

# McDuffie Coal Terminal Contractor Bid Specification

## TANDEM ROTARY CAR DUMPER REPLACEMENT GENERAL CONTRACTOR

### DIVISION 1 GENERAL REQUIREMENTS

#### 1. Contractor

The contractor responsibilities shall include furnishing material, equipment, labor, Engineering, survey personnel, and supervision necessary for the replacement of the tandem rail car dumpers, hoppers, take away system, positioner, and grippers as described in the Richmond Engineering Works Installation and Commissioning Manual as well as the RCD2 System Replacement Contractor Scope of Work #SO3497.

Examples of requirements are as follows but not limited to:

- All personnel must possess appropriate qualifications(TWIC&Port Badges)
- All cranes must be of appropriate size for necessary lifts
- All rough terrain forklifts must be supplied by the Contractor
- All man basket vehicles/devices shall be supplied by Contractor
- All slings/shackles & lifting devices shall be appropriately sized and supplied by the Contractor
- All mechanical tooling needed shall be supplied by Contractor
- All needed cutting/burning/ and welding equipment shall be supplied and maintained by the Contractor
- All survey/alignment instrumentation must be in calibrated condition – Calibration certification must be supplied to McDuffie Coal Terminal Project Management
- All Safety Equipment needed must be supplied and maintained by Contractor
- All contractors will follow the McDuffie Coal Terminal Lockout Tag Out protocol on all equipment.
- The inside “loop track” must be passable between 1900 - 0700 for safe rail traffic to access the terminal
- All personnel working on the project must have an ASPA Facility Onsite Employee Confirmation sheet filled out and turned into the Administration office or site contact before the commencement of work.

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**ASPA Facility Onsite Confirmation**

**Location: McDuffie Coal Terminal**

Name (Print)	Signature	Badge #	Company
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\*This document will be completed with all personnel that enter ASPA, McDuffie Coal Terminal every day, morning, afternoon, and evening to perform work designated/contracted by McDuffie Coal Terminal. By Signing this document, all personnel which will be performing work onsite, verify understood policies and procedures before performing work on ASPA, McDuffie Coal Terminal. ASPA Facility Onsite confirmation document will be provided to all \_\_\_\_\_ Company personnel by the general Foreman/Supervisors of \_\_\_\_\_ Company which is designated/contracted to completed in full, and given to the McDuffie Administration Office or Terminal Contact before \_\_\_\_\_ arrives at designated work area inside the secure facility.

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The contractor will provide all needed procurement, fabrication, demolition, and construction services (including supervision, labor, tools, personal and consumable supplies, etc.), testing services, and complete documentation as required to perform the work as specified herein. Specification and other information disseminated during the pre-bid meeting/ site visit will provide initial information. The contractor must utilize a quality management system such as ISO 9000 or equivalent.

The contractor shall submit a Site Quality Assurance/Quality Control Manual (Site QA/QC Manual) with its proposal to perform the work. The site QA/QC Manual shall be documentation of the Contractor's process for delivering the level of quality required by the Scope of Work.

The Site QA/QC Manual shall address the following as minimum requirements.

- Site organization, roles, and responsibilities,
- Site management and supervision personnel qualifications,
- Document control,
- Records management, retention, and storage,
- Design control, field change notices,
- Procurement supplies and subcontracting services
- Project reporting
- Process control and documentation
- Inspection and testing control and testing equipment
- Non-performance conforming

The Site QA/QC Manual will be reviewed by the Owner's Quality Control Department for content and applicability to the scope of work. The Contractor shall correct any noted deficiencies in the Site QA/QC Manual within thirty (30) days of issuance of the contract.

The Work shall be performed per the project's drawings and specifications. Detailed construction quality assurance and quality control procedures and processes outlining inspection, monitoring, sampling, testing methods and frequencies, and documentation during site construction are to be contained in the Contractor's Site QA/QC Manual.

The project manager shall be responsible for the complete administration of the Contract for the Contractor. Primary responsibility shall be coordination between Contractor's home office support, field operations, providing shift reports, and interface with McDuffie Coal Terminal designated representative. All communication will be with the Contractor Project Manager or his designated point of contact. The Contractor shall participate in a pre-construction meeting with the Owner at the project site. This meeting will be held before the start of construction work.

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The Contractor's Engineer responsibilities shall include the engineering and design of the Work as outlined in this Scope of Work. The Contractor's Engineer is the Engineer of Record for the Contractor's Work. The Contractor's Engineer is responsible to certify that the construction conforms to the project specifications and drawings. The Contractor's Engineer shall produce the project specifications and drawings for the Contractor's Work. The Contractor's Engineer shall be responsible to perform the necessary verification, and inspection activities, and documentation. The Contractor's Engineer shall be licensed.

The contractor's professional land surveyor shall be licensed in the state of Alabama. The contractor's work will be verified, inspected, and documented per the project's specifications, and drawings by REW and McDuffie Coal Terminal construction coordinators. The contractor shall be responsible for supporting all QA/QC inspection and testing work performed and correcting any material of work that is found to be in non-compliance with the project specifications and drawings. The contractor shall provide quality assurance documentation from manufacturers of all material and equipment required in the contractor's scope of work.

The contractor will maintain a record of all alignment and installation dimensions. The record will be provided to McDuffie Coal Terminal project management on an as completed basis. All alignment and installation dimensions will be witnessed by the contractor and a representative as designated by McDuffie Coal Terminal

The contractor shall be solely responsible for advising McDuffie Coal Terminal representative in writing of any conflicts between the specifications and Contractor's ability to accomplish work, including but not limited to performance and levels of quality.

The contractor will maintain commissioning personnel and tooling required to assist with commissioning. All trade personnel required will be retained for the commissioning exercise. Staff may be reduced as determined during the commissioning exercise.

## Non-conformances and Corrective Action

The Contractor shall report all non-conformances of all material and workmanship from the project specifications and drawings. The Contractor's Engineer may provide input to the corrective action and acceptance of the non-conformance. The Contractor shall assure that all non-conformances are approved by the Contractor's Engineer and if necessary, the Owner before implementing any corrective action-related work.

The Contractor's Engineer shall verify that the Contractor has implemented the corrective action for a non-conformance, as approved by the Contractor's Engineer and if necessary, the Owner. Non-conformances and corrective action shall be processed according to the Owner's procedures and guidelines.

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## Welding

All welding, welding procedures, and welder qualifications shall be in accordance with AWS 01 .1. Welding procedures shall be submitted to and stamped approved by the Contractor's Engineer before the start of production welding. The minimum information required with each procedure is outlined in Appendix E, AWS 01.1. Non prequalified weld procedures must be accompanied by a procedure qualification test report and approved by the Contractor's Engineer.

The Contractor shall be responsible for all qualification of welding procedures, the weld repair procedure, and the welding operators.

## Non-destructive Examination

Non-destructive examination of welds shall be in accordance with AWS 01 .1. The Contractor shall allow the Owner to witness all NOE and perform visual inspections of welds. Means and methods of NOE shall be specified by the Contractor's Engineer. Visual inspection of welding is acceptable at the grizzly, hoppers, and take away systems. Non-destructive testing (UT) will be required on the positioner and both rail car dumpers.

## McDuffie Coal Terminal

McDuffie Coal Terminal personnel represent ASPA and its site organization includes a construction site manager and construction coordinators. The role of the Construction Site Manager is to provide overall management and planning of the project to ensure the project is completed according to the project plans, specifications, drawings, permits, schedule, and budget. McDuffie Coal Terminal coordinators, engineers, and terminal personnel will be responsible for coordinating and production of the construction work which includes coordination of the QA/QC work with the contractor's work. McDuffie Coal Terminal personnel will be responsible to coordinate and direct the contractor to repair or reconstruct work that does not conform to the project specifications and drawings. McDuffie Coal Terminal Maintenance Manager, Maintenance Superintendent, and Equipment Maintenance Superintendent will be directly assigned to the project for project support. Their contact information will be provided upon the award of the successful bidding contractor.

## References

The bidding and successful contractor must submit as part of the bidding package at a minimum of 5 equipment installations in the bulk handling, mining, power generation, or thermal processing facilities. These projects must be turn-key installations performed from start to finish. The information submitted must contain the company that had the equipment installed, facility name, location, and the contact information of the engineers responsible at the specific facility.

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## 2. Safety

All contractor personnel will comply with McDuffie Coal Terminal Safety Standard and all federal, state, and local regulations. The contractor will provide all safety equipment required for the project.

All contractors bidding must submit their Environmental Health and Safety Policy manuals. The document must contain procedures, protocols, and the supporting forms and/or checklists to be filled out by on-site administration and/or QC representatives. This document must contain but is not limited to:

- The safety record for the past 5 years
- Confined Space Procedures
- Crane Safety Procedures
- Disciplinary Procedures
- Drug & alcohol policy
- Electrical Safety Procedures
- Fall Procedures
- First Aid and Medical
- General Safety Operating Rules Procedures
- Lock Out Tag Out Procedures
- Terminal Rail Safety for working near Rail Road tracks and Crossings
- Mobile Equipment & Vehicle Procedures
- Operators Daily Inspection Checklist/Form for forklifts and cranes
- Rigging Inspections
- Safety Management, Audits & Inspections
- Spill Prevention
- Steel Erection Procedures & Checklist/Forms
- Stop Work Procedure
- Tools

The contractor is responsible for maintaining a safe work site. Any safety violations observed are to be halted and corrective action is taken immediately. All safety violations are to be reported to McDuffie Coal Terminal Representative in writing immediately. The report must include violations and corrective action taken. Injuries must be reported immediately, and an appropriate course of action taken for the well-being of the injured person.

The work area will be washed down clean of all combustible elements and gas tested before the start of work. The work area will be cleaned or washed free of combustible elements throughout the project as required. Gas testing will be performed each shift minimum.

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The contractor is responsible for providing a minimum of one safety coordinator and two fire watches during all hours of work. Fire watches will continue to survey the work area a minimum of one beyond any point when work is stopped. The safety officer and assigned fire watches are dedicated and will not be used for other work.

Work overview is described in the following Scope of Services. Work includes but is not limited to the following:

- The contractor will provide adequate transportation from the contractor parking area to and from the worksite.
- The contractor will provide adequate office, lunchroom, restroom, and wash facilities on site. Contract personnel is not permitted to use McDuffie facilities.
- The contractor shall perform the work in a manner consistent with recognized good practice for port authority service and according to such detailed instructions as may be submitted by the purchaser.

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## 3. SITE PREPARATION

The contractor shall perform a thorough inspection of the components, and equipment to be replaced and develop a detailed plan with a schedule to present with the bid document. Project must be completed within the allotted 14 week outage. Detailed Microsoft Project schedule for work scope plan shall be supplied with the bid.

A list of "Critical Control Dimensions" shall be established and distributed to all Contractor supervision before the assembly of any components. These control dimensions will be used in coordination with drawings and technical data to ensure correct specifications are maintained during assembly and throughout commissioning work.

Perform all equipment assembly preparation to insure the outage schedule is maintained. Preparation includes civil, structural, mechanical, and electrical considerations. Determine parts required for reassembly of the dumper and positioner areas are ordered and on-site a minimum of one month before the start of disassembly. Dumper and positioner survey to determine all replacement components required will be completed by February 1, 2022. All demolition and reassembly of equipment are the sole responsibility of the contractor.

All required dumper components will be on-site at McDuffie Coal Terminal before February 1, 2022. This includes all structural components, fluid, and air piping systems, electrical systems, and dumper operator cab.

The preparation schedule will be included with the overall project schedule submitted with the bid.

All preassembly of any equipment that may be completed shall be completed a minimum of one month before the start of the project. For example, one (1) dumper barrel assembly and positioner carriage.

A "Lift Schedule" including planned sequence of installation and weight of lift will be established by the Contractor and Technical Representatives for all lifts to be made. Adequate size slings, cables, shackles, and pad eye installation will be prepared before work is performed. Each lift weight will be marked clearly on the component before staging material for an installation. All lifts will include tag lines to prevent load swing. The lift plan will include experienced crane operators, riggers, and required trade skills to perform the work safely. Lifting attachments will be fabricated by the contractor as required before the scheduled outage.

A suitable pad will be staged by the contractor in a position convenient to assembly and installation of the complete dumper barrel assembly. An adequate pad will be equipped with an equipment erection grid for the pre-assembly of the dumper. The grid



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will be set to within 1/32" accuracy. The contractor will provide 30 days before the project on crane and equipment placement for McDuffie engineering to review.

McDuffie Coal Terminal will notify the contractor when parts are available. Both of the rail car dumper barrels erection will be completed to specification a minimum of one month before the start of the project.

The rail car dumper and other pre-assembly/demolition of equipment to the extent possible will be performed a minimum of one month before the start of the outage.

The contractor will install all mechanical and electrical equipment as specified by the equipment manufacturer and McDuffie Coal Terminal. All appropriate federal, state and local codes including hazardous locations will be observed.

The contractor will reinstall all water, air, wash down, fire protection, and lighting systems of style designated by McDuffie Coal Terminal.

Site survey work at the dumper site will be performed before March 1, 2022. A recessed brass marker will identify the equipment installation grid and be center bored with 1/64" to a minimum of 1/2" depth. Grid accuracy for installation of dumper equipment will be to within 1/32" of the dumper, the centerline of dumper rotation, and the centerline of trunnion roller assemblies will be marked by a recessed brass marker on the concrete floor at driveline elevation and trunnion roller elevation in the floor and vertical concrete abutments. Any disparities found between existing dumper foundations and installation dimensions provided by the equipment manufacturer will be corrected before dumper installation or provisions made for correction during the dumper installation.

The rail car dumper and other pre-assembly/demolition of equipment to the extent possible will be performed before the scheduled installation outage of March 1, 2022.

Purge lubrication of all bearings will be performed on equipment arrival at McDuffie Coal Terminal. All hydraulic reservoirs are to be opened and inspected for cleanliness. All equipment received will be inspected and mounting dimensions checked. All equipment requiring inside storage will be identified and properly stored.

Inspect all hardware for proper fit/size and condition before March 1, 2022. Ensure all installation hardware, bolts, equipment anchors are identified and staged. Only glass encapsulated/epoxy anchors will be used in this installation. Ensure no mechanical anchors are in hardware supplied.

Take away system will be completed above ground and lowered into the dumper vault once hoppers are removed and made ready to shift into position during the commencement of the project.

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The rail car dumper and positioner electrical drive components will be staged in the dumper motor control center before the commencement of the project. All preliminary conduit fabrication and wiring will be completed before the commencement of the project. All required materials will be staged for immediate transfer to the motor control center at this time.

All material for positioner upgrade will be identified and staged for installation before the commencement of the project.

Equipment required for dumper installation will be staged where the crane may pick without movement or require minimal travel before the commencement of the project.

Demolition of an adequate portion of the existing dumper, electrical, water, dust suppression, air, and fire protection systems to facilitate installation of all dumper equipment will be completed before the commencement of the project.

## Haul Roads and Stockpile

The contractor shall use the project's designated Site access locations, roadways, and haul roads during the Work. The Contractor shall keep all roadways clear of fallen material from hauling activities. This includes all material delivery, hauling, and removal activities at the Site's easements and right of way, and the Owner's property. Lay-down and staging work areas for material and equipment will be designated by the Owner and used by the Contractor for this Work.

## Damage to Existing Facilities

The contractor shall take precautions to prevent disturbance or damage to facilities adjacent to the Work areas. All damage must be immediately reported to the Owner's construction coordinator and repairs made as directed by the Owner's construction coordinator at no additional expense to the Owner. The Contractor shall take precautions to prevent damage to the existing facilities and utilities during construction activities.

## Fueling Contractor Equipment

The contractor is responsible for fueling all generators, compressors, welding machines, forklifts, cranes, trucks, or any other machine that requires fuel. McDuffie Coal Terminal is not to be billed or receive any charges regarding fueling during the equipment installation or after completion.

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## Contractor Employee Parking

The contractor's employees or subcontractor employees will be provided a parking area for their vehicles. All of the contractor and any subcontractor employees must obtain or possess TWIC, Port Badges, and Alabama State Port Authority Terminal automotive decals from Port Police. McDuffie Coal Terminal will not be responsible for any damage or theft of employees' vehicles. In the event of damage or theft, Port Police should be notified at (251) 441-7777 and an official police report is documented. Also in the case of theft or damage, the contractor is to notify the McDuffie Coal Terminal contact and notify of the occurrence. The contractor project managers and safety officers are permitted to have their work vehicles on site. Sub Contractors are permitted to have technicians work vehicles on-site to conduct business. The contractor must transport employees to and from the designated employee parking location.

## Disposal of Expired Materials

The disposal of expired steel is to be handled through McDuffie Coal Terminal. Motors, gearboxes, hydraulic units, as well as electrical cabinets, are to turn back over to your state contact which will either remove the component or give directions on its storage location. Any electrical drives, touch screens, relays, transformers, cameras, monitors, communication radios, as well as Isam Automation equipment is to be turned over to the McDuffie Contact personnel which will provide instructions on storage location or will remove the components.

## On-Site Injuries

Any on-site injury or related health concern will require McDuffie Coal Terminal to be notified of the occurrence immediately. The McDuffie Coal Terminal contact will notify the appropriate department depending on the occurrence. If a high-priority injury needing an ambulance or medical services is required the terminal protocol is to announce over the radio system "Code Red" and contact T-10 tower at (251) 441-7505. The contractor will be provided a minimum of one terminal radio for communication with McDuffie Contacts and T-10 tower.

# McDuffie Coal Terminal Contractor Bid Specification

## DIVISION 2 SCOPE OF WORK

### 4. GENERAL SCOPE

Contractor shall be directly responsible for all removal and replacement of the following components:

- Existing rail car dumper
- Demolition of all equipment and components per REW #SO3497
- Concrete work for drive bases and sill beams, positioner and take away system.
- New rail car dumpers (North & South)
- Dumper support structure
- Dumper grizzly
- Hoppers
- C-22 & C-23 conveyor
- transfer chute
- Positioner carriage and runway identified components
- Wheel gripper identified components (North & South)
- Dumper control cab

Dumper vault abutments and annulus chair pockets will be washed down and inspected for damage by the Owner Designee before installation of new conveyor, annulus, hoppers, and rail car dumpers.

The contractor shall be directly responsible for the installation of new equipment to include all structural, mechanical, and electrical components for C-22, the dumpers support structure, the hoppers, the new grizzly, the stainless spill wall slopes, and the dumper complete with driveline assemblies.

Provide a schedule for preparation work to McDuffie Coal Terminal.

Provide a schedule for pre-equipment installation work to McDuffie Coal Terminal.

Provide start to finish work plan complete with benchmark dates to McDuffie Coal Terminal. (Plan may be bar graph with anticipated dates of start and completion for stages of work - may want to designate Excel so the actual may be plotted against planned.)

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All lubrication systems will be installed per manufacture specifications. Lubrication lines will be isolated when flushed in both directions with citric acid, followed by hot oil flush of all debris using a 75-micron filter and working toward 10 microns before connection to lubrication point then pressure tested to the specification of specific pipe for a minimum of 30 minutes. All flushing should be conducted with a McDuffie Coal Terminal representative.

New trunnion roller assemblies-new sill beams to foundation assemblies determined by equipment manufacturer foundation modifications as required.

The contractor will assemble both rail car dumpers at location complete with all electrical, water, air, dust suppression, and fire protection systems in operational condition on completion of equipment installation.

Hours of work will be all hours, personnel, and equipment required to complete the project in not to exceed 14 weeks.

Installation and preliminary testing of all equipment will be completed by end of the 14-week schedule.

The contractor will remove all construction debris and tooling before turning the dumping system over for the commissioning exercise. The work area will be cleared of debris and old equipment on a per shift basis.

## 5. EQUIPMENT INSTALLATION

### **C-22 Conveyor**

Field bolt staging for all structural connections will be performed before the installation of the individual components. All bolts and nut assemblies will be checked to ensure all fasteners may be installed without encountering stiff or damaged threads.

All required electrical limit switches, rope pull switches, zero speed devices, chute plug switches, belt misalignment switches, 30 lighting fixtures, alarm systems, fire control systems are supplied by REW but some wiring and conduit will be provided by and installed by the contractor.

Shim pack assemblies will be identified by location and staged before the start of equipment assembly. Shim installed will be by the plan on drawings and/or Technical Representative recommendation. Adjustments of shim will be as required to obtain critical dimensions.

Field bolts for the railcar dumpers and positioner are provided by REW. Any damaged or missing bolts during the process of equipment erection will be supplied by the contractor.

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## **Positioner Upgrade**

Positioner upgrade will start March 1, 2022.

Remove existing runway rail as well as carriage and inspect runway for deficiencies.

Install runway rail per equipment manufacture specification.

Positioner carriage and components will be replaced with equipment supplied by (REW). Arm travel and limit switches will be set to specification and preliminary testing completed before turning the system over to the commissioning exercise.

Positioner drive assemblies will be replaced per Richmond Engineering specification.

Positioner position control limit switches will be removed per equipment manufacturer specification and a new positioner control system installed.

All associated conduit, wiring, complete for the upgrade will be supplied and installed by the contractor.

Festoon and positioner area will be thoroughly cleaned.

It is the responsibility of the contractor to install the complete mechanical, and electrical systems per manufacture specifications. The contractor will test to ensure proper operation and provide an operating system before the commissioning exercise.

Positioner upgrades will be complete, preliminary testing completed, and turned over for commissioning exercise by May 31, 2022.

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## Dumper Operator Cab

A new dumper control cab per the description below will be installed in a new location of the existing dumper control cab as follows:

The operator cab will be mounted on a separate support structure as the existing operator cab and aligned with a door opening outward and aligned with the existing catwalk platform. The operator cab structure shall be leveled within ¼”.

Cab clearances with a new dumper will be confirmed to have adequate clearance during rotation. No possibility of any portion of the equipment striking the operator cab during normal rotation or equipment failure will exist.

Control cab will have overhead lighting and controllable subdued lighting selectable by an operator to facilitate the appropriate vision of control and dumper during the day and nighttime operation.

New touch screen controls will be included in the dumper cab. Controls will replace the existing HMI interface and be preprogrammed and tested for proper operation. New touch screens and system controls will fulfill existing system control functions and be flexible should additional requirements develop during the design of this project or in the future.

# McDuffie Coal Terminal Contractor Bid Specification

## Concrete Work

All concrete work will follow the procedures provided by Richmond Engineering Works regarding the equipment. Further detail pertaining to the sill beams and pit area may be addressed by Aptim Engineering.

Concrete Testing Procedures - Field testing of concrete and preparation, handling, curing, and testing of cylinders will be in accordance with ATSM and CRD Standards as set forth in paragraph 5.1.

In addition, the following ASTM Standards will be followed:

C 173-73 Air content of freshly mixed concrete by the volumetric method.

C 470-73T Molds for forming concrete tests cylinders vertically.

C 617-73 Capping cylindrical concrete specimens.

C 683-71T Compressive and flexural strength of concrete under field conditions.

- Test cylinders will remain in the area where they are prepared for the first 24 hours properly protected as outlined in ASTM 31-69. They will then be transported to the laboratory, removed from the mold, and immersed in a tank of saturated lime water until the time of testing. Transportation from the work area to the laboratory area on the job site will be in boxes containing wet sand or sawdust and will be protected from freezing.

The individuals who inspect, monitor, sample, and test Concrete construction as required in this specification shall meet the following minimum criteria of certification and/or documented experience. Work experience shall be related to the field for which the inspector is being qualified and may be obtained by working either for an inspection/testing agency or engineering firm as a technician, inspector, or engineer.

- Current ICC Reinforced Concrete Certificate with 1-year related experience, or
- ACI Concrete Construction Special Inspector Certificate, or
- Engineer Intern with one-year related experience, or
- Registered Professional Engineer.



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The individuals who perform testing of concrete or the constituents of concrete as required in this specification shall have an applicable and current ACI certification for testing being performed; ACI Concrete Strength Testing, ACI Concrete Laboratory Testing – Level 1, ACI Aggregate Testing Technician – Level 1, ACI Concrete Field Grade I.

The Contractors' QC laboratory shall submit a certification and/or documentation to provide evidence of qualification. The appointed Registered Professional Civil Engineer, to certify inspections and test results remain responsible for compliance of all inspection and testing activities.

All Laboratory facilities, personnel, and equipment used to test soils as required in this specification shall be part of a Laboratory certified for concrete testing. For example, validated by the USACE Materials Testing Center.

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## Dissimilar Materials:

Where aluminum surfaces contact steel or other incompatible metals, the aluminum surfaces shall be kept from direct contact with such dissimilar material by one of the following methods:

Painting the incompatible metal with a 5-10 mil coating of heavy-bodied bituminous paint.

Painting the incompatible metal with a prime coat of zinc-chromate primer followed by one or two coats of aluminum metal and masonry paint or another suitable protective coating excluding those containing lead pigmentation.

An approved non-absorptive gasket.

Approved caulking placed between the aluminum and the incompatible metal.

## Colors:

Finish colors shall be selected to match the standard color on existing equipment per REW paint spec.

## Touch-Up Painting:

After assembly, all components where the finish has been damaged or abraded shall be repainted to match the original finish.

# McDuffie Coal Terminal Contractor Bid Specification

## REQUIRED DOCUMENTATION

General contractor examples of responsibility are provided but not limited to examples listed below:

### INSTALLATION AND COMMISSIONING DATA DOCUMENTATION

Final installation control data documentation will be supplied by the General Contractor to McDuffie Coal Terminal. Control data will include all specifications for proper installation and operation of the equipment. Final installation data sheets will be signed and dated by a minimum of one General Contractor Foreman and an Owner Designated Representative. Any deviation from the specification must be presented to McDuffie Coal Terminal and any deviation from the specification must be accepted by McDuffie Coal Terminal and the Equipment Manufacturer (REW).

### DUMPER C-22 INSTALLATION DOCUMENTATION

C-22 and discharge hoppers will be fabricated and preassembled to the extent possible above the dumper vault before the commencement of the project. The C-22 conveyor belt will have an annulus installed parallel of the belt run at the north and south ends of the location sufficient distance away for proper clearances. The conveyor will be made ready for installation to meet the General Contractor requirements to meet the overall 14-week completion schedule. Installation of the C-22 conveyor includes all appropriate elevation, alignment, and devices to make the conveyor ready for operation. Elevations and alignment of the conveyor and associated equipment will be documented, and all documentation presented to McDuffie Coal Terminal before acceptance.

### DUMPER ANNULUS INSTALLATION DOCUMENTATION

Annulus provided will be designed checked to insure thirty (30) year performance supporting the required loads of the hoppers in fully loaded and under maximum operational conditions. Design and installation of the annulus will be in compliance with welding codes applicable per engineering design and American Welding Society Codes and recommended procedures. Elevation of the annulus will be to the assigned elevation within design specification and ensure proper support for the hopper assemblies. All elevations and compliance with applicable codes during fabrication shop work and field installation will be documented and supplied to McDuffie Coal Terminal before acceptance of the assembly.

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## DUMPER HOPPER INSTALLATION DOCUMENTATION

Material receiving hoppers will be constructed of materials and design as shown on the provided drawings and/or incorporate modifications to insure thirty (30) year service. Hopper loading will be checked under maximum operating condition loading. (Present hopper design of 300 ton will be examined to ensure load rating is adequate for present-day and anticipated future loads). Modification of the hopper design may require alteration to facilitate seating of the new hoppers to the new sill beam design. The top of hopper construction will be modified to lower the top of the grizzly to the top of sill beam elevation. Completion of hopper installation includes complete anchoring of all fixings, internal and external devices.

## DUMPER INSTALLATION DOCUMENTATION

Drawings will be available to ensure proper installation of the rail car dumpers system. Installation dimensions will be taken and compared against actual. Disparities will be corrected or agreed upon prior to acceptance by McDuffie Coal Terminal and Richmond Engineering Works. Dumper critical control verification & documentation will include but is not limited to the following:

- The centerline of end ring rails
- The centerline of rotation, the centerline of the dumper, and diagonal dimensions of trunnion roller assemblies
- Dumper end ring run out and vertical plain survey
- Dumper platen elevation survey on both platens
- Bolt torque verification of all bolts to have proper torque applied and verified
- Installation grid verification & recessed brass marker installation
- All driveline and dumper alignment verification
- Dumper centerline of rotation verification
- Dumper torque curve/ balance verification
- Dumper cycle time tip and return time verification

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## POSITIONER UPGRADE INSTALLATION

Positioner critical control verification & documentation will include but is not limited to the following:

- Positioner top of runway survey
- Positioner top of runway to top of yard rail verification
- Positioner thrust rail gage survey
- Positioner drive alignment
- Positioner pinion drive gear to rack segment (Backlash or Root)
- Positioner drive motor torque curve
- Positioner drive motor current limit setting
- Positioner acceleration and deceleration settings
- Positioner limit switch dimensional placement
- Positioner travel speed verification
- Positioner arm up and down speeds recorded
- Positioner carriage tilt setting

## WHEEL GRIPPER UPGRADE INSTALLATION

Wheel gripper control verification & documentation will be installed per manufacturer specification (REW) The detailed process can be located in the Installation and Commissioning Manual Alabama State Port Authority Contract 246942 starting on page 27 section 11.0 through page 29 section I, also on page 35 section 4.0.

The contractor will install per the manufacturer specification and will notify McDuffie Coal Terminal representative as well as Richmond Engineering Works of any changes.

# McDuffie Coal Terminal Contractor Bid Specification

## 6. COMMISSIONING EXERCISE

The tandem rail car dumper commissioning exercise is a period of time when the equipment is placed under operational conditions to ensure the system operates to specification and to correct any deficiencies that may arise during this period. It is anticipated that the exercise will be completed in less than two weeks. All portions of the system will be monitored during the initial stages of this exercise and all observations of equipment performance are noted by people staged throughout the system. Appropriate radio communications are required to ensure hazardous conditions are halted and corrected immediately. Undue equipment damage or personal injury may result from an improperly performed commissioning exercise. All observations are to be noted and reported to McDuffie Coal Terminal. Appropriate equipment manufacturer representatives will be immediately notified and any disparities corrected expeditiously. Equipment malfunctions that present a personnel or equipment hazard will stop immediately for correction.

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## POST-AWARD ORIENTATION (PRE-CONSTRUCTION CONFERENCES AND THE COORDINATION MEETING (MUTUAL UNDERSTANDING MEETING))

**General:** There are three, and possibly four, conferences/meetings held before the commencement of physical work. The first covers all aspects of the contract and is called the Post-award Orientation Conference/Pre-construction Conference. The Pre-construction Conference is required. The second is the Pre-construction Safety Conference required. The third covers Construction Quality Management and is called the Coordination Meeting or the Mutual Understanding Meeting (McDuffie Coal Terminal). These meetings are a specific contract requirement. The fourth is the QC Plan meeting which can be requested by the contractor/QC Manager or called by McDuffie Coal Terminal. The meeting is held to clarify requirements for the development of the QC Plan.

### The Post-Award Orientation Conference / Pre-construction Conference

- The Post-award Orientation Conference/Pre-construction Conference is conducted as soon as possible after contract award and before the commencement of any physical work. The objective of the Post-award Orientation Conference/Pre-construction Conference is to review the contract clauses to include accident prevention, administrative requirements, personnel requirements, and procedural matters. This conference is very important because it establishes the ground rules for administering the contract.
  - Contractor quality control normally is not discussed in detail at this conference. The subject is so important it deserves special attention and the personnel attending may not be involved in the day-to-day on-site activities. The degree of quality control-related discussion depends largely on the scope and magnitude of the contract and on the individuals from each organization that are present.
  - This meeting is scheduled, convened, and conducted by McDuffie Coal Terminal. It is a McDuffie Coal Terminal responsibility to take detailed minutes of the conference and provide copies to all participants.

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## The Pre-Construction Safety Conference

- This meeting is held to review and discuss the contractor's safety program. If possible, it should be held after the initial receipt of the contractor's Accident Prevention Plan (APP).
- To achieve a mutual understanding with the contractor or his/her APP.
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## The Coordination Meeting or the Mutual Understanding Meeting

- This meeting is scheduled, convened, and conducted by the McDuffie Coal Terminal. Normally, this is the area, project engineer or McDuffie Contacts, REW, Aptim Engineering, and Contractor Representatives. As with the Pre-construction Conference, this meeting must be held before any physical work begins.
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- The purposes of the Coordination Meeting or the Mutual Understanding Meeting are:
  - - To achieve a mutual understanding with the contractor of his/her role in quality control.
  - - To review the QC Plan with the contractor. McDuffie Coal Terminal must receive and review the QC Plan before the meeting. Acceptance of the plan can be accomplished after the meeting.
  - - To establish a good working relationship between McDuffie Coal Terminal and the contractor.
- Personnel, both McDuffie Coal Terminal, and contractor, who will be directly involved in construction quality management should be present. They will be working together on a day-to-day basis on the quality management aspects of the project, and they need to come to mutual understandings before the project begins. If subcontractors are to be involved in quality control, their responsible personnel should also attend, so that they can receive the information they need "first-hand."
- The Coordination Meeting or the Mutual Understanding Meeting will normally include a full spectrum of CQM requirements. A sample Coordination Meeting or the Mutual Understanding Meeting Agenda is included at the end of this section.
- It is McDuffie Coal Terminal's responsibility to take detailed minutes of the meeting and provide copies to all participants. It is vital that everything of importance is included in these minutes since verbal understandings tend to be remembered differently by different individuals. If any disagreement occurs between McDuffie Coal Terminal and the contractor, the minutes will prove invaluable. These minutes must be signed by both the contractor and McDuffie Coal Terminal.

**NOTE:** McDuffie Coal Terminal is responsible to take meeting minutes.

### **QC Plan Meeting:**

The purpose of the QC Plan meeting is to develop a mutual understanding



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of the QC Plan requirements before plan development and submission.

## SAMPLE

### COORDINATION MEETING OR THE MUTUAL UNDERSTANDING MEETING AGENDA

- I. Introduction
  - A. McDuffie Engineering / ASPA Engineering
  - B. REW Engineering
  - C. Quality Assurance Personnel
  - D. Contractor Personnel
  - E.
- II. CQC Specifications
- III.
- IV. Contractor Quality Control System
  - A. Quality Control Staff
    1. "Chain of Command"
    2. Individual Responsibilities
    - 3.
  - B. Submittals
    1. Scheduling Updates
    2. Follow-up of Disapprovals
    - 3.
  - C. Testing
    1. Frequency
    2. Who Performs/Qualifications
    3. Lab Approval
    4. Documentation with Auditable Trail
  - D. Quality Control Daily Reports
    1. Contractor Name and Address
    2. Project Name, Contract Number, Location, Date, and Report Number and list of employees. (Sample daily report has been previously added)
    3. Weather
    4. Contractor/Subcontractor Area of Responsibility
    5. Materials/Equipment Delivered to Job Site
    6. Record any Preparatory, Initial, and Follow-up Phase activities held. Note results of surveillance or necessary corrections.
    7. Testing Performed and Results Noted
    8. Verbal Instructions Received
    9. Controversial Issues

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10. Signed by the QC Manager

E. Definable Features of Work

F. Three-Phases of Control System

1. Preparatory

- Shop Drawings
- Work to be built upon
- Equipment
- Control Testing
- Richmond Engineering Works furnished equipment
- Construction Methods
- Safety and Activity Hazard Analysis
- Record keeping
- Notification of McDuffie Coal Terminal Representative

2. Initial

- The contract required concerning quality
- Corrective measures
- Record keeping
- Notification of McDuffie Coal Terminal Representative
- Safety and Activity Hazard Analysis

3. Follow-Up

- Continuing Quality
- Corrective Measures
- Record keeping

G. QC Plan

1. Correct Deficiencies

2. Discuss

- Procedure to be followed when deficiencies are discovered.
- Cooperation

3. Changes to the Plan

- Required to revise the plan if something proves to be incorrect after construction begins.
- Proposed changes must be submitted in writing to Area/Engineer or McDuffie Coal Terminal personnel and accepted

4. The administration of the QC Plan is the sole responsibility of the contractor.

5. Punch-Out Inspection

- Deficiencies noted by QC Manager
- Corrected prior to Pre-final/Final Inspection

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- 6. Pre-final/Final Inspection
  - Conducted with the contractor, McDuffie Coal Terminal, and possibly REW personnel.
  - Additional punch-list items noted.
  - Payment withheld until corrected.
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- 7. McDuffie Coal Terminal Quality Assurance
- 8. Discussion
- 9. Safety meetings were held reported with the daily report.

Project Schedule

Bench Marks	Dates
On Site Pre-Bid Meeting	December 13 , 2021
Bid Opening	January 4, 2022
Notice of Intent to Award	January 7, 2022
Award of Contract	January 14 , 2022
Post Award Orientation Conference	January 19, 2022
Pre-Construction Safety Conference	January 20, 2022
The Coordination Meeting	January 24, 2022
Contractor Mobilization	February 1, 2022
First Dumper Barrel Built & Positioner Carriage	March 1, 2022
Start of Project	March 1, 2022
Equipment Built Ready for Commissioning	May 29, 2022
Commissioning Starts	June 1, 2022
Equipment Walk Down/Punch List	June 5, 2022
Project Completion	June 7, 2022

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## PRICE PROPOSAL ROTARY CAR DUMPER REPLACEMENT GENERAL CONTRACTOR

### 7. Bid Schedule

In compliance with the Request for Proposal, the undersigned hereby declares that he has read and understands the contract documents and hereby proposes to furnish all labor, equipment, and materials necessary to complete the work in accordance with the Request for Proposal, General Provision, and Minimum Specifications. The prices stated are firm and are not subject to escalation, FOB Delivered to McDuffie Coal Terminal.

Bids will be evaluated based on both firm bid price and estimated duration.

#### 1.0 Estimated Duration for Work Completion

Duration Working 7 days one 12hr shift \_\_\_\_\_ days

Duration Working 7 days two 12hr shifts \_\_\_\_\_ days

#### 1.1 Base Bid Working 7 days one 12hr shift

The Furnishing of all Labor, Supervision, Equipment, and Materials, necessary for Firm Base Bid:

\$ \_\_\_\_\_

Mobilization/De-Mobilization: \$ \_\_\_\_\_

Total Firm Bid Price: \$ \_\_\_\_\_

#### 1.2 Base Bid Working 7 days two 12hr shifts

The Furnishing of all Labor, Supervision, Equipment, and Materials, necessary for Firm Base Bid:

\$ \_\_\_\_\_

Mobilization/De-Mobilization: \$ \_\_\_\_\_

Total Firm Bid Price: \$ \_\_\_\_\_

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## 2.0 Additional Contract Pricing Request

The Contractor shall provide the following pricing information, which will be used by the Owner for comparison purposes and for any additional work that may be required.

- 2.1 Dumper Barrels Assembly and Placement \$ \_\_\_\_\_
- 2.2 Dumper Drive Assembly Installation \$ \_\_\_\_\_
- 2.3 Positioner Carriage and Runway Modifications \$ \_\_\_\_\_
- 2.4 Wheel Gripper Assembly Modifications \$ \_\_\_\_\_
- 2.5 Dumper Grizzly Installation \$ \_\_\_\_\_
- 2.6 C-22 Replacement with 96" Belt \$ \_\_\_\_\_
- 2.7 Hoppers Replacement \$ \_\_\_\_\_
- 2.8 Dumper Control Cab Replacement \$ \_\_\_\_\_
- 2.9 Dumper Commissioning Support \$ \_\_\_\_\_
- 3.0 Crane Mobilization / De-Mobilization \$ \_\_\_\_\_

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The rates given below are for the following crafts presently in your employment or which could be included in your employment. These rates shall include base rates, taxes, insurances, FICA, SUI, Workmen’s Compensation, fringe benefits, tools, consumables, other assessments, overhead, and profit.

<b>(Craft)</b>	<b>Straight Time</b>	<b>Overtime</b>	<b>Double Time</b>
General Forman	\$ _____	\$ _____	\$ _____
Foremen	\$ _____	\$ _____	\$ _____
Journeymen	\$ _____	\$ _____	\$ _____
Apprentice 4 <sup>th</sup> Year	\$ _____	\$ _____	\$ _____
Laborer	\$ _____	\$ _____	\$ _____

Expiration Date (s) for Above Rates: \_\_\_\_\_

Define the point at which overtime commences per workweek:

Example: After the first forty (40) hours are spent or after eight (8) hours of a five (7) day work week: Or after ten (10) hours of a four (7) day work week: Or other methods.

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The will be no reimbursement for overtime or double time unless authorization has been given in writing by the Owner and rates have been established and approved before work commences. This does not preclude the Contractor from working overtime if the Contractor is behind schedule. Premium time is considered the difference between Straight Time and Overtime or Double Time.

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## 3.0 Material Mark-Up

Contractor to provide the percentage of mark-up on materials supplied in addition to the quoted quantities already in the Bid Sheet, or notate that Contractor shall pass through materials at cost.

Materials Passed through at cost?      Yes \_\_\_\_\_      No \_\_\_\_\_

Or Materials marked-up at \_\_\_\_\_ Percent (%) above cost.

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**McDuffie Coal Terminal Options:** Proper effective QC can prevent adverse actions. However, if efforts at the field level do not bring the desired result, McDuffie Coal Terminal has no choice but to initiate action under the Contract Clauses of the contract that provide the means for enforcing contract compliance.

1. Requiring contractor removal and replacement of deficient materials and/or workmanship - Contract Clause, Inspection of Construction.
  - This contract clause allows McDuffie Coal Terminal to require the contractor to expose, test, and ultimately remove and replace deficient work.
  - If necessary McDuffie Coal Terminal may employ another contractor to make the corrections performed if he refuses to correct it himself. If adversarial relationships develop, which could be costly to the contractor, a copy of directive-type letters to the contractor should be furnished to the surety company.
  - Withhold Payment - Contract Payment Clause.

Grounds for withholding payment include the contractor's failure to:

- Perform in accordance with the terms of the contract,
- Provide the Quality Control Plan giving assurance of his intent and ability to comply with quality standards,
- Build to quality standards.

While the ASPA is obligated to pay for satisfactorily completed work, it has no obligation to pay a contractor for deficient work.

- Requiring removal of unqualified personnel - Contract Clause. If contractor personnel is deemed to be incompetent, careless, or otherwise objectionable, the ASPA can require the removal of such personnel from the project. However, under other provisions of the contract, if McDuffie Coal Terminal deems the QC staff to be too small, but not incompetent, it may direct the addition of personnel.
- Requiring the contractor to assume personal supervision - Contract Clause, Superintendence by the Contractor. If the contractor does not provide an adequate superintendent, the contract allows the Contracting Officer to require the contractor to assume personal supervision of the work.
- Halting Work. Another McDuffie Coal Terminal option is halting work until deficiencies are corrected.
- The Contracting Officer may direct the contractor to cease work and any item or work feature pending satisfactory correction of any deficiency in that work-- particularly if the defective work is to become inaccessible if further work proceeds.
- If the contractor refuses to stop and correct the deficiency immediately, a letter from the Contracting Officer may be issued, directing the contractor to cease that particular operation.
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## 7. Liquidated Damages

Both Parties agree that the Contractor's failure to comply with the Contract schedules and/or completion of the Work will result in Alabama State Port Authority/McDuffie Coal Terminal incurring damages in amounts difficult to ascertain with certainty. It is agreed, therefore, that liquidated damages specified herein represent reasonable amounts to compensate Alabama State Port Authority/McDuffie Coal Terminal for Contractor's failure to perform and are not to be construed as a penalty. Consequently, where liquidated damages are provided for, Alabama State Port Authority/McDuffie Coal Terminal will not be required to prove that it has incurred actual damages. In the event that the Contractor fails to perform its obligations under the terms of this Contract within the time specified herein, then Alabama State Port Authority/McDuffie Coal Terminal shall have the right to deduct from, and retain out of, such monies which may be due and payable to the Contractor.

If the amount due, or to become due to the Contractor under the terms of this Contract is insufficient to pay in full all liquidated damages, the Contractor shall pay to Alabama State Port Authority/McDuffie Coal Terminal the amount necessary to effect such payment in full of all liquidated damages within thirty (30) days of receipt of an invoice from Alabama State Port Authority/McDuffie Coal Terminal. Liquidated damages shall be accessed at ten thousand dollars (\$10,000) per day, beginning on April 25, 2022.

## Weather Delays

Weather delays were taken into account during the drafting of this document. There were two (2) severe weather days anticipated. Work will be expected to continue during "normal" rainy weather. If any "Act of God" or weather delays take place beyond what has been accounted for those days may be added to the schedule of the replacement outage.