



Invitation for Bids (IFB)

Wheel Wash System

Wheel Wash Bid: SA 09-27-2017

Region 2000 Services Authority is accepting sealed bids for all labor, materials, equipment and incidentals required to provide a completely automated wheel wash system as specified in bid package.

Issue Date: September 10, 2017

Bids Due: No later than 2:00 pm (EST) September 27, 2017

Bids shall be addressed as follows:

Region 2000 Services Authority
Attn: Larry Hall
361 Livestock Road
Rustburg VA 24588

Sealed envelopes shall be clearly marked "Wheel Wash Bid"

Bid opening:

Bid opening will take place at the Services Authority offices located at 361 Livestock Road, Rustburg, Virginia 24588. Sealed bids must be received by 2:00 pm (EST) Wednesday September 27, 2017 at which time they will be opened and read aloud. Bids received after 2:00 pm (EST) by the official clock at our main office located at 361 Livestock Road Rustburg Virginia 24588 will not be considered.

For bid package please visit:

<http://www.region2000servicesauthority.org/procurements>

or contact Larry Hall at lhall@region2000.org / (434) 455-6334

SECTION 1: INTRODUCTION AND BACKGROUND

1.1 INTRODUCTION

The Region 2000 Services Authority operates a full service regional landfill at 361 Livestock Road in Rustburg, Virginia serving the Lynchburg, Campbell, Nelson and Appomattox Communities. We typically process 200,000 tons of solid waste per year. We estimate that over 200 trucks per day use the landfill.

1.2 REQUESTS FOR BIDS AND FOR INFORMATION

The Services Authority seeks sealed bids on a **MobyDick Wheelwashing Systems ConLine Series** wheel wash system or equivalent. Specifications for this brand can be found at <http://www.region2000servicesauthority.org/procurements>

Questions can be directed to Larry Hall at 434-455-6334 or lhall@region2000.org. Responses will be posted on the Services Authority website, www.region2000servicesauthority.org/procurements.

1.3 SUBMISSION OF BIDS

Bids should be submitted in a sealed envelope by 2:00 p.m., September 27, 2017 at the Services Authority offices at 361 Livestock Road, Rustburg, Virginia 24588. Bids should be clearly marked: Wheel Wash System Bid: SA 09-27-2017. Two complete copies should be submitted with each bid.

1.4 ADDENDA TO THE BID DOCUMENTS

If it becomes necessary to revise any part of the bid documents, an addendum will be placed online at www.region2000servicesauthority.org prior to September 22, 2017. Respondents are responsible to check online prior to submission of their proposal and acknowledge receipt of addendum(s) within their proposal. We will make a good faith effort to notify vendors if we are aware of their interest in this bid.

1.5 PRE-BID CONFERENCE

No pre-bid conference will be established for this bid opportunity.

1.6 AWARD OF CONTRACT

The Region 2000 Services Authority will award this IFB to the lowest responsive and responsible bidder.

1.7 BID DETAIL

Each bid should contain the following information:

- 1) Manufacturer, model name of product proposed and appropriate descriptive literature to show it is equivalent to the a MobyDick Wheelwashing Systems ConLine Series wheel wash system.
- 2) Price, all inclusive
- 3) Number of days to install from receipt of Purchase Order
- 4) References and Firm Experience.
 - a. Include the name and contact information for the person at the Firm who

- will be responsible for seeing that the project is installed to our satisfaction
- b. Include contact information for customers who have installed the product you are proposing
- 5) Any information about discounts or special offers not discussed in the Price section.

SECTION 2: TERMS AND CONDITIONS

2.1 GENERAL

- 1) In the solicitation or awarding of contracts, Region 2000 shall not discriminate because of the race, religion, color, sex, national origin, age, disability or any other basis prohibited by state law relating to discrimination in employment.
- 2) Region 2000 welcomes and encourages the participation of small businesses and businesses owned by women and minorities in procurement transactions made by Region 2000.

2.2 AWARD OF CONTRACT

- 1) Region 2000 reserves the right to reject any and all bids and to waive any informalities.
- 2) The Successful Bidder shall, within fifteen (15) calendar days after prescribed documents are presented for signature, execute and deliver to Region 2000 the contract forms and any other forms required by the Request for Proposal.
- 3) Any contract resulting from this Invitation for Bids is not assignable.

2.3 BIDDER'S REPRESENTATIONS

By submitting a bid in response to this Invitation for Bids, the bidder certifies that it has read and understands the bid documents, specifications, and drawings, if any, and has familiarized itself with all federal, state and local laws, ordinances and regulations that in any manner affect the cost, progress or performance of the work.

2.4 BONDS

Region 2000 does not require the Successful Bidder to furnish Performance Bond and a Payment Bond for this contract.

2.5 INSURANCE

The successful bidder shall maintain insurance to protect itself and the Region 2000 from claims under the Workers' Compensation Act, and from claims for damages for personal injury, including death, and for damages to property, which may arise from performance under this contract. The successful bidder shall deliver Certificate of Insurance to Region 2000 specifying the limits acceptable to Region 2000 which are as follows:

- 1) Workers' Compensation and Employer's Liability: Virginia Statutory requirements
- 2) Automobile Liability (bodily injury/property damage): \$1,000,000
- 3) Comprehensive General Liability (bodily injury/property damage): \$1,000,000 per occurrence; \$2,000,000 aggregate
- 4) The Certificate shall show Region 2000 named as an additional insured

for commercial general liability and automobile liability and must contain provisions preventing cancellation, non-renewal or expiration unless written notice is given to the Region 2000 at least thirty (30) days in advance.

2.6 BIDDERS PERFORMANCE AND INDEMNIFICATION

- 1) All goods and/or services delivered and/or rendered shall comply with all applicable federal, state and local laws, and shall not infringe any valid patent or trademark. The successful bidder shall indemnify, keep, save, and hold Region 2000, its officers and employees, harmless from any liability for infringement and from any and all claims or allegations of infringement by the bidder or Region 2000, its officers and employees, arising from, growing out of, or in any way involved with the goods delivered or services rendered pursuant to this purchase.
- 2) The bidder shall indemnify and hold harmless Region 2000 against and from all liability, claims, damages and costs, including attorney's fees of every kind and nature and attributable to bodily injury, sickness, disease or death or to damage or destruction of property resulting from or in any manner arising out of or in connection with provision of any services under this contract, the failure to provide any services or the use of any services or materials furnished (or made available) by the Successful Bidder, provided that such liability is not attributable to the Region 2000's sole negligence.

2.7 RECORD RETENTION/AUDITS

The Successful Bidder shall retain, during the performance of the contract and for a period of three years from the completion of the contract, all records pertaining to the Successful Bidder's proposal and any contract awarded pursuant to this Request for Proposal. Such records shall include but not be limited to all paid vouchers including those for out-of-pocket expenses; other reimbursement supported by invoices, including Bidder's copies of periodic estimates for partial payment; ledgers, cancelled checks; deposit slips; bank statements; journals; contract amendments; insurance documents; payroll documents; timesheets; memoranda; and correspondence. Such records shall be available to Region 2000 on demand and without advanced notice during the Successful Bidder's normal working hours.

2.8 DEFAULT

The Successful Bidder is wholly responsible for failure to perform under this contract or to complete this contract as specified herein. If the Successful Bidder fails to perform or complete the contract then Region 2000 may consider the Successful Bidder to be in default. In the event of default, Region 2000 will provide the Successful Bidder with written notice of default, and the Successful Bidder will be provided twenty (20) calendar days to provide a plan to correct said default.

If the Successful Bidder fails to cure said default within twenty days, Region 2000, among other actions, may complete the performance through a third party, and the Successful Bidder shall be responsible for any amount in excess of the agreement price incurred by Region 2000 in completing the performance as specified in the contract.

2.9 TERMINATION OF CONTRACT

- 1) Region 2000 reserves the right to terminate the contract immediately in the event that the Successful Bidder discontinues or abandons the performance; if adjudicated bankruptcy, or is reorganized under any bankruptcy law; or fails to keep in force any required insurance policies or bonds.
- 2) Failure of Successful Bidder to comply with any section or part of this contract will be considered grounds for immediate termination of the contract by Region 2000.
- 3) Notwithstanding anything to the contrary contained in the contract between Region 2000 and the Successful Bidder, Region 2000 may, without prejudice to any other rights it may have, terminate the contract for convenience and without cause, by giving 30 days written notice to the Successful Bidder.
- 4) If the termination clause is used by Region 2000, the Successful Bidder will be paid by Region 2000 for all services satisfactorily performed by the Successful Bidder up to the termination date set in the written termination notice.

2.10 CONTROLLING LAW; VENUE

This contract is made and entered into in the City of Lynchburg, Virginia, and shall be governed by the applicable laws of the Commonwealth of Virginia. Any dispute arising out of the contract resulting from the Request for Proposal, its interpretations, or its performance shall be litigated only in the City of Lynchburg General District Court or the Circuit Court for the City of Lynchburg, Virginia.



Region 2000 Services Authority

Wheel Wash Bid

PART 1 – GENERAL Specifications

1.1 RELATED DOCUMENTS

- A. Contractor will furnish all labor, materials, equipment & incidentals required to provide a completely automated wheel wash system as specified herein.
- B. Contractor is responsible for obtaining all required building permits.
- C. Owner is responsible for Electric from AEP meter to control panel.

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the vehicle wheelwashing system and equipment and accessories, including:
 - 1. Wheelwashing platform elements with spray nozzles and piping.
 - 2. Splash walls and side spray piping nozzle assemblies
 - 3. Wheelwashing pumps (4 required).
 - 4. Individual Controls for wash systems pumps
 - 5. Controls for wheelwashing system, including vehicle entrance magnetic type sensor.
 - 6. 5,800 Gallon Water Recycling with Automatic Scraper Conveyor Solids Removal Tank System
 - 7. Automatic Flocculent dosing system.
 - 8. Cold Weather operating system
- B. Bids may be for various vendors whose equipment exceeds or meets these specifications. Please identify in your bid where your product does not meet the requested specification.

1.3 WHEELWASHING SYSTEM DESCRIPTION

- A. Furnish a completely automatic two tire revolution, modular, touchless drive-through wheelwashing and water reclamation (dirt sediment settlement and water recirculation) system for permanent applications, suitable for vehicles having weights and dimensions allowed on public roads. With the systems common components there may be as many as six alternative systems which may be configured.

1.4 PERFORMANCE REQUIREMENTS

- A. Operation: As the vehicle approaches the wheelwashing unit the wash cycle and related water recycling operations shall be automatically activated by the vehicle passing through the entrance sensor. Length of the continuous wash platform must allow for greater than 26 ft drive through length. A technically coordinated spray system creates an effective washing result for the complete length of the vehicle as the vehicle is driven in a fixed path between tire guides at a slow speed (30-

40 feet per minute) through the wash platform. The angled profile construction of the continuous wash platform base areas flexes open the tire profiles and therefore supplements the cleaning effect.

1. A specially developed nozzle characteristic including side and bottom nozzles ensures for an efficient water spray profile for targeted cleaning of the tire profiles, outer and inner wheel surfaces and part of the chassis. The bottom nozzle angles are no more than 20 degrees so arranged that the vehicle driver's sight is not impaired during the wash cycle and that only a minimum of over spray is transferred into the surrounding area.
 2. The length of the wash cycle is dependent on operating conditions and is progressively adjustable via a timer located on the front of the control cabinet.
 3. The wheelwashing system shall also be equipped with an adjustable timed shut off which stops the system after the set time has elapsed after the vehicle enters the system, to allow drivers of stopped or stalled vehicles to exit the vehicle after the wash system stops.
 4. As the vehicle is driven through the wheelwash at 30-40 feet per minute, the wheelwashing system shall satisfactorily remove all visible, heavy dirt accumulation from the vehicle's tires and tire-grooves and wheel wells, to prevent track-out of dirt by a truck's tires out of the Owner's premises.
- B. Minimum design capacity in vehicle wash cycles per hour shall be up to 60 at 1-minute wash cycle.
- C. The supplier is solely responsible for the equipment performance. Should the equipment not perform, as per these specification requirements, the supplier shall modify, add and/or alter the equipment supplied at his own expense until the performance is satisfactory.
- D. The water reclamation system shall be capable of reclaiming water from the wheelwashing system and process the removal of suspended dirt by means of settling pits or tanks. The submersible slurry pumps then reuse the water in the wheelwashing system.
1. The wash platform wash elements shall be of boxed construction, with integrated, internal sludge/water drainage slopes minimum 2% via which the sludge and dirty water is diverted to centered 23 inch wide openings.
 2. The wheelwashing system is also equipped with two recycling tanks each gross 5000 gallons of self-supporting steel construction consisting of a steel 4 mm thickness, ST 37 profile frame and plate. The tank in an empty condition is also capable of withstanding the ground pressures and forces resulting from a passing by, fully loaded truck. External dimensions: 228 in l x 87 in w x 57 in h, Gross volume: 5000 gallons, weight: ca. 4,200 lbs
 3. Each of the recycling tanks shall be equipped with a continually operating single scraper-conveyor module to evacuate and dewater solids, the scraper conveyor chain/plate assy shall be mounted on dual rails and guide ways with 6 specialty designed sprockets and 3 shaft assemblies and 6 auto lubricating 30 mm diameter bearing. The linked chain length shall be of 52'9" with 24 collection plates 8.5 cm high attached 3 points with a dirt removal scraper conveyor discharge 51 "height. The conveyor assemblies are driven by a .33 hp Nord motor and gear reducer. The module consists of 3 sections is removable and may be retrofitted in ConLine series tanks.
 4. The wheelwash system's slurry quality pumps are to be placed in the pump chamber of the in-ground 5,000 gallon water recycling and sedimentation collection tanks. The pumps will be capable to pump abrasive slurries without compressors or filters, other than the integrated pump screens, to filter the reclaimed water. The pump and integrated screen system are to be designed to not allow the passing of larger than ¼ inch solids to the wheelwash platform.

5. The wash pumps are to be designed for maximum cleaning effectiveness flow and pressure at 49 ft to 72 ft of head.
6. The pump is to be designed for a complete mechanical rebuild cost of components under \$790 USD.
7. Water delivery from the pump chamber to the wheelwash platform shall be via four pumps and two direct 4 inch id supply line to provide for an efficient pressurized water spray profile at the wheelwash platform. The water delivery system will be capable to pump wash water without headers.
8. The settled-out sediment in the recycling chambers shall be removed at regular intervals, the time period for which being dependent on how often the system is used.
9. The system shall have an Automatic Flocculent dosing system to increase and optimize the sedimentation process. The flocculent is fed via automatic dosing unit volume delivery at 50 liters per hour.
10. The system must be able to continuously supply adequate amount of water for the wheelwash pumps regardless of traffic volume (subject to 1.4 B).
11. Prior to final acceptance of the system by the owner, the supplier shall demonstrate the continuous operating capacity of the reclamation system in relation to the wheelwashing system.

1.5 SUBMITTALS

A. Product Data:

1. Submit Product Data in strict accordance with requirements of these specifications and the General Requirements.
2. Submit the below listed technical information, concept design drawings and layouts for the Engineer provided by the vendor. The quality of these drawings shall be such that the Engineer shall be able to determine and make changes required to related civil construction, electrical and mechanical work and installation work shown in the Contract Documents to accommodate the system supplier's proposed system. The set of drawings submitted shall consist of, but not be limited to, the following:
 - a. CAD Equipment general layout longitudinal section.
 - b. CAD Equipment general layout side view.
 - c. CAD Equipment general layout cross-section.
 - d. CAD Wheelwashing and Water discharge drawings.
 - e. Detailed listing of pumps, valves and other components used within the system and operation and maintenance data and instructions.

B. Operation and Maintenance Data: For Wheelwashing System to include emergency, operation, and maintenance manuals.

C. Warranties: Special warranties specified in this Section.

1.6 QUALITY ASSURANCE

- A. The wheel wash system, pumping equipment and all electrical controls shall be designed and supplied by one supplier.
- B. It is encouraged that the supplier shall have been regularly engaged in the engineering, manufacturing and supply of the wheelwash systems for a period of not less than Twenty five years and a minimum of 2000 wheelwash systems installed and operating. All similar items shall be the products of one manufacturer. The equipment offered shall be the latest standard product, modified as necessary to meet conditions of the project.

- C. Product Options: Drawings indicate size, profiles, and dimensional requirements of the named supplier listed in the Products section of this specification and are based on the specific systems indicated.
- D. The equipment specified herein shall be MobyDick Wheelwashing Systems ConLine Series manufactured by Frutiger Company AG, or its equivalent.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store received materials at project site or other contractor-controlled location and handle delivered materials in accordance with system supplier's instructions.

1.8 COORDINATION

- A. Coordinate layout and installation of wheelwashing system and components and with other construction shown on the drawings.
- B. Coordinate size and location of concrete with the project Structural Engineering firm qualified to provide concrete specifications. Concrete, reinforcement, and formwork requirements are specified in Division 3 by the project-engineering firm.

1.9 WARRANTY

- A. Special Warranty: Warranty on the Wheelwashing system components and accessories supplied by the system supplier, in which system supplier agrees to repair or replace components that fail in materials or workmanship within specified warranty period. Failures include, but are not limited to, the following:
 - 1. Operation: noisy, rough or substandard operation of system or individual system components.
 - 2. Parts: loose, damaged or missing parts.
 - 3. Finish: Abnormal deterioration.
 - 4. System effectiveness: dirt removal from vehicle's tires.
- B. Warranty Period: Pumps 5 years (1-3 years full, year 4 & year 5 prorated on usage) from date of delivery with the exception of normal wear and tear from date of Substantial Completion for Items A. 1. through 4 above.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - 1. The equipment specified herein shall be MobyDick ConLine Wheelwashing Systems manufactured by Frutiger Company AG or equivalent.

2.2 WHEELWASHING SYSTEM

- A. Description:
 - 1. Furnish and supervise the installation of an integrated wheelwashing and recycling tank with automatic solid collection and evacuation system consisting of four each, one-piece continuous wash elements with internal water carrying channels; integrated 2-tier tire guides, modular polymer splash walls, quick coupler removal and directionally adjustable 2 tier PVC side spray bar assemblies with integrated nozzles; with pump, check valves and piping; controls and accessories, two recycling tanks each gross 5000 gallons of self-supporting steel construction with continually operating single scraper-conveyor module to evacuate and dewater solids as shown on the drawings. The wheelwash

system shall operate automatically through the entry and exit controls. Overall dimensions, with a drive-through track width of 110 inches , Splash Wall Width 122 inches , are (315 inches x 317 inches x 68 inches) and weight of ca 24,800 lbs.

2. The wheelwash water spray pattern shall not extend above the 53-inch height spray walls supplied such that wind drift of the water spray will not carry beyond the spray walls and drainage sumps when no vehicle is present on the wheelwash platform.

B. Wheelwashing System

- 1) Wheelwash elements shall be a minimum of four hot-dip galvanized wash elements (left/right) each 157.5" long x 37" wide x 15.5" high to allow for ground-level access after on-site matching of the road to the entry and exit areas. The wash elements have an integrated, internal sludge/water drainage slope and are a self-supporting robust steel construction consisting of internal hot dipped galvanized water-carrying channel sections and surface angled profiles, designed to take a maximum axle load of 33,069 lbs. Overall dimensions, with a drive-through track width of 110 inches, Splash Wall Width 122 inches, are (315 inches x 317 inches x 68 inches).
- 2) The hot dipped galvanized metal center spacer/water diverter system shall establish the drive through track width of 110 inches and consist of four spacer plates and six middle elements with sloping sides constructed from galvanized checker plate.
- 3) The Wheelwash element system for complete washing of the tire profiles, outer and inner wheel surfaces and part of the chassis is constructed such that the static spray nozzle manifolds consisting of 260 nozzles of 7 mm diameter are integral with the wheelwash platform structure and such that the truck tires drive over the spray manifold assemblies. The truck tires must roll on and contact the spray nozzle manifolds with all nozzles being protected.
- 4) The Wheelwash elements on which the tires ride shall be constructed of water carrying triangular tubes and angle iron at right angles to the tire travel with angle aligned upward to flex the tires as the vehicle traverses the platform with specially developed nozzle characteristic including side (18 degree spray angle) and bottom (15 degree spray angle) nozzles ensures for an efficient pressurized water spray profile for targeted cleaning of the tire profiles, outer and inner wheel surfaces and part of the chassis in order to maximize the discharge of dirt from between the tire grooves while being sprayed by the wheelwash system.
- 5) The wheelwash elements shall be designed with integrated two tier galvanized tire guides. The integrated tire guides shall be (11.8 inches high) each shall consist of two levels of (3.9 wide x 5.9" high) tubular constructed steel 5 mm thick.
- 6) The wheelwash elements load carrying capability of the triangular tubes shall be a minimum of 33,069 lbs.
- 7) The wheelwash system shall have a minimum of 4 submersible sludge quality pumps with integrated screen assemblies, check valves and clean water well piping, the pump being a minimum of 7.4 hp (480 V,60 Hz) and able to deliver individually a maximum of 237.5 gallons per 30 second wash cycle . At 49 ft to 72 ft of head, the pump is capable of operating with a flow of 475 GPM and approximately 22-psi lower wash element nozzle pressure with a completely filled water system.
- 8) The pumps are to be designed for a complete mechanical rebuild cost of components under \$790 USD.

- 9) Water delivery from the pump chamber to the wheelwash platform shall be via four pumps and two direct 4 inch id supply lines, fixed with cam and lock fittings, to provide for an efficient pressurized water spray profile at the wheelwash platform. The water delivery system will be capable to pump wash water without headers.
- 10) The continuous wash platform elements of 315 inches with integrated static and sidewall spray nozzles assemblies shall cover a distance longer than an entire width and circumference of two R2400 rotations when traversing the wheelwash platform.
- 11) The wheelwash system must be equipped on both sides with 4 sections of molded polymer splash walls that shall run the full length of the wheelwash platform. The splash walls will be constructed as eight panels. Each splash wall panel section shall be 78 3/4 in long x 53 inch high and 1.9" thick and will be slid into 3 support bracket assemblies and fixed without use of nuts, bolts or screws. The splash wall panels shall be movable by one man.
- 12) The wheelwash system shall have four sets of two tier PVC side spray bar assemblies. Each spray wall assembly shall have 2 inch diameter schedule 40 PVC pipe, color grey with nozzle systems consisting of a total 34 integrated 6mm side spray nozzles, top tier nozzles at 30 degree angle, lower tier nozzles at 20 degree angle. The spray bar assemblies are removal and attached to the wash element platforms with cam and lock fittings. Each spray bar assemblies are modular with three subassemblies. The spray bar assemblies shall have threaded couplers that allow the spray bars to be rotated to allow for field adjustable spray angle changes. The spray bar assemblies shall run the full length of the wheelwash platform.
- 13) The wheelwashing system must be capable of emptying the continuous wash platform elements and side compartments of wash water effluent back into the recycling tank within 60 minutes of its last use to prevent water freezing in the wheelwash system during the winter periods.
- 14) The system shall include a total of two tanks each gross 5000 gallons serving as water recycling; solids collection chambers and a pump compartment of robust steel construction. Each 5000 gallon tank is fabricated of self-supporting steel construction consisting of a steel 4 mm thickness, ST 37 profile frame and plate. The tank in an empty condition is also capable of withstanding the ground pressures and forces resulting from a passing by, fully loaded truck. All construction parts are chemically pre-treated, prepared with a special primer and finished in RAL-Color 6029 Green. The water level in the tank will be controlled by automatic level control. Each 5,000 gallon tank shall have a 1 piece removable overflow weir assembly with screen and lift eyes. The 1 piece shall interlock with the scraper conveyor assembly. External dimensions: 228 in l x 87 in w x 57 in h, Gross volume: 5000 gallons, weight: ca. 4,200 lbs
- 15) Each of the recycling tanks shall be equipped with a continually operating single scraper-conveyor module to evacuate and dewater solids, the scraper conveyor chain/plate assy shall be mounted on dual rails and guide ways with 6 specialty designed sprockets and 3 shaft assemblies and 6 auto lubricating 30 mm diameter bearing. The linked chain length shall be of 52'9" with 24 collection plates 8.5 cm high attached 3 points with a dirt removal scraper conveyor discharge 51 " height. The conveyor assemblies are driven by a .33 hp Nord motor and gear reducer. The module consists of 3 sections is removable and may be retrofitted in ConLine series tanks.
- 16) The recycling tank shall include height extensions 20 inches, fabricated as panels in varying lengths from ST37, 4 mm thickness, profile frame and plate ,inner and outer surfaces primed and finished with a top coat . The extension panels shall be movable by one man.

- 17) The wheelwashing system is also equipped with recycling tank safety railing , constructed out of square steel profile, hot dipped galvanized, height, with toe, center and top railing : 40 inches high and includes an access ladder of square steel profile, hot dipped galvanized.
- 18) The wheelwashing system is also equipped with an electro-mechanical flocculent dosing pump with oil-lubrication and diaphragm dosing head. The flocculent dosage sized at 50liters per hour is regulated via a hand-wheel and time relay for infinite variation of the feed-amount. The flocculent is pumped directly from the original container and evenly fed into the water-system where it is optimally mixed, thus ensuring good sludge-settlement. The dosing unit can be mounted onto the wheel-washing unit and is complete with a protective hood, Connected load: 1/4 hp. 3 phase, 60 Hz, 480 V
- 19) The wheelwashing system is also equipped with a tank heating system for the MobyDick Recycling Tanks to control freezing in subzero conditions, consisting of MDO-100-059-1/2 MobyHeat FSC2 - 40 ft pump pipe heater for 1 to 8 Pumps with 20 ft cable and 12 m heating cable to wrap pump manifold piping up to max 8 pumps with control panel modifications and thermostat
- 20) The system shall be designed to convert in to a total of 6 wheelwash system designs consisting of completely in-ground or surface mounted systems, with or without scraper conveyor automatic solids collection/removal and scalable to a 1 tire revolution platform length with the addition of Frutiger Company MobyDick Conline system components or equivalent.

C. Electric Control Panels and Components:

- 1) Stainless Steel Control Panel shall be assembled by a registered UL file number panel manufacturer with complete electrical technology certified to UL 508A and ULC standards and containing official UL labels. The Control cabinet and panel will be stainless steel with complete electrical technology (Allen Bradley). Control panels shall be designed for operation on a 440/480/ Volt, 3 phases, 60-Hertz system, and shall be of a central open loop design. Control Panel Cabinets and Control Panel that do not each have UL certification labels are not acceptable.
- 2) Each Pump shall have its own Independent Pump Control On/Off Switch
- 3) System activation switches shall consist of a single Banner magnetic sensor mounted in the road surface at the entrance to the system. A green operating light shall be mounted on the Control Panel to notify the driver of the vehicle the wash is open.
- 4) The Magnetic (Banner) sensor will be remotely characterized, calibrated from the integrated Magnetic sensor control module located inside the Control panel and contain “tailgate canceling” module.
- 5) Tank-Heating Control panel modifications and Thermostat

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine site and project conditions for compliance with requirements for, installation tolerances, and other conditions affecting performance.
 - i. Examine roughing-in for process water and potable piping systems to verify actual locations of piping connections before equipment installation.
 - ii. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 WHEELWASHING SYSTEM INSTALLATION

- A. Install equipment in accordance with manufacturers' supplied assembly drawings.
- B. Equipment supplier shall undertake the commissioning of the system and make all required adjustments to ensure proper operation.
- C. The equipment manufacturer's representative shall start-up the system. The owner will have operating personnel present during the start-up and equipment training.
- D. The owner's personnel shall be trained for a minimum of 5 hours in the system assembly, operation and maintenance.
- E. The supplier shall provide the owner the names and the addresses of all factory-authorized regional service and maintenance personnel to assist in future service.

3.3 CLEANING

- A. Clean the wheelwashing system and components after startup and testing and before final acceptance by Owner.
- B. After completing system installation, including outlet fitting and devices, inspect exposed finish. Remove burrs, dirt, and construction debris and repair damaged finishes.