENT CULVERT SHALL BE PROTECTED FROM DAMAGE DURING INSTALLATION OF THE 36" PLANT DRAIN.
 - PRIOR TO CONSTRUCTION, COORDINATE WITH MWRDGC REGARDING COORDINATION OF 36" PLANT DRAIN WITH WORK ON PROJECT 24-098-3S AND OTHER MWRD CONTRACTS.
 - SEE C-022 FOR GENERAL MANHOLE REQUIREMENTS.
 - FOR PIPE MATERIALS REFER TO PROCESS PIPE SCHEDULE ON SHEET P-019.
 - PLACE OUTSIDE FACE OF NEW PLANT DRAIN MANHOLE A MINIMUM OF 6'-FT FROM THE OUTSIDE FACE OF THE NEW BATTERY E AERATION TANK WALL. CONTRACTOR SHALL FIELD VERIFY PLAN LOCATION AND ELEVATION OF EXISTING SEWER TO THE SOUTH OF THE NEW PLANT DRAIN AND MANHOLE TO ALLOW FOR INSTALLATION OF A TEMPORARY ERS BETWEEN THE EXISTING SEWER TO THE SOUTH OF THE NEW PLANT DRAIN AND MANHOLE AND THE NEW BATTERY E AERATION TANKS TO THE NORTH. CONTRACTOR MAY ELECT TO PLACE NEW PLANT DRAIN AND MANHOLE PRIOR TO CONSTRUCTION OF THE NEW BATTERY E AERATION TANK STRUCTURE TO FACILITATE CONSTRUCTION; HOWEVER, MEANS AND METHODS OF CONSTRUCTION ARE THE RESPONSIBILITY OF THE CONTRACTOR.



2 SITE YARD PIPING DETAIL
SCALE: 1" = 10'

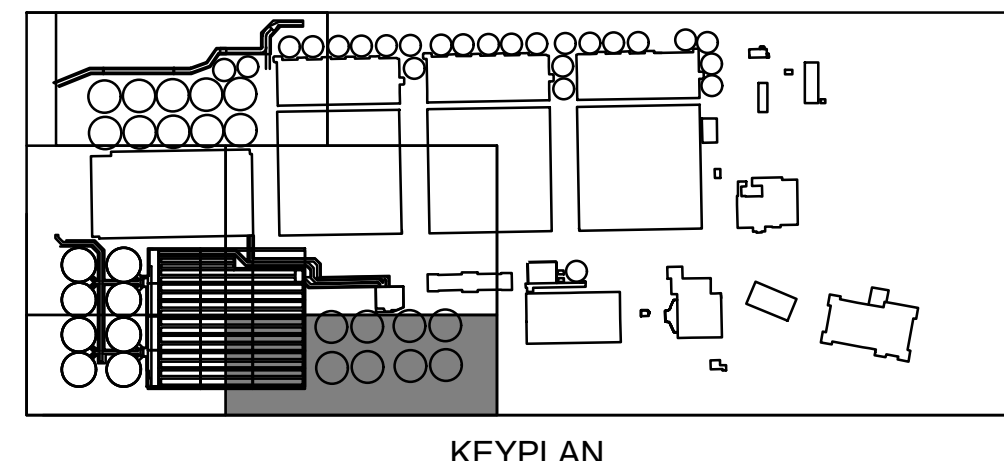
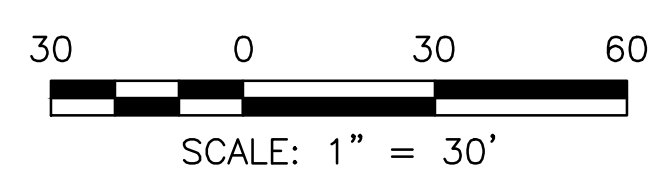
- LEGEND:**
- NEW OR EXISTING BACKGROUND
 - EXISTING WORK TO REMAIN (OR NEW WORK FURNISHED AND INSTALLED UNDER OTHER CONTRACT ITEMS)
 - NEW WORK
 - FUTURE WORK

SANITARY MANHOLE SCHEDULE

STRUCTURE NO.	RIM ELEV.	INVERT ELEVATION				NORTHING	EASTING
		NORTH	SOUTH	EAST	WEST		
1	19.1	-	-	-2.37	-2.37	1950177.48	1151026.49
2	18.70	-	-	-2.49	-2.49	1950183.72	1151426.24
3	19.68	-2.59	-	-	-2.59	1950207.20	1151775.74
4	21.50	-2.62	-2.62	-	-	1950292.33	1151775.74
5	22.50	-2.64	-2.64	-	-	1950342.30	1151776.16
6	23.99	-	-2.66	-2.66	-2.66	1950422.64	1151780.80
7	22.42	-2.25	-	-2.25	-	1950174.24	1150631.19

PLANT DRAIN LENGTHS

FROM-TO SANITARY MH	LENGTH (FT)
BLDG-7	12.5
7-1	395
1-2	400
2-3	350
3-4	85
4-5	50
5-6	80



Rev.	Description	Appr.	Date
1	ADDENDUM NO. 4	HC	10/07/25
2	ADDENDUM NO. 7	HC	12/17/25

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

AECOM

Checked by: BP
Reviewed by: BP
Designed by: HHC
Drawn by: LK
Date: JULY 2025
Scale: AS SHOWN

DB STERLIN CONSULTANTS INC.

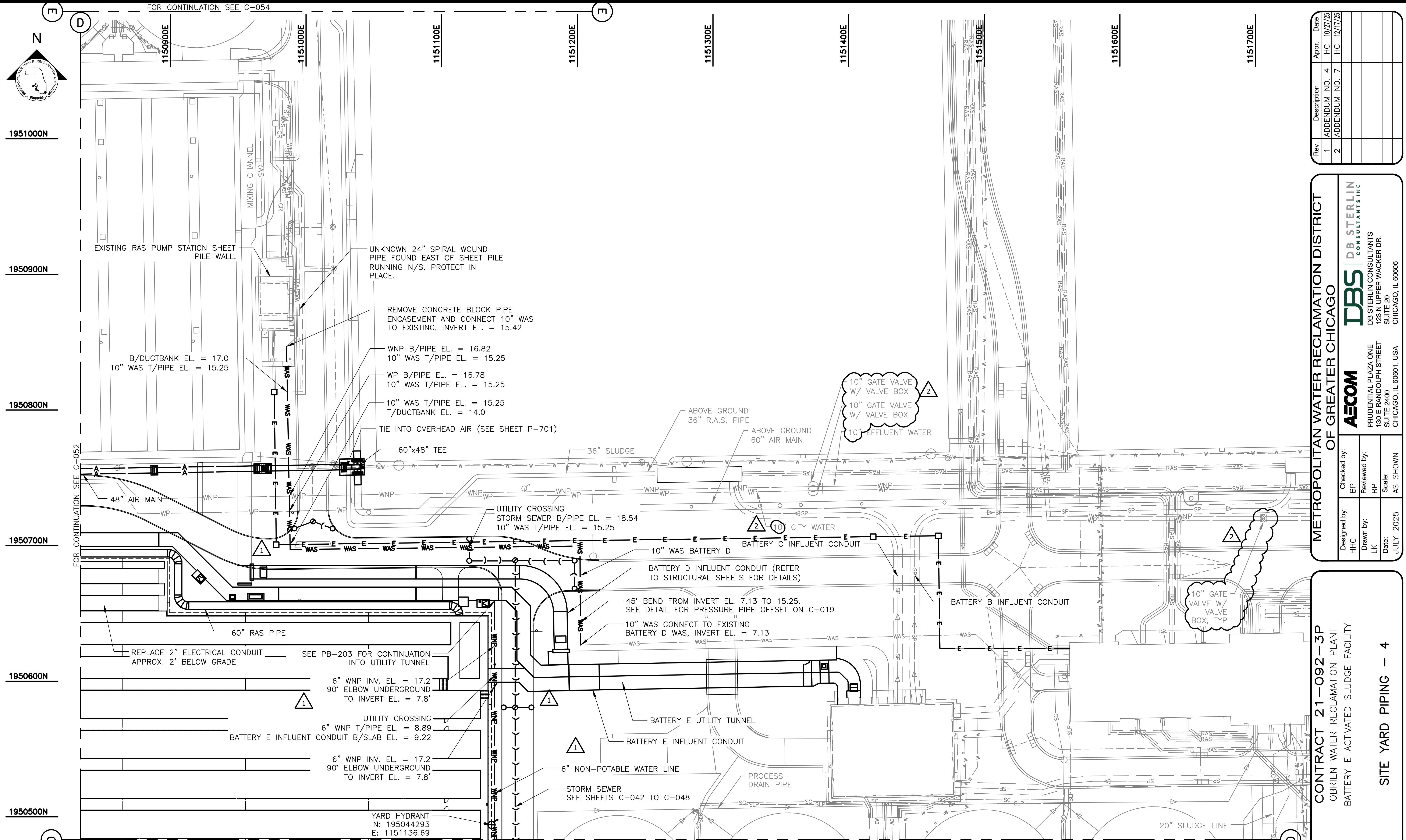
PRUDENTIAL PLAZA ONE
130 E RANDOLPH STREET
SUITE 2400
CHICAGO, IL 60601, USA

CONTRACT 21-092-3P
OBRIEN WATER RECLAMATION PLANT
BATTERY E ACTIVATED SLUDGE FACILITY

SITE YARD PIPING - 2



FOR CONTINUATION SEE C-054



1951000N
1950900N
1950800N
1950700N
1950600N
1950500N

1150900E
1151000E
1151100E
1151200E
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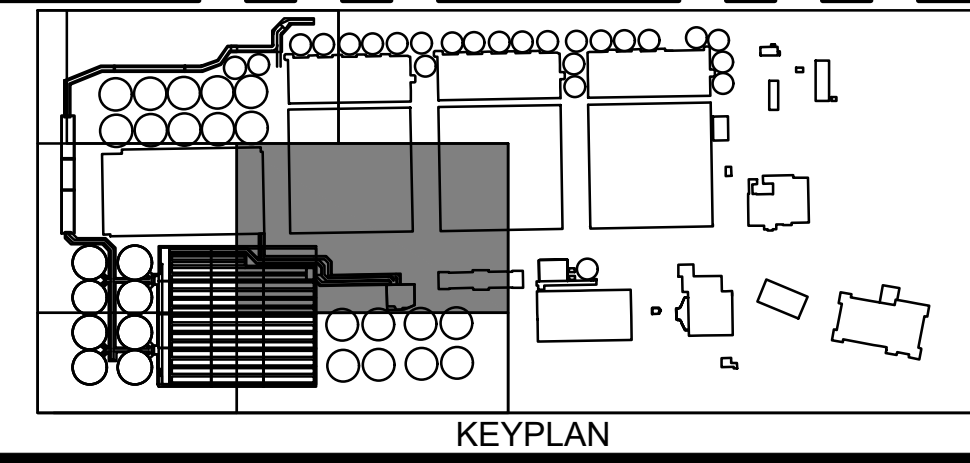
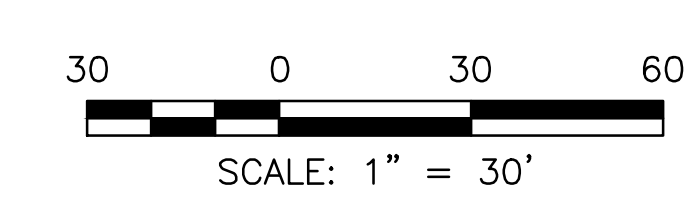
LEGEND:

- NEW OR EXISTING BACKGROUND
- NEW WORK
- - - EXISTING WORK TO REMAIN (OR NEW WORK FURNISHED AND INSTALLED UNDER OTHER CONTRACT ITEMS)
- - - FUTURE WORK

NOTES:

- FOR PIPE MATERIALS REFER TO PROCESS PIPE SCHEDULE ON SHEET P-019

1 SITE YARD PIPING
SCALE: 1" = 30'



Rev.	Description	Appr.	Date
1	ADDENDUM NO. 4	HC	10/27/25
2	ADDENDUM NO. 7	HC	12/17/25

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

AECOM

DBS | **DB STERLIN** CONSULTANTS INC.

PRUDENTIAL PLAZA ONE
130 E RANDOLPH STREET
SUITE 2400
CHICAGO, IL 60601, USA

Checked by: BP
Reviewed by: BP
Designed by: HHC
Drawn by: LK
Date: JULY 2025
Scale: AS SHOWN

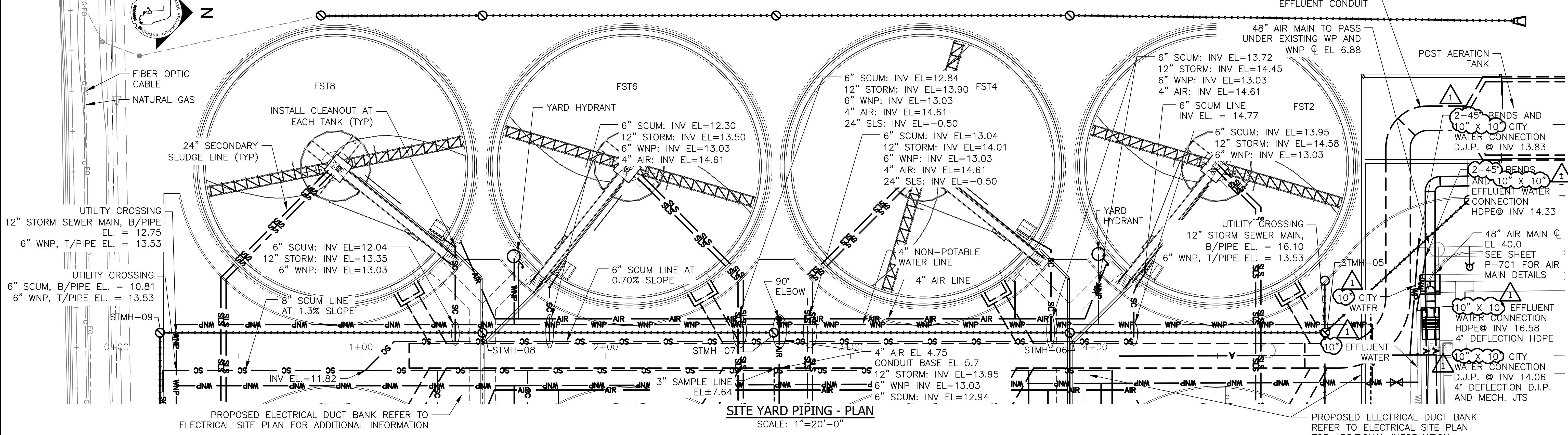
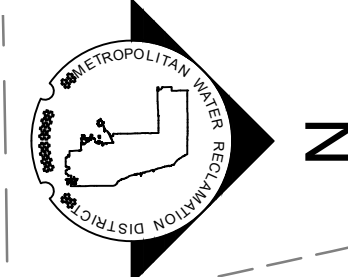
CONTRACT 21-092-3P
OBRIEN WATER RECLAMATION PLANT
BATTERY E ACTIVATED SLUDGE FACILITY

SITE YARD PIPING - 4

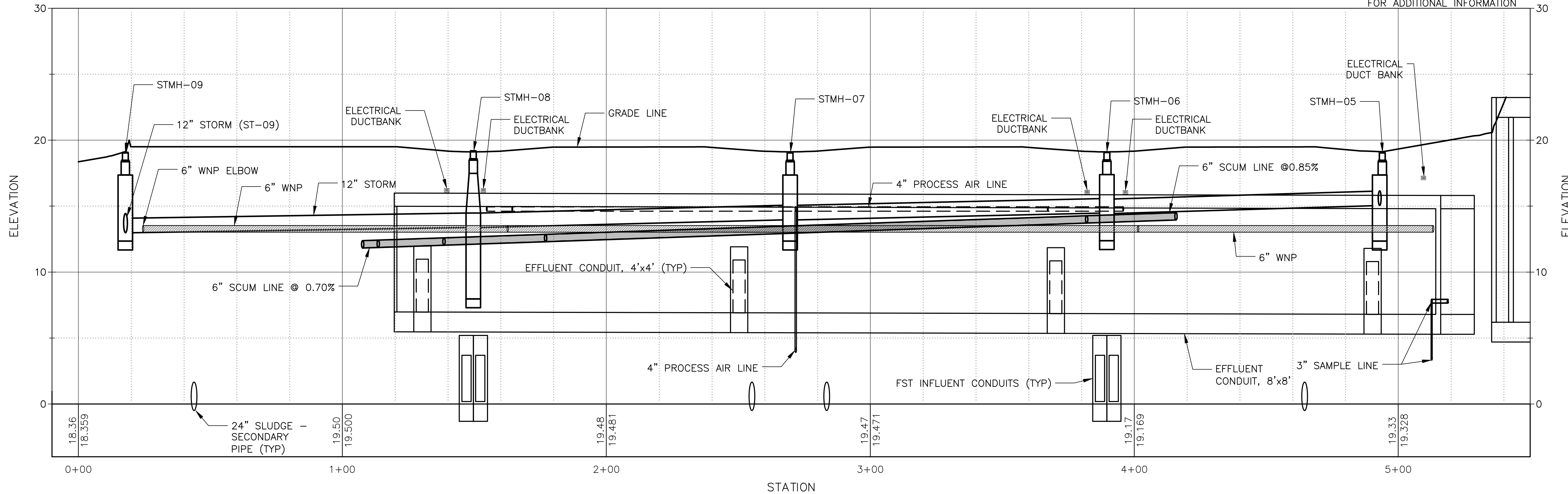
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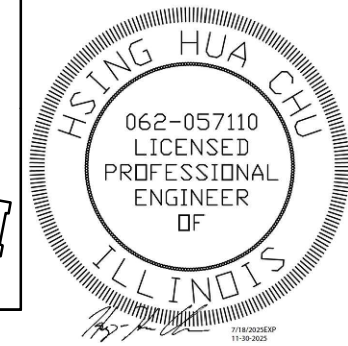
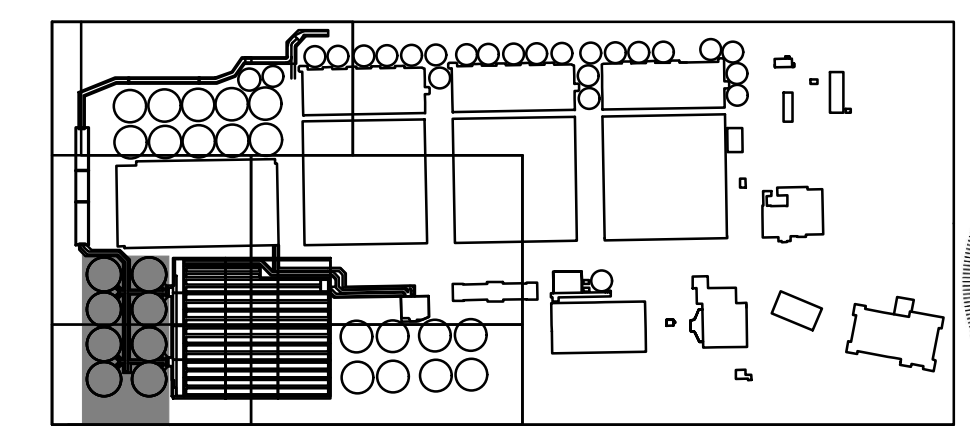
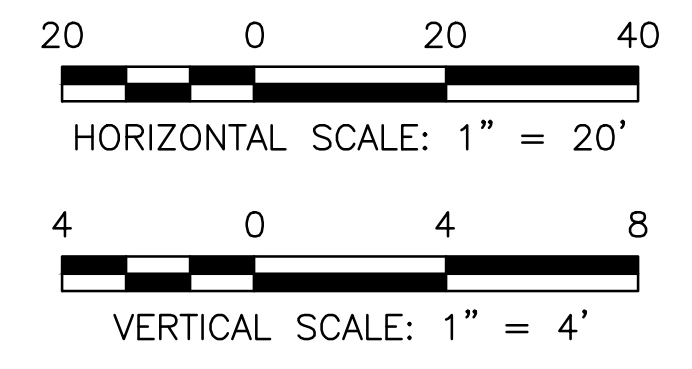
SITE YARD PIPING - PLAN
SCALE: 1"=20'-0"



SITE YARD PIPING - PROFILE - LOOKING WEST
HORIZONTAL SCALE: 1"=20'-0", VERTICAL SCALE: 1"=4'-0"

LEGEND:

- NEW OR EXISTING BACKGROUND
- - - EXISTING WORK TO REMAIN (OR NEW WORK FURNISHED AND INSTALLED UNDER OTHER CONTRACT ITEMS)
- NEW WORK
- - - FUTURE WORK



Rev.	Description	Appr.	Date
1	ADDENDUM NO. 7	HC	12/17/25

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

DBS DB STERLIN CONSULTANTS INC.
DB STERLIN CONSULTANTS
123 N UPPER WACKER DR.
SUITE 200
CHICAGO, IL 60606

AECOM
PRUDENTIAL PLAZA ONE
130 E RANDOLPH STREET
SUITE 2400
CHICAGO, IL 60601, USA

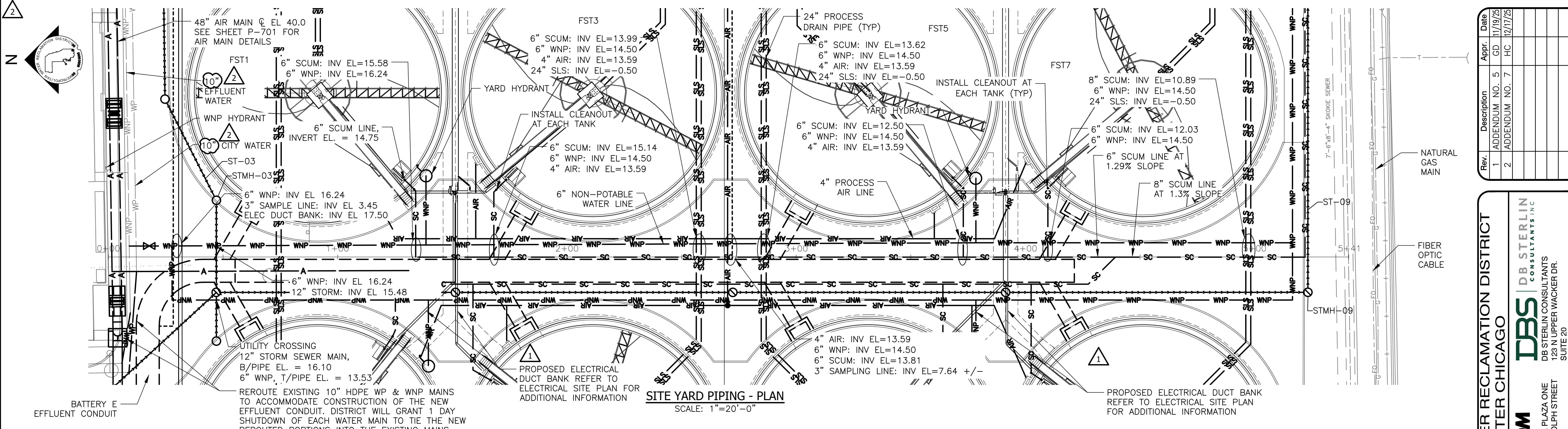
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Drawn by:	LK	Reviewed by:	BP
Date:	JULY 2025	Scale:	AS SHOWN

CONTRACT 21-092-3P
OBRIEN WATER RECLAMATION PLANT
BATTERY E ACTIVATED SLUDGE FACILITY

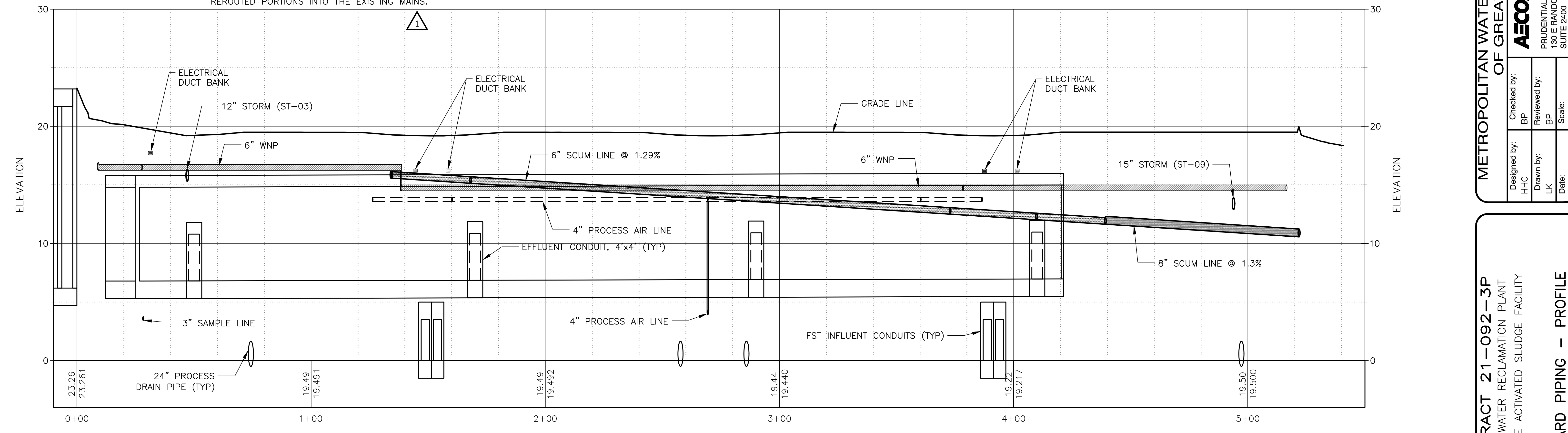
SITE YARD PIPING - PROFILE

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C-055

Page Number: 71

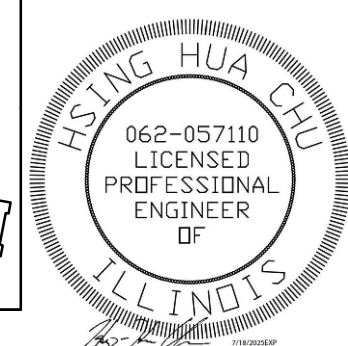
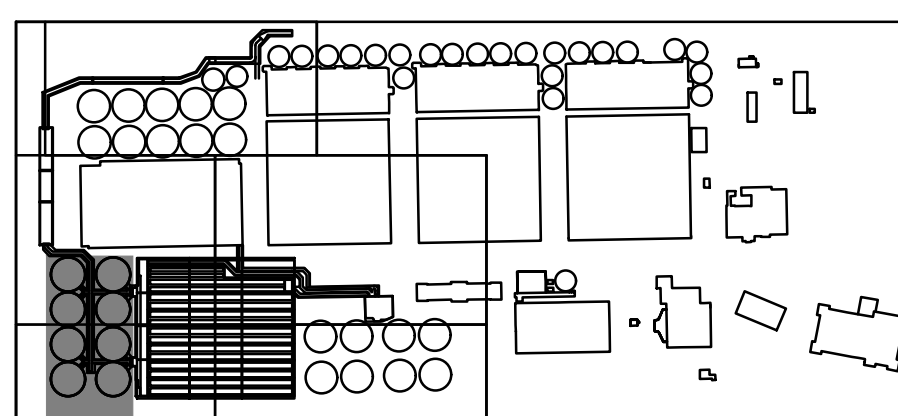
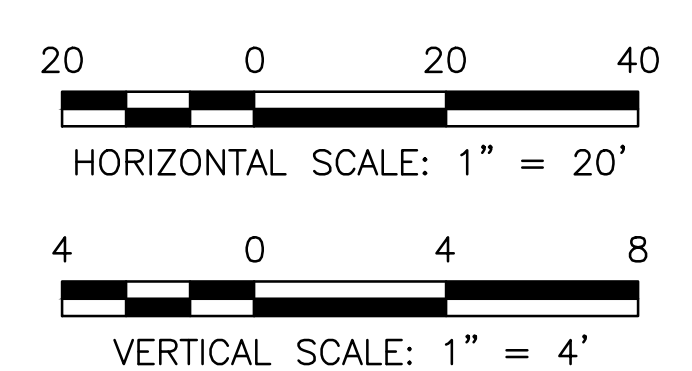


SITE YARD PIPING - PLAN
SCALE: 1"=20'-0"



SITE YARD PIPING - PROFILE - LOOKING EAST
HORIZONTAL SCALE: 1"=20'-0", VERTICAL SCALE: 1"=4'-0"

- LEGEND:**
- NEW OR EXISTING BACKGROUND
 - - - EXISTING WORK TO REMAIN (OR NEW WORK FURNISHED AND INSTALLED UNDER OTHER CONTRACT ITEMS)
 - NEW WORK
 - - - FUTURE WORK



Rev.	Description	Appr.	Date
1	ADDENDUM NO. 5	GD	11/19/25
2	ADDENDUM NO. 7	HC	12/17/25

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

AECOM

Checked by: BP
Reviewed by: BP
Designed by: HHC
Drawn by: LK
Date: JULY 2025
Scale: AS SHOWN

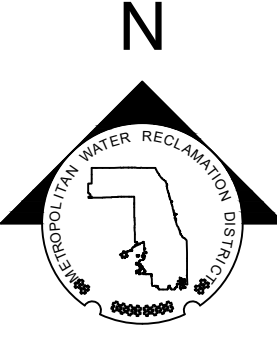
DBS STERLIN CONSULTANTS INC.
DB STERLIN CONSULTANTS
123 N UPPER WACKER DR.
SUITE 200
CHICAGO, IL 60601, USA

CONTRACT 21-092-3P
OBRIEN WATER RECLAMATION PLANT
BATTERY E ACTIVATED SLUDGE FACILITY

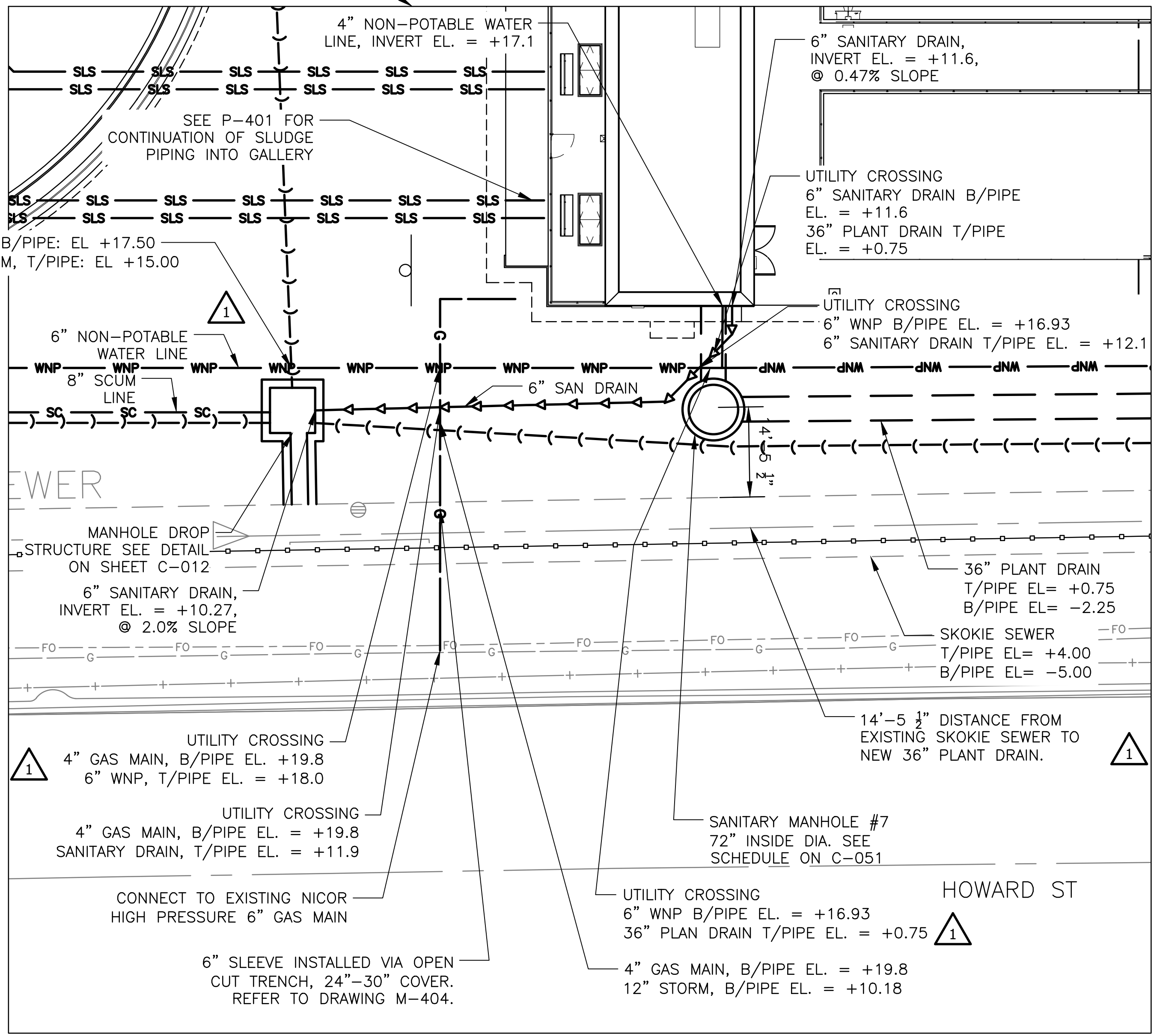
SITE YARD PIPING - PROFILE

Sheet Number:
C-056
Page Number: 72

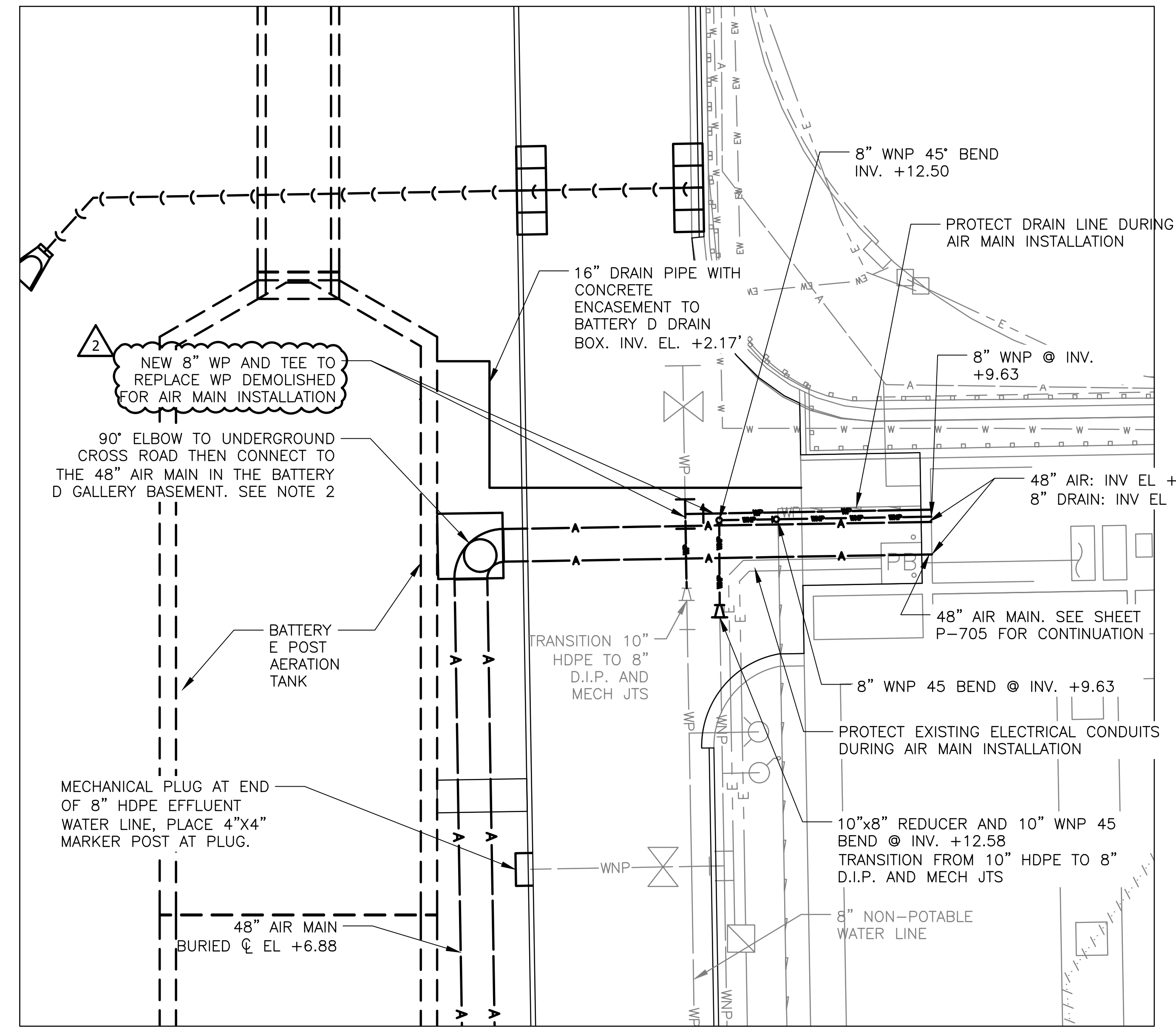
PLOT DATE: 12/23/2025 9:48 AM PLOTTED BY: KASIMAD, USA
 CONTRACTS: 21-092-3P-REF-06 Civil Services C-057.dwg 12/23/2025 9:36 AM



NOTE: ROAD TURNED OFF FOR CLARITY
DETAIL 1 ONLY.



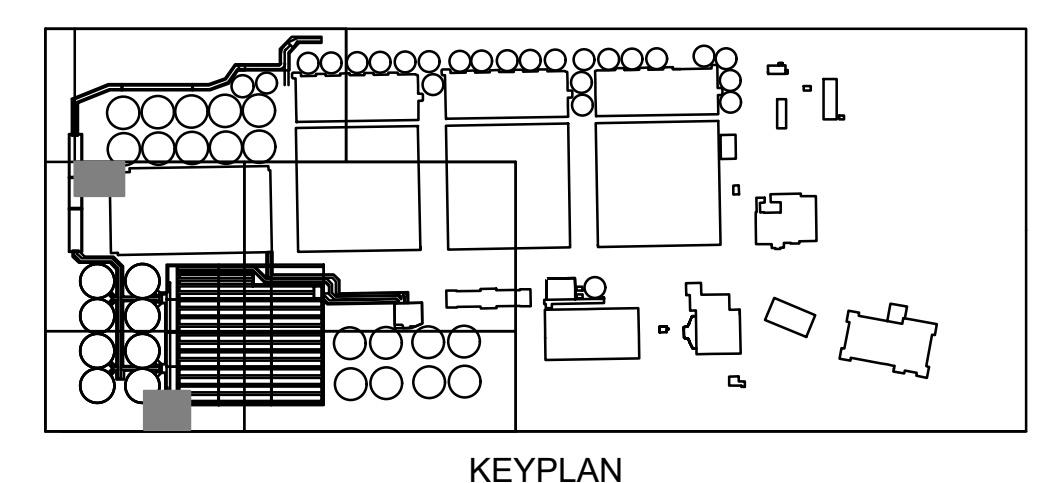
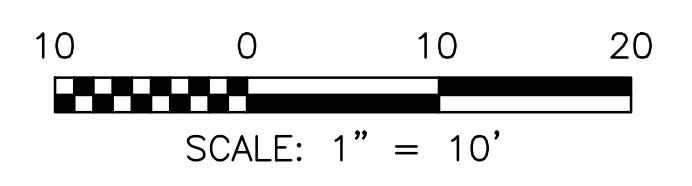
1 SITE YARD PIPING DETAIL
SCALE: 1"=10'-0"



2 SITE YARD PIPING DETAIL
SCALE: 1"=10'-0"

- LEGEND:**
- NEW OR EXISTING BACKGROUND
 - EXISTING WORK TO REMAIN (OR NEW WORK FURNISHED AND INSTALLED UNDER OTHER CONTRACT ITEMS)
 - NEW WORK
 - FUTURE WORK

- NOTE:**
1. REFER TO ELECTRICAL/PROCESS SHEETS FOR ELECTRICAL/PROCESS DESIGN DETAILS.
 2. INSTALLATION OF THE 36" PLANT DRAIN (DUCTILE IRON OR HDPE) MAY BE PERFORMED BY OPEN CUT OR TRENCHLESS METHODS. EXISTING HOWARD INTERCEPTOR SHALL BE PROTECTED FROM DAMAGE DURING INSTALLATION OF THE 36" PLANT DRAIN.
 3. REFER TO TABLES ON C-051 FOR MORE INFORMATION ON PLANT DRAIN.
 4. PRIOR TO CONSTRUCTION, COORDINATE WITH MWRDGC REGARDING COORDINATION OF 36" PLANT DRAIN WITH WORK ON PROJECT 24-098-3S AND OTHER MWRD CONTRACTS.
 5. SEE C-022 FOR GENERAL MANHOLE REQUIREMENTS.
 6. CONTRACTOR RESPONSIBLE FOR INSTALLING SLEEVE PIPING FOR NICOR GAS SERVICE LINE UP TO THE NEW METER LOCATION. CONTRACTOR RESPONSIBLE FOR COORDINATING AND REQUESTING THIS WORK FROM NICOR.
 7. GAS LINE SIZE APPROXIMATE. FINAL SIZING TO BE DETERMINED BY NICOR.

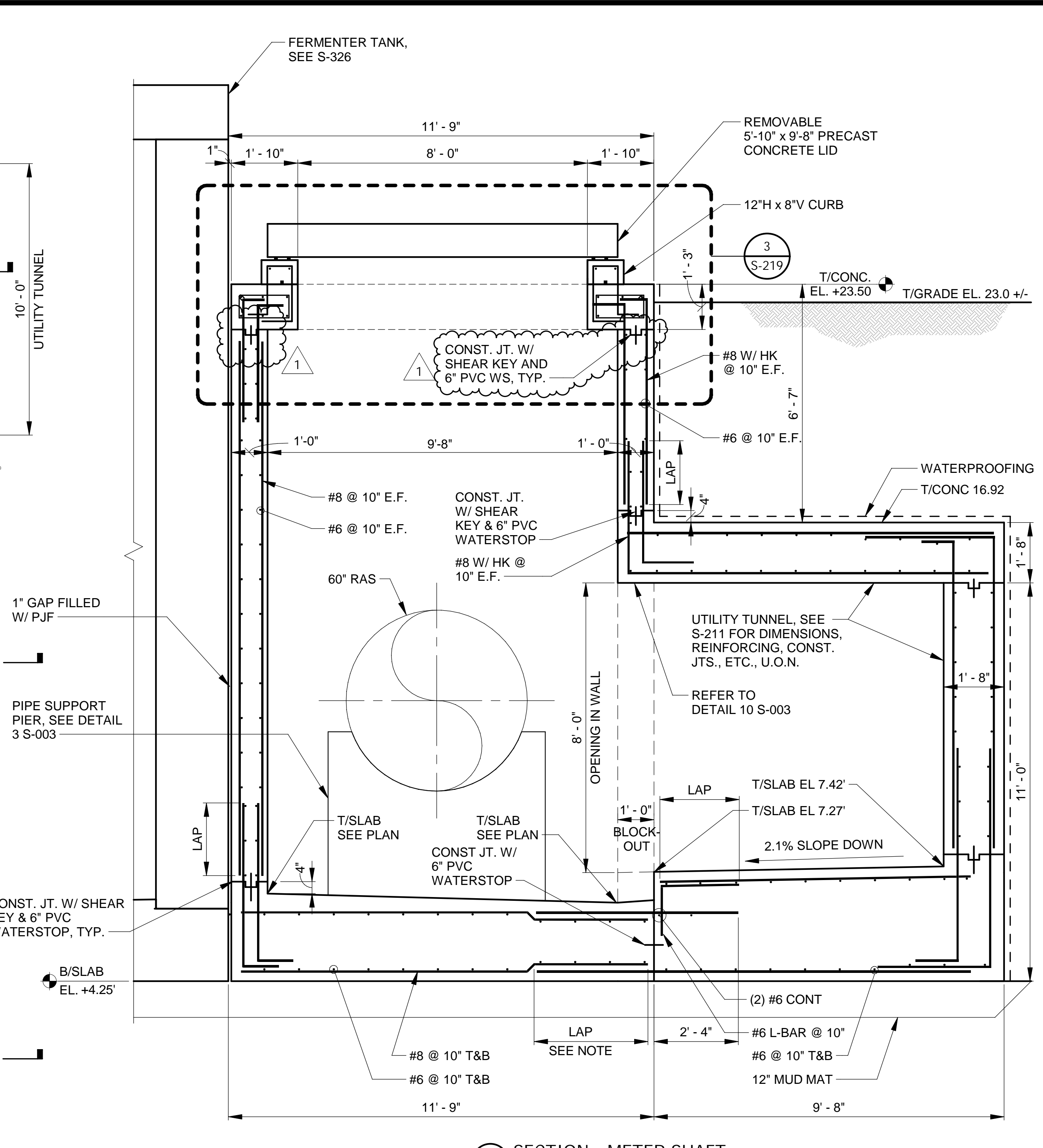
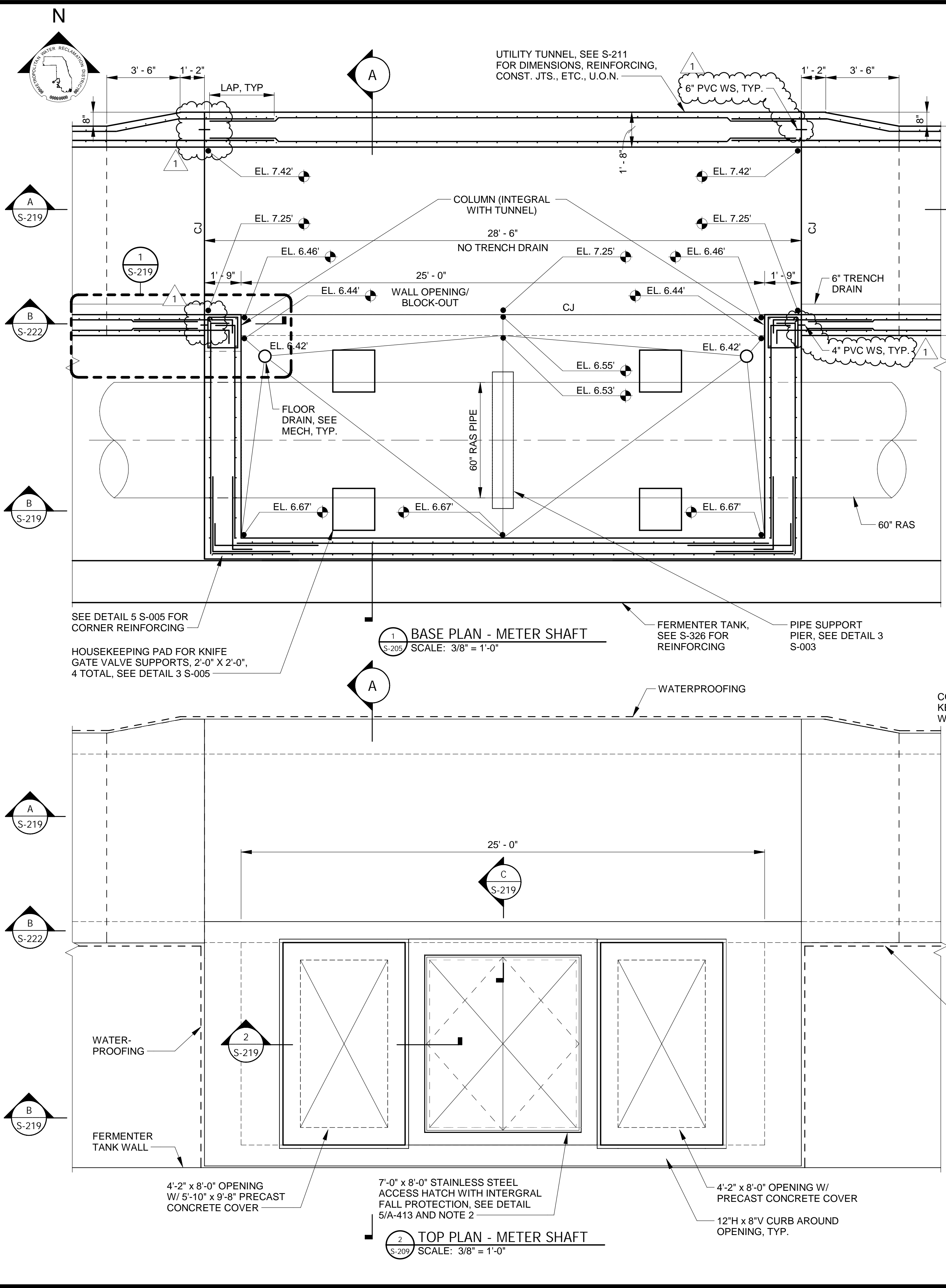


Rev.	Description	Appr.	Date
1	ADDENDUM NO. 4	HC	10/27/25
2	ADDENDUM NO. 7	HC	12/17/25

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO
DBS | DB STERLIN CONSULTANTS INC
AECOM
 PRUDENTIAL PLAZA ONE
 130 E RANDOLPH STREET
 SUITE 2400
 CHICAGO, IL 60601, USA
 Scale: AS SHOWN
 Date: JULY 2025
 Checked by: BP
 Reviewed by: BP
 Drawn by: LK
 Designed by: HFC

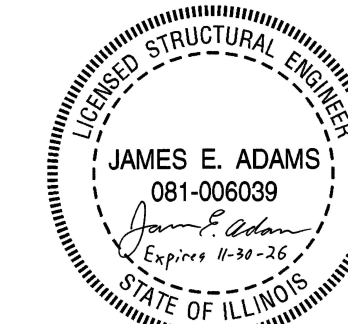
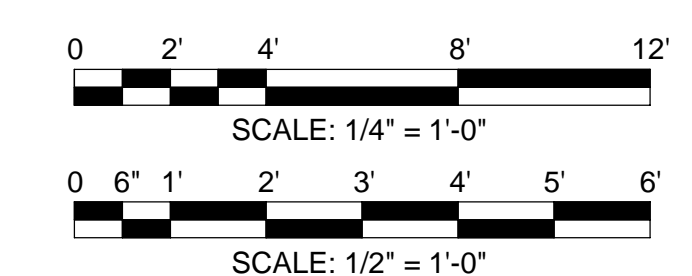
CONTRACT 21-092-3P
OBRIEN WATER RECLAMATION PLANT
BATTERY E ACTIVATED SLUDGE FACILITY
SITE YARD PIPING DETAILS

Sheet Number:
C-057
Page Number: 73



- NOTES:**
- SPLICES MAY BE MADE WITH MECHANICAL COUPLERS IN LIEU OF LAPPED SPLICES. REFER TO SPECIFICATION SECTION 03200.
 - STAINLESS STEEL HATCH SHALL BE RATED FOR A MINIMUM LIVE LOAD OF 150 PSF. HATCH SHALL BE WEATHERTIGHT. CLEAR OPENING OF HATCH SHALL BE 7'-0" x 8'-0". ATTACHMENT OF HATCH FRAME TO CONCRETE STRUCTURE SHALL BE PER HATCH MANUFACTURER. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THE HATCH PRIOR TO WORK. REFER TO SPECIFICATION SECTION 05500 AND DETAIL 5 SHEET A-413.
 - SEE SHEET S-002 FOR LAP LENGTHS.

- LEGEND:**
- NEW OR EXISTING BACKGROUND
 - EXISTING WORK TO REMAIN (OR NEW WORK FURNISHED AND INSTALLED UNDER OTHER CONTRACT ITEMS)
 - NEW WORK



Rev.	Description	Appr.	Date
1	ADDENDUM NO. 7	GD	12/17/25

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

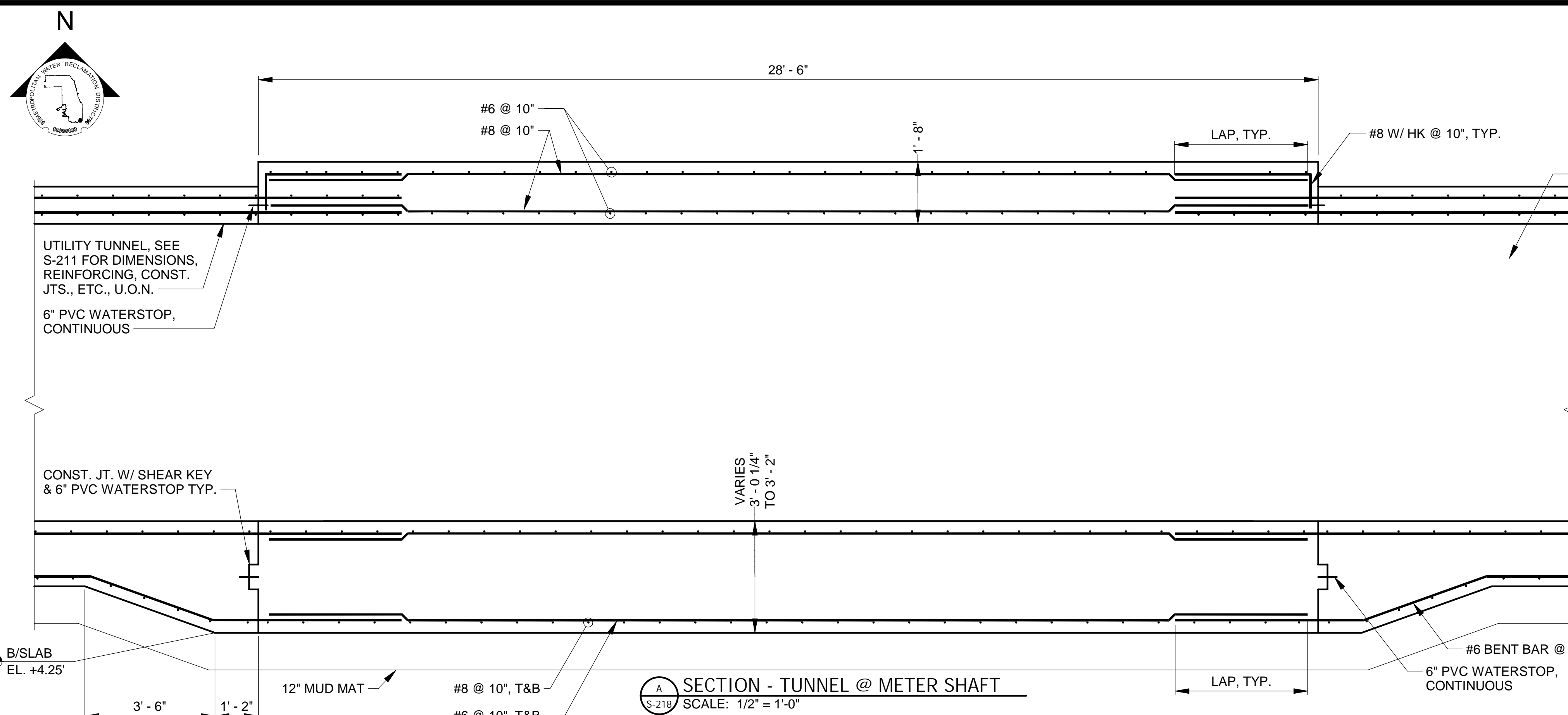
ACCOM
PRUDENTIAL PLAZA ONE
130 E RANDOLPH STREET
SUITE 2400
CHICAGO, IL 60601, USA

Designed by: JA
Checked by: JA
Drawn by: MM
Reviewed by: AG
Date: 7/1/2025
Scale: AS SHOWN

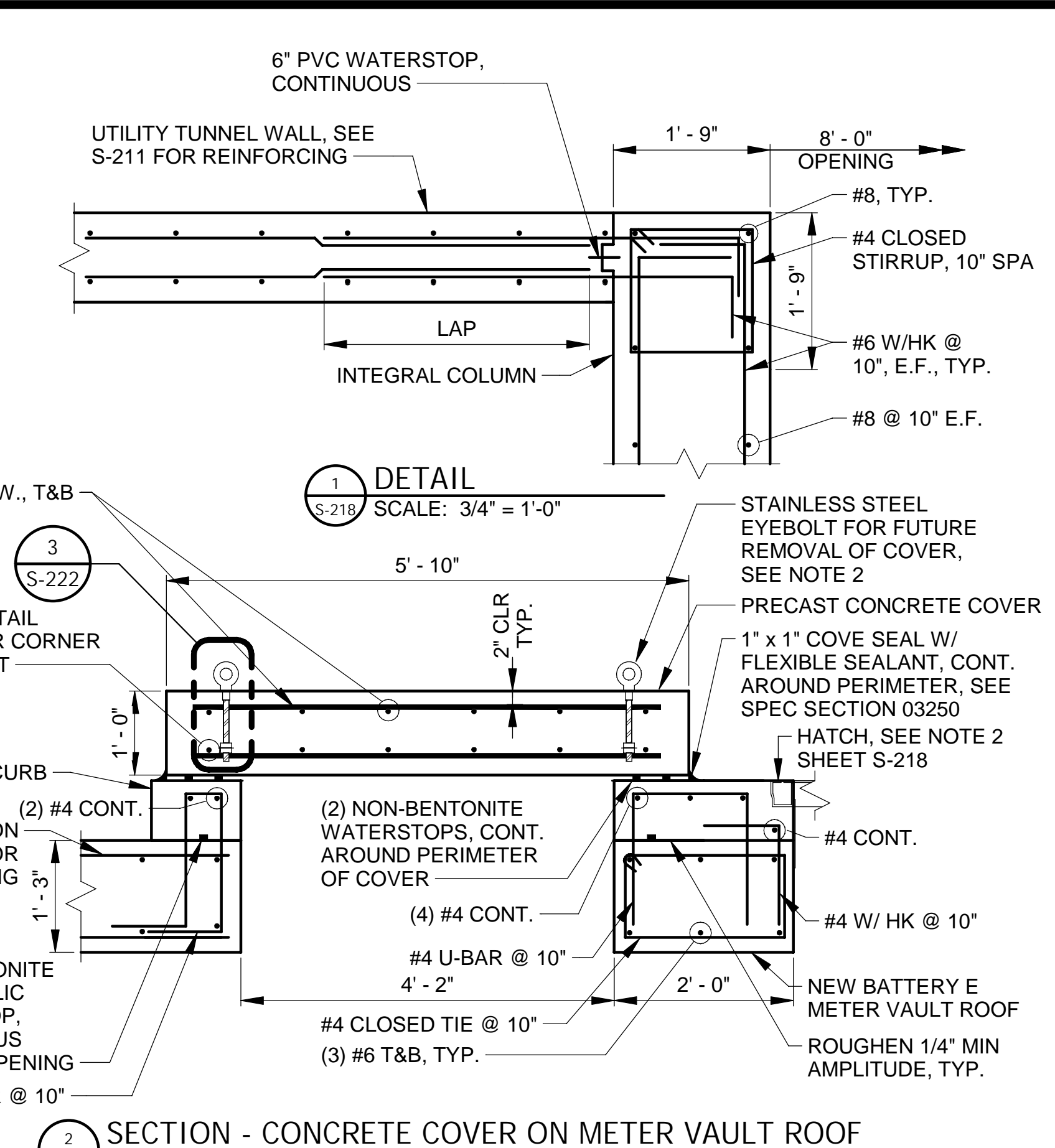
CONTRACT 21-092-3P
OBRIEN WATER RECLAMATION PLANT
BATTERY E ACTIVATED SLUDGE FACILITY
UTILITY TUNNEL & INFLUENT CONDUITS

STRUCTURAL DETAILS

Sheet Number:
S-218
Page Number: 101

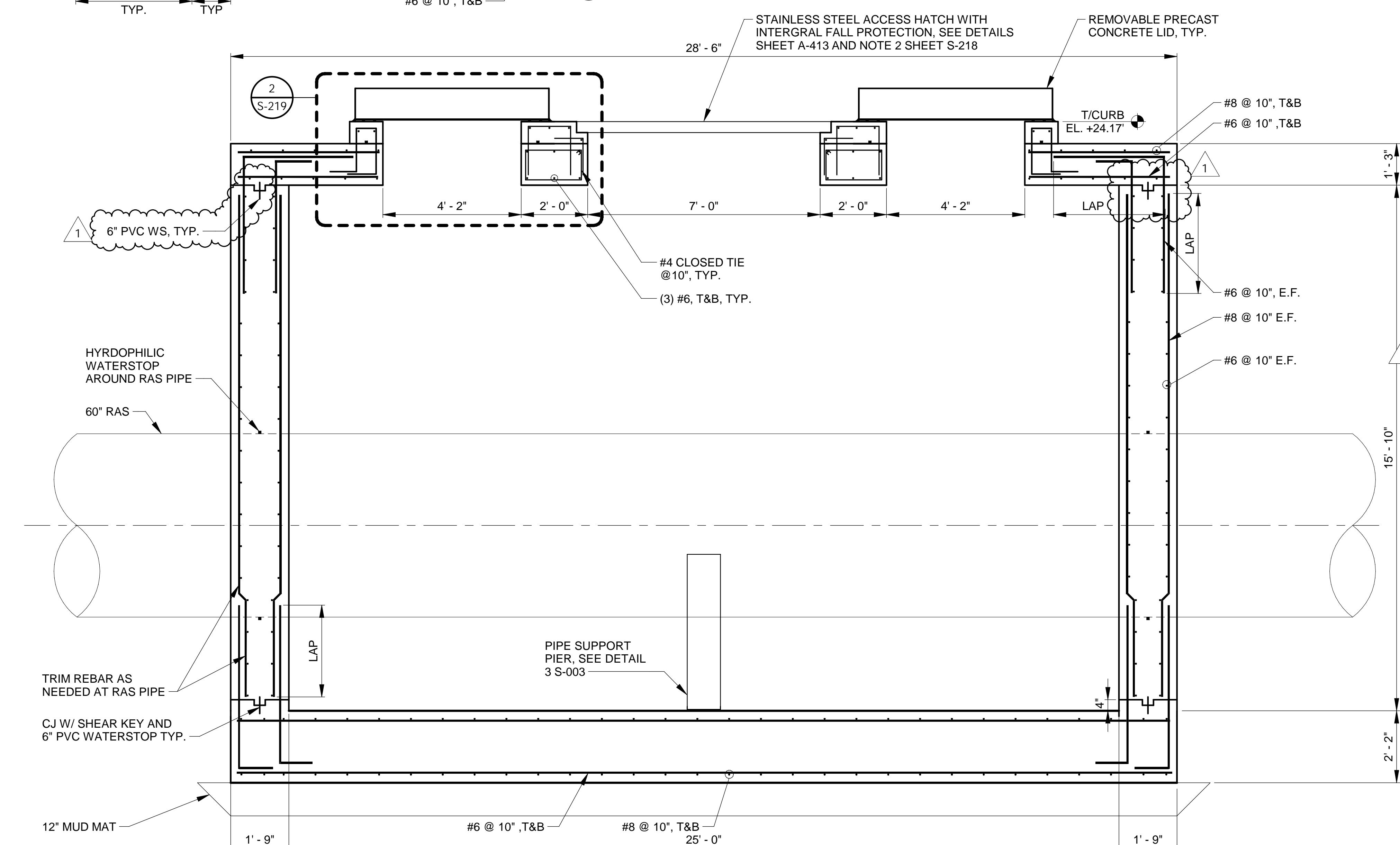


A SECTION - TUNNEL @ METER SHAFT
SCALE: 1/2" = 1'-0"

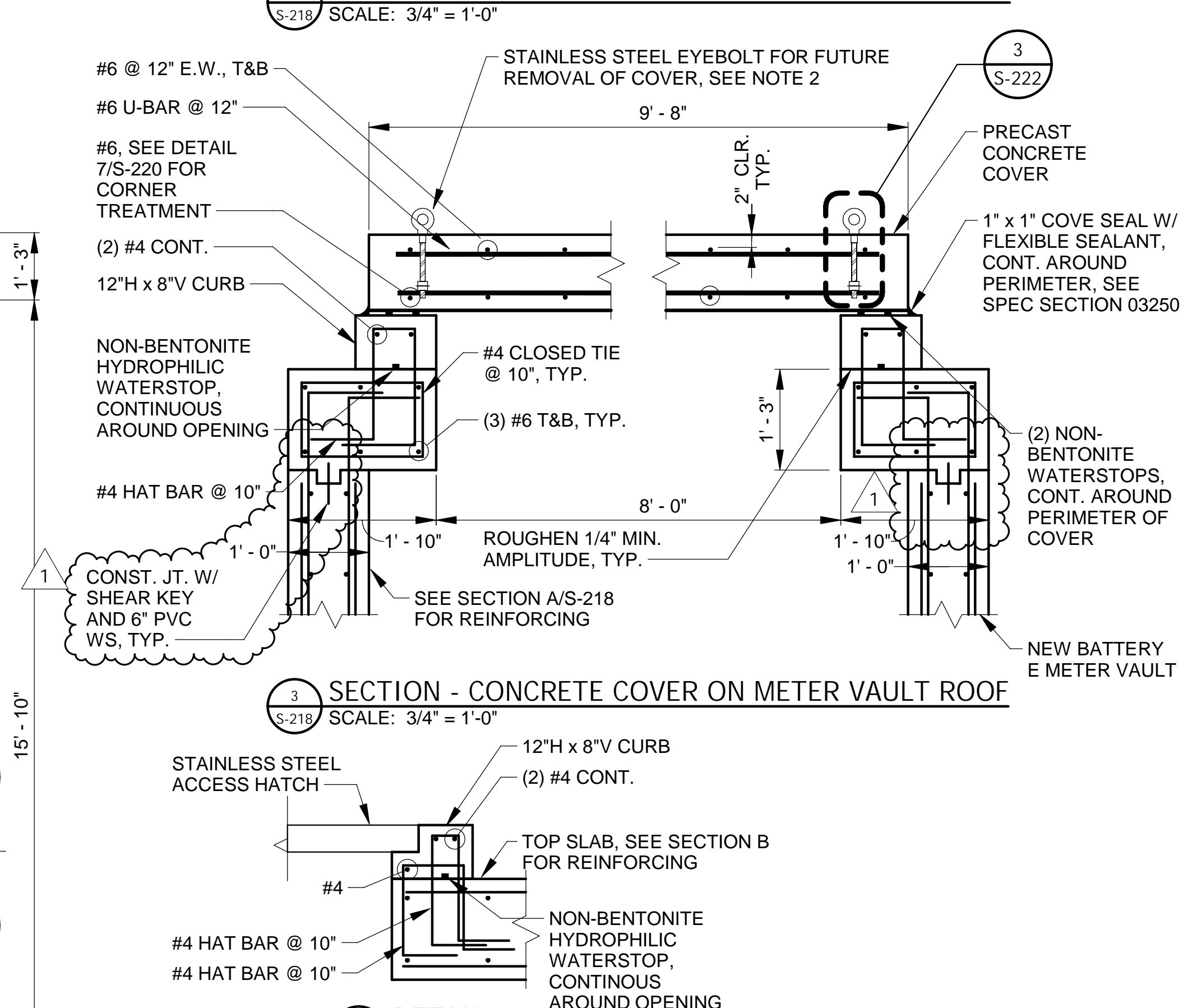


1 DETAIL
SCALE: 3/4" = 1'-0"

2 SECTION - CONCRETE COVER ON METER VAULT ROOF
SCALE: 3/4" = 1'-0"



B SECTION - METER SHAFT
SCALE: 1/2" = 1'-0"



3 SECTION - CONCRETE COVER ON METER VAULT ROOF
SCALE: 3/4" = 1'-0"

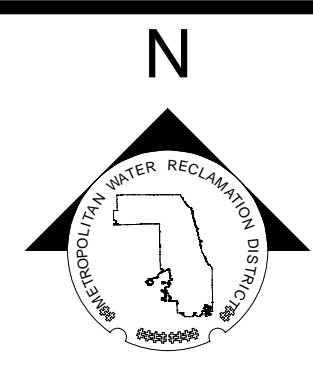
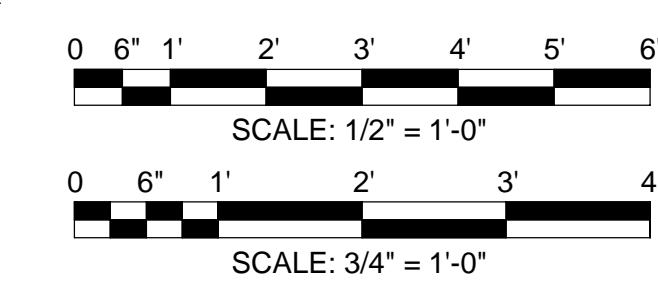
C DETAIL
SCALE: 3/4" = 1'-0"

NOTES:

- SEE SHEET S-002 FOR LAP LENGTHS.
- EYEBOLTS SHALL HAVE A MINIMUM WORKING LOAD LIMIT OF 5,000 POUNDS.

LEGEND:

- NEW OR EXISTING BACKGROUND
- - - EXISTING WORK TO REMAIN (OR NEW WORK FURNISHED AND INSTALLED UNDER OTHER CONTRACT ITEMS)
- NEW WORK



Rev.	Description	Appr.	Date
1	ADDENDUM NO. 7	GD	12/17/25

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

ACOM

PRUDENTIAL PLAZA ONE
130 E RANDOLPH STREET
SUITE 2400
CHICAGO, IL 60601, USA

Checked by: JA
Reviewed by: AG
Designed by: JA
Drawn by: MM
Date: 7/1/2025
Scale: AS SHOWN

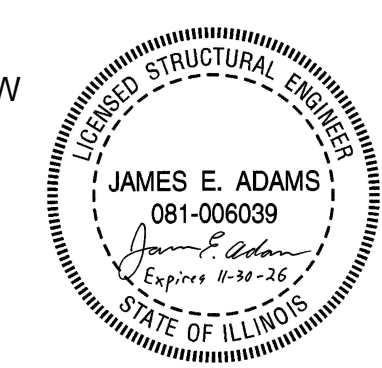
CONTRACT 21-092-3P

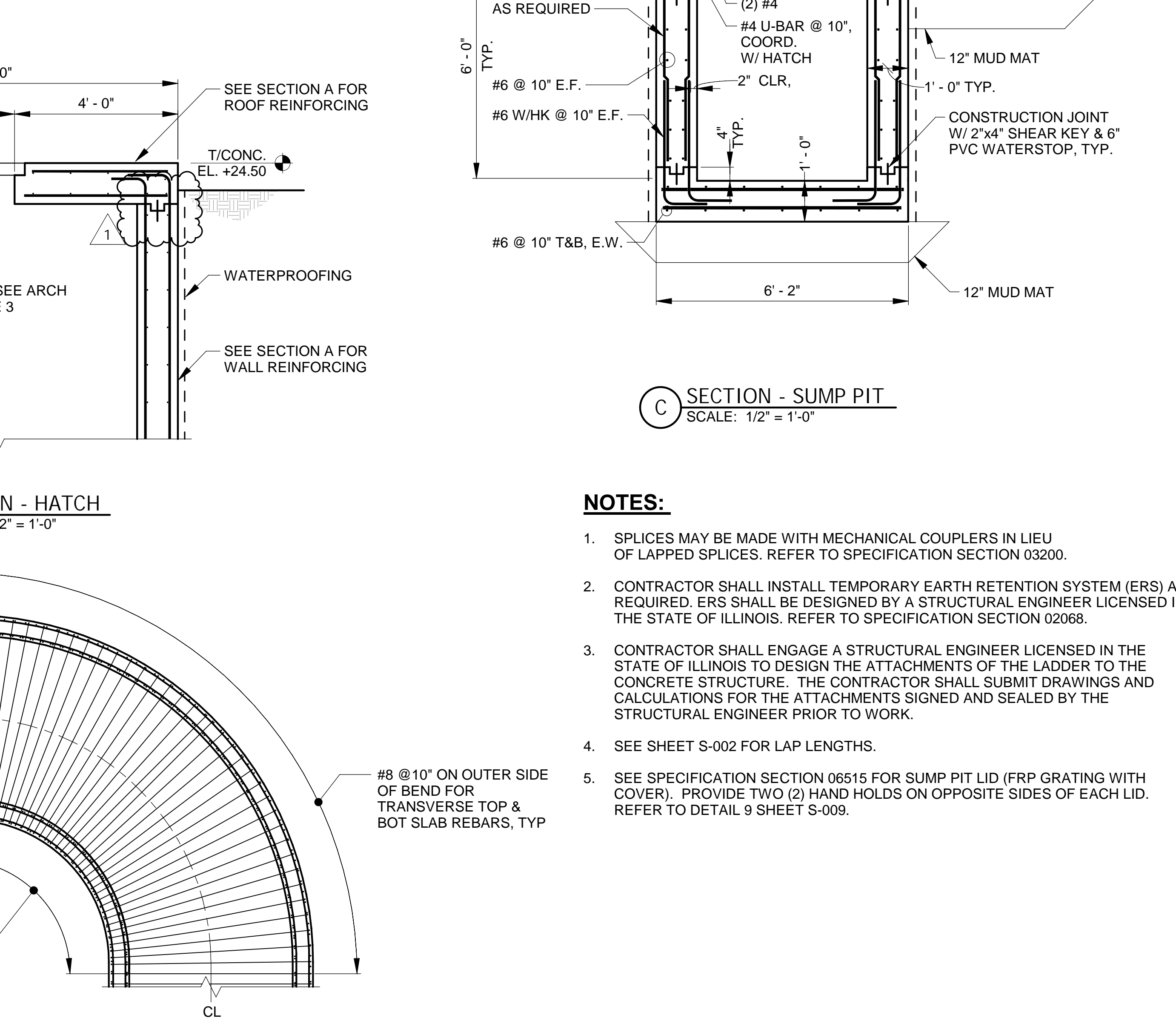
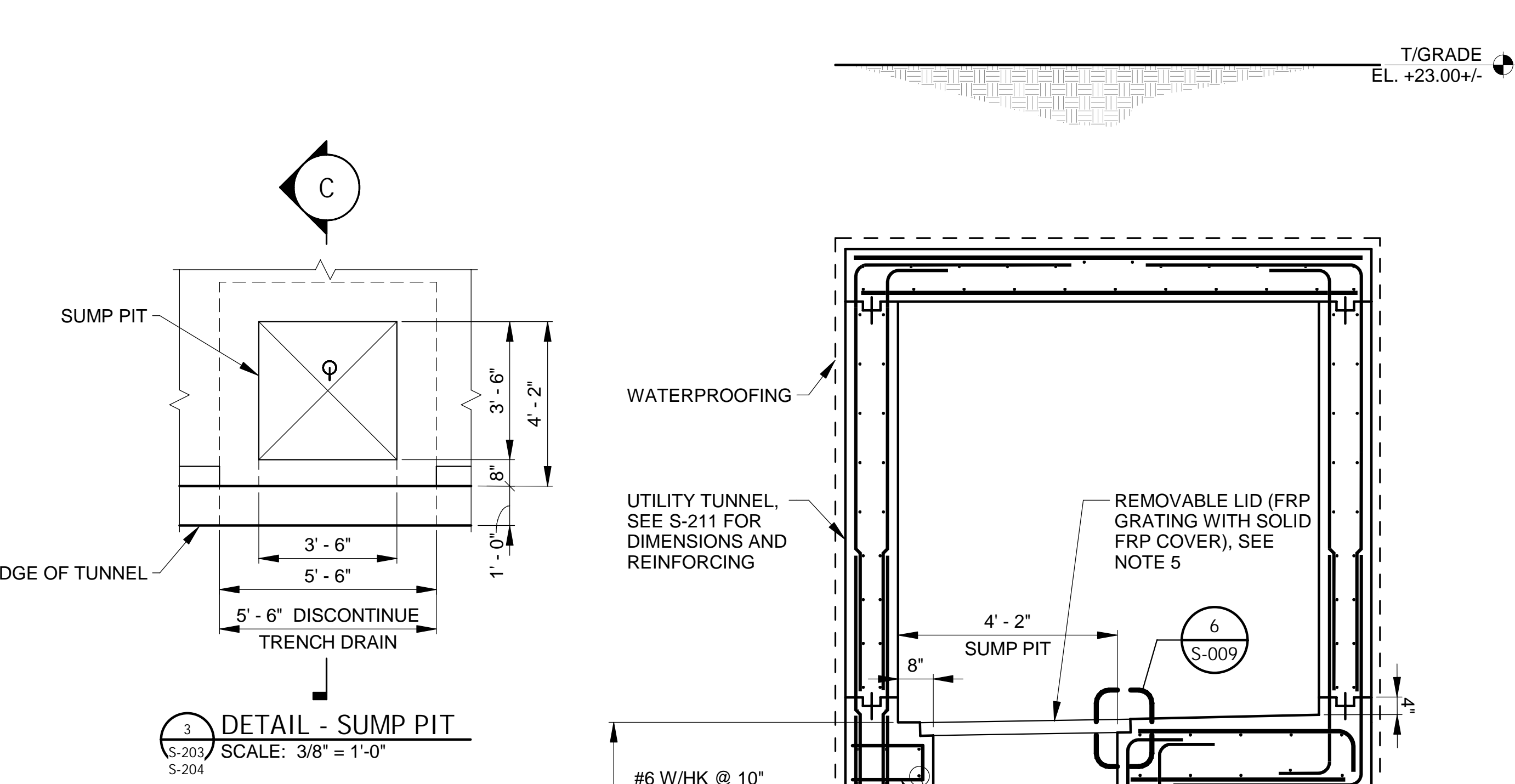
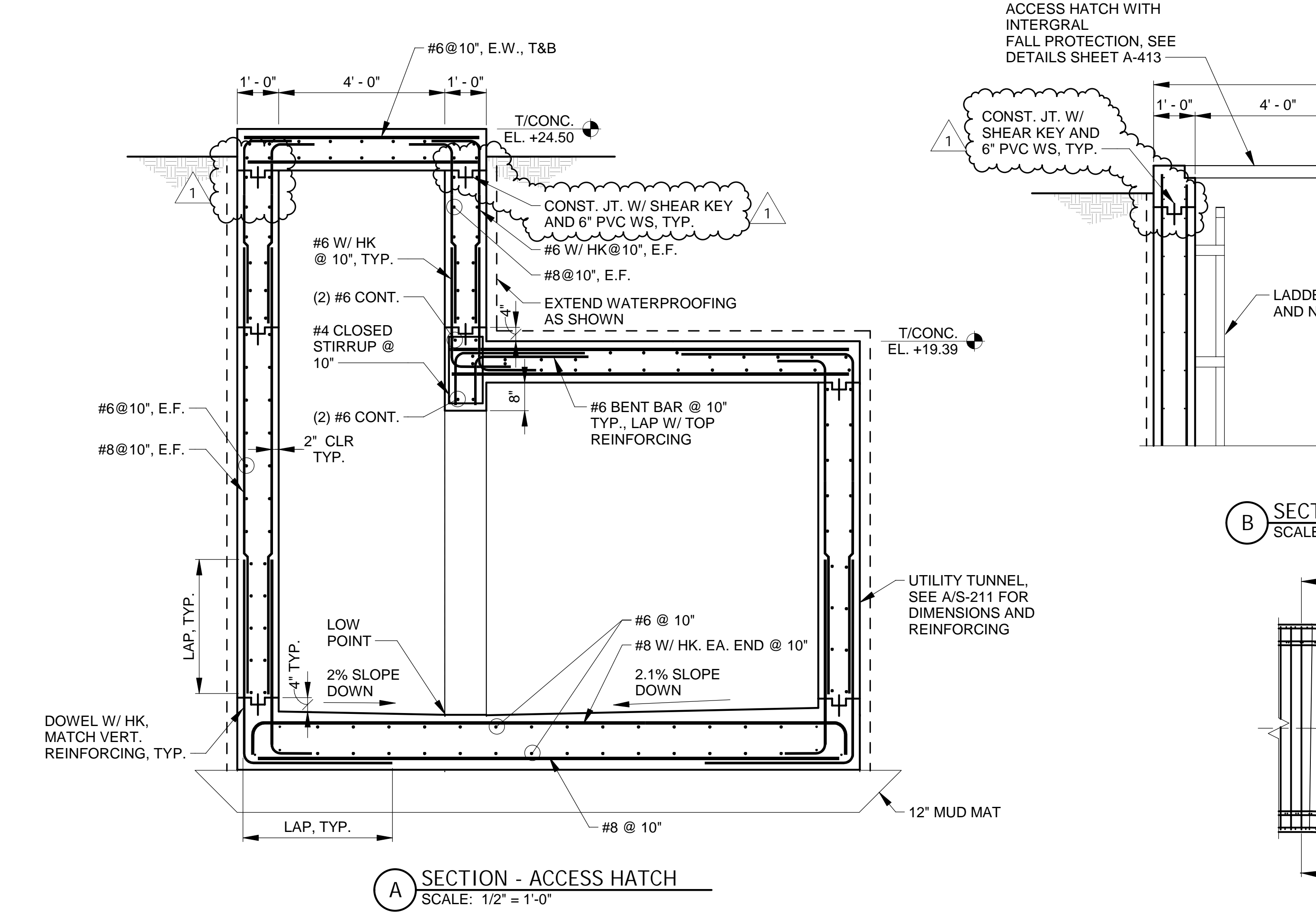
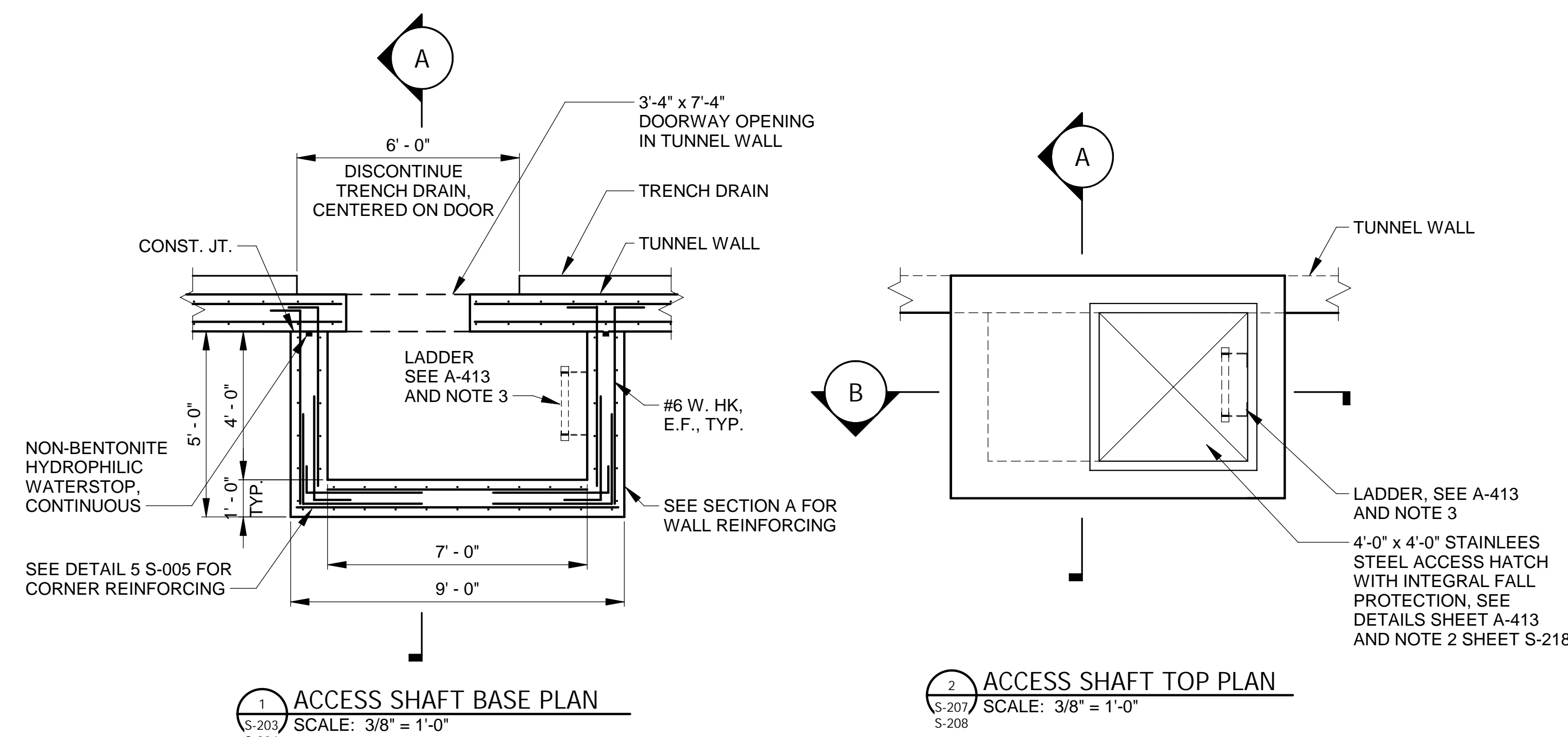
O'BRIEN WATER RECLAMATION PLANT
BATTERY E ACTIVATED SLUDGE FACILITY
UTILITY TUNNEL & INFLUENT CONDUITS

STRUCTURAL DETAILS

Sheet Number:
S-219

Page Number: 102

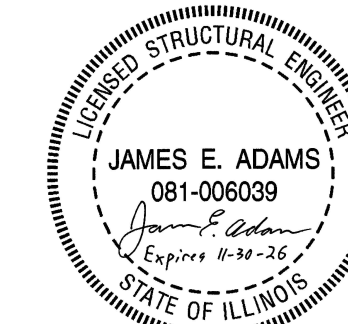
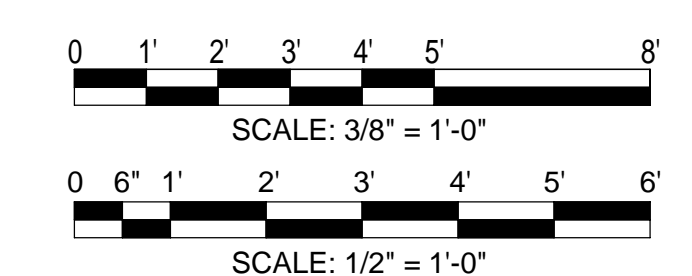




- NOTES:**
- SPLICES MAY BE MADE WITH MECHANICAL COUPLERS IN LIEU OF LAPPED SPLICES. REFER TO SPECIFICATION SECTION 03200.
 - CONTRACTOR SHALL INSTALL TEMPORARY EARTH RETENTION SYSTEM (ERS) AS REQUIRED. ERS SHALL BE DESIGNED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF ILLINOIS. REFER TO SPECIFICATION SECTION 02068.
 - CONTRACTOR SHALL ENGAGE A STRUCTURAL ENGINEER LICENSED IN THE STATE OF ILLINOIS TO DESIGN THE ATTACHMENTS OF THE LADDER TO THE CONCRETE STRUCTURE. THE CONTRACTOR SHALL SUBMIT DRAWINGS AND CALCULATIONS FOR THE ATTACHMENTS SIGNED AND SEALED BY THE STRUCTURAL ENGINEER PRIOR TO WORK.
 - SEE SHEET S-002 FOR LAP LENGTHS.
 - SEE SPECIFICATION SECTION 06515 FOR SUMP PIT LID (FRP GRATING WITH COVER). PROVIDE TWO (2) HAND HOLDS ON OPPOSITE SIDES OF EACH LID. REFER TO DETAIL 9 SHEET S-009.

LEGEND:

	NEW OR EXISTING BACKGROUND
	EXISTING WORK TO REMAIN (OR NEW WORK FURNISHED AND INSTALLED UNDER OTHER CONTRACT ITEMS)
	NEW WORK



Rev.	Description	Appr.	Date
1	ADDENDUM NO. 7	GD	12/17/25

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

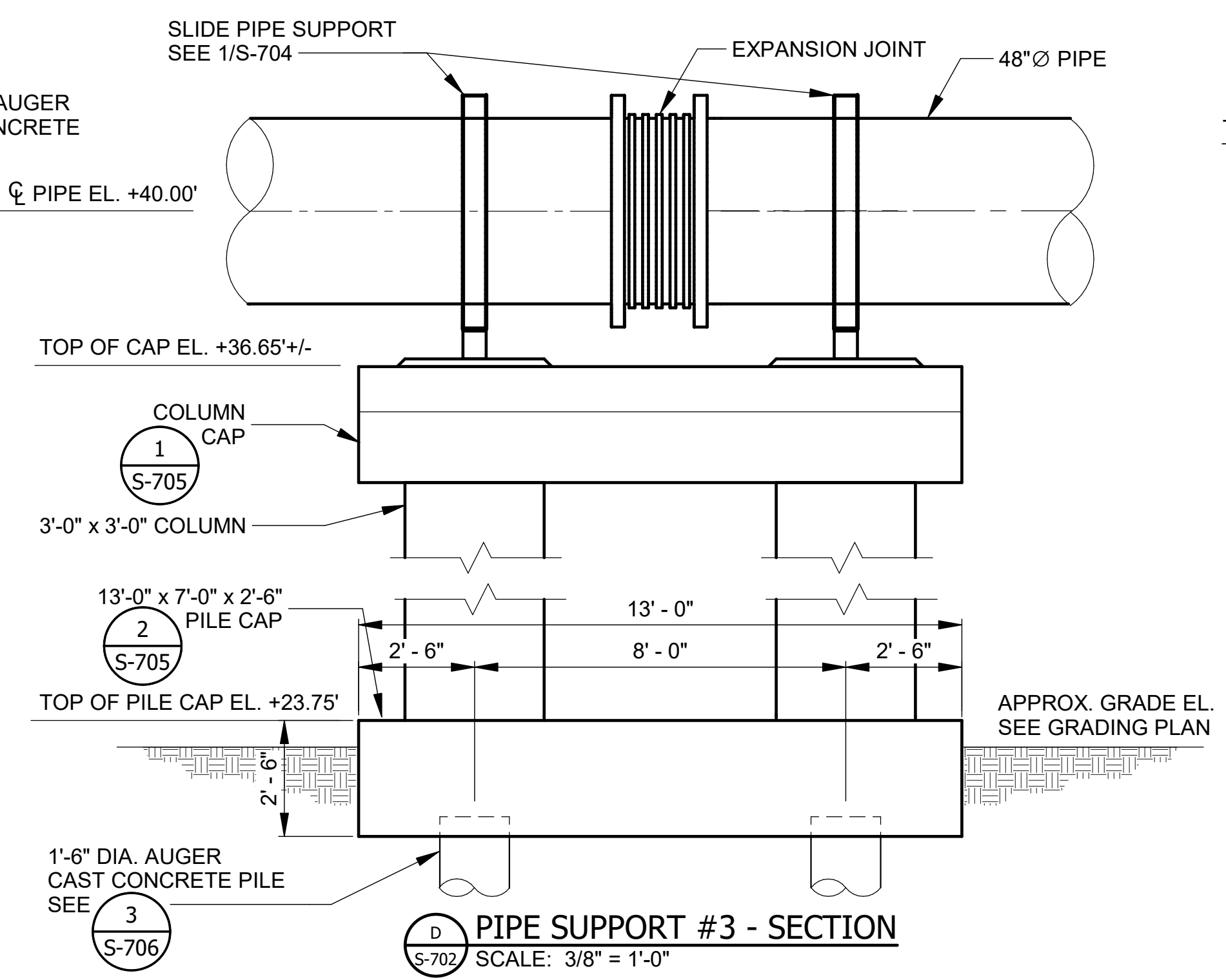
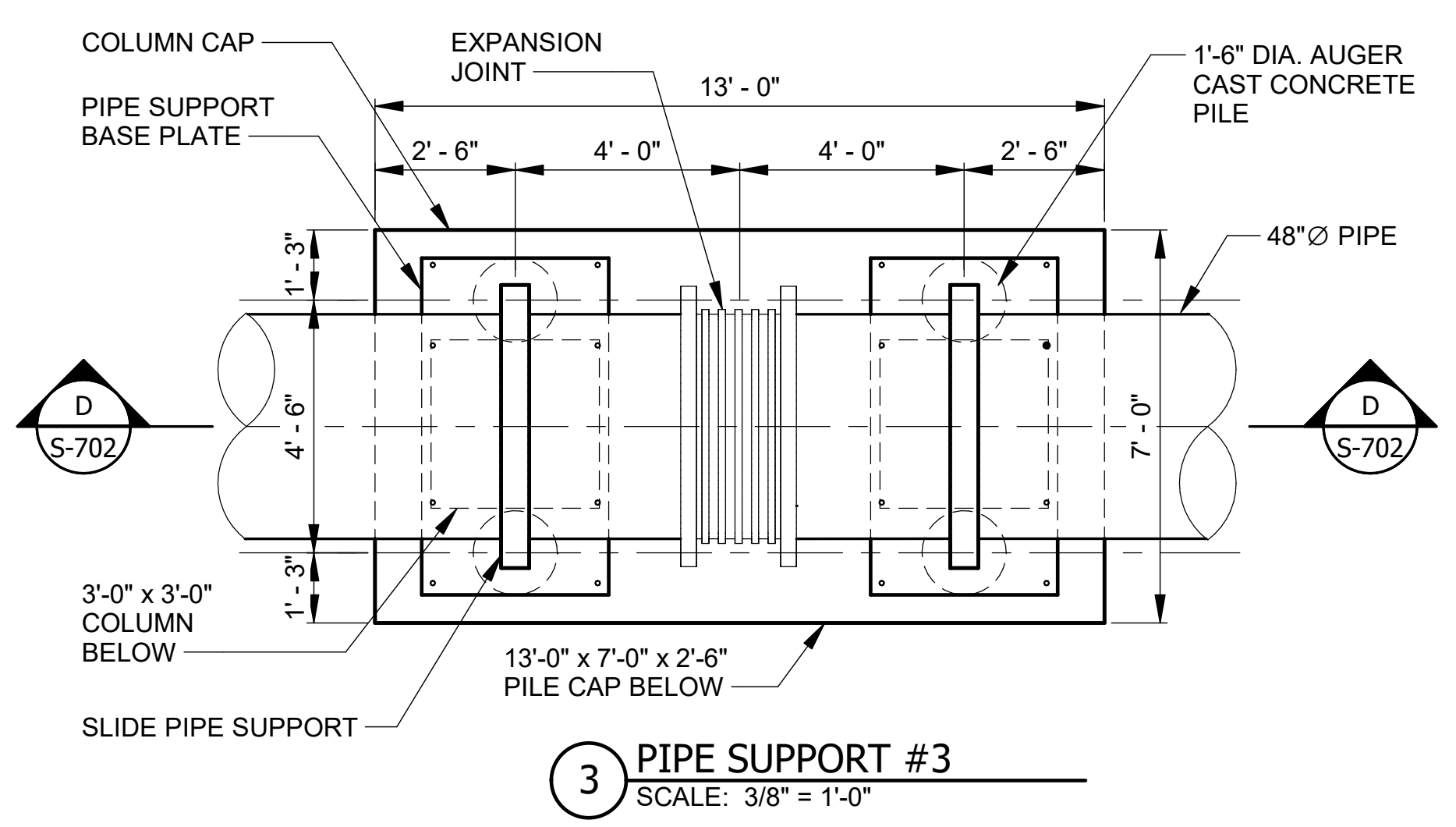
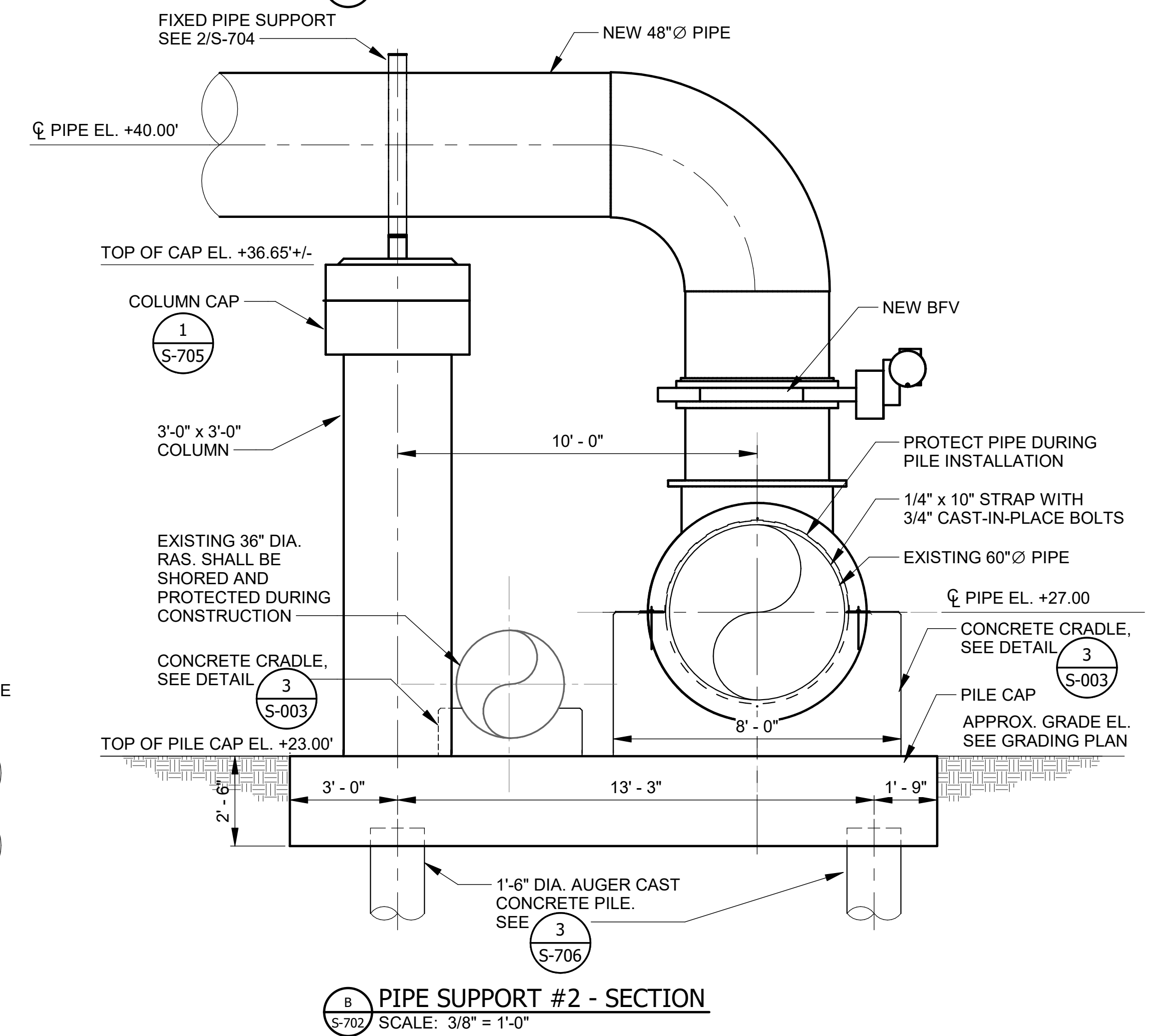
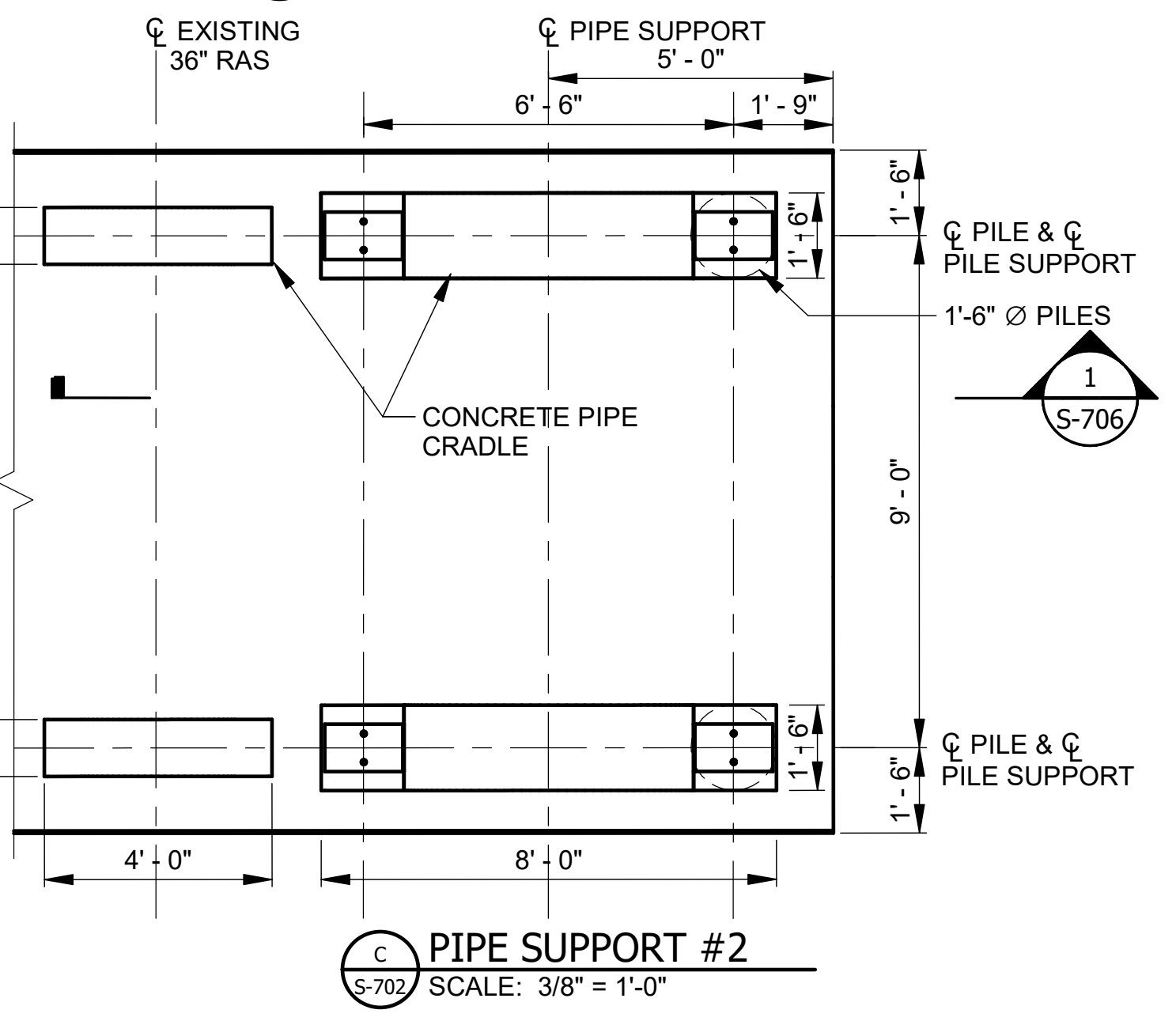
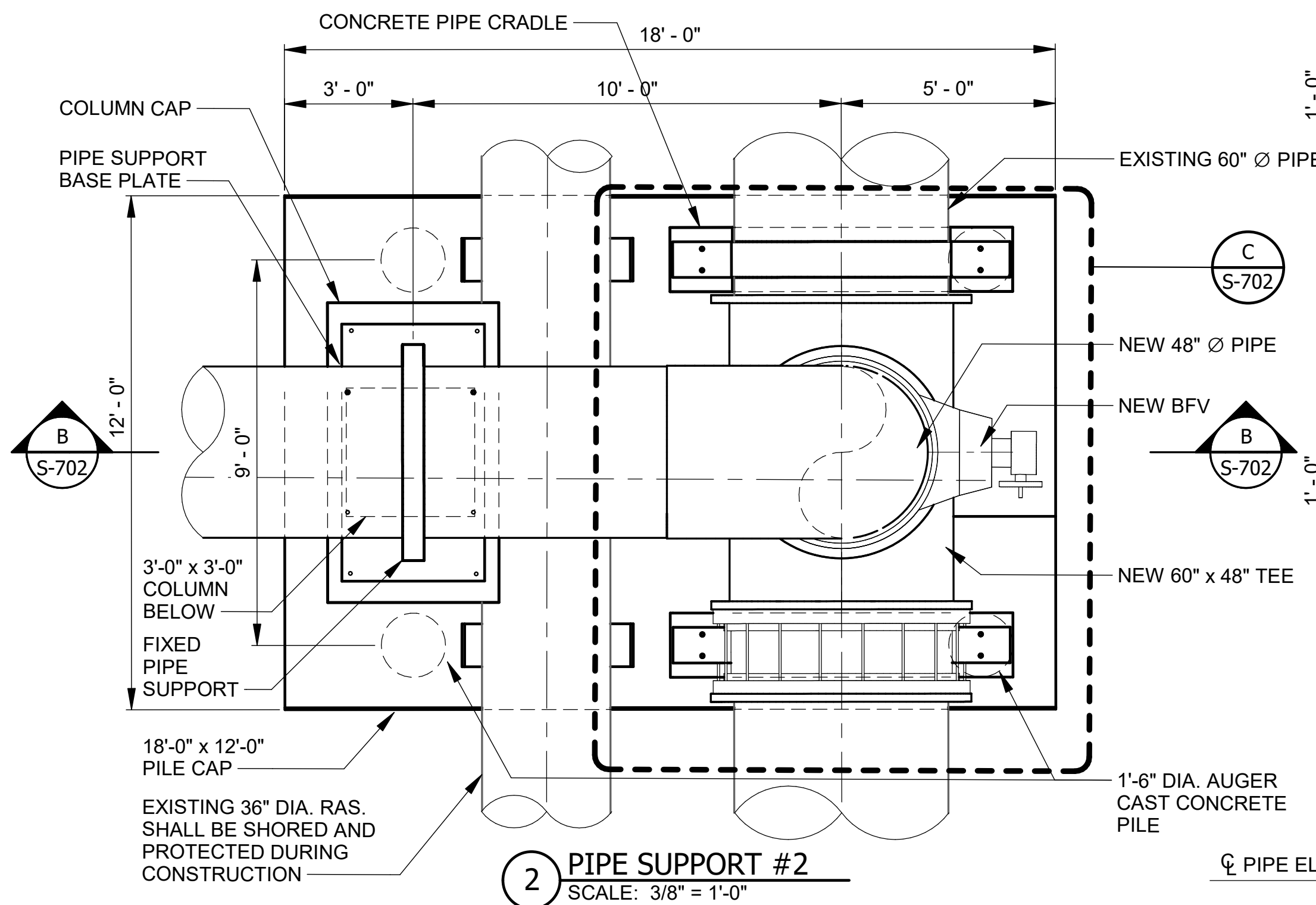
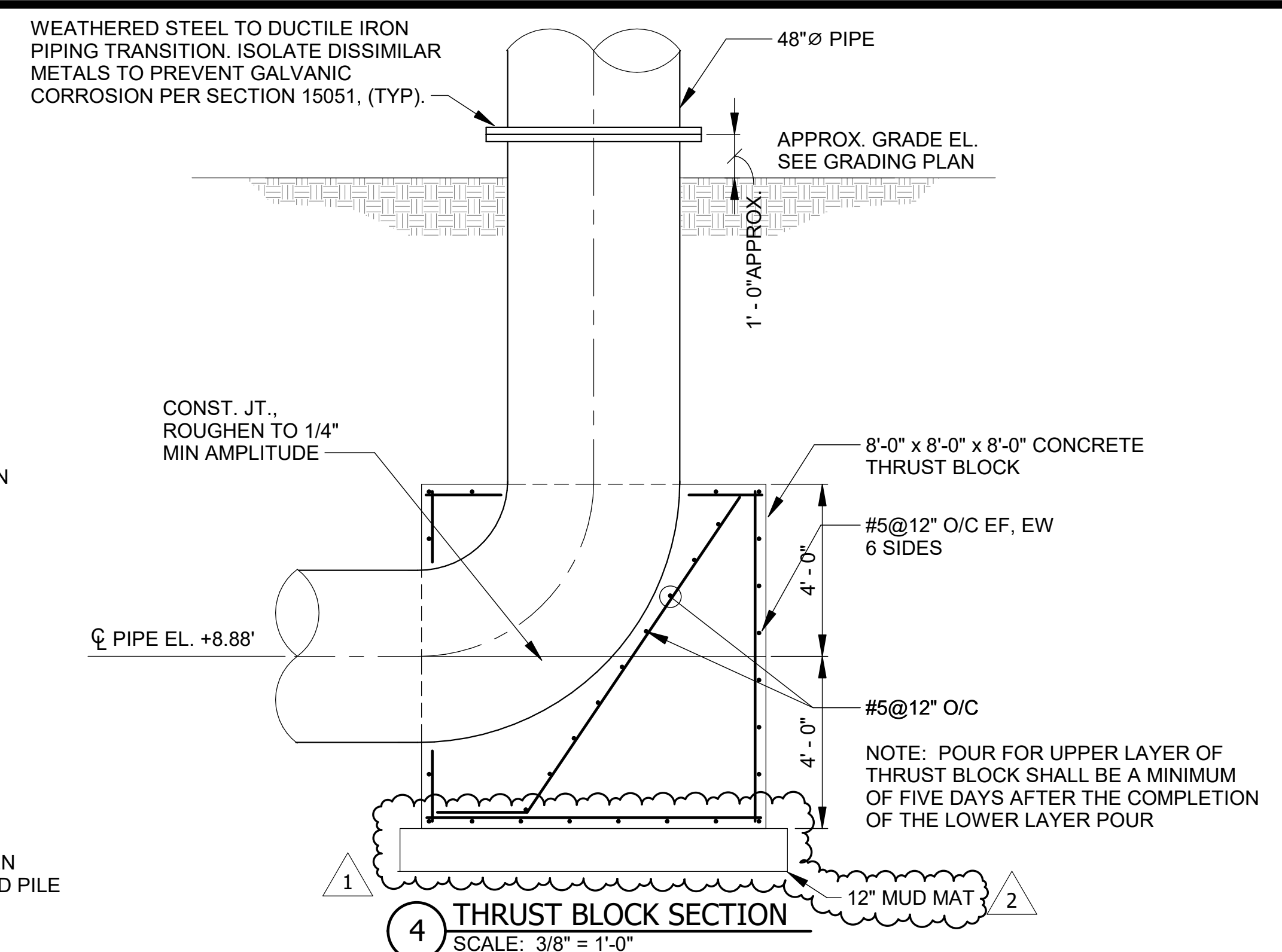
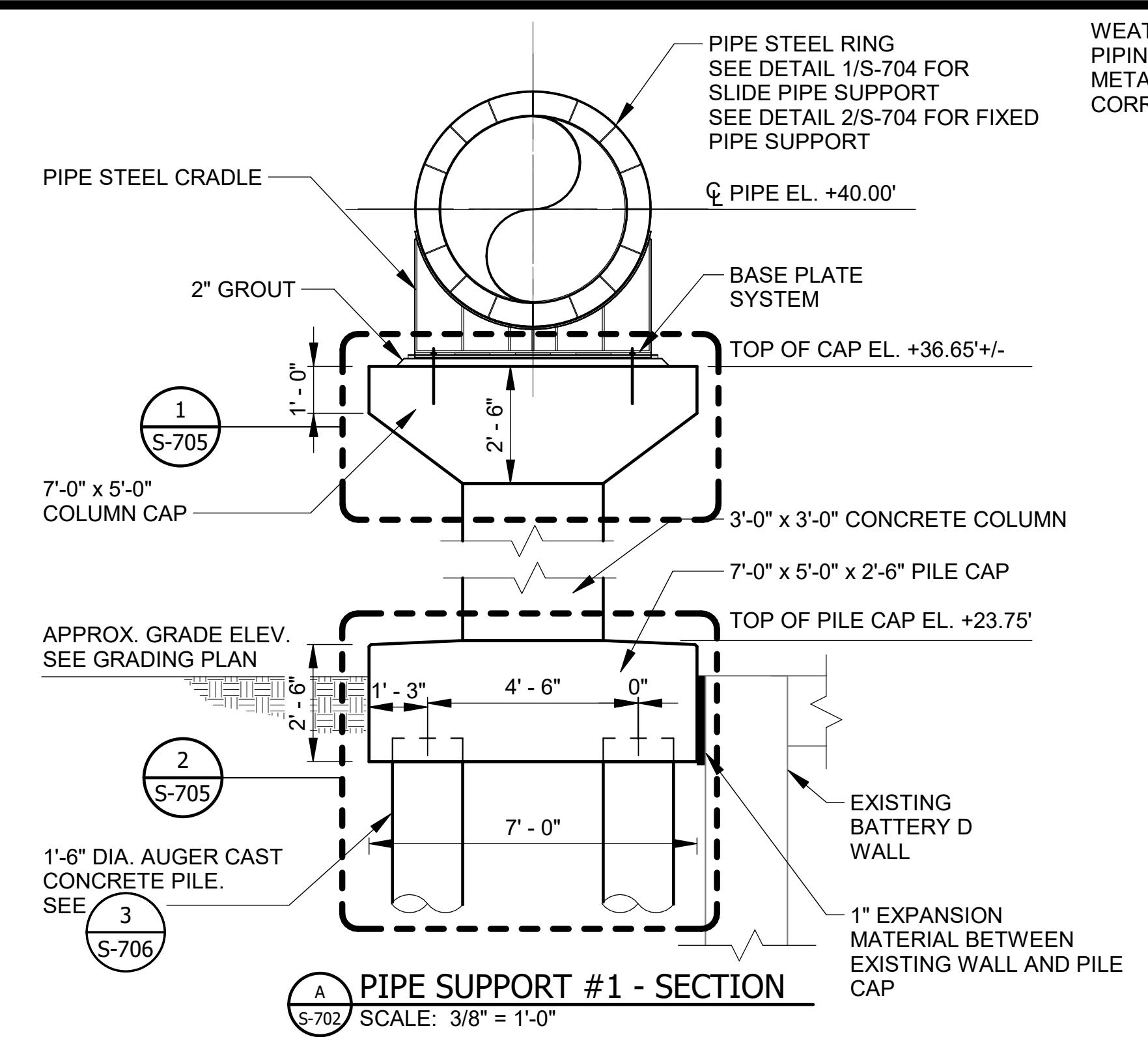
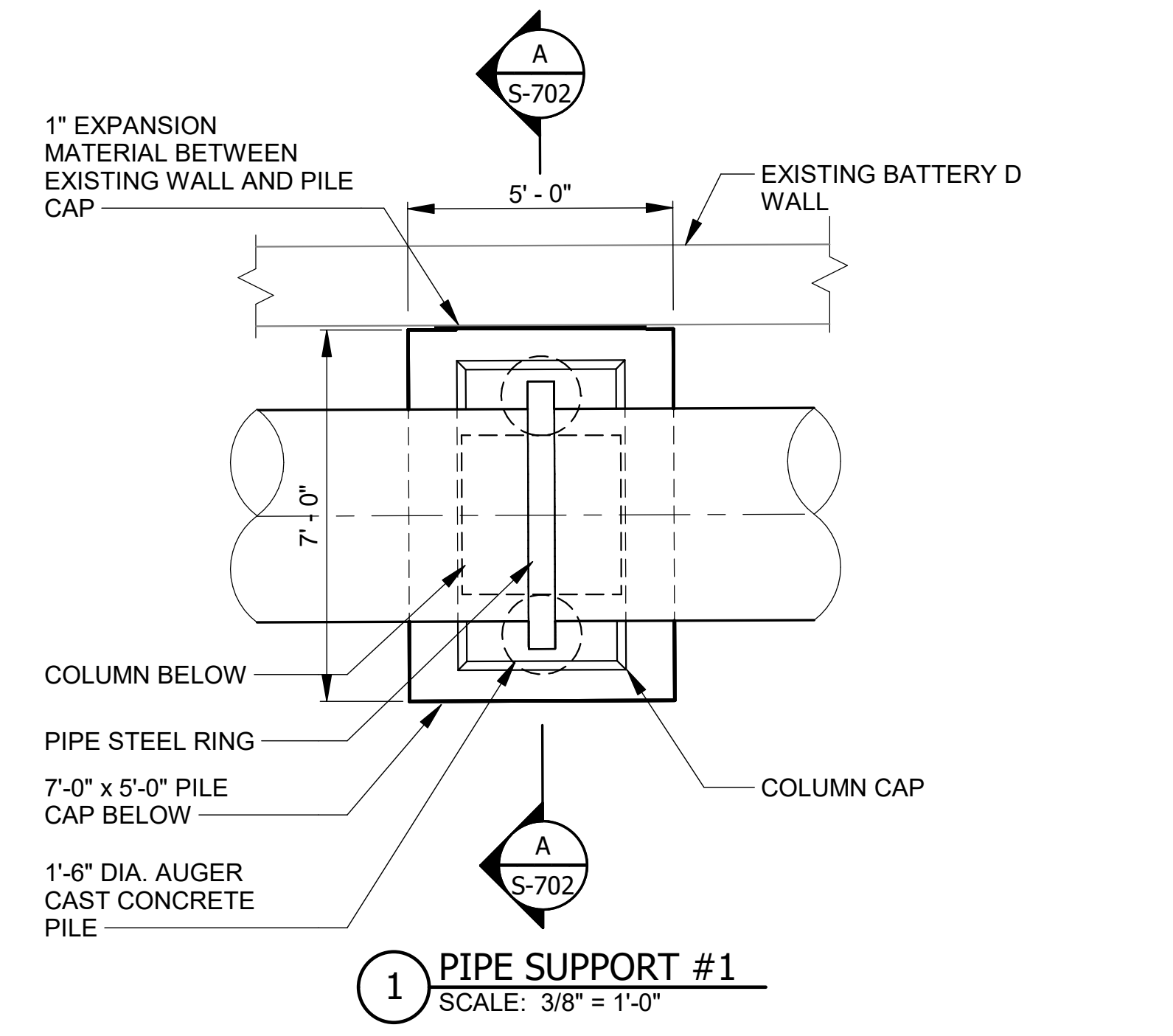
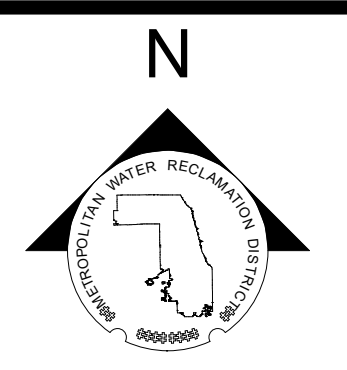
ACCOM

PRUDENTIAL PLAZA ONE
130 E RANDOLPH STREET
SUITE 2400
CHICAGO, IL 60601, USA

Checked by: JA
Designed by: JA
Drawn by: MM
Reviewed by: AG
Date: 7/1/2025
Scale: AS SHOWN

CONTRACT 21-092-3P
OBRIEN WATER RECLAMATION PLANT
BATTERY E ACTIVATED SLUDGE FACILITY
UTILITY TUNNEL & INFLUENT CONDUITS
STRUCTURAL DETAILS

PLOT DATE: 12/17/2025 2:42:15 PM
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Rev.	Description	Appr.	Date
1	ADDENDUM NO. 5	GD	11/19/25
2	ADDENDUM NO. 7	GD	12/17/25

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

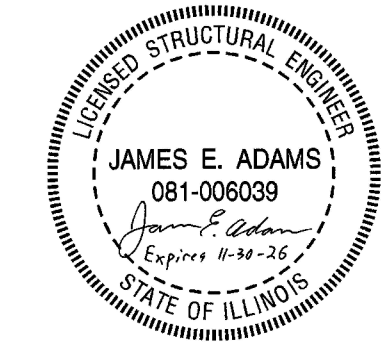
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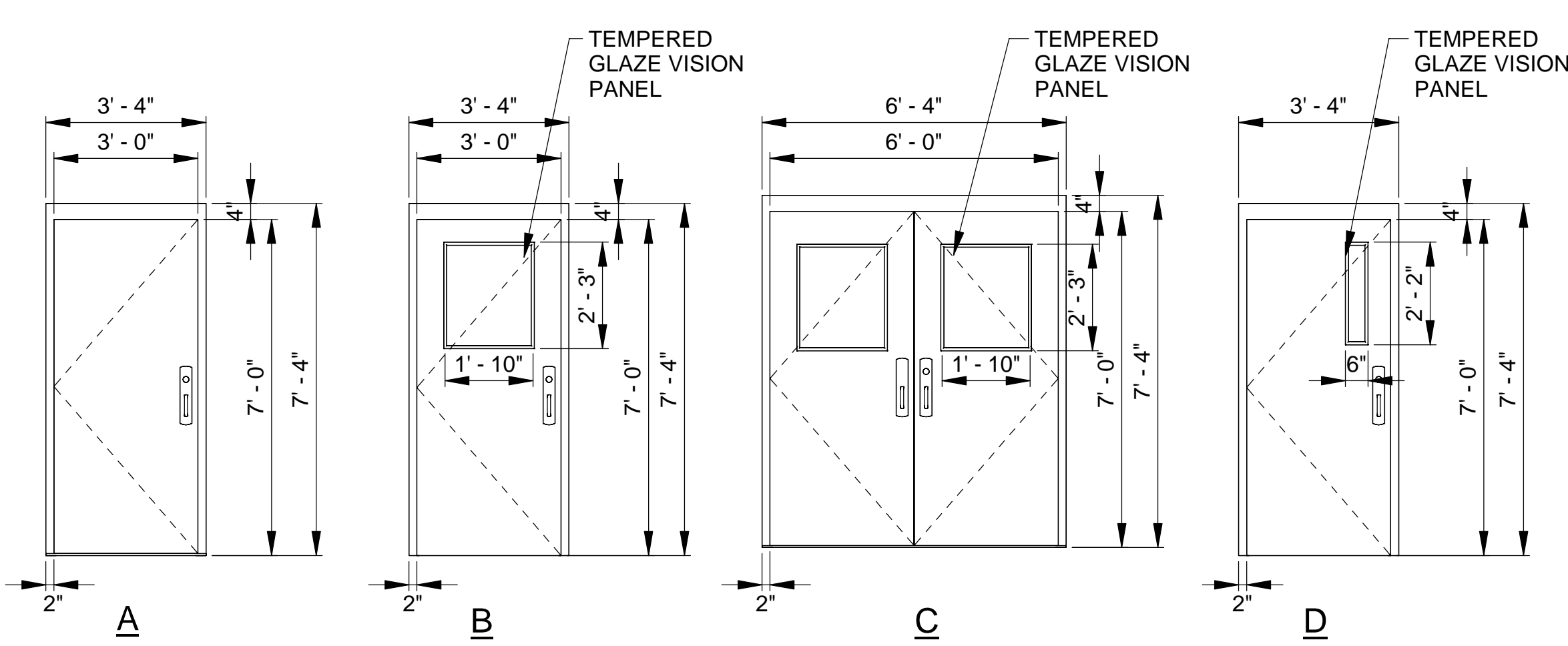
PRUDENTIAL PLAZA ONE
130 E RANDOLPH STREET
SUITE 2400
CHICAGO, IL 60601, USA

Checked by: JA
Designed by: HM
Drawn by: AC
Reviewed by: BP
Date: 7/1/2025
Scale: 3/8" = 1'-0"

CONTRACT 21-092-3P
O'BRIEN WATER RECLAMATION PLANT
BATTERY E ACTIVATED SLUDGE FACILITY
AIR MAIN SUPPORTS
AIR MAIN CONNECTIONS - SECTIONS AND DETAILS

Sheet Number: **S-702**
Page Number: 215





DOOR TYPES

SCALE: 3/8" = 1'-0"

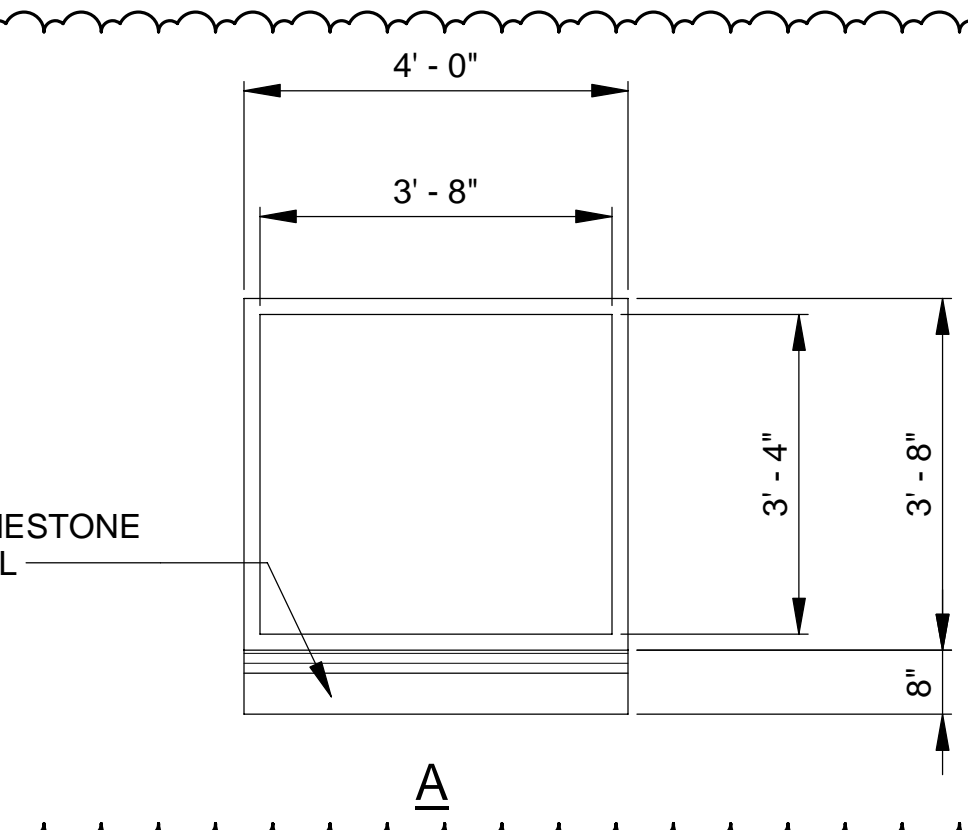
REFER TO SCHEDULE FOR MATERIALS, FINISHES AND SPECIFIC FIRE RATINGS

DOOR SCHEDULE NOTES:

- CONTRACTOR TO INSTALL AND SUPPLY DOOR HARDWARE:
 - ALL LOCKSETS MUST ACCEPT THE DISTRICT'S STANDARD CORE, WHICH IS A 7-PIN, SMALL FORMAT INTERCHANGEABLE CORE (SFIC) "BEST LOCK" CYLINDERS FOR ALL LOCKSETS AND SHALL CERTIFY THAT THE LOCKSETS ACCEPT THE "BEST LOCK" CYLINDER CORE. SEE SPECIFICATION 08710.
- HANDLES, PULLS, LATCHES, LOCKS, AND OTHER OPERABLE PARTS ON DOORS SHALL BE 34 INCHES MINIMUM AND 48 INCHES MAXIMUM ABOVE THE FINISH FLOOR OR GROUND.

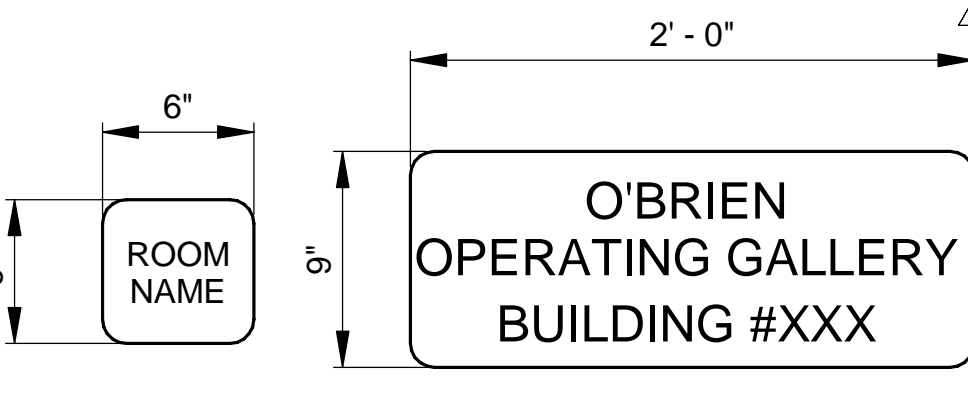
SIGNAGE NOTES:

- PROVIDE NON-GLARE SURFACE FOR ENTIRE SIGN TYPICALLY.
- PICTOGRAMS (SHOWN AS "GRAPHIC" IN SCHEDULE) SHALL APPEAR ON MINIMUM 6" HIGH CLEAR FIELD, ARE NOT REQUIRED TO BE RAISED AND MUST CONTRAST IN COLOR WITH BACKGROUND.
- MESSAGE SHOWN IN CAPITAL LETTERS IN SCHEDULE MUST BE MINIMUM 5/8" HIGH TACTILE CHARACTERS, MUST BE 32" RAISED MINIMUM, MUST BE ALL CAPITAL LETTERS WITH MINIMUM ONE STROKE WIDTH LETTER SPACING, MUST BE SAN SERIF TYPESTYLE AND MUST CONTRAST IN COLOR WITH BACKGROUND.
- RAISED CHARACTERS AND BRAILLE ON SIGNS MUST BE LOCATED 48 INCHES MINIMUM ABOVE THE FINISH FLOOR OR GROUND SURFACE, MEASURED FROM THE BASELINE OF THE LOWEST TACTILE CHARACTER, AND 60 INCHES MAXIMUM ABOVE THE FINISHED FLOOR OR GROUND SURFACE, MEASURED FROM THE BASELINE OF THE HIGHEST TACTILE CHARACTER.
- SIGNS SHALL COMPLY WITH SECTION 703. WHERE BOTH VISUAL AND TACTILE SIGNS ARE REQUIRED, EITHER ONE SIGN WITH BOTH VISUAL AND TACTILE CHARACTERS, OR TWO SEPARATE SIGNS, ONE WITH VISUAL, AND ONE WITH TACTILE CHARACTERS, SHALL BE PROVIDED.
- BRAILLE SHALL BE POSITIONED BELOW THE CORRESPONDING TEXT. IF TEXT IS MULTI-LINED, BRAILLE SHALL BE PLACED BELOW THE ENTIRE TEXT.



WINDOW TYPES

SCALE: NTS
REFER TO SCHEDULE FOR MATERIALS



TYPE S-1

TYPE S-2

SIGNAGE TYPES:

- TYPE S-1: ROOM SIGNAGE
- TYPE S-2: BUILDING SIGNAGE
- TYPE S-3: EXIT SIGNAGE

TYPE S-3

SIGNAGE TYPES

SCALE: NTS

FINISH LEGEND:

CMU CONCRETE MASONRY UNIT
EXP EXPOSED STRUCTURE
PT PAINTED

DOOR SCHEDULE															
DOOR NO.	ROOM NAME	DOOR					FIRE RATING (MIN.)	FRAME			HARDWARE SETS SEE SPEC. 08710	DETAILS (DRAWING A-411)			NOTES
		WIDTH	HEIGHT	TYPE	MATERIAL	FINISH		TYPE	MATERIAL	FINISH		DETAIL HEAD	DETAIL JAMB	DETAIL SILL	
PROCESS CONTROL BUILDING EL. +25.20															
01-101	TRANSFORMER ROOM	2'-8" V.I.F.	7'-0" V.I.F.	A	FRP	FRP	1 HR	A	FRP	FRP	4	1/A-411 SIM.	5/A-411 SIM.	1/A-411SIM	REFER TO SHEET E-103 FOR MORE INFO.
LOWER LEVEL															
02-002A	UTILITY TUNNEL SHAFT	3'-0"	7'-0"	D	FRP	FRP	1 HR	B	FRP	FRP	7	2/A-411	6/A-411	2/A-411	
02-003A	UTILITY TUNNEL SHAFT	3'-0"	7'-0"	D	FRP	FRP	1 HR	B	FRP	FRP	7	2/A-411	6/A-411	2/A-411	
04-001A	LOWER OPERATING GALLERY	3'-0"	7'-0"	A	SS	SS	3 HR	A	SS	SS	2	2/A-411	6/A-411	2/A-411	FLOOR MTD. MAG HOLD OPEN
04-106A	STAIR	3'-0"	7'-0"	D	FRP	FRP	1 HR	B	FRP	FRP	1	2/A-411	6/A-411	2/A-411	
METER BUILDING-T/SLAB															
01-100	METER BUILDING	3'-0" V.I.F.	7'-0" V.I.F.	A	SS	SS	3 HR	A	SS	SS	2	2/A-411	6/A-411	2/A-411	FLOOR MTD. MAG HOLD OPEN
UPPER LEVEL															
04-101A	LOADING AREA	6'-0"	7'-0"	C	FRP	FRP	0 HR	C	FRP	FRP	3	1/A-411 SIM.	5/A-411 SIM.	1/A-411SIM	
04-101B	UPPER OPERATING GALLERY	3'-0"	7'-0"	B	FRP	FRP	0 HR	B	FRP	FRP	4	1/A-411	5/A-411	1/A-411	
04-101C	UPPER OPERATING GALLERY	3'-0"	7'-0"	B	FRP	FRP	0 HR	B	FRP	FRP	4	1/A-411	5/A-411	1/A-411	
04-101D	UPPER OPERATING GALLERY	3'-0"	7'-0"	B	FRP	FRP	0 HR	B	FRP	FRP	4	1/A-411	5/A-411	1/A-411	
04-101E	UPPER OPERATING GALLERY	6'-0"	7'-0"	C	FRP	FRP	0 HR	C	FRP	FRP	3	1/A-411	5/A-411	1/A-411	
04-101F	UPPER OPERATING GALLERY	6'-0"	7'-0"	C	FRP	FRP	0 HR	C	FRP	FRP	3	1/A-411	5/A-411	1/A-411	
04-101G	UPPER OPERATING GALLERY	3'-0"	7'-0"	B	FRP	FRP	0 HR	B	FRP	FRP	4	1/A-411	5/A-411	1/A-411	
04-101H	UPPER OPERATING GALLERY	3'-0"	7'-0"	B	FRP	FRP	0 HR	B	FRP	FRP	4	1/A-411	5/A-411	1/A-411	
04-101J	UPPER OPERATING GALLERY	3'-0"	7'-0"	B	FRP	FRP	0 HR	B	FRP	FRP	4	1/A-411	5/A-411	1/A-411	
04-101K	UPPER OPERATING GALLERY	6'-0"	7'-0"	C	FRP	FRP	0 HR	C	FRP	FRP	3	1/A-411	5/A-411	1/A-411	
04-101L	UPPER OPERATING GALLERY	3'-0"	7'-0"	B	FRP	FRP	0 HR	B	FRP	FRP	4	1/A-411	5/A-411	1/A-411	
04-101M	UPPER OPERATING GALLERY	6'-0"	7'-0"	C	FRP	FRP	0 HR	C	FRP	FRP	3	1/A-411	5/A-411	1/A-411	
04-101N	UPPER OPERATING GALLERY	6'-0"	7'-0"	C	FRP	FRP	0 HR	C	FRP	FRP	3	1/A-411	5/A-411	1/A-411	
04-106B	STAIR	3'-0"	7'-0"	B	FRP	FRP	1 HR	B	FRP	FRP	4	1/A-411	5/A-411	1/A-411	
04-108A	UPPER OPERATING GALLERY	3'-0"	7'-0"	A	FRP	FRP	0 HR	A	FRP	FRP	5	1/A-411	5/A-411	1/A-411	
ROOF LEVEL															
04-201A	DOG HOUSE	3'-0"	7'-0"	B	FRP	FRP	0 HR	B	FRP	FRP	6	1/A-411 SIM.	5/A-411 SIM.	1/A-411SIM	

WINDOW SCHEDULE													
Mark	R.O.		Type	FRAME		GLAZING		DETAILS			HEAD HEIGHT	NOTES	
	WIDTH	HEIGHT		FINISH	MATERIAL	TYPE	THICKNESS	HEAD	JAMB	SILL			
75	4'-0"	3'-8"	A	FRP	FRP	TEMPERED	1"	4/A-411	8/A-411	4/A-411	3'-0"	6'-8"	INSUL.GLAZING PER IECC 2021
76	4'-0"	3'-8"	A	FRP	FRP	TEMPERED	1"	4/A-411	8/A-411	4/A-411	3'-0"	6'-8"	INSUL.GLAZING PER IECC 2021
77	4'-0"	3'-8"	A	FRP	FRP	TEMPERED	1"	4/A-411	8/A-411	4/A-411	3'-0"	6'-8"	INSUL.GLAZING PER IECC 2021
81	4'-0"	3'-8"	A	FRP	FRP	TEMPERED	1"	4/A-411	8/A-411	4/A-411	3'-0"	6'-8"	INSUL.GLAZING PER IECC 2021
82	4'-0"	3'-8"	A	FRP	FRP	TEMPERED	1"	4/A-411	8/A-411	4/A-411	3'-0"	6'-8"	INSUL.GLAZING PER IECC 2021
83	4'-0"	3'-8"	A	FRP	FRP	TEMPERED	1"	4/A-411	8/A-411	4/A-411	3'-0"	6'-8"	INSUL.GLAZING PER IECC 2021
84	4'-0"	3'-8"	A	FRP	FRP	TEMPERED	1"	4/A-411	8/A-411	4/A-411	3'-0"	6'-8"	INSUL.GLAZING PER IECC 2021
85	4'-0"	3'-8"	A	FRP	FRP	TEMPERED	1"	4/A-411	8/A-411	4/A-411	3'-0"	6'-8"	INSUL.GLAZING PER IECC 2021
86	4'-0"	3'-8"	A	FRP	FRP	TEMPERED	1"	4/A-411	8/A-411	4/A-411	3'-0"	6'-8"	INSUL.GLAZING PER IECC 2021
87	4'-0"	3'-8"	A	FRP	FRP	TEMPERED	1"	4/A-411	8/A-411	4/A-411	3'-0"	6'-8"	INSUL.GLAZING PER IECC 2021
88	4'-0"	3'-8"	A	FRP	FRP	TEMPERED	1"	4/A-411	8/A-411	4/A-411	3'-0"	6'-8"	INSUL.GLAZING PER IECC 2021
89	4'-0"	3'-8"	A	FRP	FRP	TEMPERED	1"	4/A-411	8/A-411	4/A-411	3'-0"	6'-8"	INSUL.GLAZING PER IECC 2021
90	4'-0"	3'-8"	A	FRP	FRP	TEMPERED	1"	4/A-411	8/A-411	4/A-411	3'-0"	6'-8"	INSUL.GLAZING PER IECC 2021
91	4'-0"	3'-8"	A	FRP	FRP	TEMPERED	1"	4/A-411	8/A-411	4/A-411	3'-0"	6'-8"	INSUL.GLAZING PER IECC 2021
93	4'-0"	3'-8"	A	FRP	FRP	TEMPERED	1"	4/A-411	8/A-411	4/A-411	3'-0"	6'-8"	INSUL.GLAZING PER IECC 2021
97	4'-0"	3'-8"	A	FRP	FRP	TEMPERED	1"	4/A-411	8/A-411	4/A-411	3'-0"	6'-8"	INSUL.GLAZING PER IECC 2021
98	4'-0"	3'-8"	A	FRP	FRP	TEMPERED	1"	4/A-411	8/A-411	4/A-411	7'-0"	10'-8"	INSUL.GLAZING PER IECC 2021
99	4'-0"	3'-8"	A	FRP	FRP	TEMPERED	1"	4/A-411	8/A-411	4/A-411	7'-0"	10'-8"	INSUL.GLAZING PER IECC 2021
100	4'-0"	3'-8"	A	FRP	FRP	TEMPERED	1"	4/A-411	8/A-411	4/A-411	7'-0"	10'-8"	INSUL.GLAZING PER IECC 2021
102	4'-0"	3'-8"	A	FRP	FRP	TEMPERED	1"	4/A-411	8/A-411	4/A-411	3'-0"	6'-8"	INSUL.GLAZING PER IECC 2021
103	4'-0"	3'-8"	A	FRP	FRP	TEMPERED	1"	4/A-411	8/A-411	4/A-411	3'-0"	6'-8"	INSUL.GLAZING PER IECC 2021

SIGNAGE SCHEDULE							
ROOM NAME	ROOM NUMBER	SIGN TYPE	MESSAGE	QTY.	LOCATION	NOTES	
T/BASE SLAB							
FERMENTER RAS/WAS PUMP ROOM	04-109	S-1	FERMENTER RAS/WAS PUMP ROOM	1	RIGHT ABOVE DOOR	SEE DRAWINGS FOR LOCATIONS	
01 LEVEL FF							
STAIRS	04-008	S-1	STAIRS	1	LEFT SIDE DOOR 48" AFF O.C.	SEE DRAWINGS FOR LOCATIONS	
STAIRS	04-008	S-3	EXIT	1	LEFT SIDE DOOR 48" AFF O.C.	SEE DRAWINGS FOR LOCATIONS	
UPPER OPERATING GALLERY	04-101	S-3	EXIT	5	LEFT SIDE DOOR 48" AFF O.C.	SEE DRAWINGS FOR LOCATIONS	
RESTROOM	04-108	S-1	RESTROOM	1	LEFT SIDE DOOR 48" AFF O.C.	SEE DRAWINGS FOR LOCATIONS	
EXTERIOR FACADE		S-2	OPERATING GALLERY	2	NE CORNER	SEE DRAWINGS FOR LOCATIONS	

ROOM FINISH SCHEDULE															
NO.	ROOM NAME	FLOOR MATERIAL/FINISH	BASE MATERIAL	NORTH WALL		SOUTH WALL		EAST WALL		WEST WALL		CEILING MATERIAL	CEILING FINISH	CEILING HEIGHT	NOTES
				MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH				
02-001	UTILITY TUNNEL	CONCRETE/LIQUID HARDENER	N/A	CONCRETE	DUSTPROOF SEALER	CONCRETE	DUSTPROOF SEALER	CONCRETE	DUSTPROOF SEALER	CONCRETE	DUSTPROOF SEALER	CONCRETE	UNFINISHED	8'-0"	
02-002	UTILITY TUNNEL SHAFT	CONCRETE/LIQUID HARDENER	N/A	CONCRETE	DUSTPROOF SEALER	CONCRETE	DUSTPROOF SEALER	CONCRETE	DUSTPROOF SEALER	CONCRETE	DUSTPROOF SEALER	CONCRETE	UNFINISHED	8'-0"	
02-003	UTILITY TUNNEL SHAFT	CONCRETE/LIQUID HARDENER	N/A	CONCRETE	DUSTPROOF SEALER	CONCRETE	DUSTPROOF SEALER	CONCRETE	DUSTPROOF SEALER	CONCRETE	DUSTPROOF SEALER	CONCRETE	UNFINISHED	8'-0"	
04-001	LOWER OPERATING GALLERY	CONCRETE/LIQUID HARDENER	N/A	CONCRETE	DUSTPROOF SEALER	CONCRETE	DUSTPROOF SEALER	CONCRETE	DUSTPROOF SEALER	CONCRETE	DUSTPROOF SEALER	CONCRETE	UNFINISHED	17'-11"	
04-008	EXIT ACCESS STAIR	METAL STAIR/GALVANIZED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	CONCRETE	DUSTPROOF SEALER	N/A	N/A	VARIES	
04-009	EXIT ACCESS STAIR	METAL STAIR/GALVANIZED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	CONCRETE	DUSTPROOF SEALER	N/A	N/A	VARIES	
04-010	EXIT ACCESS STAIR	METAL STAIR/GALVANIZED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	CMU	PAINTED	N/A	N/A	VARIES	
04-101	UPPER OPERATING GALLERY	CONCRETE/LIQUID HARDENER	N/A	CMU/CONCRETE	PAINTED	CMU	PAINTED	CMU	PAINTED	CMU	PAINTED	METAL DECK/STEEL BEAMS	PAINTED	14'-6"	
04-106	STAIR	CONCRETE AND METAL STAIR/GALVANIZED	N/A	CONCRETE	PAINTED	CMU/CONCRETE	PAINTED	CONCRETE	PAINTED	CMU/CONCRETE	PAINTED	METAL DECK/STEEL BEAMS	PAINTED	33'-3"	
04-107	LOADING AREA	CONCRETE/LIQUID HARDENER	N/A	N/A	N/A	MASONRY	N/A	N/A	N/A	MASONRY	N/A	CONCRETE	PAINTED	13'-3"	PAINT CONCRETE COLUMN
04-108	UNISEX TOILET ROOM	CONCRETE/LIQUID HARDENER	N/A	CMU/CONCRETE	PAINTED	CMU	PAINTED	CMU	PAINTED	CMU	PAINTED	METAL DECK/STEEL BEAMS	PAINTED	14'-6"	
04-109	WAS/FERMENTER RAS PUMP ROOM	CONCRETE/LIQUID HARDENER	N/A	CONCRETE	DUSTPROOF SEALER	CONCRETE	DUSTPROOF SEALER	CONCRETE	DUSTPROOF SEALER	CONCRETE	DUSTPROOF SEALER	CONCRETE	UNFINISHED	17'-11"	
04-201	DOG HOUSE	CONCRETE	N/A	CMU/CONCRETE	PAINTED	CMU/CONCRETE	PAINTED	CMU/CONCRETE	PAINTED	CMU	PAINTED	METAL DECK	PAINTED	VARIES	

Rev.	Description	Appr.	Date
1	ADDENDUM NO. 7	GD	12/17/25

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

Primer
550 W. Jackson Boulevard • Suite 600 • Chicago, Illinois 60601

AECOM

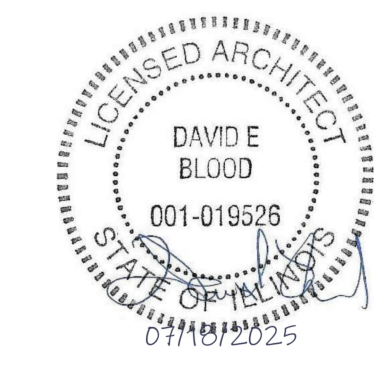
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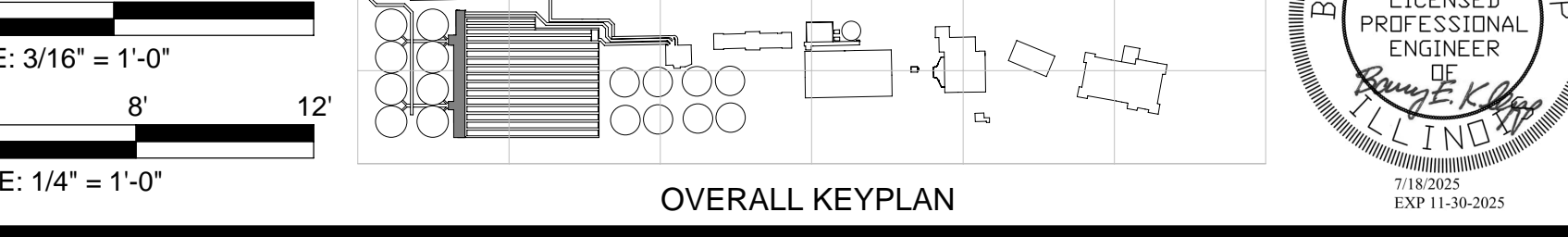
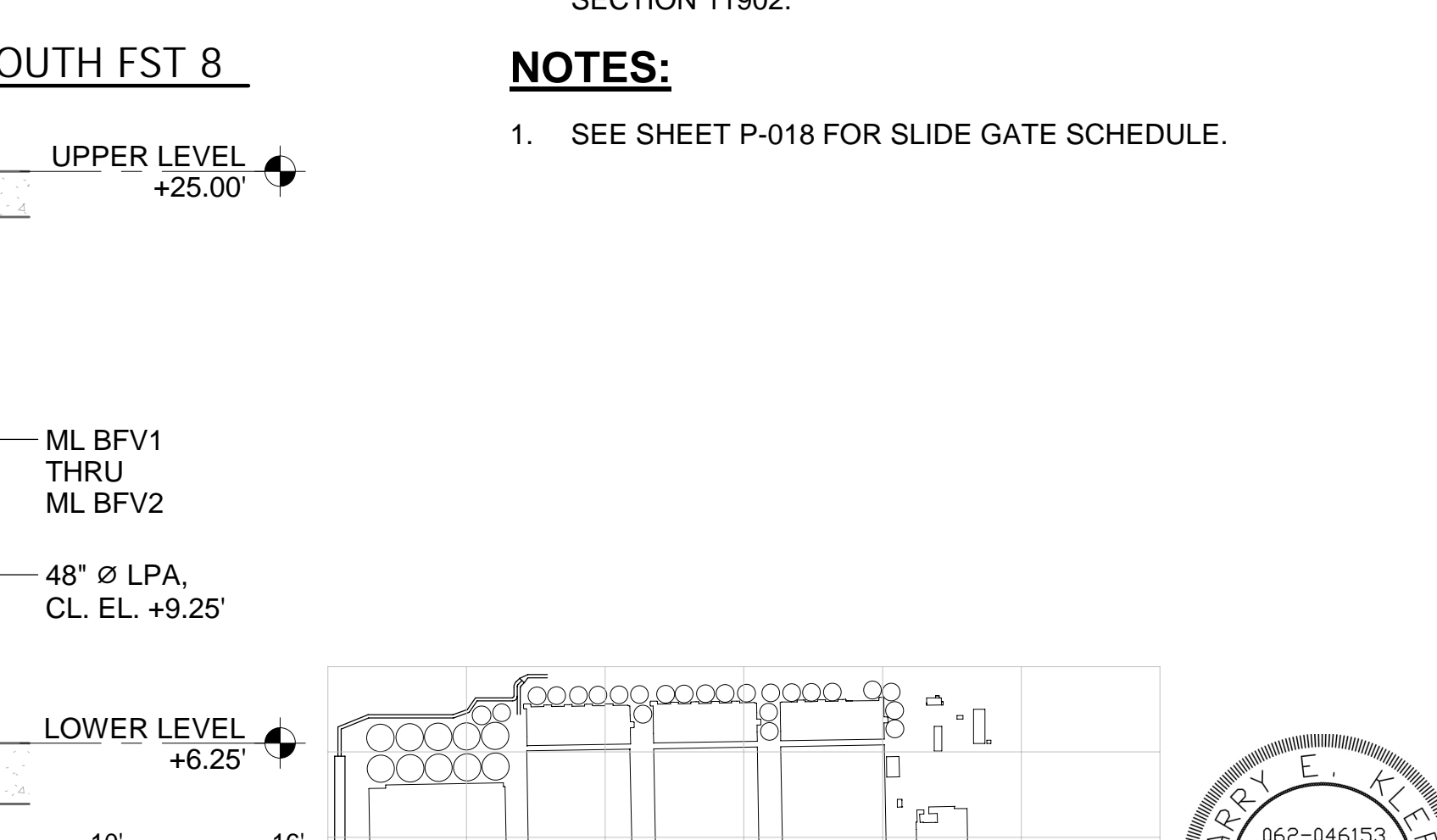
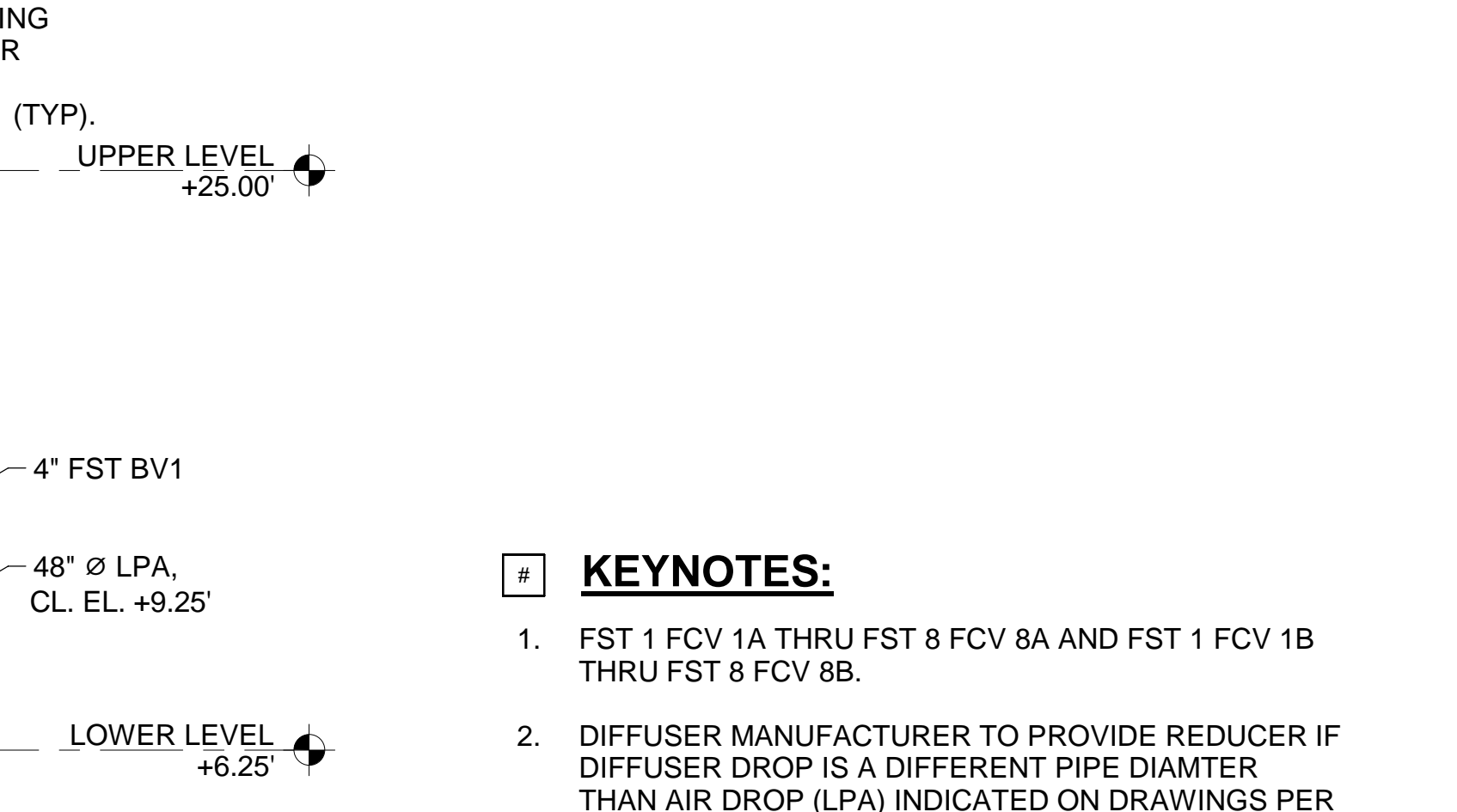
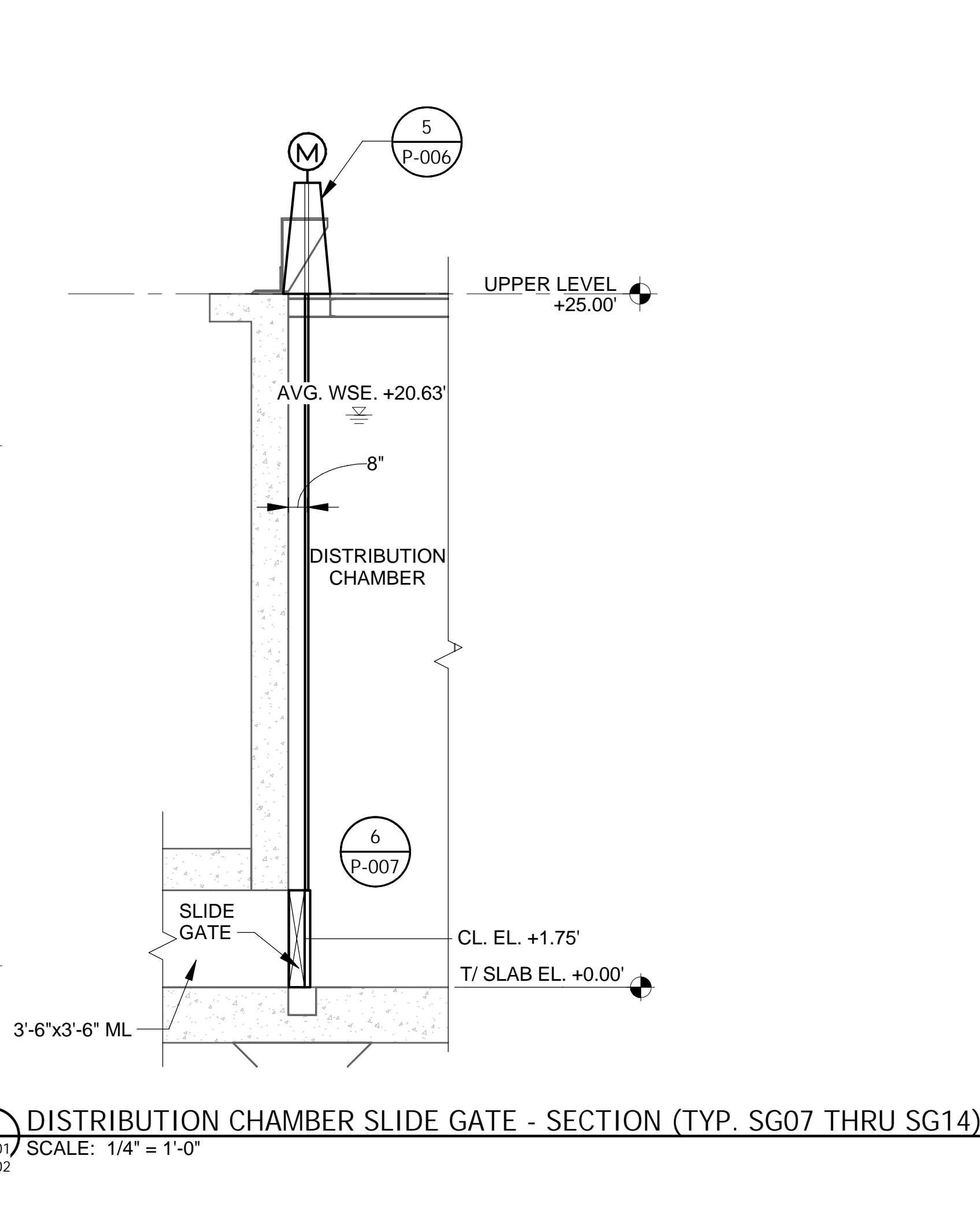
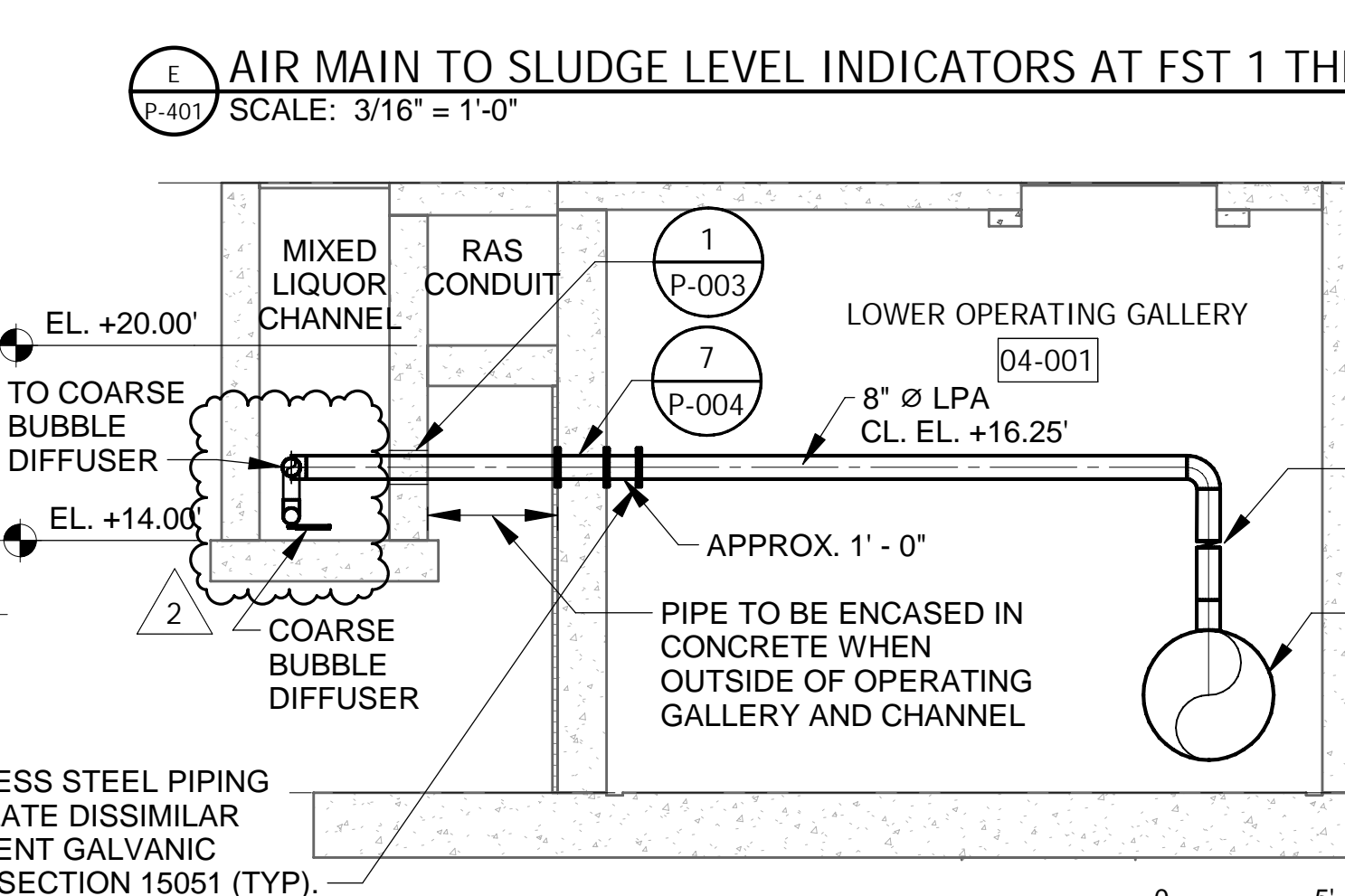
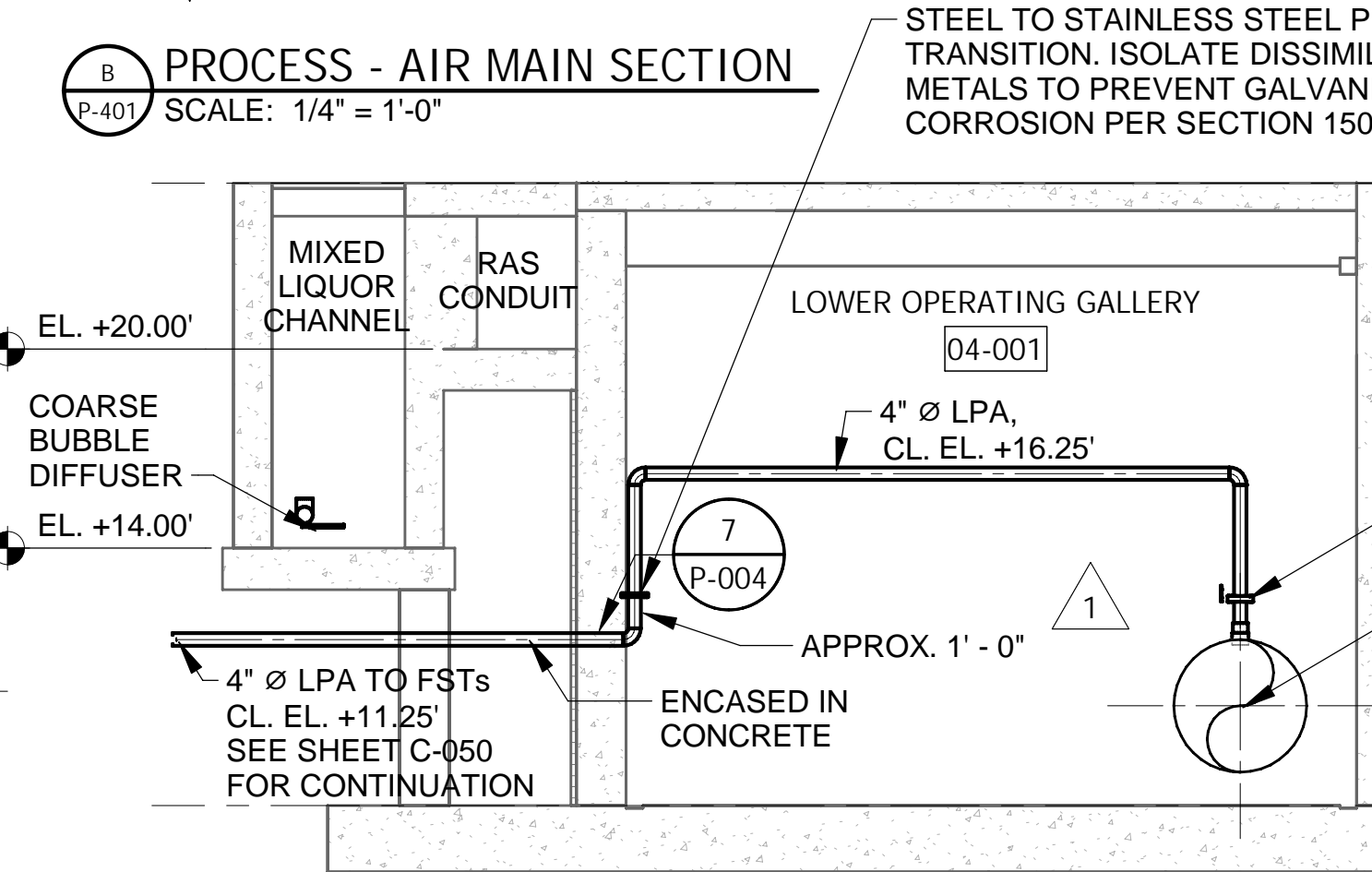
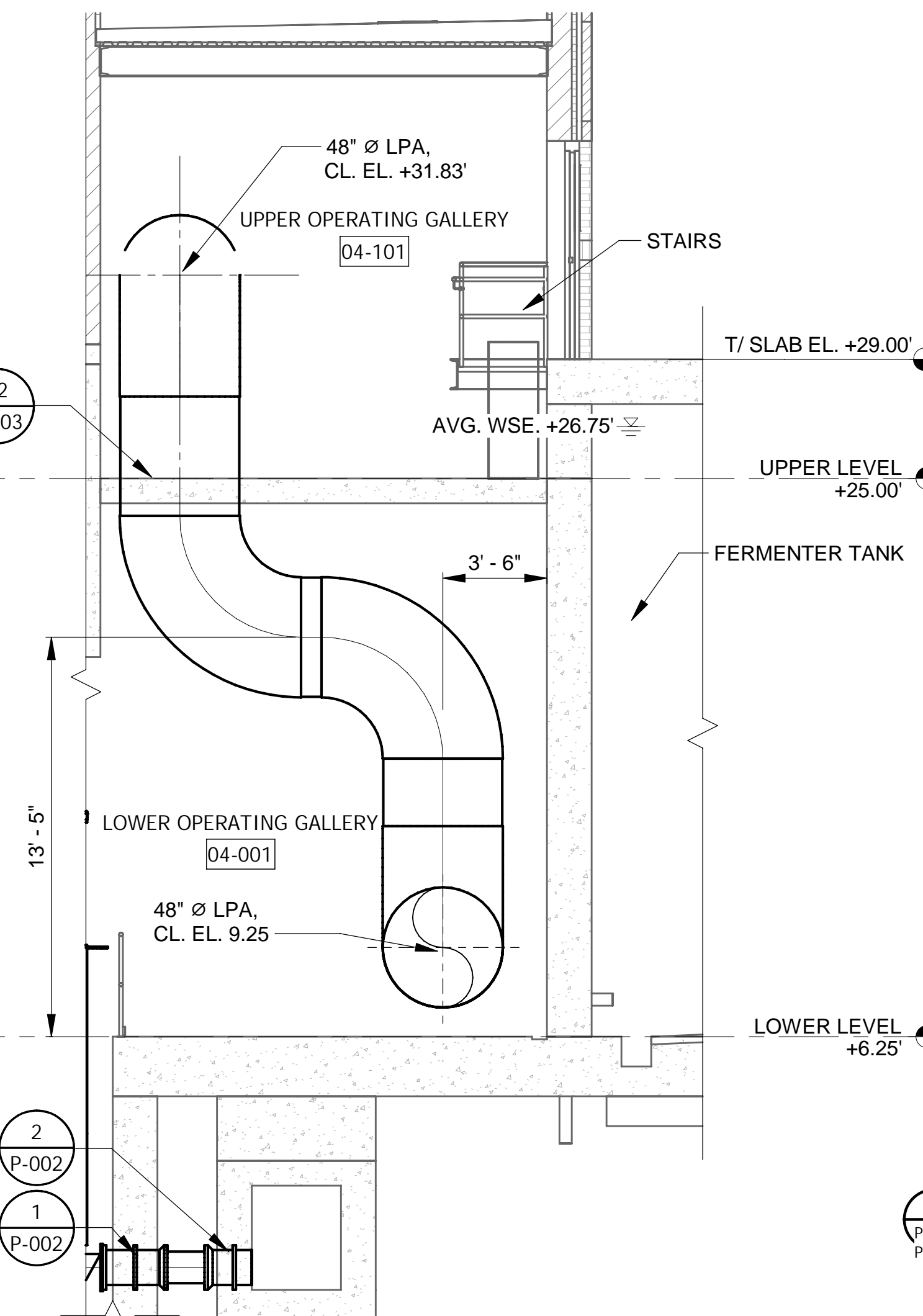
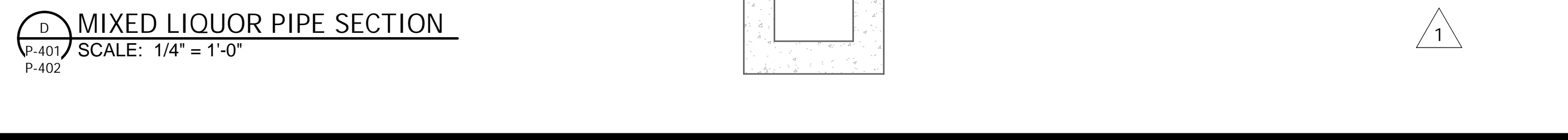
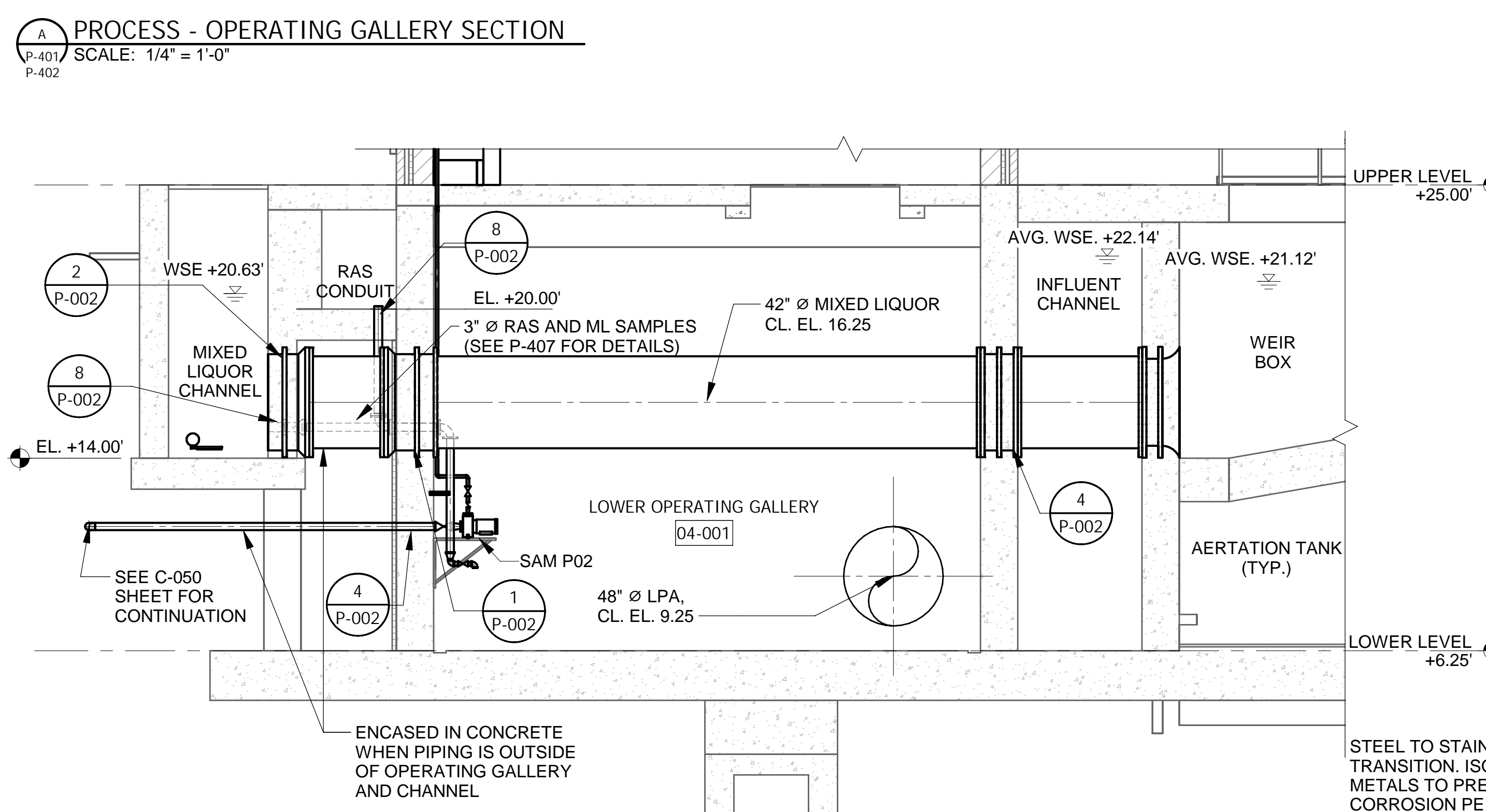
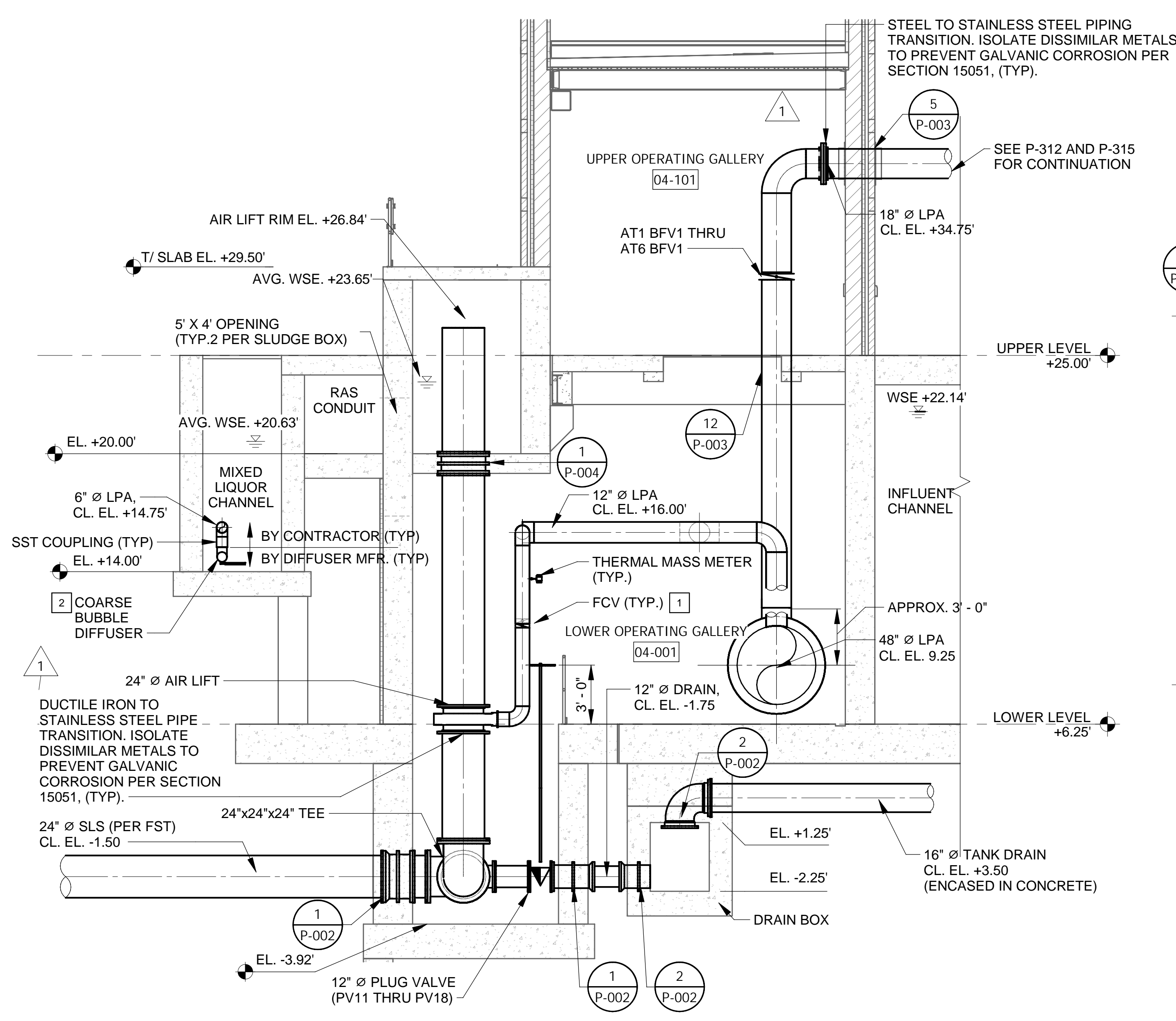
Designed by: JP
Drawn by: AC
Date: 7/1/2025

PRUDENTIAL PLAZA ONE
130 E RANDOLPH STREET
SUITE 2400
CHICAGO, IL 60601, USA

CONTRACT 21-092-3P
O'BRIEN WATER RECLAMATION PLANT
BATTERY E ACTIVATED SLUDGE FACILITY
OPERATING GALLERY

ARCHITECTURAL SCHEDULES





- KEYNOTES:**
- FST 1 FCV 1A THRU FST 8 FCV 8A AND FST 1 FCV 1B THRU FST 8 FCV 8B.
 - DIFFUSER MANUFACTURER TO PROVIDE REDUCER IF DIFFUSER DROP IS A DIFFERENT PIPE DIAMETER THAN AIR DROP (LPA) INDICATED ON DRAWINGS PER SECTION 11902.
- NOTES:**
- SEE SHEET P-018 FOR SLIDE GATE SCHEDULE.

Rev.	Description	Appr.	Date
1	ADDENDUM NO. 5	GD	11/19/25
2	ADDENDUM NO. 7	GD	12/17/25

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

ACCOM

PRUDENTIAL PLAZA ONE
 130 E RANDOLPH STREET
 SUITE 2400
 CHICAGO, IL 60601, USA

Checked by: RK
 Designed by: WW/FK
 Drawn by: AT
 Date: 7/1/2025

Reviewed by: BK
 Scale: As indicated

CONTRACT 21-092-3P
 OBRIEN WATER RECLAMATION PLANT
 BATTERY E ACTIVATED SLUDGE FACILITY
 OPERATING GALLERY - SECTIONS

