
PROTECTIVE COATINGS IDIQ
STATEMENT OF WORK/SPECIFICATIONS

SECTION C
PROTECTIVE COATING IDIQ SPECIFICATIONS

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1 GENERAL

1.01 Overview

- A. The Bureau of Reclamation, Lower Colorado Dams Office, has a requirement for the application of protective coatings to mitigate corrosion on turbine generators, water tanks and other power plant equipment and steel structures at Hoover Dam, located on the Colorado River, approximately 7 miles northeast of Boulder City, Nevada, and 32 miles southeast of Las Vegas, Nevada, in Clark County, Nevada and Mohave County, Arizona. There may also be task orders issued for two other facilities on the Lower Colorado River, one at Davis Dam which operates in Nevada/Arizona and the other at Parker Dam which operates in Arizona/California.
- B. The areas of steel to be coated vary depending on the work schedule. In some years, less than 100 square feet is coated, whereas in other years several thousand square feet are coated. Coating work is often scheduled within specific timeframes to ensure that coating does not interfere with other critical-path major maintenance schedules at each Dam.
- C. The principal components of the work include the following:
 - 1. Surface preparation and application of protective coatings.
 - 2. Erection of containment systems during preparation and application operations.
 - 3. Erection of scaffolding if specified in the Task Order.
 - 4. Diversion of leakage water if specified in the Task Order.
 - 5. Abatement of coatings containing lead or other heavy metals if specified in the Task Order.

1.02 Definitions

1.	CO	Contracting Officer
2.	COR	Contracting Officer's Representative
3.	JHA	Job Hazard Analysis
4.	PPE	Personal Protective Equipment
5.	RSN	Required Submittal Number
6.	SDS	Safety Data Sheet
7.	SOW	Statement of Work
8.	Days	Calendar days, unless otherwise specified

1.03 Reference Standards

- A. Use the most recent edition of the standards listed in this Section.
- B. American National Standards Institute (ANSI)
 - 1. ANSI A10.8 Scaffolding Safety Requirements
- C. ASTM International (ASTM)
 - 1. ASTM C920 Elastomeric Joint Sealants

2.	ASTM D870	Testing Water Resistance of Coatings Using Water Immersion
3.	ASTM D3359	Measuring Adhesion by Tape Test
4.	ASTM D4285	Indicating Oil or Water in Compressed Air
5.	ASTM D4417	Field Measurement of Surface Profile of Blast Cleaned Steel
6.	ASTM D4541	Pull-Off Strength of Coatings Using Portable Adhesion Testers
7.	ASTM E1728	Collection of Settled Dust Samples Using Wipe Sampling Methods for Subsequent Lead Determination
D.	Code of Federal Regulations (CFR)	
1.	29 CFR 1910.1025	Lead
2.	29 CFR 1926.32 (f)	Definitions – Competent Person
3.	29 CFR 1926.55	Gases, Vapors, Fumes, Dusts, and Mists
4.	29 CFR 1926.62	Lead
5.	29 CFR 1926.1118	Inorganic Arsenic
6.	29 CFR 1926.1127	Cadmium
7.	40 CFR 117	Determination of Reportable Quantities for Hazardous Substances
8.	40 CFR 260	Hazardous Waste Management System: General
9.	40 CFR 261	Identification and Listing of Hazardous Waste
10.	40 CFR 262	Standards Applicable to Generators of Hazardous Waste
11.	40 CFR 263	Standards Applicable to Transporters of Hazardous Waste
12.	40 CFR 264	Standards for Owners and Operators of Hazardous Waste Treatment, Storage, Disposal Facilities
13.	40 CFR 268	Land Disposal Restrictions
14.	40 CFR 300	National Oil and Hazardous Substances Pollution Contingency Plan
15.	40 CFR 302	Designation, Reportable Quantities, and Notification
16.	49 CFR 107	Hazardous Materials Program Procedures
17.	49 CFR 178	Specifications for Packagings

18.	49 CFR Chapter I	Research and Special Programs Administration, Department of Transportation, Hazardous Materials Regulations
E.	International Organization for Standardization (ISO)	
1.	ISO 8502-3	Assessment of dust on Steel Surface Prepared for Painting (Pressure-Sensitive Tape Method)
F.	Bureau of Reclamation (USBR)	
1.	FIST Volume 1-1 (HECP)	Hazardous Energy Control Program, including revisions posted at https://www.usbr.gov/power/data/fist_public.html
2.	RSHS	Reclamation Safety and Health Standards including revisions posted at https://www.usbr.gov/safety/rshs/index.html
G.	The Society for Protective Coatings (SSPC)/NACE International (NACE)	
1.	SSPC-AB1	Mineral and Slag Abrasives
2.	SSPC-AB2	Cleanliness of Recycled Ferrous Metallic Abrasives
3.	SSPC-AB3	Newly Manufactured or Re-Manufactured Steel Abrasives
4.	SSPC-Guide 15	Field Methods for Retrieval and Analysis of Soluble Salts on Substrates and Other Nonporous Substrates
5.	SSPC-PA1	Shop, Field, and Maintenance Painting of Steel
6.	SSPC-PA2	Measurement of Dry Paint Thickness with Magnetic Gages
7.	SSPC-PA17	Determining Conformance to Steel Profile/Surface Roughness/Peak Count Requirements
8.	SSPC-QP1	Evaluating Painting Contractors (Field Application to Complex Industrial Structures)
9.	SSPC-QP2	Evaluating Painting Contractors (Field Removal of Hazardous Coatings From Complex Industrial Structures)
10.	SSPC-SP1-15	Solvent Cleaning
11.	SSPC-SP2-04	Hand Tool Cleaning
12.	SSPC-SP3-04	Power Tool Cleaning

13.	SSPC-SP5/NACE 1	White Metal Blast Cleaning
14.	SSPC-SP5 (WAB)/NACE WAB-1	White Metal Wet Abrasive Blast Cleaning
15.	SSPC-SP6/NACE 3	Commercial Blast Cleaning
16.	SSPC-SP6 (WAB)/NACE WAB-3	Commercial Wet Abrasive Blast Cleaning
17.	SSPC-SP7/NACE 4	Brush-Off Blast Cleaning
18.	SSPC-SP7 (WAB)/NACE WAB-4	Brush off Wet Abrasive Blast Cleaning
19.	SSPC-SP10/NACE 2	Near-White Blast Cleaning
20.	SSPC-SP10 (WAB)/NACE WAB-2	Near-White Metal Wet Abrasive Blast Cleaning
21.	SSPC-SP11	Power Tool Cleaning to Bare Metal
22.	SSPC-SP WJ-1/NACE WJ-1	Surface Preparation Standard – Waterjetting Cleaning of Metals – Clean To Bare Substrate
23.	SSPC-SP WJ-2/NACE WJ-2	Surface Preparation Standard – Waterjetting Cleaning of Metals – Very Thorough Cleaning
24.	SSPC-SP WJ-3/NACE WJ-3	Surface Preparation Standard – Waterjetting Cleaning of Metals – Thorough Cleaning
25.	SSPC-SP WJ-4/NACE WJ-4	Surface Preparation Standard – Waterjetting Cleaning of Metals – Light Cleaning
26.	SSPC-TR2/NACE 6G198	Wet Abrasive Blast Cleaning
27.	SSPC-VIS1-02	Guide and Reference Photographs for Steel Surfaces Prepared by Abrasive Blast Cleaning
28.	SSPC-VIS3	Visual Standard for Power- and Hand-Tool Cleaned Steel
29.	SSPC-VIS4/NACE-VIS7	Guide and Reference Photographs for Steel Surfaces Prepared by Waterjetting
30.	SSPC-VIS5/NACE VIS9	Guide and Reference Photographs for Steel Surfaces Prepared by Wet Abrasive Blast Cleaning
31.	SSPC Paint Manual	Volume 1, Good Painting Practices
32.	NACE SP 0188	Discontinuity (Holiday) Testing of New Protective Coatings on Conductive Substrates
33.	NACE SP 0274	High Voltage Electrical Inspection of Pipeline Coatings

1.04 Conformance with Specifications

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- A. Any unapproved nonconformity with the specifications shall be remediated at no expense to the Government.
 - B. The Contractor shall maintain on site a copy of all standards, codes, and other documents referenced in this specification and that are pertinent to the work being performed.

1.05 Proposals

- A. Exceptions to any terms of this specification, a Task Order's specification, or any of their references are prohibited. Offers which are submitted with exceptions will be ineligible for award.
 - 1. Submit any exceptions which an offeror would propose in the form of a question during the Q&A/RFI period prior to the proposal due date. Include a justification for the exception proposed.
- B. To be considered a responsive offeror during evaluation, submit:
 - 1. Narrative of Operations. Demonstrate competency by describing the means and methods that would be utilized to achieve all principal work components.
 - 2. Project Schedule using critical path method with Gantt chart showing:
 - a. Major items of work and duration.
 - b. Anticipated start and finish dates.
 - c. Anticipated submittal, material, and equipment delivery dates.
 - d. Logical relations between activities.
 - 3. Price Schedule. Use the template provided in Section 4 of each Task Order.

1.06 For Task Order 1

- A. Submit the contractor's coating qualifications.
 - 1. Contractor. Current SSPC-QP2 certification.
 - 2. Coating applicator. Provide one of the following:
 - a. Current Coating Application Specialist (CAS) or Plural Component Application Certification (PCAC).
 - 3. Coating inspector:
 - a. Current Level 2 or 3 certification for NACE Certified Coatings Inspector (CIP) or SSPC Protective Coatings Inspector (PCI).
 - b. List of not less than three years of comparable jobs including project description, location, and owner's name, address, and telephone number.

1.07 Materials and Workmanship

- A. Unless otherwise specified, all materials that will become part of the completed work shall be new and shall conform to the standards referred to herein. If types, grades, or other options offered in the reference standards are not specified in this IDIQ or its task orders, the material furnished will be acceptable if it is accordance with any one of the types, grades, or options offered. If the material is not covered by reference standards, the material supplied shall be of standard commercial quality.

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- B. Materials that will become part of the completed work shall be subject to inspection by the Government. Acceptance of all materials will be made at the work site.
 - C. Provide a copy of the purchase order for each material that will become part of the completed work.
 - D. The Contractor shall be responsible for the accurate execution of work in accordance with the requirements of this specification and industry best practices.

1.08 Shipping and Delivery

- A. Deliver shipments to the following address:
 - Hoover Dam Central Warehouse
 - NV State Route 172
 - Boulder City, NV 89005
 - ATTN: [name of COR]
- B. The Government will accept shipments on behalf of the Contractor at the Hoover Dam Central Warehouse during 0730-1530 PST, Monday through Friday, excluding Federal holidays.
 - 1. The Government will not inspect shipments which are accepted on behalf of the Contractor. The Contractor is responsible for inspection of shipments for any damage incurred in transit.
 - 2. The Government will not transport shipments. The Contractor is responsible for the transportation of shipments from the Hoover Dam Central Warehouse to the worksite.
 - 3. Notify the COR of inbound shipments at least two business days prior to anticipated delivery date.
- C. Ship only via freight carriers which possess fleets of sufficient size to ensure the shipment is delayed not more than two days due to vehicle breakdown, vehicle or driver unavailability, or any other circumstances, excluding inclement weather.
- D. If the vehicle transporting material is involved in an accident and a reasonable person would consider it prudent to inspect the material for damage before use at Hoover Dam, the Contractor shall arrange for the material to be transported to its shop and inspect the material completely before reshipment to Hoover Dam.

2 SUBMITTALS

2.01 Preparation, Submission, and Approval

- A. Prepare in English using US customary units.
- B. Identify each submittal with the contract number, submittal number, and submittal title.
- C. Submit to the COR for review and approval in accordance with the Submittal Schedule specified in the Task Order. Make any revisions requested by the COR and resubmit.
- D. Unless otherwise noted, the Government will have 14 calendar days to review each submittal or resubmittal. The time for review does not begin until the Government

receives a submittal that is complete and correct. It is the responsibility of the Contractor to confirm its submittals have been received.

1. If the Government exceeds 14 days, the number of days exceeded will be added to the time allowed for the Contractor to deliver the supply or service affected by the delay.
 2. If the Contractor fails to furnish a complete, correct submittal by the due date specified, and thus precludes the Government from considering such submittal for approval, the Contractor shall not be entitled to an extension of time.
- E. No separate payment will be made for preparing and furnishing submittals to the Government. Include the cost in the Price Schedule for the applicable item of work.
- F. Final payment will not be processed until all submittals or resubmittals have been received, reviewed and approved.

2.02 Required Upon Award

- A. RSN A-1, Performance and Payment Bonds
- B. RSN A-2, Subcontracts
1. Form SF-1413 – Statement and Acknowledgement for each subcontract.

2.03 Required Prior to NTP

- A. RSN B-1, Prime/Sub Personnel
1. Complete list of personnel and their job positions.
 2. Personnel certifications.
 3. Security forms (7-2682 and OF-306).
 4. Personnel Resumes
- B. RSN B-2, Use of Government Property
1. Declaration of all Government property (land, equipment, utilities, and facilities) the Contractor intends to use.
- C. RSN B-3, Safety and Health
1. Comprehensive safety and health program covering all aspects of onsite and applicable offsite operations and activities associated with the task order. Refer to RSHS Appendix B.
- D. RSN B-4, Scaffolding Plan
1. Erection drawings and procedure.
 2. Manufacturer's product data.
 3. Supplier's name, address, and phone number.
 4. Competent person's name and phone number.
- E. RSN B-5, Product Approval Data
1. Manufacturer's product data, application, and SDS sheets.

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2. Supplier's name, address, and phone number.
 3. Hazardous Material Authorization (HMA) form.
- F. RSN B-6, Quality Control Plan
1. Quality Control Manager:
 - a. Name and title.
 2. Quality Control Procedure:
 - a. Quality control plan.
 - b. Procedure for addressing identified non-conformities.

2.04 Required After NTP

- A. RSN C-1, Project Schedule
1. Initial: Update the proposal's project schedule to reflect the NTP start date.
 2. Recurring bi-weekly thereafter: Update the project schedule to reflect:
 - a. Actual progress achieved in the previous two weeks.
 - b. Planned work activities for the following two weeks.
- B. RSN C-2, Job Hazard Analysis
1. A job hazard analysis (JHA) for each work activity. Refer to RSHS Section 4 and Appendix 4B.
- C. RSN C-3, Purchase Orders
1. Order number, date, manufacturer's product name, batch number(s), and quantity.
- D. RSN C-4, Quality Testing Report
1. Comprehensive report of daily quality control test reports. Refer to Section 6.14 of this specification.
- E. RSN C-5, Disposal Records

2.05 Required When Heavy Metals Are Present

- A. RSN H-1, Qualifications
1. Qualifications of onsite supervisor.
 2. Qualifications of certified industrial hygienist.
 3. Current copy of SSPC-QP2 certification for hazardous coating removal.
- B. RSN H-2, Heavy Metals Abatement Plan
1. Worker Protection Compliance Program:
 - a. Include information required by 29 CFR 1926.62 (e)(2).
 - b. Prepared by Competent Person.
 2. Containment System Plan:

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- a. Detailed plan to prevent the release of metals, dusts, vapors and solvents during the disturbance and removal of equipment.
 - b. Description of the proposed containment structure, device, or method of containment for disturbed and removed equipment containing heavy metals.
 - c. If the containment structure is complex or will experience live or environmental loads, include:
 - i. Drawings showing layout, attachment to structure, and relationship to structure.
 - ii. Design calculations for ventilation system.
 - iii. Load analysis for containment system loading on structure.
 - d. Emission of dusts, metals, toxic vapors or gases into the plant or surrounding environment are prohibited.
 - e. Signed and sealed by qualified design professional.
3. Emissions Monitoring Plan:
- a. Plan for monitoring total suspended particulate (TSP) air quality for heavy metal contamination by employee exposure personal monitors.
 - b. Plan for monitoring and reporting reportable releases in accordance with 40 CFR 117, 40 CFR 300, 40 CFR 302.
 - c. Plan for decontamination of contaminated areas and surfaces.
 - d. Signed by certified industrial hygienist.
4. Waste Characterization, Handling, and Disposal Plan:
- a. Plan for sampling, testing, characterization of waste:
 - i. Include required method detection limits.
 - ii. Describe analytical data delivery package including quality control and quality assurance.
 - b. Plan for handling, storage, transporting, and disposal of project-generated waste and cleaning of reusable items.
 - c. Name, address, and qualifications of testing laboratory.
 - d. Name, address, and qualifications of transporter.
 - e. Name, address, and qualifications of disposal facility.
 - f. Written notice from owner or operator of disposal facility documenting permits and agreement to accept waste generated under this contract.
- C. RSN H-3, Heavy Metal Exposure Certifications and Test Results:
- 1. Employee training certifications: Indicate employee training in hazardous materials and communication with an emphasis on lead, respiratory protection, hearing conservation, and personal protective equipment (PPE).

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2. Pulmonary function tests (PFT) for respirator usage: Record of diagnostic test and examination by a Board Eligible or Certified Occupational Medicine Physician.
 3. Blood tests for heavy metals:
 - a. Blood lead and zinc protoporphyrin level (ZPP).
 - b. Blood levels for other heavy metals.
- D. RSN H-4, Preconstruction Test Results:
1. Include following background results:
 - a. Personal Employee exposure and area monitoring results by personal employee exposure monitors.
 - b. Wipe sample analysis for heavy metals.
 2. Include map indicating location of each sample.
 3. Provide appropriate quality control information to supplement analytical data. Include from blanks, laboratory control samples with percent recovery, duplicates, matrix spike samples with percent recovery, and other appropriate quality control measures.
- E. RSN H-5, Working Level Test Results:
1. Include following working level test results:
 - a. TSP air quality monitoring results for heavy metals concentrations by personal employee exposure monitors.
 2. Provide appropriate quality control information to supplement analytical data. Include from blanks, laboratory control samples with percent recovery, duplicates, matrix spike samples from project with percent recovery, and other appropriate quality control measures.
- F. RSN H-6, Post-Construction Test Results:
1. Blood tests for heavy metals:
 - a. Blood lead and zinc protoporphyrin level (ZPP).
 - b. Blood levels for other heavy metals.
 2. Include following post-construction content data:
 - a. Wipe sample analysis for heavy metals.
 3. Compare with preconstruction test results for increased contaminant levels.
 4. Include map indicating location of each sample.
 5. Provide appropriate quality control information to supplement analytical data. Include from blanks, laboratory control samples with percent recovery, duplicates, matrix spike samples from project with percent recovery, and other appropriate quality control measures.
- G. RSN H-7, Certificate of Disposal:
1. Certification that hazardous materials have been treated.
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2.06 Closeout

- A. RSN X-1, Release of Claims
 - 1. Form DI-137 – Release of Claims against the United States.
- B. RSN X-2, Warranties of Materials and Workmanship
 - 1. Standard Warranties

3 SITE

3.01 Investigation of Site Conditions

- A. Access to the worksites is limited and site conditions at the sites may affect the Contractor's operations.
- B. A pre-bid site visit will be conducted in accordance with FAR 52.236-27 Site Visit (Construction) - Alternate I, to allow prospective offerors to examine the worksite for the task order attached to this solicitation. Site visits may also be conducted for future task orders.
- C. When offered, it is recommended that the Contractor visit the site and investigate the existing conditions affecting the work prior to preparing an offer. If the Contractor chooses not to visit the site or conduct investigations, the Contractor will nevertheless be charged with knowledge of conditions which reasonable investigations would have disclosed.
- D. The cost of attending any site visits shall be included in the Contractor's G&A/overhead.
- E. Prospective offerors and Contractors shall assume all responsibility for conclusions pertaining to the difficulties performing the work.

3.02 Access and Haul Routes

- A. Investigate the condition of available public or private roads and of clearances, restrictions, load limits, bond requirements, and other limitations that affect or may affect transportation and ingress and egress at the worksite.
 - 1. In accordance with FAR 52.249-10, the unavailability of transportation facilities or limitations thereon shall not become a basis for claims for damages or extension of time for completion of work.
- B. Comply with applicable Federal, State, and local regulations when transporting construction equipment, materials, and waste.
- C. If the worksite is in the Powerhouse, the Contractor may park not more than two company vehicles on the tailrace ramp. A parking pass from the Hoover Security Office must be displayed. Vehicles shall be marked with the Company's logo or display a sign in the driver's side window which contains the following information:
 - 1. Company's name.
 - 2. Driver's name and phone number.
 - 3. TPOC's name and phone number.
- D. Park all other vehicles at the Hoover Dam Central Warehouse.

3.03 Identification of Contractor Personnel

- A. In accordance with HSPD-12, all on-site Contractor personnel shall have a Government-issued Personal Identity Verification (PIV) or a Hoover Dam specific verification card prior to being allowed access to work at the site.
 - 1. The Contractor shall bear the costs of submitting the requisite forms, traveling to a credentialing center for enrollment and activation.
 - 2. The Government will bear the cost of the background investigation.
- B. For each employee who will work at Hoover Dam, submit the following forms:
 - 1. LC-055B Request for Initiation of Contractor Background Investigation
 - 2. OF-306 Declaration for Federal Employment
 - 3. Fair Credit Authorization
- C. Following submission of the requisite forms, the employee will receive two emails from the Reclamation Security Office (@usbr.gov), containing:
 - 1. Instructions to complete form SF-85P utilizing a web-based system called the Electronic Questionnaire for Investigation Processing (e-QIP).
 - 2. Instructions to make an appointment at a Credentialing Center to enroll for a PIV card or the Hoover Dam specific verification card where fingerprints and photos will be taken.
- D. Following completion of the requisite forms, e-QIP, and enrollment appointment, the Office of Personnel Management (OPM) will initiate the background investigation and a preliminary Special Agreement Check (SAC) will be conducted.
 - 1. If the SAC result is unfavorable, the employee will not be permitted to work at Hoover Dam.
 - 2. If the SAC result is favorable, the employee will be permitted to work at Hoover Dam.
 - a. However, if the official background investigation result is unfavorable, employment will be terminated.
 - b. If an employee is not permitted to work or is terminated during work, the Contractor shall replace the employee with an employee who possesses equivalent technical qualifications and whose SAC is favorable.

3.04 Use of Government Land for Construction Purposes

- A. The Contractor will be permitted use of Government land for field offices, storage yards, and other construction and service purposes required for the work.
 - 1. Powerplant laydown areas are limited in size and will vary depending on the location of the worksite. Additional laydown areas are available at the Central Warehouse.
 - 2. Equipment laydown areas and vehicle parking areas will be designated by the COR.

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3. To the extent feasible, the COR will provide dedicated locations for laydown and storage. However, the Contractor must take appropriate measures to secure and protect its materials and equipment, as use of the designated areas may not be exclusive.
- B. The Contractor's use of Government land shall not interfere with the work activity of other contractors or the Government in the vicinity, nor with reservations made, or as may be made, by the Government for use of the land.
 - C. The Contractor's use of Government land for construction purposes shall be subject to Section 5 of this specification.
 - D. No charge will be made to the Contractor for the use of Government land for work activities under this IDIQ.

3.05 Protection of Existing Installations

- A. In accordance with Federal Acquisition Regulation (FAR) 52.245-1, the Contractor shall take all precautions to safeguard existing buildings, equipment, and vegetation on the Government installation from damage.
- B. Furnish, install, and maintain protection systems to safeguard installations and personnel.
 1. Examples include, but are not limited to:
 - a. Enclosures to prevent dust, chips, fumes, and other contaminants from endangering personnel or damaging equipment.
 - b. Secondary containment to prevent oil, chemicals, and other contaminants from polluting sumps or waterways.
 2. Arrange the systems in a manner that permits operation of existing equipment while work is being performed. Remove the systems once the work is complete.
 3. Capture the costs of furnishing necessary materials, equipment, and labor in the task order price schedule.
- C. If the Contractor's failure to use reasonable care causes damage to property, the Contractor shall replace or repair the damage at no expense to the Government as the Contracting Officer directs; or, at the option of the Contracting Officer, any such damaged may be repaired by the Government, and the Contractor will be backcharged for the cost thereof.
 1. The time and manner permitted for remediation will be determined by the Contracting Officer.
 2. If the Contractor fails or refuses to make such repair or replacement, the Contractor shall be liable for the cost, which may be deducted from the contract price.

3.06 Government Utilities and Facilities

- A. Upon request by the Contractor, the following utilities and facilities will be made available by the Government at no charge for use in the performance of work under this contract:
 1. Water at approximately 80 psi;

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- 2. Compressed air at approximately 110 psi;
 - 3. Electricity at approximately 120/240 V, single phase, 60 Hz; 480V 3 phase 60 Hz
 - 4. Existing restrooms.
- B. The location of utilities and facilities will be shown during the pre-proposal site visit or after contract award, and are provided on an as-is, where-is basis.
- C. The Contractor shall:
- 1. Evaluate the adequacy of the utilities and facilities for its purposes.
 - 2. Furnish all equipment and labor necessary to convey utilities to the worksite and distribute utilities around the worksite.
 - 3. Capture the costs of furnishing necessary materials, equipment, and labor in the task order price schedule.
 - 4. Specify in its proposal all utilities the Contractor intends to request.
 - 5. Remove all furnished equipment from the worksite upon completion of work.
- D. If the Contractor requires additional toilets per OSHA 1910.141, provide portable toilets and the supplies and services necessary to maintain cleanliness.
- E. The Contractor shall not adversely impact the performance or operation of the Government's utility systems.
- F. The Contractor may operate the intake crane on the condition that all operations are performed in accordance with RSHS Section 19.
- 1. The Government will have a third party perform pre-inspection and post-inspection of the crane. Any damage discovered upon post-inspection, excluding latent defects, shall be the responsibility of the Contractor.
 - 2. Notify the COR prior to each operation.

3.07 Government Support

- A. The Government will accept shipments. Refer to 1.08B.
- B. The Government will operate the canyon cableway crane.
- C. Unless otherwise specified, the Government will provide no other support.

4 SAFETY

4.01 Safety and Health

- A. Always protect the safety and health of the public, workers, and property.
- B. Comply with all Federal, State, and local laws and regulations and RSHS.
- C. Develop and implement a Safety and Health program in accordance with RSHS Sections 3 and 7.
- D. Submit the Safety and Health program per RSN B-3.

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- E. Furnish and maintain signs, signals, barricades, and any other safety measures in accordance with RSHS Section 9.

4.02 Safety Data Sheets and Hazardous Materials

- A. A Safety Data Sheet (SDS) is required for all chemicals proposed for use prior to delivery on-site. If the chemical is considered hazardous, a Hazardous Materials Authorization (HMA) form is also required prior to delivery on-site.
- B. Submit an SDS (and HMA when applicable) for each chemical per RSN B-5. State in the submittal whether the use of any chemicals requires evacuation of Reclamation personnel from the work area.
- C. Make each SDS readily available to and accessible at the worksite.
- D. Provide all Personal Protective Equipment (PPE) as prescribed in the SDS.
- E. Ensure all Contractor personnel use the PPE while handling the chemical.
- F. In accordance with RSHS Section 11:
 - 1. Train all persons who use or handle hazardous materials.
 - 2. Ensure the JHA covers proper use and handling of the hazardous material.

4.03 Job Hazard Analyses

- A. In accordance with RSHS Sections 3 and 4, a Job Hazard Analysis (JHA) is required for each work activity associated with the Task Order prior to commencement of work.
- B. Assess the work activities and site conditions to determine what hazards are present or are likely to be present.
- C. Submit a JHA for each work activity per RSN C-2.

4.04 Special Work Permit

- A. In accordance with FIST 1-1, a Special Work Permit (SWP) is required for each Task Order.
 - 1. The SWP will identify:
 - a. The plant areas that the Contractor is permitted to enter
 - b. Unusual hazards that may exist in the work areas.
 - c. Any clearances (lockout/tagout) required for the work. When clearances are required, refer to Section 4.05 of this specification.
 - 2. The Contractor shall sign onto the SWP prior to commencement of work and abide by its instructions.

4.05 Lockout/Tagout

- A. In accordance with FIST 1-1:
 - 1. The Contractor Supervisor and foremen shall receive HECP training and pass the test prior to the commencement of work. Class duration is estimated at 1 hour.

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2. The Contractor Supervisor shall lock onto the clearance lockbox with a uniquely keyed lock and walk the clearance boundaries prior to entry into the clearance area. The lock shall be labeled with the supervisor's name and primary phone number.
 3. All Contractor personnel shall work only within the boundaries of the clearance.
- B. Contractor personnel are not permitted to modify the configuration of any system outside the boundaries of the clearance. Examples include:
1. Switching breakers.
 2. Operating valves.
 3. Removing equipment.
- C. If a configuration change is required for the work, submit a written request to the COR.

4.06 Confined Space

- A. In accordance with RSHS Section 13, develop and implement confined space entry procedures as part of the Safety and Health program.
- B. Monitor the atmosphere for hazardous conditions in accordance with OSHA standards.
- C. Contractors must be trained in or provide rescue of all entrants inside the confined space. The requirements are dependent on the space where the work is occurring and will be specified in task orders.

4.07 Emergencies

- A. In accordance with RSHS Section 6, develop and implement site-specific emergency plans as part of the Safety and Program.
- B. In the event of any emergency, the Contractor shall:
 1. Immediately notify the COR.
 2. Account for all personnel.
 3. Not return to work until given explicit permission from the COR.
- C. In the event of a fire alarm, fire drill, or actual fire, all contractor personnel shall evacuate to the pre-assigned location.
- D. The generator fire protection systems utilize carbon dioxide odorized with a wintergreen scent. In the event Contractor personnel smell wintergreen in the Powerhouse (particularly on floor 3 or below), all contractor personnel in the vicinity shall immediately evacuate to a higher elevation.

4.08 Lead and Other Heavy Metals

- A. Lead-based paints (LBPs) were used in several locations throughout the Lower Colorado Dams structures and buildings prior to 1978. The task order will identify whether the surfaces to be painted contain LBPs.
- B. Refer to Section 7 of this specification for requirements when removing and disposing of coatings containing heavy metals.

4.09 Scaffolding

- A. Provide scaffolds, ladders, ramps, platforms, or temporary floors when the work cannot be performed safely from an existing walking surface.
- B. Scaffolding plans with structural members shall be designed and stamped by a registered professional engineer (PE).
- C. Scaffolding shall be erected, dismantled, and altered:
 - 1. In compliance with ANSI A10.8.
 - 2. In compliance with RSHS Section 13.
 - 3. Under the supervision of a competent person.
- D. Working surfaces shall be level.
- E. Ladders or makeshift devices shall not be used to increase the height of scaffolding.

5 ENVIRONMENTAL PROTECTION

5.01 General

- A. Except as specified herein, include the cost of complying with this section in the task order schedule prices for items of work which necessitate the environmental protection measures required.

5.02 Prevention of Water Pollution

- A. Comply with:
 - 1. All applicable Federal, State, and local laws, orders, regulations, and Water Quality Standards concerning the control and abatement of water pollution.
 - 2. The sanitation and potable water requirements of RSHS Section 7.
 - 3. All terms and conditions of any applicable water permit issued by the permit-issuing authority.
- B. If a conflict exists between Federal, State, and local laws, regulations, and requirements, the most stringent shall apply.
- C. Prevent ingress (intentional or accidental) of contaminants into waterways.
 - 1. Contaminants include, but are not restricted to: garbage, cement, industrial waste, sanitary waste, hazardous materials, radioactive substances, oil and other petroleum products, and thermal pollution.

5.03 Abatement of Air Pollution

- A. Comply with applicable Federal, State, and local laws and regulations concerning the prevention and control of air pollution. Controls may include installation of emission control equipment such as dust suppression systems.
- B. Utilize methods and devices that are reasonably available to control, prevent, and otherwise minimize atmospheric emissions or discharges of air contaminants.

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- C. Emission of dust into the atmosphere is not permitted during coating removal and waste handling. Use methods and equipment necessary for the prevention, or collection and disposal of dust during these operations.
 - D. Equipment and vehicles that exhibit excessive emissions of exhaust gases due to poor engine adjustments or other inefficient operating conditions shall not be operated until corrective repairs or adjustments are made.

5.04 Abatement of Noise Pollution

- A. Comply with applicable Federal, State, and local laws and regulations and RSHS Section 37 regarding the prevention, control, and abatement of excessive noise.

5.05 Cleanup and Disposal of Waste

- A. In accordance with FAR 52.236-12 Cleaning Up, the Contractor shall be responsible for cleanup.
- B. Dispose of waste in accordance with applicable Federal, State, and local laws and regulations, and RSHS.
- C. Maintain records of the types and amounts of waste materials produced and of the disposal of all waste materials on or off the worksite.
- D. In the event waste materials are not identified or become comingled:
 - 1. Conduct appropriate waste characterization tests.
 - 2. Provide results to the COR.

5.06 Sustainability/Environmental Management System

- A. The Bureau of Reclamation's Lower Colorado (LC) Region maintains a Sustainability/Environmental Management System (SEMS) which aims to reduce environmental impacts with the following objectives:
 - 1. Reduction of solid waste through recycling.
 - 2. Reduction in raw material through use of recycled products.
 - 3. Reduction of greenhouse gases through reduction of energy footprint.
- B. Track solid waste disposal of non-hazardous and universal waste.
- C. Follow the green initiative when considering supplies to be used to perform work.

6 COATINGS

6.01 Delivery, Storage, Handling

- A. Deliver materials to jobsite in original, undamaged, unopened containers labeled with manufacturer's name, designated product name, batch number, date of manufacture, and any special instructions.
- B. Deliver materials in containers not larger than 5 gallons as packaged by manufacturer unless suitable equipment is provided at jobsite to handle and thoroughly mix materials in larger containers.

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- C. Store coating materials and thinners in accordance with the manufacturer's recommendations, and as a minimum, store off the ground, under cover, and at 50 to 95 degrees F.

6.02 Ambient Conditions

- A. Maintain environmental conditions to meet coating manufacturer's requirements during surface preparation, coating application, and curing period. Provide heating or cooling, and dehumidification as needed. Complete curing before placing the coating systems into service.
- B. Coatings shall be applied when the substrate surface temperature is 5 degrees F or more above the dew point temperature and for at least 8 hours after application.

6.03 Project Conditions

- A. Existing coatings may contain hazardous materials. Use caution, wear appropriate PPE, and implement proper containment procedures when disturbing or removing coatings. Refer to Section 7 of this specification for removal of coatings containing heavy metals.

6.04 Equipment

- A. Surface preparation and spray application equipment:
- B. Sized in accordance with coating manufacturer's recommendations.
- C. Provide:
 - 1. Pressure gauges and pressure regulators.
 - 2. Air supply lines free from oil and moisture.

6.05 Abrasives

- A. Mineral and slag abrasives:
 - 1. SSPC-AB1, type I (natural minerals) and type II (slags), class A.
 - 2. Grade suitable to achieve the specified surface profile.
- B. Ferrous metallic abrasives:
 - 1. SSPC-AB2 for recycled cleanliness.
 - 2. SSPC-AB3 Class I or II for angular shaped grit. Shot abrasives are not acceptable.
- C. Commercially available products or processes to render the hazardous waste stream non-hazardous and not exceeding toxicity threshold limits.

6.06 Coatings

- A. Provide one of the coating systems specified in the Task Order's Coating Table.
 - 1. Apply compatible products of same manufacturer for coating system components.
- B. If the Contractor proposes a substitution "equal" to the specified products in Coating Table, provide:
 - 1. List of not less than three similar successful material applications:

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- a. Project name, location, type of structure, and application dates.
 - b. Owner's name, address, and telephone number.
 - 2. Certification that material meets or exceeds specified requirements:
 - a. Manufacturer's certification including technical representative's signature and date of signature.
 - b. Independent laboratory's certified test reports.
 - C. Do not exceed maximum volatile organic compounds (VOCs) permitted by Federal, State, and local air pollution control regulations as supplied in container or by addition of thinner material.
 - D. Factory color or tint only. Do not color or tint at jobsite.
 - E. Use manufacturer's recommended thinners for coating materials.
 - F. Do not use accelerator products unless approved by COR.
 - G. Do not use coating material which has exceeded manufacturer's specified storage stability period (shelf life).

6.07 Caulks and Fillers

- A. If the Task Order specifies the use of caulks or fillers, provide in accordance with the following specifications:
 - 1. Caulks:
 - a. Coating manufacturer's standard or compatible caulk material.
 - b. Polyurethane, silicone, or silicone acrylic caulk material: Meets or exceeds ASTM C 920 type S or M, grade NS, class 25, suitable for water immersion service.
 - 2. Fillers: Coating manufacturer's standard or compatible filler material.

6.08 Soluble Salt Remover

- A. If the Task Order specifies soluble salts are present or are anticipated to be present, provide one of the following soluble salt removers:
 - 1. Chlor-Rid;
 - 2. HoldTight 102;
 - 3. Or equivalent with the following characteristics:
 - a. Commercially available additive for soluble salt removal.
 - b. Water soluble.
 - c. Biodegradable.
 - d. Zero volatile organic compounds.

6.09 Protection of Adjacent Surfaces

- A. Remove, mask, or otherwise protect items or surfaces not coated from contamination and damage during cleaning and coating operations, including, but not limited to:

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1. Mating and machined surfaces.
 2. Mechanical and electrical equipment (open or enclosed).
 3. Name, instruction, and similar types of plates.
 4. Wet and newly coated surfaces.

6.10 Surface Preparation

- A. Remove or repair surface irregularities and impart profile as specified:
 1. Weld spatter, slag, and similar: Remove and grind smooth.
 2. Substrate pitting, gouges, porosity, and similar: Grind smooth.
 - a. Defects exceeding 10 percent reduction in wall thickness are considered significant and may require repair.
 - b. Notify the COR of all significant defects and do not recoat before a resolution has been determined.
 3. Sharp edges and corners: Grind smooth to a radius of at least 1/16-inch.
- B. Prepare the surface profile as specified in the Task Order's Coating Table.
 1. If there is discrepancy between the Coating Table and the coating manufacturer's instructions, consult the COR for resolution.
- C. For spot repair preparation of damaged or defective coating areas:
 1. Feather abrupt edges around the repair area by hand or power tool with a non-woven pad into a nominal 3 inch margin of surrounding tightly-bonded coating.
 2. Roughen or abrade the surface in accordance with the coating manufacturer's recommendations.
- D. Inspect surface profile in accordance with ASTM D4417 Method B or C.
 1. The number of locations and frequency of measurements is as specified in SSPC-PA 17 unless otherwise specified in the SOW.
- E. Compare prepared steel surfaces to one of the following visual reference photographs (whichever is applicable to the surface preparation method specified) for allowable visible contaminants and stains:
 1. SSPC-VIS1 for abrasive blast cleaning.
 2. SSPC-VIS3 for power and hand tool cleaning.
 3. SSPC-VIS4/NACE-VIS7 for waterjetting.
 4. SSPC-VIS5/NACE-VIS9 for wet abrasive blast cleaning.
- F. Assessment of dust contaminants:
 1. Perform clear tape test method in accordance with ISO 8502-3.
 2. Perform three tests per shift.
 3. Acceptance criteria: Class 3 degree of cleanliness.
- G. Assessment of soluble salts:

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1. Measure concentration of chlorides, nitrates and sulfates in accordance with SSPC Guide 15.
 2. Perform at least three tests per 1,000 square feet of surface area. Include corrosion pit areas.
 3. Acceptance criteria: Do not exceed 3 micrograms per square centimeter for chlorides and 5 micrograms per square centimeter for nitrates and sulfates.
- H. Re-clean or perform additional surface preparation of contaminated surfaces before coating application.

6.11 Compressed Air Equipment

- A. Keep air compressor and spray application equipment lines free of oil and moisture during work.
- B. Compressed air quality:
1. Perform tests in accordance with ASTM D4285.
 2. Perform test at the beginning of every shift.

6.12 Caulk And Filler Application

- A. If specified, caulk areas including crevices, gaps, skip welds, and conduit penetrations.
- B. If specified, fill areas including plate seams and gaps at bolts and rivets.
1. If specified in the base specification, fill prepared pits, cavitation, and porosity.
- C. Apply in a uniform texture, neatness, and appearance.
- D. Apply in accordance with manufacturer's instructions and achieve tight bond to substrate.

6.13 Coating Application

- A. Stripe coat:
1. Brush apply stripe coat.
 2. Apply stripe coat prior to spray application of the primer, when practical.
 3. Apply to edges, corners, interior angles, pits, plate seams, crevices, rivets, nuts, threads, bolts, washers, welds, and similar features.
- B. Apply number of coats and coating thickness specified in Coating Table.
1. Alternate coat colors to differentiate between coats.
 2. Apply in accordance with manufacturer's instructions.
 3. Apply in accordance with SSPC PA1.
- C. Prevent overspray or dry spray. When such conditions occur, clean surfaces prior to application of subsequent coats.
- D. Re-clean contaminated surfaces between coats.
- E. Dry Film Thickness (DFT):

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1. After each coat, inspect hardened coating system for DFT compliance in accordance with SSPC PA2.
 2. Acceptance Criteria: no single spot measurement less than 80 percent minimum.
- F. Discontinuity (Holiday) Testing:
1. Inspect coating in accordance with NACE SP 0188.
 2. Inspect pipeline coatings in accordance with NACE SP 0274.
 3. Use maximum test voltage for any DFT as recommended by coating manufacturer to prevent coating damage.
- G. Coating Adhesion:
1. Test in accordance with ASTM D4541 as directed by the COR.

6.14 Contractor Field Quality Testing

- A. Inspection Equipment:
1. Calibrate inspection devices and equipment in accordance with the manufacturer's instructions.
 2. Verify calibration prior to every use.
- B. Qualified personnel shall conduct tests and sign reports.
1. Perform tests in presence of the COR.
- C. Make daily reports for review by the COR, including:
1. Date of work.
 2. Description of areas and work performed.
 3. Environmental conditions.
 4. Results from the following quality control tests:
 - a. Surface profile.
 - b. Visual comparison of prepared surfaces.
 - c. Assessment of dust contaminants.
 - d. Soluble salt, if applicable.
 - e. Compressed air quality.
 - f. Dry film thickness (DFT).
 - g. Discontinuity (Holiday) testing.
 - h. Coating adhesion testing (when directed by the COR).
- D. Final inspection will take place after repairs, but before placing into service.
- E. Repair defective or damaged areas of coatings in accordance with coating manufacturer's recommendations.

7 COATINGS CONTAINING HEAVY METALS

7.01 Definitions

- A. Competent Person:
 - 1. For lead hazards: As defined in 29 CFR 1926.62.
 - 2. For designing and implementing technical controls to limit employee exposure to airborne contaminants: As defined in 29 CFR 1026.55.
- B. Handling: Includes containment, collection, storage, and transportation.
- C. Regulated area: Areas on project site where Action Level is exceeded for heavy metals listed below.
- D. Paints Containing Heavy Metals:
 - 1. Paints containing lead, heavy metals, and other contaminants which may be present in such quantities that solid waste generated from removal operations will exhibit the toxicity characteristic when tested in accordance with 40 CFR 261.24 and/or which present airborne hazards during disturbance and removal operations.
 - 2. The following metals and compounds may be present, unless otherwise noted:
 - a. Arsenic: See 29 CFR 1926.1118.
 - b. Beryllium.
 - c. Cadmium: See 29 CFR 1926.1127.
 - d. Chromium.
 - e. Lead: See 29 CFR 1926.62.
 - f. Silver.
 - g. Vanadium.

7.02 Qualifications

- A. Onsite Supervisor Qualifications: Competent Person, as defined in 40 CFR 1926.32 (f), experienced working under OSHA and EPA regulations.
- B. Certified Industrial Hygienists (CIH): Certified by American Board of Industrial Hygiene (ABIH).
- C. Laboratory Qualifications: Certified analytical laboratory meeting requirements of EPA National Lead Laboratory Accreditation Program and American Industrial Hygiene Association (AIHA) for metals.
- D. Containment System Designer Qualifications: Registered professional engineer licensed in the State of Nevada/Arizona.
- E. Disposal Facility Qualifications for Hazardous Waste: RCRA permitted facility.

7.03 Regulatory Requirements

- A. Solid waste debris is subject to Federal, State, and local requirements. The most stringent regulation shall apply.

7.04 Safety and Health Regulations

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- A. Comply with RSHS.
 - B. Comply with 29 CFR 1926.
 - C. Limit employee exposure to lead and other airborne contaminants in accordance with 29 CFR 1926.55 and 29 CFR 1926.62.

7.05 Project Conditions

- A. The Contractor will be considered the co-generator of any hazardous waste in accordance with 40 CFR 260.10.
- B. Facility owner EPA Identification number: NV7142390007

7.06 Contractor Responsibilities

- A. Before transporting hazardous waste:
 - 1. Prepare manifest, in accordance with 40 CFR 262 Subpart B, for offsite treatment, storage, or disposal.
 - 2. Obtain written notice from owner or operator of hazardous waste facility, including documentation that facility has required permits and that facility will accept waste to be shipped under this contract, in accordance with 40 CFR 264.12.
 - 3. Obtain required transportation permits.
- B. Obtain certificate of disposal from disposal facility when hazardous waste has been treated.

7.07 Containment System

- A. Design and construct containment system to control emissions to the environment in conformance with Federal, State, and local regulations and the following criteria:
 - 1. Do not exceed ambient air quality standards.
 - 2. Prevent contamination of any reservoir, watercourse, or water system.
 - 3. Prevent contamination of sediment in any reservoir or watercourse.
 - 4. Prevent contamination of soil.
- B. Perform removal activities within the containment system.
- C. Provide signs and barriers at each point of entry to containment area to prevent unauthorized personnel access.

7.08 Waste Characterization, Handling, And Disposal

- A. Characterize solid waste debris generated from removal operations, in accordance with 40 CFR 261, TCLP Method 1311. Presume waste is hazardous until characterized.
- B. Comply with approved written Plan for Waste Characterization, Handling, and Disposal.
- C. RCRA-defined Hazardous Waste:
 - 1. Comply with 40 CFR 262 and 40 CFR 268.
 - 2. Do not co-mix different types of hazardous and non-hazardous waste materials.

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3. Store equipment in EPA approved weatherproof, watertight containers.
 4. Seal, label, and store in accordance with 49 CFR 178.
 5. Dispose of waste at EPA permitted RCRA Subtitle C disposal facility.
- D. Non-hazardous Waste:
1. Store in closed containers separate from hazardous waste storage areas.
 2. Dispose of waste in accordance with local, county, state, and federal regulations.
 3. Comply with Section 5.05 of this specification.
- E. Transport hazardous waste materials in accordance with 40 CFR 263, 49 CFR 107, and applicable regulations contained in 49 CFR Chapter I.

7.09 Emissions Monitoring, General

- A. Sampling protocol shall be in accordance with EPA, NIOSH, or OSHA sampling criteria.
- B. Monitor TSP lead or heavy metal concentration levels of following:
1. Air monitoring of emissions using personal employee exposure monitors.
 2. Soil analysis for heavy metals.
 3. Sediment analysis for heavy metals.
- C. Review results by certified industrial hygienist for allowable compliance limits.

7.10 Air Quality Monitoring By Employee Exposure Personnel Monitors

- A. Perform employee exposure monitoring to determine exposure to lead and other heavy metals in accordance with NIOSH or OSHA analytical sampling methods.
- B. Not to exceed emissions limit standards in 29 CFR 1910.1025, 29 CFR 1926.1118, 29 CFR 1926.1127, 29CFR 1926.55, and 29 CFR 1926.62.
- C. While employee exposure monitoring is performed, monitor airborne contaminants at boundary of regulated area.
- D. If emissions exceed specified maximum allowable concentrations, stop work until the containment system is corrected to meet required standards.

7.11 Reportable Releases

- A. Notify applicable agencies and COR.

7.12 Clearance Testing

- A. Non-porous surfaces:
1. Take four wipe samples to collect surface dust at each location in accordance with approved Emissions Monitoring Plan. Follow ASTM E1728 wipe sample collection and analysis criteria.
 2. Analyze samples for total lead and other heavy metal content.
 3. Acceptance criteria: Not to exceed 500 micrograms per square foot.
- B. Porous surfaces:

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1. Visible paint chips and dust.
 2. Visible abrasives.

7.13 Decontamination Of Contaminated Areas

- A. Decontaminate areas and surfaces contaminated with lead and other heavy metals in accordance with approved Emissions Monitoring Plan.

END OF REQUIREMENT