

ENGINEERING ARCHITECTURE FIELD SERVICES

HUGHES RIVER WATER BOARD RITCHIE COUNTY, WEST VIRGINIA

WATER STORAGE SYSTEM IMPROVEMENTS

ADDENDUM #1

DECEMBER 13, 2022

THRASHER PROJECT #010-10141

TO WHOM IT MAY CONCERN:

A Pre-Bid Conference was held on Thursday, December 1, 2022, on the above-referenced project, a copy of the sign in sheet is included in this Addendum. The following are clarifications and responses to questions posed by contractors for the above reference project.

A. <u>GENERAL</u>

- 1. All bids for this project shall be due at 3:00 PM LPT on Tuesday, December 20, 2022, at the Town of Harrisville Town Hall, located at 1501 East Main Street, Harrisville, WV 26362. ALL BIDS MUST BE RECEIVED BY 3:00 PM.
- 2. Davis Bacon Wage Rates are applicable to this project and have been included as an attachment to this Addendum.
- 3. All Subcontractor procurement and reporting must follow the DBE guidelines as presented in the attachments that have been added as part of this Addendum.

B. <u>SPECIFICATIONS</u>

Specification Section 012000 PRICE AND PAYMENT PROCEDURES – ADD to 1.8.G.5.d "This bid item shall include all costs associated with the testing, excavation, removal and properly documented disposal of an estimated 4" of oiled sand underneath of the existing 500,000-gallon tank within the ring wall foundation."

Specification Section 012000 PRICE AND PAYMENT PROCEDURES – ADD 1.8.G.6.b "This bid item shall include all costs associated with surveying, layout, benchmarks and stakeout associated with the tank and the access road.".

Specification Section 434111 GLASS-LINED BOLTED STEEL TANKS – Replace 2.1.A with "Steel: The American Iron and Steel Requirement <u>does not</u> apply to this project.".

Specification Section 434111 GLASS-LINED BOLTED STEEL TANKS – Replace 1.13.B with "The Tank Manufacturer shall include a warranty on tank materials and workmanship for a specified period. As a minimum, the warranty shall provide assurance against defects in material, coatings, workmanship, and tank interior lining for a period of five (5) years, starting at the date of Substantial Completion. A five (5)-year warranty bond must be supplied. The warranty bond must be for the full amount listed in the bid section. Every other year inspections shall be performed throughout the warranty period."

C. <u>DRAWINGS</u>

SHEET #9 – REPLACE this sheet with the revised sheet attached to this addendum.

D. <u>QUESTIONS AND RESPONSES</u>

1. QUESTION

Can the Contract Times be adjusted due to long-lead materials?

RESPONSE

The Contract Times have been extended. 330 days to substantial completion and 360 days to final completion.

2. QUESTION

What is the Engineer's Estimate for the project?

RESPONSE

\$1,300,000.

3. QUESTION

When is this project projected to start?

RESPONSE

The Contractor will be permitted to start once the Contract time commences to run, upon issuance of the notice of award. It is anticipated that the Notice of Award could be sent in February 2023, and the Contract would start shortly thereafter.

How long is the bid hold period for this project?

RESPONSE

90 days.

5. QUESTION

Are Davis Bacon wage rates applicable for this project?

RESPONSE

Yes.

6. QUESTION

Are B&O taxes applicable for this project?

RESPONSE

No.

7. QUESTION

Does this project require American Iron and Steel Act compliance?

RESPONSE

No.

8. QUESTION

What is the warranty period required on tank materials and workmanship?

RESPONSE

See revised Specification Section 434111. The warranty shall provide assurance against defects in material, coatings, workmanship, and tank interior lining for a period of five years, starting at the date of substantial completion. A bond must be supplied.

Should the base and overflow of the proposed 855,000-gallon tank match that of the existing 1,000,000 tank?

RESPONSE

Yes. The new tank base and overflow elevation should match the existing tank once construction is completed.

10. QUESTION

What is the amount of freeboard in the proposed tank?

RESPONSE

1 foot.

11. QUESTION

Is a Silt Stop required?

RESPONSE

Yes.

12. QUESTION

Does the proposed tank require 2 shell manways?

RESPONSE

Yes. The detail drawing has been revised and added as an attachment to this addendum.

13. QUESTION

Is one roof manway required for the proposed tank?

RESPONSE

Yes. One 30"x30" roof manway is required.

Is a single handrail walkway with non-skid material acceptable for roof access?

RESPONSE

Yes.

15. QUESTION

What is the color of the proposed tank?

RESPONSE

Cobalt Blue.

16. QUESTION

Does all material for the new 855,000-gallon tank construction need to be on-site prior to the isolation/demolition of the existing 500,000-gallon tank?

RESPONSE

Yes. The Owner needs to keep the time period of only having one water tank in service to a minimum, therefore, materials associated with the demolition of the existing 500,000-gallon tank and construction of the new 855,000-gallon tank shall be on site. Once the existing 500,000-gallon tank is removed from service, the Contractor will have 75 days to place the new tank in service. A \$250/day liquidated damage will be assessed to the Contractor for any day beyond 75 calendar days for this milestone. The Agreement has been revised and included as part of this Addendum.

17. QUESTION

Does the proposed tank need to be in-service prior to taking the existing 1,000,000-gallon tank out of service for rehabilitation?

RESPONSE

Yes. The Board must maintain full operation of one of the two tanks prior to taking the other one out of service.

How long can the existing 1,000,000-gallon tank be out of service for rehabilitation?

RESPONSE

The rehabilitation of the existing 1,000,000-gallon tank shall be expeditious, and the work shall be completed as quickly as possible, as the storage provided by the water tanks is critical to the water infrastructure in the County. The Contractor will have 30 days to return the existing 1,000,000-gallon tank to service once it is taken out of service for rehabilitation. A \$250/day liquidated damage will be assessed to the Contractor for any day beyond 30 calendar days for this milestone. The Agreement has been revised and included as part of this Addendum.

19. QUESTION

Who will be responsible for the steel and other materials from the demolition of the existing tank?

RESPONSE

All material associated with the demolition of the existing tank will be the responsibility of the selected Contractor. All disposal must be in accordance with federal, state and local laws.

20. QUESTION

Can a laydown area be secured adjacent to the existing or proposed access road?

RESPONSE

Any laydown areas outside of property owned by the Hughes River Water Board are the responsibility of the Contractor to obtain, and written permission for utilizing the area must be provided for documentation.

21. QUESTION

Does the contractor have to confirm the operation of valves prior to commencing work?

RESPONSE

Yes. The Contractor will be responsible for all valve testing and exercising to ensure functionality, in coordination with the Owner, for isolation of the existing tank. Normal operating conditions must be maintained during the demolition of the existing tank. It is the Contractor's responsibility to notify the Owner if any valves do not operate as planned prior to taking the tank out of service.

Does the soil underneath and around the existing tank need tested for contamination?

RESPONSE

Yes. All contaminated soil testing shall be the responsibility of the contractor. Testing, excavation and removal of approximately 4" of oiled sand, within the ring wall foundation, shall be incorporated in the Contractor's bid. Any disposal shall be in accordance with federal, state and local laws and shall be at an approved facility to accept contaminated soil. Any material greater than the 4" in depth described will be treated as extra work and a Change Order will be negotiated.

23. QUESTION

Has a waste site for any unsuitable material been identified?

RESPONSE

Waste sites are the responsibility of the Contractor to obtain, and written permission for utilizing the area must be provided for documentation. Disposal of any soil determined to be contaminated must be disposed of in accordance with any federal, state, or local laws at an appropriate facility. Proof of such shall be provided to the Owner.

24. QUESTION

Have cut/fill quantities for the site been calculated?

RESPONSE

The estimated net cut associated with the access road is 2,425 cubic yards. The estimated net cut associated with the tank pad is 885 cubic yards. It is the Contractor's responsibility to handle all earth work and all work shall be included in the bid price. Contractor shall be responsible for their own calculations for the bid.

25. QUESTION

Is material testing required on all concrete?

RESPONSE

Yes. All concrete shall be tested for quality assurance as per the specifications. Cost of testing shall be the responsibility of the Contractor.

What are the dimensions of the existing 500,000-gallon tank that is to be demolished?

RESPONSE

The existing tank to be demolished is approximately 47' in diameter and 42' in height.

27. QUESTION

Are there any inspection reports available for the existing 500,000-gallon tank?

RESPONSE

The Town's current administration does not have record of any inspections of this tank since its initial construction.

28. QUESTION

Has the paint been tested on the existing 500,000-gallon tank?

RESPONSE

No. The contractor shall perform all necessary testing.

29. QUESTION

Does the existing 500,000-gallon tank have lead-based paint?

RESPONSE

The existing tank was constructed in 1967 and may contain lead-based paint and/or primer. The Contractor shall perform all applicable testing.

30. QUESTION

When was the last time the existing 500,000-gallon tank was cleaned out?

RESPONSE

The Town's crew completed a project in-house in approximately 2000 where the tank was drained, cleaned, pit welds performed, and the floor was painted.

Where was sediment taken the last time the existing 500,000-gallon tank was cleaned?

RESPONSE

The Town's current administration does not have recollection of, if sediment was removed, and if it was, where it was taken to.

32. QUESTION

Does the proposed access road need to be constructed prior to demolishing the existing tank?

RESPONSE

Yes. It is anticipated that the proposed access road would need to be constructed in order to demolish the existing tank and to access the site as needed to construct the new 855,000-gallon tank.

E. <u>CLARIFICATIONS</u>

1. The bidding process is a two (2) envelope system. Envelope No. 1 must have the following information presented on the front:

Name and address of Bidder Bid on Water Storage System Improvements Project Received by the Hughes River Water Board

Envelope No. 1 will be opened first and the Bid Opening Requirement items will be checked for compliance as outlined on the Bid Opening Checklist (BOR-1). If such documents are found to be in order, Envelope No. 2 "Bid Proposal", will be opened and will be publicly read aloud. If the documents required to be contained in Envelope No. 1 <u>are not in order</u>, Envelope No. 2 "Bid Proposal", <u>will not be opened</u> and the Bid will be considered non-responsive.

Envelope No. 2 labeled "Bid Proposal" shall be placed inside of Envelope #1

2. MBE/WBE/DBE procurement documentation shall be provided to the Engineer within seven (7) calendar days after the bid opening. If this documentation is not submitted within seven (7) calendar days, or if submitted incomplete, the contractor will be declared non-responsive at that time.

3. The Agreement between Owner and Contractor has been revised to add milestones and their associated liquidated damages. The revised Contract can be found as an attachment to this Addendum.

If you have any questions or comments, please feel free to contact me at your earliest convenience. As a reminder, bids will be received until 3:00 p.m. on Tuesday, December 20, 2022, at Town of Harrisville located at 1501 East Main Street, Harrisville, WV 26362. Good luck to everyone and thank you for your interest in the project.

Sincerely,

THE THRASHER GROUP, INC.

DANIEL E. FERRELL, P.E. Project Manager

Enclosures Pre-Bid Sign-In Sheet C520 Agreement Between Owner and Contractor Additional Supplemental General Conditions Davis Bacon Wage Rates Specification Section 012000 – Price and Payment Procedures Specification Section 434111 – Glass Lined Bolted Steel Tanks Plant Sheet #9



HUGHES RIVER WATER BOARD RITCHIE COUNTY, WEST VIRGINIA WATER STORAGE SYSTEM IMPROVEMENTS

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PRE-BID CONFERENCE

Thursday, December 1, 2022

Thrasher Project #010-10141

Name	Representing	Phone #	Email Address
Kan Read	Massi	740-919-1644	Kenemiglatlant's strage . com
Ryan Lynch	mASSI	740 - 604 - 2850	Man@ midatlanticstorage. com
Cales Butcher	Select Excavating	304-613-9194	caled D selectercarating.com
Jim Dutcher	Select Excavating	304-613-9124	Jim@selectexcavating.com
Ran Shrive	Litema Excluding	304-771-9941	Rasher a Litemas . com
ALAN HAUGHT	HRWB		
BRAD MORRES	MOURC	304-699-3709	burd. morning @ Morke
JOE PINGLEY	MASSI	740 604-9479	joc@midAtlasticsbeage.com
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AGREEMENT BETWEEN OWNER AND CONTRACTOR FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)

This Agreement is by and between Hughes River Water Board ("Owner") and **[name of contracting entity]** ("Contractor").

Terms used in this Agreement have the meanings stated in the General Conditions and the Supplementary Conditions.

Owner and Contractor hereby agree as follows:

ARTICLE 1—WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows: Water Storage Systems Improvements

ARTICLE 2—THE PROJECT

2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: Water Storage Systems Improvements

ARTICLE 3—ENGINEER

- 3.01 The Owner has retained **The Thrasher Group, Inc.** ("Engineer") to act as Owner's representative, assume all duties and responsibilities of Engineer, and have the rights and authority assigned to Engineer in the Contract.
- 3.02 The part of the Project that pertains to the Work has been designed by The Thrasher Group, Inc.

ARTICLE 4—CONTRACT TIMES

- 4.01 *Time is of the Essence*
 - A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.
- 4.02 *Contract Times: Days*
 - A. The Work will be substantially complete within **330** days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within **360** days after the date when the Contract Times commence to run.
- 4.04 *Milestones*
 - A. Parts of the Work must be substantially completed on or before the following Milestone(s):
 - 1. Milestone 1 Proposed 855,000-gallon tank in service 75 days from 500,000-gallon tank out of service.
 - 2. Milestone 2 Existing 1,000,000-gallon tank returned to service 50 days from being taken out of service for rehabilitation.

4.05 *Liquidated Damages*

- A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the Contract Times, as duly modified. The parties also recognize the delays, expense, and difficulties involved in proving, in a legal or arbitration proceeding, the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):
 - 1. Substantial Completion: Contractor shall pay Owner \$1,000 plus costs incurred by Owner and Engineer as a result of the work not being completed including but not limited to RPR fees, Engineering fees and Permit fees. for each day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 4.02.A above for Substantial Completion until the Work is substantially complete. Cost will be based off of the rate schedule in the Engineering Service Agreement.
 - 2. *Completion of Remaining Work:* After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner \$1,000 for each day that expires after such time until the Work is completed and ready for final payment.
 - 3. *Milestones:* Contractor shall pay Owner \$250 for each day that expires after the time (as duly adjusted pursuant to the Contract) specified above for achievement of Milestone 1, until Milestones are achieved, or until the time specified for Substantial Completion is reached, at which time the rate indicated in Paragraph 4.05.A.1 will apply, rather than the Milestone rate.
 - 4. Liquidated damages for failing to timely attain Milestones, Substantial Completion, and final completion are not additive, and will not be imposed concurrently.
- B. If Owner recovers liquidated damages for a delay in completion by Contractor, then such liquidated damages are Owner's sole and exclusive remedy for such delay, and Owner is precluded from recovering any other damages, whether actual, direct, excess, or consequential, for such delay, except for special damages (if any) specified in this Agreement.
- C. *Bonus:* Contractor and Owner further recognize the Owner will realize financial and other benefits if the Work is completed prior to the time specified for Substantial Completion. Accordingly, Owner and Contractor agree that as a bonus for early completion, Owner shall pay Contractor **\$[number]** for each day prior to the time specified above for Substantial Completion (as duly adjusted pursuant to the Contract) that the Work is substantially complete. The maximum value of the bonus will be limited to **\$[number]**.

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- 4.06 Special Damages
 - A. Contractor shall reimburse Owner (1) for any fines or penalties imposed on Owner as a direct result of the Contractor's failure to attain Substantial Completion according to the Contract Times, and (2) for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 4.02 for Substantial Completion (as duly adjusted pursuant to the Contract), until the Work is substantially complete.
 - B. After Contractor achieves Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times, Contractor shall reimburse Owner

for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 4.02 for Work to be completed and ready for final payment (as duly adjusted pursuant to the Contract), until the Work is completed and ready for final payment.

C. The special damages imposed in this paragraph are supplemental to any liquidated damages for delayed completion established in this Agreement.

ARTICLE 5—CONTRACT PRICE

- 5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents, the amounts that follow, subject to adjustment under the Contract:
 - A. For all Work other than Unit Price Work, a lump sum of **\$As described in Bid Form**.

All specific cash allowances are included in the above price in accordance with Paragraph 13.02 of the General Conditions.

B. For all Unit Price Work, an amount equal to the sum of the extended prices (established for each separately identified item of Unit Price Work by multiplying the unit price times the actual quantity of that item).

Unit Price Work					
Item No.	Description	Unit	Estimate d Quantity	Unit Price	Extended Price
	As described in Bid Form			\$	\$
				\$	\$
				\$	\$
				\$	\$
				\$	\$
Total of all Extended Prices for Unit Price Work (subject to final adjustment based on actual quantities)			\$		

The extended prices for Unit Price Work set forth as of the Effective Date of the Contract are based on estimated quantities. As provided in Paragraph 13.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by Engineer.

- C. Total of Lump Sum Amount and Unit Price Work (subject to final Unit Price adjustment) \$As described in Bid Form.
- D. For all Work, at the prices stated in Contractor's Bid, attached hereto as an exhibit.

ARTICLE 6—PAYMENT PROCEDURES

- 6.01 Submittal and Processing of Payments
 - A. Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

6.02 *Progress Payments; Retainage*

- A. Owner shall make progress payments on the basis of Contractor's Applications for Payment on or about the **30**th* day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.
 - 1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract.
 - a. **[number]90** percent of the value of the Work completed (with the balance being retainage).
 - 1) If 50 percent or more of the Work has been completed, as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer, then as long as the character and progress of the Work remain satisfactory to Owner and Engineer, there will be no additional retainage; and

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- b. **[number]90** percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).
- B. Upon Substantial Completion of the entire construction to be provided under the construction Contract Documents, Owner shall pay an amount sufficient to increase total payments to Contractor to 97.5 percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less 100 percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.
- * Unless adjusted at the Pre Construction Conference.

6.03 Final Payment

A. Upon final completion and acceptance of the Work, Owner shall pay the remainder of the Contract Price in accordance with Paragraph 15.06 of the General Conditions.

6.04 Consent of Surety

- A. Owner will not make final payment, or return or release retainage at Substantial Completion or any other time, unless Contractor submits written consent of the surety to such payment, return, or release.
- 6.05 Interest
 - A. All amounts not paid when due will bear interest at the rate of 1.5 percent per annum.

ARTICLE 7—CONTRACT DOCUMENTS

- 7.01 *Contents*
 - A. The Contract Documents consist of all of the following:
 - 1. This Agreement.

- 2. Bonds:
 - a. Performance bond (together with power of attorney).
 - b. Payment bond (together with power of attorney).
- 3. General Conditions.
- 4. Supplementary Conditions.
- 5. Additional Supplemental General Conditions.
- 6. Specifications as listed in the table of contents of the project manual (copy of list attached).
- 7. Drawings listed on the attached sheet index.
- 8. Addenda (numbers [number] to [number], inclusive).
- 9. Exhibits to this Agreement (enumerated as follows):
 - a. Contractor's Bid (pages $\underline{C-410-1}$ to $\underline{C-410-10}$, inclusive).
- 10. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
 - a. Notice to Proceed.
 - b. Work Change Directives.
 - c. Change Orders.
 - d. Field Orders.
 - e. Warranty Bond, if any.
- B. The Contract Documents listed in Paragraph 7.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 7.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the Contract.

ARTICLE 8—REPRESENTATIONS, CERTIFICATIONS, AND STIPULATIONS

- 8.01 Contractor's Representations
 - A. In order to induce Owner to enter into this Contract, Contractor makes the following representations:
 - 1. Contractor has examined and carefully studied the Contract Documents, including Addenda.
 - 2. Contractor has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
 - 3. Contractor is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.
 - 4. Contractor has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the

Supplementary Conditions, with respect to the Technical Data in such reports and drawings.

- 5. Contractor has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.
- 6. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (c) Contractor's safety precautions and programs.
- 7. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
- 8. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
- 9. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
- 10. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
- 11. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

Contractor's Certifications 8.02

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 8.02:
 - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in the Contract execution;
 - 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 - 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
 - 4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

8.03 Standard General Conditions

A. Owner stipulates that if the General Conditions that are made a part of this Contract are EJCDC® C-700, Standard General Conditions for the Construction Contract (2018), published by the Engineers Joint Contract Documents Committee, and if Owner is the party that has furnished said General Conditions, then Owner has plainly shown all modifications to the standard wording of such published document to the Contractor, through a process such as highlighting or "track changes" (redline/strikeout), or in the Supplementary Conditions.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement.

This Agreement will be effective on **[indicate date on which Contract becomes effective]** (which is the Effective Date of the Contract).

Owner:	Contractor:
(typed or printed name of organization)	(typed or printed name of organization)
By:	By:
(individual's signature)	(individual's signature)
Date:	Date:
(date signed)	(date signed)
Name:	Name:
(typed or printed)	(typed or printed)
Title:	Title:
(typed or printed)	(typed or printed) (If [Type of Entity] is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)
Attest:	Attest:
(individual's signature)	(individual's signature)
Title:	Title:
(typed or printed)	(typed or printed)
Address for giving notices:	Address for giving notices:
Designated Representative:	Designated Representative:
Name:	Name:
(typed or printed)	(typed or printed)
Title:	Title:
(typed or printed) Address:	(typed or printed) Address:
Phone:	Phone:
Email:	Email:
(If [Type of Entity] is a corporation, attach evidence of	License No.:
authority to sign. If [Type of Entity] is a public body, attach evidence of authority to sign and resolution or	(where applicable)
other documents authorizing execution of this	
Agreement.)	State:

ADDITIONAL SUPPLEMENTAL GENERAL CONDITIONS

1. SPECIAL HAZARDS

The Contractor's and his subcontractor's Public Liability and Property Damage Insurance shall provide adequate protection against the following special hazards: NONE

CONTRACTOR'S AND SUBCONTRACTOR'S PUBLIC LIABILITY AND PROPERTY DAMAGE INSURANCE

2. INDEMNIFICATION

The Agreement executed between the Owner and the Engineer for engineering and related services shall be deemed solely for the Owner's benefit and for the benefit of those lenders or public agencies providing funding for the project and shall under no circumstances be construed or deemed to be for the benefit of contractors, sub-contractors, customers, insurance companies, bonding companies, or others and only Owner, its lenders or funding agencies shall be entitled to rely upon said agreement. All engineering design and inspection and other related engineering services provided pursuant thereto are rendered solely for Owner's benefit and for the benefit of Owner's lenders and funding agencies and no others shall be deemed to be third part beneficiaries of said contract in any manner whatsoever. This provision shall in no way diminish Owner's rights or remedies thereunder, nor shall it diminish the rights or remedies of Owner's lenders or funding agencies.

3. ARTICLE 18 - MISCELLANEOUS 18.11 - PERMITS, SURVEYS, REGULATIONS

- A. Add to Article 18 Miscellaneous, Page C-700-66 the following as 18.11 A., 18.11 B. and 18.11 C.
 - 18.11 Permits, Surveys, Regulations
 - A. Permits
 - 1. OWNER shall assist CONTRACTOR when necessary in obtaining local permits and licenses. The OWNER shall pay all Division of Highways inspection and DOH Road Bond fees. The OWNER shall pay all charges of utility service companies for connections to the facilities constructed under the Contract. The OWNER shall pay all charges of such companies for capital cost related thereto or as specified on Drawings.
 - B. Surveying

For the OWNER, the ENGINEER shall provide limited construction surveying activities or information to the CONTRACTOR.

1. The ENGINEER shall provide project bench mark(s) and/or survey control points as designated on the construction drawings. After

setting of project bench marks, it shall be the CONTRACTOR'S responsibility to maintain the integrity of this control. The OWNER or ENGINEER shall not be responsible for construction error associated with the use of a misinterpreted or disturbed bench mark or survey control point.

2. The ENGINEER shall provide construction stakeout one time in the following areas designated for this contract.

(i)Proposed Property Corners(ii)Proposed Center of Tank(iii)Temporary Bench Mark (TBM).

- 3. The CONTRACTOR shall provide any or all other construction stakeout required to assure proper installation or construction of the project.
- 4. The CONTRACTOR shall be responsible for protection of all construction bench marks, reference points, and other construction stakeout provided by the ENGINEER. Any restaking of construction survey items provided to the CONTRACTOR by the ENGINEER for the OWNER shall be at the CONTRACTOR'S sole expense.
- 5. Survey activities generated by design changes which may be necessary due to underground obstructions, new construction, etc., will be the responsibility of the OWNER and ENGINEER.
- 6. The CONTRACTOR shall perform clearing activities on sites, roadway, and cross country lines requiring such; prior to requesting detail construction stakeout activities from the ENGINEER.
- 7. CONTRACTOR shall coordinate any rough clearing limit flagging or staking with the ENGINEER or his field representative prior to actual commencement of all clearing operation required.
- C. Regulations
 - 1. Contractor shall provide all ground water protection plans and all erosion and sediment control measures to meet the regulations of the OWNER'S NPDES permit for the project. Any fines or orders levied on the OWNER due to the CONTRACTOR'S construction activity shall be the CONTRACTOR'S responsibility to pay.

Superseded General Decision Number: WV20210025

State: West Virginia

Construction Type: Building

County: Ritchie County in West Virginia.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	 Executive Order 14026 generally applies to the contract. The contractor must pay all covered workers at least \$15.00 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2022.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at https://www.dol.gov/agencies/whd/government-contracts.

Modification	Number	Publication	Date
0		01/07/2022	
1		02/18/2022	

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2	02/25/2022
3	03/18/2022
4	06/03/2022
5	06/10/2022
6	07/01/2022
7	09/02/2022

ASBE0080-002 03/07/2022

	Rates	Fringes
ASBESTOS WORKER/HEAT & FROST INSULATOR	\$ 34.00	27.92
BOIL0667-005 01/01/2021		
	Rates	Fringes
BOILERMAKER		26.38
BRWV0009-001 12/01/2021		
	Rates	Fringes
BRICK POINTER/CAULKER/CLEANER	.\$ 30.15	25.24
BRWV0015-010 06/01/2021		
	Rates	Fringes
MASON - STONE	.\$ 30.25	24.58
CARP0443-009 05/01/2021		
	Rates	Fringes
MILLWRIGHT	\$ 35.50	26.75
CARP0899-004 12/01/2020		
	Rates	Fringes
CARPENTER (Including Form Work)	\$ 29.74	23.51
* CARP1024-001 06/01/2022		
	Rates	Fringes
CARPENTER (Scaffold Builder Only)	\$ 30.65	25.48
CARP1911-004 12/01/2020		
	Rates	Fringes
CARPENTER (Floor Laying - Carpet, Hardwood, Resilient and Vinyl Only)		
ELEC0968-008 06/01/2022		
	Rates	Fringes
ELECTRICIAN	\$ 35.31	3%+26.86

FNGT0132-007 12/01/2018

ENGIGI32-00/ 12/01/2018	
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	Rates	Fringes
POWER EQUIPMENT OPERATOR: GROUP 1 GROUP 2 GROUP 3 GROUP 4	\$ 39.21 \$ 38.21	19.95 19.95 19.95 19.95
GROUP 1: All Friction Cranes with 180 ft. or more of boom lifting capacity of 100 tons pound line pull or more	n including mas	t and jibs or
GROUP 2: Operating Cranes an capacity of 15 tons and over		with a lifting
GROUP 3: Backhoe, all other Cr	anes	
GROUP 4: Bobcat/Skid Steer/Ski	d Loader, Roll.	er, Oiler
IRON0549-006 12/01/2021		
	Rates	Fringes
IRONWORKER (Ornamental)	\$ 34.44	24.61
IRON0787-006 06/01/2022		
	Rates	Fringes
IRONWORKER (Reinforcing)		
LAB00379-019 12/01/2020		
LAB00379-019 12/01/2020	Rates	Fringes
LABORER Wacker Roller Operator		Fringes 16.50
LABORER Wacker Roller Operator		16.50
LABORER Wacker Roller Operator LABO0453-003 12/01/2017 LABORER Concrete Saw (Hand Held/Walk Behind) Grouting	\$ 26.32 Rates \$ 22.76 \$ 22.11	16.50 Fringes 16.75 17.25
LABORER Wacker Roller Operator LABO0453-003 12/01/2017 LABORER Concrete Saw (Hand Held/Walk Behind)	\$ 26.32 Rates \$ 22.76 \$ 22.11	16.50 Fringes 16.75 17.25
LABORER Wacker Roller Operator LABO0453-003 12/01/2017 LABORER Concrete Saw (Hand Held/Walk Behind) Grouting	\$ 26.32 Rates \$ 22.76 \$ 22.11	16.50 Fringes 16.75 17.25
LABORER Wacker Roller Operator LABO0453-003 12/01/2017 LABORER Concrete Saw (Hand Held/Walk Behind) Grouting	\$ 26.32 Rates \$ 22.76 \$ 22.11 Rates	16.50 Fringes 16.75 17.25
LABORER Wacker Roller Operator LABO0453-003 12/01/2017 LABORER Concrete Saw (Hand Held/Walk Behind) Grouting LABO0543-003 06/01/2020	\$ 26.32 Rates \$ 22.76 \$ 22.11 Rates	16.50 Fringes 16.75 17.25 Fringes

LAB00984-005 12/01/2020

	Rates	Fringes
LABORER Group 2	.\$ 21.94	15.75
LABORER CLASSIFICATIONS		
GROUP 2: Airtool Operator, Asb Floors, Walls, and Ceiling), B up/Demolition), Dewatering, Ro Operator	obcat Operator	(Clean
LAB01085-004 06/01/2020		
	Rates	Fringes
LABORER Common or General Concrete Worker		16.85 16.85
PAIN0970-007 12/01/2021		
	Rates	Fringes
PAINTER (Drywall Finishing/Taping)	.\$ 29.85	17.70
PAIN1195-002 12/01/2021		
	Rates	Fringes
GLAZIER	.\$ 31.50	11.38
PLAS0926-007 06/01/2018		
	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER		21.26
PLAS0926-008 06/01/2018		
	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER PLASTERER	.\$ 30.06	21.26 20.36
PLUM0565-002 07/01/2022		
	Rates	Fringes
PIPEFITTER (Includes HVAC Pipe Installation)		31.08
* UAVG-WV-0007 01/01/2019		
	Rates	Fringes
LABORER (Carpenter Tender) LABORER (Chipping Gun) LABORER (Grade Checker) LABORER (Landscape) LABORER (Mortar Mixing) LABORER (Pipelayer)	.\$ 24.78 .\$ 23.45 .\$ 22.99 .\$ 23.35	16.12 16.25 16.16 16.35 16.06 16.34

16.12

16.04

LABORER (Tamper- Hand Held)	16.04
* UAVG-WV-0015 01/01/2019	
Rates	Fringes
SHEET METAL WORKER (Includes HVAC Duct Installation)\$ 29.93	22.26
* UAVG-WV-0028 01/01/2019	
Rates	Fringes
PLUMBER\$ 32.54	
SUWV2012-023 08/13/2012	
Rates	Fringes
BRICKLAYER\$ 27.50	12.35
CARPENTER (Drywall Hanging Only)\$ 25.08	12.58
IRONWORKER, STRUCTURAL\$ 26.01	12.18
LABORER: Demolition\$ 20.58	9.47
LABORER: Mason Tender - Brick\$ 21.47	8.29
LABORER: Mason Tender - Cement/Concrete\$ 22.05	8.54
OPERATOR: Bulldozer\$ 30.24	10.26
OPERATOR: Excavator\$ 30.31	10.81
OPERATOR: Forklift\$ 33.09	3.00
PAINTER: Brush, Roller and Spray\$ 22.03	9.95
ROOFER\$ 24.28	9.32
Truck Driver: Single and Double Axle Dump Trucks\$ 28.52	3.00

LABORER (Scaffold Builder).....\$ 23.63

LABORER (Tamper- Hand Held).....\$ 23.33

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at

https://www.dol.gov/agencies/whd/government-contracts.

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 clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations Wage and Hour Division U.S. Department of Labor 200 Constitution Avenue, N.W. Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator U.S. Department of Labor 200 Constitution Avenue, N.W. Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board U.S. Department of Labor 200 Constitution Avenue, N.W. Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISIO"

Superseded General Decision Number: WV20210061

State: West Virginia

Construction Type: Heavy

Counties: Barbour, Braxton, Calhoun, Fayette, Gilmer, Greenbrier, Jackson, Lewis, Mason, McDowell, Mingo, Monroe, Nicholas, Pendleton, Pocahontas, Randolph, Ritchie, Roane, Summers, Tucker, Upshur, Webster and Wyoming Counties in West Virginia.

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	 Executive Order 14026 generally applies to the contract. The contractor must pay all covered workers at least \$15.00 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2022.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at https://www.dol.gov/agencies/whd/government-contracts.

0	01/07/2022
1	02/18/2022
2	02/25/2022
3	08/05/2022

CARP0443-008 05/01/2021

	Rates	Fringes
MILLWRIGHT		26.75
* ELEC0307-008 05/30/2022		
	Rates	Fringes
ELECTRICIAN		18.73
ENGI0132-014 12/01/2021	~	
	Rates	Fringes
POWER EQUIPMENT OPERATOR: GROUP 1 GROUP 2 GROUP 3 GROUP 4 POWER EQUIPMENT OPERATOR CLASSI GROUP 1: Cranes (All types), cubic yard capacity and over, an operating weight of one hu pounds and over. GROUP 2: Loaders up to six (6 Bulldozers, Bobcat/Skid Steer Excavators and shovels with a one hundred ten thousand (110	\$ 36.19 \$ 35.08 \$ 31.62 FICATIONS Boom trucks, Excavators and ndred ten thom) cubic yard of /Skid Loader, n operating wo	nd shovels with usand (110,000) capacity, Backhoe, Forklift, Drill,
ROUP 3: Roller.		
GROUP 4: Oiler		
ENGI0132-027 12/01/2021		
	Rates	Fringes
ENGI0132-027 12/01/2021 POWER EQUIPMENT OPERATOR:	\$ 38.95	Fringes 19.55 19.55
ENGI0132-027 12/01/2021 POWER EQUIPMENT OPERATOR: (PIPELINE) GROUP 1	\$ 38.95 \$ 36.19	19.55 19.55
ENGI0132-027 12/01/2021 POWER EQUIPMENT OPERATOR: (PIPELINE) GROUP 1	\$ 38.95 \$ 36.19 NE CLASSIFICA ⁻	19.55 19.55 TIONS
ENGI0132-027 12/01/2021 POWER EQUIPMENT OPERATOR: (PIPELINE) GROUP 1 GROUP 2 POWER EQUIPMENT OPERATOR PIPELI GROUP 1: Boom, Bulldozer, Ex Machine	\$ 38.95 \$ 36.19 NE CLASSIFICA ⁻	19.55 19.55 TIONS
ENGI0132-027 12/01/2021 POWER EQUIPMENT OPERATOR: (PIPELINE) GROUP 1 GROUP 2 POWER EQUIPMENT OPERATOR PIPELI GROUP 1: Boom, Bulldozer, Ex	\$ 38.95 \$ 36.19 NE CLASSIFICA ⁻ cavator, Mecha	19.55 19.55 TIONS anic, Pipe Bending

POWER EQUIPMENT OPERATOR: Single and Double Axle Dump Trucks				
IRON0549-011 12/01/2021				
	Rates	Fringes		
IRONWORKER, ORNAMENTAL	.\$ 34.44	24.61		
IRON0568-020 12/01/2020				
	Rates	Fringes		
IRONWORKER, REINFORCING AND STRUCTURAL LAB00379-040 12/01/2020	•	22.04		
	Rates	Fringes		
LABORER: (PIPELINE)	.\$ 25.26	16.50		
LABORER CLASSIFICATIONS:				
Chain Saw, Common, Flagger, Land				
LAB00379-043 12/01/2021				
	Rates	Fringes		
LABORER: GROUP 1 GROUP 2 GROUP 3	\$ 26.32	16.50 16.50 16.50		
GROUP 1: Tunnel Driller, Tunnel N	1iner.			
GROUP 2: Air Tool Operator, Chain Saw, Compactor (Dirt) Hand Held, Concrete Worker, Hand Held Drill, Form Work Only, Grade Checker, Grouting, Pipelayer, Skytrak Forklift Operator, Tamper (Hand Held), Wacker Roller Operator.				
GROUP 3: Carpenter Tender, Comm Landscape	non or General,	Flagger,		
PLAS0926-001 06/01/2018				
	Rates	Fringes		
CEMENT MASON/CONCRETE FINISHER		21.26		
* UAVG-WV-0010 01/01/2019				
	Rates	Fringes		
LABORER (Mason Tender - Cement/Concrete)				
* UAVG-WV-0012 01/01/2019				

Rates Fringes

POWER EQUIPMENT OPERATOR

(Mechanic).....\$ 35.45 18.30

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at

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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 clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

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A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
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Wage and Hour Division U.S. Department of Labor 200 Constitution Avenue, N.W. Washington, DC 20210

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The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board U.S. Department of Labor 200 Constitution Avenue, N.W. Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISIO"

Superseded General Decision Number: WV20210080

State: West Virginia

Construction Type: Highway

Counties: West Virginia Statewide.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).HIGHWAY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	 Executive Order 14026 generally applies to the contract. The contractor must pay all covered workers at least \$15.00 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2022.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	

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Modification	Number	Publication Date	
0		01/07/2022	
1		02/25/2022	

* SUWV2015-001 01/01/2014

	Rates	Fringes
BRICKLAYER Barbour, Berkeley,		
Doddridge, Gilmer, Grant, Hampshire, Hardy,		
Harrison, Jefferson,		
Lewis, Marion, Mineral, Monongalia, Morgan,		
Pendleton, Pocahontas, Preston, Randolph, Taylor,		
Tucker, Upshur, Webster		18.21
Boone, Braxton, Clay, Fayette, Greenbrier,		
Kanawha, Logan, McDowell, Mercer, Monroe, Nicholas,		
Putnam, Raleigh, Summers, Wyoming	\$ 29 66	20.20
Brooke, Hancock		16.22
Cabell, Lincoln, Mason, Mingo, Wayne	\$ 30.61	20.88
Calhoun, Jackson, Pleasants, Ritchie, Roane,		
Wirt, Wood Marshall, Ohio, Tyler,		15.27
Wetzel	\$ 30.01	16.26
CARPENTER		
Berkeley, Grant, Hampshire, Hardy,		
Jefferson, Mineral, Morgan, Pendleton	\$ 31.26	15.90
Brooke, Hancock, Marshall, Ohio		
Remaining Counties		19.30 19.44
CEMENT MASON/CONCRETE FINISHER		
All Counties	\$ 28.67	18.85
DIVER Berkeley, Grant,		
Hampshire, Hardy, Jefferson, Mineral,		
Morgan, Pendleton		
Diver Tender Diver		15.90 15.90
Brooke, Hancock, Marshall, Monongalia, Ohio, Wetzel		
Diver Tender		16.76
Diver Remaining Counties		16.76
Diver Tender Diver		19.44 19.44
ELECTRICIAN (SIGNAL &		
LIGHTING) Equipment Operator	\$ 23.30	17.99
Flagger Groundman/Truck Driver	\$ 17.00	7.39
Grounulian/ Hruck Dritver	··p 20./9	17.89

Installer\$ 26		18.11
Technician\$ 29	.12 1	18.22
ELECTRICIAN		
Barbour, Doddridge,		
Harrison, Lewis, Marion,		
Monongalia, Pendleton,		
Pocahontas, Preston,		
Randolph, Taylor, Tucker,		
Upshur\$ 30.	.14 7	21.14
Berkeley, Grant,		
Hampshire, Hardy,		
Jefferson, Mineral, Morgan\$ 30.	.50 1	.5.78
Boone, Braxton, Calhoun,		
Clay, Fayette, Gilmer,		
Kanawha, Nicholas, Putnam,		
Raleigh, Roane, Summers,		
Webster, Wyoming\$ 35.	.34 1	.6.62
Brooke, Marshall, Ohio,		
Wetzel\$ 28.	.35 2	2.74
Cabell, Lincoln, Logan,		
Mason, Mingo, Wayne\$ 32.	.62 2	1.70
Greenbrier, McDowell,		
Mercer, Monroe\$ 25.		.6.32
Hancock\$ 34.	.00 2	9.10
Jackson, Pleasants,		
Ritchie, Tyler, Wirt, Wood\$ 31.	.56 2	1.43
IRONWORKER		
Barbour, Brooke, Hancock,		
Harrison, Marion,		
Marshall, Monongalia,		
Ohio, Taylor, Tyler, Wetzel.\$ 35.	. /4 2	2.84
Berkeley, Grant,		
Hampshire, Hardy,		
Jefferson, Mineral, Morgan, Pendleton,		
Preston, Tucker\$ 33.	20 1	7.39
Boone, Braxton, Clay,	23 1	.7.55
Fayette, Kanawha, Lincoln,		
Logan, McDowell, Mingo,		
Nicholas, Putnam, Raleigh,		
Randolph, Webster, Wyoming\$ 34.	87 1	9.50
Cabell, Wayne\$ 33.		1.98
Calhoun, Doddridge,	2	1.90
Gilmer, Jackson, Lewis,		
Mason, Pleasants, Ritchie,		
Roane, Upshur, Wirt, Wood\$ 33.	.02 2	0.10
Greenbrier, Mercer,		
Monroe, Pocahontas, Summers.\$ 35.	43 1	6.13
LABORER		
Class 1\$ 26.		6.30
Class 2\$ 25.	.92 1	6.30
Class 3\$ 24.	86 1	6.30
LABORER CLASSIFICATIONS:		
GROUP 1: Powderman, Laser Screed Op		
GROUP 2: Pipelayer (Including Laser	Beam Set Up), F	orm Setter
(Road), Drill Operator, Air Tool Ope		
Asphalt Raker, Vibrator Man, Whacker	, Chainsaw Oper	ator,
Mortarman, Brick Mason Tender, Ceme		
Tender, Powderman Tender, Water Proc		
Placement of Lagging, Pipelaver Tend	er Bull-Float	Man

Placement of Lagging, Pipelayer Tender, Bull-Float Man,

Pavement Reinforcing Placer, Handyman, Signal Man,

Greencutter, Georgia Power Buggie, Burner, Cement Blower Man,

Bituminous Hand Sprayer, Bork 250 Remote Control Ditch Witch and Walk Behind Concrete Saw, Mulcher and Seeder (hand and machine), Installation of Ground Mounted Beams and Signs including Concrete Footers, Installation of Overhead Sign Supports and Signs including Concrete Footers, Installation of Guardrail and Anchors Assemblies, Tree Trimmer, Caisson Bottom Man, Bush Hammering, Core Drilling, Placement and Mixing of Grout and Bridge Demolition Specialist.** GROUP 3: Flag Person, Traffic Control Maintenance Person, Carpenter's Tender, and General Laborer.

PAINTER

L'ATIGLE IV	
Barbour, Berkeley,	
Doddridge, Gilmer, Grant,	
Hampshire, Hardy,	
Harrison, Jefferson,	
Lewis, Marion, Mineral,	
Monongalia, Morgan,	
Pendleton, Preston,	
Randolph, Taylor, Tucker,	
Upshur, Webster\$ 31.87	14.20
Boone, Braxton, Cabell,	
Calhoun, Clay, Fayette,	
Greenbrier, Kanawha,	
Lincoln, Logan, Mason,	
McDowell, Mercer, Mingo,	
Monroe, Nicholas,	
Pocahontas, Putnam,	
Raleigh, Summers, Wayne,	
Wyoming\$ 32.05	14.30
Brooke, Hancock, Marshall,	14.00
	14.20
Ohio, Wetzel\$ 30.95	14.36
Jackson, Pleasants,	
Ritchie, Roane, Tyler,	
Wirt, Wood\$ 30.84	14.30
PILEDRIVERMAN	
Berkeley, Grant,	
Hampshire, Hardy,	
Jefferson, Mineral,	
Morgan, Pendleton\$ 32.25	15.90
Brooke, Hancock, Marshall,	
Monongalia, Ohio, Wetzel\$ 32.01	16.76
Remaining Counties\$ 28.27	19.44
POWER EQUIPMENT OPERATOR:	
Class 1\$ 33.25	18.60
Class 2\$ 30.49	18.60
Class 3\$ 29.38	18.60
Class 4\$ 25.92	
	18.60
Class 5A\$ 26.04	18.60
Class 5B\$ 28.64	18.60
Class 5C\$ 26.94	18.60
POWER EQUIPMENT OPERATOR CLASSIFICATIONS:	
GROUP 1: Cranes, tower cranes, derricks, derr:	ick boats,
draglines, clamshells, cableways, boom truck,	loaders of 6
cubic yard capacity and over, excavators and	shovels with an
operating weight of 110,000 pounds and over.	shovers with an
	anadall baiat a
GROUP 2: Loaders up to 6 cubic yard capacity,	grauall, noist 2
drums or more, mixer plant (2 or more mixers :	includiing batch
control), pile driver operator, core drill, t	
asphalt paver, cement paver, rotary drill, bu	
concrete pump, controlled fine grade machine,	slip form paver,
log loader, log skidder, motor grader, rubber	tired scraper,
tractor pan, Roto Miller, tow or work boat, mo	bile conveyor.
the second se	

transloader, articulating equipment, material hauler, carry deck, compactor with blade, skidsteer including attachments, fork lift, self-propelled concrete spreader, concrete finishing machine, derrick (single drum), hoist (single drum), single drum paver, air tugger, Ross Carrier, multiple concrete saw, hydraulic post driver, horizontal road-boring machine, tie distributor, track lining machine, ballast tamper, anchor application machine, ribbon rail puller, ballast regulator, auto sled, turn table, pavement breaker, asphalt batch plant, concrete batch plant, crushing plant, compactor with blade, power broom, vac-all truck, self-propelled concrete spreader and concrete finishing machine, mechanics with tools and greasers, excavators, and shovels with an operating weight of up to 110,000 pounds. GROUP 3: Asphalt roller GROUP 4: Air compressor, concrete mixer (under 1 cubic yard), light plant, mechanic's tender, assistant engineer, screedman, spreader box man, joint sealer and pump, steam jenny, stationary conveyor (belt or bucket), A-frame, tire man, screening and washing plant, form sub-grader, power form handling equipment, burlap and curing machine, form grader, bull float, bar and joint installing machine, roller and compactor, hydroblaster, concrete mixer (single drum, 1 cu. yd. or over), portable concrete saw and highway striping operator. Utility operators shall be paid Group 2 rate when operating 1 to 5 air compressors, pumps, stationary conveyors (belt or bucket), light plants, and gasoline or diesel powered welders and all farm type tractors. GROUP 5A: Those operating off-road trucks in the following counties: Barbour, Braxton, Boone, Calhoun, Clay, Doddridge, Fayette, Gilmer, Greenbrier, Harrison, Jackson, Kanawha, Lewis, Marion, Mercer, McDowell, Monongalia, Monroe, Nicholas, Pleasants, Pocohontas, Preston, Putnam, Raleigh, Randolph, Roane, Ritchie, Summers, Taylor, Tucker, Tyler, Upshur, Webster, Wirt, Wood, and Wyoming. GROUP 5B: Those operating off-road trucks in the following counties: Cabell, Lincoln, Logan, Mason, Mingo, and Wayne. GROUP 5C: Those operating off-road trucks in the following counties: Berkeley, Grant, Hampshire, Hardy, Jefferson, Mineral, Morgan and Pendleton.

FOOTNOTE: \$2.00 per hour shall be added to the Group 1 rate for individuals operating a lattice boom crane with a fixed boom of 150 feet or more. \$0.25 per hour shall be added to all of the above schedules for underground work.

TRUCK DRIVER

K DRIVER	
Berkeley, Grant,	
Hampshire, Hardy,	
Jefferson, Mineral,	
Morgan, Pendleton	
Class 1\$ 25.72	18.11
Class 2\$ 26.61	18.11
Class 3\$ 27.38	18.11
Brooke, Hancock	
Class 1\$ 29.17	13.86
Class 2\$ 30.92	13.86
Class 3\$ 31.71	13.86
Cabell, Lincoln, Logan,	
Mason, Mingo, Wayne	
Class 1\$ 29.79	15.60
Class 2\$ 30.76	15.60
Class 3\$ 31.55	15.60
Marshall, Ohio, Wetzel	
Class 1\$ 26.26	16.81
Class 2\$ 27.16	16.81

Class 3\$	27.76	16.81
Remaining Counties		
Class 1\$	26.97	16.15
Class 2\$	27.76	16.15
Class 3\$	28.44	16.15
TRUCK DRIVER CLASSIFICATIONS:		

GROUP 1: Single Axle Trucks used as Dumps, Supply, Fuel, Water, Van, Flatbody, Monorail, Distributor (other than Bituminous Distributors) including Towed Single Units, Material Checkers and Receivers, Greasers, Tireman and Mechanic Tenders (Trucks), Warehouse, Yardmen and Pick-up trucks. GROUP 2: Tandem and Tri-Axle Trucks used as Dumps, Supply, Fuel, Water, Van, Flatbody, Monorail and including Towed Single Units, Truck Tractors used in combination with Dump, Van, Tank, Flatbed, Low platform or Pole Trailers, Bituminous Distributors, Agitator or Mixer Trucks (up to 20 cubic-yards), Rubber-tired tractors (towing and pushing), Drag and Tagalongs. GROUP 3: Mobile Metered Mixer, Agitator or Mixer Trucks (over 20 cubic yards), & Mechanic Truck. A. Double Hitch equipment operated by 1 driver shall pay 50% more than the wages set out above. B. \$0.25 per hour shall be added for tunneling and all other underground work.

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at

https://www.dol.gov/agencies/whd/government-contracts.

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 clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based. 1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations Wage and Hour Division U.S. Department of Labor 200 Constitution Avenue, N.W. Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator U.S. Department of Labor 200 Constitution Avenue, N.W. Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board U.S. Department of Labor 200 Constitution Avenue, N.W. Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISIO"

SECTION 012000 - PRICE AND PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract Documents, including General and Supplementary Conditions, Division 01, and all related Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. Schedule of Values.
- B. Application for Payment.
- C. Change procedures.
- D. Defect assessment.
- E. Unit Prices.
- F. Measurement and Payment.
- G. Alternates.

1.3 SCHEDULE OF VALUES

- A. Submit printed schedule on Progress Estimate schedule on EJCDC C-620.
- B. Submit Schedule of Values in duplicate within twenty (20) days after date established in Notice to Proceed.
- C. Format: Use Table of Contents of this manual. Follow awarded Bid Tab. Identify each line item with number and title of major Specification Section. Contractor shall submit a balanced Schedule of Values. The total value of activities shall equal the identifiable Contract Price. Line items shall be broken down as appropriate and listed as units.
 - 1. Unless otherwise specified, the Schedule of Values shall include the following percentages for each of the listed activities:
 - a. Mobilization, Bonds, Insurance, and Demobilization: no greater than 5 percent
 - b. Record Drawings: no less than 1 percent
 - c. Punchlist: no less than 2 percent
 - d. Final Bound O&M Manuals: no less than 1 percent

- e. All Spare Parts Values not specifically assigned elsewhere : no less than 0.5 percent
- f. Testing: no less than 1 percent
- g. All Bid Items
- 2. If, in the opinion of Engineer or Owner, the Schedule of Values is unbalanced, Contractor shall submit documentation substantiating the cost allocations of those activities believed to be unbalanced. No pay requests will be accepted until the Schedule of Values submittals has been marked "No Exceptions Taken" or "Make Corrections Noted" by Engineer.
- D. Include within each line item, direct proportional amount of Contractor's overhead and profit.
- E. Revise schedule to list approved Change Orders with each Application for Payment.

1.4 APPLICATION FOR PAYMENT

- A. Submit five (6) copies of each Application for Payment on EJCDC C-620 Contractor's Application for Payment.
- B. Content and Format: Use Schedule of Values for listing items in Application for Payment.
- C. Submit updated construction schedule and payment schedule with each Application for Payment.
- D. Payment Period: Submit at intervals stipulated in the Agreement.
- E. Submit submittals with transmittal letter as specified in Section 013300 Submittal Procedures.
- F. Substantiating Data: When Engineer requires substantiating information, submit data justifying dollar amounts in question. Include the following with Application for Payment:
 - 1. Affidavits attesting to off-Site stored products.
 - 2. Construction Progress Schedule.
 - 3. Affidavit of Previous Payments.
 - 4. Adverse Weather Day documentation.

1.5 CHANGE PROCEDURES

- A. Submittals: Submit name of individual who is authorized to receive change documents and is responsible for informing others in Contractor's employ or Subcontractors of changes to the Work.
- B. Carefully study and compare Contract Documents before proceeding with fabrication and installation of Work. Promptly advise Engineer of any error, inconsistency, omission, or apparent discrepancy.

- C. Requests for Interpretation (RFI) and Clarifications: Allot time in construction scheduling for liaison with Engineer; establish procedures for handling queries and clarifications.
 - 1. Use Request for Information Form for requesting interpretations (provided by Engineer upon request).
 - 2. Engineer may respond with a direct answer on the Request for Information form, separate Engineer Response, EJCDC C-942 Field Order, or EJCDC C-940 Work Change Directive Form or Proposal Request.
- D. Engineer will advise of minor changes in the Work not involving adjustment to Contract Sum/Price or Contract Time by issuing supplemental instructions on EJCDC C-942.
- E. Engineer may issue Notice of Change including a detailed description of proposed change with supplementary or revised Drawings and Specifications, a change in Contract Time for executing the change. Contractor will prepare and submit estimate within ten (10) days.
- F. Contractor may propose changes by submitting a request for change to Engineer, describing proposed change and its full effect on the Work. Include a statement describing reason for the change and the effect on Contract Sum/Price and Contract Time with full documentation and a statement describing effect on the Work by separate or other Contractors.
- G. Stipulated Sum/Price Change Order: Based on Proposal Request or Work Change Directive and Contractor's maximum price quotation or Contractor's request for Change Order as approved by Engineer.
- H. Unit Price Change Order: For Contract unit prices and quantities, the Change Order will be executed on a fixed unit price basis. For unit costs or quantities of units of that which are not predetermined, execute Work under Work Directive Change. Changes in Contract Sum/Price or Contract Time will be computed as specified for Time and Material Change Order.
- I. Work Change Directive: Engineer may issue directive, on EJCDC C-940 Work Change Directive, instructing Contractor to proceed with change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work and designate method of determining any change in Contract Sum/Price or Contract Time. Promptly execute change.
- J. Time and Material Change Order: Submit itemized account and supporting data after completion of change, within time limits indicated in Conditions of the Contract. Engineer will determine change allowable in Contract Sum/Price and Contract Time as provided in Contract Documents.
- K. Maintain detailed records of Work done on time and material basis. Provide full information required for evaluation of proposed changes and to substantiate costs for changes in the Work.
- L. Document each quotation for change in Project Cost or Time with sufficient data to allow evaluation of quotation.
- M. Change Order Forms: EJCDC C-941 Change Order.

- N. Execution of Change Orders: Engineer will issue Change Orders for signatures of parties as provided in Conditions of the Contract.
- O. Correlation of Contractor Submittals:
 - 1. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as separate line item and adjust Contract Sum/Price.
 - 2. Promptly revise Progress Schedules to reflect change in Contract Time, revise subschedules to adjust times for other items of Work affected by the change, and resubmit.
 - 3. Promptly enter changes in Record Documents.

1.6 DEFECT ASSESSMENT

- A. Replace the Work, or portions of the Work, not conforming to specified requirements.
- B. If, in the opinion of Engineer or Owner, it is not practical to remove and replace the Work, Engineer or Owner will direct appropriate remedy or adjust payment.
- C. The defective Work may remain, but unit sum/price will be adjusted to new sum/price at discretion of Owner.
- D. Defective Work will be partially repaired according to instructions of Engineer, and unit sum/price will be adjusted to new sum/price at discretion of Owner.
- E. Individual Specification Sections may modify these options or may identify specific formula or percentage sum/price reduction.
- F. Authority of Owner to assess defects and identify payment adjustments is final.
- G. Nonpayment for Rejected Products: Payment will not be made for rejected products for any of the following reasons:
 - 1. Products wasted or disposed of in a manner that is not acceptable.
 - 2. Products determined as unacceptable before or after placement.
 - 3. Products not completely unloaded from transporting vehicle.
 - 4. Products placed beyond lines and levels of the required Work.
 - 5. Products remaining on hand after completion of the Work.
 - 6. Loading, hauling, and disposing of rejected products.

1.7 MEASUREMENT AND PAYMENT

- B. General Requirements
 - 1. Contractor shall take measurements and compute quantities. Resident Project Representative and Engineer will verify measurements and quantities.
 - 2. Unit Quantities: Quantities and measurements indicated on Bid Form are for Contract purposes only. Actual quantities provided shall determine payment.

- a. When actual Work requires more or fewer quantities than those quantities indicated, provide required quantities at Contracted unit sum/prices.
- b. When actual Work requires 25 percent or greater change in quantity than those quantities indicated, Owner or Contractor may claim a Contract Price adjustment.
- 3. Payment Includes: Full compensation for required labor, products, tools, equipment, plant and facilities, transportation, services and incidentals; erection, application, or installation of item of the Work; overhead and profit.
- 4. Final payment for Work governed by unit prices will be made on basis of actual measurements and quantities accepted by Engineer multiplied by unit sum/price for Work incorporated in or made necessary by the Work.
- C. Measurement of Quantities
 - 1. Weigh Scales: Inspected, tested, and certified by applicable West Virginia weights and measures department within past year.
 - 2. Platform Scales: Of sufficient size and capacity to accommodate conveying vehicle.
 - 3. Metering Devices: Inspected, tested, and certified by applicable West Virginia department within past year.
 - 4. Measurement by Weight: Concrete reinforcing steel, rolled or formed steel, or other metal shapes will be measured by handbook weights. Welded assemblies will be measured by handbook or scale weight.
 - 5. Measurement by Volume: Measured by cubic dimension using mean length, width, and height or thickness.
- 1.8 UNIT PRICES
 - A. Authority: Measurement methods are described below.
 - B. Measurement methods delineated in individual Specification Sections complement criteria of this Section. Information described in this section shall govern in the event of conflict.
 - C. Take measurements and compute quantities. Engineer will verify measurements and quantities.
 - D. Unit Quantities: Quantities and measurements indicated on Bid Form are for Contract purposes only. Actual quantities provided shall determine payment.
 - 1. When actual Work requires more or fewer quantities than those quantities indicated, provide required quantities at contracted unit sum/prices.
 - 2. When actual Work requires 25 percent or greater change in quantity than those quantities indicated, Owner or Contractor may claim a Contract Price adjustment.
 - E. Payment Includes: Full compensation for required labor, products, tools, equipment, plant and facilities, transportation, services, and incidentals; erection, application, or installation of item of the Work; overhead and profit.
 - F. Final payment for Work governed by unit prices will be made on basis of actual measurements and quantities accepted by Engineer multiplied by unit sum/price for Work incorporated in or made necessary by the Work.
 - G. Unit Price Schedule:

- 1. Bid Item 1 Mobilization/Demobilization (Lump Sum)
 - a. This item shall include the performance of construction preparatory operations, including the movement of equipment and personnel to and from the Project Site, establishment and decommissioning of Contractor's Field Office, storage buildings, and other facilities necessary to conduct Work under this Contract.
 - b. Payment shall be made at the lump sum (LS) price Bid for Mobilization/Demobilization, but in no case shall the total lump sum Bid Price exceed 5 percent of the total Bid.
 - c. Partial Payments of the lump sum Bid amount for mobilization/demobilization shall be as follows:
 - One-third of the amount Bid for Mobilization/Demobilization will be released to the Contractor as the first estimate payable, not less than fifteen (15) days after the start of Work at the Project Site.
 - 2) The second one-third of the amount Bid for Mobilization/Demobilization shall be released at 50% complete.
 - 3) The final one-third of the amount Bid for Mobilization/Demobilization shall be released at final completion.
 - 4) No reduction will be made, nor any increase be made, in the lump sum mobilization item amount regardless of decreased or increases in the final total Contract amount or for any other cause.
- 2. Bid Item 2 Erosion & Sediment Control (Lump Sum)
 - a. The cost for this Work shall be a lump sum.
 - b. This Bid item shall include all costs associated with erosion and sedimentation controls including all materials and labor for installation, maintenance, and removal.
 - c. The cost of this Work shall be paid for at the lump sum Bid price for all erosion and sedimentation controls at all locations directly and/or indirectly disturbed by the Work.
 - d. All controls shall be in accordance with WVDEP BMP's and NPDES Stormwater Permit.
- 3. Bid Item 3 Pre-Construction Video (Lump Sum)
 - a. When a lump sum bid item for Pre-Construction Video Recording is provided in the Bid Form, this work shall be paid for at the lump sum bid price for all location(s) directly and/or indirectly affected by the project.
- 4. Bid Item 4 Rehabilitation of 1,000,000 Gallon Water Storage Tank (Lump Sum)
 - a. Such payment shall constitute full compensation for all labor, materials, equipment, and all other costs associated with the rehabilitation of the existing 1,000,000 Gallon Water Storage Tank per Specification Section 434112.
 - b. The cost for this work shall be a Lump Sum.
- 5. Bid Item 5 Removal and Replacement of existing 500,000 gallon Welded Steel Tank and Foundation with 855,000 gallon Tank (Lump Sum)

- a. Such payment shall constitute full compensation for all labor, materials, equipment, and all other costs associated with the demolition of the existing 500,000 Gallon Water Storage Tank consisting of labor, draining of tank, demolition of tank, removal of materials from site, proper disposal of all materials, removal of tank foundation. Additional work for this bid item includes the construction of a new 855,000 Gallon Glass Lined Bolted Steel tank and its foundation as reflected in the contract documents, geotechnical report and plan sheets.
- b. This bid item shall include all labor, materials, equipment, and all other costs associated with temporary access for construction and staging areas related to the Site.
- c. All necessary work associated with the location, abandonment, decommissioning, cutting and capping, demolition, removal and disposal, tie-ins and any other work associated with the decommissioning or proposed piping to furnish a complete, operable product shall be included in this Bid Item.
- d. This bid item shall include all labor, materials, equipment and all other costs associated with excavation/grading of the tank site in accordance with the geotechnical report and contract documents. This bid item shall include all costs associated with the testing, excavation, removal and properly documented disposal of an estimated 4" of oiled sand underneath of the existing 500,000-gallon tank within the ring wall foundation.
- e. This bid item shall include all labor, materials, equipment and all other costs associated with fence removal and reinstallation of new fence.
- f. The cost for this work shall be a Lump Sum.
- 6. Bid Item 6 Access Road Complete (Lump Sum)
 - a. Such payment shall constitute full compensation for all labor, materials, equipment and other costs associated with the tank access road as reflected on the contract documents including but not limited to clearing and grubbing, grading, subbase and base stone, finish stone, all stone for road construction, drainage ditches, riprap, fabric, rock check dams, culvert pipes, sumps, grading, seeding and mulching and any and all items not defined in the other bid items to furnish a complete and suitable access road.
 - b. This bid item shall include all costs associated with surveying, layout, benchmarks and stakeout associated with the tank and the access road.
 - c. The bid for Tank Access Road shall be Lump Sum.
- 7. Bid Item 7 Relocation of Existing Utilities (Lump Sum)
 - a. Such payment shall constitute full compensation for all labor, materials, equipment and other costs associated with the relocation of the existing utilities as reflected on the contract documents including but not limited to locating existing utilities, tie-ins, cut and caps, fittings, excavation, bedding, backfilling, warning tape, tracer wire, pigging, hydrostatic testing, chlorination, and any and all items not defined in the other bid items to furnish a complete product.
 - b. This Work will require coordination with the Hughes River Water Board, Town of Harrisville, and Consumers Gas prior to starting any work related to the relocation of the existing utilities as shown on the Contract Documents. This work shall be completed in a timely and efficient manner, so not to disrupt the service being provided by such utilities.

- c. The bid for Relocation of Existing Utilities shall be Lump Sum.
- 8. Bid Item 8 Removal of Unsuitable Material (Cubic Yard)
 - a. This bid item shall include all labor, materials, equipment, and all other costs associated with encountering any material or subsurface conditions not anticipated based on the geotechnical investigation and its data/conclusions.
 - b. All necessary work associated over excavation, removal and proper disposal of material not outlined by the anticipated foundation construction and excavation recommendations in the geotechnical report. Material claimed under this bid item shall only be deemed unsuitable and require over-excavation and removal if determined by the qualified Geotechnical Engineer on site.
 - c. The bid for Unsuitable Material shall be per Cubic Yard.
- 9. Bid Item 9 Concrete Backfill (Cubic Yard)
 - a. This bid item shall include all labor, materials, equipment, and all other costs associated with backfilling unsuitable material as defined in the geotechnical report.
 - b. All necessary work associated with proper installation of backfill material to be placed at the discretion of the excavation recommendations in the geotechnical report. Material claimed under this bid item shall only be deemed unsuitable and require placement if determined by the qualified Geotechnical Engineer on site.
 - c. The bid for Concrete Backfill shall be per Cubic Yard.
- 10. Bid Item 10 Reclamation of Disturbed Areas (Lump Sum)
 - a. This bid item shall include all labor, materials, equipment, and other costs associated with the reclamation of disturbed areas, including the purchase and application of seed, mulch, fertilizer, and other necessary products to stabilize disturbed areas.
 - b. This bid item shall also include all labor, materials, equipment, and other costs associated with restoring temporary access roads/staging areas upon completion of all Work. Temporary access roads are to be returned to preconstruction conditions including grading, seed, mulch, fertilizer, and other necessary products to stabilize disturbed areas.
 - c. The bid for Reclamation of Disturbed Areas shall be Lump Sum.

1.9 BASIS OF PAYMENT

- A. The contractor may carry with their pay requests a request for progressive payments on the part of the equipment manufacturer for the equipment covered in this section. The Manufacturer shall submit a proper and timely pay request to the Contractor. The pay request shall cover a detailed listing of stored materials and sub-assemblies and work-in-process.
- B. No more than a total ninety percent (90%) of the contractor purchase value shall be approved for payment prior to the delivery of the equipment.

- C. The Manufacturer's pay request to the Contractor shall include electronic or printed photographs of work-in-process with a proper description of the item and its use in the equipment.
- D. The manufacturer's pay request shall include an affidavit signed by an officer of the manufacturing company and notarized, attesting in detail to the on-site presence of the materials and the condition of the work-in-process.
- E. Payment for work listed under the previously listed sections shall be as follows unless otherwise noted.
 - 1. When a separate bid item has been included in the Bid Schedule, payment shall be under the lump sum and/or unit bid items as shown on the Bid Schedule.
 - 2. When no separate bid item has been included in the Bid Schedule, payment for such work shall be included in the lump sum and/or unit bid items as to which such work under this item is incidental.
 - 3. In either situation, payments shall be full compensation for the furnishing of all materials and performing of all the work as shown, in a workman like and acceptable manner, including all labor, tools, supplies and incidentals necessary to complete the work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012000

Hughes River Water Board Water Storage System Improvements Revised per Addendum #1 December 13, 2022 010-10141

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SECTION 434111 – GLASS LINED BOLTED STEEL TANKS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract Documents, including General and Supplementary Conditions, and all related Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Ground-mounted flat-bottom glass lined bolted steel water storage tank(s) of the size and dimensions indicated in the Water Storage Tank Schedule at the end of this Specification Section. The tank will store potable water.
- B. Scope of Work
 - 1. The work required under this Specification Section shall consist of all necessary materials, tools, equipment, and labor for the construction and successful operation of a ground-mounted flat-bottom glass lined bolted steel water storage tank with tank foundation and all appurtenances shown in the Contract Drawings. All tanks furnished and installed under this Section shall meet or exceed the minimum requirements of AWWA Standard D103, latest revision (AWWA D103), all requirements of this Specification Section, and any and all of the requirements of any and all federal, state, and local agencies having jurisdiction.
- C. Related Requirements:
 - 1. Section 012000 Price and Payment Procedures
 - 2. Section 033000 Cast-In-Place Concrete
 - 3. Section 321000 Earthmoving.
 - 4. Section 321316 Excavation.
 - 5. Section 321316.13 Trenching.
 - 6. Section 323113 Chain Link Fences and Gates
 - 7. Section 330517 Pre-Cast Concrete Valve Vaults
 - 8. Section 331113 Water Distribution Piping
 - 9. Section 331300 Disinfecting of Water Utility Distribution
 - 10. Section 331313 Water Storage Tank Disinfection

1.3 DEFINITIONS

A. Purchaser: Owner, as used in AWWA D103.

- B. Tank Low Level: Level when emptied through specified discharge fittings unless otherwise indicated on Drawings.
- 1.4 REFERENCE STANDARDS
 - A. ASTM International:
 - 1. ASTM A53 Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
 - B. American Water Works Association:
 - 1. AWWA D103 Factory-Coated Bolted Carbon Steel Tanks for Water Storage.
 - 2. AWWA D106 Sacrificial Anode Cathodic Protection Systems for the Interior Submerged Surfaces of Steel Water Storage Tanks.
 - C. NSF International:
 - 1. NSF 61 Drinking Water System Components Health Effects.
 - 2. NSF 372 Drinking Water System Components Lead Content.
 - D. Occupational Safety and Health Administration:
 - 1. OSHA 29 CFR 1910 Occupational Safety and Health Standards.

1.5 COORDINATION

A. Coordinate Work with Owner and other Contractors for related contracts.

1.6 SCHEDULING

A. Provide and update schedule on a regular basis. Coordinate schedule with Owner and Contractor(s) for other Contract(s).

1.7 SUBMITTALS

- A. Section 013300 Submittal Procedures: Requirements for submittals.
- B. Product Data:
 - 1. Submit data for expansion joint fittings and other pipe specialty fittings.
 - 2. Submit data for ladder and ladder safety devices.
 - 3. Submit information concerning materials of construction, fabrication, and coatings.
- C. Shop Drawings:
 - 1. Signed and sealed by Professional Engineer in the State of tank installation.

GLASS LINED BOLTED STEEL TANKS

- 2. Tank Shop Drawings shall include, but not be limited to, the following:
 - a. Complete plan, elevation, and sectional Drawings showing critical dimensions.
 - b. Tank foundation details.
 - c. Inlet and outlet piping,
 - d. Structural plate thickness.
 - e. Details of all weld types and sizes.
 - f. Inlet pipe with removable silt stop, outlet pipe with removable silt stop, and overflow piping details, including fittings, expansion joints, pipe support methods.
 - g. Ladder and ladder safety device details.
 - h. Handrail details.
 - i. Shell access hatch details.
 - j. Roof hatch details.
 - k. Pressure-vacuum vent details.
 - 1. Water level indicator.
 - m. Valve pit details.
 - n. Tank Manufacturer identification details.
 - o. Cathodic protection.
- D. Manufacturer's Certificate:
 - 1. Certify that products meet or exceed specified requirements.
 - 2. Submit certified list of glass lined bolted steel water tank installations storing potable water, in service for period of not less than five (5) years. Provide Owner name and contact information for each.
- E. Delegated Design Submittals: Submit signed and sealed Shop Drawings with design calculations and assumptions for tank, tank foundation, and cathodic protection. A Professional Engineer registered in the state of tank installation is required for signing and sealing.
- F. Test and Evaluation Reports:
 - 1. Submit mill test reports.
 - 2. Written Report Certifying Work: Prepare and submit as indicated in AWWA D103.
 - 3. Submit Installation Certificate from equipment manufacturer's representative as described in PART 3.
- G. Manufacturer Instructions: Submit detailed instructions on installation requirements, including tank component handling procedures, anchoring, and layout.
- H. Source Quality-Control Submittals: Indicate results of shop and/or factory tests and inspections.
- I. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.
- J. Manufacturer Reports: Submit certification that tank has been installed according to manufacturer instructions.
- K. Qualifications Statements:
 - 1. Submit qualifications for manufacturer, erector, and licensed professional.

2. Submit manufacturer's approval of erector.

1.8 MAINTENANCE MATERIAL SUBMITTALS

A. Section 017000 - Execution and Closeout Requirements: Requirements for maintenance materials.

1.9 CLOSEOUT SUBMITTALS

- A. Section 017000 Execution and Closeout Requirements: Requirements for submittals.
- B. Project Record Documents: Record actual location and orientation of tank and appurtenances.
- C. Operations and Maintenance Data: Submit maintenance instructions for tanks and accessories.

1.10 QUALITY ASSURANCE

- A. Perform Work according to AWWA D103.
- B. Materials in Contact with Potable Water: Certified to NSF Standards 61 and 372.

1.11 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum ten (10) years' documented experience.
- B. Fabricator: Company specializing in fabricating products specified in this Section with minimum ten (10) years' documented experience.
- C. Erector: Company specializing in performing Work of this Section with minimum ten (10) years' documented experience and approved by manufacturer.
- D. Licensed Professional: Professional engineer experienced in design of specified Work and actively licensed in the state where the tank is located. The licensed professional shall furnish a copy of the Certificate of Authorization (or equivalent) for his/her company to practice engineering in the state of licensure.

1.12 DELIVERY, STORAGE, AND HANDLING

- A. Inspection: Accept materials on Site in manufacturer's original packaging and inspect for damage.
- B. Storage:
 - 1. Store materials in areas protected from weather and moisture and according to manufacturer instructions.

- 2. Do not store products directly on ground.
- C. Handling: Handle materials in a manner to prevent damage to interior or exterior surfaces.
- D. Protection:
 - 1. Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.
 - 2. Provide additional protection according to manufacturer instructions.

1.13 WARRANTY

- A. Section 017000 Execution and Closeout Requirements: Requirements for warranties.
- B. The Tank Manufacturer shall include a warranty on tank materials and workmanship for a specified period. As a minimum, the warranty shall provide assurance against defects in material, coatings, workmanship, and tank interior lining for a period of five (5) years, starting at the date of Substantial Completion. A five (5)-year warranty bond must be supplied. The warranty bond must be for the full amount listed in the bid section. Every other year inspections shall be performed throughout the warranty period.

PART 2 - PRODUCTS

- 2.1 TANK
 - A. Steel: The American Iron and Steel Requirement <u>does not</u> apply to this project.
 - B. Manufacturers:
 - 1. PermaStore.
 - 2. AquaStore.
 - C. Substitutions:
 - 1. Substitutions: Substitute and "or-equal: products will be considered in accordance with Article 11 Substitute and "Or-Equal" Items of the Instructions to Bidders. The minimal required information for consideration shall include the following:
 - a. Typical structure and foundation drawings.
 - b. List of tank materials and appurtenances
 - c. Tank coating specifications.
 - d. Certification from tank manufacturer that the proposed substitute meets all of the design standards of this Specification and AWWA C103.
 - e. Acceptance as a substitute or "or-equal" does not constitute approval of submittals required in this and other Specification Sections.
 - D. Description:

- 1. Design, fabricate, and erect ground-level, glass lined bolted steel water storage tank and accessories.
- E. Performance and Design Criteria:
 - 1. Design in conformance with requirements listed in AWWA D103, unless supplemented or modified in this Section:
 - a. The tank coating shall conform solely to Section 12.4 of AWWA D103.
 - b. The glass coating on the tank, bolt head encapsulation material, and joint sealant shall have been approved for listing under ANSI/NSF Standard 61 for Indirect Additives.
 - c. The Tank Manufacturer shall be ISO-9001 certified to assure product quality.
 - d. The Tank Manufacturer shall undergo an annual FM (Factory Mutual) inspection of their glass-coated, bolted-steel tank factory & provide written proof thereof to assure quality.
 - e. Roof Design shall conform to ANSI/AWWA Standard D108-10, effective June 2010.
 - f. Bottom capacity level (BCL) and top capacity level (TCL) above top of foundation: As indicated on Drawings as Base Elevation and Overflow Elevation or other terms describing the same.
 - g. Specific Gravity: 1.00 for Water
 - h. Roof: As indicated on Drawings. Tanks up to 75 feet diameter shall be a selfsupporting all butt-welded umbrella dome roof or an elliptical steel dome roof. Column supported roofs or roofs requiring any type of rafter/bracing will not be accepted.
 - i. Snow Loading: Minimum 30 psf or as required in the latest edition of the International Building Code, whichever is greater. No corrections for roof slopes or lowest one-day mean temperature shall be made.
 - j. Minimum Roof Design Live Load: 15 psf or as specified in AWWA D100, whichever is greater.
 - k. Wind Load Requirements: Basic wind speed of 100 mph or as required in AWWA D103, whichever is greater
 - 1. Shape Factor: 0.6 Std.
 - m. Allowable Soil Bearing: Capacity: 3000 psf or as indicated in the Geotechnical Report, whichever is less.
 - n. Earthquake Design: As specified in AWWA D103 Section 5.2.5. In the absence of 100 vertical foot geological profile, use Site Class D.

2.2 TANK SCHEDULE

- A. New Tank
 - 1. Minimum Storage Capacity: 855,000 Gallons
 - 2. Nominal Diameter: 59 Feet.
 - 3. Base Elevation or Bottom Capacity Level: As per Drawings.
 - 4. Overflow Elevation or Top Capacity Level: As per Drawings.
 - 5. Minimum Free Board Above Overflow Elevation or Top Capacity Elevation: As per Drawings

6. Exterior Color: Cobalt Blue

2.3 TANK CONSTRUCTION

- A. Comply with requirements listed in AWWA D103, unless supplemented or modified below:
 - 1. Pipe and Fittings for Fluid Conductors: Modify to indicate only welded joints for conductors are acceptable.
 - 2. Roof Support: According to AWWA D103, self-supporting, only, and as indicated on Drawings.
 - 3. Corrosion Allowance: According to AWWA D103.
 - 4. Balcony: As indicated on Drawings.
 - 5. Pipe and Pipe Connections:
 - a. Silt Stop: Provide removable stainless-steel silt stop and mechanical joint gland.
 - b. Provide other accessories as indicated on Drawings.
 - 6. Overflow:
 - a. Provide external overflow pipe as indicated on Drawings, suitably supported and extending to grade level.
 - b. Diameter of overflow as indicated on Drawings.
 - c. Terminate overflow pipe at 3 feet above finished grade to provide air break.
 - d. Provide aluminum or bronze mesh insect screen and screen holder over air break opening.
 - 7. Roof Ladder: As indicated on Drawings.
 - 8. Safety Devices:
 - a. Furnish safety rail along entire ladder length and extending 42 inches above tank roof.
 - b. Comply with OSHA standards.
 - 9. Special Vent Required for Screening of Tank Vent: Provide total free and open vent area of 452 sq. in. Provide insect screen as indicated on drawings.
 - 10. Pile-Supported Foundation: When required according to fabricator's/manufacturer's design.
 - 11. Concrete: ACI 318
 - 12. Reinforcing Steel: Use only Grade 60, complying with American Iron and Steel Act requirements.
 - 13. Vertical Distance from Finished Ground Level to Crown of Inlet and Outlet Pipes (Earth Cover) at Tank Foundation: As indicated on Drawings.
 - 14. Specification Sheet for Seismic Data: According to AWWA D103.

2.4 INLET AND OUTLET PIPE

A. Inlet and Outlet Pipe: ANSI/AWWA C151/A21,5 Ductile Iron Pipe, Pressure Class 350 unless otherwise indicated on Drawings.

2.5 OVERFLOW PIPE

A. Description: As indicated on drawings.

2.6 MATERIALS

- A. Furnish materials complying with this Section, as indicated on Drawings, and according to AWWA D103.
- B. Plates and Sheets
 - 1. Plates and sheets used in the construction of the tank shell, tank floor (optional) or tank roof (optional), shall comply with the minimum standards of AWWA D103, Section 4.4.
 - 2. Design requirements for mild strength steel shall be ASTM A1011 Grade 30 with a maximum allowable tensile stress of 14,566 psi per AWWA D103.
 - 3. Design requirements for high strength steel shall be ASTM A607 Grade 50 with a maximum allowable tensile stress of 25,400 psi per AWWA D103.
 - 4. The annealing effect created from the glass coated firing process shall be considered in determining ultimate steel strength. In no event shall a yield strength greater than 50,000 psi be utilized for calculations detailed in AWWA D103, Section 5.4 and 5.5.
 - 5. Multiple vertical bolt line sheets and plates of ASTM A607 Grade 50 only shall be manufactured such that holes are staggered in the vertical bolt lines and that no two adjoining holes are in-line horizontally, except at the center of the sheet of plate.
 - 6. Bolt seam design shall generally be in accordance with the requirements of AWWA D103 Section 5.5; bolt spacing may be adjusted in the vertical bolt lines to increase the net and improve joint efficiency to a maximum of 85%.
 - 7. Double sheeting of tank panels shall not be permitted to achieve structural sidewall thickness requirements.
- C. Rolled Structural Shapes
 - 1. A material shall conform to minimum standards of ASTM A36 or AISI 1010.
- D. Horizontal Wind Stiffeners
 - 1. Design requirements for intermediate horizontal wind stiffeners shall be of the "web truss" design with extended tail to create multiple layers of stiffener, permitting wind load to transfer around tank.
 - 2. Web truss stiffeners shall be of steel with hot dipped galvanized coating.
 - 3. Rolled steel angle stiffeners are not permitted for intermediate stiffeners.
- E. Bolt Fasteners
 - 1. Bolts used in tank lap joints shall be $\frac{1}{2}$ " 13 UNC 2A rolled thread, and shall meet the minimum requirements of AWWA D103, Section 4.2.
 - 2. Bolt Material
 - a. SAE J429 Grade 2 (1" bolt length)

- 1) Tensile Strength 74,000 psi min.
- 2) Proof Load 55,000 psi min.
- 3) Allowable shear stress 18,164 psi (AWWA D103)
- b. SAE J429 Grade 8/ASTM A325 (>1 " bolt length) heat treated to:
 - 1) Tensile Strength 150,000 psi min.
 - 2) Proof Load 120,000 psi min.
 - 3) Allowable shear stress 36,818 psi (AWWA D103)
- c. Bolt Finish Zinc, mechanically deposited.
 - 1) 2.0 miles minimum under bolt head, on shank and threads OR JS1000 electro—plated.
- d. Bolt Head Encapsulation
 - 1) High impact polypropylene co-polymer encapsulation of entire bolt head up to the splines of the shank.
 - 2) Natural resin with UV (ultraviolet) light inhibitor. Color to be black.
- e. All tank shell bolts shall be installed such that the head portion is located inside the tank, and the washer and nut are on the exterior.
- f. All lap joint bolts shall be properly selected such that threaded portions will not be exposed in the "shear plane" between tank sheets. Also, bolt lengths shall be sized as to achieve a neat and uniform appearance. Excessive threads extending beyond the nut after torqueing will not be permitted.
- g. All lap joint bolts shall include a minimum of four (4) splines on the underside of the bolt head at the shank in order to resist rotation during torqueing.
- h. All exterior nuts, washers, and bolt threads will be covered with sealer-filled protective plastic cover. Color to match tank shell.
- 3. Sealant
 - a. The lap joint sealant shall be a one component, moisture cured, polyurethane compound. The sealant shall be suitable for contact with potable water and meet applicable FDA Title 21 regulations, as well as, ANSI/NSF Additives Standard 61.
 - b. The sealant shall be used to seal lap joints, bolt connections and sheet edges. The sealant shall cure to a rubber like consistency, have excellent adhesion to the glass coating, have low shrinkage, and be suitable for interior and exterior exposure.
 - c. Sealant curing rate of 73° F and 50% RH.
 - 1) Tack-free time: 6 to 8 hours.
 - 2) Final cure time: 10 to 12 days.
 - d. Neoprene gaskets and tape type sealer shall not be used in liquid contracting surfaces.

2.7 GLASS COATING SPECIFICATION

- A. Color
 - 1. The finished exterior color shall be cobalt blue and approved by Owner.
- B. Inspection
 - 1. All coated sheets shall be inspected for 10 mil minimum glass thickness (Mikrotest or equal).
 - 2. All coated sheets shall be checked for color uniformity by an electronic colorimeter.
 - 3. An electrical "holiday" detection test shall be performed on the inside surface after fabrication of the sheet. Sheets with excessive "holidays" shall be rejected so as to minimize field touch up (See Section 3.1.C of this Specification).
- C. Packaging
 - 1. All approved sheets shall be protected from damage prior to packing for shipment.
 - 2. Heavy paper or plastic foam sheets shall be placed between each panel to eliminate sheetto-sheet abrasion during shipment.
 - 3. Individual stacks of panels will be wrapped in heavy mil black plastic and steel banded to special wood pallets built to the roll-radius of the tank panels. This procedure eliminates contact or movement of finished panels during shipment.
 - 4. Shipment from the factory to the job site will be by truck, hauling the tank components exclusively. No common carrier, drop, or transfer shipments.

2.8 FABRICATION

A. Materials, Design, and Fabrication: According to AWWA D103.

2.9 SOURCE QUALITY CONTROL

- A. Provide shop inspection and testing of component parts.
- B. Certificate of Compliance:
 - 1. If fabricator is approved by authorities having jurisdiction, submit certificate of compliance indicating Work performed at fabricator's facility conforms to Contract Documents.
 - 2. Specified shop tests are not required for Work performed by approved fabricator.

2.10 CONCRETE FLOOR/FOUNDATION

- A. See Section 033000 for concrete and rebar minimum requirements.
- B. Contractor shall review the project Geotechnical Report and prepare a Foundation Design based on the report's findings, or Contractor may choose to perform own Geotechnical Investigation

at no cost to the Owner or Engineer and prepare the Foundation Design. In either case, the Contractor shall be responsible for a Professional Engineer registered in the State of tank installation for preparing and certifying the tank foundation design.

PART 3 - EXECUTION

3.1 TANK CONSTUCTION

- A. Foundation:
 - 1. The tank foundation shall be designed by the manufacturer to safely sustain the structure and its live loads.
 - 2. Tank footing design shall be based on the allowable soil bearing capacity indication in the geotechnical report.
- B. Tank Floor:
 - 1. Concrete Floor
 - a. The floor design is of reinforced concrete with an embedded glass coated steel starter sheet per AWWA D103 Section 13.4.1.6 and the manufacturer's design, and is an integral element of the tank assembly: therefore the tank foundation and floor slab (performed in two separate pours) with embedded starter sheet shall be constructed by the tank supplier using manufacturer trained personnel regularly engaged in this type of tank construction.
 - b. Leveling of the starter ring shall be required and the maximum differential elevation within the ring shall not exceed one-eighth (1/8) inch, nor exceed one-sixteenth (1/16) inch within any ten (10) feet of length.
 - c. A leveling plate assembly consisting of two 18" anchor rods (3/4" diameter) and a slotted pate (3 1/2" X 11" X 3/8" thick) shall be used to secure the starter ring, prior to encasement in concrete. Installation of the starter ring on concrete blocks or bricks, using shims for adjustment, is not permitted. The foundation with anchor bolts/leveling plates shall be a separate pour from the concrete floor.
 - d. Two water stop seals made of butyl rubber elastomer special for this application shall be placed on the inside surface of the starter ring below the concrete floor line. These materials shall be installed as specified by the Tank Manufacturer.
- C. Sidewall Structure:
 - 1. Field erection of the glass-coated, bolted-steel tank shall be in strict accordance with the procedures outlined in the manufacturer's erection manual, and performed by an authorized dealer of Tank Manufacturer, regularly engaged in erection of these tanks.
 - 2. Particular care shall be taken in handling and bolting of the tank panels and members to avoid abrasion of the coating system. Prior to liquid test, all surface areas shall be visually inspected by the Engineer.
 - 3. An electrical holiday test shall be performed during erection using a nine (9) volt leak detection device. All electrical leak points found on the inside surface shall be repaired in accordance with manufacturer's published touch up procedure using urethane sealer.

- 4. The placement of sealant on each panel may be inspected prior to placement of adjacent panels. However, the Engineer's inspection shall not relieve the bidder from his responsibility for liquid tightness.
- 5. No backfill shall be placed against the tank sidewall without prior written approval and design review of the Tank Manufacturer. Any backfill shall be placed according to the strict instructions of the Tank Manufacturer.
- D. Roof Options:
 - 1. Tanks with diameters of 14 to 31 ft. shall include a radially sectioned roof fabricated from glass-coated, bolted steel panels, as produced by the Tank Manufacturer, and shall be assembled in a similar manner as the sidewall panels utilizing the same sealant and bolting techniques, so as to assure a water/air tight assembly. The roof shall be clear span and self-supporting. Both live and dead loads shall be carried by the tank walls. The exterior coating finish shall be cobalt blue glass. The manufacturer shall furnish a roof opening which shall be placed near the outside tank ladder and which shall be provided with a hinged cover and a hasp for locking. The opening shall have a clear dimension of at least twenty-four (24") inches in one direction and eighteen (18") inches in the other direction. The opening shall have a gasketed weather-tight cover.
 - 2. Roofs for tanks greater than 31 ft. diameter shall be constructed of non-corrugated triangular aluminum panels which are sealed and firmly clamped in an interlocking manner to a fully triangulated aluminum space truss system of wide flange extrusions, thus forming a spherical dome structure.
 - a. Primary horizontal forces into the tank shell shall be contained by an integral aluminum tension ring (unless otherwise specified). The frame shall consist of aluminum structural members with the joints arrayed on the surface of a sphere. The arrangement of members shall result in a pattern of triangular spaces. These spaces shall be closed with light gauge aluminum panels. The members shall be joined by means of bolting their flanges to aluminum gusset plates.
 - b. All metal components of the aluminum dome structure shall be aluminum or 300 series stainless steel. No galvanized, aluminized, painted, or plated steel shall be used anywhere in the dome above the mounting bracket base plates. Dissimilar materials in the supporting structure shall be isolated from the aluminum dome by means of compatible elastomeric gasket.
 - c. The entire structure shall be designed as a watertight system under all design load and temperature conditions. The design shall include sealant to be completely encapsulated by applying it to the gusset covers' inner circumferences, beneath the gusset covers' top closure plates.
 - d. The aluminum closure panels shall be attached continuously along their edges to the structural members by means of batten bars, which engage the panels in an interlocking joint. Designs that incorporate raised battens, overlapping panels and/or designs that incorporate fasteners which penetrate panels and attach to structural members are expressly prohibited. The roof panels shall be fabricated from continuous 3003-H16 aluminum sheeting.
 - e. Connection forces shall be transferred through gusset plates connected to the top and bottom flanges of the beam struts. The connections shall be designed as moment connections; a minimum of four bolts shall be used to connect the gusset plate to each strut flange. The structural analysis shall be performed using nonlinear, second order, stiffness analysis models in accordance with ADM 2010

Chapter C. Stability shall be provided for the structure as a whole and for each of its components. The available strengths of members and connections determined in accordance with Section C.3 shall equal or exceed the required strengths determined in accordance with Section C.2.

- f. Fasteners shall be designed with a factor of safety of 2.34 on ultimate strength and 1.65 on yield strength.
- 3. Experience and Qualifications:
 - a. No equipment shall be supplied by any manufacturer not regularly engaged in the manufacturing and production of domes in the size and character herein specified. The manufacturer must have designed, manufactured and installed at least one (1) dome of the same size as the unit(s) specified herein. This dome must be in satisfactory use for a period not else than ten (10) years.
 - b. The cover manufacturer must own and operate its own US-based manufacturing facility, and the use of a fabrication facility that is not US-based and/or owned and operated by the cover manufacturer is expressly prohibited. Manufacturers that do not meet these qualifications will not be considered.
 - c. The cover manufacturer must be ISO 9001 certified.
- 4. Materials:
 - Bolts and Fasteners Threaded fasteners shall be 300 series stainless steel per ASTM F593, Alloy Group 1. Lockbolts shall be 7075-T73 aluminum, 304 or 305 stainless steel. Triangulated space truss: 6061-T6 aluminum struts and gussets.
 - Plates and Sheets Plate and sheet material shall be aluminum alloy 3003-H16, 3105-H154, 6061-T6, 5052-H32, or +5052-H36; mill finish AA M10 as fabricated. Minimum thickness for gussets shall be 5/16". Sheet materials shall be 0.05" minimum thickness. Triangular closure panels: 0.050"t 3003-H16 aluminum sheet.
 - c. Structural Shapes Aluminum structural shapes shall be alloy 6061-T6 aluminum. The aluminum structural members shall be a minimum of 6 inches deep. To improve torsional stability, the dome's structural members must incorporate a double web. The use of I-beams with only a single web is expressly prohibited.
 - d. Tension Ring Tension ring structural shapes shall be 6061-T6 aluminum. Design of the tension ring shall be based on the net cross section of the members and shall not include top flange protrusions used for panel attachment, bolt holes, or outstanding legs that are not connected through the joints.
 - e. Miscellaneous Shapes Miscellaneous aluminum shapes shall be alloy 6061-T6 or 6063-T5.
 - f. Gaskets All gaskets shall be ozone resistant Silicone only. The gaskets must have a 1/8 minimum thickness.
 - g. Sealant All sealants shall be silicone and resistant to ozone and ultraviolet light and conform to Federal Specification TT-S-00230C.
 - h. Support Bearings Acceptable bearing surfaces for sliding bearing are Teflon to stainless steel only. In order to avoid damage to the Teflon and to reduce the coefficient of bearing friction, Teflon shall not bear on aluminum surfaces. Done supports shall utilize only bolted connections. The use of aluminum structural welding at the dome supports is expressly prohibited.
 - i. Dormers, doors, vents and hatches: 6061-T6, 5086-H34 or 3003-H16 aluminum.

5. Roof Vent:

- a. A properly sized vent assembly in accordance with AWWA D103 shall be furnished and installed above the maximum water level of sufficient capacity so that at maximum possible rate of water fill or withdrawal, the resulting interior pressure or vacuum will not exceed 0.5" water column.
- b. The overflow pipe shall not be considered to be a tank vent.
- c. The vent shall be constructed of aluminum.
- d. The vent shall be designed in construction as to prevent the entrance of birds and/or animals by including an expanded aluminum screen (1/2 inch) opening. An insect screen of 23 to 25 mesh polyester monofilament shall be provided and designed to open should the screen become plugged by ice formation.

3.2 EXAMINATION

- A. Section 017000 Execution and Closeout Requirements: Requirements for erection examination.
- B. Verify layout and orientation of tank accessories and piping connections.

3.3 PREPARATION

- A. Section 017000 Execution and Closeout Requirements: Requirements for erection preparation.
- B. Support Pad:
 - 1. Thoroughly clean tank pad, removing loose concrete, dust, and other debris.
 - 2. Place building paper on pad according to Tank Manufacturer's recommendations prior to placing tank.

3.4 INSTALLATION

- A. According to AWWA D103, as indicated on Drawings, and according to manufacturer instructions.
- B. Connect piping to tank.
- C. To complete installation, install tank accessories not factory mounted.
- D. Touch-up Painting and Coating: According to manufacturer instructions and according to AWWA D103.
- 3.5 FIELD QUALITY CONTROL
 - A. Section 014000 and Section 017000
 - B. Inspection and Testing:

GLASS LINED BOLTED STEEL TANKS

- 1. Hydrostatic Testing:
 - a. Test completed and cleaned tank for liquid tightness by filling tank to its overflow elevation with water provided by Owner.
 - b. Correct leaks disclosed by this test.
 - c. Drain and legally dispose of test water off Site.
- C. Furnish installation certificate from equipment manufacturer's representative attesting that equipment has been properly installed and is ready for startup and testing.

END OF SECTION 434111

Hughes River Water Board Water Storage System Improvements Revised per Addendum #1 December 13, 2022 010-10141

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