As Bid Set No. _____

CITY OF WORCESTER

DOCUMENTS AND SPECIFICATIONS

REHABILITATION OF WATER STORAGE TANKS

CONTRACT NO. 5

TATA & HOWARD, INC.

CONSULTING ENGINEERS

67 FOREST STREET

MARLBOROUGH, MASSACHUSETTS

BID NO. 8568-J6

OCTOBER 2025

REHABILITATION OF WATER STORAGE TANKS

CONTRACT NO. 5

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TECHNICAL SPECIFICATIONS and DRAWINGS

REHABILITATION OF WATER STORAGE TANKS
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DIVISION 1 GENERAL REQUIREMENTS

SECTION 01010

SUMMARY OF WORK

PART 1 GENERAL

1.01 WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of this Contract generally consists of repair work for the Millstone Concrete Tank, North Clearwell, South Clearwell, and Wash water prestressed concrete tanks, and the Millstone Steel Tank and Airport Steel Tank. Work on the prestressed concrete water storage tanks; includes exterior cleaning of the tank walls and dome, installation of new exterior ladders with ladder gates, installation of handrails at the dome access hatches, and installation of dome safety cables. Work on the Airport Tank includes power tool cleaning the vent center stub and recoating. Work on the Millstone Steel Tank includes placement of elastomeric sealant at the junction between the floor plate and the foundation. All tanks are to remain in service while the work is completed.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01025

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.01 DESCRIPTION

A. The following sub-sections describe the measurement of and payment for the Work to be done under the items listed in the Form for General Bid.

B. Each lump sum price stated in the Form for General Bid constitutes full compensation as herein specified for each item of work completed in accordance with the Contract Documents, including cleaning up.

C. The Contractor shall carefully acquaint himself with all work associated with each payment item and shall have no claim for his unfamiliarity with the requirements of various items.

1.02 RELATED WORK

A. Documents affecting the work of this Section include General Conditions, Supplementary Conditions, and all Divisions of these Specifications.

1.03 RESTORATION OF DAMAGED AREAS

A. All costs for restoration of damaged areas, including but not necessarily limited to, existing sidewalks, curbs, shrubs, trees, stone walls, lawns, loam and seed, shall not be paid separately and shall be considered incidental to the work and included in the unit price and lump sum items.

B. Paved gutters and driveways shall not be measured for separate payment, but shall be considered incidental to the work.

C. All public or private monuments, iron pipes or other types of property line and geodetic markers damaged or disturbed by operations under this Contract shall be reset by a licensed land surveyor, all at no additional cost to the Owner. All other work under this Section shall not be paid separately, but shall be considered incidental to the work and included in the unit price and lump sum items.

1.04 MEASUREMENT OF QUANTITIES

A. The quantities of the various items of work performed shall be determined, for purposes of progress and final payment, by the Contractor and reviewed by the Engineer.

B. The method of measurements to be used in the determination of quantities of the work of this Contract shall be as specified in this Section.
   1. Area Measurements
      a. Unless otherwise specified, measurement for area computations shall be made along the surface and taken to the nearest half (1/2) foot.
   2. Linear Measurements

a. Measurement shall be made along the alignment of the item, at the surface, and taken to the nearest foot.

3. Volume Measurements – In figuring volumes the following shall apply:
   a. 100% Solids Epoxy Restoration: Measurements shall be taken to the nearest gallon.
4. Lump Sum: The term "lump sum" when used as a unit of payment shall mean complete payment for the work described in the Contract Documents.
5. Per Each: The term "per each" when used as a unit of payment shall mean complete payment for each unit furnished and installed, completed and accepted, as described in the Contract Documents.

1.05 PAYMENT

ITEM NO	DESCRIPTION
1	Mobilization and Demobilization
2	Millstone Concrete Tank
3	North Clearwell
4	South Clearwell
5	Washwater Tank
6	Airport Tank
7	Millstone Steel Tank

Item No. 1 Mobilization and Demobilization

Payment for mobilization and demobilization shall be at the lump sum price bid under Bid Item No. 1 in the Bid Form. The total price bid for mobilization shall not exceed five (5) percent of the total amount of the remaining bid items. Payment shall be full compensation for furnishing all labor, materials, tools and equipment necessary for bonds, permits, insurance, transportation of equipment and materials to the construction site, obtaining of all state, local, and federal permits, set up of storage yard, maintenance of same, preconstruction video recording, and the removal of equipment and materials upon completion of the Work.

Item No. 2 Millstone Concrete Tank

Payment for exterior cleaning of the tank walls and dome, installation of a new exterior ladder with ladder gate, installation of handrails at the dome access hatch, and installation of dome safety cables at the Millstone Concrete Tank shall be at the lump sum price per bid under Bid Item No. 2 in the Bid Form. Payment shall be full compensation for furnishing all labor, materials, tools and equipment necessary for cleaning of the tank exterior, installation of the new ladder and ladder gate, installation of the handrails, and installation of the dome safety cables.

Item No. 3 North Clearwell

Payment for exterior cleaning of the tank walls and dome, installation of a new exterior ladder with ladder gate, installation of handrails at the dome access hatch, and installation of dome safety cables at the North Clearwell shall be at the lump sum price per bid under Bid Item No. 3 in the Bid Form. Payment shall be full compensation for furnishing all

labor, materials, tools and equipment necessary for cleaning of the tank exterior, installation of the new ladder and ladder gate, installation of the handrails, and installation of the dome safety cables.

Item No. 4 South Clearwell

Payment for exterior cleaning of the tank walls and dome, installation of a new exterior ladder with ladder gate, installation of handrails at the dome access hatch, and installation of dome safety cables at the South Clearwell shall be at the lump sum price per bid under Bid Item No. 4 in the Bid Form. Payment shall be full compensation for furnishing all labor, materials, tools and equipment necessary for cleaning of the tank exterior, installation of the new ladder and ladder gate, installation of the handrails, and installation of the dome safety cables.

Item No. 5 Washwater Tank

Payment for exterior cleaning of the tank walls and dome, installation of a new exterior ladder with ladder gate, installation of handrails at the dome access hatch, and installation of dome safety cables at the Washwater Tank shall be at the lump sum price per bid under Bid Item No. 5 in the Bid Form. Payment shall be full compensation for furnishing all labor, materials, tools and equipment necessary for cleaning of the tank exterior, installation of the new ladder and ladder gate, installation of the handrails, and installation of the dome safety cables.

Item No. 6 Airport Tank

Payment for temporary removal of the existing vent, power tool cleaning and recoating of the vent center stub, and reinstallation of the existing vent at the Airport Tank shall be at the lump sum price per bid under Bid Item No. 6 in the Bid Form. Payment shall be full compensation for furnishing all labor, materials, tools and equipment necessary for power tool cleaning and recoating the vent stub.

Item No. 7 Millstone Steel Tank

Payment for removal and disposal of existing elastomeric sealant and installation of new elastomeric sealant at the junction between the floor plate and foundation and repair of missing or damaged concrete grout at the Millstone Steel Tank shall be at the lump sum price per bid under Bid Item No. 7 in the Bid Form. Payment shall be full compensation for furnishing all labor, materials, tools and equipment necessary for installation of new elastomeric sealant at the junction between the floor plate and the foundation.

END OF SECTION

SECTION 01026

SCHEDULE OF VALUES

PART 1 GENERAL

1.01 DESCRIPTION

A. Work Included: Provide a detailed breakdown of the agreed Contract Sum showing values allocated to each of the various parts of the Work, as specified herein and in other provisions of the Contract Documents.

1.02 RELATED WORK

A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

1.03 GENERAL

A. For accounting purposes for the Engineer's convenience and as an aid in determining progress payments and price additions or deductions for Contract modifications, the Contractor shall furnish to the Engineer a schedule of values which shall be approved.
   1. The schedule of values shall apportion the total amount of the Contract price(s) for each separate item among the main features or costs that form the completed Work.
   2. The price breakdown shall be in sufficient detail to permit an analysis of all material, labor, equipment, subcontract and overhead costs, as well as profit, and shall cover all work involved for the properly completed item and feature listed.
   3. Any amount claimed for subcontracts shall be supported by a similar schedule of values with the total amount shown by this price under the Contract price stated in the bid form.

1.04 SUBMITTALS

A. Prior to first application for payment, submit a proposed Schedule of Values to the Engineer.
   1. Meet with the Engineer and determine additional data, if any, required to be submitted.
   2. Secure the Engineer’s approval of the Schedule of Values prior to submitting first application for payment.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01027

APPLICATION FOR PAYMENT

PART 1 GENERAL

1.01 DESCRIPTION

A. Work Included: Comply with procedures described in this Section when applying for progress payment and final payment under this Contract.

1.02 RELATED WORK

A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these specifications.

B. Progress payments are described in the General Conditions.

C. Payments upon Substantial Completion and Completion of the Work are described in the General Conditions.

1.03 QUALITY ASSURANCE

A. Prior to start of construction, secure the Engineer's approval of the Schedule of Values required to be submitted under Section 01026, Schedule of Values.
   1. During progress of the Work, modify the Schedule of Values as approved by the Engineer to reflect changes in the Contract Sum due to change orders or other modifications to the Contract.
   2. Base requests for payment on the approved Schedule of Values.

1.04 SUBMITTALS

A. Informal Submittal: Unless otherwise directed by the Engineer:
   1. Make an informal submittal of Request for Payment by filling in, with erasable pencil, pertinent portions of AIA Document G702 "Application and Certificate for Payment" or EJCDC Document C-620 "Contractor's Application for Payment," plus continuation sheet or sheets.
   2. Make this preliminary submittal to the Engineer at the end of each month.
   3. Revise the informal submittal of Request for Payment as agreed, between both parties, initialing all copies.

B Formal Submittal: Unless otherwise directed by the Engineer:
   1. Make a formal submittal of Request for Payment by filling in the agreed data, by typewriter or neat lettering in ink, on AIA Document G702 "Application and Certificate for Payment" or EJCDC Document C-620 "Contractor's Application for Payment," plus continuation sheet or sheets.
   2. Sign and notarize the six (6) original Applications for Payment.

3. Submit the originals of the Applications for Payment plus six (6) identical copies of the continuation sheet or sheets to the Engineer.
4. The Engineer shall compare the formal submittal with the approved informal submittal and when approved, shall sign the Applications for Payment and forward them along with the continuation sheet or sheets to the Owner. Once executed by the appropriate officials, the Owner will distribute:
   a. Two copies to Contractor
   b. Two copies to Owner
   c. Two copies to Engineer.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01050

FIELD ENGINEERING

PART 1 GENERAL

1.01 DESCRIPTION

A. Work included: Provide such field engineering services as are required for proper completion of the work including, but not necessarily limited to:
   1. Establishing and maintaining lines and levels.
   2. Structural design of shores, forms, and similar items provided by the Contractor as part of his means and methods of construction.

1.02 RELATED WORK

A. Documents affecting work of this section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

B. Additional requirements for field engineering may also be described in other Sections of these Specifications.

1.03 QUALITY ASSURANCE

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for the proper performance of the work of this Section.

1.04 PROCEDURES

A. In addition to procedures directed by the Contractor for proper performance of the Contractor's responsibilities:
   1. Locate and protect control points before starting work on the site.
   2. Preserve permanent reference points during progress of the work.
   3. Verification of all reference points.
      a. If a discrepancy is found, promptly notify the Engineer.
   4. Promptly advise the Engineer when a reference point is lost or destroyed, or requires relocation because of other changes in the Work.
      a. Upon direction of the Engineer, require the Field Engineer to replace reference stakes or markers.
      b. Locate such replacements according to the original survey control.

1.05 SURVEY REQUIREMENTS

A. Contractor shall establish a minimum of two permanent benchmarks on site; referenced to data established by survey control points.

B. Contractor to establish and maintain control lines and levels. Locate and lay out by instrumentation and similar appropriate means:
   1. Site improvements, including pavements, stakes for grading, fill and topsoil placement, utility locations, slopes, and invert elevations.
   2. Grid or axis for structures.
   3. Building foundation, column locations, and floor elevations.
   4. Controlling lines and levels required for mechanical and electrical trades.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01092

ABBREVIATIONS

PART 1 GENERAL

1.01 DESCRIPTION

A. Listing of Abbreviations: The listing of abbreviations in this Specification Section represent the Standard Organization named.

B. Related Work:
1. Documents affecting work of this section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
2. All related Specification Sections shall be used in conjunction with this Section.

1.02 QUALITY ASSURANCE

A. For products or workmanship specified by association, trade, or Federal Standards, comply with requirements of the Standard, except when more stringent requirements are specified or are required by applicable codes.

B. Conform to reference standard by date of issue current on date for receiving bids.

1.03 LISTING OF STANDARD ORGANIZATIONS AND THEIR ABBREVIATIONS

AA	Aluminum Association
AAN	American Association of Nurserymen
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
ACPA	American Concrete Pipe Institute
ADC	Air Diffusion Council
AGA	American Gas Association
AGCA	Associated General Contractors of America
AHDGA	American Hot Dip Galvanizers Association
AI	Asphalt Institute
AIA	American Institute of Architects
AISC	American Institute of Steel Constructors
AISI	American Iron and Steel Institute
ANSI	American National Standards Institute
APA	American Plywood Association
API	American Petroleum Institute
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating, and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society of Testing and Materials
AWPA	American Wood Preservers Association
AWS	American Welding Society

AWWA	American Water Works Association
BIA	Brick Institute of America
CRSI	Concrete Reinforcing Steel Institute
CSA	Canadian Standards Association
DCAM	Comm. of Massachusetts Division of Capital Asset Management
DEP	Department of Environmental Protection
DHI	Door and Hardware Institute
DIPRA	Ductile Iron Pipe Research Association
EJCDC	Engineers Joint Contract Documents Committee
EPA	Environmental Protection Agency
FM	Factory Mutual
Fed. Spec.	Federal Specification
HI	Hydraulic Institute
IEEE	Institute of Electrical and Electronics Engineers
ISA	Instrument Society of America
ISO	International Standards Organization
MIA	Masonry Institute of America
MIL.	Military Specification
MSBC	Massachusetts State Building Code
MSS	Manufacturers Standardization Society of the Valve and Fitting Industry
NAAMM	National Association of Architectural Metal Manufacturers
NCMA	National Concrete Masonry Association
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
NRCA	National Roofing Contractors Association
NSPC	National Standard Plumbing Code
OSHA	Occupational Safety and Health Administration
PCA	Portland Cement Association
PCI	Prestressed Concrete Institute
PPI	Plastic Pipe Institute
PS	Product Standards of the National Bureau of Standards
SDI	Steel Door Institute
SIGMA	Sealed Insulating Glass Manufacturers Association
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
SPI	Society of the Plastics Industry
SSPC	Steel Structures Painting Council
TCA	Tile Council of America
TPI	Truss Plate Institute
UL	Underwriters Laboratories

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01100

SPECIAL PROJECT PROCEDURES

PART 1 GENERAL

1.01 DESCRIPTION

A. The work of this section consists of special project procedures during construction including:
   1. Site Access
   2. Contractor's Emergency Services
   3. Staging Areas
   4. Additional Notes
   5. Working Hours
   6. Distribution System
   7. Millstone Steel Tank

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.01 SITE ACCESS

A. The CONTRACTOR shall maintain appropriate access to each tank site for Worcester Water Operations personnel. The CONTRACTOR shall be responsible for securing the site gates at all times during the construction period, including upon daily site exit.

3.02 CONTRACTOR'S EMERGENCY SERVICES

A. Any Contractor whose place of business is located beyond the vicinity of the site of the Work and who does not maintain local headquarters 24 hours a day must provide the following:
   1. Make satisfactory arrangements with the Owner to service emergencies or complaints which may occur during the day, at night, over the weekend, or when the job is shut down. If he does not, the Owner may make arrangements and the cost will be charged to the Contractor.
   2. Before the final estimate is certified for payment, the Contractor shall make similar arrangements to cover the guarantee period.

3.03 STAGING AREAS

A. The CONTRACTOR shall coordinate the staging area location(s) with OWNER. All details, permission and restoration requirements will need to be coordinated through the Worcester Water Operations.

B. The CONTRACTOR shall minimize disturbances to the surrounding areas to the best extent possible.

C. Due to site limitations, it is recommended that the CONTRACTOR visit the sites prior to the bid.

3.04 ADDITIONAL NOTES

A. The Worcester Water Operations staff shall operate all valves and hydrants. If water is required for construction a meter and backflow device shall be installed and the CONTRACTOR shall pay for water used at the standard resident rate.

B. Electrical service will not be provided by the Owner. CONTRACTOR shall provide for temporary electricity, as needed.

3.05 WORKING HOURS

A. It shall be a material breach of this contract if the CONTRACTOR and each SUBCONTRACTOR shall not, at all times, adhere to the provisions of Section 34(a) of Chapter 8 – Public Health of the Revised Ordinances of 2008 of the City of Worcester by limiting their on-site noise producing construction and related work between the hours of 7:00 a.m. and 9:00 p.m. on weekdays and Saturdays, except for "emergency work" which is performed in the interest of public safety or welfare and for which a permit has been issued by the commissioner of public works and parks or the commissioner of inspectional services.

3.06 DISTRIBUTION SYSTEM

A. All storage tanks must remain in service throughout the duration of the project.

3.07 MILLSTONE STEEL TANK

B. The CONTRACTOR shall repair damaged and/or missing concrete grout using a non-metallic, non-shrink cement grout followed by application of an elastomeric urethan material such as Sikaflex-2c.

END OF SECTION

SECTION 01300

SUBMITTALS

PART 1 GENERAL

1.01 DESCRIPTION

A. Work Included: Make submittals required by the Contract Documents, and revise and resubmit as necessary to establish compliance with the specified requirements.

1.02 RELATED WORK

A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
   1. Individual requirements for submittals also may be described in pertinent Sections of these Specifications.

B. Work Not Included:
   1. Submittals which are not required shall not be reviewed by the Engineer.
   2. The Contractor may require his subcontractors to provide drawings, setting diagrams and similar information to help coordinate the Work, but such data shall remain between the Contractor and his subcontractors and will not be reviewed by the Engineer unless specifically called for within the Contract Documents.

1.03 SHOP DRAWINGS AND SAMPLES

A. The Contractor shall submit to the Engineer for review all shop drawings, catalog cuts, setting schedules and such other drawings as may be necessary for the prosecution of the work in the shop and in the field as required by the Contract Documents.
   1. Submittals which are incomplete or difficult to read shall be rejected.
   2. Deviations from the Contract Documents shall be called to the attention of the Engineer at the time of the first submission of shop drawings and other drawings for consideration.
   3. The Engineer's review of any drawings shall not release the Contractor from responsibility for such deviations.
   4. Shop drawings shall be submitted with such promptness as to cause no delay in the Contractor's work or the work of any other Contractor.
   5. Schedules for reinforcing steel shall receive the Contractor's immediate attention, upon award of Contract.

B. When submitted for the Engineer's review, all shop drawings shall bear the Contractor's certification that he has reviewed, checked and approved the shop drawings, that they are in compliance with the requirements of the Contract Documents, and that he has verified all field measurements and construction criteria, materials, catalog numbers and similar data.

C. All samples called for in the Specifications or required by the Engineer shall be furnished by the Contractor and shall be submitted to the Engineer for his review.
   1. Samples shall be furnished so as not to delay fabrication, and to allow the Engineer reasonable time for the consideration of the samples submitted.

D. Checking of submittals is only for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents.
   1. Any action shown is subject to the requirements of the Contract Documents.
   2. Contractor is responsible for: dimensions which shall be confirmed and correlated at the job site; fabrication processes and techniques of construction; coordination of his work with that of all other trades; and the satisfactory performance of his work.

E. The Contractor may only proceed with fabrication and construction for items on returned submittals marked "1-No Exception Taken" or "2-Make Corrections Noted – Resubmittal Not Required."
   1. Resubmit submittals if marked "3-Amend and Resubmit" or "4-Rejected."
   2. Submittals provided for information purposes only will be marked "5-Not Subject to Review – Receipt Acknowledged."

F. The Contractor shall identify each submittal numerically in accordance with the following format: [SPECIFICATION SECTION] - [SUBMITTAL NUMBER] - [RESUBMITTAL].
   1. The first number corresponds to the specification section under which the particular shop drawing is submitted.
   2. The second number is the numerical order of the submittal within a particular specification section based on when the submittal is transmitted.
   3. The third number is zero for an original submittal. The first resubmittal of a shop drawing previously reviewed by the Engineer, if necessary, shall be identified by the same numbering system with (-A) used as a suffix to indicate it is a resubmittal. Each additional resubmittal shall be identified by the same numbering system with the following letter alphabetically used as the suffix.
   4. For example, 02200-1-0 is the original submittal for the first shop drawing submitted under specification section 02200. 02200-2-A is the resubmittal for the second shop drawing submitted under specification section 02200.

G. A maximum of two (2) submittals of each shop drawing will be reviewed by the Engineer. If additional submittals are required due to the Contractor's neglect to meet the requirements of the Contract Documents or the corrections and modifications noted by the Engineer in the first two submittals, then the Engineer will review the additional submittals at the expense of the Contractor.

H. The Contractor shall furnish such samples of material as may be required for examination and testing.
   1. All samples of materials for tests shall be taken according to ASTM specifications or as provided in the Contract Documents.

I. Within 14 days of the date fixed in the Notice to Proceed, the Contractor shall submit a Schedule of Submittals to the Engineer for review and approval in accordance with the General Conditions. The Schedule of Submittals including, but not limited to, shop drawings and samples shall include a list of required submittals, the date when each

submittal will be transmitted for review and approval, and the time requirements for Engineer's review of the submittals and the performance of related construction activities.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

3.01 GENERAL

A. The Contractor shall transmit all shop drawings to the Engineer in electronic (PDF) format.

B. The intent of the electronic submittals is to expedite the construction process reducing paperwork, improving information transfer, and decreasing administration time.

C. The electronic submittal process is not intended to replace the requirement to submit actual color samples or physical material samples for review and approval by the Engineer.

END OF SECTION

SECTION 01385

PRECONSTRUCTION VIDEO RECORDING

PART 1 GENERAL

1.01 DESCRIPTION

A. Work included: The Contractor shall provide all labor, materials, tools and equipment necessary to furnish a video recording of the site prior to the start of the Work.

1.02. RELATED WORK

A. Documents affecting the work of this Section include, but are not necessarily limited to, General Conditions and all Divisions of these Specifications.

1.03 QUALITY ASSURANCE

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.01 VIDEO RECORDING

A. Equipment
   1. The equipment employed in the video recording shall be sufficient to provide a clear, full color and detailed visual description of the site along with a detailed narrative description of physical conditions and location.

B. Area Included
   1. The area included in the video recording shall include the actual location of the work, the adjacent property and all other areas which could reasonably be anticipated to be affected by the work.
   2. Particular attention should be paid to the existing condition of private property immediately adjacent to the work.

C. Documentation
   1. The video recordings shall be conducted at a slow walking pace and shall record the physical conditions in the area described above.
   2. The narrative description shall be recorded simultaneously and shall supplement the visual description particularly with regard to location.
   3. Contractor shall furnish three (3) complete copies of the video recording to the Engineer prior to the start of the work.

D. Personnel

1. All personnel employed by the Contractor in video recording shall be experienced in all aspects of the process, including recognition of important physical conditions in and around the site of the Work.

END OF SECTION

SECTION 01505

MOBILIZATION

PART 1 GENERAL

1.01 DESCRIPTION

A. Work Includes: The transportation and storage of all equipment and materials necessary to the Work and the field offices.

B. RELATED WORK
1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 thru Division 13 of these Specifications.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.01 STORAGE AREA

A. It shall be the Contractor's sole responsibility to procure and maintain a suitable storage area for tools, materials, and equipment necessary to perform the work.
1. The storage area obtained by the Contractor shall not obstruct or interfere with pedestrian or vehicular movement, and shall not occupy any space within the public right-of-way, except with specific permission from the Owner.
2. The storage area shall be kept neat at all times.
3. The Owner shall not be a party to negotiations related to acquisition of areas for storage or cleanup of the same (unless the storage area is on Owner's property), but reserves the right to inspect such area(s) for compliance with Owner regulatory requirements.
4. Contractor shall not use storage area for bulk storage of hazardous materials (e.g., gasoline, solvents, oil).

3.03 EQUIPMENT

A. Contractor shall transport all equipment to the site, assemble the equipment as needed to proceed with the work and maintain the equipment as needed during the work.

END OF SECTION

SECTION 01510

TEMPORARY FACILITIES

PART 1 GENERAL

1.01 DESCRIPTION

A. The work of this Section shall consist of providing the following temporary facilities:
   1. Water,
   2. Sanitary Facilities,

PART 2 PRODUCTS

2.01 TEMPORARY WATER

A. Drinking water shall be provided by the Contractor for his personnel and the personnel of his sub-contractors.
   1. Drinking water shall be tested and approved by the State Agency as "safe drinking water suitable for human consumption."
   2. Contractor shall furnish water for construction.

2.02 TEMPORARY SANITARY FACILITIES

A. Sanitary conveniences, properly screened from public observation, for the use of all persons employed on the work and beginning with the first man engaged in preliminary operations, shall be provided and maintained by the Contractor in sufficient numbers through the completion of the work.
   1. Contractor shall be diligent in maintaining sanitary facilities; pumping weekly, or more often as required to protect soil and water quality.

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01545

PROTECTION OF PROPERTY

PART 1 GENERAL

1.01 DESCRIPTION

A. Work Included: The Contractor shall provide all necessary protection of existing property to prevent any damage to property adjacent to the construction.

1.02 RELATED WORK

A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in all divisions of these Specifications.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.01 PROTECTION OF PROPERTY

A. The Contractor shall, at his own expense, preserve and protect from injury all property either public or private along and adjacent to the line of work, and be responsible for and repair any and all damage and injury thereto, arising out of or in consequence of any act or omission of the Contractor.
   1. All existing pipes, culverts, poles, wires, fences, mailboxes, stone walls, curbs, bounds, etc., shall be temporarily removed, supported in place or otherwise protected from injury, and shall be restored to at least as good condition as that in which they were found immediately prior to the start of work.
   2. Lawns, shrubs, bushes, planting beds and decorative trees disturbed or damaged shall be restored to a condition equal to that found prior to the start of construction, either by temporary transplant or replacement in kind, except as otherwise indicated on the Drawings.
   3. Property which has been damaged and replaced shall be equal in quality and workmanship to the damaged property and shall be subject to the approval of the property owner.
   4. Branches which interfere with construction may be removed, only upon approval of the Owner.
      a. Limbs and branches shall be trimmed off neatly and cleanly, close to the trunk of the tree or to its main branch. The cut surfaces shall be coated with an approved tree wound coating.

END OF SECTION

SECTION 01700

CONTRACT CLOSEOUT

PART 1 GENERAL

1.01 DESCRIPTION

A. The work of this Section consists of procedures and requirements for contract closeout, such as cleaning, restoration of project site to original condition, inspections, and guarantees.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.01 CLEANING UP

A. During its progress, the work and the adjacent areas affected thereby shall be kept cleaned up and all rubbish, surplus materials, and unneeded construction equipment shall be removed and all damage repaired so that the public and property owners will be inconvenienced as little as possible.

B. Where material or debris has washed or flowed into or been placed in water-courses, ditches, gutters, drains, catch basins, or elsewhere as a result of the Contractor's operations, such material or debris shall be entirely removed and legally disposed of during progress of the work, and the ditches, channels, drains, etc., kept in a neat, clean and functioning condition.

C. On or before the completion of the work, the Contractor shall, unless otherwise especially directed or permitted in writing, remove all rubbish from any grounds which he has occupied; and shall leave the roads and all parts of the premises and adjacent property affected by his operation in a neat and satisfactory condition.

D. Unless otherwise specifically directed or permitted in writing, the Contractor shall perform the following tasks:

1. Tear down and remove all temporary buildings and structures built by him.
2. Remove all temporary works, tools, and machinery or other construction equipment furnished by him.
3. Remove, acceptably disinfect, and cover all organic matter and material containing organic matter in, under, and around privies, houses, and other buildings used by him.
   a. Subsequent to disinfection, remove or suitably neutralize disinfectant residuals from treated area(s).
4. Remove all rubbish from any grounds which he has occupied.
5. Leave roads and all parts of premises and adjacent property affected by his operations in a neat and satisfactory condition.

3.02 RESTORATION

A. The Contractor shall restore or replace, when and as directed by the Engineer, any public or private property damaged by his work, equipment, or employees, to a condition at least equal to that existing immediately prior to the beginning of operations.
   1. To this end, the Contractor shall do as required all necessary highway or driveway, walk, and landscaping work.
   2. Suitable materials, equipment, and methods shall be used for such restoration, or as required in other divisions of this Specification.

B. In restoring the disturbed areas the Contractor shall:
   1. Replace to an equivalent depth any loam that has been removed during the excavation.
   2. Remove from the property and legally dispose of in an approved fashion all trees, brush, and other items that the Contractor has cut in order to prosecute his work.
   3. Remove from the property upon completion of the work thereon, all excess materials of construction such as stone, pipe, concrete block, gravel, etc., that the Contractor may have stockpiled for use during the course of the work.
   4. Leave the land in a smooth, even condition. All ruts, holes or other undesirable grading conditions which resulted from work under this Contract shall be filled and the area so graded to eliminate ponding.
   5. All drainage course(s) shall be restored to their pre-existing condition or better.
   6. Reset all public or private monuments, iron pipes or other types of property line and geodetic markers damaged or disturbed by operations under this Contract. This work shall be done by a licensed land surveyor at no additional cost.
   7. Repair, reset or replace as directed all pipes, walls, utilities, fences, railings, stone walls, etc., and ornamental or utilitarian domestic accessories, such as, but not limited to, arbors, fireplaces, sheds and incinerators, or other surfaces, structures, or property which may have been damaged, either directly or indirectly by his operations under this Contract.
   8. Restore to a condition at least equal to that in which they were found immediately prior to the beginning of construction all sidewalks, gutters, driveways and curbs which have been damaged by the Contractor's operations.

3.03 FINAL INSPECTION

A. At completion of all work, the Owner and Engineer, along with the General Contractor and each of the subcontractors shall conduct a final inspection jointly for "punch list" purposes and to determine the exact status of the project before final acceptance.

3.04 GUARANTEES

A. The Contractor shall take notice of special guarantees required in the technical Sections of these Specifications.
   1. If, in the opinion of the Owner, any item requires excessive maintenance during guarantee periods, the item shall be considered defective and the Contractor shall correct the defects.
   2. All defects so corrected shall be at the expense of the Contractor.

END OF SECTION

SECTION 01710

CLEANING

PART 1 GENERAL

1.01 DESCRIPTION

A. Work Included: Through the construction period, maintain the buildings and site in a standard of cleanliness as described in this Section.

B. Related Work:
1. Documents affecting work of this section include, but are not necessarily limited to, Sections in Division 1 of these Specifications.
2. In addition to standards described in this Section, comply with requirements for cleaning as described in pertinent other Sections of these Specifications.

1.02 QUALITY ASSURANCE

A. Conduct daily inspection, and more often if necessary, to verify that requirements for cleanliness are being met.

B. In addition to the standards described in this Section, comply with pertinent requirements of governmental agencies having jurisdiction.

1.03 PRODUCT HANDLING

A. Comply with pertinent provisions of Section 01610.

B. Promptly process and distribute required copies of test reports and related instructions to assure necessary re-testing and replacement of materials with the least possible delay in progress of the work.

PART 2 PRODUCTS

2.01 CLEANING MATERIALS AND EQUIPMENT

A. Provide required personnel, equipment, and materials needed to maintain the specified standard of cleanliness.

2.02 COMPATIBILITY

A. Use only cleaning materials and equipment which are compatible with the surface being cleaned, as recommended by manufacturer of the material.

PART 3 EXECUTION

3.01 PROGRESS CLEANING

A. General:
1. Retain stored items in an orderly arrangement allowing maximum access, not impending traffic or drainage, and providing required protection of materials.
2. Do not allow accumulation of scrap, debris, waste material, and other items not required for construction of this Work.
3. At least twice each month, and more often if necessary, completely remove all scrap, debris, and waste material from the job site.
4. Provide adequate storage for all items awaiting removal from the job site, observing requirements for fire protection and protection of the environment.

B. Site:
1. Daily, and more often if necessary, inspect the site and pick up all scrap, debris, and waste material. Remove such items to the place designated for their storage.
2. Weekly, and more often if necessary, inspect all arrangements of materials stacked on the site. Restack, tidy, or otherwise service arrangements to meet the requirements of subparagraph 3.01-A-1 above.
3. Maintain the site in a neat and orderly condition at all times.

C. Structures:
1. Weekly, and more often if necessary, inspect the structures and pick up all scrap, debris, and waste material. Remove such items to the place designated for their storage.
2. Weekly, and more often if necessary, sweep interior spaces clean.
   a. "Clean," for the purpose of this subparagraph, shall be interpreted as meaning free from dust and other material capable of being removed by use of reasonable effort and a hand-held broom.
3. As required preparatory to installation of succeeding materials, clean the structures or pertinent portions thereof to the degree of cleanliness recommended by the manufacturer of the succeeding material, using equipment and materials required to achieve the necessary cleanliness.
4. Following the installation of finish floor materials, clean the finish floor daily (and more often if necessary) at all times while work is being performed in the space in which finish materials are installed.
   a. "Clean," for the purpose of this subparagraph, shall be interpreted as meaning free from foreign material which, in the opinion of the Engineer, may be injurious to the finish floor material.

3.02 FINAL CLEANING

A. "Clean," for the purpose of this Article, and except as may be specifically provided otherwise, shall be interpreted as meaning the level of cleanliness generally provided by skilled cleaners using commercial quality building maintenance equipment and materials.

B. Prior to completion of the work, remove from the job site all tools, surplus materials, equipment, scrap, debris, and waste. Conduct final progress cleaning as described in Article 3.01 above.

C. Site:
   1. Unless otherwise specifically directed by the Engineer, broom clean areas on the site and public paved areas adjacent to the site.
   2. Completely remove resultant debris.

D. Structures:
   1. Exterior:
      a. Visually inspect exterior surfaces and remove all traces of soil, waste materials, smudges, and other foreign matter.
      b. Remove all traces of splashed materials from adjacent surfaces.
      c. If necessary to achieve a uniform degree of cleanliness, hose down the exterior of the structure.
      d. In the event of stubborn stains not removable with water, the Engineer may require light sandblasting or other cleaning at no additional cost to the Owner.
   2. Interior:
      a. Visually inspect interior surfaces and remove all traces of soil, waste materials, smudges, and other foreign matter.
      b. Remove all traces of splashed material from adjacent surfaces.
      c. Remove paint droppings, spots, stains, and dirt from finished surfaces.
   3. Glass: Clean inside and outside.
   4. Polished surfaces: To surfaces requiring routine application of buffed polish, apply the polish recommended by the manufacturer of the material being polished.

E. Schedule final cleaning as approved by the Engineer to enable the Owner to accept a completely clean work.

3.03 CLEANING DURING OWNER'S OCCUPANCY

A. Should the Owner occupy the Work or any portion thereof prior to its completion by the Contractor and acceptance by the Owner, responsibilities for interim and final cleaning shall be as determined by the Engineer.

END OF SECTION

INDEX

DIVISION 9 PAINTING

SECTION 09900

PAINTING

PART 1 GENERAL

1.01 DESCRIPTION - SCOPE AND SCHEDULE OF WORK

A. The Airport Tank must remain online while the coating system on the interior and exterior of the vent stub is power tool cleaned, and a new coating system is applied.

B. The term "paint" as used herein includes emulsions, enamels, paints, stains, varnishes, sealers, and other coatings, organic or inorganic, whether used as prime, intermediate or finish coats.

C. Existing Airport Water Storage Tank
1. The Airport Water Storage Tank, located at the end of Coppage Drive, Worcester, MA is a 2,000,000-gallon welded steel standpipe with a height to overflow of approximately 100 feet.

1.02 WORKING CONDITIONS

A. Under no circumstances will any painting operation be conducted when the relative humidity is 85% or above, when the temperature is within 5 degrees of the dew point, or when the surface of the steel is wet. No work is to be done during damp, foggy weather or when it is raining. All painting work should be suspended when it is anticipated the air temperature will drop below 40°F.

B. Gloves shall be worn by worker at all times to prevent contamination of the newly blasted surfaces by oils or moisture of hands.

1.03 SAFETY AND HEALTH REQUIREMENTS

A. This project is subject to all of the Safety and Health Regulations (29 CFR Part 1926 and all subsequent amendments) as promulgated by the U.S. Department of Labor on June 24, 1974, as well as 29 CFR 1910 Permit Required Confined Spaces for General Industry: Final Rule and the Contract work hours and Safety Standards Act (40 U.S.C. 327 et. seg.) as supplemented by the Department of Labor Regulations (29 CFR Part 5). CONTRACTORs are urged to become familiar with the requirements of these regulations.

B. The CONTRACTOR shall comply with the requirements and standards of the William's-Steiger Occupational Safety and Health Act of 1970 and all other state and local laws, ordinances, codes, etc., governing all work to be provided under the Contract documents.

C. General: In accordance with requirements set forth by regulatory agencies applicable to the construction industry and manufacturer's printed instructions and appropriate technical bulletins and manuals, the CONTRACTOR shall provide and require use of personnel protective lifesaving equipment for persons working in or about the project site.

1. Head and Face Protection: Equipment shall include protective helmets which shall be worn by all persons while in the vicinity of the work.
2. Temporary Ladders and Scaffolding: All temporary ladders and scaffolding shall conform to applicable safety requirements. They shall be erected where requested by the ENGINEER to facilitate observation and be moved by the CONTRACTOR to locations requested by the ENGINEER.

1.04 PROTECTION OF SURROUNDING PROPERTY

A. The CONTRACTOR shall be responsible for coordinating the removal any vehicles from the area surrounding the tank during the painting. The CONTRACTOR shall be responsible for protection of all buildings and other property surrounding the tank and guarantee by use of the necessary precautions against any damage to same caused by falling materials or paint. In any case where property is damaged, the CONTRACTOR shall correct same prior to any payment.

1.05 APPLICATION

A. The CONTRACTOR shall apply the paint to the tank by the method, which protects the surrounding homes, buildings, automobiles and any other structures or equipment and allows the Airport Tank to remain in service throughout the duration of the project.

Paint thickness and methods of application shall be as specified. If the thickness of the coatings is less than that specified, additional coats will be required.

1.06 WORKMANSHIP AND MATERIAL

A. All work and material shall be the best of its kind and shall conform to AWWA D102-78 "Painting Steel Water-Storage Tanks" and ANSI A159.1-1972, Section II, "Surface Preparation Specifications" as approved by the Steel Structures Painting Council.

1.07 SUBMITTALS

A. Schedule
1. Prior to ordering any coatings or doing any field work, the CONTRACTOR shall submit to the ENGINEER a complete listing of all products he intends to use and stating the number of coats and the dry film thickness (DFT) of each coat. All coatings to conform to materials outlined herein.

B. Color
1. The paint color shall match the existing coating on the Airport Tank.

C. Performance Criteria
1. Performance criteria indicating the proposed coating meets or exceeds ASTM test requirements for abrasion resistance, chemical resistance, adhesion, accelerated weathering; per AWWA D-102 OCS #4 requirements and any other pertinent test methods associated with water tank exterior coating performance.

1.08 GENERAL REQUIREMENTS

A. Exterior coatings shall meet current US EPA requirements for Volatile Organic

Compounds (VOC) Compliance Level. All coatings shall meet and shall limit VOCs to the maximum allowable under the current OTC VOC Compliant Regulations.

1.09 QUALITY ASSURANCE

A. General: Quality assurance procedures and practices shall be utilized to monitor all phases of surface preparation, application and observation throughout the duration of the project.

B. Surface Preparation: Surface Preparation will be based upon comparison with "Pictorial Surface Preparation Standard for Painting Steel Surfaces" SSPC-Vis 1- (Latest Version Thereof) Visual Standard for Abrasive Blast Cleaned Steel.

C. Application: No coating or paint shall be applied when the surrounding air temperature of the surface to be coated or painted is below manufacturers printed instructions; to wet or damp surfaces or in rain, snow, fog or mist; when the surface temperature is less than 5 degrees Fahrenheit above the dew point; when it is expected the air temperature will drop below recommended temperatures six hours after application of coating or paint. Dew point shall be measured by use of an instrument such as a Sling Psychrometer in conjunction with US Department of Commerce Weather Bureau Psychrometric Tables.

D. Warranty:

1. The CONTRACTOR shall obtain from the coating manufacturer a 15-year corrosion, color and gloss fluoropolymer resin warranty and submit this to the Owner following completion of work. The coating manufacturer's warranty shall include coverage against the following conditions:
   - Check, crack, blister or delaminate from the exterior substrate.
   - Allow the substrate to corrode in excess of 1% per ASTM D 610-95 for a period of 5 years, then no more than 0.5% per year for the balance of the warranty period.
   - Change color more than 5 DE Units as determined per ASTM D 2244.
   - The exterior shall not exhibit loss of gloss in excess of 24 Units per ASTM D523-89 with 60 degree geometry.
   - The exterior shall not chalk in excess of a rating of 8 as measured per ASTM D 4214 Method A.

PART 2 PRODUCTS

2.01 GENERAL

A. The materials and products specified herein are manufactured by the Tnemec Company. Approved may be acceptable and may be requested for substitution upon written request to the ENGINEER or OWNER during the submittal process.

B. Coating Systems shall conform to all current regulations and standards carrying the appropriate approvals from N.S.F. (National Sanitation Foundation) Standard 61 for Coatings and Linings. All exterior coatings shall meet all current U.S.E.P.A Requirements for V.O.C. (Volatile Organic Compounds) Compliance Level.

C. All materials shall be brought to the jobsite in original sealed containers. They shall not

be used until the ENGINEER has observed contents and obtained data from information on containers or label. Materials exceeding storage life recommended by the manufacturer shall be rejected.

D. All coatings and paint shall be stored in enclosed structures to protect them from weather and excessive heat or cold. Flammable coatings or paint must be stored to conform with City, County, State and Federal safety codes for flammable coating or paint materials. At all times, coatings and paint shall be protected from freezing.

2.02 COATING SYSTEM

A. Surface Preparation: Spot clean as required to remove all oil and grease from the surface prior to power tool cleaning. All surfaces shall be power tool cleaned in accordance with the recommended methods outlined in SSPC-SP 3 Power Tool Cleaning.

B. Primer Coat: Immediately after power tool cleaning and before any rusting occurs (within 8 hour maximum) apply one coat of TNEMEC Series 135 Chembuild or equal, to a dry film thickness (DFT) range of 5.0 to 6.0 mils.

C. Intermediate Coat: Apply one coat of TNEMEC Series 135 Chembuild to a DFT range of 5.0 to 6.0 mils.

D. Finish Coat: Apply one coat of Tnemec Series 1095 Endurashield to a DFT range of 2.5-3.5 mils.

E. The total DFT range of the three coat Paint System shall be 12.5-15.5 dry mils.

2.03 100 PERCENT SOLIDS EPOXY PIT FILLER

A. 100 percent solids epoxy pit/rivet-head filler shall be Tnemec series 215, or equal.

PART 3 EXECUTION

3.01 GENERAL

A. The CONTRACTOR, in submitting his bid, acknowledges that he is aware of the importance associated with the containment and disposal requirements and that he accepts the responsibility for providing environmental protection to the satisfaction of the OWNER and the state and local governing agencies.

B. All surface preparation, coating and painting shall conform to applicable standards of the Steel Structures Painting Council, and the manufacturer's printed instructions. Materials applied prior to approval of the surface by the ENGINEER shall be removed and reapplied to the satisfaction of the ENGINEER at the expense of the CONTRACTOR.

C. Dust, dirt, oil, grease or any foreign matter that will affect the adhesion or durability of the finish must be removed by washing with clean rags dipped in an approved cleaning solvent and wiped dry with clean rags.

D. Coating and painting systems include surface preparations, prime coating and finish

coatings. Prime coating shall be field applied.

E. The CONTRACTOR's coating and painting equipment shall be designed for application of materials specified and shall be maintained in first class working condition. Compressors shall have suitable traps and filters to remove water and oils from the air.

F. Application of the first coat shall follow immediately after surface preparation and cleaning within an eight (8) hour workday. Any cleaned areas not receiving a first coat within an eight (8) hour period or is exhibiting "Rust Bloom" shall be re-cleaned prior to application of the first coat.

3.02 ITEMS TO BE PAINTED

A. The interior and exterior of the center stub for the tank vent.

3.03 SPOT COATING

A. Edges of the existing coating system shall be feathered to provide a tight bond between the existing coatings and the new primer.

B. Any coatings that lift during this process shall be reground and recoated.

3.04 PAINTING

A. All paints and coatings shall be applied strictly in accordance with the manufacturer's instructions with regard to surface preparation, pretreatments, mixing and thinning, temperature of material and substrate, curing or drying times before recoating, and all similar recommendations. Where pretreatments or subsequent coats required for film build with the products specified are omitted by virtue of the manufacturer's recommendations, a credit will be taken by the OWNER for each coat omitted.

B. No painting shall be done when temperatures are below 40°F, and no epoxy painting shall be done when temperature is less than 40°F. In general, the temperature shall be as recommended by the manufacturer in the product data sheets.

C. Manufacturer's Product Data Sheets are to be incorporated as part of this specification and the Material Safety Data Sheets (MSDS) on all applicable paint materials and solvents shall be available and posted prior to commencement of work.

D. All painting practices shall be in complete accordance with the normal standards of good painting practice as outlined by the Steel Structures Painting Council in the SSPC Manuals Volume 1 and 2.

E. The manufacturer's recommended drying time and application procedure will be strictly adhered to.

F. The coatings are to be cured in accordance with Manufacturer's recommendations, at the end of which time a solvent rub test will be performed to test the state of cure. If the coatings are not fully cured additional cure times will be outlined.

G. The OWNER shall select the color(s) of the finish coats from color charts submitted by the CONTRACTOR. The intermediate and finish coat colors shall have sufficient color contrast to act as an indicator of coverage.

H. The CONTRACTOR is to provide a void free continuous coating.

3.05 STEAM CLEANING

A. All painted surfaces shall be steam cleaned upon completion of final coating.

3.06 TESTING

A. The OWNER reserves the right to require holiday testing. If required, only a wet sponge detector which operates at 75 volts maximum, such as a Tinker and Rasar, or KD Bird Dog shall be used. High voltage jeep detectors shall not be used. The CONTRACTOR will be required to recoat any thin spot detected or make other repairs as a part of the work of the contract. The CONTRACTOR shall have wet film thickness gauges available for the duration of the painting operations.

END OF SECTION

REHABILITATION OF WATER STORAGE TANKS
CONTRACT NO. 5
BID NO. 8568-J6

INDEX

DIVISION 13 SPECIAL CONSTRUCTION

SECTION 13200

CONCRETE WATER TANK REHABILITATION

PART 1 GENERAL

1.01 WORK INCLUDED

A. This section specifies the design and construction of the rehabilitation and retrofit work to be completed on the existing four of the City of Worcester's concrete water storage tanks; including all site work, concrete tank cleaning, application of new coatings, concrete work and appurtenances, and disinfections directly related to the tank unless otherwise specified.

B. Summary of Work

1. The North Clearwell, located at #268 Olean Street, Worcester, MA is a 2.75 mg precast prestressed concrete tank constructed in 1995 with a diameter of 100 feet and a height of 38 feet.
   a. Exterior cleaning of the tank wall and dome.
   b. Installation of a new exterior ladder with ladder gates.
   c. New handrail around the dome access hatch.
   d. Installation of dome safety cable.
2. The South Clearwell, located at #268 Olean Street, Worcester, MA is identical to the North Clearwell.
   a. Exterior cleaning of the tank wall and dome.
   b. Installation of a new exterior ladder with ladder gates.
   c. New handrail around the dome access hatch.
   d. Installation of dome safety cable.
3. The Millstone Concrete Tank, located off Skyline Drive, Worcester, MAadjacent to the Millstone Steel Tank. It is a 2.12 mg precast prestressed concrete tank constructed in 1995 with a diameter of 38 feet and a height of 34 feet.
   a. Exterior cleaning of the tank wall and dome.
   b. Installation of a new exterior ladder with ladder gates.
   c. New handrail around the dome access hatch.
   d. Installation of dome safety cable.
4. The Washwater Tank, located at the Worcester Water Filtration Plant, 71 Stonehouse Hill Road, Holden, MA is a 0.32 mg prestressed precast concrete tank and was constructed in 1994 with a diameter of 38 feet and a height of 31 feet.
   a. Exterior cleaning of the tank wall and dome.
   b. Installation of a new exterior ladder with ladder gates.
   c. New handrail around the dome access hatch.
   d. Installation of dome safety cable.

C. Site Observation

1. Prospective bidders shall be responsible for visiting the site to investigate the nature of the work to be performed. Scheduling of site visits shall be made with Mr. Kevin Scherer, Water Supply Manager, Worcester Department of Public Works, telephone: (508) 829-4811.

1.02 RELATED WORK

A. Documents affecting work of this Section include.
   1. Appendix A Tank Condition Assessment Reports

1.03 QUALITY ASSURANCE

A. Qualifications & Experience
   1. The Contractor shall be a specialist tank contractor experienced in the rehabilitation of AWWA D-110 Type II and III tanks, having rehabilitated, in their own name, at least 10 tanks in the last 10 years of equal size or greater, which have been in successful service for a minimum of five (5) years, and shall have restored at least five (5) tanks with deteriorated concrete / shotcrete walls and or domes within the last five (5) years at least five (5) of which required the re-tensioning of and or replacement of damaged prestress wire.

1.04 SUBMITTALS

A. Comply with requirements of Section 01300.

B. Construction Submittals for Review Prior to Use:
   1. Design proportions for all concrete and shotcrete and concrete strengths of trial mixes for all concrete including manufacturer's technical data on all manufactured products including preparation, installation, application, finishing and curing procedures, and temperature limitations. Submit detailed surface preparation method and procedure complying with manufacturer's recommendations.
   2. Admixtures to be used in the concrete and their purpose.
   3. Shop drawings shall be stamped by Professional ENGINEER, experienced in the design of AWWA D110, Type III tanks and registered in the State of Massachusetts.

C. Codes & Standards
   All Codes shall be considered the most current version of that code unless noted otherwise.
   1. ACI 301 Specifications for Structural Concrete
   2. ACI 305 Hot Weather Concreting
   3. ACI 306 Cold Weather Concreting
   4. ACI 309R Guide for Consolidation of Concrete
   5. ACI 318 Building Code Requirements for Reinforced Concrete and Commentary
   6. ACI 350 Code Requirements for Environmental Engineering Concrete Structures and Commentary
   7. ACI 350.3 Seismic Design of Liquid Containing Concrete Structures and Commentary
   8. ACI 372R Design and Construction of Circular Wire- and Strand Wrapped Prestressed Concrete Structures
   9. ACI 506R Guide to Shotcrete
   10. ASTM A185 Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete ASTM A416 Standard Specification for Steel Strand, Uncoated Seven-Wire for Prestressed Concrete ASTM A421/A421M Standard Specification for Uncoated Stress-Relieved Steel Wire for Prestressed Concrete
   11. ASTM A416 Standard Specification for Steel Strand, Uncoated Seven-Wire for Prestressed Concrete

12. ASTM A421/A421M Standard Specification for Uncoated Stress-Relieved Steel Wire for Prestressed Concrete
13. ASTM A475 Standard Specification for Zinc-Coated Steel Wire Strand
14. ASTM A615/A615M Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
15. ASTM A706/A706M Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement
16. ASTM A821 Standard Specification for Steel Wire, Hard Drawn for Prestressing Concrete Tanks
17. ASTM A1008/A1008M Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable
18. ASTM C31 Standard Practice for Making and Curing Concrete Test Specimens in the Field
19. ASTM C33 Standard Specification for Concrete Aggregates
20. ASTM C39 Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
21. ASTM C231 Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
22. ASTM C920 Specification for Elastomeric Joint Sealants
23. ASTM D1056 Standard Specification for Flexible Cellular Materials – Sponge or Expanded Rubber
24. ASCE Standard 7 Minimum Design Loads for Buildings and Other Structures
25. AWWA C652 Standard for Disinfection of Water-Storage Facilities
26. AWWA D110 Wire and Strand Wound, Circular, Prestressed Concrete Water Tanks

1.05 WORK SCHEDULE

A. Within ten (10) days of notification of award of the contract, the Contractor shall submit to the Owner a detailed schedule showing dates when each work task is planned to begin and end.

1.06 GUARANTEE

A. The Contractor shall guarantee the work against defective materials or workmanship for a period of one (1) year from the date of final completion. If any materials or workmanship prove to be defective within one (1) year, they shall be replaced or repaired by the Contractor at the Contractor's expense.

1.07 DELIVERY, STORAGE AND HANDLING

A. Store all materials in cool, dry conditions in the original unopened bags or cans, and in strict accordance with manufacturer's directions. Do not use materials that have been stored for periods longer than the manufacturer's recommended shelf life.

PART 2 PRODUCTS

2.01 CONCRETE

A. Concrete shall conform to ACI 301.

B. Cement shall be Portland cement Type I or Type II.

C. Admixtures, other than air-entraining, superplasticizers, shrinkage reducing and water reducing admixtures will not be permitted unless approved by the Engineer.

D. Proportioning for concrete shall be in accordance with ACI 301.

E. All concrete shall have a maximum water-soluble chloride ion concentration of 0.06% by weight of cementitious material.

2.02 REINFORCING STEEL

A. Reinforcing steel shall be new billet steel Grade 60, as shown on the Drawings, meeting the requirements of ASTM A615. Welded wire fabric and weldable reinforcing steel shall conform to ASTM A185 and ASTM A706, respectively.

B. Reinforcing steel shall be accurately fabricated and shall be free from loose rust, scale, and contaminants, which reduce bond.

C. Reinforcing steel shall be accurately positioned on supports, spacers, hangers, or other reinforcements and shall be secured in place with wire ties or suitable clips. Rebar chair supports may be either steel with plastic tips, turned up legs or plastic.

2.03 POLYURETHANE GROUT INJECTION

A. Injection Grout
1. Hydro Active Flex LV by deNeef Construction Chemicals, Inc., Waller, TX.
2. SikaFix HH LV by Sika Corporation, Inc., Lyndhurst, NJ.
3. AV-202 Multigrout by Avanti International, Webster, TX.
4. Or equivalent.

2.05 APPURTENANCES

A. Exterior Ladder
1. The ladder shall be aluminum 6061-T6 ladder extending from twelve feet above finished grade to the tank roof.
2. The ladder shall have a stainless-steel OSHA approved fall prevention device consisting of s sliding locking mechanism and safety belt.
3. The ladder shall be equipped with a lockable safety door made from 6061-T6 aluminum.

B. Dome Handrail
1. All fittings shall be Hollaender speed rail system, or equal. Towboard shall be attached using Hollaender clips, or equal.
2. All posts and rails shall be 6061-T6 Schedule 80 anodized aluminum pipe.
3. Stainless steel anchors shall be used to connect the handrail system to the tank dome.

4. Aluminum Dome Railings: 42 inches in height, as shown on the drawings.

C. Dome Safety System
1. Dome safety line system shall be Xenon Horizontal System by Miller. The cable and system components shall be stainless steel.
2. The D Ring tie off anchors shall be model 417SS by Miller.
3. The intermediate supports shall be provide to insure the safety line does not rest on the dome. Intermediate supports shall be 6061-T6 or stainless steel.
4. Stainless steel anchors shall be used to connect the lifeline system to the tank dome.

PART 3 EXECUTION

3.01 SHOTCRETE AND CONCRETE RESTORATION

A. Removal of Unsound Shotcrete/Concrete
1. Sound the exterior of the tank wall to determine the condition of the shotcrete cover coat.
2. Remove loose and unsound shotcrete/concrete with appropriate chipping hammer to sound shotcrete with a minimum depth of 3/8 in. over the complete repair area, except do not cut any sound (substantially uncorroded) mesh reinforcing.
3. Hollow or drummy shotcrete shall be inspected and remain if found to be not deteriorated or cracked.

B. Surface Preparation
1. Clean the surface by removing any dust, unsound or contaminated material, laitance, and corrosion deposits. Clean loose corrosion deposits from exposed reinforcing. Where chipping is not required to remove unsound material, roughen the surface and remove any laitance by light scrabbling. High-pressure wash with clean water, at a minimum pressure of 3,500 psi, prior to priming exposed reinforcing and substrate.

C. Prime exposed existing reinforcing steel by applying one full coat of approved priming material. Allow to dry before applying patching. If any doubt exists about having achieved an unbroken coating, a second application shall be made and, again, allowed to dry before applying patching.

D. Prime substrate after it is saturated surface dry (i.e.: thoroughly soaked with clean water and any excess water removed) with a slurry of the repair mortar in accordance with the manufacturer's directions. Using a stiff mason's brush, the slurry shall be scrubbed into the substrate where access is not impeded by new wire mesh reinforcing. The repair mortar shall be installed as soon as the slurry becomes tacky and before it dries.

E. Mix patching mortar in strict accordance with manufacturer's directions. Use only material from original bags and containers.

F. Application of patching mortar.
1. Exposed steel reinforcing bars and welded wire fabric shall be firmly secured to avoid movement during the application process, as this will affect mortar compaction, build and bond.

2. Apply the patching mortar to the prepared substrate by gloved hand or trowel. First, work a thin layer of the mortar into the slurry and then build the mortar onto this layer. Thoroughly compact the mortar onto the primed substrate and around the exposed reinforcement.
3. Apply the patching mortar in strict accordance with the manufacturer's directions.
4. If sagging occurs during applications, the patching mortar shall be completely removed and reapplied at a reduced thickness onto the correctly re-primed substrate.

G. Finish the patching mortar by striking off with a straight edge and closing with a steel float. Finishing the shotcrete surface shall be a nozzle or gun finish. The completed surface shall not be overworked.

H. Low temperature conditions: In cold weather, normal precautions for winter when working with cementitious materials shall be adopted. The material shall not be applied when the substrate and/or air temperature is 45°F (7°C) and falling. At 45°F (7°C) static temperature or at 45°F (7°C) and rising, the application may proceed. Do not apply if the temperature is expected to fall below 45°F (7°C) within 24 hours of application. Comply with manufacturer's directions for cold weather applications.

I. High temperature conditions at ambient temperatures about 80°F (26°C), the materials shall be stored in the shade. Comply with manufacturers' directions for hot weather applications.

J. Water cure finished surfaces of patches using fine mist spray or wet burlap against surface for a minimum of seven (7) days after initial set of patch material.

K. Cure finished surfaces of interior patches by method acceptable to owner.

L. Store all materials in cool, dry conditions in the original unopened bags or cans, and in strict accordance with manufacturer's directions. Do not use materials that have been stored for periods longer than the manufacturer's recommended shelf life.

3.02 POLYURETHANE GROUT INJECTION

A. General
1. All cracks or joints exhibiting any form of leakage (efflorescence, dampness, weeping, or flowing) shall be sealed to eliminate liquid infiltration through the cracks or joints as identified by the Engineer. This includes leaks that develop after completion of a portion or all of the grouting.

B. Injection Equipment
1. The pumps used for pressure water and grout injection shall be capable of providing pressures at the injection gun or nozzle of up to 1,000 psig, and the gun shall be fitted with a gauge for measuring the injection pressure. Check valves shall be placed in the hoses at the proper locations to prevent backflow (a reversal in the direction of flow) and unintentional formations of foam or gel. Follow manufacturer's current printed recommendation for equipment utilized for addition of accelerator.

C. Surface Preparation

1. Use suitable tools and equipment to remove any and all deleterious materials from within cracks and joints to be treated including, but not limited to, coatings/resurfacers, mold, mildew, dirt, grease and efflorescence in order to expose the full length of the crack or joint.

D. Injection Grout Procedures

1. Drill 5/8-in diameter holes around the leak's exit path starting at the bottom of the leak, crack or joint and continuing upward. Placement of holes will require the experience and discretion of the grouters and shall be subject to the approval of the Engineer.
2. Holes shall be drilled directly into leak path or at a 45-degree angle to intersect cracks or joints in the concrete by starting drill holes 2 to 6-inches away from leaking cracks or joints and drilling sufficiently deep to intersect the leak path.
3. Set and tighten mechanical packers in the holes.
4. Pump water only through the packers to determine if communication has been achieved between packers and crack or joint.
5. Pump the grout at approximately 50 to 100 psig using a staged or stepped grouting procedure by pumping grout into a packer and closely watching the response signs at the leak area. Higher pressures shall only be used when cracks are very tight or when injecting deep (10-inches to 12-inches) into the holes in the concrete. Continue to pump from packer to packer allowing approximately 2 to 5 minutes for gel time for the grout until gas bubbles are pushed out the leak's exit path followed by the flow of liquid grout and then foam. When foaming occurs, pump more grout through each packer around the leak and wait until the leak is fully sealed (5 to 30 minutes depending on temperature). If liquid grout flow continues out a leak's exit for more than approximately 30 seconds, oakum shall be chinked or compressed into the leak to aid the grout's gel time as a dam.
6. If grout does not exude from the full length of the crack or joint, drill additional 5/8-in diameter holes, install packers and inject water and grout until complete sealing of the crack or joint has been achieved.
7. Once water cut-off has been achieved, the packers shall be completely removed. Holes shall be cleaned of residual polyurethane grout to a minimum depth of ¾", as measured from the face of the concrete surface, and filled with concrete repair material per Section 2.01.

3.03 EXTERIOR TANK CLEANING

A. High Pressure Water Washing & Surface Preparation

1. High-pressure wash exterior surfaces of dome, dome ring, and tank wall to remove all foreign matter, efflorescence, dust, dirt, laitance or other surface contaminants. Minimum water pressure shall be 3,000 psi and the maximum water pressure shall be 5,000 psi.
2. After completion of the high pressure washing, low-pressure wash exterior surface as required with a 5% chlorine solution and thoroughly rinse with clean water to kill any algae, fungus or other surface contaminants.

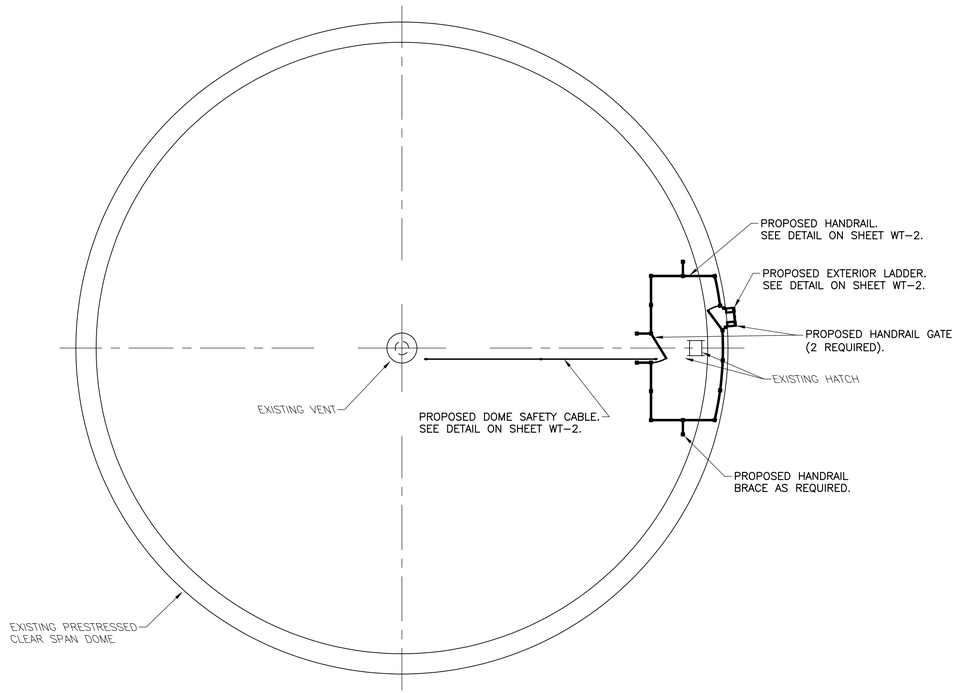
3.04 APPURTENANCES

A. Roof Handrail
   1. Install the new aluminum handrail system onto the tank roof in accordance with the approved shop drawings.
   2. The roof handrail system shall enclose the area around the roof access hatch with gated opening at the front and rear for access.

B. Exterior Ladder
   1. Install and attach the aluminum 6061-T6 ladder onto the exterior tank wall in accordance with the approved shop drawings.
   2. Install the ladder fall prevention device in accordance with the manufacturer's literature.
   3. Install the ladder security door in accordance with the manufacturer's literature.
   4. Ladder to begin 12 feet above finished grade.

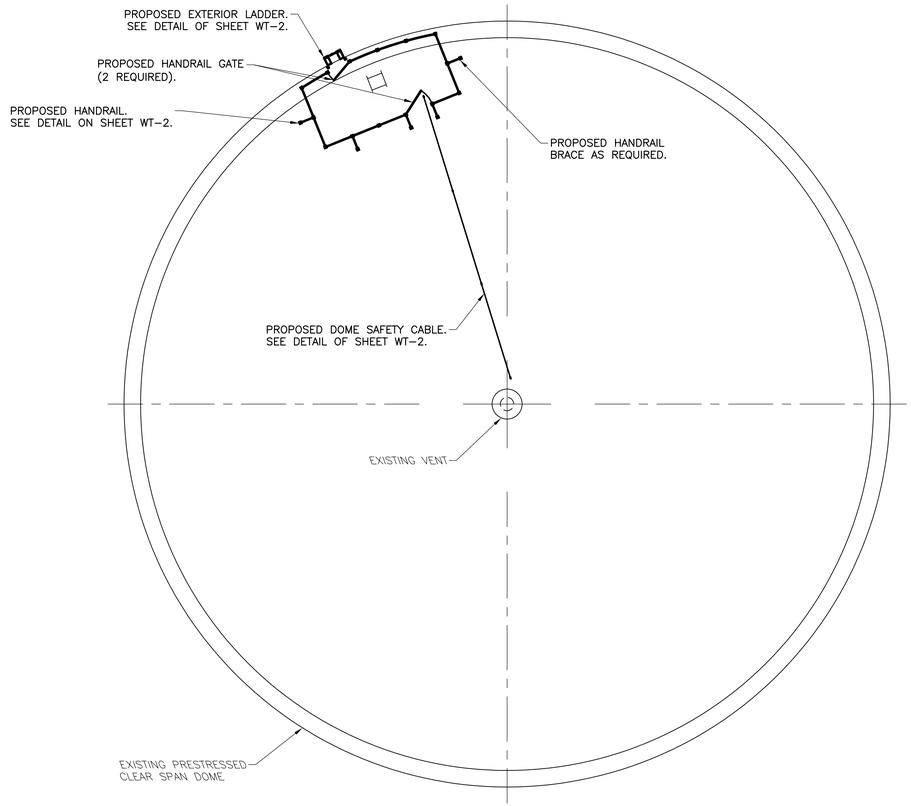
C. Dome Safety System
   1. Install and attach the new stainless steel dome safety lifeline system onto the tank roof in accordance with the approved shop drawings.
   2. Supply two harnesses, lanyards and product literature to the Owner.

END OF SECTION



MILLSTONE CONCRETE DOME PLAN

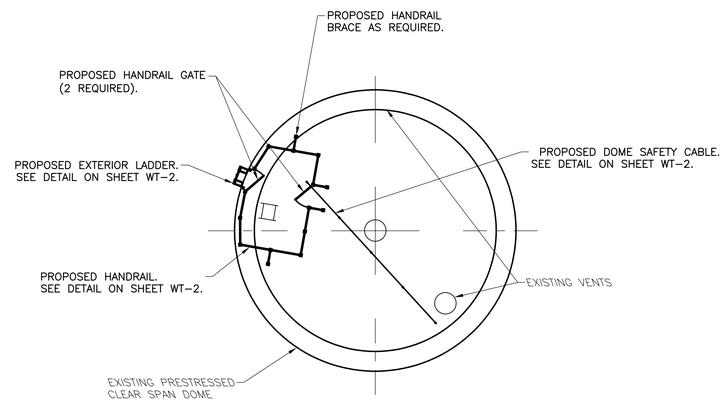
NOT TO SCALE



NORTH CLEARWELL AND SOUTH CLEARWELL DOME PLAN

NOT TO SCALE

NOTE: NEW EXTERIOR LADDERS, EXACT LOCATIONS TO BE CONFIRMED WITH THE CITY PRIOR TO INSTALLATION.



WASHWATER TANK DOME PLAN

NOT TO SCALE

CITY OF WORCESTER,
MASSACHUSETTS

WATER STORAGE TANKS
REHABILITATION

CIVIL
WATER STORAGE
TANK DETAILS I

Drawn By:LNM | Designed By:SHD | Checked By:JWC | Approved By:SHD

Rev. | Date | Description

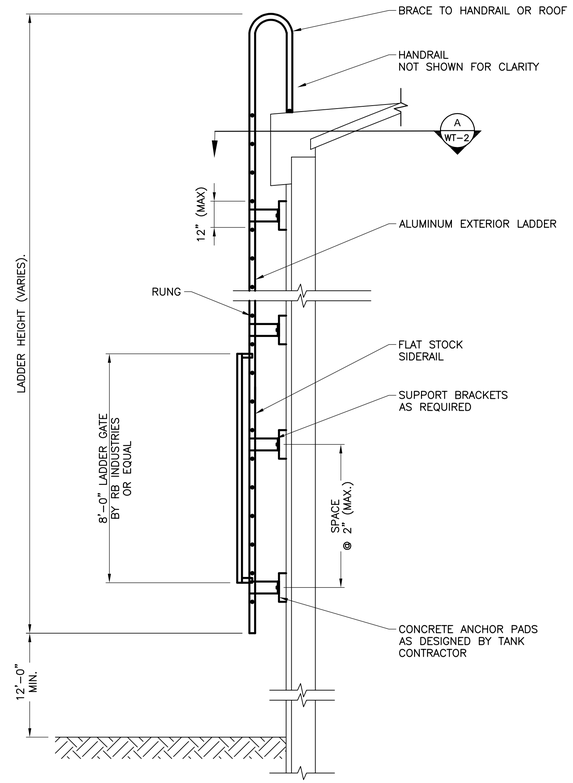
COMMONWEALTH OF MASSACHUSETTS
STEVEN N. DAUNAIS
CIVIL
No. 49580
REGISTERED PROFESSIONAL ENGINEER
10/6/2025

TATA & HOWARD

T&H NO.: 7752
DATE: OCTOBER 2025
SCALE:AS NOTED

WT - 1

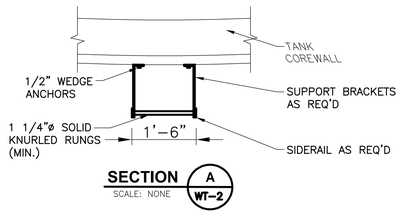
P:\Worcester\7752 Tank Repairs\CADD\C-1 Cover.dwg 10/6/2025 11:36 AM KCALHOUN



EXTERIOR LADDER

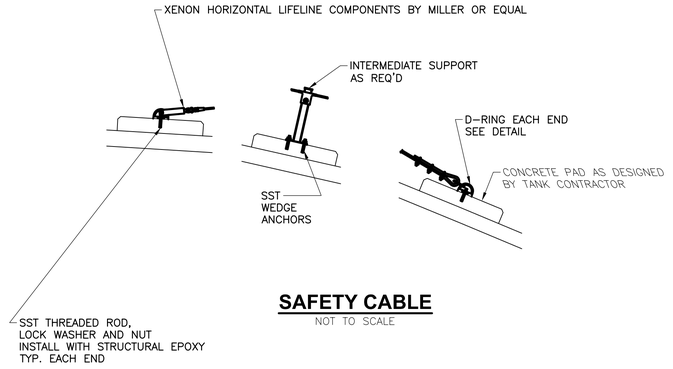
NOT TO SCALE

NOTES:
1. ALL MATERIAL FOR EXTERIOR LADDER, SIDERAILS, RUNGS AND BRACKETS TO BE 6061–T6 ALUMINUM.
2. OSHA COMPLIANT FALL PREVENTION DEVICE SHALL BE INSTALLED (316 STAINLESS STEEL).
3. LADDER RUNGS TO BE SOLID BARS AND KNURLED.
4. ALL WELDS TO BE 3/16" MINIMUM.
5. ALL ALUMINUM IN CONTACT WITH CONCRETE MUST BE COATED WITH A HEAVY BITUMASTIC COATING, EPOXY PAINT OR SHIMMED USING PVC.
6. USE SST WEDGE ANCHORS FOR ALL CONNECTIONS TO CONCRETE UNLESS NOTED OTHERWISE.
7. WHERE 316 STAINLESS STEEL BOLTS ARE IN CONTACT WITH DISSIMILAR METALS, USE INSULATING SLEEVES AND PHENOLIC WASHERS TO ELECTRICALLY ISOLATE THE BOLTS.
8. WHERE 316 STAINLESS STEEL BOLTS ARE PLACED IN THE WALL EXTERIOR, DRILL AND PLACE AFTER WRAPPING AND BEFORE FINAL SHOTCRETING.



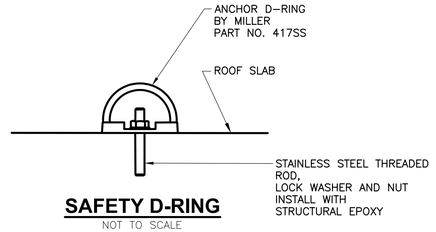
SECTION A WT-2

SCALE: NONE



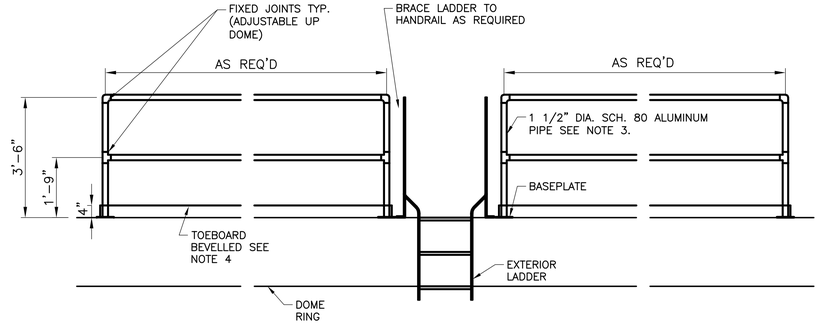
SAFETY CABLE

NOT TO SCALE



SAFETY D-RING

NOT TO SCALE



HANDRAIL ELEVATION

NOT TO SCALE

NOTES:
1. ALL MATERIAL FOR RAILS AND POSTS TO BE 6061–T6 ALUMINUM.
2. HANDRAIL FITTINGS SHALL BE SPEEDRAIL BY HOLLAENDER, INC OR EQUAL.
3. HORIZONTAL RAILS AND POSTS TO BE 1 1/2" SCH 80 PIPE.
4. HOLLAENDER BEVELED TOE BOARD SHALL BE ATTACHED TO FRONT RAIL.
5. USE SST FOR ALL BOLTS UNLESS NOTED OTHERWISE.
6. USE SST WEDGE ANCHORS FOR ALL CONNECTIONS TO CONCRETE UNLESS NOTED OTHERWISE.

CITY OF WORCESTER,
MASSACHUSETTS

WATER STORAGE TANKS
REHABILITATION

CIVIL
WATER STORAGE
TANK DETAILS II

Drawn By:LNM | Designed By:SHD | Checked By:JWC | Approved By:SHD

Rev | Date | Description

COMMONWEALTH OF MASSACHUSETTS
STEVEN H DAUNAIS
CIVIL
No. 49400
REGISTERED PROFESSIONAL ENGINEER

TATA & HOWARD

T&H NO.: 7752
DATE: OCTOBER 2025
SCALE:AS NOTED

WT - 2

REHABILITATION OF WATER STORAGE TANKS
CONTRACT NO. 5
BID NO. 8568-J6

The following unit prices as defined in the Contract Documents are designated for items of work on the basis of quantities estimated by the ENGINEER. The unit or lump sum price shall be entered in both words and figures in the appropriate space for each item description. Actual payment for unit price items will be for actual quantity of each item, approved by the ENGINEER, at the unit price bid.

ITEM NO	ESTIMATED QUANTITY	ITEM DESCRIPTION AND UNIT AND LUMP SUM PRICES IN WORDS	UNIT PRICES DOLLARS/CENTS IN FIGURES	EXTENDED AMOUNT DOLLARS/CENTS IN FIGURES
1	L.S.	Mobilization and Demobilization _____ Lump Sum in Words	$ _____	$_____
2	L.S.	Millstone Concrete Tank _____ Lump Sum in Words	$ _____	$_____
3	L.S.	North Clearwell _____ Lump Sum in Words	$ _____	$_____
4	L.S.	South Clearwell _____ Lump Sum in Words	$ _____	$_____
5	L.S.	Washwater Tank _____ Lump Sum in Words	$ _____	$_____
6	L.S.	Airport Tank _____ Lump Sum Foot in Words	$ _____	$_____
7	L.S.	Millstone Steel Tank _____ Lump Sum Foot in Words	$ _____	$_____

TOTAL AMOUNT OF BID ITEMS 1 THRU 7 FOR COMPARISON OF BIDS

_____Dollars ($_____)
(In Words) (In Fig

Respectfully Submitted:

_____ _____
Signature Address

_____ _____
Title Date

_____
License No. (If Applicable)

Seal - (If Bid is By Corporation)

Bidders shall submit the following completed forms with their bid:

1. Bid Bond
2. Water Tank Painting Qualifications

Failure to submit the Bid Bond with the Bid Form shall be cause for rejection of the Bid Form.

WATER TANK PAINTING QUALIFICATIONS

The following information is required by all bidders and must be presented with each proposal. The bidder is to complete all information associated with ten (10) prestressed concrete projects of similar nature to the project specified herein.

PLEASE LIST WATER TANK PROJECTS ONLY.

1.

Water Storage Tank Location: _____
Water Storage Tank Size: _____
Water Superintendent's Name: _____
Address: _____
Telephone: _____
Description of Work Completed by Bidder: _____

_____
_____
_____

Project Cost: _____
Date of Work: _____

2.

Water Storage Tank Location: _____
Water Storage Tank Size: _____
Water Superintendent's Name: _____
Address: _____
Telephone: _____
Description of Work Completed by Bidder: _____

_____
_____
_____

Project Cost: _____
Date of Work: _____

3.

Water Storage Tank Location: _____

Water Storage Tank Size: _____

Water Superintendent's Name: _____

Address: _____

Telephone: _____

Description of Work Completed by Bidder: _____

_____

_____

_____

Project Cost: _____

Date of Work: _____

4.

Water Storage Tank Location: _____

Water Storage Tank Size: _____

Water Superintendent's Name: _____

Address: _____

Telephone: _____

Description of Work Completed by Bidder: _____

_____

_____

_____

Project Cost: _____

Date of Work: _____

5.

Water Storage Tank Location: _____

Water Storage Tank Size: _____

Water Superintendent's Name: _____

Address: _____

Telephone: _____

Description of Work Completed by Bidder: _____

_____

_____

_____

Project Cost: _____

Date of Work: _____

6.

Water Storage Tank Location: _____

Water Storage Tank Size: _____

Water Superintendent's Name: _____

Address: _____

Telephone: _____

Description of Work Completed by Bidder: _____

_____

_____

_____

Project Cost: _____

Date of Work: _____

7.

Water Storage Tank Location: _____

Water Storage Tank Size: _____

Water Superintendent's Name: _____

Address: _____

Telephone: _____

Description of Work Completed by Bidder: _____

_____

_____

_____

Project Cost: _____

Date of Work: _____

8.

Water Storage Tank Location: _____

Water Storage Tank Size: _____

Water Superintendent's Name: _____

Address: _____

Telephone: _____

Description of Work Completed by Bidder: _____

_____

_____

_____

Project Cost: _____

Date of Work: _____

9.

Water Storage Tank Location: _____

Water Storage Tank Size: _____

Water Superintendent's Name: _____

Address: _____

Telephone: _____

Description of Work Completed by Bidder: _____

_____

_____

_____

Project Cost: _____

Date of Work: _____

10.

Water Storage Tank Location: _____

Water Storage Tank Size: _____

Water Superintendent's Name: _____

Address: _____

Telephone: _____

Description of Work Completed by Bidder: _____

_____

_____

_____

Project Cost: _____

Date of Work: _____

END OF BID FORM