



EXHIBIT "C"

ELECTRIC RAILCAR MOVER TECHNICAL SPECIFICATION (OPTIONAL FEATURES)

TECHNICAL SPECIFICATIONS for ELECTRIC RAILCAR MOVER (OPTIONAL FEATURES)
NYSDOT PIN 3935.89.301, Contract DR#39098



DESCRIPTION

0.1	<p>The purpose of the below technical specification is for the Port of Oswego to consider optional features that may be desirable to include beyond the base requirements specified for their purchase one (1) Electric Railcar Mover to support handling of railcars for its growing rail dependent customers. The railcar mover provided shall be capable of continuously operating during a normal eight (8) hour shift, shall have a typical full battery recharging time of 8 hours (based on a 480 volt, 3-phase power source), and shall have the capability to handle (push or pull) a minimum of ten (10) loaded railcars along the Port's primary operating and yard tracks.</p> <p>The specifications described herein for optional features herein do not constitute or guarantee the successful bidder that the Port will select and authorize some or all of them. Technical specification compliance and acceptance is determined at the discretion of the Port of Oswego. If and as authorized by the Port, the supplied unit shall be furnished with identical equipment, options and features as listed below, furnished completely assembled, fully serviced, and ready for immediate operation. The right is reserved to reject any and all bids proposing to furnish equipment, which, in the opinion of the Agency's Engineers and/or Staff, is not satisfactory for the Port of Oswego's use in the proposed application.</p>
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ROAD WHEELS/TIRES

Specification Number	Specification Description	Specification Compliance		
		Compliance	Non-Compliance	Notes
1.1	Pneumatic tires may be upgraded at the Owners request with either a rubber pneumatic type or solid rubber type run flat road tire.			

ELECTRICAL SYSTEM

Specification Number	Specification Description	Specification Compliance		
		Compliance	Non-Compliance	Notes
2.1	Shall have two (2) 110 volt, 20 amp service outlets, one mounted to the exterior of the railcar mover next to each of the operator cab access stairs.			

LIGHTS

Specification Number	Specification Description	Specification Compliance		
		Compliance	Non-Compliance	Notes
3.1	Shall include flood lighting mounted around the perimeter of the railcar mover.			
3.1.1	Shall evenly distribute the spread of light providing at least a minimum of 2 foot-candles intensity at a distance of 20 feet from the railcar mover.			
3.1.2	Shall be mounted at a height and positioned in a manner so light is not shining directly into people's eyes while close to the railcar mover.			
3.1.3	Shall have the ability to be controlled by zones, i.e. front, back, left, right sides of the railcar mover.			
3.1.4	Shall be able to be controlled from both within the operators cab and on the exterior of the railcar mover near either access point to the operators cab.			

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OPERATOR CAB

Specification Number	Specification Description	Specification Compliance		
		Compliance	Non-Compliance	Notes
4.1	Camera system shall include a digital video recorder (DVR) system.			
4.1.1	Recorded video shall be a minimum of 1080P quality.			
4.1.2	Shall have capacity to store recorded video for a minimum of 30 days.			
4.1.3	Every camera installed on the railcar mover shall be connected for recording.			
4.1.4	Shall include means for Owner to either download video recordings via secure wifi/cellular connection.			

REMOTE CONTROL OPERATION

Specification Number	Specification Description	Specification Compliance		
		Compliance	Non-Compliance	Notes
5.1	Shall be an FCC licensed, RF output capable of transmitting a minimum of 2,500 feet.			
5.2	Shall have the ability to start and shut down engine remotely.			
5.3	Shall have the ability to control all rail moves normally done from the cab.			

RAILCAR MOVER SYNCHRONIZATION

Specification Number	Specification Description	Specification Compliance		
		Compliance	Non-Compliance	Notes
6.1	Railcar mover shall be equipped with the hardware and software means to synchronize with a second coupled railcar mover unit in the future.			

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ROAD/RAIL MAINTENANCE ROTARY BROOM

Specification Number	Specification Description	Specification Compliance		
		Compliance	Non-Compliance	Notes
7.1	Shall provide a minimum sweeping width of 90".			
7.2	Total width shall not exceed 120".			
7.3	Shall operate at a maximum of 200 RPM.			
7.4	Broom shall be capable of being quickly connected/disconnected from the railcar mover. When disconnected, there should be no harnesses, connectors, brackets, etc. remaining in place on the railcar mover that would obstruct its use in moving railcars.			
7.5	Brush bristles may be 100% flat nylon bristles or may contain up to approximately 30% steel bristles.			
7.6	Broom shall be capable of rotating up to 35° to adapt to most major tracks and environments.			
7.7	Broom shall be capable of raising at least 6" clear above the ground underneath.			
7.8	Broom shall be operated hydraulically. The railcar movers hydraulic system should either be sized or an additional hydraulic unit installed to operate the broom.			
7.9	Broom shall include all harnesses, brackets, hydraulic hoses and connections, and machine connections required to install and operate the broom.			
7.10	Broom controls shall be mounted inside the cab at the operators station. Controls shall have a minimum of sweep, raise/lower, and rotate left/right functionality.			

EXTENDED WARRANTY

Specification Number	Specification Description	Specification Compliance		
		Compliance	Non-Compliance	Notes
8.1	The successful bidder shall furnish a written extended warranty covering the entire railcar mover for an additional period of five (5) years or five thousand (5,000) hours, whichever occurs first.			
8.2	The extended warranty shall be full coverage and include all parts, labor and transportation. There shall not be any charge for any service call or maintenance work performed under the warranty.			

ADDITIONAL TRAINING

Specification Number	Specification Description	Specification Compliance		
		Compliance	Non-Compliance	Notes
9.1	Provide two (2) follow-up training sessions for operators and mechanics. Training sessions will be held within a two (2) year period following delivery of the railcar mover and initial training. Training shall be performed within 4 weeks of being requested.			
9.2	Trainers may be provided either directly from the manufacturer or a manufacturer-certified distributor. Trainers shall be certified by the manufacturer/factory. Non-certified or independent trainers will not be accepted.			