

**Town of Simsbury, Connecticut
Water Pollution Control Restoration of Primary Clarifiers Project**

ADDENDUM NO. 1

To be considered as part of the contract drawings and specifications for the RESTORATION OF PRIMARY CLARIFIERS PROJECT dated September 2023.

PRE-BID CONFERENCE

A mandatory pre-bid conference was held at the Simsbury Water Pollution Control Facility at 9:00 AM on October 10, 2023. The address is 36 Drake Hill Road, Simsbury, CT 06070. The list of attendees is attached hereto.

QUESTIONS

1. ***Clarify the project schedule; both the intent of award date and calendar days for completion?***

The Town will require between 30 to 45 days to review the bids and once review is completed the contractor will be provided with a notice to proceed.

2. ***What is the budget?***

The budget will be determined by the bids, there is no clean water funding source being used to fund this project.

3. ***The existing chain and flight primary equipment will need to be removed to complete the concrete repairs and to install and remove the shoring required for the concrete decking. Re-installing this equipment to an operating condition would be concerning. Is the Town intending to replace this equipment in another project? If not, what is the intent of operating conditions after this contract is completed?***

The existing chain and flight primary equipment will be removed by the contractor and stored in an area determined by the town. At this time, the town is not requiring the existing or any new equipment will be installed during this project.

4. ***There is a requirement for water testing the structures. Without excavating the exterior perimeter and exposing the walls we would not be able to determine where the leakage was occurring from. What is your intent??***

The water testing of the structure is to determine if the crack and concrete repairs are sufficient to minimize leakage thru the primary clarifier walls and slab.

5. ***Not having listed quantities for concrete repair is concerning.***

- ***The drawings require that we “remove deteriorated concrete to sound concrete” with no quantities listed. There are locations and depths identified on the drawings. Confirm the repair locations and depths are limited to what is identified on the drawings. There are notes on the drawings for light or heavy surface scaling with no prep or repair details provided. What is your intent?***
- ***Drawing S-3 identifies cracks on the exterior of the tank walls. Would these repairs be required below grade and if so, to what depth?***
- ***S-3 shows cracks penetrating the walls. Would the repair be required on both sides of the wall?***

- ***There is a note on the drawings stating identified repairs are to be used as “a guide” and not reflect actual conditions. How do we get paid for the differences between what is identified and what may be required?***
- ***01 12 16. 1.01.A notes “re-caulking wall and slab joints.” Is this work limited to what is shown on the drawings? Would these be interior and exterior caulk joints?***

The maximum concrete repair and crack repair quantities will be shown on the documents and indicated in the bid documents for the contractor to more accurately bid the project. All recaulking of joints and slabs will be done at the exposed interior and exterior walls. No excavation at grade side of the exterior walls will be required for doing concrete crack or joint recaulking.

6. ***The drawings are unclear regarding the extent of the new concrete decking. Is the new 8” slab intended to be installed at all areas not currently concrete or shown to be steel grating?***

The new 8-inch concrete deck limits are at the openings of the existing tack except where grating hatch indicated.

7. ***The specifications note FRP grating & the drawings list steel. Please clarify.***

Contractor may at his option use steel grating or FRP grating, if FRP grating. Shop drawing submittal will be required for either option.

8. ***Grating Specification 06 61 00 is listed in the spec index, but not included. Drawings call for galvanized steel grating / Specifications reference an FRP fiberglass grating. Please clarify Grating material requirements and provide specification 06 61 00.***

Contractor may at his option use steel grating or FRP grating, if FRP grating. Shop drawing submittal will be required for either option.

9. ***Drawing S2 / Detail 6 – No OC spacing requirements provided for ¾” anchor bolts at grating connection to walls is provided. Please advise.***

The spacing of 2'-0" OC for the ¾" anchor bolt at grating connection to the wall was added to the detail 6 on drawing S2.:

10. ***On drawing S2 – Rebar spacing requirements contradict between the plan view and what is shown in the details 1 & 2. Plan view indicates - #4@12"O.C BOT/TOP.TYP, #5@10"O.C TOP.TYP and #5@8"O.C TOP.TYP but details Indicate - #4 @ 10" (TYP) and #5 @ 8" (TYP). Please clarify rebar On Center spacing requirements.***

The spacing at the plan view is incorrectly shown and should be #4@10" Top and bottom longitudinally and #5@8" Top & Bottom transversely. The plan view of Drawing S2 was updated with the correct reinforcing spacing for the 8" concrete deck.

11. ***The ‘Bid Invite’ dated 9/25/23 states that we need to provide a payment & performance bond within 10 days of award. The ‘Instruction to Bidders’ section of the specifications specifically notes that we own a bid bond, but that a performance bond is not required. Can you please clarify the bond requirements.***

A Payment and Performance bond will be required and is added in the addendum.

- 12. *Drawing S2 / Detail 5 – Indicates W18x50 Beams are to have two rows of Shear Studs at 4" On Center spacing and at ½" below the concrete, for the length of the beam. Please confirm this 4" OC spacing shear studs along the full length of the I-Beams is correct.***

The spacing for the 2 rows of shear stud at 4" On Center is being revised to 8" OC and the shear stud will be 2" below the concrete.

- 13. *It was noted at the Pre-Bid Conference that the existing skimmer equipment would be removed in its entirety for on-site turnover to the owner. Please confirm this equipment removal is to be included in the scope of work and clarify any associated offsite disposal requirements.***

The existing skimmer equipment will be removed in its entirety and turned over to the owner. The owner will direct the contractor as to where the skimmer equipment will be store on-site.

- 14. *It was noted at the Pre-Bid Conference that the quantity of crack injection repairs to be carried in the proposal would be clarified prior to bidding. Please advise.***

The maximum quantity of the crack injection will be 580 linear feet and the maximum quantity of concrete repair will be 10 cubic feet to be considered as part the Lump Sum cost of the bid.

- 15. *Can you kindly clarify the bid bond amount the town is looking for?***

The Town is looking for 5% of your bid amount for the Bid Bond.

SPECIFICATIONS

INVITATION TO BID

On page 1, third paragraph Replace "Sealed proposals will be accepted by Amy Merriweather, Director of Finance, 993 Hopmeadow Street (Rt. 10/202), Simsbury, CT until 10:00 a.m., October 26, 2023" with "Sealed proposals will be accepted by Amy Merriweather, Director of Finance, 993 Hopmeadow Street (Rt. 10/202), Simsbury, CT until 10:30 a.m., November 2, 2023."

STANDARD INSTRUCTIONS TO BIDDERS

On page 2, for item 2. Key Event Dates: Replace "Bids Due October 26, 2023" with "Bids Due November 2, 2023".

On page 2, for item 3. Bid Submission Instructions paragraph A. third sentence: Replace "Bids must be at the office of the director of finance prior to 10 a.m. October 26, 2023" with "Bids must be at the office of the director of finance prior to 10:30 a.m. November 2, 2023".

On page 6 Replace "16. Performance Bond: Not Applicable" with "Payment Bond and Performance Bond: The successful bidder must provide the Town of Simsbury with a Payment Bond and Performance Bond prior to commencing work."

CONNECTICUT DEPARTMENT OF LABOR WAGE AND WORKPLACE STANDARDS DIVISION

Delete: all pages of "Minimum Rates and Classification for Heavy/Highway Construction Connecticut Department of Labor Wage and Workplace Standards Division ID# H 26346" and Replace with Attached "Simsbury Wastewater Treatment Plant Restoration of Primary Clarifiers Minimum Rates and Classification for Building Construction Connecticut Department of Labor Wage and Workplace Standards Division ID# 23-53065"

INSERT THE FOLLOWING NEW SPECIFICATION SECTIONS AS ATTACHED HERETO:

SECTION 00610: PERFORMANCE BOND
SECTION 00615: PAYMENT BOND

REPLACE THE FOLLOWING SPECIFICATION SECTIONS WITH ATTACHED SPECIFICATION SECTIONS IN THERE ENTIRTY:

Replace "SECTION 01 12 16 SCOPE AND SEQUENCE OF WORK" with attached "SECTION 01 12 16 SCOPE AND SEQUENCE OF WORK".

Replace "SECTION 05 12 33 – STRUCTURAL STEEL" with attached "SECTION 05 12 33 – STRUCTURAL STEEL".

DRAWINGS

REPLACE THE FOLLOWING DRAWINGS WITH ATTACHED DRAWINGS IN THERE ENTIRTY:

Replace "SHEET NUMBER S-2 EXISTING CLARIFIER DETERIORATION PLANS" with attached "SHEET NUMBER S-2 EXISTING CLARIFIER DETERIORATION PLANS".

Replace "SHEET NUMBER S-5 EXISTING CLARIFIER WALL ELEVATIONS AND SECTIONS"
with attached "SHEET NUMBER S-5 EXISTING CLARIFIER WALL ELEVATIONS AND
SECTIONS".

TOWN OF SIMSBURY, CONNECTICUT
and
WESTON & SAMPSON ENGINEERS, INC.

END OF ADDENDUM NO. 1

(Attachments Immediately Follow to Include:)

List of Pre-Bid Meeting Attendees	1 Page
CONNECTICUT DEPARTMENT OF LABOR WAGE AND WORKPLACE STANDARDS DIVISION.....	8 Pages
SECTION 00610: PERFORMANCE BOND.....	2 Pages
SECTION 00615: PAYMENT BOND.....	2 Pages
SECTION 01 12 16: SCOPE AND SEQUENCE OF WORK.....	2 Pages
SECTION 05 12 33: STRUCTURAL STEEL.....	13 Pages
SHEET NO. 2 – EXISTING CLARIFIER DETERIORATION PLAN.....	1 Page
SHEET NO. 5 – EXISTING CLARIFIER WALL ELEVATION AND SECTIONS.....	1 Page

October 10, 2023

[illegible]

Minimum Rates and Classifications
for Building Construction

ID#: 23-53065

Connecticut Department of Labor
Wage and Workplace Standards

By virtue of the authority vested in the Labor Commissioner under provisions of Section 31-53 of the General Statutes of Connecticut, as amended, the following are declared to be the prevailing rates and welfare payments and will apply only where the contract is advertised for bid within 20 days of the date on which the rates are established. Any contractor or subcontractor not obligated by agreement to pay to the welfare and pension fund shall pay this amount to each employee as part of his/her hourly wages.

Project Number: DPW 2003-02 Project Town: Simsbury
State#: FAP#:
Project: Simsbury Wastewater Treatment Plant Restoration of Primary Clarifiers

CLASSIFICATION	Hourly Rate	Benefits
1b) Asbestos/Toxic Waste Removal Laborers: Asbestos removal and encapsulation (except its removal from mechanical systems which are not to be scrapped), toxic waste removers, blasters. **See Laborers Group 7**		
1c) Asbestos Worker/Heat and Frost Insulator	45.56	32.65
2) Boilermaker	45.21	29.05
3a) Bricklayer, Cement Mason, Concrete Finisher (including caulking), Stone Masons	39.4	34.62 + a
3b) Tile Setter	37.1	30.52
3c) Tile and Stone Finishers	30.0	25.30
3d) Marble & Terrazzo Finishers	31.07	24.23
3e) Plasterer	42.77	29.63

-----LABORERS-----

4) Group 1: General laborers, carpenter tenders, concrete specialists, wrecking laborers and fire watchers.	33.5	25.59
4) Group 1a: Acetylene Burners (Hours worked with a torch)	34.5	25.59
4a) Group 2: Mortar mixers, plaster tender, power buggy operators, powdermen, fireproofers/mixer/nozzleman (Person running mixer and spraying fireproof only).	33.75	25.59
4b) Group 3: Jackhammer operators/pavement breaker, mason tender (brick), mason tender (cement/concrete), forklift operators and forklift operators (masonry).	34.0	25.59
4c) **Group 4: Pipelayers (Installation of water, storm drainage or sewage lines outside of the building line with P6, P7 license) (the pipelayer rate shall apply only to one or two employees of the total crew who primary task is to actually perform the mating of pipe sections) P6 and P7 rate is \$26.80.	34.5	25.59
4d) Group 5: Air track operator, sand blaster and hydraulic drills.	34.25	25.59
4e) Group 6: Blasters, nuclear and toxic waste removal.	36.5	25.59
4f) Group 7: Asbestos/lead removal and encapsulation (except it's removal from mechanical systems which are not to be scrapped).	36.5	25.59
4g) Group 8: Bottom men on open air caisson, cylindrical work and boring crew.	31.78	25.59
4h) Group 9: Top men on open air caisson, cylindrical work and boring crew.	31.24	25.59
4i) Group 10: Traffic Control Signalman	20.1	25.59

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4j) Group 11: Toxic Waste Removers A or B With PPE	36.5	25.59
5) Carpenter, Acoustical Ceiling Installation, Soft Floor/Carpet Laying, Metal Stud Installation, Form Work and Scaffold Building, Drywall Hanging, Modular-Furniture Systems Installers, Lathers, Piledrivers, Resilient Floor Layers.	37.61	27.61
5a) Millwrights	38.02	28.41
6) Electrical Worker (including low voltage wiring) (Trade License required: E1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9)	43.75	32.47+3% of gross wage
7a) Elevator Mechanic (Trade License required: R-1,2,5,6)	61.42	37.335+a+b
-----LINE CONSTRUCTION-----		
Groundman	26.5	6.5% + 9.00
Linemen/Cable Splicer	48.19	6.5% + 22.00
8) Glazier (Trade License required: FG-1,2)	41.18	24.55 + a
9) Ironworker, Ornamental, Reinforcing, Structural, and Precast Concrete Erection	42.37	40.02 + a
-----OPERATORS-----		
Group 1: Crane Handling or Erecting Structural Steel or Stone; Hoisting Engineer (2 drums or over). (Trade License Required)	52.78	27.80 + a
Group 1a: Front End Loader (7 cubic yards or over); Work Boat 26 ft. and Over	48.37	27.80 + a

Group 2: Cranes (100 ton rate capacity and over); Bauer Drill/Caisson. (Trade License Required)	52.41	27.80 + a
Group 2a: Cranes (under 100 ton rated capacity).	51.51	27.80 + a
Group 2b: Excavator over 2 cubic yards; Pile Driver (\$3.00 premium when operator controls hammer)	48.0	27.80 + a
Group 3: Excavator; Gradall; Master Mechanic; Hoisting Engineer (all types of equipment where a drum and cable are used to hoist or drag material regardless of motive power of operation), Rubber Tire Excavator (Drott-1085 or similar); Grader Operator; Bulldozer Finegrade. (slopes, shaping, laser or GPS, etc.). (Trade License Required)	47.1	27.80 + a
Group 4: Trenching Machines; Lighter Derrick; CMI Machine or Similar; Koehring Loader (Skooper); Goldhofer.	46.64	27.80 + a
Group 5: Specialty Railroad Equipment; Asphalt Spreader, Asphalt Reclaiming Machine; Line Grinder; Concrete Pumps; Drills with Self Contained Power Units; Boring Machine; Post Hole Digger; Auger; Pounder; Well Digger; Milling Machine (over 24 mandrel).	45.92	27.80 + a
Group 5 continued: Side Boom; Combination Hoe and Loader; Directional Driller.	45.92	27.80 + a
Group 6: Front End Loader (3 up to 7 cubic yards); Bulldozer (rough grade dozer).	45.55	27.80 + a
Group 7: Asphalt Roller; Concrete Saws and Cutters (ride on types); Vermeer Concrete Cutter; Stump Grinder; Scraper; Snooper; Skidder; Milling Machine (24" and under mandrel).	45.14	27.80 + a
Group 8: Mechanic; Grease Truck Operator; Hydroblaster; Barrier Mover; Power Stone Spreader; Welding; Work Boat Under 26 ft.; Transfer Machine; Rigger Foreman.	44.67	27.80 + a
Group 9: Front End Loader (under 3 cubic yards); Skid Steer Loader regardless of attachments; (Bobcat or Similar); Forklift, Power Chipper; Landscape Equipment (including Hydroseeder); Vacuum Excavation	44.14	27.80 + a

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Truck and Hydrovac Excavation Truck (27 HG pressure or greater).

Group 10: Vibratory hammer; ice machine; diesel and air, hammer, etc.	41.69	27.80 + a
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Group 11: Conveyor, earth roller, power pavement breaker (whiphammer), robot demolition equipment.	41.69	27.80 + a
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Group 12: Wellpoint Operator.	41.61	27.80 + a
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Group 13: Compressor Battery Operator.	40.92	27.80 + a
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Group 14: Elevator Operator; Tow Motor Operator (solid tire no rough terrain).	39.54	27.80 + a
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Group 15: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater Operator.	39.06	27.80 + a
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Group 16: Maintenance Engineer.	38.28	27.80 + a
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Group 17: Portable Asphalt Plant Operator; Portable Crusher Plant Operator; Portable Concrete Plant Operator; Portable Grout Plant Operator; Portable Water Filtration Plant Operator.	43.46	27.80 + a
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Group 18: Power Safety Boat; Vacuum Truck; Zim Mixer; Sweeper; (Minimum for any job requiring a CDL license); Rigger; Signalman.	40.54	27.80 + a
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-----PAINTERS (Including Drywall Finishing)-----

10a) Brush and Roller	37.62	24.55
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10b) Taping Only/Drywall Finishing	38.37	24.55
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10c) Paperhanger and Red Label	38.12	24.55
10e) Blast and Spray	40.62	24.55
11) Plumber (excluding HVAC pipe installation) (Trade License required: P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2)	48.28	35.50
12) Well Digger, Pile Testing Machine	37.26	24.05 + a
13) Roofer (composition)	41.2	22.35
14) Roofer (slate & tile)	41.7	22.35
15) Sheetmetal Worker (Trade License required for HVAC and Ductwork: SM-1,SM-2,SM-3,SM-4,SM-5,SM-6)	41.89	43.22
16) Pipefitter (Including HVAC work) (Trade License required: S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4, G-1, G-2, G-8 & G-9)	48.28	35.50
-----TRUCK DRIVERS-----		
17a) 2 Axle, Helpers	32.16	30.51 + a
17b) 3 Axle, 2 Axle Ready Mix	32.27	30.51 + a
17c) 3 Axle Ready Mix	32.33	30.51 + a
17d) 4 Axle	32.39	30.51 + a
17e) 4 Axle Ready Mix	32.44	30.51 + a

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17f) Heavy Duty Trailer (40 Tons and Over)	34.66	30.51 + a
17g) Specialized Earth Moving Equipment (Other Than Conventional Type on-the-Road Trucks and Semi-Trailers, Including Euclids)	32.44	30.51 + a
17h) Heavy Duty Trailer up to 40 tons	33.39	30.51 + a
17i) Snorkle Truck	32.54	30.51 + a
18) Sprinkler Fitter (Trade License required: F-1,2,3,4)	47.55	32.27 + a
19) Theatrical Stage Journeyman	25.76	7.34

Welders: Rate for craft to which welding is incidental.

**Note: Hazardous waste removal work receives additional \$1.25 per hour for truck drivers.*

***Note: Hazardous waste premium \$3.00 per hour over classified rate*

Crane with 150 ft. boom (including jib) - \$1.50 extra

Crane with 200 ft. boom (including jib) - \$2.50 extra

Crane with 250 ft. boom (including jib) - \$5.00 extra

Crane with 300 ft. boom (including jib) - \$7.00 extra

Crane with 400 ft. boom (including jib) - \$10.00 extra

All classifications that indicate a percentage of the fringe benefits must be calculated at the percentage rate times the "base hourly rate".

Apprentices duly registered under the Commissioner of Labor's regulations on "Work Training Standards for Apprenticeship and Training Programs" Section 31-51-d-1 to 12, are allowed to be paid the appropriate percentage of the prevailing journeymen hourly base and the full fringe benefit rate, providing the work site ratio shall not be less than one full-time journeyman instructing and supervising the work of each apprentice in a specific trade.

The Prevailing wage rates applicable to this project are subject to annual adjustments each July 1st for the duration of the project.

Each contractor shall pay the annual adjusted prevailing wage rate that is in effect each July 1st, as posted by the Department of Labor.

It is the contractor's responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's website.

The annual adjustments will be posted on the Department of Labor's Web page:

www.ct.gov/dol. For those without internet access, please contact the division listed below.

The Department of Labor will continue to issue the initial prevailing wage rate schedule to the Contracting Agency for the project.

All subsequent annual adjustments will be posted on our Web Site for contractor access.

Contracting Agencies are under no obligation pursuant to State labor law to pay any increase due to the annual adjustment provision.

Effective October 1, 2005 - Public Act 05-50: any person performing the work of any mechanic, laborer, or worker shall be paid prevailing wage

All Person who perform work ON SITE must be paid prevailing wage for the appropriate mechanic, laborer, or worker classification.

All certified payrolls must list the hours worked and wages paid to All Persons who perform work ON SITE regardless of their ownership i.e.: (Owners, Corporate Officers, LLC Members, Independent Contractors, et. al)

Reporting and payment of wages is required regardless of any contractual relationship alleged to exist between the contractor and such person.

~~Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clause (29 CFR 5.5 (a) (1) (ii)).

Please direct any questions which you may have pertaining to classification of work and payment of prevailing wages to the Wage and Workplace Standards Division, telephone (860)263-6790.

As of: September 25, 2023

As of: September 25, 2023

SECTION 00610

PERFORMANCE BOND

KNOW EVERYONE BY THESE PRESENTS: That we _____
(Name of Contractor)

a _____ hereinafter called "Principal" and
(Corporation, Partnership, Joint Venture, Limited Liability Company or Individual)

_____ of _____, State of _____
(Surety) (City) (State)

called the "Surety" and licensed by the Connecticut Insurance Department to do business under the laws of the State of Connecticut are held and firmly bound to Town/City of _____, Connecticut, hereinafter called "Owner," in the penal sum of _____ Dollars and _____ Cents (\$ _____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that Whereas, the Principal entered into a certain contract with the Owner, dated the _____ day of _____, _____, a copy of which is hereto attached and made a part hereof for the construction described as follows:

NOTE TO SPECIFIER: THIS SECTION WILL NEED TO BE REWORDED TO BE PROJECT SPECIFIC.

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of the Contract during the original term thereof, and any extensions thereof which may be granted by the Owner, with or without notice to the Surety, and if it shall satisfy all claims and demands incurred under the Contract, and shall fully indemnify and save harmless the Owner from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all outlay and expense which the Owner may incur in making good any default, then this obligation shall be void; otherwise, this obligation shall remain in full force and effect.

PROVIDED, FURTHER, that the Surety's obligation under this Bond shall arise after (1) the Owner has declared the Principal in default of the Contract or any provision thereof, or (2) has declared that the Principal has failed, or is otherwise unable or unwilling, to execute the work consistent with, and in conformance to, the Contract (collectively referred to as a "Contractor Default"). The determination of a Contractor Default shall be made solely by the Owner. The Owner need not terminate the Contract to declare a Contractor Default or to invoke its rights under this Bond, and Contractor hereby agrees not to assert any claims against Surety under any indemnity or similar agreements on the grounds that Surety has interfered with the Contract by fulfilling its obligations hereunder in the absence of a termination of said Contract.

When the Surety's obligation under this Bond arises, the Surety, at its sole expense and at the consent and election of the Owner, shall promptly take one of following steps: (1) arrange for

the Principal to perform and complete the work of the Contract; (2) arrange for a contractor other than the Principal to perform and complete the work of the Contract; (3) reimburse the Owner, in a manner and at such time as the Owner shall reasonably decide, for all costs and expenses incurred by the Owner in performing and completing the work of the Contract. Surety will keep Owner reasonably informed of the progress, status and results of any investigation of any claim of the Owner.

If the Surety does not proceed as provided in this Bond with due diligence and all deliberate speed, the Surety shall be deemed to be in default of this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner.

After the Surety's obligation under this Bond arises, the Surety is obligated, to the limit of the amounts of this Bond, for (1) the correction of defective work and completion of the Contract; (2) additional design, professional services, and legal costs, including attorney's fees, resulting from the Contractor Default or from the default of the Surety under this Bond; (3) any additional work beyond the Contract made necessary by the Contractor Default or default of the Surety under this Bond; (4) indemnification obligations of the Principal, if any, as provided in the Contract; and (5) liquidated damages as provided in the Contract, or if no such damages are specified, actual damages and consequential damages resulting from the Contractor Default or any default of the Surety under this Bond.

Any proceeding, legal or equitable, under this Bond shall be instituted in any court of competent jurisdiction in the State of Connecticut.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work or to the specifications.

The Surety providing the Bond shall have a rating of A or better within Best's Key Rating Guide.

IN WITNESS WHEREOF, this instrument is executed in ____ () counterparts, each one of which shall be deemed an original, this the _____ day of _____, 20__.

ATTEST:

_____	_____
Principal	Witness as to Principal Signature
By _____	_____
Signature	Name and Title
_____	_____
Name and Title	Address
_____	_____
Address	City and State

City and State	(SEAL)

ATTEST:

_____	_____
Surety	Witness as to Surety Signature
By _____	_____
Attorney-in-Fact Signature	Name and Title
_____	_____
Name and Title	Address
_____	_____
Address	City and State

City and State	(SEAL)

NOTE: Date of Bond must not be prior to date of Contract. If Contractor is a Partnership, all partners should execute Bond.

END OF SECTION

SECTION 00615

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: That we _____
 _____ (Name of Contractor)
 a _____ hereinafter called "Principal"
 and _____ (Corporation, Partnership, Joint Venture, Limited Liability Company or Individual)
 _____ of _____, State of _____
 _____ (Surety) _____ (City) _____ (State)
 hereinafter called "Surety" and licensed by the Connecticut Insurance Department to do business
 under the laws of the State of Connecticut are held and firmly bound to the Town/City of
 _____, Connecticut, hereinafter called "Owner," in the penal sum of _____
 _____ Dollars and _____ Cents (\$ _____) in lawful
 money of the United States, for the payment of which sum well and truly to be made, we bind
 ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these
 presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal has
 entered into a certain contract with the Owner (the "Contract"), dated the _____ day of _____
 _____, 20____, which Contract is by reference made a part hereof, for the construction
 described as follows:

NOTE TO SPECIFIER: THIS SECTION WILL NEED TO BE REWORDED TO BE PROJECT SPECIFIC.

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the prosecution of the work provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such work, and all insurance premiums on said work, and for all labor, performed in such work whether by subcontractor or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of this Contract or to the work or to the specifications. The Surety Company providing the bond shall have a rating of A or better within the Best Key Rating Guide.

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in ____ () counterparts, each one of which shall be deemed an original, this the _____ day of _____, 20__.

ATTEST:

_____	_____
Principal	Witness as to Principal Signature
By _____	_____
Signature	Name and Title
_____	_____
Name and Title	Address
_____	_____
Address	City and State

City and State	(SEAL)

ATTEST:

_____	_____
Surety	Witness as to Surety Signature
By _____	_____
Attorney-in-Fact Signature	Name and Title
_____	_____
Name and Title	Address
_____	_____
Address	City and State

City and State	(SEAL)

NOTE: Date of Bond must not be prior to date of Contract. If Contractor is a Partnership, all partners should execute Bond.

END OF SECTION

SECTION 01 12 16

SCOPE AND SEQUENCE OF WORK

PART 1 – GENERAL

1.01 WORK INCLUDED:

- A. The scope of work under this contract includes installation of structural steel framing, proposed 8 inch thick composite cast-in-place deck, installation of FRP or steel grating with support framing, crack repairs to existing concrete walls and slab, repairs of deteriorated existing concrete walls and slab (up to 580 L.F. of concrete crack repair and 10 C. F. of concrete repair) , recaulking wall and slab joints, removal and storage of the existing chain, flight primary equipment (existing skimmer equipment) and cleaning of existing concrete slab of debris and vegetation at the existing primary clarifiers as shown on the plans and indicated in the contract documents.

1.02 RELATED WORK:

- A. SECTION 01 11 00 – CONTROL OF WORK AND MATERIALS

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 GENERAL:

- A. The Contractor shall be responsible for scheduling its activities and the activities of any subcontractors and/or third party stakeholders involved, to meet the completion date, or milestones, established for the contract. Scheduling of the work shall be coordinated with the Owner and/or Engineer.
- B. The Construction Sequence Requirements shall be used by the Contractor to form a complete schedule for the project, which shall be coordinated with the Owner or Owner's designee. The Construction Sequencing Requirements listed below are not intended to be a comprehensive list of work required to be completed at the site. Contractor shall use best judgement and propose sequencing to minimize onsite construction time and maintain continuous operation the existing water treatment facility at the site. Prior to performing any work at the site, the Contractor shall submit a detailed plan to the Owner for review. The plan shall describe the proposed sequence, methods, and timing of the work.

3.02 CONSTRUCTION SEQUENCING REQUIREMENTS:

- A. The Contractor shall schedule all work so that the existing wastewater treatment

- remains online during construction, until Substantial Completion and acceptance testing has been approved and completed by the Owner. Being online shall be defined such that 100% of all facilities shall be fully operational and be available for use by the Owner.
- B. Sequencing of construction shall take into account the needs and schedule of the operation of the facilities such that they are not adversely affected by the work being performed by the Contractor. The Contractor shall make provisions for the Owner for continuous operation of the existing treatment plant such that Construction sequencing does not conflict with the normal operations of Owner.
 - C. All existing processes must remain operational and able to perform their intended use at all times except where specifically allowed herein. Unless shutdown of a system is allowed, temporary systems shall be provided by the Contractor to ensure permit compliance and treatment process capability. Any temporary system must be approved by the Engineer, installed by Contractor, tested and operational prior to taking the existing system offline.
 - D. The Contractor shall provide a written schedule of construction sequencing and shall obtain the Owner's approval of said schedule prior to the demolition or deactivation of any systems. The construction sequencing schedule shall include a written description of any proposed temporary measures that will be taken to maintain operations and shall be updated on a monthly basis, or whenever operations require a modification to the proposed sequencing. The Contractor shall provide the operations staff a daily update of proposed work so as to assure that it is coordinated in a manner that does not adversely affect the water treatment process.
 - E. No treatment process, pumps, piping, valves, basins, or other equipment shall be taken offline in any manner, without written 72-hour notification to the Owner.
 - F. The Contractor shall make every effort to coordinate connection to and use of the existing yard piping and distribution system to maintain operation of the treatment facility.

END OF SECTION

SECTION 05 12 33
STRUCTURAL STEEL

PART 1 - GENERAL

1.01 WORK INCLUDED:

- A. The work of this Section consists of providing all labor, materials, and equipment required to furnish, fabricate, and erect the work of this Section including but not limited to:
 - 1. Providing leveling plates, bearing plates, anchor bolts, beams, baseplates, bracing and connections, angles, channels, stiffeners, separator plates, clips, supports for steel deck at columns, openings, connections, welding filler material and electrodes, connection bolts, erection bolts, steel grating and any other structural steel called for on the Drawings.
 - 2. Items of structural steel required to be built into concrete or masonry, as indicated or specified, shall be furnished to the respective trades at the proper time with complete instructions and template to facilitate inspection.
 - 3. Design of bolted/welded connections.
 - 4. Furnishing and installation of non-shrink grout under leveling and base plates.
 - 5. Unless specifically excluded, providing all other items for structural steel work indicated on the Drawings, specified, or obviously needed to make the work of this Section complete.
 - 6. All steel items shown or indicated on the Structural Drawings.
 - 7. Furnishing any temporary bracing necessary for support and alignment of the work, and shop painting as herein specified.
 - 8. Structural steel shall consist of all material as defined in Section 2, "Definition of Structural Steel," of the AISC Code, and accessory material called for, or reasonably implied by the drawings.

1.02 RELATED WORK:

- A. Section 01 45 23 – STRUCTURAL TESTS AND INSPECTIONS
- B. Section 03 30 00 - CAST-IN-PLACE CONCRETE

1.03 REFERENCES:

- A. The following standards from a part of these specifications as referenced:
 - 1. American Institute of Steel Construction (AISC)
 - a. Code of Standard Practice for Steel Buildings and Bridges
 - b. Specification for Structural Steel for Buildings
 - c. Manual of Steel Construction
 - d. Specification for Structural Joints Using ASTM A325 or A490 Bolts

2. American Society for Testing and Materials (ASTM)
 - a. ASTM A36 Structural Steel
 - b. ASTM A307 Carbon Steel Externally and Internally Threaded Standard Fasteners
 - c. ASTM A325 High Strength Bolts for Structural Steel Joints
 - d. ASTM A490 Heat-treated Steel Structural Bolts, 150 ksi Min. Tensile Strength
 - e. ASTM A500 Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing
 - f. ASTM A563 Carbon and Alloy Steel Nuts
 - g. ASTM F436 Hardened Steel Washers
 - h. ASTM A992 Standard Specifications for Structural Steel Shapes
3. American Welding Society (AWS)
 - a. AWS D1.1 Structural Welding Code Steel
4. Steel Structures Painting Council (SSPC)
 - a. SSPC-SP 6 Commercial Blast Cleaning
 - b. SSPC-PA 2, Shop, Field and Maintenance Painting
5. Connecticut State Building Code, Latest Edition.

1.04 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

- A. Product Data: Provide manufacturer's specifications and installation instructions for the following products. Include laboratory test reports and other data to show compliance with specifications (including specified standards).
 1. Structural steel (each type), including certified copies of mill reports covering chemical and physical properties.
 2. High-strength bolts (each type), including certified copies of mill reports for nuts and washers; include direct tension indicators if used.
 3. Structural steel primer paint.
 4. Touch-up paint for galvanized steel.
 5. Grout.
 6. Headed Stud Anchors.
 7. Adhesive/Expansion Anchors
- B. As-built Survey: Submit to the Engineer an as-built survey showing the locations of the anchor bolts prior to installation of leveling and bearing plates. This submittal is for information and file record.
- C. Standard Shop Details and Connection Design Calculations: Submit to the Engineer prior to submitting detailed shop drawings, design calculations and details for connections not shown on the Drawings. Calculations shall be prepared, signed, and sealed by a registered professional engineer. Calculations and drawings are

subject to review by the Engineer. The Engineer reserves the right to require revisions to this work at no additional cost to the Owner.

- D. Checked shop drawings shall be submitted to the Engineer for review and approval. Fabrication shall not begin until the Engineer has approved the shop drawings.
- E. Shop drawings shall include detail drawings, erection drawings, certifications, schedules, and all other information necessary for the fabrication and erection of component parts of the structure. The shop drawings shall be checked and properly coordinated with other parts of the construction. The following shall be included in the shop drawings:
 - 1. Type of steel for each member, location and identification mark of each member, dimensions, size and weight of members, location and size of cuts, copes, slots, holes and openings required by other trades, type and location of shop and field connections, type, size, and extent of all welds, joint welding procedures, welding sequence, and painting requirements.
 - 2. All requirements such as temporary members required for erection, including connections.
 - 3. Use standard welding symbols of the American Welding Society.
- F. Except as otherwise noted, the approval of shop drawings will be for size and arrangement of primary and secondary components and strength of connections. Any error in dimensions shown on the shop drawings shall be the responsibility of the Contractor.
- G. Submit manufacturer's certification of bolts, nuts, and filler metal for welding.

1.05 QUALITY ASSURANCE:

- A. Testing and Inspection
 - 1. Refer to Section 01 45 23 for Structural Testing and Inspections. Comply with the additional requirements specified in Section 01 45 23, Structural Tests and Inspections.
 - 2. The inspection and testing services provided by the Independent Testing Agency do not relieve the Contractor, the steel fabricator and erector from the responsibility to provide supervision, testing, inspection, and quality control in order to assure conformance with these specifications.
- B. The Contractor must utilize the services of a Professional Structural Engineer licensed in the State of **Connecticut** to design, sign, and seal calculations and drawings for the following:
 - 1. Connection designs indicated on the Drawings to be designed by the Contractor.
 - 2. Weld repairs.
 - 3. Welded and bolted connection repairs.

- 4. Revisions required because of erection misalignment, fabrication defects, damage from construction activities.
 - C. The Contractor is responsible for fit up and installation of all steel work and shall field verify all dimensions and conditions.
 - D. The fabricator shall possess a valid certificate, category I Conventional Steel Building Structures as issued through the AISC Quality Certification Program, or shall have a detailed Quality Control Plan subject to audit as indicated in Section 01450.
 - E. Welder, Tacker and Welding Operator Qualifications: Use welders, tackers and welding operators who are currently qualified by tests as prescribed in the Structural Welding Code, AWS D1.1 of the American Welding Society to perform type of work required. Headed stud welding operators shall also be qualified in accordance with AWS D1.1.
 - F. Welded connections shall be designed and detailed utilizing AWS prequalified joints.
- 1.06 DELIVERY, STORAGE, AND HANDLING:
- A. Store steel on platforms, skids, blocking or other supports to prevent dirt and debris contact. Protect from exposure to conditions that produce rust.
 - B. Handle steel so no parts are bent, broken or otherwise damaged and avoid damage to other material and work. Store beams with webs vertical. Exercise care to avoid scraping and overstressing the steelwork.
 - C. Ship small parts, such as bolts, nuts, washers, pins, fillers, and small connecting plates and anchors, in boxes, crates, or barrels. Pack separately each length and diameter of bolt and each size of nut and washer. Plainly mark an itemized list and description of the contents on the outside of each container.

PART 2 - PRODUCTS

2.01 STRUCTURAL STEEL MATERIALS:

- A. Rolled steel wide-flange shapes: ASTM A992.
- B. Steel channels, angles, plates and bars: ASTM A36.
- C. Structural Steel Tubing: ASTM A500 Grade B.

2.02 BOLTS, CONNECTORS, ANCHORS AND MISCELLANEOUS MATERIALS:

- A. High-Strength Structural Steel Bolts, Nuts and Washers:
 - 1. Bolts: ASTM A325.
 - 2. Nuts: ASTM A563.
 - 3. Washers: ASTM F436.

4. Where steel is indicated on the Drawings to be galvanized, bolts, nuts and washers shall be hot dip galvanized in accordance with ASTM A153.
 5. Refer to the Drawings for bolt head style requirements.
- B. Anchor Bolts: ASTM F1554. Grade 36, unless noted otherwise. Headed type unless otherwise noted. Provide suitable nuts in accordance with ASTM F1554 and ASTM A563 and washers in accordance with ASTM F436.
- C. Beveled Washers: Square, smooth and sloped to make contact surface of bolt head and nut parallel.
- D. Headed Stud Anchors: Embedment anchors shall be headed anchors with fluxed ends or approved equal. Stud size as indicated on the Drawings. Studs shall be automatically end welded with suitable equipment in the shop or field on spacing's indicated on the Drawings. All welds shall be made in accordance with the stud manufacturer's requirements. Field installed anchors shall be classified as Structural Steel.
1. Mechanical Properties of Headed Anchors. Low Carbon Steel complying with ASTM A108 Physical Properties:
 - a. Tensile (Minimum) 60,000 PSI (60KSI)
 - b. Yield (Minimum) 50,000 PSI (50KSI) (0.2% Offset)
 - c. Elongation (Minimum) 20% in 2-inches.
- E. Adhesive Anchor Bolt Anchoring Systems: Composed of an anchor rod, nut, washer and an anchor rod adhesive cartridge.
1. Anchor Rod Assembly: Chamfered end, all thread steel anchor rod with nut and washer. Size and load capacity as indicated on the Drawings.
 2. Adhesive Cartridge: Sealed capsule containing premeasured amounts of (resin, quartz sand aggregate, and a hardener contained in a separate vial within the capsule. Capsule ingredients activated by the insertion procedure of the anchor rod assembly.
 3. Acceptable Manufacturers:
 - a. Hilti Fastening Systems; HVA Adhesive System.
 - b. Powers Fastening, Inc.; Rawl Fastening Systems.
 - c. Or Approved Equal.
- F. Welding Electrodes: E70XX in accordance with AWS D1.1. Refer to the Drawings for special requirements at moment connections.
- G. Metal Bar-Grating Stairs: Form treads and platforms to configurations shown from metal bar grating; fabricate to comply with NAAMM MBG 531, "Metal Bar Grating Manual."
- i) Fabricate treads and platforms from welded steel grating with 1-by-1/8-inch bearing bars at 7/16 inch o.c. and crossbars at 4 inches o.c.

- ii) Fabricate treads and platforms from welded steel grating with openings in gratings no more than 1/2 inch in least dimension.

Surface: Serrated.

Finish: Galvanized

- iii) Fabricate grating treads with rolled-steel floor plate nosing and with steel angle or steel plate carrier at each end for stringer connections.

Secure treads to stringers with bolts.

- iv) Fabricate grating platforms with nosing matching that on grating treads.

Secure grating to platform framing with bolts.

2.03 GROUT:

- A. Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, nonmetallic aggregate grout, noncorrosive, nonstaining, mixed with water to consistency suitable for application and a 30-minute working time.

2.04 SHOP PRIMER PAINT:

- A. Products to be used shall meet the regulations of jurisdiction for Volatile Organic Compounds (VOC) emissions.
- B. Exterior Exposed Steel, Not Galvanized: Zinc-rich epoxy primer followed by an intermediate coat of epoxy paint.
- C. Other Steel, Not Galvanized: Zinc-rich epoxy primer.
- D. Shop primer paint shall be compatible with the specified finish paint system. Finish paints shall be per manufacturer's recommendations.

2.05 HOT-DIPPED GALVANIZING:

- A. Hot-dip galvanized steel fabrications so designated herein and on the drawings and after fabrication in compliance with ASTM A 123.
- B. Hot-dip galvanized iron and steel hardware shall be in accordance with ASTM A 153.

PART 3 - EXECUTION

3.01 FABRICATION:

- A. Shop Fabrication and Assembly: Fabricate and assemble structural assemblies in the shop to the greatest extent possible. Fabricate items of structural steel in accordance with AISC Specifications and as indicated on final shop drawings.
 - 1. Provide camber in structural members where indicated.
 - 2. Do not splice steel members unless given written approval by the Engineer.
 - 3. Properly mark and match-mark materials for field assembly. Fabricate for delivery sequence that will expedite erection and minimize field handling of materials.
 - 4. Where finishing is required, complete assembly, including welding of units, before start of finishing operations. Provide finish surfaces of members exposed in final structure free of markings, burrs, and other defects.
- B. Holes for Other Work: Provide holes required for securing other work to structural steel framing and for passage of other work through steel framing members, as shown on the final shop drawings.
- C. Cut, drill, and punch holes perpendicular to metal surfaces. Do not flame cut holes or enlarge holes by burning. Drill holes in bearing plates.
- D. Welding:
 - 1. Provide quality control and qualification of welders and welding procedures and operations as specified under "Testing and Inspection" in this Section.
 - 2. Shop Welded Process: Use shielded metal-arc, submerged arc, gas metal-arc, and flux cored-arc, or other process as approved by the Engineer.
 - 3. Groove Welds: Provide complete penetration unless otherwise noted on the Drawings.
 - 4. Fillet Welds: Where weld symbol is not shown or welds are not dimensioned, provide continuous fillet welds all around and on both sides as appropriate. Minimum dimension shall be as indicated in AISC Specification.
 - 5. Base metal shall be checked by Contractor to insure absence of laminations or other defects. Welds shall be sound throughout and have no cracks.
 - 6. Where structural joints are required to be welded, details of joints, technique of welding employed, appearance and quality of welds made, and methods used in correcting defective work shall conform to applicable requirements noted under References in this Section.
 - 7. Prepare joint welding procedures and program of welding sequence (for each component and for welding jointing components to each other) and submit to Engineer for approval before any welding is done. After approval, welding procedures and sequences shall be followed without deviation unless specific approval for change is obtained from the Engineer. Engineer may require requalification's of these welding procedures by tests prescribed in AWS "Standard Qualification Procedures".
 - 8. Each welder working on the project shall be assigned an identification symbol or mark. Each welder shall mark or stamp their identification symbol to each weldment completed, whether in shop or field.

9. Corrective Work: Structural steel elements having fabrication errors and/or which do not satisfy tolerance limits shall not be incorporated in finished work. Such elements may be corrected if permitted by the Engineer and/or Testing Agency. Submit to the Engineer drawings showing details of proposed corrective work. These drawings shall be approved by the Engineer prior to performing corrective work. Corrective work shall be performed in accordance with requirements of Contract Documents. Corrective work and any retesting which may be required shall be at the Contractor's expense.
10. Members scheduled to be fireproofed shall have surfaces prepared as required by the fireproofing material manufacturer.

3.02 SHOP PRIMER PAINTING:

- A. General: Shop paint all structural steel, except as noted below:
 1. Do not paint members which are to be galvanized.
 2. Do not paint surfaces within two inches of any field weld (including shear connectors) or high strength bolted friction type connection.
 3. Do not paint surfaces to be high-strength bolted with slip-critical connections, unless the paint is specifically compatible with slip-critical connections.
 4. When members are to be partly embedded in concrete or mortar in the finished work, paint only the exposed portions and initial 2-inches of embedded areas. Do not paint members which will be entirely embedded in concrete or mortar in the finished work.
 5. Do not paint surfaces to receive metal deck and/or shear connectors fastened by welding.
 6. Do not paint surfaces to receive sprayed-on fireproofing.
- B. Surface Preparation: At a minimum, clean steel in accordance with Steel Structures Painting Council (SSPC) as follows; except clean to more stringent surface preparation standard if required by primer manufacturer:
 1. Steel to be primed with zinc-rich primer: Commercial Blast Clean (SSPC-SP6).
 2. Comply with AISC requirements for slip-critical connections.
- C. Painting
 1. Immediately after surface preparation apply shop primer paint in accordance with manufacturer's recommendations.
 2. Apply shop paint in accordance with SSPC-PA-2.
 3. Minimum dry film thickness of shop paint shall be 4.0 mils.
 4. Comply with AISC requirements for slip-critical connections.
 5. Complete shop painting operations on completed shop welded connections after the connections have passed the specified structural tests and inspections.
 6. Apply two coats of paint to surfaces that are inaccessible after assembly or erection. Change color of second coat to distinguish it from the first.

3.03 GALVANIZING:

- A. General: Hot-dip galvanize all steel exposed to weather or corrosive environments and as indicated on the drawings.
- B. Hot-dip galvanized steel shall be inspected for compliance with ASTM A 123 and shall be marked with a stamp that indicates the name of the galvanizer, the ASTM number, and the ounces of zinc per square foot of surface. A notarized Certificate of Compliance with all of the above shall be required from the galvanizer.
- C. Hot-dip galvanized hardware shall comply with ASTM A 153.
- D. Provide thickness of galvanizing specified in referenced standards.
- E. Fill vent holes and grind smooth after galvanizing.
- F. All hot-dip galvanized steel shall be safeguarded against embrittlement in conformance with ASTM A-143.
- G. Finish color, if required, will be specified by the Engineer.

3.04 ERECTION:

- A. Erect structural steel in accordance with the Drawings, the approved submittal documents, pertinent regulations, the referenced AISC standards and these Specifications.
 - 1. Allow concrete foundations to reach a minimum of 14-day curing time before torquing of anchor bolts.
 - 2. Prior to installation of metal decking, clean the unpainted top flanges of structural steel members to be free of heavy rust, mill scale, dirt or such other substances detrimental to welding.
 - 3. Comply with 29 CFR Part 1926 - Safety Standards for Steel Erection.
- B. Surveys: Employ a licensed Land Surveyor or licensed engineer for accurate erection of structural steel. Check elevations on concrete and masonry bearing surfaces, and locations of anchor bolts and similar devices, before erection work proceeds, and report discrepancies to Engineer. Do not proceed with erection until corrections have been made or until compensating adjustments to structural steel work have been agreed upon with Engineer.
- C. Temporary Shoring and Bracing: Provide temporary shoring and bracing members with connections of sufficient strength to bear imposed loads. Remove temporary members and connections when permanent members are in place and final connections are made. Provide temporary guy lines to achieve proper alignment of structures as erection proceeds.
- D. Setting base and bearing plates: Clean concrete and masonry bearing surfaces of bond-reducing materials and roughen to improve bond to surfaces. Clean bottom surfaces of leveling and bearing plates.

1. Set loose and attached leveling plates and bearing plates for structural members on steel wedges, shims, leveling devices, or as shown on the Drawings.
 2. Grout under the plates after they have been positioned, plumbed and leveled. Do not remove wedges or shims but, if protruding, cut off flush with top or edges of base plates, or both prior to packing with grout.
 3. Pack grout solidly between bearing surfaces and bases or plates to ensure no voids remain. Finish exposed surfaces, protect installed materials, and allow to cure.
 4. For proprietary grout materials, comply with manufacturer's instructions.
- E. Field Assembly: Set structural frames accurately to lines and elevations indicated. Align and adjust various members forming part of the complete frame or structure before permanently fastening. Clean bearing surfaces and other surfaces that will be in permanent contact before assembly. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.
1. Level and plumb individual members of structure within specified AISC tolerances.
 2. Establish required leveling and plumbing references with respect to expected mean service operating temperature inside the building. Make allowances for difference between temperature at time of erection and mean temperature at which structure will be when completed and in service.
- F. Maintain erection tolerances of structural steel within AISC's "Code of Standard Practice for Steel Buildings and Bridges".
- G. Splice members only where indicated and accepted on shop drawings.
- H. Erection Bolts: On exposed welded construction, remove erection bolts, fill holes with plug welds, and grind smooth at exposed surfaces.
- 3.05 FIELD CONNECTIONS:
- A. General: Beams shall have framed connections using $\frac{3}{4}$ -inch diameter, minimum, high strength bolts in accordance with the requirements of AISC "Manual of Steel Construction" and Contract Drawings.
- B. High-Strength Bolts: Install high-strength steel-bolts in accordance with RCSC's "Specifications for Structural Joints Using ASTM A325 or A490 Bolts" for type of bolt and type of joint specified.
1. Joint Type: Snug tightened unless indicated otherwise on the drawings or where pretension or slip critical joints are recommended or required by RCSC or AISC.
 2. Do not enlarge holes in members by burning or by using drift pins. Ram holes that must be enlarged to admit bolts.

- C. Weld Connections: Comply with AWS D1.1 for welding procedure specifications, tolerances, appearance, and quality of welds and for methods used in correcting welding work.
 - 1. Comply with AISC's "Code of Standard Practice for Steel Buildings and Bridges" and "Specification for Structural Steel Buildings" for bearing, adequacy of temporary connections, alignment, and removal of paint on surfaces adjacent to field welds.
- D. Adhesive Anchor Bolt Anchoring System Installation:
 - 1. General: Install adhesive anchors in strict accordance with manufacturer's instructions and in accordance with the following.
 - 2. Drilling Holes: Use rotary hammer-type drill and make drill holes to the required diameter and depth as consistent with anchor manufacturer's instructions for size of anchors being installed,
 - a. Prior to setting cartridge and anchor rod clean drilled holes free of loose material by vacuum process, finishing with a blast of compressed air and cover hole until actual use.
 - 3. Anchor Rod Installation: Following cartridge installation in prepared drill holes, set anchor rod to the required depth. Set anchor rods truly perpendicular (normal) to the base plate of item being anchored.
- E. Headed Stud Anchors:
 - 1. Welding Specifications: All materials shall be clean, dry and free of paint, rust, oil or other contaminants. Test welding should be done in the same position being used for production. Test welds, after cooling, should be bent by hammer 45° from the vertical position without failure. Non-failure of two studs indicates that the weld setup is satisfactory and production welding may be started.
 - 2. Inspection Requirements: After welding, the ceramic ferrule should be removed from each stud and the weld fillet visually inspected. A fillet of less than 360° is cause for further inspection. Such studs should be hammer tested, bending the stud 15° from the vertical toward the closest end of the embedment plate or steel member. Bending without failure indicates a satisfactory weld. Bent studs may be left bent unless stud projects into concrete cover or obstructs other materials. All bending and straightening when required shall be done without heating before completion of the production stud welding operation.
 - 3. Do not weld studs to steel plates or members with temperatures below 32° F. Welding shall not be done when the steel surface is wet or exposed to rain or snow.
 - 4. The Engineer reserves the right to require the Contractor to repair any welds, which are not a complete 360°, weld at no additional cost. The Engineer also reserves the right to require replacement of studs and the repair of the base

metal at no additional cost. Any additional testing and inspection required will be at no additional cost to the Owner.

3.06 FIELD QUALITY CONTROL:

- A. Testing Agency: Owner will engage a qualified independent testing and inspection agency to inspect field welds and high-strength bolted connections.
 - 1. Testing agency shall conduct and interpret tests, state in each report whether test specimens comply with requirements, and specifically state any deviations there from.
 - 2. Provide access for testing agency to places where structural steel work is being fabricated or produced so that required inspection and testing can be accomplished.
 - 3. Testing agency may inspect structural steel at plant before shipment.
- B. Bolted Connections: Field and shop-bolted connections will be inspected according to RSCS's "Specification for Structural Joints Using ASTM A325 or A490 Bolts.
- C. Welded Connections: Inspect and test during erection of structural steel as follows:
 - 1. Review welder's certifications and certify welders if required. Conduct inspections and tests as required. Record types and locations of defects found in the work. Record work required and performed to correct deficiencies.
 - 2. All field welds will be visually inspected according to AWS D1.1.
 - 3. Test all full penetration welds using ultrasonic inspection methods in accordance with ASTM E164.
 - 4. Perform magnetic particle inspection in accordance with ASTM E709 on at least 20% of fillet welds. Magnetic particle inspection shall be performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration will not be accepted.
- D. Correct deficiencies in structural steel work that inspections and laboratory test reports have indicated to be not in compliance with requirements. Perform additional tests, at Contractor's expense, as necessary to reconfirm any noncompliance of original work and to show compliance of corrected work.

3.07 FIELD TOUCH-UP PAINTING OF SHOP PRIMER PAINTED STEEL AND GALVANIZED STEEL:

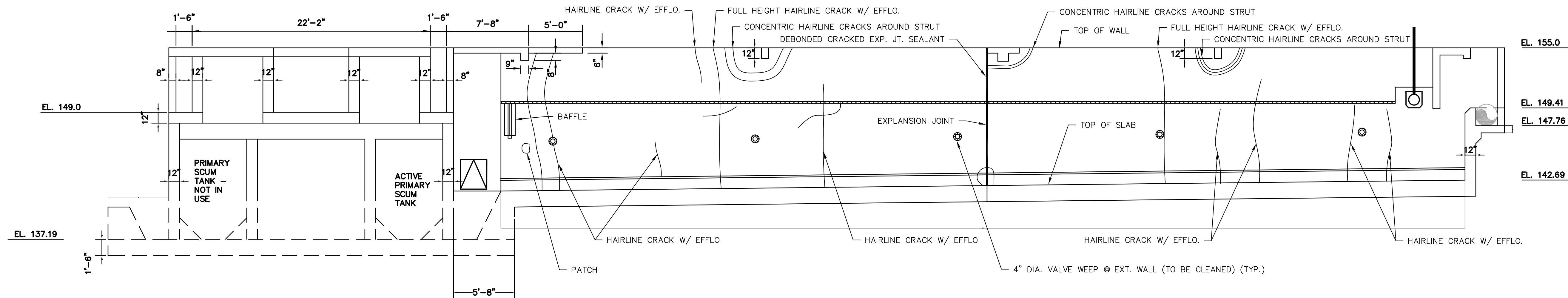
- A. General: Immediately after erection, clean field welds, bolted connections, and other surfaces required to be painted. Apply paint to areas required to be painted using same material as used for shop painting. Apply by brush or spray to provide minimum dry film thickness specified in Part 2 of this Section for the shop-applied coat.
- B. Touch-up paint welded connections after the connections have passed the specified structural tests and inspections.

- C. Do not paint when ambient temperature is below 40 degrees F, or when conditions differ from paint manufacturer's recommendations, as approved by the Engineer.
- D. Touch up damaged galvanizing with zinc-rich paint in accordance with ASTM A 780 and manufacturer's written instructions.

END OF SECTION

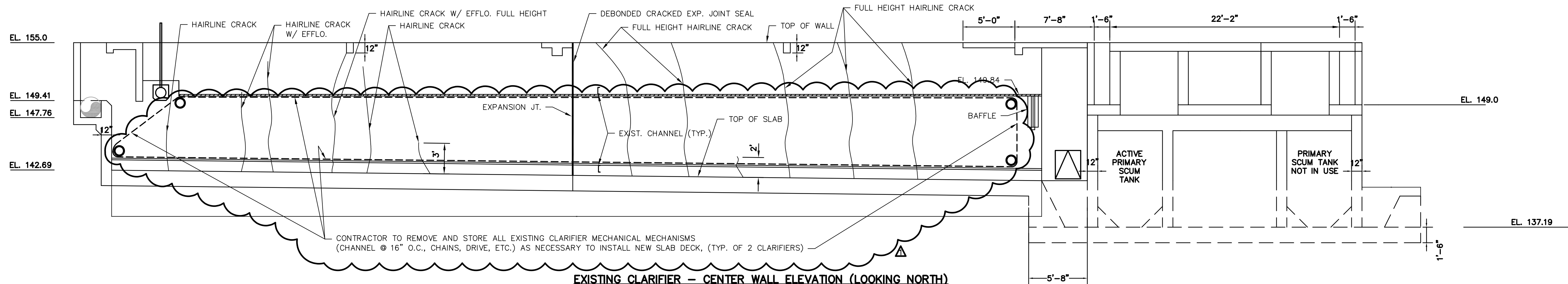


No.	Date	Description
1	10/20/23	ADDENDUM #1



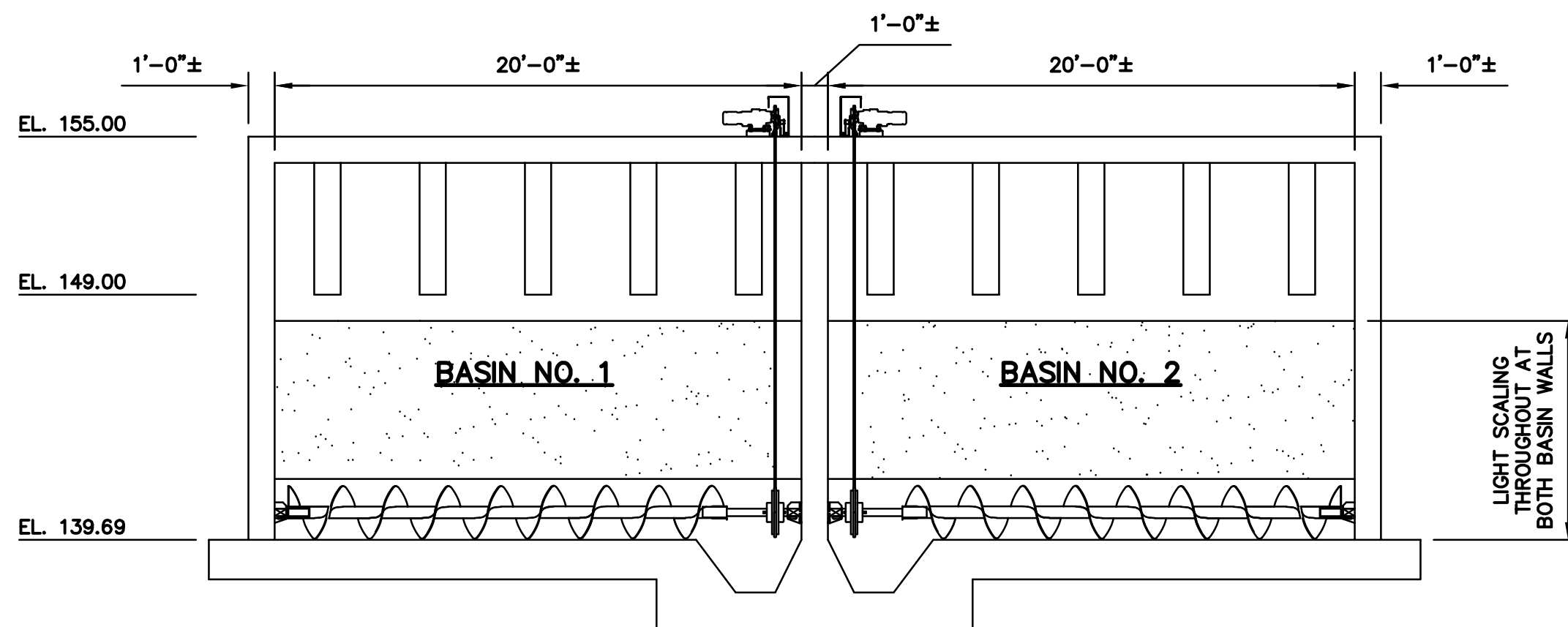
EXISTING CLARIFIER - SOUTH EXTERIOR WALL ELEVATION (LOOKING SOUTH)

SCALE: 3/16" = 1'-0"



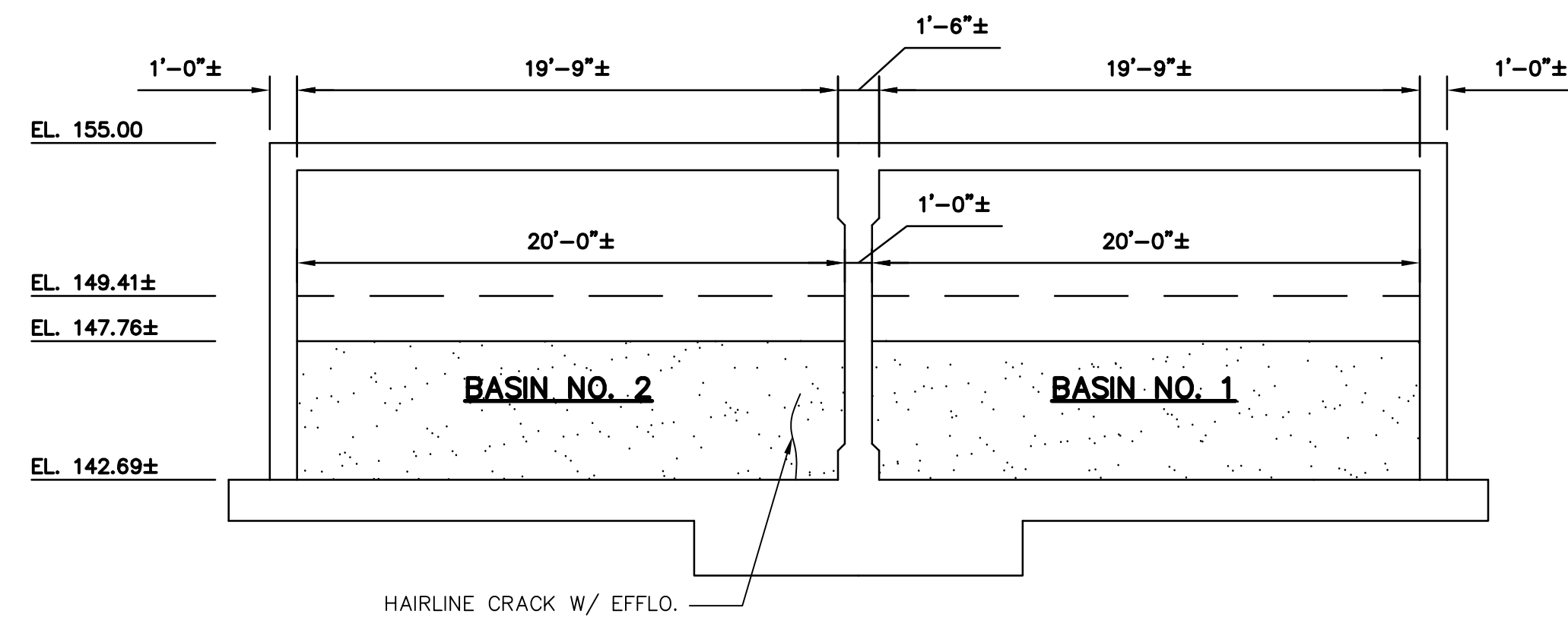
EXISTING CLARIFIER - CENTER WALL ELEVATION (LOOKING NORTH)

SCALE: 3/16" = 1'-0"



EXISTING CLARIFIER - EAST INTERIOR WALL ELEVATION (LOOKING EAST)

SCALE: 3/16" = 1'-0"



EXISTING CLARIFIER - EXTERIOR WALL ELEVATION (LOOKING WEST)

SCALE: 3/16" = 1'-0"

CONCRETE REPAIR QUANTITY TABLE	
ITEM	QUANTITY
CONCRETE CRACK REPAIR	580 L.F.
CONCRETE REPAIR	10 C.F.

LEGEND

- INDICATES CONCRETE SURFACE AREA COVERED WITH VEGETATION
- INDICATES SPALL OR HOLLOW AREA OF CONCRETE
- INDICATES CONCRETE SCALING
- INDICATES CRACKS
- INDICATES MAP CRACKING
- INDICATES EXPANSION JOINT

NOTES:

- FOR CONCRETE REPAIR DETAILS SEE SHEET NO. S-6.
- FOR JOINT REPAIR DETAILS SEE SHEET NO. S-6.
- LOCATION AND EXTENT OF EXISTING DETERIORATION SHOWN ON THIS SHEET WAS DETERMINED BY A CONDITION SURVEY PERFORMED ON OCTOBER 25, 2022. IT IS INTENDED TO BE USED AS A GUIDE AND DOES NOT NECESSARILY REFLECT THE CURRENT CONDITION OF THE STRUCTURES.
- ALL EXISTING CLARIFIER EQUIPMENT, PIPES, ETC. SHALL BE PROTECTED FROM DAMAGE DURING ALL CONSTRUCTION ACTIVITIES.