

TO: HARBOR DEPARTMENT PURCHASING OFFICE  
500 Pier "A" Street  
Berth 161  
Wilmington, CA 90744

BID NO. F-846 Page 1

Show this number on envelope

Contract No. 39689

RECEIVED OCT 30 2013

1. COMPLETE CONTRACT

This entire Bid Request shall become the contract upon its execution by the Executive Director on behalf of the Harbor Department of the City of Los Angeles. The complete contract shall consist of the entire Bid (including Specifications), this page and the reverse side, any addendums and when required, CONTRACTOR'S BOND. Contractor will be provided with a copy of the executed contract.

2. GOODS AND SERVICES TO BE PROVIDED BY THE CONTRACTOR

The Contractor agrees, upon acceptance of this offer by the City, to furnish the goods and services herein specified according to the terms and conditions as set forth herein.

3. AMOUNT TO BE PAID

The City agrees to pay the contractor for the goods or services in the manner described in the paragraph entitled "PAYMENTS" on the reverse side of this form. Unless otherwise indicated by the Bidder, remittance by the City for goods or services will be made to the address below.

4. CHOICE OF ALTERNATIVE PROVISIONS; OPTIONS; NOTIFICATION

When alternative provisions are requested, or options are offered, the contractor will be notified as to which provision, or option, is being accepted when notification is sent that the Contractor is the successful bidder.

5. DECLARATION OF NON-COLLUSION

The undersigned certifies (or declares) under penalty of perjury that this bid is genuine and not sham or collusive, or made in the interest or on behalf of any person, firm, or corporation not herein named; that the bidder has not directly or indirectly induced or solicited any other bidder to put up a sham bid, or any other person, firm or corporation to refrain from bidding, and that the bidder has not in any manner sought by collusion to secure any advantage over other bidders.

6. LEGAL JUSTIFICATION

This agreement shall be deemed entered into in Los Angeles, California, and shall be governed and construed in accordance with the laws of the State of California.

EXECUTED AT: POMONA, CA ON THE 15<sup>TH</sup> DAY OF NOV, 2013  
City, State Date Month Year

BIDDER MUST COMPLETE AND SIGN BELOW:

Firm Name MARCO EQUIPMENT COMPANY  
Phone 909-594-9493 Fax 909-594-7436  
Address 130 ATLANTIC ST. POMONA CA 91768  
Street City State Zip  
Signature [Handwritten Signature] Printed Name RICHARD S. BURTON Printed Title PRESIDENT  
Signature [Handwritten Signature] Printed Name RICHARD S. BURTON Printed Title SECRETARY

(AFFIX CORPORATE SEAL HERE)

- a) **Two signatures:** One by Chairman of Board of Directors, President, or a Vice-President **AND** one by Secretary, Assistant Secretary, Chief Financial Officer or an Assistant Treasurer.
- b) **One signature:** By corporate designated individual together with properly attested resolution of Board of Directors authorizing person to sign.

NOTARIZATION: Bids executed outside the State of California must be sworn to and notarized below.

County of _____ State of _____ S.S. Subscribed and sworn this date _____, 201 <u>3</u> Notary Seal _____ Signature _____	In witness whereof the Board of Harbor Commissioners of the City of Los Angeles has caused this contract to be executed by the Executive Director of the Harbor Department of said City and said Contractor has executed this contract the day and year written below. By _____ Executive Director Harbor Department Date _____	Approved as to form and legality <u>[Handwritten Signature]</u> , 201 <u>4</u> City Attorney BY <u>[Handwritten Signature]</u> Deputy
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**GENERAL CONDITIONS**  
**READ CAREFULLY**

1. **FORM OF BID AND SIGNATURE.** The Bid must be made on this form only, and is limited to the Terms and Conditions contained herein, unless expressly agreed otherwise in writing by the City. No telephonic or facsimile bid is acceptable, unless otherwise indicated. Bid should be enclosed in a sealed envelope, showing the Bid No. in the lower left corner, and addressed to the Port of Los Angeles Contracts and Purchasing Division, 500 Pier "A" Street, Wilmington, CA 90744. Bids must be signed with the firm's corporate name or DBA and by a responsible officer or authorized employee. In case of error in extension of prices, unit price will govern. All prices must be firm unless the specification provides for adjustment.
2. **TAXES:** Do not include any Sales or Federal Excise Tax in prices unless the specifications specifically require that they be included. Sales tax will be added by the City at time of award. The City will furnish Federal Excise Tax Exemption Certificate to Supplier. Any other taxes must be included in bid prices.
3. **SPECIFICATION CHANGES.** Bidder may request in writing that specifications be modified if its provisions restrict bidder from bidding. Such request must be received by the Director of Purchasing at least five (5) working days before bid opening date. All bidders will be notified by Addendum of any approved changes in the specifications.
4. **BRAND NAMES AND SPECIFICATIONS.** The detailed specifications and/or brand name references are descriptive and indicate quality, design, and construction of items required. Offers will be considered to supply articles substantially the same as those described therein but with minor variations. Bidder must describe variations in their Bid.
5. **AWARD OF CONTRACT.** Bid shall be subject to acceptance by the City for a period of three (3) months unless a lesser period is prescribed in the quotation by the bidder. The City may make combined award of all items complete to one bidder or may award separate items to various bidders. Bidders may submit alternate prices, a lump sum or a discount conditional on receiving an award for two or more items. The right is reserved to reject any, or all, bids and to waive informality in bids.
6. **PURCHASE AGREEMENT.** A copy of the Bid, Specifications and General Conditions will remain on file in the Purchasing Office. All material or services supplied by the Contractor shall conform to the applicable requirements of the City Charter, City Ordinances, and all applicable State and Federal Laws, as well as conforming to the Specifications, Terms and Conditions contained herein.
7. **PRICE GUARANTEE.** If during the term of any agreement awarded pursuant to this Bid, the supplier sells the same materials or services under similar quantity and delivery conditions, at prices below those stated herein, such lower prices are to immediately be extended to the City.
8. **DEFAULT BY SUPPLIER.** In case of default by supplier, the City reserves the right to procure the articles or services from other sources and to hold the supplier responsible for any excess costs incurred by the City.
9. **PAYMENTS.** Payment terms are NET 30 days unless bidder quotes otherwise. Cash discounts allowing less than 20 days or 20th Proxima will not be considered by the City when evaluating Bids. All Cash Discounts are computed from the date of delivery in full or completion and acceptance of the work or material, or from date of receipt of invoice, whichever is latest. Partial payments may be made by the City on delivery and acceptance of goods and on receipt of vendor's invoice. Invoices must be submitted as specified on the Purchase Order or Notice to Proceed.
10. **ASSIGNMENT.** The supplier shall not assign or transfer by operation of law any obligation without the prior written consent of the Director of Purchasing.
11. **NONDISCRIMINATION.** During the performance of this contract, the contractor shall not discriminate in employment practices against any employee or applicant for employment because of the employee's race, religion, national origin, ancestry, sex, sexual orientation, age, disability, marital status, domestic partner status or medical condition, in accordance with L.A. Admin. Code Sections 10.8 to 10.13, whose provisions are incorporated herein. All subcontracts awarded under any such contract shall contain a like nondiscrimination provision.
12. **SAFETY APPROVAL.** Articles supplied under this contract will not be accepted unless they comply with current safety regulations of the City Department of Building and Safety, U.L., the Safety Orders of the California Division of Occupation Safety and Health (CalOSHA) and OSHA requirements.
13. **PREVAILING WAGES.** Where labor is required for public work as a part of this contract, pursuant to the provisions of the Labor Code of the State of California, contractor shall pay no less than the general prevailing wages for the area as determined by the Director of the Department of Industrial Relations, State of California. Copy of wage schedule is obtainable from the Office of the Board of Public Works, City Hall, Los Angeles.
14. **CONTRACTOR'S LIABILITY.** The contractor agrees to, at all times, relieve, protect, save harmless, and fully indemnify the City of Los Angeles, its officers, agents and employees from any and all liability whatsoever that may arise or be claimed by reason of any acts of said contractor, contractor's employees and agents, in connection with the work to be performed under the contract.
15. **PATENT RIGHTS.** The person, firm, or corporation, upon whom this order is drawn, does, in case the materials or supplies to be furnished are covered wholly or in part by U.S. Letters Patent, by the acceptance of this order agrees to indemnify and hold the City of Los Angeles harmless from any and all injuries or damage which the City may sustain by reason of the sale to or use by it of such materials or supplies and arising out of the alleged or actual infringement of said letters patent.
16. **LEGAL JUSTIFICATION.** This agreement shall be deemed entered into in Los Angeles, California, and shall be governed and construed in accordance with the laws of the State of California.
17. **TERMINATION FOR NON-APPROPRIATION.** The Harbor Department of the City of Los Angeles' (City's) obligation to pay any amount hereunder, for any City fiscal year after the current fiscal year is contingent upon City's appropriation of funds for that purpose. The City's fiscal year ends on June 30<sup>th</sup> of each calendar year. Accordingly, anything to the contrary notwithstanding, the City may terminate this contract and future monetary obligations hereunder as of the end of any fiscal year.
18. **CANCELLATION.** The contract may be terminated in whole or in part by the Harbor Department of the City of Los Angeles (City) for its convenience, without penalty, provided that the Bidder is given not less than 30 days written notice (delivered by certified mail, return receipt requested) of the intent to terminate. The City will pay for that portion of the orders fulfilled or work performed. The City has the right to cancel the contract for cause at any time.

THE END

No. 285 Rev. 10/12-116



425 S. Palos Verdes Street Post Office Box 151 San Pedro, CA 90733-0151 TEL/TDD 310 SEA-PORT www.portoflosangeles.org

Eric Garcetti Mayor, City of Los Angeles

Gary Lee Moore, P.E. Interim Executive Director

DATE: November 14, 2013

BID # F-846 ADDENDUM #1 DESCRIPTION: Sweeper, Street, Mobile CNG Powered

BID OPENING DATE: November 18, 2013

That portion which now reads in part:

As Written

Is hereby changed to:

ADD:

ADDENDUMS. From time to time the Harbor Department may deem it necessary to issue an addendum(s) to modify or cancel a Bid Request. Such addendum(s) will be available on the Port of Los Angeles internet website - www.portoflosangeles.org and the Los Angeles Business Assistance Virtual Network website - www.labavn.org. It is the responsibility of the bidder to be aware of and respond to any such addendum(s) before the deadline of the applicable bid request. Failure to do so may deem the bid non-responsive.

All other terms, conditions, and specifications of the bid request shall remain the same.

QUESTIONS, BUYER: Michelle Davies, (310) 732-3890

Very truly yours,

M. Davies
MICHELLE DAVIES
Procurement Supervisor

Vendor: MARCO Equipment Co.

Signature [Handwritten Signature]

Date 11/15/13



November 18, 2013

BID NO. F-846

On behalf of Mar-Co Equipment Company, thank you for the opportunity to quote a TYMCO Regenerative Air Sweeper. This unit will be delivered completely assembled serviced and ready to operate. This Street Sweeper is a CNG powered Regenerative Air Sweeper mounted on a 2014 Freightliner M2-112 Cab/Chassis. In reference to your BID, and Administrative requirements, Deviations to the Specifications will be addressed and attached in this cover letter. Along, with these stated deviations, we feel it necessary to offer optional items, along with their cost associated with the deviation or, to better clarify options that are available; or asked for in this BID that might be deem necessary for your operations.

**DEVIATIONS TO HARBOR DEPT SPECIFICATION NO. # MS1-X1-2013-14**

Page 3 – Rear Axle dual speed: Mar-co offers a Single Speed with axle ratio of 6.14

Page 6 - ELECTRIC: ( Battery Shut off Switch )  
Mar-co offers Battery shut off switch located outside of cab. No LED Indicator Light!

Page 8 & 9 – EQUIPMENT: Item number C. (Outside rear view mirrors, right and left “Retrac Model 1172 HL Motorized, 7” x 16”)  
Mar-co offers: Standard Freightliner powered approx.. 7’x16” w/8” bubble mirrors on fenders.

Page 11 – WATER SYSTEM: Tank: Shall be 300 gallon capacity.  
Mar-co offers 220 gallon capacity – REFER TO PAGE 13 under DUST CONTROL  
WATER SYSTEM: You ask for 220 – gallon capacity?

Page 11 – FILLER HOSE: Mar-co offers Filler Hose to be: Flexible 20’ w/2 1/2” hydrant coupling with rack mount. Water Pump: to be Electric Diagram

Page 13 –Reference: 220-gallon water capacity. –

Page 13 Pick-Up Head water nozzles – placement and numbers to meet: PM 10 / 1186 Requirements!

Page 17 – OPTIONAL EQUIPMENT – DUST SEPERATOR: Mar-co offers this Dust Separator Cover in Stainless Steel! Making it last longer and add to the Stainless Steel Hopper Assembly. SEE ATTACHED COST AT END OF COVER LETTER.

**CONTINUE: DEVIATIONS FOR LA HARBOR DEPT BID # MS1-X12013-14**

Page 18 – OPTIONAL EQUIPMENT AVAILABLE FOR SWEEPER & CHASSIS Bid asked for Auxiliary Hand Hose to be the HD model with Hydraulic Boom Assist. (Reference your page 13, where you ask for Standard light weight Auxiliary Hand Hose? We Bid the Lighter Weight Hand Hose w/spring mount. SEE ATTACH COST ON COVER LETTER FOR HD HYDRAULIC HAND HOSE.

Page 20 – LIQUID SYSTEM RECOVER & LIQUID RECOVERY SYSTEM PUMP KIT – SEE ATTACH COST ON COVER LETTER

Page 20 & 21 – COLOR: Mar-co offers Standard manufactures paint “Acrylic Urethane “White” Low VOC” – SEE ATTACHED COST ON COVER LETTER – For added Anti-Graffiti Protective Coating. “Krysto-Kote” Frame to be Freightliner Standard Black w/”White” Urethane Wheels/Rims

Page 26 – Training of Drive-train and Chassis and Sweeper portion. -“Mar-co Equipment Co.” Offers required training on the Tymco Sweeper portion/s only!

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1 EA	Sweeper, Street CNG Powered	EA	<u>\$ 296,267.50</u>
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**Add Options w/pricing to Sweeper, Street Bid / Cost:**

Stainless Steel - Dust Separator Cover	EA	\$ 2,000.00
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Auxiliary Hand Hose - Hydraulic Boom Assist	EA	\$ 3,000.00
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<u>Liquid System Recover:</u>	EA	\$ 3,200.00
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<u>Liquid System Recovery System Pump Kit:</u>	EA	\$ 5,000.00
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Anti-Graffiti Protective Coating applied to Cab & Hopper Assembly “ Krysto-Kote” or equal	EA	\$ 3,000.00
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A.O.D. (Air Operated Diaphragm Water Pump w/Wash Down Hose & Gun: (exchange with Standard electric water pump. (Recommended for catch basin Cleaning and Sweeper wash out)

A.O.D. Air Operated Diaphragm Water Pump w/Hose & Gun:	EA	\$ 1,750.00
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**Mike Turner – Territory Manager – Tymco Street Sweepers**  
**Mar-Co Equipment Co. 130 Atlantic Street - Pomona, CA 91768**      **800-423-6220**

# FORMAL REQUEST FOR BID

CITY OF LOS ANGELES  
HARBOR DEPARTMENT

BID NO. F-846

**SUBMIT BID TO :**

Los Angeles Harbor Department  
Purchasing Office, 1st Floor  
500 Pier A Street  
Wilmington, CA 90744

**BID DUE BEFORE**  
**2:00 P.M.**  
**November 18, 2013**

*MD*  
*10-28-13*  
**Buyer: : Michelle Davies, Procurement Supervisor (310) 732-3890**

**BIDS WILL BE PUBLICLY  
OPENED**

ALL ITEMS REQUESTED MAY BE QUOTED AS "OR EQUAL".

AFFIRMATIVE ACTION - AN APPROVED AA PLAN OR CERTIFICATION, IF NOT ON FILE, WILL BE REQUIRED PRIOR TO AWARD OF CONTRACT.

QUANTITY AND UNIT	ITEMS and DESCRIPTION	UNIT PRICE QUOTED	EXTENSION
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1. 1 EA EA \$296,267.50 \$296,267.50

Sweeper, Street, Mobile, CNG powered, in accordance with attached Specification No. MS1-X1-2013-14.

State make, model, and year quoting: TYMCO 600 CNG 2014

**AUTHORIZED DISTRIBUTOR/DEALER:**

Bidder must indicate if it is an authorized factory distributor/dealer for the manufacturer being quoted (please initial).

Yes:  No:

If bidder is not an authorized distributor/dealer, the bidder shall submit with its Quotation a formal Letter of Certification from the manufacturer, stating that the manufacturer will honor any warranty claims by the City for equipment, parts, and/or materials provided by the bidder.

The manufacturer will be responsible for any default of the supplier that is not corrected by the supplier in a timely and efficient manner. This responsibility includes replacing incorrect or defective parts, trouble shooting, and correcting problems that are traceable to the manufacturer.

**COMPRESSED NATURAL GAS (CNG) CONVERSION:** The successful bidder will be responsible for all costs associated with the CNG conversion of all applicable vehicles. Each conversion shall meet Environmental Protection Agency (EPA) and California Air Resources Board (CARB) requirements and must be done by a Qualified System Retrofitter (QSR). The conversion must be completed prior to vehicles being delivered to the City of Los Angeles Harbor Department

PLEASE INITIAL ACKNOWLEDGING THE ABOVE CNG REQUIREMENT:

MT *MD* (initial)

REQ. NO.: 7469  
NOTIFY: D. Orozco  
10/28/13 MD:ap  
PAGE 2

STATE TIME OF DELIVERY: 150-180 DAYS AFTER RECEIPT OF ORDER  
TERMS NET30 DISCOUNT FOR PAYMENT WITHIN ZERO DAYS.  
BIDDER MUST SIGN THIS BID ON PAGE 1

# FORMAL REQUEST FOR BID

CITY OF LOS ANGELES  
HARBOR DEPARTMENT

BID NO. F-846  
(SHOW THIS NUMBER ON ENVELOPE)

**BID DUE BEFORE 2:00 PM ON: November 18, 2013**

**ADDITIONAL QUANTITIES.** The Harbor Department desires the option to purchase additional quantities of above item(s) at the same prices, terms and conditions, providing that the total of any of the additional quantities does not exceed the total for that item, and providing that the Harbor Department exercise the option before: November 2014.

**ILLUSTRATIVE AND TECHNICAL DATA.** When quoting other than the specified brand or when no brand is indicated, Bidder must submit with bid, complete illustrative and technical data on materials or equipment proposed to be furnished. Failure to furnish such data may void bid.

**SPECIFICATION CHANGES.** If provisions of the Specifications preclude bidder from submitting bid, he may request in writing that the specifications be modified. Such request must be received by the Purchasing Officer at least five (5) working days before bid opening date. All bidders will be notified by Addendum of any approved changes in the specifications.

**DEVIATION FROM SPECIFICATIONS.** Specifications contained herein are to describe the construction, design, size, and quality of the desired product and are not intended to be restrictive to any particular product. If bidder proposes to furnish another product equal in quality and purpose, such bids will be considered as long as they materially comply with the specifications. Each deviation from the specifications must be stated in a letter, attached to bidder's submittal. Failure to do so may void bid.

**NEW AND UNUSED.** The equipment furnished shall be new and unused, current model.

**VEHICLE CODE.** All vehicles shall conform to the California Vehicle Code and all other governing requirements.

**SAFETY AND HEALTH REQUIREMENTS.** All equipment, materials, procedures and services furnished and/or used by the Contractor shall comply with applicable current requirements of OSHA and CAL-OSHA. Contractor agrees to indemnify and hold harmless Los Angeles City, The Harbor Department, and agents, officers and employees thereof, for all damages assessed against them as a result of Contractor's failure to comply with said safety and health requirements.

**SAFETY APPROVAL.** Electrical items listed herein shall have UNDERWRITER'S LABORATORY OR LOS ANGELES CITY ELECTRICAL TESTING LABORATORY approval and meet all current OSHA and CAL-OSHA requirements, where applicable.

**DELIVERY POINT.** Prices to include all delivery charges, F.O.B. the Harbor Department, C&M Garage, Stores Warehouse, Berth 161, Wilmington, CA 90744.

**DELIVERY.** Delivery is desired within **10** days after vendor receives order. If this time cannot be met, show in the space provided on the Bid Sheet the best delivery time you can guarantee. The Harbor Department reserves the right to make award based on delivery time quoted.

**BILLING DISCOUNT TERMS.** Billing Discount terms offering 20 days or more will be considered in making evaluation for award.

**SALES TAXES.** Do not include Sales Taxes in your Bid. Sales Taxes will be added at time of order.

# FORMAL REQUEST FOR BID

CITY OF LOS ANGELES  
HARBOR DEPARTMENT

**BID NO. F-846**  
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**BID DUE BEFORE 2:00 PM ON: November 18, 2013**

**SALES TAX PERMIT.** Vendor's California State Board of Equalization Permit No. required to collect California State Sales Tax. Permit Number: SR AP 14-632794

**VENDOR PAYMENT.** Please note. Vendor name and address must be submitted exactly as it will appear on the invoice. If invoice remit to (remittance) name and address are different from the bid name and address, please indicate:

REMIT TO: NAME: Mar-co Equipment Company

ADDRESS: 130 Atlantic Street

Pomona, CA 91768

Invoices submitted for payment where the invoice name and address does not match the name as it appears on the purchase order or as indicated in the space above, will not be processed and will be returned to the vendor.

## **BID SUBMITTAL TIMELINESS**

Bidders solely are responsible for the timeliness of their submittals. As such, bidders are cautioned to budget adequate time to ensure that their bids are delivered at the location designated at or before the deadline set forth above. Bidders are cautioned that matters including, but not limited to, traffic congestion, security measures and/or events in or around the Harbor Department, may lengthen the amount of time necessary to deliver the bid, whether the bid is submitted in person or by mail.

## **SUPPLIER CONTACT INFORMATION:**

Contact Person: Mike Turner

Title: Territory Sales Manager

Telephone No.: 714-926-9810

Fax No.: 714-594-7615

E-Mail Address: MTurner@marcoequip.com

24 Hour Contact No.: 714-926-9810

## **INDEMNIFICATION AND INSURANCE:**

### **Indemnification**

Except for the sole negligence or willful misconduct of the City, or any of its Boards, Officers, Agents, Employees, Assigns and Successors in Interest, Vendor undertakes and agrees to defend, indemnify and hold harmless the City and any of its Boards, Officers, Agents, Employees, Assigns, and Successors in Interest from and against all suits and causes of action, claims, losses, demands and

# FORMAL REQUEST FOR BID

CITY OF LOS ANGELES  
HARBOR DEPARTMENT

BID NO. F-846  
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expenses, including, but not limited to, attorney's fees (both in house and outside counsel) and cost of litigation (including all actual litigation costs incurred by the City, including but not limited to, costs of experts and consultants), damages or liability of any nature whatsoever, for death or injury to any person, including Vendor's employees and agents, or damage or destruction of any property of either party hereto or of third parties, arising in any manner by reason of the negligent acts, errors, omissions or willful misconduct incident to the performance of this Purchase Order by Vendor or its subcontractors of any tier. Rights and remedies available to the City under this provision are cumulative of those provided for elsewhere in this Purchase Order and those allowed under the laws of the United States, the State of California, and the City.

## Acceptable Evidence and Approval of Insurance

Electronic submission is the required method of submitting Vendor's insurance documents. Track4LA<sup>®</sup> is the City's online insurance compliance system and is designed to make the experience of submitting and retrieving insurance information quick and easy. The system is designed to be used primarily by insurance brokers and agents as they submit client insurance certificates directly to the City. It uses the standard insurance industry form known as the ACORD 25 Certificate of Liability Insurance in electronic format. The advantages of Track4LA<sup>®</sup> include standardized, universally accepted forms, paperless approval transactions (24 hours, 7 days per week), and security checks and balances. Vendor's insurance broker or agent shall obtain access to Track4LA<sup>®</sup> at <http://track4la.lacity.org/> and follow the instructions to register and submit the appropriate proof of insurance on Vendor's behalf.

## **PRIMARY COVERAGE**

The coverages submitted must be primary with respect to any insurance or self insurance of the City of Los Angeles Harbor Department. The City of Los Angeles Harbor Department's program shall be excess of this insurance and non-contributing.

## **ADDITIONAL INSURED**

The City of Los Angeles Harbor Department, its officers, agents, and employees must be included as additional insureds in applicable liability policies to cover the City of Los Angeles Harbor Department's vicarious liability for the acts or omissions of the named insured. Such coverage is not expected to respond to the active negligence of the City of Los Angeles Harbor Department.

## **NOTICE OF CANCELLATION**

By terms of the contract, the contracting company agrees to maintain all required insurance in full force for the duration of the contractor's business with the City of Los Angeles Harbor Department. Each contractually required insurance policy shall provide that it will not be canceled or reduced in coverage until after the Board of Harbor Commissioners, Attention: Risk Manager and the City Attorney of the City of Los Angeles Harbor Department have been given thirty (30) days' prior notice (or 10 day notice of non-payment of premium) by registered mail addressed to 425 S. Palos Verdes Street, San Pedro, California 90731.

## **RENEWAL**

When an existing policy is timely renewed, you are encouraged to submit your renewal policy as soon as it is available to Track4LA<sup>®</sup>. All renewals must continue to meet the policy conditions listed above. As a

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courtesy, Risk Management sends notifications of expiring or expired insurance. However, it is the responsibility of the contracting company to ensure evidence of insurance remains effective for the duration of the contract.

For further clarification on Insurance procedures, coverage information and documentation please go to <http://www.portoflosangeles.org/business/risk.asp>.

Vendor will be required to furnish, at its own expense and within TEN (10) days of notification of pending award, proof of insurance, in accordance with the types and in the minimum limits shown below:

## NOTE

FAILURE TO SUBMIT PROOF OF INSURANCE WITHIN (10) DAYS UPON RECEIPT OF NOTICE OF INTENT TO AWARD WILL DEEM THE BIDDER NON- RESPONSIVE AND THE PROSPECTIVE AWARD MAY BE CANCELLED.

## General Liability Insurance

Vendor shall procure and maintain in effect throughout the term of this Purchase Order, without requiring additional compensation from the City, commercial general liability insurance covering personal and advertising injury, bodily injury, and property damage providing contractual liability, independent contractors, products and completed operations, and premises/operations coverage written by an insurance company authorized to do business in the State of California rated VII, A- or better in Best's Insurance Guide (or an alternate guide acceptable to City if Best's is not available) within Vendor's normal limits of liability but not less than **One Million Dollars (\$1,000,000.00)** combined single limit for injury or claim. Said limits shall provide first dollar coverage except that Executive Director may permit a self-insured retention or self-insurance in those cases where, in his or her judgment, such retention or self-insurance is justified by the net worth of Vendor. The retention or self-insurance provided shall provide that any other insurance maintained by the Harbor Department shall be excess of Vendor's insurance and shall not contribute to it. In all cases, regardless of any deductible or retention, said insurance shall contain a defense of suits provision and a severability of interest clause. Additionally, each policy shall include an additional insured endorsement (CG 2010 or equivalent) naming the City of Los Angeles Harbor Department, its officers, agents and employees as Primary additional insured's, a 10-day notice of cancellation for nonpayment of premium, and a 30-days notice of cancellation for any other reasons. Vendor's insurance broker or agent shall submit for approval on Vendor's behalf said insurance to the City's online insurance compliance system Track4LA<sup>®</sup> at <http://track4la.lacity.org/>.

## Auto Liability Insurance

Vendor shall procure and maintain at its expense and keep in force at all times during the term of this Purchase Order, automobile liability insurance written by an insurance company authorized to do business in the State of California rated VII, A- or better in Best's Insurance Guide (or an alternate guide acceptable to City if Best's is not available) within Consultant's normal limits of liability but not less than **One Million Dollars (\$1,000,000.00)** covering damages, injuries or death resulting from each accident or claim arising out of any one claim or accident. Said insurance shall protect against claims arising from actions or operations of the insured, or by its employees. Coverage shall contain a defense of suits provision and a severability of interest clause. Additionally, each policy shall include an additional

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insured endorsement (CG 2010 or equivalent) naming the City of Los Angeles Harbor Department, its officers, agents and employees as Primary additional insured's, a 10-day notice of cancellation for nonpayment of premium, and a 30-day notice of cancellation for any other reasons. Vendor's insurance broker or agent shall submit for approval on Vendor's behalf said insurance to the City's online insurance compliance system Track4LA<sup>®</sup> at <http://track4la.lacity.org/>.

## Workers' Compensation and Employer's Liability

Vendor shall certify that it is aware of the provisions of Section 3700 of the California Labor code which requires every employer to be insured against liability for Workers' Compensation or to undertake self-insurance in accordance with the provisions of that Code, and that Vendor shall comply with such provisions before commencing the performance of the tasks under this Purchase Order. Coverage for claims under U.S. Longshore and Harbor Workers' Compensation Act, if required under applicable law, shall be included. Vendor shall submit Workers' Compensation policies whether underwritten by the state insurance fund or private carrier, which provide that the public or private carrier waives its right of subrogation against the City in any circumstance in which it is alleged that actions or omissions of the City contributed to the accident. Such Worker's Compensation and occupational disease requirements shall include coverage for all employees of Vendor, and for all employees of any subcontractor or other vendor retained by Vendor. Vendor's insurance broker or agent shall submit for approval on Vendor's behalf said insurance to the City's online insurance compliance system Track4LA<sup>®</sup> at <http://track4la.lacity.org/>.

INITIAL HERE ACKNOWLEDGING INSURANCE REQUIREMENTS:

MT  (initial)

Upon approval of insurance, contractor will receive written authorization to proceed.

## NO WORK MAY BE PERFORMED WITHOUT SUCH WRITTEN AUTHORIZATION TO PROCEED

**COMPLIANCE WITH LAWS.** Vendor shall comply with all applicable Ordinances, laws, Rules and Regulations of the City and of any County, State or Federal Government, or subdivision thereof.

**DEFAULT BY SUPPLIER.** In case of default by Vendor, the City reserves the right to procure the articles or services from other sources and to hold the vendor responsible for any excess costs occasioned to the City thereby.

## EQUAL BENEFITS POLICY

The Board of Harbor Commissioner of the City of Los Angeles adopted Resolution No. 6328 on January 12, 2005, agreeing to adopt the provisions of Los Angeles City Ordinance 172,908, as amended, relating to Equal Benefits (Section 10.8.2 et seq. of the Los Angeles Administrative Code) as a policy of the Harbor Department. Bidder shall comply with the policy whenever applicable. Violation of the policy shall entitle the City to terminate any agreement with Bidder and pursue any or all other legal remedies that may be available.

# FORMAL REQUEST FOR BID

CITY OF LOS ANGELES  
HARBOR DEPARTMENT

BID NO. F-846

(SHOW THIS NUMBER ON ENVELOPE)

**BID DUE BEFORE 2:00 PM ON: November 18, 2013**

## **SWEAT-FREE PROCUREMENT POLICY**

The Board of Harbor Commissioners of the City of Los Angeles adopted Resolution No. 6455 on October 19, 2006, agreeing to adopt provisions of Los Angeles City Ordinance 176,291, relating to Sweat-Free Procurement, Section 10.43 et seq. of the Los Angeles Administrative Code, as a policy of the Harbor Department. Contractor shall comply with the policy wherever applicable. Violation of the policy shall entitle the City to terminate any Agreement with Contractor and pursue any and all other legal remedies that may be available.

## **ENVIRONMENTAL MANAGEMENT SYSTEM**

The Los Angeles Harbor Department (Port) is committed to managing resources and conducting Port development and operations in both an environmentally and fiscally responsible manner. The Port will strive to improve the quality of life and minimize the impacts of its development and operations on the environment and surrounding communities through the continuous improvement of its environmental performance and the implementation of pollution prevention measures, in a feasible and cost effective manner that is consistent with the Port's overall mission and goals, as well as with those of its customers and the community. To ensure this policy is successfully implemented the Port will develop an environmental management program that will:

1. Ensure this environmental policy is communicated to Port staff, its customers, and the community;
2. Ensure compliance with all applicable environmental laws and regulations;
3. Ensure environmental considerations are included in planning, property, financial, developmental, and operational decisions, including feasible and cost effective options for exceeding applicable requirements;
4. Define and establish environmental objectives, targets, and best management practices and monitor performance;
5. Ensure the Port maintains a Customer Outreach Program to address common environmental issues; and
6. Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations through environmental awareness and communication with employees, customers, regulatory agencies, and neighboring communities.

The Port is committed to the spirit and intent of this policy and the laws, rules and regulations, which give it foundation.

## **ETHICS CLAUSE**

Persons who submit a response to this solicitation (bidders) are subject to Charter section 470(c)(12) and related ordinances. As a result, bidders may not make campaign contributions to and or engage in fundraising for certain elected City officials or candidates for elected City office from the time they submit the response until either the contract is approved or, for successful bidders, 12 months after the contract is signed. The bidder's principals and subcontractors performing \$100,000 or more in work on the contract, as well as the principals of those subcontractors, are also subject to the same limitations on campaign contributions and fundraising.

Bidders must submit CEC Form 55 (attached) to the awarding authority at the same time the response is submitted. The form requires bidders to identify their principals, their subcontractors performing

# FORMAL REQUEST FOR BID

CITY OF LOS ANGELES  
HARBOR DEPARTMENT

**BID NO. F-846**

(SHOW THIS NUMBER ON ENVELOPE)

**BID DUE BEFORE 2:00 PM ON: November 18, 2013**

\$100,000 or more in work on the contract, and the principals of those subcontractors. Bidders must also notify their principals and subcontractors in writing of the restrictions and include the notice in contracts with subcontractors. Responses submitted without a completed CEC Form 55 shall be deemed nonresponsive. Bidders who fail to comply with City law may be subject to penalties, termination of contract, and debarment. Additional information regarding these restrictions and requirements may be obtained from the City Ethics Commission at (213) 978-1960 or [ethics.lacity.org](http://ethics.lacity.org).

**LOCAL BUSINESS PREFERENCE PROGRAM.** The Harbor Department is committed to maximizing opportunities for local and regional businesses, as well as encouraging local and regional businesses to locate and operate within the Southern California region. It is the policy of the Harbor Department to support an increase in local and regional jobs. The Harbor Department's Local Business Preference Program (LBPP) aims to benefit the Southern California region by increasing jobs and expenditures within the local and regional private sector.

Bidders who qualify as a Local Business Enterprise (LBE) will receive an 8% bid preference on any bid for goods and/or services valued in excess of \$150,000. The maximum preference shall not exceed \$1 million. The preference will be applied by deducting 8% of the bid price submitted by the Bidder. Bidders who do not qualify as a LBE may receive a maximum 5% bid preference for identifying and utilizing LBE subcontractors, where applicable. Bidders may receive a 1% bid preference, up to a maximum of 5%, for every 10% of or portion thereof, of work that is subcontracted to a LBE. LBE subcontractor preferences will be determined by the percentage of the total amount of compensation proposed under the Contract.

The Harbor Department defines a LBE as:

- (a) A business headquartered within Los Angeles, Orange, Riverside, San Bernardino, or Ventura Counties. Headquartered shall mean that the business physically conducts and manages all of its operations from a location in the above-named counties; or
- (b) A business that has at least 50 full-time employees, or 25 full-time employees for specialty marine contracting firms, working in Los Angeles, Orange, Riverside, San Bernardino, or Ventura Counties.

In order for Harbor Department staff to determine the appropriate LBE preference, Bidder shall complete, sign, notarize and submit the attached Affidavit and Bidder Description Form. The Affidavit and Bidder Description Form will signify the LBE status of the Bidder and subcontractors.

In the event of Bidder's noncompliance during the performance of the Contract, Bidder shall be considered in material breach of contract. In addition to any other remedy available to City under this Contract or by operation of law, the City may withhold invoice payments to Bidder until noncompliance is corrected, and assess the costs of City's audit of books and records of Bidder and its subcontractors. In the event the Bidder falsifies or misrepresents information contained in any form or other willful noncompliance as determined by City, City may disqualify the Bidder from participation in City contracts for a period of up to five (5) years.

**FORMAL REQUEST FOR BID**

**CITY OF LOS ANGELES  
HARBOR DEPARTMENT**

**BID NO. F-846**

(SHOW THIS NUMBER ON ENVELOPE)

**BID DUE BEFORE 2:00 PM ON: November 18, 2013**

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**BUSINESS TAX REGISTRATION CERTIFICATE (BTRC).** In accordance with the City of Los Angeles Municipal Code, a Business Tax Registration Certificate may be required of persons engaged in business activity within the City. The Office of Finance, Tax and Permit Division, (213) 473-5901, has sole authority in determining a firm's tax requirements and in issuing Business Tax Registration Certificates or Business Tax Exemption Numbers. Accordingly, firm's current Business Tax Registration Certificate or Business Tax Exemption Number must be clearly shown on all invoices submitted for payment. Bidder, in submitting this bid, acknowledges and accepts the above requirements and recognizes that no invoice will be processed for payment without inclusion of the Business Tax Registration Certificate or Business Tax Exemption Number.

**TAXPAYER IDENTIFICATION NUMBER.** Contractor declares that it has an authorized Taxpayer Identification Number (TIN), which must be indicated on all invoices. No payments will be made under this agreement without a valid TIN number.

**SPECIAL NOTE.** If you are not bidding, please state reason for not bidding and return bid to the Purchasing Office:

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**AFFIDAVIT OF COMPANY STATUS**

"The undersigned declares under penalty of perjury pursuant to the laws of the State of California that the following information and information contained on the attached Bidder Description Form is true and correct and includes all material information necessary to identify and explain the operations of

MAR-CO EQUIPMENT COMPANY

Name of Firm

as well as the ownership and location thereof. Further, the undersigned agrees to provide complete and accurate information regarding ownership in the named firm, any proposed changes of the ownership and to permit the audit and examination of firm ownership documents in association with this agreement."

Local Business Preference Program: Please indicate the Local Business Enterprise status of your company. Only one box must be checked:

LBE     Non-LBE

▪ A Local Business Enterprise (LBE) is: (a) a business headquartered within Los Angeles, Orange, Riverside, San Bernardino, or Ventura Counties; or (b) a business that has at least 50 full-time employees, or 25 full-time employees for specialty marine contracting firms, working in Los Angeles, Orange, Riverside, San Bernardino, or Ventura Counties. "Headquartered" shall mean that the business physically conducts and manages all of its operations from a location in the above-named counties.

▪ A Non-LBE is any business that does not meet the definition of a LBE.

Signature: [Handwritten Signature]  
Printed Name: RICHARD S. BUTLER

Title: PRESIDENT  
Date Signed: 11-15-13

**NOTARY:**

On this 15 day of NOVEMBER, 2013, before me appeared Richard Butler to me personally known, who being duly sworn, did execute the Name

foregoing affidavit, and did state that he/she was properly authorized by:

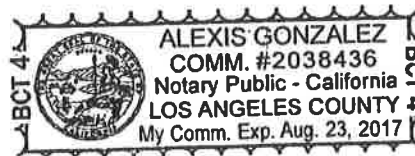
\_\_\_\_\_ to execute the affidavit and did so as his or he free act and deed.  
Name of Firm

**SEAL**

State of California County of Los Angeles  
Subscribed and sworn to (or affirmed) before me on this 15 day of NOVEMBER, 2013, by Richard Butler proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.

Alexis Gonzalez (Notary Seal)  
Signature

Notary Public: \_\_\_\_\_  
Commission Expires: Aug. 23, 2017





City Ethics Commission  
 200 N Spring Street  
 City Hall -- 24th Floor  
 Los Angeles, CA 90012  
 Mail Stop 129  
 (213) 978-1960

# Prohibited Contributors (Bidders)

## CEC Form 55

*This form must be completed in its entirety and submitted to the awarding authority with your bid or proposal for the contract noted below. A bid or proposal that does not include a completed form will be deemed nonresponsive. Please write legibly.*

Original filing  Amended filing (original signed on \_\_\_\_\_; last amendment signed on \_\_\_\_\_)

<b>Bid/Contract/BAVN Number</b> (or other identifying information if no number): BID NO. F-846 / CONTRACT NO 39689 / BAVN 18398	<b>Date Bid Submitted:</b> 11/18/13
--	--

**Description of Contract:**  
STREET SWEEPER

**Awarding Authority (Department):**  
HARBOR DEPARTMENT

### BIDDER

Name: Mar-co Equipment Comapny

Address: 130 Atlantic Street, Pomona CA 91768

Email (optional): MTurner@marcoequip.com Phone: 909-594-9493

State Contractor ID: Not Applicable

*State ID must be disclosed for identification purposes, even if not performing work on this contract under that license. If the bidder does not have a state contractor ID, indicate "not applicable".*

### PRINCIPALS

Please identify the names and titles of all principals (attach additional sheets if necessary). Principals include a bidder's board chair, president, chief executive officer, chief operating officer, and individuals who serve in the functional equivalent of one or more of those positions. Principals also include individuals who hold an ownership interest in the bidder of at least 20 percent and employees of the bidder who are authorized by the bid or proposal to represent the bidder before the City.

Name: Richard S. Butler Title: President

Address: 130 Atlantic Street, Pomona CA 91768

Name: Richard S. Butler Title: Secretary

Address: 130 Atlantic Street, Pomona CA 91768

Name: \_\_\_\_\_ Title: \_\_\_\_\_

Address: \_\_\_\_\_

Name: \_\_\_\_\_ Title: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_ additional sheets are attached.  Bidder is an individual and no other principals exist.



City Ethics Commission  
 200 N Spring Street  
 City Hall — 24th Floor  
 Los Angeles, CA 90012  
 Mail Stop 129  
 (213) 978-1960

# Prohibited Contributors (Bidders)

## CEC Form 55

### SUBCONTRACTORS

Please identify all subcontractors whose subcontracts are worth \$100,000 or more (attach additional sheets if necessary). If the subcontractor has a state contractor license, the ID must be disclosed for identification purposes, even if the subcontractor is not performing work on this contract under that license.

Subcontractor: \_\_\_\_\_

Address: \_\_\_\_\_

State Contractor ID (for identification purposes; if none, indicate "not applicable"): \_\_\_\_\_

Subcontractor: \_\_\_\_\_

Address: \_\_\_\_\_

State Contractor ID (for identification purposes; if none, indicate "not applicable"): \_\_\_\_\_

Subcontractor: \_\_\_\_\_

Address: \_\_\_\_\_

State Contractor ID (for identification purposes; if none, indicate "not applicable"): \_\_\_\_\_

Subcontractor: \_\_\_\_\_

Address: \_\_\_\_\_

State Contractor ID (for identification purposes; if none, indicate "not applicable"): \_\_\_\_\_

Subcontractor: \_\_\_\_\_

Address: \_\_\_\_\_

State Contractor ID (for identification purposes; if none, indicate "not applicable"): \_\_\_\_\_

Subcontractor: \_\_\_\_\_

Address: \_\_\_\_\_

State Contractor ID (for identification purposes; if none, indicate "not applicable"): \_\_\_\_\_

Subcontractor: \_\_\_\_\_

Address: \_\_\_\_\_

State Contractor ID (for identification purposes; if none, indicate "not applicable"): \_\_\_\_\_

Subcontractor: \_\_\_\_\_

Address: \_\_\_\_\_

State Contractor ID (for identification purposes; if none, indicate "not applicable"): \_\_\_\_\_

Subcontractor: \_\_\_\_\_

Address: \_\_\_\_\_

State Contractor ID (for identification purposes; if none, indicate "not applicable"): \_\_\_\_\_

\_\_\_\_\_ additional sheets are attached.

Bidder has no subcontractors on this bid or proposal whose subcontracts are worth \$100,000 or more.



City Ethics Commission  
 200 N. Spring Street  
 City Hall — 24th Floor  
 Los Angeles, CA 90012  
 Mail Stop 129  
 (213) 978-1960

# Prohibited Contributors (Bidders)

## CEC Form 55

### PRINCIPALS OF SUBCONTRACTORS

Please identify the names and titles of all principals for each subcontractor identified on page 2 (attach additional sheets if necessary). Principals include a subcontractor's board chair, president, chief executive officer, chief operating officer, and individuals who serve in the functional equivalent of one or more of those positions. Principals also include individuals who hold an ownership interest in the subcontractor of at least 20 percent and employees of the subcontractor who are authorized by the bid or proposal to represent the subcontractor before the City.

Name: \_\_\_\_\_ Title: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Subcontractor: \_\_\_\_\_

Name: \_\_\_\_\_ Title: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Subcontractor: \_\_\_\_\_

Name: \_\_\_\_\_ Title: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Subcontractor: \_\_\_\_\_

Name: \_\_\_\_\_ Title: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Subcontractor: \_\_\_\_\_

Name: \_\_\_\_\_ Title: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Subcontractor: \_\_\_\_\_

Of the subcontractors identified on page 2, the following are individuals and no other principals exist (attach additional sheets if necessary):


Subcontractor: \_\_\_\_\_  
 Subcontractor: \_\_\_\_\_

\_\_\_\_\_ additional sheets are attached.

Bidder has no subcontractors on this bid or proposal whose subcontracts are worth \$100,000 or more.

### CERTIFICATION

*I certify that I understand, will comply with, and have notified my principals and subcontractors of the requirements and restrictions in Los Angeles City Charter section 470(c)(12) and any related ordinances. I understand that I must amend this form within ten business days if the information above changes. I certify under penalty of perjury under the laws of the City of Los Angeles and the state of California that the information provided above is true and complete.*

Date: 11/18/13 Signature:   
 Name: Mike Turner  
 Title: District Sales Manager

*Under Los Angeles City Charter § 470(c)(12), this form must be submitted to the awarding authority with your bid or proposal. A bid or proposal that does not include a completed Form 55 will be deemed nonresponsive.*

# Bidder Description Form

## BIDDER:

Contract Title: Street Sweeper  
Business Name: Mar-co Equipment Company Award Total: \$ 100%  
Local Business Enterprise: YES  NO  (Check only one)  
Address: 130 Atlantic Street  
City/State/Zip: Pomona, CA 91768  
Telephone: ( 909 ) 594-9493 FAX: ( 909 ) 594-7615  
Contact Person/Title: Mike Turner - District Sales Manager  
Email Address: MTurner@marcoequip.com

## SUBCONTRACTOR:

Business Name: N/A Award Total: \$ \_\_\_\_\_  
Services/goods to be provided: \_\_\_\_\_  
Local Business Enterprise: YES \_\_\_\_\_ NO \_\_\_\_\_ (Check only one)  
Address: \_\_\_\_\_  
City/State/Zip: \_\_\_\_\_  
Telephone: ( ) \_\_\_\_\_ FAX: ( ) \_\_\_\_\_  
Contact Person/Title: \_\_\_\_\_  
Email Address: \_\_\_\_\_

## SUBCONTRACTOR:

Business Name: \_\_\_\_\_ Award Total: \$ \_\_\_\_\_  
Services/goods to be provided: \_\_\_\_\_  
Local Business Enterprise: YES \_\_\_\_\_ NO \_\_\_\_\_ (Check only one)  
Address: \_\_\_\_\_  
City/State/Zip: \_\_\_\_\_  
Telephone: ( ) \_\_\_\_\_ FAX: ( ) \_\_\_\_\_  
Contact Person/Title: \_\_\_\_\_  
Email address: \_\_\_\_\_

## SUBCONTRACTOR:

Business Name: \_\_\_\_\_ Award Total: \$ \_\_\_\_\_  
Services/goods to be provided: \_\_\_\_\_  
Local Business Enterprise: YES \_\_\_\_\_ NO \_\_\_\_\_ (Check only one)  
Primary NAICS Code: \_\_\_\_\_ Average Three Year Gross Revenue: \$ \_\_\_\_\_  
Address: \_\_\_\_\_  
City/State/Zip: \_\_\_\_\_  
Telephone: ( ) \_\_\_\_\_ FAX: ( ) \_\_\_\_\_  
Contact Person/Title: \_\_\_\_\_  
Email Address: \_\_\_\_\_

\*Attach additional sheets if necessary

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FY 13/14 ( Asset ID # 50 )

HARBOR DEPARTMENT  
SPECIFICATION NO. MS1-X1-2013-

**DESCRIPTION: CNG POWERED MOBILE STREET SWEEPER, 7.3 CUBIC YARD CAPACITY HOPPER W/ TWIN GUTTER BROOMS AND DUAL STEERING - TYMCO Model 600 REGENERATIVE AIR SWEEPER**

**GENERAL:** It is the intent of this specification to describe in a general form the requirements of the equipment and options desired. Equipment of equal performance and capability, but differing in detail from the specification may be considered providing it meets the intent of the specifications. When specifications for a particular item (s) are not defined, the manufacturer's standards are satisfactory.

**Bidder must indicate with a check mark, in the spaces provided, after each item, if they COMPLY with the specifications for that item. If they do not comply, each deviation must be described in the space that follows. If insufficient space, indicate "see attached" and describe all deviations on an attachment to the bid. Make sure all deviations are labeled to identify the item for which the deviation is taken. A cover letter must be included indicating that deviations to the specifications are in a separate attachment to the bid. Failure to properly complete this required information may result in bid being rejected as non-responsive.**

<b>ITEM REQUESTED:</b> The intent of this specification is to describe in sufficient detail to assure that product reliability, design integrity, technical soundness and sweeping performance is provided. The unit shall be new, of current manufacture year, and the model and series bid must have been in production a minimum of (5) years. The unit bid shall be a compressed natural gas powered regenerative air sweeper mounted on a compressed natural gas powered truck chassis such as a TYMCO model 600 REGENERATIVE AIR SWEEPER.	Comply: <input checked="" type="checkbox"/> Deviation:
GVWR: 33,000 pounds (minimum).	Comply: <input checked="" type="checkbox"/> Deviation:
WHEELBASE: 176 inches (minimum)	Comply: <input checked="" type="checkbox"/> Deviation:
CAB TO AXLE 110-inches (minimum)	Comply: <input checked="" type="checkbox"/> Deviation:
<b>ENGINE:</b> The sweeper shall be equipped with a turbo-charged, CNG-fueled Cummins ISL 8.9L-300 HP @ 2100 rpm, 860 lb-ft Torque @ 1300 rpm. The turbo-charged engine shall maintain the manufacturer's specified power rating to a minimum of 10,000 feet above sea level. The engine shall be California Air Resources Board (GARB) certified to operate on-highway in the City at the time of manufacture; shall meet all current Federal emissions requirements; and, shall meet the requirements of SCAQMD Rule 1186.1 for LESS POLLUTING SWEEPERS.	Comply: <input checked="" type="checkbox"/> Deviation:

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HARBOR DEPARTMENT  
SPECIFICATION NO. MS1-X1-2013-

**DESCRIPTION: CNG POWERED MOBILE STREET SWEEPER, 7.3 CUBIC YARD CAPACITY HOPPER W/ TWIN GUTTER BROOMS AND DUAL STEERING - TYMCO Model 600 REGENERATIVE AIR SWEEPER**

<b>COMPRESSED NATURAL GAS PACKAGE:</b> A. The sweeper equipment shall utilize a multi stage regulator with a mixer for compressed natural gas. The fuel management system shall be comprised of an electronic closed loop air/fuel control and a safety shut off or equivalent. B. The CNG cylinders (four each 16" dia. x 80"L [2085 SCF] @3600 PSI each) full composite wrapped 20 year aluminum cylinders) shall have an approximate total capacity of 60 diesel gallon equivalent and shall be shared with the truck engine. C. The sweeper engine and the chassis engine shall have independent CNG filters. D. Vehicle shall be equipped with CNG fill ports and high pressure gauges on both sides of vehicle, allowing for fueling from both driver and passenger sides.	Comply: <input checked="" type="checkbox"/> Deviation:
<b>ENGINE ACCESSORIES:</b> A. Shall have a full flow oil filter and fuel filter/water separator, mounted to provide easy access. B. Engine protection shutdown devices for the following conditions: high coolant temperature, low oil pressure, low coolant level, and an audible warning before shutdown. C. Shall have a spin-on CNG fuel filter, mounted to provide easy access.	Comply: <input checked="" type="checkbox"/> Deviation:
<b>COOLING:</b> Heaviest increased capacity system available for size of truck offered, including oil-to-air transmission cooler, and heavy-duty fan. Fan exhaust shall be directed so that it doesn't disturb the sweeping area.	Comply: <input checked="" type="checkbox"/> Deviation:
<b>TRANSMISSION:</b> The transmission shall be an "Allison 3500 RDS-P Automatic transmission (Electronic)w/PTO provision, push button and synthetic fluid.	Comply: <input checked="" type="checkbox"/> Deviation:
<b>AXLES:</b> Front: 12,000-pound (minimum) capacity.	Comply: ( ) Deviation: Single speed rear axle

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HARBOR DEPARTMENT  
SPECIFICATION NO. MS1-X1-2013-

DESCRIPTION: CNG POWERED MOBILE STREET SWEEPER, 7.3 CUBIC YARD CAPACITY HOPPER W/ TWIN GUTTER BROOMS AND DUAL STEERING - TYMCO Model 600 REGENERATIVE AIR SWEEPER

<p><u>Rear:</u> 23,000-pound (minimum) capacity, dual speed.</p>	
<p><b>FINAL DRIVE RATIO:</b> Rear axle ratio of <u>6.14</u> or quote ratio providing, must be manufacturer's standard.</p>	<p>Comply: <input checked="" type="checkbox"/> Deviation:</p>
<p><b>SUSPENSION:</b> <u>Front Springs:</u> Capacity shall equal axle rating, less unsprung weight.  <u>Shocks Absorbers:</u> Heavy duty, direct double acting.  <u>Rear Axle:</u> Shall be a variable rate multi-leaf springs w/leaf spring helper, with a 5 year unlimited mile warranty .</p>	<p>Comply: <input checked="" type="checkbox"/> Deviation:</p>
<p><b>FRAME:</b> 9/32"x3-7/16"x10-1/16"Steel; 120,000 PSI</p>	<p>Comply: <input checked="" type="checkbox"/> Deviation:</p>
<p><b>STEERING:</b> Shall have dual steering capabilities for operation from the street and curbsides. Steering shall be factory power, with adjustable tilt steering wheels.  System shall have adequate mechanical advantage to allow vehicle to be steered if power should fail; adequate power to permit the front wheels to be turned lock to lock, with the vehicle standing still, engine at idle speed, and vehicle loaded to maximum legal axle capacity.  <u>Note:</u> Steering system shall be designed to ensure that the front wheels will return to the straight ahead position when the steering wheel is released from sharp turns.</p>	<p>Comply: <input checked="" type="checkbox"/> Deviation:</p>
<p><b>BRAKES:</b> <u>Service:</u> Shall be dual air brake, with S-Cam brake shoes on all wheels.  <u>Brake Dimension:</u> Largest brake package option available with extended services brakes.  <u>Air Brake System:</u> System shall fully comply with Federal Motor Vehicle Safety Standard (FMVSS) 121; with 4 channel 4 sensor ABS anti-lock braking system.  The following additional components shall be provided:</p>	<p>Comply: <input checked="" type="checkbox"/> Deviation:</p>

July 1, 2013

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HARBOR DEPARTMENT

SPECIFICATION NO. MS1-X1-2013-

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**DESCRIPTION: CNG POWERED MOBILE STREET SWEEPER, 7.3 CUBIC YARD CAPACITY HOPPER W/ TWIN GUTTER BROOMS AND DUAL STEERING - TYMCO Model 600 REGENERATIVE AIR SWEEPER**

1. "Rockwell", automatic slack adjusters on all wheels.
2. "Bendix-Westinghouse" (B-W), DV2 drain valves
3. "Bendix", AD9 air dryer.

**Air Compressor:** "B-W" TU-FLO or equal, 18.7 CFM compressor shall be water-cooled, engine oil lubricated.

**Emergency Spring Brakes:** Shall be a modulated emergency braking system, shall automatically actuate upon loss of reservoir pressure. Shall be double diaphragm type installed on both rear axles. Shall have a reservoir of sufficient capacity to provide a minimum of three (3) complete releases of the spring brakes, controlled by a dash mounted valve.

**Low Air Pressure Warning Signal:** Shall be a low pressure warning system with buzzer and red light. Red light shall have a permanent label attached.

**WHEELS:**

**Front:** Two (2) 22.5 x 8.25 ten (10)-hole hub piloted steel discs.

**Rear:** Four (4) 22.5 x 8.25 ten (10)-hole hub piloted steel discs.

**TIRES:**

**Front:** 11R22.5 (minimum) "Michelin" YZA2 or equal, load range "G", tubeless tires, highway tread.

**Rear:** Four (4) 11R22.5 (minimum) "Michelin" YZA2 or equal, load range "G", tubeless tires, highway tread.

**Spare Tire:** One (1) 11R22.5, "Michelin" YZA2 or equal, load range "G", tubeless tire, highway tread.

Comply:

Deviation:

**CAB :(Overall Height of Sweeper Not To Exceed 120"):**

Cab shall be fully enclosed and of all steel construction.

Comply:

Deviation:

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HARBOR DEPARTMENT  
SPECIFICATION NO. MS1-X1-2013-

14

**DESCRIPTION: CNG POWERED MOBILE STREET SWEEPER, 7.3 CUBIC YARD CAPACITY HOPPER W/ TWIN GUTTER BROOMS AND DUAL STEERING - TYMCO Model 600 REGENERATIVE AIR SWEEPER**

Cab shall be mounted front and center of sweeper for safety and unobstructed, panoramic, operator vision.

Cab shall be attached to chassis frame by means of rubber mounts.

Cab shall be dust and weather sealed and be equipped with factory installed air conditioning, heater and defroster.

Grab handles shall be supplied on the front of the cab.

Cab interior shall be sound suppressed and insulated with an in cab noise level not exceeding 83 dBA.

Cab shall be furnished with two seats, one being the primary operator's station and the other for the purpose of operator training.

Operator's seat shall be single air ride suspension type with cloth upholstery, dual arm rests, and shock absorbers.

Operator's seat shall have three point safety seat belts and "buddy" seat shall be furnished with a lap harness.

For operator safety and comfort, the front of seat to the front wall of cab shall be a minimum of 23", maximum 31".

For operator safety and comfort, the cab rear wall to cab front wall shall be a minimum of 56 ½".

For operator safety and comfort, the back seat to center line of steering column shall be a minimum of 17", maximum 31

Cab shall have a single lever operated tilt and telescoping steering wheel.

Cab shall have sliding windows on both right and left sides

Cab shall have adequate storage space for driver's tool kit, lunch box, hard hat, coffee cup, coat etc.

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HARBOR DEPARTMENT  
SPECIFICATION NO. MS1-X1-2013-

**DESCRIPTION: CNG POWERED MOBILE STREET SWEEPER, 73 CUBIC YARD CAPACITY HOPPER W/ TWIN GUTTER BROOMS AND DUAL STEERING - TYMCO Model 600 REGENERATIVE AIR SWEEPER**

Cab shall have dual electric remote control power mirrors with extended frames and 8" convex sweeping mirrors on both sides.

Cab shall have a tinted safety glass throughout and a single full width tinted sun visor.

Cab shall be furnished with a full width interior ceiling shelf to accommodate a radio, documents and other equipment.

Cab shall come furnished with an AM/FM CD Player w/ bluetooth

An amber strobe with limb guard protector shall be mounted on the roof of the cab

**ELECTRICAL:**

12-volt system, negative ground.

Alternator: At least 160 ampere manufacturer's rated capacity, with at least 70 amperes at engine idle 700 RPM, and 115 AMPS @ 1000 RPM sweep speed.

Batteries: At least two (2) 1900 CCA @ 0 degree F, manufacturer's rated capacity, maintenance free.

Battery shut off switch: Shall have a factory installed battery shut off switch with LED indicating light. Light shall illuminate when switch is in the "on" position. Location of light shall be determined at pre-production meeting.

Circuit Protection: All main circuits shall be labeled and protected by resetting type circuit breakers.

Lighting: Shall meet or exceed the following minimum requirements:

1) Tail lights, two combination stop and tail, shall be LED.

2. Front and rear turn signal lamps shall be Class "A" Type 1 LED, with transistorized flasher. Turn signal switch shall be self-canceling with indicator lights on dash and provisions to flash all lamps simultaneously.

Comply: ( )  
Deviation:

Battery shut off switch located outside of cab.  
No LED Indicating Light

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3. Clearance lights, two (2) forward and two (2) rear. Shall be "Truck-Lite" LED, with lexan lenses.

4. Four (4) flood lights, one (1) each for left and right gutter brooms; two (2) for main broom, one on each side, locations to be determined at pre-production meeting.

5. Cab dome light shall be adequate for reading route maps at night, with two individual high intensity map reading lights.

6. Flood light shall be mounted near water inlet to facilitate night filling of water tank.

7. Furnish and install any additional lights required by the Federal Motor Vehicle Safety Standard (FMVSS) and the California Vehicle Code, as last revised.

8. Flood light with guard shall be mounted on cab and directed toward hopper to facilitate night dumping with switch and indicator light on dash.

**WIRING:**

All wiring shall be installed in flexible non-metallic loom, with crimped connectors, properly insulated. Wiring shall be of adequate size to carry designed electrical load without excessive voltage drop. Wiring shall terminate in a centrally located, adequately protected junction block.

Wiring shall be routed and secured to prevent damage from abrasion and heat and moisture; wiring passing through any metal partition shall be protected by rubber grommets. All wiring shall be color or label coded continuous throughout each individual circuit, from beginning to end. Color-coded wire shall not be obscured by paint.

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**INSTRUMENTS: (Center Mounted)**

All instruments and warning lights for both propulsion and sweeping functions shall be located on a central dash panel in a position easily visible to the operator when sitting in either driving position. No lights or gauges shall be mounted behind the operator's position. Shall include the following illuminated gauges or warning lights:

- A. Hour meter, oil pressure activated.
- B. Ammeter or voltmeter.
- C. Fuel gauge.
- D. Oil Pressure and water temperature.
- E. Speedometer and Odometer.
- F. Warning light to indicate low oil in hydraulic reservoir.

Comply:   
Deviation:

**POWER UNIT:**

- A. The sweeper power unit shall be a CNG fueled, water cooled industrial engine. Piston displacement shall not be less than 350 cubic inch (5.7L) developing not less than 124 HP@2400 RPM on CNG. Engine shall be 4 cycle, 4" bore and 3.48" stroke.
- B. Spin on replacement type filter.
- C. 12-volt ignition, electric starter and minimum 90-amp alternator with charge indicator gauge mounted on control console in cab.
- D. Unit shall have an automatic shutdown system when coolant temperature is too high or oil pressure is too low.
- E. Unit shall share batteries with chassis engine.
- F. Variable speed governor shall be used to control engine speed.
- G. Turbo charged auxiliary not acceptable due to increased fuel consumption and accelerated engine wear at high RPM.

Comply:   
Deviation:

**EQUIPMENT:** Vehicle shall be equipped with all standard and specified components as listed in factory data books and brochures. If not listed as standard

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equipment, the following items shall be furnished and installed:

A. "Donaldson" air cleaner, with pre-cleaner, and indicator on dash or equivalent

B. Fresh air heater with integral heater, defroster and A/C with filtered inlet air.

C. Outside rear view mirrors, right and left, "Retrac" Model 1172HL motorized, 7" x 16", mounted and adequately braced with eight (8) inch bubble mirrors below. Two (2) additional 10-inch bubble mirrors shall be mounted on top of fenders.

D. Backup alarm, electrical, steam cleanable "Preco" Preco-matic 1060, with reverse drift switch to detect reverse movements.

E. Mudflaps shall be provided as necessary to meet legal and vehicle protection requirements.

F. A 360 degree amber warning light, with protective brush/limb guard "Whelen" Model L31HAF, with switch and indicating light on dash, shall be mounted on top front of cab. A Amber "Whelen" light array with eight (8) linear Super LED lights in a Model No. 837 aluminum housing shall be installed on rear of machine, adequately braced and wired to existing switch on dash. Wiring shall be continuous cable with watertight fittings. **Lights shall have 5 year warranty.**

G. Bi-directional emergency triangles, "Grote" Kit No. 71422, installed in cab.

H. Two (2) "Whelen" 900 Series, amber linear LED light heads shall be mounted on the rear of sweeper, one mounted high on each side. Lights shall have independent switch and warning light mounted on dash with permanent label. Lights shall have 5 year warranty.

I. Slow moving vehicle emblem, reflector type, on rear of sweeper, with sudden stops, and turn decals to be mounted on rear compartment.

J. Gripstrut safety steps wide enough for both feet with ample grab handles shall be provided for access to all

Standard Freightliner powered mirrors.  
Remote controlled Western type with 8" bubble mirrors on fenders.

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daily service points where applicable. Diamond plate is not acceptable. Location of steps to be determined at pre-production meeting.

K. Fire Extinguisher with Bracket: A 5-pound pressurized dry chemical extinguisher for type A, B, and C fires, shall be mounted in cab and labeled on the outside for location.

L. Additional Pick-up Broom Core: One additional (unfilled) cable wrapped galvanized steel broom core shall be provided with each sweeper. Cable shall be 120 feet long.

N/A

**HOPPER:** Hopper capacity shall be 7.3 cubic yards.

Hopper shall be fabricated with a chrome-nickel non-hardening austenitic (non-magnetic) stainless steel with a minimum chromium content of 18-20% to assure superior corrosion resistant properties. No exceptions allowed.

Stainless steel blower housing shall be furnished using abrasion resistant plate made from 10 gauge.

A seal shall be provided between the hopper and the elevator to prevent dirt and dust emission.

Hopper shall include a side access door.

Hopper shall include a flushing system for cleaning.

Dumping shall be accomplished by means of hydraulically actuated attached cylinders attached to a rear door which shall have a minimum opening of 84" x 44" with a raker bar moving inside hopper as door is opened and closed to dump debris behind the rear wheels.

Hydraulic cylinder movement shall be controlled with the use of an electric toggle switch located on the side of the hopper so discharging debris may be viewed during dumping for maximum safety.

The hopper floor shall have a minimum of 22-degree slope.

Hopper door shall be opened & closed hydraulically and held in the closed position by means of a lock valve located in the hydraulic dump circuit.

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N/A

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An inspection door (9.75"x29") shall be provided on both left and right side of the hopper for easy viewing inside hopper and insertion of large debris.

Hopper shall be maintained airtight through use of rubber seals on all doors and openings.

Hopper suction inlet roof area shall have a bolt on replaceable wear resistant liner 3/8"x11"10".

An LED beacon light shall be mounted on the rear of the hopper roof. The beacon light shall have a protective limb guard.

Two (2) work lights shall be mounted at the rear of the hopper to illuminate the dump area

**WATER SYSTEM:**

Tank: Water tank shall be polyethylene, removable and independent from hydraulic tank. Shall be 300-gallon (minimum) capacity, with a console mounted water level gauge. Removable fine mesh inlet strainer shall be brass or stainless steel, with 1/16-inch perforations. Strainer shall be easily accessible. Tank shall have an accessible drain and a removable cover for access to the tank interior.

**Special attention is called to the ten (10) year non-prorated extended warranty on the water tank.**

Filler Pipe: An approved anti-siphon device shall be incorporated into the filler pipe as close to the filler hose connection as practical. Inlet shall be 2-1/2 inch NSHT female swivel.

Filler Hose: Provide 2-1/2" x 15' single jacket all synthetic rubber coated 600-PSI hose with brass 2-1/2 inch NSHT female Rocker Lug swivel fittings.

Water Pump: Shall be centrifugal type with separate switch and shut-off valve between pump and spray system. Shall have mechanical seals. Water pump shall be readily accessible for repair or replacement.

Overflow: Overflow shall be diverted through the center of sweeper. Shall include a diverter valve for washing/flushing out the elevator. A brush/limb guard

Comply: ( )

Deviation:

Water tank is 220 gallon capacity

Filler Hose: Flexible 20' with 2 1/2" hydrant coupling with rack mount

Pump: Electric Diaphragm

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shall be installed to protect rubber water hose from tree limbs.

Dust Control: Shall be PM10 approved.

Spray Bar(s): Shall be located as necessary to meet PM10 approval. Shall have atomizing nozzles that direct a spray of water across the entire sweeping path.

There shall be a minimum of four (4) spray nozzles located over each gutter broom.

Filter: Shall have a fine mesh brass or stainless steel screen, located on suction side of water pump. Filter shall be quickly removable for easy cleaning. Water pump and filter shall have easy access by way of a latchable door.

**GUTTER BROOMS-DUAL:**

Dual gutter brooms shall be 43" minimum diameter, wire filled vertically digger type for removing debris from guttural area.

Gutter brooms shall be hydraulic motor driven and shall be positioned laterally and vertically by one hydraulic cylinder.

Gutter broom down pressure shall be automatically adjusted to load by a pressure sensing sequence valve incline with gutter broom torque motor.

Each gutter broom shall have adjustment for bristle contact pattern and wear.

Each gutter broom shall have lateral flexibility to swing rearward 15 inches under truck chassis when encountering the impact of an immovable object thus avoiding damage to the broom assembly.

Each gutter broom shall have a spring adjustment to allow downward compensation for bristle wear and shall be free floating to follow street contour.

Each gutter broom shall be held in the up and transit position by use of an electric lock valve attachment. Upward motion of gutter broom shall be regulated by an adjustable flow control valve.

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Each gutter broom shall be controlled from inside the cab by a single electric toggle switch.

The right gutter broom shall additionally incorporate a hydraulically actuated tilt capability of 27 degrees, remotely controlled from the operators seat to allow instant adjustment for debris removal from deep gutters (such as those resulting from multiple overlays of blacktop).

**DUST CONTROL WATER SYSTEM:**

Water tank(s) shall be 220-gallon capacity, constructed of recyclable polyethylene for strength and puncture resistance. Tank shall be 100% rustproof. Tank shall be of bolt-in design for easy removal. Tank shall have a water level sight gauge.

Water from tank to be filtered by 80 mesh cleanable filter located between tank and water pump.

12V electric motor driven pump delivering minimum of 5.0 GPM with a 25 PSI system relief pressure and with an electronic solid state liquid level sensor to automatically shut off pump and turn on low water warning lamp when water is depleted.

Electric solenoid water control valves shall be cab controlled. Spray system shall include spray nozzles to be located as follows: minimum of 4 on outside of pick-up head; 2 for each gutter broom; 1 inside hopper. Water nozzles to be located on outside of pick-up head and suction tube for easy inspection and superior dust control.

Water tank shall have anti-siphon/anti-pressure filled neck with air gap.

Flexible 20-foot (minimum) long water fill hose with 2-1/2" coupling for filling water reservoir and hose storage rack shall be provided. Water fill hose shall include a stainless 100 mesh cleanable filter.

Comply:   
Deviation:

Meets PM10 Requirements

**HAND HOSE EQUIPMENT:**

For cleaning remote areas and catch basins, an auxiliary hand hose shall be provided. It shall be 8" diameter, 10"

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long and have a 52" long metal nozzle. It shall be suspended from a spring counterbalanced swivel broom.

**OPERATING CONTROLS:**

All operating controls for sweeper (except dump control) shall be mounted inside truck cab and readily accessible to the operator in either right or left driving position.

All main electrical systems, i.e. ignition, lights, hydraulic and water shall be separately fused to isolate electrical problems to fused area and speed service.

Auxiliary engine controls and gauges shall be mounted on console panel and consist of, but not limited to, ignition switch, linear actuated throttle, oil pressure gauge, water temperature gauge, volt meter and tachometer.

Sweeper controls, meters and gauges shall consist of, but not limited to, right gutter broom-left gutter broom, pick-up head, beacon or strobe light, water system, and work light lighted paddle type switches, low water light, hour meter and leaf pressure switch.

All external wiring, harnesses and terminations shall be of a sealed, weather-tight design utilizing heat-shrinkable components. Additionally, where feasible, all connectors shall utilize solid, cold-formed, nickel-plated copper alloy contacts with gas-tight crimps (Deutsch)

Dump control shall consist of single weatherproof toggle switch located on the exterior of sweeper just above the left side fender well.

Comply:

Deviation:

**PICKUP HEAD BROOM ASSIST:**

A spring balanced all steel fabricated pick-up head with maximum length and width of 87" x 41" shall be provided.

The pick-up head shall have a separate upper and lower chamber through an elongated blast orifice to street surface.

Blast orifice flange shall be of bolt-on design so that flange is easily replaced and shall have adjustment mechanism so that blast orifice gap is easily adjusted without removing pick-up head from sweeper.

Pick up head shall have a (minimum) 14" diameter

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pressure inlet ring located on the left side of the pick-up head.

A 14" diameter (minimum) pressure hose attached between pick-up head and blower housing shall be provided.

A bolt-on pressure inlet ring with turning vanes shall be provided for efficient performance and easy service. To the right side of the pick-up head and shall be attached to the pick-up head suction nozzle ring which shall be constructed of 1/4" steel.

Suction hose shall have a minimum 3/8" wall construction for long life.

Pick-up head shall be equipped with 2" wide adjustable side mounted integral alloy steel and carbide runners for maximum pick up ability and long life. Skid runners to be warranted for 2 years/2,000 hours prorated.

Pick-up head shall be raised and lowered hydraulically by a single switch on the control panel.

Pressure inlet ring shall be equipped with an adjustable pressure relief for optimum leaf and light debris sweeping control shall be mounted inside cab.

A broom shall be mounted at the rear of the pick-up head and shall be fully enclosed.

Control of broom rotation and positioning shall be accomplished by a single toggle switch located on the control console in the cab.

The broom shall be driven hydraulically at 230 RPM. A separate hydraulic pump will be provided for all broom functions.

The broom shall be 79" (200 cm) long and 12"(305 mm) in diameter.

Nominal broom replacement time shall be 15 minutes.

Design of the broom suspension shall provide automatic independent adjustment of each broom end to the surface being swept.

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<p>Two (2) hydraulic cylinders shall be incorporated to provide positioning and the independent suspension of the broom ends.</p> <p>Down pressure and broom pattern shall be hydro-mechanically controlled to provide maximum broom performance and life.</p>	
<p><b>BLOWER:</b> Heavy-duty die cast, wear resistant high strength aluminum alloy turbine open face blower balanced within 4 grams shall be provided to create air pressure and suction.</p> <p>Blower wheel shall be covered with wear resistant rubber for long life.</p> <p>Blower shall be mounted on self-aligning anti-friction bearings, sealed and lubricated for life. If bearings are not sealed than an automatic lube system must be furnished.</p> <p>Blower shall be driven from PTO off auxiliary engine by heavy-duty power belt, which shall be adjustable for tension.</p> <p>Blower housing shall be a bolt on design and shall be lined with a bolt-in wear resistance, replaceable rubber liner for long life.</p> <p>Blower shall not exceed 3000 RPM to insure smooth efficient performance.</p>	<p>Comply: <input checked="" type="checkbox"/></p> <p>Deviation:</p>
<p><b>HYDRAULIC SYSTEM:</b> The hydraulic system shall be adequate for use within the design requirements of the sweeper. The system shall include a minimum 25 gallon reservoir, sight gauge, temperature gauge, 80 mesh suction strainer, spin-on replaceable full flow oil filter, hydraulic cylinders, gutter broom drive motors, control valves, relief valves, oil cooler, hydraulic hoses and standard fittings. The hydraulic pump shall be belt driven by auxiliary engine. Pressure shall be 2500 PSI for pick-up head and dump door.</p>	<p>Comply: <input checked="" type="checkbox"/></p> <p>Deviation:</p>
<p>Primary broom drive motor shall be removable without disassembly of the broom drive sprocket or attaching components.</p>	<p>Comply: <input checked="" type="checkbox"/></p> <p>Deviation:</p>

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Pump shall be variable displacement axial piston type, engine driven, and so located as to be readily removable with a hydraulic fluid shut-off valve for easy repair or replacement. Shut off valve shall be locked in the open position.

**Reservoir:** Hydraulic reservoir shall have adequate capacity to match demands of hydraulic system. Tank shall have a center baffle plate to separate suction and return lines. Return line outlets shall be submerged to eliminate foaming of the hydraulic oil. A 100-mesh strainer shall be located on the suction side of tank. A clean out access hole shall be provided in tank directly over strainer. Tank shall have a readily accessible 1/2-inch drain plug. Tank shall have sight gauge with integral thermometer.

A warning buzzer and light to alert operators of low hydraulic fluid levels shall be provided.

**Filters:** Shall be full flow, 10 micron, and compatible to system. All filters shall be located in a readily accessible location to provide easy element replacement.

**Hydraulic Lines and Hose:** Shall have manufacturer's rated working capacities at least equal to maximum applied pressure. Shall be adequately secured, routed so that there will be a minimum number of bends, and be protected from heat and mechanical injury.

Install guards or relocate hoses around main pickup and gutter broom area to prevent damage to hoses when brooms are turned on before lowering.

**Hydraulic Oil Cooler:** Shall have an air to oil hydraulic cooler with integral fan. Cooler shall be mounted on streetside.

**OPTIONAL EQUIPMENT:**

**DUST SEPERATOR:**

Separation of the dirt and refuse from the air stream shall be accomplished within the hopper by means of a multi-pass cylindrical centrifugal dust separator with a minimum size of 20" diameter and 61" width. The separator shall be designed so that it will not plug with normally encountered debris.

The dust separator shall have a minimum 24" x 61" curved, easy to open door allowing inspection and

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cleaning of the interior. The door shall be made with an abrasion resistant bonded rubber lining material for long life.

The entire dust separator inlet area shall be lined with bolt-in replaceable, wear resistant rubber liner for long life.

A 61" x 84" steel screen of not less than 13 gauge shall be provided to allow air to move freely from the hopper into the centrifugal dust separator.

Filters and baffles not acceptable due to increased cost of replacement and cleaning.

**OPTIONAL EQUIPMENT AVAILABLE FOR SWEEPER & CHASSIS**

Abrasion protection package shall be furnished with standard hopper screen baffles; protective hopper wall liners; suction nozzle liner; pressure wear pads; heavy duty pressure hose. (Chip seal/milling operations require chip seal/ milling hopper screen option)

Additional floodlights, each (4)

Air purge system shall be furnished to facilitate purging dust control system during the freezing conditions.

Auto Sweep Interrupt (ASI) shall be furnished. It is an electronic circuit that is designed to accomplish the following sequence of operations when the transmission gear selector is placed into reverse with the ASI set in the Auto mode. 1) The auxiliary engine is idled. 2) The water system is turned OFF. 3) The gutter broom is stopped and raised. 4) The pick-up head is raised.

Auxiliary Fuse panel is a +12VDC fused power source panel for any needed additional electrical components or accessories i.e. radios, warning lights, controls, etc.

Auxiliary Hand Hose Hydraulic Broom Assist: Power to raise/lower broom with hand held pendant control (includes auxiliary hydraulic system, heavy duty hose and serrated ring); **requires 8" auxiliary hand hose.**

Auxiliary hydraulic system shall be furnished to electrically operate the hydraulic system without auxiliary engine running. [Standard with Auxiliary Hand Hose Hydraulic Broom Assist]

Bid includes standard 8" x 10' hand hose.  
Not hydraulically controlled per page 13

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Chassis hour meter shall be furnished to record truck engine hour operation.

Dump Switch in Cab is located on the control panel to activate dump operation from inside cab.

Electric linear actuator for pick-up head pressure bleeder control shall be furnished.

Engine block heater for auxiliary engine shall be furnished.

Fire extinguisher, a refillable, dry chemical unit, DOT approved, shall be cab mounted.

Front tow hooks shall be front bumper mounted.

Gutter broom- Drop Down feature allows gutter brooms to drop down for road surface agitation in front of the pick-up head.

Gutter broom tilt adjuster with in cab controls shall be furnished for the left hand side.

Gutter broom shall be variable speed and controlled from operator console inside the cab.

Hazard reflectors, 3 triangular red reflectors, shall be furnished.

High output water system shall be furnished with additional nozzles and deflectors strategically located to control extreme dust.

Hopper deluge system with high volume nozzles which attach to a fire hydrant to flush the hopper shall be furnished and shall include quick disconnect fittings on nozzle and filler hose.

Hopper drain system shall be mounted on lower right panel of dump door; screen assembly hinges for easy cleaning on the inside of hopper.

Hopper load indicator shall be provided with a frame mounted sensor with audible and visual indicators in cab that signals full load.

Hopper screen, chip seal/milling hopper screen of 1/4"

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mesh high carbon steel wire woven shall be furnished.

Hopper wrench shall be furnished.

Liquid System Recovery: This system is designed to recover various liquids and eliminate their runoff into storm drains which may lead to possible contamination. This system has a liquid capacity of approximately 700 gallons and it may be unloaded at a rate of 350 gallons per minute. Unloading requires separate pumps. This system consists of a pump suction coupling (cam lock type valve), a suction nozzle/float assembly which is connected to the pump suction coupling by a 3" hose, a nozzle protector, a lift handle with an attached cable, and a level indicator switch. This system utilizes 3" plumbing and all stainless steel construction. System shall contain a console mounted full indicator light. Suction nozzle/float shall be easily locked in a storage position when not in use. The sweeper can continue to sweep without dumping the remaining debris until the accumulation of debris interferes with proper liquid sweeping.

Liquid Recovery System Pump Kit: Independent from sweeper. The pump is a self-priming, close-coupled pump unit. The unit will handle approx. 200 GPM at 15ft. total dynamic head. This pump kit is complete with a 10 ft. suction hose and 40ft. discharge hose OR EQUAL.

Low emission package shall be furnished to meet AQMD Rule 1186 compliance.

Reverse Pick-Up Head System shall allow unit to back up without damage to pick up head.

Slow moving vehicle emblem, reflective triangular emblem, shall be rear mounted.

Spare tire and wheel to match tires and wheels on truck shall be furnished.

Special Paint: Other than standard white.

**COLOR:**

Cab, cab interior, hood, fenders, and body, shall be White, U.S. Government Standard No. 595, acrylic enamel or with a City of Los Angeles approved equivalent, with Anti-Graffiti Protective Coating. City

→ Listed under options.  
See attachment

**Comply:** ( )

Deviation:

Standard manufacturer's paint

Acrylic urethane "white"

Low VOC

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**DESCRIPTION: CNG POWERED MOBILE STREET SWEEPER, 7.3 CUBIC YARD CAPACITY HOPPER W/ TWIN GUTTER BROOMS AND DUAL STEERING - TYMCO Model 600 REGENERATIVE AIR SWEEPER**

approved coatings are "Krysto-Kote", "Armaglaze" #289, or "American Polymer's" GSS Protectant. Wheels shall be Gray, Dupont Automotive DuLux No. 181-29495. Frame, undercarriage, and fuel tank(s) shall be Black, Dupont Automotive DuLux. Interior trim and seat color shall be factory recommended colors.

Listed under options  
See attachment

**REFLECTIVE SHEETING:**

Shall have "Scotchlite" on the rear broom cover consisting of 3-inch wide reflective angular stripes. Shall have red reflective stripe along side of the machine, with decals reading "Sudden Stops and Turns" on rear compartment door.

Comply: ( )  
Deviation:  
N/A  
No rear broom cover

**TELEVISION SAFETY BACKUP UNIT:**

Furnish and install a color camera and hi-resolution 7-inch (minimum) LCD monitor. All new cabling and components must be compatible/exchangeable with existing units in service. Cabling shall be segmented into three (3) separate equal lengths, from rear mounted camera, to cab installed monitor, water sealed, with water tight connectors.

LCD Monitor: Shall be 7" visible area with anti-glare polarizer integrated. 480 X 234 pixels with a viewing angle of 130 degrees horizontal 100 degrees vertical or greater, and aspect ratio of 16:9, must be equipped with a sun visor (hood), vibration and shock resistant swivel mounting bracket, water/dust proof to be defined IP54, automatic brightness control, "monitor will dim itself gradually when light level is low in the cab" operating temperature shall be -40 degrees C to +75 degrees C, Luminance 4-400Cd/m2, LCD monitor must provide an optional digital marker line adjustable for rear camera and activate or de-activate by touch of buttons.

Rear Camera: Shall be a color 1/4 IT CCD (0.5 Lux/470 lines) and lens angle of 115 degrees horizontal or greater, Nitrogen - filled overpressure 0.4 bar, lens glass chemically harden to withstand and protect against acid, and high pressure liquids. Must be equipped with a 100% stainless steel cover bracket, Operating temperature must be at least -40 degrees C to +75 degrees C, Automatic IR (infra-red) in a 100% gas filled waterproof housing, rubber o-ring screw-on ring.

Comply:   
Deviation:

July 1, 2013  
VERSION: 1

FY 13/14 ( Asset ID # 50 )

HARBOR DEPARTMENT  
SPECIFICATION NO. MS1-X1-2013-

14

**DESCRIPTION: CNG POWERED MOBILE STREET SWEEPER, 7.3 CUBIC YARD CAPACITY HOPPER W/ TWIN GUTTER BROOMS AND DUAL STEERING - TYMCO Model 600 REGENERATIVE AIR SWEEPER**

<p><b>GENERAL REQUIREMENTS:</b> Equipment shall be new and unused, current model year. Shall be factory standard in all respects not in conflict with specific requirements.</p>	<p>Comply: <input checked="" type="checkbox"/> Deviation:</p>
<p><b>SPECIAL REQUIREMENTS:</b></p> <p><u>Noise Emissions:</u></p> <p>A. <u>Interior Noise:</u> Shall comply with the Occupational Safety and Health Act (OSHA) sound level (dbA) requirement in effect at time of award of contract, for an eight (8) hour maximum operator exposure time; measured at operator's ear with engine at governed RPM.</p> <p>B. <u>Exterior Noise:</u> Shall comply with the Los Angeles Municipal Code Section 112.05 Ordinance No. 161,574 which states the maximum noise emitted by construction, industrial, and agricultural machinery including crawler-tractor, dozers, rotary drills and augers, loaders, power shovels, cranes, derricks, motor graders, paving machines, off-highway trucks, ditchers, trenchers, compactors, scrapers, wagons, pavement breakers, compressors and pneumatic or powered equipment shall not exceed 75 dbA at a distance of 50 feet, in conformity with test procedure under Ordinance 156,363 of the Los Angeles Municipal Code Section 111.02. Also, shall comply with California Vehicle Code Noise Standards, Division 12 Article 2.5</p>	<p>Comply: <input checked="" type="checkbox"/> Deviation:</p>
<p><b><u>OPERATORS MANUAL HOLDER:</u></b> A storage holder for one (1) set of operating manuals shall be installed inside the cab behind the passenger seat, or at a location to be determined by specification writer at pre-delivery inspection. Storage holder shall be lockable.</p>	
<p><b>VEHICLE LICENSE/REGISTRATION:</b></p> <p>The vendor shall make the necessary arrangements to transfer title of the equipment/vehicle and apply for exempt license. The vendor shall provide the following completed documents to the DMV to register vehicle/equipment on behalf of the Harbor Department:</p>	<p>Comply: <input checked="" type="checkbox"/> Deviation:</p>

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VERSION: 1  
14

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**DESCRIPTION: CNG POWERED MOBILE STREET SWEEPER, 7.3 CUBIC YARD CAPACITY HOPPER W/ TWIN GUTTER BROOMS AND DUAL STEERING - TYMCO Model 600 REGENERATIVE AIR SWEEPER**

Request for Exempt Plates (Form Reg 5050), and Application for Title or Registration (Form Reg 343). The vendor shall complete the Application for Original Registration" and "Application for New Registration", and submit to the Director of Port Construction and Maintenance for signature; call (310) 732-3596 or (310)732-3550 for an appointment. The registered owner shall be shown exactly, as outlined below, on all forms where the registered owner is listed (using abbreviations exactly as shown):

HARBOR  
DEPARTMENT  
CITY OF LOS ANGELES  
500 Pier A Street Berth  
161  
Wilmington Ca. 90744

The vendor shall provide documentation from the Department of Motor Vehicles, at the time the equipment/vehicle is delivered, as evidence of having applied for registration/license (see sample DMV documents attached).

**WARRANTY:**

The manufacturer's maximum standard warranty shall apply for not less than 12 months or 12,000 miles, whichever occurs first after acceptance of delivery. Bidders shall submit a copy or full statement of the standard warranty with the bid.

Comply:   
Deviation:

**EXTENDED WARRANTY:**

5-Year/75,000-Mile "Power Train Only" extended warranty requested.

Comply:   
Deviation:

**WARRANTY PLACARD:**

A Meter 3" x 5" warranty placard shall be installed in cab, location to be determined at pre-production meeting, indicating:

Please fill in appropriate blanks:

Comply:   
Deviation:

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**IN-SERVICE DATE:**

Sweeper: ----- 2 years or 4,000 hrs.  
 Cab & Chassis: ----- years.  
 Engine: ----- years or Hrs.  
 Transmission: ----- years.  
 Hopper (Rust Damage): ----- years.  
 Lift Mechanism: ----- years.  
 Water Tank: ----- years  
 Rear Axle & Suspension: ----- years.  
 Frame & Crossmembers: ----- years.  
 CNG Fuel Tanks: ----- 20 years.  
 CNG Fuel System: ----- 1 year.

**SPECIAL REQUIREMENTS:**

1. Exterior Noise shall comply with California Vehicle Code Noise Standards, Section 27160.
2. Exhaust smoke shall meet Los Angeles County Rules No.'s 401 and 402 for engine provided.
3. Emissions Standards: Vehicles not meeting the State of California Assembly Line Emissions Standards WILL NOT BE ACCEPTED.
4. Engine documentation as follows:
  - Electronic digital photo of the engine plate.
  - The following information, based upon the actual engine plates on the delivered vehicle:
    - Engine Make
    - US EPA Engine Family
    - Family Certification
    - Engine Model
    - Engine Model Year
    - Engine Build Date

Comply:   
Deviation:

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**DESCRIPTION: CNG POWERED MOBILE STREET SWEEPER, 7.3 CUBIC YARD CAPACITY HOPPER W/ TWIN GUTTER BROOMS AND DUAL STEERING - TYMCO Model 600 REGENERATIVE AIR SWEEPER**

<ul style="list-style-type: none"><li>○ Engine Emission Tier Standard</li><li>○ Engine Serial Number</li><li>○ Rate Brake Horse-Power (BHP)</li><li>○ Liters/Cylinder (liters)</li><li>○ Total Engine Displacement (liters)</li><li>○ Fuel tank capacity.</li><li>● US EPA Engine Certification Data for the engine, including but not limited to, criteria pollutant emission levels.</li><li>● CARB engine certification and associated criteria pollutant emission levels.</li></ul>	
---	--

<p><b>SERVICE/OPERATORS MANUALS, PARTS BOOKS:</b> For <b>the unit</b> delivered, there shall be provided: Two (2) Operator's Manuals. Two (2) Service Manuals or CDs. One (1) Parts Manual. One (1) Line Set Invoice. Six (6) Key Sets. One (1) Certified Weight Ticket; Front, Rear and Total.</p> <p>The above specified Manuals, Books and other items are to be included in the equipment purchase price(s).</p>	<p>Comply: <input checked="" type="checkbox"/> Deviation:</p>
--	---

<p><b>TRAINING:</b> Vendor shall provide a qualified instructor(s) to conduct training classes for a minimum of: One (1) eight (8) hour work day of instruction for City</p>	<p>Comply: ( ) Deviation:</p>
--	-----------------------------------

July 1, 2013

VERSION: 1

FY 13/14 ( Asset ID # 50 )

HARBOR DEPARTMENT  
SPECIFICATION NO. MS1-X1-2013-14

**DESCRIPTION: CNG POWERED MOBILE STREET SWEEPER, 7.3 CUBIC YARD CAPACITY HOPPER W/ TWIN GUTTER BROOMS AND DUAL STEERING - TYMCO Model 600 REGENERATIVE AIR SWEEPER.**

operating personnel.

Training shall be at designated LA Harbor Dept. work location which may require classes on both day and evening shifts. Such classes shall include complete sweeper operation, both classroom, and hands on training, on the components provided with the delivered equipment.

For drive-train and chassis components, the vendor shall provide a factory certified instructor (s) to conduct premium training classes for ten (10) Harbor Dept. mechanical personnel; for a minimum of:

→ TYMCO sweeper portion only

Three (3) eight hour workdays (minimum) of instruction, for LA Harbor Dept. mechanical personnel.

Topics to be covered shall include but not be limited to the following:

- Engine: Familiarization, Fuel supply and delivery system, Engine Diagnostics and troubleshooting, Hands-On diagnostics of a bugged engine.
- Transmission: Troubleshooting and Diagnostics of Electronic Shift control systems.

→ TYMCO sweeper portion only

**NOTE:**

Training class outline and material shall be submitted for approval prior to classes being scheduled. Call David Orozco @ 310-732-3403

Vendor contact person name:

Mike Turner

Vendor telephone number:

714-926-9810

~~ADDITIONAL QUANTITIES: The Harbor Department desires the option to purchase additional quantities of above item(s) at the same prices, terms and conditions, providing that the total of any of the~~

~~Comply: ( )~~

~~Deviation:~~

**SEE BID**

July 1, 2013 VERSION: <u>1</u> 14	FY 13/14 ( Asset ID # 50 )	HARBOR DEPARTMENT SPECIFICATION NO. <u>MS1-X1-2013-</u>
DESCRIPTION: CNG POWERED MOBILE STREET SWEEPER, 7.3 CUBIC YARD CAPACITY HOPPER W/ TWIN GUTTER BROOMS AND DUAL STEERING - TYMCO Model 600 REGENERATIVE AIR SWEEPER		

additional quantities does not exceed the total for that item, and providing that the Harbor Department exercise the option before: _____	
---	--

DELIVERY:  Requested ASAP, but not later than May 31 2010. ← Equipment to be delivered to the Harbor Department, Construction and Maintenance Division, 500 Pier "A" Street, Berth 161, Wilmington, California 90744.  State best delivery: _____ days from receipt of order.	Comply: <input checked="" type="checkbox"/> Deviation: — May 31, 2013
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FINAL NOTES:  1. The Harbor Department is exempt from payment of Federal Excise Taxes and will furnish vendor with tax exemption certification upon request.  2. Vendor to indicate: Contact Person: Randy Champion Phone: 909-594-9493 FAX: 909-594-7615  3. Please refer to attached sample DMV documents for additional assistance in completing the registration process.  4. Dealer to present transfer papers at the Construction and Maintenance Division, Administrative Office, Berth 161, 500 Pier "A" Street, Wilmington, CA 90744, to obtain signature authorizing transfer of vehicles(s) prior to processing to the Department of Motor Vehicles.	Comply: <input checked="" type="checkbox"/> Deviation:
--	---

SUBMITTED BY: Mike Turner  
(NAME, PHONE) 714-926-9810

  
Signature



## **TYMCO® Alternative Fuel Powered Sweepers: Environmentally Superior Cleaning**



**TYMCO Model 600® - CNG  
(Compressed Natural Gas)**



With the ever growing need to address environmental concerns and to meet Federal, State and Municipal air quality requirements, there has been an increasing demand for fleets to add more low emission alternative-fuel vehicles (AFVs). TYMCO has been manufacturing alternative fuel sweepers since 1984. This experience, coupled with our well known reputation for reliability and productivity make TYMCO alternative fuel sweepers the smart choice. These California Air Resources Board (CARB) verified Ultra Low Emission Vehicles (ULEV), when combined with our proven Regenerative Air System, offer the highest degree of cleaning power available on the market today; while at the same time maintaining and improving the environment.

TYMCO currently offers one form of alternative fuel for the Model 600: Dedicated CNG (Compressed Natural Gas), which allows both the sweeper and the chassis engines to operate on alternative fuel, making it South Coast Air Quality Management District (SCAQMD) Rule 1186.1 compliant.

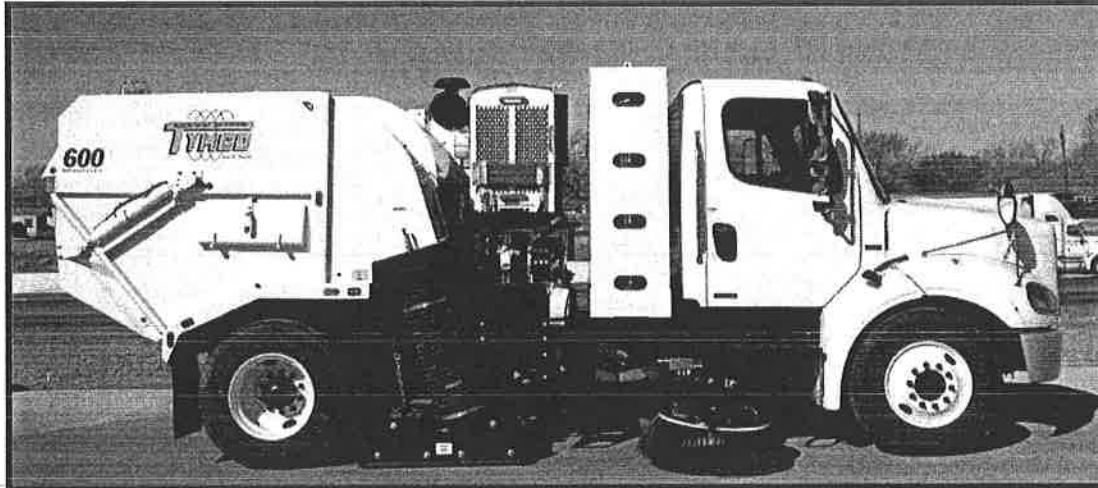
Street sweepers must be maneuverable in order to get to those hard-to-reach areas. The TYMCO engineered and manufactured alternative fuel powered chassis is designed to provide maximum fuel capacity on the shortest wheelbase available. This is accomplished by utilizing a CNG fuel storage rack system that requires minimal additional wheelbase, resulting in the tightest turning radius possible; all while providing maximum rear view visibility.

The CNG fuel storage area is designed to be user friendly. Quick access for fueling, system shut-off valves and pressure reading make the operator's job easier and safer. The large capacity CNG fuel storage cylinders are enclosed for protection. The CNG fuel storage area is mounted in such a way as to allow for maximum sweeper operation.

Utilizing the very latest advancements in technology, TYMCO alternative-fuel powered sweepers are specifically engineered to provide the highest degree of performance, safety, and simplicity.



## Model 600® - CNG Sweeper & Chassis Engine Specifications



**TYMCO Model 600® - CNG  
(Compressed Natural Gas)**



### 5.7L CNG SWEEPER AUXILIARY ENGINE

<b>CARB Executive Order (2012)</b> .....	U-L-013-0064
<b>EPA Certificate of Conformity (2012)</b> .....	CKEMB05.7ULE-008
<b>Engine</b> .....	KEM/GM Vortec 5700 CNG
<b>Displacement</b> .....	350 cubic inches (5.7L)
<b>Horsepower</b> .....	124 @ 2,400 RPM
<b>Net torque</b> .....	283 ft-lb @ 1600 RPM (384 Nm)
<b>Air cleaner, heavy duty</b> .....	Dry type
<b>Oil filter, spin on</b> .....	Full flow
<b>Auxiliary engine shutdown system</b>	

### 8.9L CNG CAB/CHASSIS ENGINE

#### Minimum Requirements

<b>CARB Executive Order (2012) For California Use Only</b> .....	A-021-0563
<b>CARB Executive Order (2012) For All 50 States</b> .....	A-021-0561
<b>EPA Certificate of Conformity (2012)</b> .....	CEX-ONHWY-12-13
<b>Model</b> .....	Freightliner M2 112
<b>GVW</b> .....	33,000 lbs.
<b>Frame</b> .....	120,000 PSI
<b>Engine</b> .....	Cummins ISL G (8.9 L) - 300 HP @ 2,100 RPM
<b>Transmission</b> .....	Allison 3500 RDS-P series
.....	5 speed automatic w/external oil filter
<b>Alternator</b> .....	160 amp
<b>Batteries</b> .....	(2) 12V 1850 CCA
<b>Wheelbase</b> .....	176"
<b>Fuel tanks</b> .....	(4) Agility Fuel Systems, Type III Cylinders
.....	15 DGE each = 60 Total DGE
.....	shared with sweeper
<b>Tires (2-front, 4-rear)</b> .....	Tubeless 11R x 22.5
<b>Steering (Dual)</b> Integral power assisted with tilt	
<b>Brakes</b> Cam Type, Q-Plus w/18.7 CFM air compressor	
<b>Instruments &amp; lights</b> Full package as required, Back-up alarm, Dual gauge package, Mirrors -	
<b>Electric remote controlled and heated, Air conditioned cab, AM/FM CD stereo radio</b>	

Consult factory for sweeper specifications and other available truck chassis.

**NOTE:** Alternative fuel configurations are available with most TYMCO published sweeper and chassis equipment options.



MODEL 600 ALTERNATIVE FUEL CONVENTIONAL  
TRUCK for CNG

**2014 FREIGHTLINER M2-112 CNG  
SPECIFICATIONS  
33,000 LB. GVW  
(FREIGHTLINER/FONTAINE DUAL STEERING\*)**

4/2/13

Cummins ISL G 8.9L Engine - 300 HP @ 2100 RPM, 860 lb-ft Torque @ 1300 RPM  
 176" Wheelbase; 110" Cab to Axle (approximate)  
 Allison 3500 RDS-P Automatic Transmission (Electronic) w/PTO Provision, Push Button and Synthetic Fluid  
 12,000 lb. Front Axle w/12,000 lb. Front Springs and Dust Shields  
 21,000 lb. Rear Axle, Single Speed (6.14 ratio)  
 23,000 Rear Variable Rate Multi-Leaf Springs w/Leaf Spring Helper  
 Chicago Rawhide (Scotseal Plus XL) Oil Wheel Seals – Front & Rear  
 Integral Power Assisted Steering w/Cruise Control, 18" Steering wheel, Dual Gauges and Tilt/Telescoping  
 Steering Column  
 Air Brakes, Cam Type, Q-Plus w/18.7 CFM Air Compressor – Air Tanks mounted between rails  
 Anti-Lock Brake System, Automatic Slack Adjusters & Front Shock Absorbers  
 Adjustable, High Back Premium Air Seats - Driver and Passenger w/3 Chamber Air Lumbar; forward and rear  
 Cushion Tilt; Vinyl w/Cloth Inserts  
 (2) Batteries – Group 31, 12 volt, 1850 CCA Total Maintenance Free  
 Alternator - 160 Amp  
 AM/FM Stereo Radio with Weatherband  
 (6) 11Rx22.5 14 Ply Tubeless Radial Tires - Duals in Rear  
 (6) 10 Hole Disc Wheels - 22.5 x 8.25, Hub Piloted (Painted White)  
 Tinted Glass  
 12V Power Supply, in dash  
 External Grab Handles – Left & Right w/standard Interior Grab Handles  
 Mirrors – Remote Controlled Electric Western type with 8" convex mirrors; Left & Right fender mounted  
 8" convex mirrors.  
 Electric Intermittent Windshield Wipers with Washers  
 Gauges: Voltmeter, Coolant Temperature, Oil Pressure, Tachometer, Engine and Trip Hour Meter,  
 Transmission Temperature, Electronic Tachometer; Air Restriction Indicator on Dash; Pre-Trip Test Lights  
 Frame – 9/32" x 3-7/16" x 10-1/16" Steel; 120,000 PSI  
 CNG Fuel Tank – 60 DGE CNG fuel rack – behind cab with Fuel Heating System and Single Fuel Line  
 Shutoff Valve with Pressure Regulator  
 Air Conditioner, Heater, Defroster  
 Right Hand Inboard Frame Mounted Horizontal Exhaust with RH Horizontal Tailpipe  
 \* Freightliner installed Dual Steering w/Dual Gauge Package.  
 Color: White (N0770EA)

NOTE: **MUST** contact TYMCO for ALL Special Order Data Codes for Customer Provided Chassis



SOUND LEVEL DATA	
Model No.	600 CNG

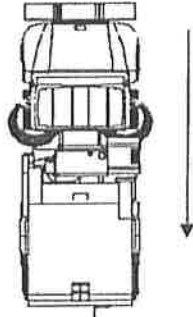
Sweeper S/N: TPO 18908

Date: 10/22/2013

**Truck Information**

Make:	Feighliner
Model:	M2-112
Engine:	ISL-G
Muffler:	Stock

Wind Direction



**Sweeper Engine**

Make:	KEM
Model:	5.7L 2008 CERT
Muffler:	22387 catalyst

**Weather Conditions**

Currently:	
Temperature:	73
Wind Speed:	calm
Humidity:	33%
Barometric Pressure:	
Ambient Sound Level:	54
Comments:	

Location: Ferrell Center, Waco, TX.

Instrument : Integrating Impulse Sound Level Meter, Type 2226, manufactured by Bruel & Kjaer, fulfills IEC 651 type 2, DIN 45 634, and ANSI 1.4-1971 type S2A.

NOTE: Wind noise muffler used.

Data below for REFERENCE ONLY. Readings may vary with changes in ambient weather conditions and variations in equipment.

Standardized Weighting Scale: A  
Meter Response: Fast

Blower Sheave= 8.0, Engine Sheave = 8.5  
Engine RPM 2400, Blower RPM = 2550

SOUND MEASUREMENTS						
LOCATION		SOUND LEVELS AT GIVEN ENGINE SPEED in RPM				
		MIN.	OTHER			
			2550			
INSIDE CAB - WINDOWS CLOSED		76.0				
INSIDE CAB - WINDOWS OPEN		79.0				
LEFT SIDE	5 ft.	99.0				
	10 ft.	93.8				
	50 ft.	80.7				
RIGHT SIDE	5 ft.	94.6				
	10 ft.	92.5				
	50 ft.	78.3				
FRONT	5 ft.	82.5				
	10 ft.	81.5				
	50 ft.	74.0				
REAR	5 ft.	87.4				
	10 ft.	86.4				
	50 ft.	80.0				
AVERAGE	5 ft.	0.0	94.6	0.0	0.0	0.0
	10 ft.	0.0	90.8	0.0	0.0	0.0
	50 ft.	0.0	78.9	0.0	0.0	0.0