



Form GSOP 1-PIN (04/98)

STATE OF CALIFORNIA
Department of General Services - Office of Procurement

PURCHASE ORDER

Purchase Order No. Rev. Date
62000 4/23/2008

Supplier No. 86537	Solicitation No. 56752	Delivery Date 210 Days ARO	FOB Point Destination	Invoice Terms 1/4% 20 DAYS
S h i o p DEPT OF TRANSPORTATION (VARIOUS LOCTIONS)		C h a r g e CALTRANS-ACCTG/OFC B-15 D32 EQUIPMENT SERVICE CTR PO BOX 168018 SACRAMENTO, CA 95816		
Agency Billing 60063	Agency Purchase Estimate 32-12-4901	Purchase Estimate 67054	Revision 0	
Agency Contact ROGER ZUMALT		Phone 916-227-9706	Date Received	

WEST-MARK
PO BOX 100
CERES, CA 95307
Attn: STEVE BUCKNER SR

Phone: 209-537-4747

Item No.	Quantity	Unit	Commodity Code	Description	Unit Price	Extension
<p>THE GENERAL PROVISIONS FOR NON-IT COMMODITIES ARE HEREBY INCORPORATED BY REFERENCE. THESE GENERAL PROVISIONS CAN BE OBTAINED BY PHONING (916) 375-4400 OR BY ACCESSING OUR WEBSITE AT:</p> <p>www.documents.dgs.ca.gov/pd/modellang/GPnonIT0407.pdf</p> <p>THE FOLLOWING INFORMATION IS PROVIDED FOR AGENCY USE ONLY:</p> <p>PRIME CONTRACTOR: NS</p>						
1	EA		2510-000-0006-9	TANK STEEL (VARIOUS VOLUME) Tank, Stainless Steel, 3000 Gallon, Furnish and Install in accordance with State of California Specification 05380-426-063: With Options: 1. Gang Mounted Nozzles 2. Monitor Nozzle	143,349.0000	143,349.00
			<u>Eq. Class</u> 05380	<u>Eq. ID</u> 7002147	<u>EPR/Shop</u> 7002147/24	
			Training at ship to location Ship To: Shop 24 1993 Marina Blvd. San Leandro, Ca 94577			
1	EA		2510-000-0006-9	TANK STEEL (VARIOUS VOLUME) Tank, Stainless Steel, 3000 Gallon, Furnish and Install in accordance with State of California Specification 05380-426-063: With Options: 1. Gang Mounted Nozzles 2. Monitor Nozzle	143,349.0000	143,349.00
			<u>Eq. Class</u> 05380	<u>Eq. I.D.</u> 7002342	<u>EPR/Shop</u> 7002342/30	

Sales and/or use tax to be extra unless noted above

Buyer <i>Shannon Keller</i> SHANNON KELLER	Phone 916-375-4606	BOC Number
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Jon Chaff

STATE OF CALIFORNIA

Department of General Services - Office of Procurement

PURCHASE ORDER CONTINUATION

Form GSOP 2-PIN (04/98)

<i>Purchase Order No.</i> 62000	<i>Revision</i>	<i>Date</i> 4/23/2008	<i>Supplier No.</i> 86537	<i>Supplier Name</i> WEST-MARK
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<i>Item No.</i>	<i>Quantity</i>	<i>Unit</i>	<i>Commodity Code</i>	<i>Description</i>	<i>Unit Price</i>	<i>Extension</i>
Training at ship to location Ship To: Shop 30 1603 South B Street Stockton, Ca 95206						
3	EA		2510-000-0006-9	TANK STEEL (VARIOUS VOLUME) Tank, Stainless Steel, 3000 Gallon, Furnish and Install in accordance with State of California Specification 05380-426-063: With Options: 1. Gang Mounted Nozzles 2. Monitor Nozzles	143,349.0000	430,047.00
		<i>Eq. Class</i>	<i>Eq. I.D.</i>	<i>DBR/Shop</i>		
		05380	7002377	7002377/31		
		05380	7002002	7002002/31		
		05380	7002007	7002007/31		
Training at ship to location Ship To: Shop 31 7179 Opportunity Road San Diego, Ca 92111						
Total Value:						716,745.00
 <u>POST AWARD MEETING</u>						
A post-award meeting shall be conducted at the California Department of Transportation, Division of Equipment Headquarters Office located at 34th Street and Stockton Blvd., Sacramento, Ca 95816. The meeting will consist of a presentation of the time line, application of stickers and stripes, mounting miscellaneous components and assembly schedule for a complete unit.						
 <u>FEDERAL EXCISE TAX EXEMPT CERTIFICATE</u>						
Federal Excise Tax Exemption Certificate is attached.						
 <u>ADDITIONAL FILTERS</u>						
One (1) complete set of additional filters (air, oil, water, fuel, hydraulic, etc.) shall be supplied with the first unit delivered. This additional set of filters shall be as recommended by the manufacturer and shall be complete with the appropriate part numbers for identification.						
 <u>ADDITIONAL UNITS</u>						
The State reserves the right to purchase one (1) additional unit, or up to an additional 25% of the quantity on the Purchase Order, at bid prices, for State Agencies and California Local Government Agencies. Orders for such additional units shall be placed within 180 days of bid award date.						

STATE OF CALIFORNIA

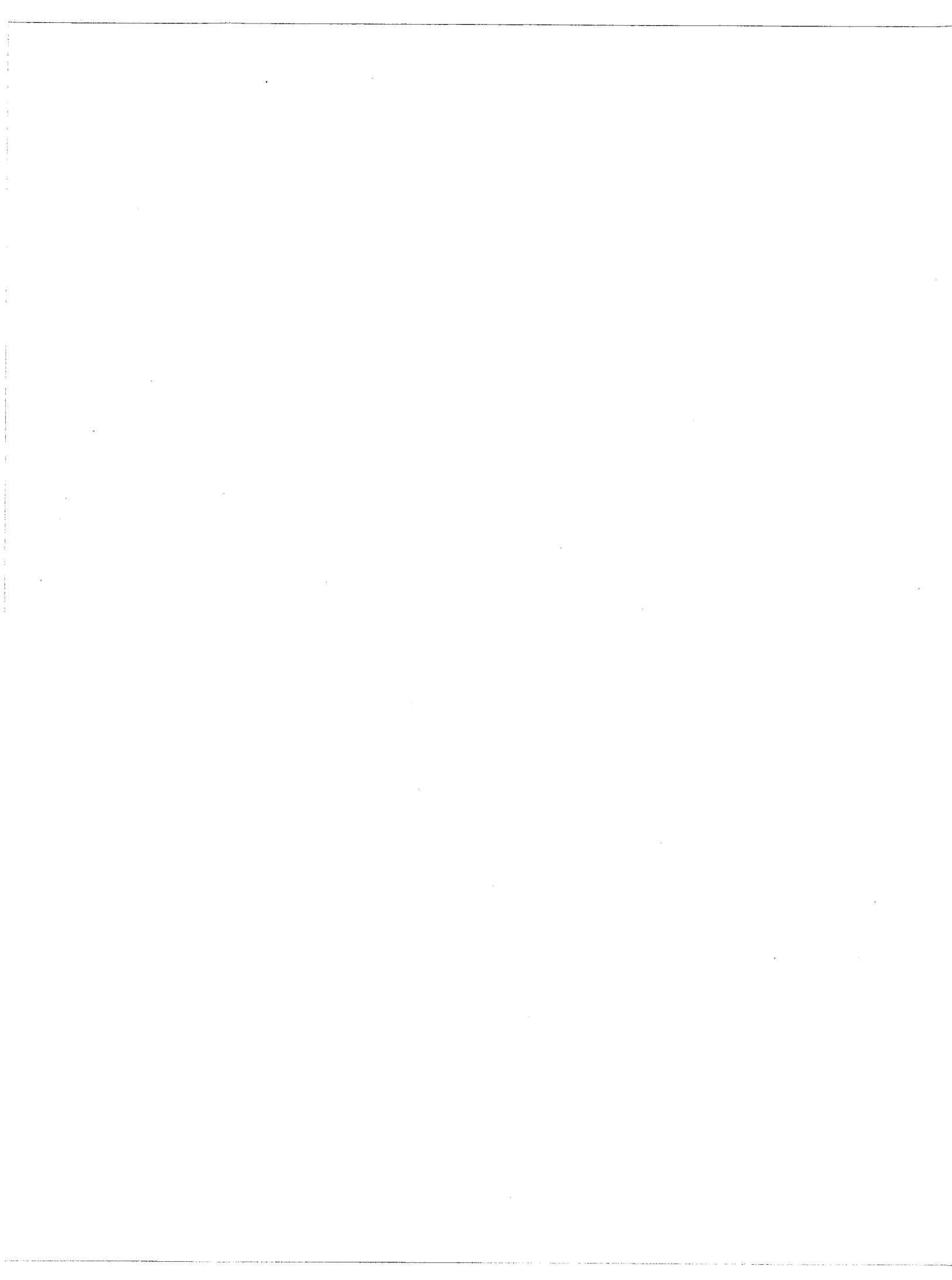
Department of General Services - Office of Procurement

PURCHASE ORDER CONTINUATION

Form GSOP 2-PIN (04/98)

<i>Purchase Order No.</i>	<i>Revision</i>	<i>Date</i>	<i>Supplier No.</i>	<i>Supplier Name</i>
62000		4/23/2008	86537	WEST-MARK

<i>Item No.</i>	<i>Quantity</i>	<i>Unit</i>	<i>Commodity Code</i>	<i>Description</i>	<i>Unit Price</i>	<i>Extension</i>
<p><u>SALES TAX</u></p> <p>Sales tax is not included in the purchase order and should be added to the invoice. The sales tax rate applied should be based on the rate of the area the product is delivered to.</p>						
<p><u>CHANGE ORDERS</u></p> <p>Any Purchase Order resulting from this bid may be amended, modified, or terminated at any time by mutual agreement of the parties in writing. Change orders amending, modifying or terminating the Purchase Order, including any modifications of the compensation payable, may be issued only by the State Procurement Officer. All such change orders shall be in writing and issued only upon written concurrence of the supplier. Termination, as that term is used in this section, does not include termination for default of the supplier.</p>						
<p><u>SCPRS</u></p> <p>This Purchase order has been registered into the state contact and procurement registration system (https://www.scprs.dgs.ca.gov/). The registration number is 26600408300308.</p>						



STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION
DIVISION OF EQUIPMENT

ITEM NO	UNIT	CAB	TRANS	ENG	CAP	C.A.	F.A.	R.A.
05380	TANK				3000			

SPECIFICATION NUMBER: 05380-426-063

SPECIFICATION FOR: TANK - STAINLESS STEEL, 3000 GALLON CAPACITY
FURNISH & INSTALL

PURCHASE ESTIMATE NUMBER: 32-12-4901**

SCOPE

It is the intent of this specification to describe a 3,000-gallon low profile, oval, stainless steel tank (304 L) with a hydraulic powered high pressure centrifugal water pump, spray equipment, and requisite plumbing, to be mounted on a State supplied 60,000 GVWR truck cab and chassis. Any "comparable" components shall only be used with prior approval from the Specifications Engineer. The specification shall take precedence over the drawings. All stainless steel that is to be welded shall be either 304 L or a stabilized grade of stainless steel (321, 247). The following Department of Transportation Drawings are included as part of this specification for reference:

3000 Gallon Water Tanker Assembly Left Side & Rear	I-05380-1AS
3000 Gallon Water Tanker Assembly Right Side	I-05380-2AS
3000 Gallon Water Tanker Hydraulic Schematic	I-05380-3HS
3000 Gallon Water Tanker Water Plumbing Schematic	I-05380-4WS
3000 Gallon Water Tanker Pneumatic Schematic	I-05380-5PN
3000 Gallon Water Tanker Burn Parts	I-05380-6BP
3000 Gallon Water Tanker Tank Specifications	I-05380-7TK
3000 Gallon Water Tanker Pump & Motor Mount	I-05380-8PM
3000 Gallon Tanker Hydraulic Tank Mount	I-05380-9TM
3000 Gallon Water Tanker Water Plumbing Labels	I-05380-10LB
3000 Gallon Water Tanker Assembly Delineation	I-05380-DE
Water Truck, Intl 7600 DC Electrical Schematic-2005 Run	I-05380-ES76-1
32 Gallon Hyd. Tank 3000 Gallon Tanker 05380	Q1-D038-01
Water Tanker Center Console	I-05380-CS1
Water Tanker Center Console W/Flipper Valves	I-05380-CS2
Fuse Panel Ass'y 3000 Gal Water Truck Center Console	I-05380-ES2
4 Yard, Harness, 5 Pos Metri Pack To (Intl)	UI-D023-04
4 Yard Junction Box for Light Harness, Assembly (Intl)	UI-D023-07
4 Yard Junction Box for Light Harness (Intl)	UI-D023-08
Cover, Flasher-Fuse Panel, Center Console	UI-D023-18
Flasher-Fuse Panel, Center Console	UI-D023-19
10 YD, Dump Body Front Spring Mount	EI-D148-01

Bracket For Mounting Utility Box And Tool Basket

E2-B013-01

The questionnaire and In-Shop-Warranty Form shall be completely filled out and returned as part of the final bid package. Any questions which are not applicable to the equipment shall be shown as N/A (not applicable).

Unless otherwise stated in the purchase order, the requirements of these specifications shall have precedence over the completed questions; and, the completed questions shall have precedence over standard factory specifications or literature.

The unit shall comply with Caltrans Equipment Quality Standards for Electrical, Welding, paint and coatings as defined at: <http://www.dot.ca.gov/hq/eqsc/qualstand.htm>. Only technical changes authorized by the Specification Engineer in writing will be accepted. Technical changes made by any other employee will not be accepted.

TECHNICAL REQUIREMENTS

1. **CAB AND CHASSIS INFORMATION:** The tank will be mounted on an International Model 7600, 6 x 4 cab and chassis. The cab to axle distance (CA) is 140 inches, the wheelbase is 207 inches, and the standard frame rail spacing is 34 inches.
2. **POST AWARD MEETING:** A post-award meeting shall be conducted at the California Department of Transportation, Division of Equipment Headquarters office located at 34th Street and Stockton Blvd., Sacramento, CA 95816 with the successful vendor and pertinent Department of Transportation personnel following award of bid. The meeting will consist of a presentation of the successful vendor's time line, application of stickers and stripes, mounting of miscellaneous components and assembly schedule for a complete unit.
3. **TANK:** The vendor shall supply a stainless steel tank in accordance with the following requirements for installation on a State supplied cab & chassis.
 - a. **Capacity:** The internal tank volume (capacity) shall not be less than 3,000 gallons nor more than 3,200 gallons. Internal volume will be calculated by actual tank dimensions.
 - b. **Size of Tank:** The shell length shall be 174 to 180 inches, the width 94 to 96 inches, and the height not to exceed 59 inches.
 - c. **Material:** The complete tank assembly shall be constructed from a minimum 12-gauge, type 304 L stainless steel. The final material finish shall be natural or brushed, not polished.

All fittings and components welded to the tank shell or head must be stainless steel and reinforced with stainless steel pads or bearing plates.
 - d. **Baffles and Heads:** The heads and baffles shall be dished to provide the proper strength and rigidity, and shall have a minimum 1-inch flange with a

minimum 1/2-inch radius between the heads/baffles and the flange. The heads shall be lap welded to the shell both inside and outside. A minimum of two (2) equally spaced baffles, parallel to the heads, shall be installed and welded in place. The baffles shall be constructed of minimum 12-gauge type 304 L stainless steel, properly relieved at the bottom to not restrict the full output of the pump. Each baffle shall have one (1) 18-inch minimum diameter crawl-through opening that is flanged for strength. The crawl-through openings shall be staggered.

- e. Manhole: There shall be one (1) manhole in the top of the tank. The manhole shall be vented, 20-inches in diameter minimum, constructed from stainless steel, and shall form a water tight seal with the tank. The manhole shall be located on the top center of the tank, such that the manhole is located within the center-most tank section, and between the baffles. There shall be provisions to lock the manhole.
- f. Pump Outlet Sump: (Reference Drawing I-05380-7TK.) A sump constructed of not less than 3/16-inch, type 304 L stainless steel shall be installed in accordance with Dwg. I05380-7TK (Tank Outlet). This sump shall be a minimum 6-inches in diameter, have a minimum depth of 3-inches, and be fitted with a 3-inch stainless steel "bonnie" flange, item 713, (threaded weld flange). The sump shall be equipped with stainless steel, anti-vortex fins, item 703. The sump to tank shell connection shall be reinforced.
- g. Rear Tank Sump: A sump constructed of not less than 3/16-inch, type 304 L stainless steel, shall be installed and located as shown on Drawing I-05380-7TK (Rear Tank Sump). This sump shall be a minimum 10-inches in diameter, have a minimum depth of 3-inches, and be fitted with a 3-inch stainless steel "bonnie" flange, item 703 (threaded weld flange). The sump to tank shell connection shall be reinforced.
- h. Overflow: (Reference Dwg. I-05380-7TK, item 704.) A 4-inch diameter stainless steel overflow stand pipe shall be installed through the bottom of the tank and extend up to within 3 inches of the dome top of the center manhole. The overflow pipe shall be reinforced with not less than a 7-inch diameter, 10-gauge 304 L stainless steel pad welded to the bottom of the tank, and shall be supported at the top with a 304 L stainless steel brace. The bottom of the overflow pipe shall be threaded for hose attachment and capped. All attaching bolts, nuts, washers and fittings inside of the tank used in the installation of the overflow pipe shall be stainless steel.
- i. Air Vents: (Reference Dwg. I-05380-7TK, item 705.) A minimum of two (2) air vents shall be installed in the top of the tank. Both vents shall be the same make and model. One vent shall be located at the front of the tank, the other at the rear. Each vent shall be capable of venting the entire tank while the pump is operating at its maximum capacity. The vents shall be for both vacuum and pressure. The vents shall prevent spills from the tank during transport and in the event of overturning. The

vents shall be of the proper size and type for the tank, the pump supplied (400 GPM), and the fluid transported (water). The vents shall conform to all applicable laws and regulations. The vents shall be manufactured from a corrosion resistant steel.

- j. Sight Gauge: The tank shall be equipped with two (2) easily replaceable, clear plastic sight gauges mounted on both the left and right front outside of the tank (Note: Gauges shall be mounted as close to the tank as possible). A colored (red, orange, etc.) buoyant ball, to show the liquid level, shall be placed in each sight gauge. The bottom and top inlets for the sight gauges shall be placed as near as possible to the bottom and top of the tank. There shall be a 1/4 turn type stainless steel or brass ball valve at the bottom inlet. The full length of the sight gauges shall be set in stainless steel channels for protection. An aluminum, brass, or plastic strip shall be set into the channel behind the sight gauges. The strip shall be graduated to accurately measure the volume in the tank in 100 gallon increments. Markings on the strips shall be easily readable and either stamped, machined, or engraved. Strips shall be mounted with screws or rivets. There shall be a drain valve located at the bottom of each sight gauge. The drain valves shall be 1/4 turn type stainless steel or brass ball valves.
- k. Tank Construction: The inside of the tank shall be "sanitary" in a manner that will leave no sharp corners, weld splatter, or cutting slag, necessitating the smoothing of welds and corners, and shall be free from all extraneous materials.

The finished tank shall be free of leaks, deformities, dents, bulges, buckling, and warpage.

In the fabrication of this complete tank assembly, direct attachment of any non-corrosion resistant steel weldments to the tank shell will not be allowed. All attaching bolts, nuts, washers, and fittings inside of the tank used in the installation of accessories shall be stainless steel. The interior of the tank shall be chemically passivated in accordance with ASTM-A380.

- l. Walkway and Roll-over Rails: (Reference Dwg. I-05380-7TK, item 708 & 710.) A walkway of open stainless steel safety tread shall be installed on the top of the tank. The walkway shall run the full length of the tank, extend to the right rear head area where a ladder (Ref. Section 3.m) will attach, and shall surround the manhole. The walkway shall be flat with no obtrusions and shall be not less than 30 inches wide. There shall be a "roll-over" rail on each side of the walkway running the full length of the tank. The roll-over rails shall be a minimum height of 3 inches above the walkway, and be constructed from a minimum of 12 gauge sheet stainless steel.

Note: No piping shall cross or extend over the walkway.

- m. Ladder: (Reference Dwg. I-05380-7TK, item 707.) A ladder constructed of stainless steel tubing uprights and stainless steel non-slip rungs (steps) shall be supplied. The ladder shall attach to the walkway at the top, right rear area of the tank. If the ladder attaches to the rear head of the tank, stainless steel pads or bearing plates shall be welded to the rear tank head for such attachment. The ladder shall extend downward to a point even with the bottom of the longitudinal sills (see Section 3.n. Tank Mounts).
 - n. Tank Mounts: The tank shall be supported by full length longitudinal stainless steel sills. Sills shall attach to the truck frame with not less than four (4) spring type mounts, two (2) per side (Ref. Drawing No. E1-D148-01) and two (2) shear plates one each side at the rear. Each spring mount shall be installed with a minimum of two (2) heavy springs over 3/4-inch Grade 8 vertical mounting bolts, to allow flexibility. There shall be a rubber cushion between the upper and lower half of the mount. The bottom half of the mount shall be of the shear plate design and be bolted to the web of the truck frame rails with not less than three (3) 5/8-inch Grade 8 machine bolts per bracket. There shall be a front spring mount on each side and an intermediate spring mount on each side as shown on Dwg. I-05380-1AS (ref. items 112 & 113). Wood, plastic etc. shall not be used in the tank mounts. Note: Comparable type mounting design may be acceptable with prior approval from the specification engineer.
 - o. Fenders: (Reference Dwg. I-05380-2AS, item 206.) The body shall have fenders over each wheel. Fenders shall be constructed from a minimum of 16 gauge aluminum, and shall be reinforced as necessary for stiffness and strength. There shall be adequate clearance between the fender and the tires to allow the use of tire chains and full suspension travel without interference. Mud flaps shall be installed at the rear of each fender.
4. WATER PUMP AND DRIVE SYSTEM: Reference drawing I-05380-3HS and I-05380-4WS. The drive system for the water pump shall be powered by hydraulics in accordance with drawing I-05380-3HS. There shall be a hydraulic pump (Ref. item # 301, Dwg. I-05380-3HS) driven from the transmission PTO, with a hydraulic motor (Ref. item # 305) driving the water pump. The hydraulic motor and water pump shall be mounted on the left side behind the truck cab and beneath the tank. The water pump and hydraulic motor shall be located such that the pump suction is below the bottom of the tank while the truck is on flat, level ground, and the system has a minimum ground clearance of 16 inches.

The water pump and hydraulic drive system shall be as follows:

- a. Water Pump: Reference drawing # I-05380-4WS. The water pump shall be a Hale CBP4 Series (or comparable upon prior approval from the specification Engineer), single-stage centrifugal type pump. There shall be a brass or stainless steel drain valve installed in the lower

portion of the pump.

- b. Hydraulic Pump: Reference drawing # I-05380-3HS. The hydraulic pump shall be in accordance with item 301, Dwg I-05380-3HS (Parker, PAVC33B2R, Danfoss Series 45 F, or comparable). The pump shall have a splined shaft for mobile applications (Ref. Linde, Model HPR or comparable). The pump shall be sized to work in conjunction with the hydraulic motor and power the water pump. There shall be male quick disconnect type fittings attached to each pressure test port on the pump.

The pump shall be driven off of a transmission PTO. The PTO shall be an air operated clutch type which can be engaged and disengaged while the vehicle is in motion. The PTO shall be of the proper size and speed ratio to power the hydraulic system and water pump as required herein. The PTO shall be activated by the master switch for the water pump, while in the "Run" or "Fill" position (Ref: Section 4. d. Hydraulic Controls herein.). If a driveshaft is required to drive the hydraulic pump, the shaft shall have a splined slip joint, be not less than 2 inches in diameter, and shall be **balanced** (Ref. Spicer, Series 1310 with a 2-4-1741 splined yoke or comparable). The pump shall be mounted in accordance with the pump manufacturer's recommendations.

- c. Hydraulic Motor: Reference drawing # I-05380-3HS. The hydraulic motor shall be in accordance with item 305, Dwg I-05380-3HS (Sunfab, SCM034WNB4KU, Haldex Model GM20, or comparable). The motor shall be of sufficient size to power the water pump as stated herein (Ref. Section 4. a. Water Pump).

The hydraulic motor shall be mounted off of the pump housing (Ref. Hale Hydraulic Motor Drive Kit or comparable). The water pump drive shaft shall be directly coupled to the hydraulic motor. The pump and hydraulic motor unit shall be mounted in accordance with drawing # I-05380-1AS.

- d. Hydraulic Controls: Controls for the hydraulic system shall be the pressure and flow compensation type (load sensing control). The controls shall allow the operator to vary the output of the water pump from zero flow to full flow (Note: Full flow will be dependent on truck engine RPM (while engine is below 1,200 RPM). **Varying the engine RPM shall not effect the water pump output. Water pump output shall be dependent only on the setting of the pump controller in the cab.**

The load sensing controls for the hydraulics shall be installed in a manifold, mounted directly to the hydraulic pump. The manifold shall be fabricated from AISI 4140 steel or comparable. The manifold and all components shall have a minimum rating of 5,000 psi, and sized to allow the hydraulic motor sufficient volume to power the water pump at its full rated RPM.

There shall be a variable valve in the manifold controlling flow from the

hydraulic pump to the hydraulic motor. The variable valve shall be controlled by an electric proportional controller. The controller shall be powered by 12 volts DC. There shall be a dial on the controller to vary the water pump output, in an infinite number of flows, from zero flow to full flow. The controller shall be cab mounted and shall have a knob with a pointer. The pointer shall be labeled in increments from full flow to zero flow. The controller shall be compatible for use with the valve it controls as recommended by the valve manufacturer.

There shall be a master switch for the controller. This switch shall be a three position toggle switch and shall have a "RUN" position, an "OFF" position, and a "FILL" position. The "RUN" position shall activate the electric valve controller to operate the water pump and activate the transmission PTO to drive the hydraulic pump. The "OFF" position shall disengage the transmission PTO. The "FILL" position shall activate the electric valve controller, the engine PTO throttle control, and the transmission PTO. There shall be indicating lights showing when the toggle switch is in the "RUN" position and in the "FILL" position. In addition to the light, there shall be an audible alarm (to be approved by the specification engineer) indicating when the toggle switch is in the "FILL" position. Both the dial control and the master switch shall be located in the control panel within easy access to the operator.

The truck engine shall be equipped with a variable electronic PTO throttle control (Note: Electronic PTO throttle control is incorporated in the engine ECU; however, the ECU may require reprogramming to access this feature). The control shall allow the operator to set the engine RPM from idle to 1,600 RPM. Note: PTO controls shall operate only while truck is completely stopped and the master switch for the pump controller is in the "FILL" position.

The hydraulic system shall contain both a pressure gauge and temperature gauge. Both gauges shall be electrically operated and shall sense from remote transducers in the hydraulic system. The temperature sensing system shall have an audible alarm and warning light for high oil temperature (Note: High oil temperature shall be set at 150° F.). The temperature gauge shall be red-lined for maximum oil temperature. The sensor for the temperature gauge shall be located at the highest temperature in the system. The oil pressure gauge shall read to 6,000 PSI. The sensor for the oil pressure shall be located to monitor the highest pressure in the system. Both gauges shall be easily readable and shall be flush mounted in the control panel with the other gauges and controls for the pumping system. Both gauges shall be labeled indicating their function.

- e. Hydraulic Reservoir and Plumbing: Reference drawings I-05380-3HS and Q1-D038-01. The hydraulic reservoir shall be in accordance with drawing Q1-D038-01. There shall be spin-on full flow type filter(s), with a micron rating as recommended by the pump manufacturer, filtering all oil

returning to the pump. (Note: Filter micron rating shall be compatible with all components in the system, as recommended by each component manufacturer). There shall be a gauge or indicator at the filter(s) showing when the filter requires replacement, as recommended by the hydraulic component manufacturers. There shall be a separate pressure relief valve for the system, located on the pump output line.

All hydraulic lines shall be sized as recommended by the manufacturer of the component to which they attach, and shall be adequate for the use intended. All hoses and plumbing shall have a minimum number of bends and shall be free of any kinks. All bends in hoses and tubing shall be not less than the minimum radius as recommended by the hose or tubing manufacturer. Where applicable, plumbing shall be protected by truck frame and body. Any hoses routed around or through areas which may cause abrasion and cuts, shall be protected as necessary. All hydraulic components and plumbing shall be mounted and supported to withstand extensive field use. Note: The use of black pipe, galvanized pipe, pipe fittings, etc. shall not be used in the hydraulic system.

Hydraulic fittings on high pressure lines shall be the swivel type and shall be 37° JIC, NPT, SAE "O" Ring Boss, or SAE "O" Ring Flange. Fittings shall be of the proper size to match the hydraulic line to which they attach. Compression type fittings shall not be used in the system. All threads shall be North American type threads. British, metric, etc. threads are unacceptable.

- f. Hydraulic Heat Exchanger: The hydraulic system shall contain a stationary heat exchanger to cool the hydraulic oil. The heat exchanger shall be in accordance with drawing I-05380-3HS, item 308. Note: Design conditions for sizing the heat exchanger are as follows: 120°F ambient air temperature, 85°F ambient water temperature, hydraulic oil temperature not to exceed the **operating** viscosity as recommended by the hydraulic pump and motor manufacturers and oil manufacturer.
 - g. Hydraulic Fluid: The hydraulic fluid shall be in accordance with State of California Specification No. 9150-01E-24. (Ref. Chevron Tractor Fluid or comparable)
5. PRESSURE RELIEF SYSTEM: (Reference Dwg I-05380-4WS.) A manually adjustable water pressure relief system shall be installed. The system shall have infinitely adjustable range of at least 30 to 150 PSI. The system shall monitor and control pressures on both the suction and discharge side of the pump. All discharge from the system shall return to either the suction side of the pump or directly into the tank (no fluids shall be discharged to the environment). Controls for the system shall be panel mounted near the water pump in a convenient location for the operator, and shall be appropriately labeled (Ref: Kunkle, Model 20-J02 or comparable).
 6. PLUMBING (WATER): The water plumbing shall be in accordance with Drawing

I-05380-4WS unless otherwise stated herein. All piping and fittings shall be made from a minimum of schedule 40, stainless steel, unless otherwise specified, with welded joints and bolted flanged couplings. All piping shall be designed with a minimum number of bends and supported to withstand extensive field use. Stainless steel piping shall be used whenever possible, in lieu of hoses. Any hoses used shall be of the proper size, strength, and rating for the use intended, and shall be as short as possible. All piping shall have brass or stainless steel ball valve type water drains, installed at its lowest point, to **drain the entire plumbing system.**

Bolted flanged or vitaulic type couplings shall be used for the plumbing valves and other mechanical components subject to replacement or repair. Flexible couplings shall be used on piping subject to truck frame flexing or slight misalignment.

All pipe flanges attached to the pump inlet and outlets shall be free of any distortion, and shall not transfer any side loading to the pump inlet or outlet flanges.

7. **SUCTION LINE:** A minimum 3-inch diameter suction line from the sump to the pump shall be installed with a minimum of bends and fittings and shall be in accordance with Drawing I-05380-4WS with the required valve (item 407) and strainer (item 416).
8. **PUMPING FROM SOURCE OTHER THAN TANK:** Reference drawing I-05380-4WS. A 2 ½ inch hose adapter (item 418) shall be plumbed to the 3-way valve (item 407) on the suction line for the purpose of pumping from a source other than the tank. A cover (item 417) shall also be provided. The coupler and valve shall be in a convenient location for the operator.
A 2 ½ inch minimum diameter suction hose 12 feet in length, to connect to the suction line (at item 418), shall be furnished. The hose shall have a fitting on one end compatible with the fitting on the suction line, item 418 and a foot valve on the other end. This hose shall be stored in PVC tube located on the left side of the tank as shown on Dwg I-05380-1AS. The tube shall be capped at the forward end and have a lid/cap easily opened by the operator (without tools) for access to stow and remove the suction hose. This stowage tube shall be adequately secured for transportation to the tank or chassis.
9. **REAR-MOUNTED OUTLET:** A 2-inch piping system shall be provided to deliver water from the pump to an outlet located on the rear passenger's side of the truck. Reference Dwg I-05380-4WS for requirements.
10. **TANK FILL PLUMBING:** There shall be provisions to fill the tank from city fire hydrants/domestic water supplies or by drafting water from a remote source with the water pump.
 - a. **Hydrant Fill:** An air gap or approved double check valve hydrant fill device shall be installed to fill the tank from city fire hydrants or domestic water supplies. The air gap from the extreme top edge of the tank to the end of

the discharge pipe above the tank shall be not less than 6 inches. This fill device piping shall be 2 ½ inch size. All piping for the air gap fill shall be located outside of the tank. Inlets shall be secured to the truck with adequate mounts. There shall be an inlet on both the left and right rear sides of the vehicle. Reference Dwg I-05380-1AS for approximate fill routing and Dwg I-05380-4WS for piping components.

- b. Pump Fill: Plumbing to fill the tank from the water pump shall be in accordance with Dwg I-05380-4WS.

11. VALVES AND FITTINGS: All valves shall be in accordance the call outs in the bill of materials on Dwg I-05380-4WS unless otherwise stated. Comparable valves and fittings may be used only with prior written permission from the specification engineer. The handles on all valves which will allow draining of fluid shall be detachable, and lockable.

Provisions shall be made to remove all valves and major plumbing components for maintenance and replacement.

12. FRONT DUMP VALVE AND SWING PIPE (BASIN DUMP) : Reference drawing I-05380-4WS. A 3-inch size valve and swing-type pipe shall be installed at the center of the front water manifold. This pipe shall be able to rotate approximately 180 degrees (from horizontal to horizontal). There shall be controls located in the truck cab, convenient to the operator, for the dump pipe valve. The dump pipe and valve shall be reinforced and supported as necessary to withstand the forces imposed upon them during operation and transport.

The front dump line shall be installed in accordance with DWG I-05380-4WS and shall consist of:

Item 405	Pneumatic Valve, Milwaukee #BB-10A0MC3S4
Item 412	Swivel Joint, Dixon 330-FXF-0C
Item 421	Hose 3" inch
Item 431	Exhaust Tubing, 3 inch

And any other required plumbing. There shall be a saddle type support on each side of the truck to help support the tubing.

13. PRESSURE GAUGES: Two (2) pressure gauges (ref Dwg I-05380-4WS, item 415 & 439) shall be supplied and mounted. Item 415 shall be mounted near the pump station and item 439 shall be console mounted in the cab of the vehicle. Comparable pressure gauges may be used only with prior written permission from the specification engineer.
14. REAR MOUNTED HOSE REEL: A 12-volt electric rewind hose reel shall be mounted at the center rear of the truck, on top of the frame rails, with the reel 'axle' perpendicular to the frame rails (Ref: Dwg I-05380-4WS, item 402). The hose reel shall be capable of holding one hundred (100) feet of 1 inch ID hose (item 424) and shall be equipped with the items 424, 425, 426 & 429 in

accordance with Dwd I-5380-4WS and items 203 & 204 in accordance with Dwg I-05380-2AS

Electric controls for the hose reel, located within arms reach of the reel and easily operable. The reel shall be protected by a resettable circuit breaker switch.

15. RIGHT SIDE MOUNTED HOSE REEL: A 12-volt electric rewind hose reel shall be mounted on the right side of the truck, on the frame rails, with the reel 'axle' parallel to the frame rails (Ref: Dwg I-05380-4WS, item 401) using toolbox mounts item 126, Dwg I-05380-1AS. The hose reel shall be capable of holding ninety (90) feet of ¾ inch ID hose (item 410) and shall be equipped with the items 424, 425, 427 & 428 in accordance with Dwd I-5380-4WS and items 202 & 204 in accordance with Dwg I-05380-2AS
16. FRONT TRUCK-MOUNTED SPRAY EQUIPMENT: Plumbing shall be provided in accordance with drawing I-05380-4WS and shall include Items 423 & 411 (gutter washer). The gutter washer components shall be installed with the use of vitaulic coupling to allow for removal and installation of a gang nozzle option. The valve and pneumatic control line shall be fitted with quick disconnects to facilitate installation and removal of the gutter washer and gang nozzle option if equipped.

The front horizontal manifold with the front-mounted spray equipment shall be positioned to allow the tilting hood furnished on the truck to move throughout its original full range of motion without interference.

17. CONTROLS: Reference drawing I-05380-CS1 for the console configuration. All powered controls shall be operated from the cab and installed in the console in accordance with drawing I-05380-CS1. This shall include, but shall not be limited to the following: water pump controls; pneumatic control valves; pneumatic, hydraulic, and electric cylinders and actuators. All controls and gauges shall be mounted and properly labeled as to their function in a console in the cab. All controls and gauges shall be easily accessible and viewable to the operator. Gauges shall be flush mounted in the console. The location of the console shall not inhibit routine maintenance to the truck.

All labels shall be fabricated from metal or plastic and mounted with rivets or screws (Note: Adhesive type decals are not acceptable). Lettering on labels shall be easily readable, shall be etched, engraved, or machined and shall contrast with the label color. All labels and gauges shall be printed or marked in English and standard U.S. units.

18. MOUNTING:

- a: The body and requested attachments shall be mounted by the vendor on a truck cab and chassis supplied by the State. The truck cab and chassis shall be a late model International 7600, with a GVWR of not less than 60,000 lbs., 140 inches cab-to-axle distance, minimum wheelbase of 207 inches, and a frame RBM of not less than 2,000,000 in. lbs. per rail (Note:

Frame may include a frame reinforcement). The unit will be equipped with a 20,000 lb. GAWR capacity front axle and a 40,000 lb. GAWR capacity rear axle. The engine will be diesel fueled, with a minimum net 370 HP. Any truck components which require relocation to accept the body or body components shall be the responsibility of the body vendor. The body vendor shall notify Caltrans, Specification Engineering, (916) 227-9607, for approval to relocate any truck component.

- b. There shall be no welding to the truck frame, except at the rear ends of the rails and forward of the grill. The frame flanges shall not be drilled.

19. DELINEATION: The State shall supply and the vendor shall install the following items in accordance with drawing # I-05380-DE:

Item 101	Orange Reflective Tape
Item 102	"CT" Decal (2 ea.)
Item 103	Orange and White Striping
Item 104	Cone Zone Decal
Item 105	Black Caltrans Decal (2 ea.)
Item 106	Orange Caltrans Decal
Item 107	Equipment ID Number
Item 108	Diesel Fuel Decal

All stickers, labels and striping shall be applied using wet application. All stickers, labels and striping shall be level, straight, bubble free and debris free. No splicing of tape or striping shall be acceptable. All edges on striping shall be trimmed 1/8" from the edges of doors, panels, fenders, lights etc. Any reflective type of stripe or sticker may not be pulled from the vehicle and reapplied during application since the reflective material will be compromised.

20. MISCELLANEOUS:

- a. All material used inside of the tank shall be stainless steel.
- b. The supplier shall supply and install an instruction chart detailing which valves to open and close to perform various functions in accordance with drawing I-05380-10LB, Item 1001. The chart shall be installed on the side of the tanker, near the pump, in clear view for the operator.
- c. Each valve shall be numbered and labeled with a brass tag corresponding to its number in the instruction chart using tags defined by item 1004 on drawing I-05380-10LB. Connection ports shall be labeled using item 1003 in conjunction with the instructions on the chart, item 1001.
- c. A rear bumper shall be supplied and mounted.

21. LINKAGE SYSTEMS: All component linkage and actuation systems not specifically covered in the drawings or specifications shall be required to accurately operate the component according to the component manufacturer's specifications. These systems must maintain their designed configuration,

adjustment, and serviceability through repeated cycling. The decision of whether or not a system complies with the intent of this requirement shall rest with the specification engineer.

22. EYEWASH STATION: A self-contained emergency eyewash station shall be installed on the passenger side of the tanker. The station shall be gravity feed and provide a minimum of 15 minutes of continuous flow of a buffered saline solution. The complete installation shall be in compliance with ANSI Z358.1-1998 installation including height and location. (Ref. H. L. Bouton 0116 or comparable)
23. MATERIAL: Construction shall be of all new material free of rust and any defects. All components in the assembly shall be fabricated from a single piece of material. Material which is joined by welding or other means to form a single piece of stock is not acceptable. The finished product shall be free of dents and warpage. The use of any type of body filler is unacceptable. All bolts shall be Grade 5 or better and conform to SAE and ASTM standards. Bolt lengths shall be such that a minimum of two threads shall extend beyond the nut. Nuts shall be the locking type. Nuts and washers shall be compatible with the bolt(s) to which they are attached, as recommended by the fastener manufacturer and in accordance with SAE and ASTM standards. If requested, the supplier shall submit proof of fastener strengths.
24. METAL SHAPING: All breaks shall be free of cracks. Radii shall be at least twice the thickness of the material or in accordance with the requirements established by ASTM for the particular material being formed, whichever is greater. All holes shall be round, of the proper dimension, perpendicular to the material they are produced in, and finished smooth. Oblong holes or holes drilled, bored, etc. at angles are not acceptable. Holes and slots shall be drilled, punched, saw cut, plasma cut, or milled; torch cut is unacceptable. Sharp corners on all material shall be radiused to prevent personnel injury.
25. ELECTRICAL EQUIPMENT: Minimum electrical equipment shall comply with all Federal Motor Vehicle Safety Standards (FMVSS) and California Vehicle Code regulations. Notwithstanding any Federal or State minimum requirements, each unit shall be equipped with two (2) taillights, two (2) stop lights, and turn (left and right) signals. All lights shall be light emitting diode (LED) recessed type, mounted in rubber grommets. The tail, stop, and turn signal lamps may be in combination (Ref. Truck-Lite #44982R (round); #60885 (oval); with 'hard coated' lens). Backup lights shall be installed (Ref. Truck-Lite 44141C, with 'hard coated lens'). Grommets shall match the light used. Side marker, clearance, and ICC lamps shall be 2½-inch LED units (Ref. Truck-Lite #10250R, #10250Y and #10700 grommets). Retro-reflective tape reflectors (Ref. Petersen Mfg. #B490R and #B490A), shall be used where needed to meet FMVSS requirements for Class A reflectors. Mounting holes for lights shall be the proper dimension as recommended by the manufacturer of the light. The holes shall be punched, plasma, or saw cut and finished smooth; torch cut holes are unacceptable.

All wiring installed by the supplier shall be the stranded copper type and shall

have cross-linked polyethylene insulation and be protected in vinyl plastic auto loom and in areas specified, by rigid/flexible conduit. Minimum gauge of wire to the lights shall be in accordance with SAE standards for distance from power source and load demand. Wiring color code for lights shall comply with SAE standard J560(b). The ends of all cut stranded conductors shall be mechanically stripped and fitted with weather proof connectors (Ref. Truck-Lite 'Fit 'N Forget' plug assembly, or comparable; contact Truck-Lite Technical Support at (888) 562-5012). NOTE: no splicing, cutting, or bullet-type plugs are acceptable on wiring looms or lights. The terminals shall be mechanically crimped securely with appropriate tool(s). All splices shall be sealed against moisture. Scotch Lock wire-type piercing devices shall not be used.

Appropriate tools shall be the following, or comparable, for use and purpose as applicable:

Wire Stripper: Ideal Industries, Inc., Catalog Number 45-092.

Cable Stripper: Ideal Industries, Inc., Catalog Number 45-128.

Multi-Crimp Tool: Ideal Industries, Inc., Catalog Number 30-429.

Cutting Pliers: Klein Tools, Inc., Number 7YLL (1104).

Ground return connections shall be attached to the vehicle frame, body and/or engine. In cases where the engine or body is mounted on rubber or other insulation, proper ground shall be provided with grounding straps.

The edge of all metal members which wire harness or loom pass through shall be deburred, flanged, rolled or bushed with suitable grommets. In general, wire routing shall be such that maximum protection is provided by the vehicle sheet metal and structural components. All electrical work and installation of equipment/devices shall be completed in a workmanlike manner, mechanically and electrically secure. Devices, lamps, etc., requiring periodic service shall be serviceable and accessible by providing wire length to reasonably accomplish this.

The amber mini light bar item 102 on drawing I-05380-ES76-1 shall be one of the following three lights, no exception:

Target Tech/Federal Signal	P/N 450112-02
Ecco	P/N 5315
Public Safety equipment (PSE)	P/N 420AH

All wiring shall be in accordance with drawing I-05380-ES76-1 unless prior approval is obtained from the specifications engineer. No components related to the Vehicle Information Transmission (VIT) systems shall be installed. The following items and any item associated with the VIT system shall be deleted from the electrical installation (reference DWG I-05380-ES76-1:

Item 107	Vehicle Information Transmitter
Item 108	Candometer

Item 109
Item 110

Cable
Antenna

26. WELDING: All welding shall comply with the requirements as represented in American Welding Society (AWS), D14.3-82, and American National Standard entitled "Specification for Welding Earthmoving and Construction Equipment."

All welds shall be continuous except as noted. Intermittent or spot welds shall be spaced and proportioned to provide ample strength for the material being welded. Weld sizes not indicated shall be equal to the thickness of the least of the joined plates.

All welds shall be properly fused, displaying proper penetration and 5 professional finish, and must meet the qualification requirements of applicable AWS specifications. Examples of unacceptable weldments are:

- | | |
|-------------|-----------------------|
| a. Cracks | d. Excessive Splatter |
| b. Undercut | e. Blow Holes |
| c. Overlap | f. Slag Entrapment |

Any weld failing to comply with the AWS specification or failing to pass a quality assurance inspection performed by the State, will be corrected by the manufacturer, at their expense, and be corrected off State property. The State shall determine if a weld is acceptable or deficient.

Any deficient weld shall be corrected by a welder who is certified in accordance with the requirements as established by the American Welding Society (AWS). The welder shall have the proper certification documents indicating that he/she is qualified to perform the type, size, and position of the weld performed, with the welding process utilized, and on the material being welded. The supplier will be required to supply proof of current welding certifications for personnel performing any re-welding on the unit, upon request of the State whether written or verbal.

GRINDING OF WELDS must have prior approval of the Department of Transportation, Division of Equipment, Engineering Specifications. Welds which have been ground without approval shall be subject to complete re-welding upon request, at no additional cost to the State.

All assembly dimensions and tolerances on drawings apply after welding. Excessive warpage of assembled parts is not acceptable. Weld symbols on drawings shall be interpreted per American National Standard Welding Symbols. In the event of the lack of a weld symbol, the best commercial practice shall prevail. The covering of welds with body fillers or similar materials is unacceptable.

27. PAINT: The stainless steel tank and other stainless steel equipment shall not be finish painted. All accessory equipment such as the pump may be finished with

factory standard colors and paint. All other metallic components shall be finish painted and be free from runs, drips, sags, etc., and shall be evenly applied to provide a gloss finish. The finish coat shall be lead-free DuPont Imron 5000, Winter White (#N6431 HN H), polyurethane enamel; PPG Delta DUHS (#90604); or, Sherwin Williams Genesis (#G8-40687), NO EXCEPTIONS. All metal surfaces shall be primer painted in accordance with the paint manufacturer's recommendations, not less than 2 mils dry thickness. The finish coat shall be Winter White color referenced above, not less than 2 mils dry thickness (total of 4 mils). The finish or top coat shall be compatible for re-coat or touch-up with the above-referenced paint(s). All paint and primer shall be lead free.

Chassis cab, frame, and components shall remain original-factory color. Any chassis mounting scars due to mounting body and equipment shall be repaired as necessary and refinished. Any paint overspray (glass, paint, rubber, etc.) shall be removed and the surface returned to its original condition. All paint material used shall be comparable, as determined by the State, to those referenced above.

28. SAFETY: The entire unit and accessories shall comply to the applicable provisions of the California Vehicle Code, the Safety Orders of the Division of Industrial Relations, and all Federal regulations in effect at the time of manufacture. Only a State of California licensed professional engineer in the employ of Caltrans, Equipment Engineering Specification shall be authorized to make determinations where safety compliance is an issue.

When delivered, a certification label shall be affixed stating that the completed unit conforms to all applicable "Federal Motor Vehicle Safety Standards" in effect at time of manufacture. The label shall be in accordance with Code of Federal Regulations, Title 49, Parts 567 and 568.

Steps and grab handles shall be provided in the necessary areas to provide safe access to controls and equipment for usage and maintenance. In areas where a potential hazard exists the appropriate warnings shall be displayed. In general, all pinch points, linkages etc. which are exposed to the operator shall have a guard or cover.

OPTIONS

Options shall be supplied and installed only when requested on Purchase Estimate.

1. GANG MOUNTED NOZZLES: Two vertical stand pipes of a diameter to match the connecting manifold shall be provided, one (1) at each end of the horizontal front manifold. The stand pipes shall be removable. Each vertical stand pipe shall be equipped with three (3) gang-mounted Vee-Jet nozzles. Nozzles shall be mounted on an off-center fitting, and positioned to spray water a distance of 45 feet on both the right and left side of the truck, at a pressure of 60 psi. The nozzles supplied shall be Spraying Systems Company 1-1/4-inch UOC 600 with 9/16-inch orifice diameter (or comparable), mounted on 1-1/4 inch unions. The gang mounted nozzle assembly shall be incorporate a normally closed air valve (Ref. Milwaukee # BB1-10A0MC3S4 comparable) to allow independently controlled water flow to the nozzles on each side. Controls for valves shall be mounted in the truck cab, with other spray controls, and shall be easily accessible for the operator. The assembly shall be designed with a vitaulic coupler to allow it to be installed when the gutter washers Ref dwg. I-05380-4WS, items 411 & 423 are removed. The valve shall be fitted with a quick disconnect for the pneumatic control line. Gang nozzles shall be designed to allow the truck hood to open without interference and clear adjacent components.
Note: Gutter washers shall be installed and the gang nozzles shall be shipped loose with the unit.

PRICE: \$ 2268.00

2. MONITOR NOZZLE: One (1) complete remote controlled, hydraulically or electrically powered, turret-type, monitor nozzle with controls shall be supplied and installed in accordance with drawing I-05380-4WS (Items 413, 414 & 405. The monitor shall be capable of rotating 180 degrees horizontally (± 90 degrees from the vehicles longitudinal center line) and 90 degrees vertically (+ 70 degrees, - 20 degrees from horizontal). The minimum capacity of the monitor shall be 700 GPM.

Controls for the monitor nozzle shall be mounted in center console located in the cab with the other spray equipment controls convenient to the operator. Controls for the monitor and nozzle shall be as follows (or comparable): a joystick up/down, left/right monitor sweep control; a spring centered, 3 position toggle switch to control the fog/stream of the nozzle; a 2-position toggle switch to turn the water on/off; and a 2-position toggle switch with indicating light to act as a master power switch for the complete unit. All controls shall be appropriately labeled.

The monitor nozzle shall be flange mounted to the top of the front manifold. There shall be an air valve (normally closed) between the manifold and nozzle to control flow to the nozzle. The monitor nozzle shall be mounted in such a manner that the operator can view and control the nozzle from the driver's seat. The complete unit (less control panel) shall be completely weatherproof and suitable for mounting on the front of a truck.

PRICE: \$ 13,200.00

3. REAR MOUNTED FAN SPRAY VALVES: There shall be a fan type watering nozzle on both the left and right rear corners of the unit. Each nozzle shall be independently controlled by a normally closed air valve, with operator controls located in the cab. Each nozzle shall have a horizontal fan spray pattern adjustable from 30 to 180 degrees. There shall be provisions to adjust the volume through the nozzle. Each nozzle shall be up/down and left/right adjustable (REF: McLellan Equipment, Water Truck Spray Valves or comparable). The nozzles shall be located approximately 30 inches above level ground.

Plumbing for the nozzles shall be 2 1/2 inch diameter and shall connect to the plumbing described in section 9 of the Specifications - REAR-MOUNTED OUTLET.

PRICE: \$ 1037.00

4. FRONT MOUNTED FAN SPRAY VALVES: There shall be a fan type watering nozzle on both the left and right front corners of the unit. Each nozzle shall be independently controlled by a normally closed air valve, with operator controls located in the cab. Each nozzle shall have a horizontal fan spray pattern adjustable from 30 to 180 degrees. There shall be provisions to adjust the volume through the nozzle. Each nozzle shall be up/down and left/right adjustable (REF: McLellan Equipment, Water Truck Spray Valves or comparable). The nozzles shall be located approximately 30 inches above level ground.

Plumbing for the nozzles shall be of a diameter that matches the front manifold and shall connect to the front manifold in place gang mounted nozzles as described in section 1 of the Options - GANG MOUNTED NOZZLES.

PRICE: \$ 260.00

QUESTIONNAIRE FOR A 3000 GALLON TANKER WITH SPRAY EQUIPMENT

Make WEST-MARK
Model G2TTNC70S

1. TANK

- a. Capacity: 3,000 Gallons.
b. Size:
 Length: 180" inches.
 Width: 95" inches.
 Height: 59" inches.
c. Material Type and Thickness: 10GA T-304L S/S

2. WATER PUMP & DRIVE SYSTEM:

- a. Water Pump:
 Type: SINGLE STAGE CENTRIFUGAL
 Manufacturer & Model HALE CBP4 SERIES
b. Hydraulic Pump:
 Type AXIAL PISTON OPEN CIRCUIT PUMP
 Manufacturer & Model DANFOSS SERIES 45 F
 Rated Continuous PSI 3770
 Rated Continuous RPM 2200
c. Hydraulic Motor:
 Type EXTERNAL SPUR GEAR MOTOR
 Manufacturer & Model HALDEX HYDRAULICS MODEL GM20
 Rated Continuous PSI 4000
 Rated Continuous RPM 3600

3. PRESSURE RELIEF SYSTEM:

Manufacturer & Model KUNKLE
Adjustment Range 30-150 PSI to PSI

4. PRIMING SYSTEM:

Manufacturer & Model HALE ESP ELECTRIC PRIMER

5. EYEWASH STATION:

Is the eyewash station in compliance with ANSI Z358.1? (Y/N) Y
Manufacturer: H.L. BOUTON
Model: #0116

NOTE: THIS QUESTIONNAIRE SHALL BECOME PART OF THIS BID AND TAKE PRECEDENT OVER ACCOMPANYING LITERATURE. THE BIDDER MUST COMPLETE THE FOLLOWING IN FULL.

WEST-MARK

Company

2704 RAILROAD AVENUE

Street Address

CERES, CA 95307

City, State, Zip Code



Signature

HEATHER SILVEIRA / GOVT. SALES COORDINATOR

Name and Title

(209) 537-4747

Telephone Number

LIST ANY ADDITIONAL INFORMATION OR EXCEPTIONS TO THE SPECIFICATIONS BELOW.

CALTRANS IN-SHOP WARRANTY AGREEMENT

Name of Supplier/Manufacturer WEST-MARK
Warranty Representative (print or type) STEVE BUCKNER JR.
Street Address 2704 RAILROAD AVENUE
City, State, Zip Code CERES, CA 95307
Telephone Number (209) 537-4747
Solicitation No. 56752 Due Date 4/4/08
Item (Quantity/Brand/Model) (5) WEST-MARK G2TTNC70S

When equipment is purchased for Caltrans, a section of the specifications requires the supplier/manufacturer to enter into an In-Shop Warranty Agreement.

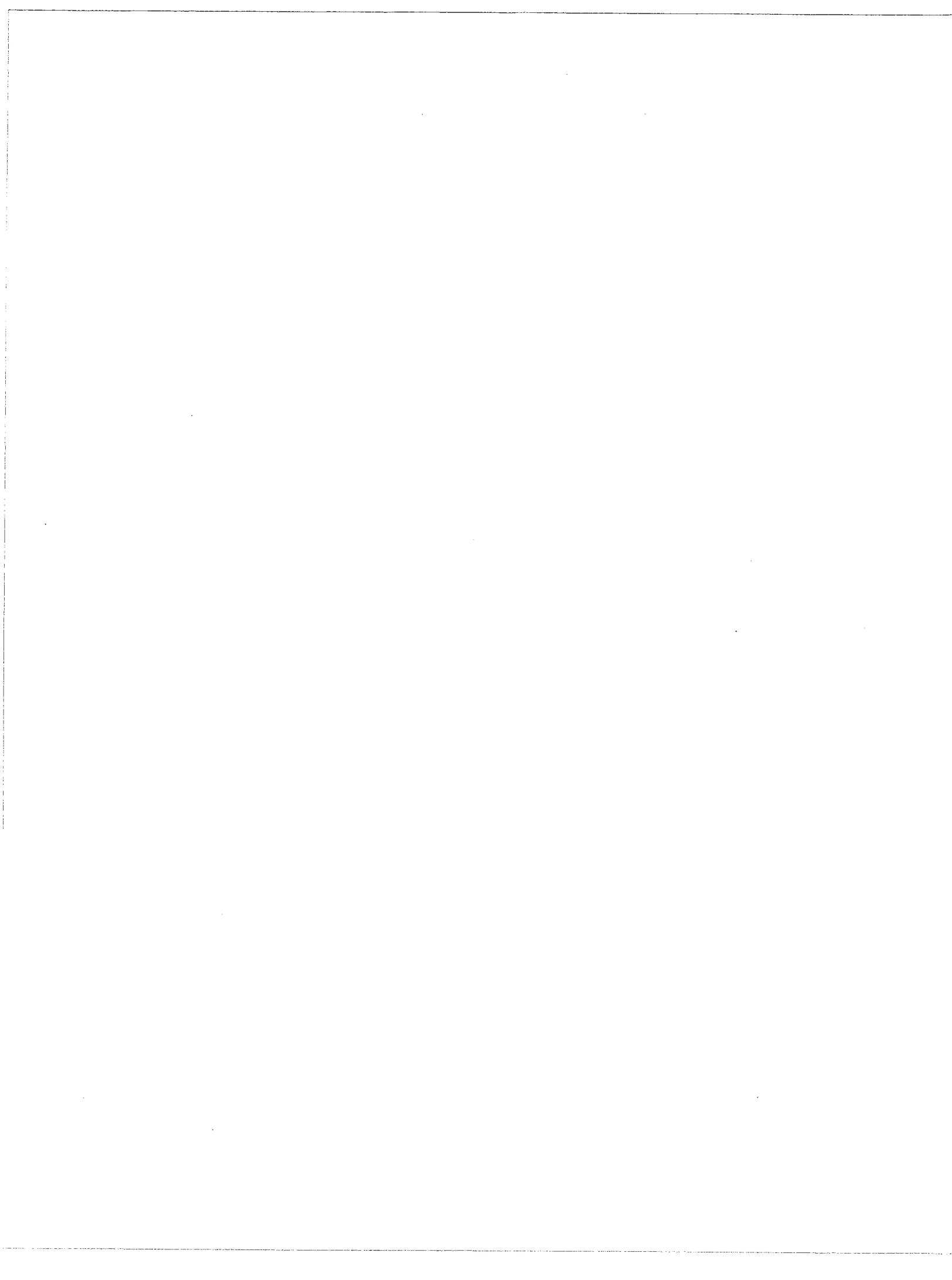
The terms of the In-Shop Warranty Agreement for this equipment are as follows:

1. Labor rate charged by Caltrans will be \$100.00 per hour.
2. Warranty claims will be processed on a Caltrans Work Order unless the supplier/manufacturer furnishes standard warranty forms.
3. Suppliers'/manufacturers' standard flat rate time schedules shall be used as a guide for In-Shop Warranty repair time. If a supplier's/manufacturer's flat rate time schedule is not available, Caltrans will use the time that is recorded on the Caltrans Work Order.
4. Replacement parts will be available within 5 working days from the date of receipt by supplier/manufacturer of a Purchase Order, whether the order is made by telephone or in writing.
5. Replaced parts will be held 60 days for inspection by the supplier/manufacturer.
6. Original Equipment Manufacturers' parts will be used as replacement parts; or, if OEM parts are not available, after-market parts of equal or better quality will be utilized.
7. Copies of invoices for all parts will be provided to the supplier/manufacturer.

Caltrans will contact the supplier/manufacturer for authorization to perform In-Shop Warranty repairs as stated in this agreement. Only under extreme emergency conditions will In-Shop Warranty be performed without prior authorization. If Caltrans opts not to perform the warranty work, the supplier shall pick up the unit within 48 hours of notification, written or verbal.

In-Shop Warranty Agreement shall remain in effect until all conditions of warranty in the State of California specifications and in the original manufacturer's warranty expire.

Signature, Caltrans Warranty Coordinator _____ Date _____
Signature, Supplier/Manufacturer *Steve Buckner Jr.* Date 4/2/08
Date _____



STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION
DIVISION OF EQUIPMENT

ITEM NO	UNIT	CAB	TRANS	ENG	CAP	C.A.	F.A.	R.A.
05380	TANK				3000			

PURCHASE ESTIMATE NUMBER: 32-12-4901*

ADMINISTRATIVE REQUIREMENTS

1. **VEHICLE DOCUMENTATION REQUIRED:** The original dealer's "Report of Sale" shall be furnished by all California licensed dealers at the time of delivery of each unit or units covered by these specifications.

A California certification of compliance for vehicle pollution must be supplied at the time of delivery of each unit.

An original weight certificate from a California certified Weigh Master must be supplied at the time of delivery of each unit.

A Federal Excise Tax Exempt Certificate will be attached to the purchase order.

All documentation supplied for registration shall contain the following:

State of California
Department of Transportation/Equipment
34th Street and Stockton Boulevard
P. O. Box 160048
Sacramento, CA 95816

All required documentation shall be sent to the above address by the time of delivery.

NOTE: The State shall register/license all vehicles with the Department of Motor Vehicles.

2. **WORKMANSHIP:** The equipment and any accessories shall be a product of good workmanship and shall be free from any defects that will affect their appearance or serviceability.

3. BOOKS AND MANUALS: One (1) set of standard operator's manual, complete lubrication instructions, parts books and shop repair manuals (complete with electrical and hydraulic schematics) shall be supplied with each unit.
4. PRINTS: Prints are supplied electronically with the bid in .pdf format. Any hard copies required for estimation, fabrication or sub-contractor communication will be the responsibility of the vendor.

The successful vendor will have 30 calendar days to review the submitted Drawings. If the supplier finds any discrepancies with the prints, the supplier shall notify the Department of Transportation, Equipment Specification's engineer. If the supplier fails to notify the Department of any discrepancies with the prints within this time frame, the supplier may be responsible for all costs involved in correcting the discrepancies on the units bid, as deemed acceptable by the Department.

5. WARRANTY: The unit and any optional accessory shall be free from defects in workmanship and materials and be covered (parts and labor) under warranty for one (1) year following the date the Department of Transportation (Caltrans) puts the unit into service. Caltrans will notify the supplier by mail of the in-service date.

A copy of the manufacturer's standard warranty for the unit, any accessory, optional equipment, and components shall be supplied with each unit at delivery, or upon request. The manufacturer will be held responsible for warranty (commencing from the date Caltrans puts the unit into service) for the following circumstances:

1. The manufacturer's standard warranty exceeds one (1) year. Under this circumstance, the supplier is responsible until one (1) year is reached. The manufacturer will be held responsible for the balance of the manufacturer's standard warranty.
2. The supplier is no longer an authorized dealer of the equipment supplied. Under this circumstance, the manufacturer will be held responsible for the balance of the manufacturer's standard warranty. The manufacturer shall establish a fully operational warranty service provider with capabilities equal to or exceeding the supplier's (or his designated warranty provider) within 45 days of the supplier's authorized dealer termination.

If the supplier is not the manufacturer or manufacturer's authorized representative, then a statement agreeing to the warranty conditions stated herein shall be signed by the manufacturer and submitted upon request prior to Purchase Order award.

An In-Shop Warranty agreement (see attached), signed by the supplier or manufacturer, shall be supplied prior to Purchase Order award.

Caltrans, at its option, may perform warranty work under the terms of the In-Shop Warranty agreement. If Caltrans opts not to perform the warranty work, the supplier shall pick up the unit within 48-hours of notification, written or verbal. The unit will be at a Caltrans facility. The unit shall be repaired and returned within 10 working days to the Caltrans facility where the unit was originally picked up. Upon prior approval with Caltrans and in compliance with all Caltrans Policies and Procedures, warranty work may be performed at a Caltrans facility.

Any supplier or manufacturer non-compliant with the warranty provisions set forth herein may be subject by the Procurement Division, Department of General Services, State of California to be removed from any future bidding.

For questions regarding the warranty or In-Shop Warranty agreement contact:

California Department of Transportation
Division of Equipment
P.O. Box 160048
Sacramento, CA 95816
Attn.: Warranty Coordinator (916) 227-9646

6. **TRAINING:** When training is requested on the Invitation For Bid, the supplier, at his expense, shall provide a qualified factory authorized service representative (not a salesman) to provide training for operators, mechanics, and parts personnel. This training (not a sales presentation) shall consist of hands-on operation, safety, service and adjustments for the operators; mechanical repair and adjustment specifications for the shop and field mechanics; parts manual orientation, nomenclature and ordering procedures for parts personnel. It shall also cover lubrication and servicing using Division of Equipment lubrication products. This lubrication product information will be provided to the supplier by the Division of Equipment Lubrication and Research Branch at (916) 227-9646.

A training plan outline, containing at least all of the subjects listed above, shall be submitted for approval within 30 days after receipt of the order (ARO) to the Division of Equipment Training Coordinator at (916) 227-9665.

The training shall be provided at the Caltrans Equipment Shop(s) specified in the Invitation For Bid. This training shall be for one (1) 8-hour day (or longer as the supplier or State deems necessary), and the date(s) of the training will be arranged by the Division of Equipment Training Coordinator (916) 227-9665. The full cost of this service shall be included in the bid. All training shall be accomplished within 45 days of acceptance and receipt of the unit at the shop indicated on the Invitation For Bid unless otherwise mutually agreed to between the supplier and the Division of Equipment Training Coordinator.

7. IN-PROCESS REVIEW: The unit(s) may require an in-process review to verify timely progress of construction of the unit(s) and to ascertain compliance with the intent of the specifications and drawings. If there are any questions regarding the intent of the specifications or drawings, call the "Agency Contact" as indicated on the Purchase Order title page. Any in-process review will be at State expense conducted within the State of California only and will not constitute acceptance of the unit(s).
8. INSPECTION: This order will require a two (2) phase inspection process. For all inspections the unit(s) will be serviced, washed and ready for, as applicable, inspection or delivery. Inspections will begin within ten (10) working days from the date of the inspection request by the supplier. It is the supplier's responsibility to contact the Equipment Parts Coordinator at (916) 227-9636 for inspections.

FIRST PHASE (PRE-DELIVERY INSPECTION): In accordance with the State Administrative Manual, Section 4113 and the Caltrans inspection program, each unit will be inspected prior to shipment to the destination on the purchase order. This inspection trip(s) shall be State financed at no cost to the supplier.

Arrangements for pre-delivery inspections shall be made only when multiple units are complete. Each unit shall be identified with the applicable Purchase Order and Line Item. The supplier shall receive a copy of the inspection report within 4 working days of the inspection indicating that the first unit is either acceptable or not acceptable. Unacceptable or non-compliant items shall be listed on the report. If late delivery charges accrue, the supplier shall not be held responsible for those days from the request of the inspection to the receipt of the inspection report. Authority to interpret the intent of the specifications requirements or technical compliance shall be that of the specification engineer only. No other State representative shall presume this authority.

If corrections are needed as a result of the inspection, the corrections shall be made prior to shipment to the purchase order destination. Authorization to deliver unit(s) must be granted by the Department of Transportation, Division of Equipment, Quality Assurance Section.

If additional interim inspections are required, such inspection trips shall be at the expense of the supplier at \$75.00 per hour (including travel time) and all expenses (meals, lodging, and cost of transportation). Travel expenses will be documented on State of California, Department of Transportation, Travel Expense Claim Form, FA302. These fees may be deducted from the invoice.

PRE-DELIVERY INSPECTION LOCATION: The inspections shall be conducted by the Department of Transportation, Division of Equipment, Quality Assurance. These inspections shall take place at an adequate site provided by the vendor within the State of California. The inspection site shall meet all of the following criteria:

- a. The site shall not be the Purchase Order delivery destination. The site shall be paved, secure and zoned for commercial use.
- b. The site shall include electricity, lights, water, compressed air and a secure paved lot. The facilities shall also include lift equipment adequate to raise the units and support them on safety stands with a minimum of 12 inches of tire clearance. The supplier shall provide conditions which meet the safety standards of CAL-OSHA and Title 8 of the California Code of Regulations.
- c. The adequacy of the site shall be determined by the Department of Transportation, Division of Equipment, Quality Assurance Section. Contact the Quality Assurance Chief at (916) 227-9709 for approval.
- d. If the facility is deemed unacceptable by the Department of Transportation, Division of Equipment, Quality Assurance Section, the supplier shall be billed for the inspection trip including wages and expenses. This cost shall be deducted from the purchase order payment.

SECOND PHASE (FINAL INSPECTION): Each unit will have a final inspection at its delivery destination shown on the Purchase Order to verify acceptability. The State will have five (5) working days after delivery of a unit to conduct the final inspection of said unit. Units delivered to the final Purchase Order destination will be accepted only when all Purchase Order requirements have been met, any shipping damages have been corrected, and all required documents are received by the Department of Transportation, Division of Equipment, Equipment Receiving. These documents include, as applicable, the invoice, vehicle registration documents, parts book, operator's manuals, service manuals, lubrication instructions and charts, warranty information, certifications,

questionnaires, etc. Units which are not accepted by the delivery date on the Purchase Order will be considered delivered late.

If the supplier receives notice that the unit(s) is not acceptable, whether written or oral, the unit(s) shipped to the Purchase Order destination shall be removed within seven (7) calendar days. If the supplier fails to remove said unit(s) from the State's facilities within the specified period, the State may forward said unit(s) to the supplier by common carrier at the supplier's expense and risk.

9. DELIVERY: Inspection, delivery, and final acceptance of all units on the Purchase Order shall be within 210 calendar days after the date of notification of the availability of the truck cab and chassis. Contact the State of California, Department of Transportation, Division of Equipment, Equipment Parts Coordinator at (916) 227-9636 for delivery.

Failure of any units to comply with the specifications by the final delivery date may place the supplier in default and may be grounds for the State to invoke Paragraph 26 of the General Provisions, Rights and Remedies of the State for Default. The Department of General Services, Procurement Division will be notified at such time.

Acceptance of delivery or placement in operation of any equipment shall not release the manufacturer from liability for faulty design, workmanship, or materials appearing even after final payment has been made.

Completed units upon final delivery with more than 100 miles additional to the original pick-up mileage will be assessed \$1.00 per mile for each mile exceeding the 100 miles.

This charge shall be deducted from the purchase order price for each vehicle delivered against the Purchase Order.

10. LATE DELIVERY CHARGES: The parties to this agreement acknowledge that the State shall incur actual damages should the supplier fail to perform the work as called out in the contract and specification on the dates set forth herein. The parties, therefore, have agreed to late delivery charges in the amount of \$20.00 per unit per work day.

Workdays are Monday through Friday inclusive, except State holidays observed Monday through Friday inclusive.

The parties also agree that the amount specified is not unreasonable nor punitive in nature because both parties have carefully considered the amount specified and believe it to be a reasonable estimate, and not excessive at the time the purchase order is entered into.

It is, therefore agreed, that the supplier will pay the State of California the sum of \$20.00 per unit per work day (as stated above) for each work day the work remains uncompleted or unaccepted by the State, provided the total late delivery charges assessed against supplier shall in no event exceed twenty-five percent (25%) of the total value of the entire order, and the supplier agrees to pay said damages as herein provided. In the event such damages are not paid, the supplier agrees that the State may deduct the amount thereof from any monies due or that may become due said supplier.

11. CAB AND CHASSIS AVAILABILITY: The truck cab and chassis shall be picked up by the supplier at the California Department of Transportation, Division of Equipment, 1920 35th Street, Sacramento, California, between the hours of 8:00 A.M. and 2:30 P.M. Monday through Friday except for State holidays. The supplier shall make arrangements with the Equipment Parts Coordinator at (916) 227-9636 not less than 24-hours before picking up the truck cab and chassis.

The supplier shall verify that each truck cab and chassis is damage free, equipped with a spare wheel, jack, tire changing tools, and one-quarter (1/4) tank of fuel. Any cost of repairs of damages to the cab and chassis, or for replacement of any missing items will be deducted from the invoice.

Each cab and chassis shall be picked up by the supplier within fifteen (15) days of the date of notification of the availability of the cab and chassis. The cab and chassis will be available from 0 to 270 days of the purchase order date.

12. PAYMENT: Process for payment will be initiated on each unit as units are received and deemed acceptable. The discount period will start after acceptance of each unit on the Purchase Order.
13. GENERAL: One (1) complete set of additional filters (air, oil, water, fuel, hydraulic, etc.) shall be supplied with the first unit delivered. This additional set of filters shall be as recommended by the manufacturer and shall be complete with the appropriate part numbers for identification.

Each unit and any accessory shall be delivered completely assembled and ready to operate.

No exceptions to the specifications will be allowed unless the exceptions are listed on the purchase order or subsequent addenda.

The component parts of the unit shall be new and of proper size and design to safely withstand the maximum stresses imposed.

The manufacturer's torque rating of each driven part shall be equal to or exceed the torque rating of its driving member.

Complete printed specifications, published literature, and photos or illustrations (as available) of unit or units that the bidder proposes to furnish shall be supplied upon request.

All equipment and accessories cataloged as standard, unless superseded by these specifications, are to be furnished and included in purchase price of this unit.

The supplier or the manufacturer of the equipment being supplied shall guarantee that all replacement parts for the equipment shall be available for delivery to the State within five (5) working days after the request is telephoned to the manufacturer, or supplier. This requirement shall be in effect for a period of five (5) years after the date the equipment is put into service by the State of California. Suppliers may be removed from the bid list for failure to meet the parts availability obligation.

Bids will not be considered if supplier's designated f.o.b. delivery destination is other than the delivery address stated in the invitation to bid.

Only new models, produced and/or assembled by existing manufacturers of like or similar equipment, will be considered. Special options may be included only when recommended by the manufacturer of the unit and approved by the engineer in writing.

All equipment/options are to be factory installed. If the equipment/options are not available factory installed, dealer installed equipment/options may be acceptable. The bidder is to specify those items that will be dealer installed.

"Caravan" or "drive-away" deliveries from points outside the State of California will not be accepted.

The State reserves the right to amend the contract within the scope of the original bid to cover: unanticipated work or the addition of options priced in the awarded Purchase Order. The bid may be amended for additional labor at the published flat rate where applicable.

The State reserves the right to purchase one (1) additional unit, or up to an additional 25% of the quantity on the Purchase Order, at bid prices, for State Agencies and California Local Government Agencies. Orders for such additional units shall be placed within 180 days of bid award date.

Contact Information for Specification 05380-426-063, PE 32-12-4901**

DURING BIDDING AND PRIOR TO PURCHASE ORDER AWARD CONTACT INFORMATION		
Purpose	Name	Telephone No.
Any technical or administrative questions concerning this bid.	BUYER: As listed on the Invitation For Bid	As listed on the Invitation For Bid Fax 916-375-4613
AFTER PURCHASE ORDER AWARD CONTACT INFORMATION		
Administrative questions, first inspection request, payment ...	Bob Ceccato Shipping and Receiving Division of Equipment	916-227-9636
All technical issues, equivalent parts, print discrepancies, Spec interpretation...	ROGER ZUMALT Specification Engineer	916-227-9706
Follow up inspections, scheduling after inspection request, copy of inspection report ...	ROSS SNYDER Quality Assurance Division of Equipment	916-227-9709
Establish training plan.	TONY MARSHALL	916-227-9695
Warranty questions.	JOHN VICTORINO	916-227-9724

I have received and agree to Administrative Requirements for Solicitation 56752 of 9 pages.



Signature of Vendor

HEATHER SILVEIRA

Printed Name

4/2/08

Date



BILL OF MATERIALS

ITEM	QTY	DESCRIPTION
101	1	WELDED ASSY CONSISTS OF ITEMS 102-104
102	1	2 X 2 X 1/4 X 24 LG STD STL ANGLE
103	1	2 X 2 X 1/4 X 19 LG STD STL ANGLE
104	1	1/4 X 4 X 18 LG HRS FB(1 PL MAKES 2 PRPTS)
105	1	3/16 X 1 1/2 X 16 LG HRS STRIP

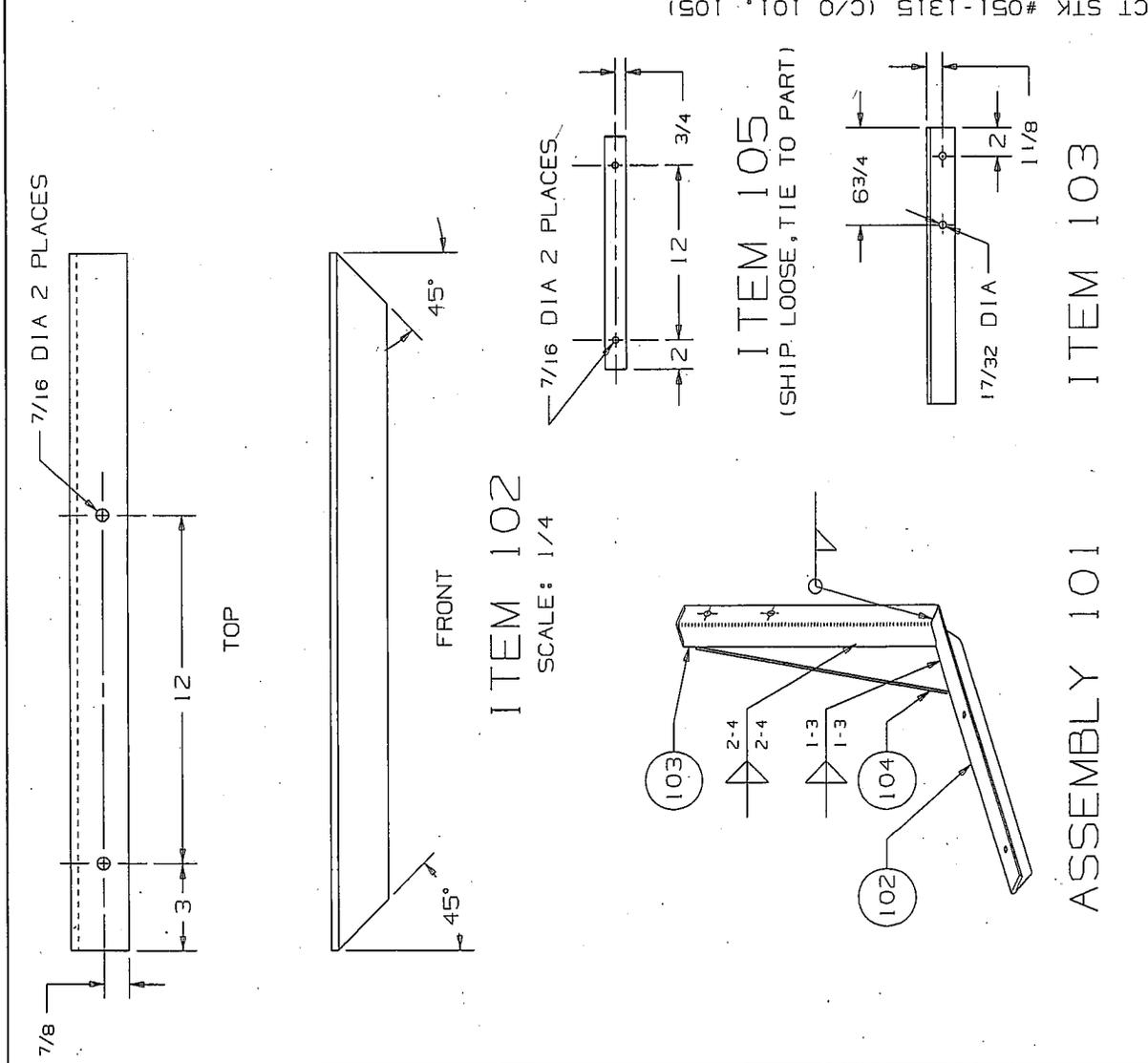
NOTES:

1. ALL JOINTS TO BE WELDED CONTINUOUS UNLESS OTHERWISE SPECIFIED. SIZE OF ALL WELDS TO BE AT LEAST THE THICKNESS OF THE THINNER OF THE ADJACENT METALS.
2. ITEM 105 IS USED ON THE INSIDE OF THE BOX OR BASKET AT ASSEMBLY.
3. OVERLAP ITEM 104 ON ITEMS 102 AN 103 1/4 INCH THEN FILLET WELD BOTH SIDES
4. ALL WELDS, ELECTRICAL AND PAINT WILL BE IN COMPLIANCE WITH CALTRANS EQUIPMENT QUALITY STANDARDS. GO TO www.dot.ca.gov/hq/eqsc TO VIEW EQUIPMENT QUALITY STANDARDS.

PE 32-12-4901

F	12/04	ADDED HOLES TO 103	JOHNSON
E	5/98	GUSSET #104 WAS 4 X 12	PEELER
D	1/96	REDRAWN ON CADD	GIROUX
REV		DESCRIPTION	BY

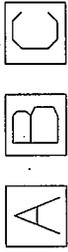
STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	
DIVISION OF EQUIPMENT	
BRACKET FOR MOUNTING UTILITY BOX AND TOOL BASKET	
SCALE	1/8 DATE 5/18/84
DRAWN	D. NICHOLS
CHECKED	D. JAMES
APPROVED	D. NICHOLS
SHEET 1 OF 1 SHEETS	



CT STR # 051-1315 (C/O 101, 105)

BILL OF MATERIALS

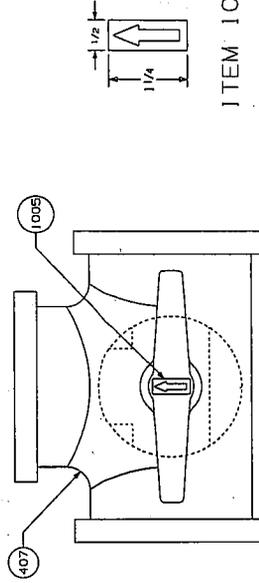
ITEM	QTY	DESCRIPTION
1001	1	.063 x 8 x 10 LG BLACK ANOD ALUMINUM
1002	1	.063 x 4 x 8 1/2 LG BLACK ANOD ALUMINUM
1003	3	.063 x 1 x 1 LG BLACK ANOD ALUMINUM
1004	3	KEY TAG
1005	1	.063 x 1/2 x 1 1/4 LG BLACK ANOD ALUMINUM



ITEM 1003
SCALE: FULL



ITEM 1004
SCALE: FULL



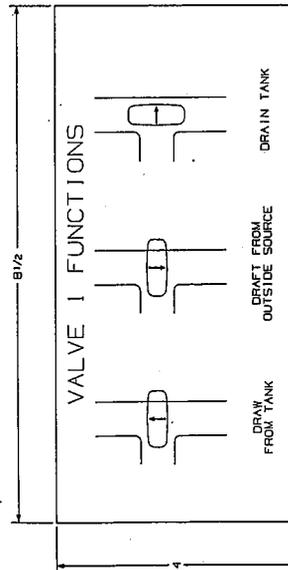
ITEM 1005
SCALE: FULL

APPLICATION OF ITEM 1005
SCALE: 1/2

PLUMBING FUNCTIONS

- FILL FROM HYDRANT:** PULL HANDLE TO OPEN AIR-GAP. LTD. CONNECT TO POINT A OR B.
- DRAFT FROM OUTSIDE SOURCE:** ROTATE VALVE 1 PER VALVE LABEL, CLOSE 2, OPEN 3. CONNECT TO POINT C.
- CIRCULATE TANK WATER:** ROTATE VALVE 1 PER VALVE LABEL, CLOSE 2, OPEN 3.
- DRAW FROM TANK:** ROTATE VALVE 1 PER VALVE LABEL, OPEN 2, CLOSE 3. OPEN VALVE AT DESIRED FUNCTION.

ITEM 1001
SCALE: FULL



ITEM 1002
SCALE: FULL

PE 32-12-4901

REV.	DATE	DESCRIPTION	BY
NEXT ASSEMBLY			
STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION DIVISION OF EQUIPMENT			
5000 GALLON WATER TANKER WATER PLUMBING LABELS			
TRAINING CENTER ENGINEER	SCALE AS NOTED	DATE 03/20/07	1-05300-10LB
FUNCTIONAL	DRAWN	DOUBIN	DESIGNED BY/SECT
DESIGNED BY/SECT	CHECKED BY/SECT	DATE	SCALE
NUMBER	REVISED	BY	DATE

BILL OF MATERIALS

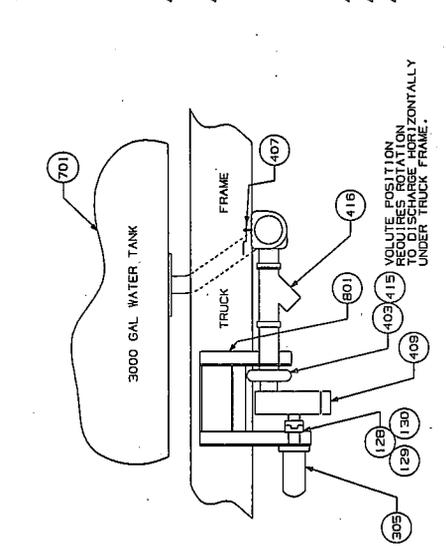
ITEM	QTY	DESCRIPTION	CT STOCK#
101			
102			
103			
104	1	PTO FOR CURRENT MODEL VEHICLE	CONTACT ENGINEERING
105			
106	1	HARDWARE, FILL COVER (FAB AS REQ'D)	
107	2	LIGHT, AMBER	
108	2	MOUNT, LIGHT FABRICATE AS REQ'D	
109	1	LIGHT, LIC. PLATE	
110	1	BOX, HOSE 24 X 18 X 12 HIGH ^{8" PORTAL}	
111	1	MOUNT, BOX 2/4 X 1/4 ANGLE (FAB AS REQ'D)	
112	2	MOUNT, SOLID REAR TANK 1/2 X 6 X 11	
113	4	MOUNT, SPRING FRONT TANK E1-D14B-01	071-1486
114	1	MOUNT, COOLER HYDRAULIC OIL (FAB AS REQ'D)	
115	5	LIGHT, RED CLEARANCE	
116	2	LIGHT, STOP/TAIL/TURN	
117	2	LIGHT, BACK-UP	
118	4	REFLECTOR, RED	
119	1	CONSOLE DRAWING, 1-05380-CS	034-1365
120	1	LAMP, ROTATOR	
121	1	MOUNT, ROTATOR, FAB AS REQUIRED	
122	2	MUDGUARD	051-1048
123	1	BRACKET, MUDGUARD (1 SET)	051-2191
124	2	MOUNT, GUTTER WASHER, FAB AS REQUIRED	
125	1	BASKET, 12x18x1x MAXIMUM LENGTH TO F.11	051-1005
126	6	MOUNTS, TOOLBOX DING# E2-8013-01	
127			
128	1	COUPLING SPIDER, LOVEJOY PN 8851411717	
129	1	GRINDER PN 1A115	
129	1	PN 8851437255	
130	1	COUPLER, 1 3/4 W/A KEWAY LOVEJOY L110	
130	1	PN 8851411728 GRINDER PN 3X205	

NOTES:

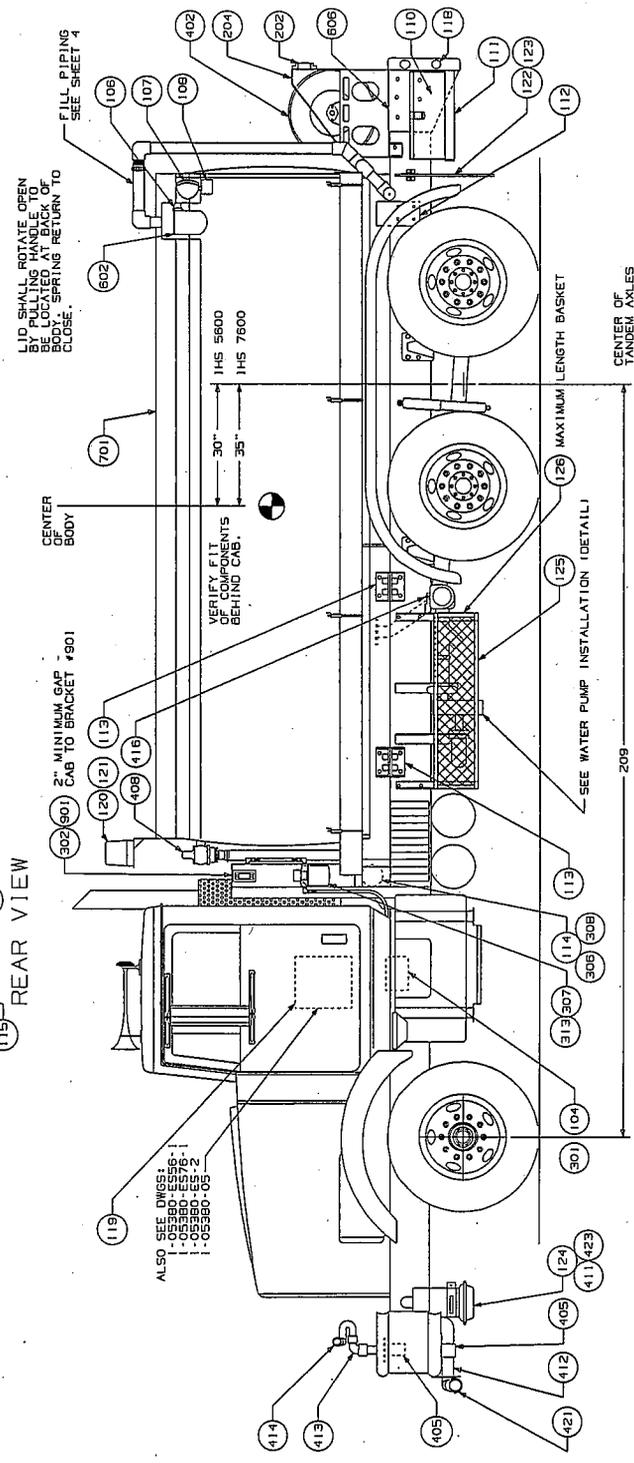
- ALL JOINTS TO BE WELDED CONTINUOUS UNLESS OTHERWISE SPECIFIED. SIZE OF ALL WELDS TO BE AS SHOWN IN DRAWING. ALL WELDS TO BE ADJACENT METALS. NOTES:
- ALL WELDS, ELECTRICAL AND PAINT WILL BE IN ACCORDANCE WITH CALIFORNIA GOVT. QUALITY STANDARDS 80 TO CALIFORNIA GOVT. QUALITY VIEW EQUIPMENT QUALITY STANDARDS.
- ELECTRICAL COMPONENTS PART #S ARE LISTED ON 1-05380-ES56-1, 1-05380-ES76-1, 1-05380-ES2

PE 32-12-4901

D	01/07/07	CHANGED ITEM # 113 TO A QUANTITY OF 4	JOR
C	01/07/07	ADDED NOTES. SEE SHEETS 2, 4, 5, 6, 7, 8	DOWNIN
A	01/05/05	UPDATED FOR 2005 RUN	DOWNIN
REV	DATE	DESCRIPTION	BY
NEXT ASSEMBLY			
DEPARTMENT OF CALIFORNIA			
DIVISION OF EQUIPMENT			
3000 GALLON WATER TANKER ASSEMBLY			
DESIGNED BY	DATE	SCALE	PROJECT NO.
DRWING NO.	REV	DATE	REV
APPROVED BY	DATE	SCALE	PROJECT NO.
DRWING NO.	REV	DATE	REV



WATER PUMP INSTALLATION



LEFT SIDE VIEW

RIGHT SIDE VIEW

PROVIDE METHOD FOR SECURING HOSE AND/OR REEL TO PREVENT HOSE FROM UNWINDING OUT. (SEE ITEM 203)

CAP END OF BUMPER W/1/4 FLAT BAR

REAR VIEW

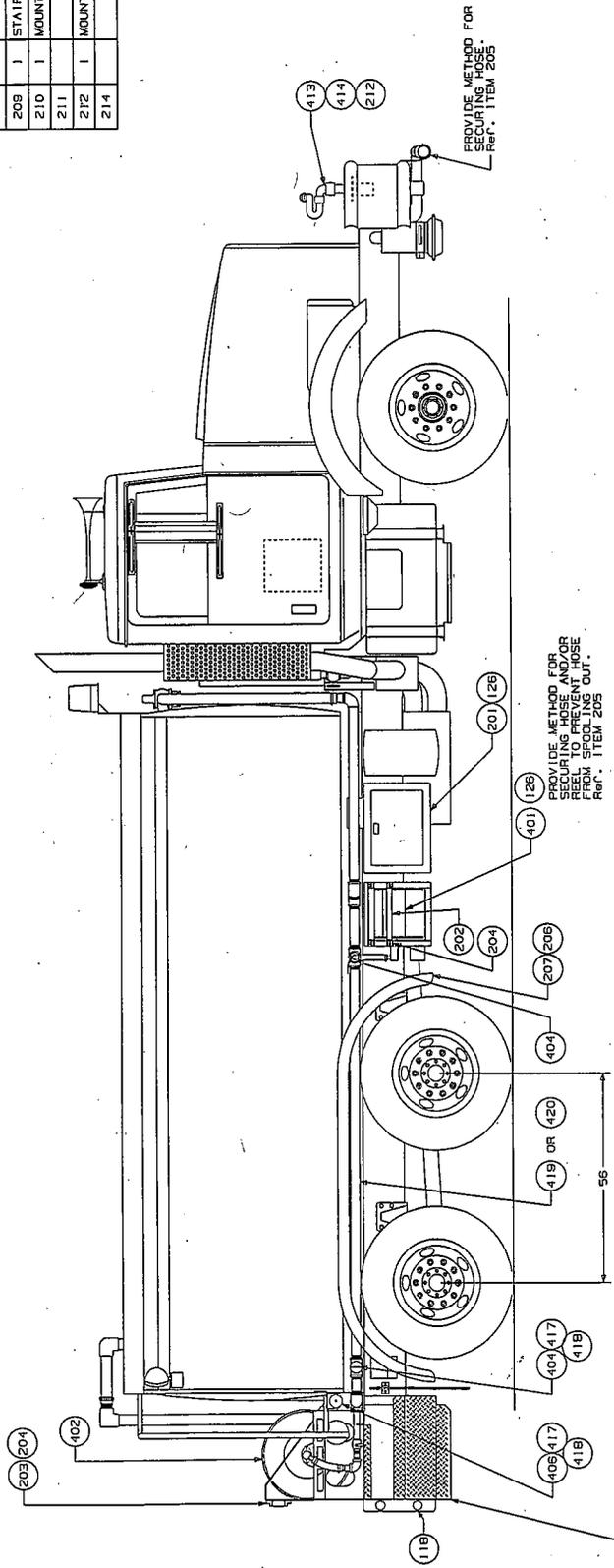
LID SHALL ROTATE OPEN BY PULLING HANDLE TO BE LOCATED AT REAR OF BODY. SPRING RETURN TO CLOSE.

ALSO SEE DWGS:
1-05380-ES76-1
1-05380-ES-2
1-05380-05

209

BILL OF MATERIALS

ITEM	QTY	DESCRIPTION	CT STOCK#
201	1	TOOLBOX, 24" X 18" X 18"	081-2784
202	1	FAIRLEAD, HANNAY# 9839-0067	
203	1	FAIRLEAD, HANNAY# 9838-0068	
204	2	MOUNT, FAIRLEAD, HANNAY# 9941-0040	
205	AR	LATCH, HUNTING RUBBER KIT #80042-1101	078-1207
206	1 SET	FENDERS, ALUMINUM, TANDEM W/55" CENTER	
207	4	MOUNTS, FENDER FAB AS REQ'D	
208	AR	HARDWARE, PIPE MOUNTING	
209	1	STAIR, DIAMOND PLATE FAB AS REQ'D	
210	1	MOUNT, STEP FAB AS REQ'D	
211			
212	1	MOUNT, CHANNEL IRON FAB AS REQ'D	
214			



RIGHT SIDE VIEW

PE 32-12-4901

C	10/07	ADDED	NOTES	DOWN IN
REV	DATE	DESCRIPTION	BY	
NEXT ASSEMBLY				
STATE OF CALIFORNIA				
DEPARTMENT OF TRANSPORTATION				
DIVISION OF EQUIPMENT				
3000 GALLON WATER TANKER ASSEMBLY				
RIGHT SIDE				
TELEPHONE	44818	214-4111		
CITY	LOS ANGELES			
FACILITY				
PROJECT				
ISSUED BY				
DATE	11/20/01			
SCALE	NONE			
DRAWN	DOWNIN			
CHECKED	WHEELER			
PROJECT NUMBER	1-05380-2A5			
SCALE	AS SHOWN			

BILL OF MATERIALS

ITEM	QTY	DESCRIPTION
401	1	REEL, 5 IDE HANNAY E1820-17-1B-12VDC
402	1	REEL, REAR HANNAY E6022-25-26-12VDC
403	1	PUMP, WATER HALEY DBP4 3/4" BORE/1" DISCHARGE
404	5	VALVE, BALL 2" BROWZE CTR 907-1346
405	4	VALVE, PNEU. MILWAUKEE P81-10ADMCS4
406	2	MMASTER-CARR# 9771K34
407	1	VALVE, 3-WAY SPEARS TRUE UNION 3" T-PORT #5021 T1-030
408	1	VALVE, RELIEF RUNKLE#0020-J02-MC-0100
409	1	HEAT EXCHANGER, PUMP INCL./# 403
410	1	HOSE, 90' LG x 3/4" ID GOODYEAR HORIZON 250
411	2	GUTTER WASHER BERTOLINI VALVE# 71A-3
412	1	JOINT, SHIVEL DIXON# 330-FX-0C
413	1	MONITOR STANG# 915120-1
414	1	NOZZLE, MONITOR STANG# 260350-12-1
415	1	GAUGE, PRESSURE GRAINGER# 1X689
416	1	STRAINER MMASTER-CARR# 4365K75
417	4	COVER, 2 1/2" NSH THREAD
418	1	ADAPTER, HDSE 2 1/2" NSH THREAD
419	-	PIPE, 2" S.S.
420	-	HOSE, 2" GOODYEAR FLEXWING
421	1	HOSE, 3" GOODYEAR FLEXWING
422	-	SYNIFLEX, 1/2 O.D.
423	2	NOZZLE, BUTER BERTOLINI VALVE 1/4"X1/8" STREET FLUSHER
424	1	HOSE, 100' LG x 1" ID GOODYEAR HORIZON 250
425	2	NOZZLE, ADJUSTABLE CAPITOL RUBBER# FB1005
426	1	STOP, BALL 3/4" CAPITOL RUBBER# 4-HR1005
427	1	STOP, BALL 3/4" CAPITOL RUBBER# 3-HR1005
428	1	ADAPTER, 3/4" BARB x 1" NPT CAP. RUB. STC00510
429	1	ADAPTER, 1" BARB x 1" NPT CAP. RUB. 5T10
430	1	HOSE, 3" GOODYEAR FLEXTRA
431	1	TUBING, 3" EXHAUST 28" LG
432	1	HOSE, 90' LG x 3/4" ID GOODYEAR HORIZON 250
434	-	SYNIFLEX, 3/8 O.D
43B	-	PIPE, 2 1/2" PVC APPX. 12'
439	1	GAUGE, PRESSURE GRAINGER# 1X716

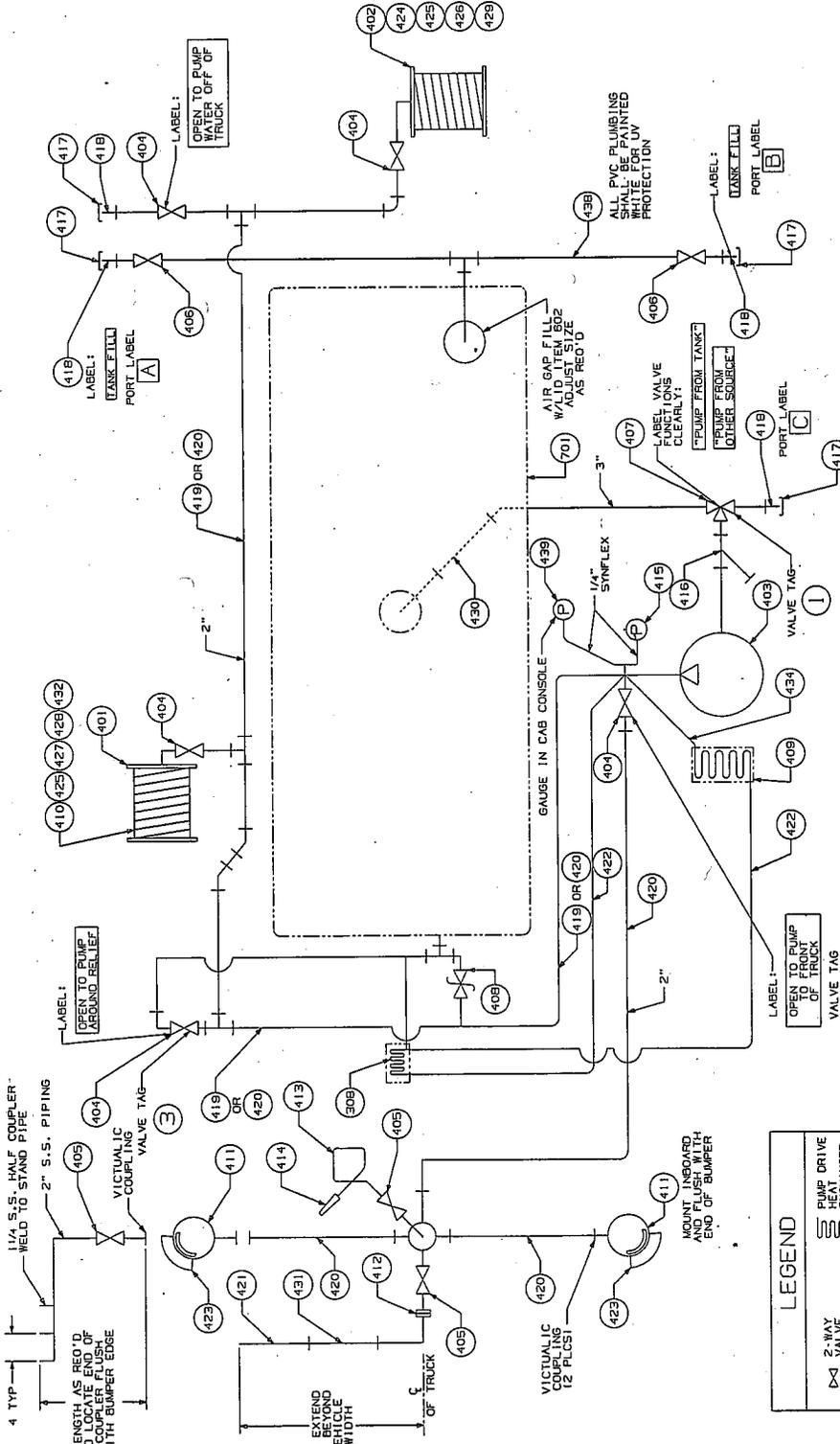
PE 32-12-4901

REV	DATE	DESCRIPTION	BY
D	01/07	ADDED ITEM #432	JDR
C	01/07	ADDED LABEL NOTES	DOWNIN

DEPARTMENT OF TRANSPORTATION
DIVISION OF EQUIPMENT

3000 GALLON WATER TANKER
WATER PLUMBING SCHEMATIC

DATE: 01/03/02
SCALE: NONE
DRAWN: DOWNIN
CHECKED: JDR
PROJECT: 05390 - HW5
PROJECT MANAGER: JDR



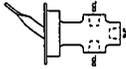
WATER PLUMBING SCHEMATIC

- NOTES:
- JOINTS SHALL BE PRESSURE TESTED TO 100 PSI FOR LEAKS. RECOMMEND RECTORSEAL #5 FOR STAINLESS STEEL PIPE JOINTS.
 - ALL HOSES SHALL BE PROPERLY SUPPORTED TO PREVENT SAGGING AND STRAIN.
 - HOSES SHALL BE PROTECTED FROM ABRASION.
 - HOSE SHALL BE PROTECTED FROM OVERHEATING.
 - RIGID PIPING SHALL BE TRANSITIONED TO HOSE WHERE NECESSARY FOR VIBRATION INSULATION, AND TO PREVENT TWISTING AND BENDING OF PIPING DUE TO CHASSIS FLEX.
 - PLUMBING LENGTH OF HOSE SHALL ALSO BE USED WHEN TRANSITIONING FROM RIGID PLUMBING ATTACHED TO THE TANK TO RIGID PLUMBING ATTACHED TO THE TRUCK.
 - RIGID PLUMBING THAT ORIGINATES FROM TANK FITTINGS SHALL HAVE THE SUPPORTS ATTACHED TO THE BODY SILLS.
 - RIGID PLUMBING THAT ORIGINATES FROM THE HARDWARE ATTACHED TO THE TRUCK SHALL HAVE SUPPORTS ATTACHED TO THE TRUCK FRAME.
 - RECOMMEND RECTORSEAL NO. 5 PREMIUM PIPE & THREAD SEALANT FOR STAINLESS STEEL FITTINGS.
 - "PLUMBING FUNCTIONS" LABEL IS LOCATED ON FRAME RAIL NEXT TO PRESSURE GAUGE.
 - VALVE #1 LABEL IS LOCATED ON BODY SILL ABOVE VALVE.

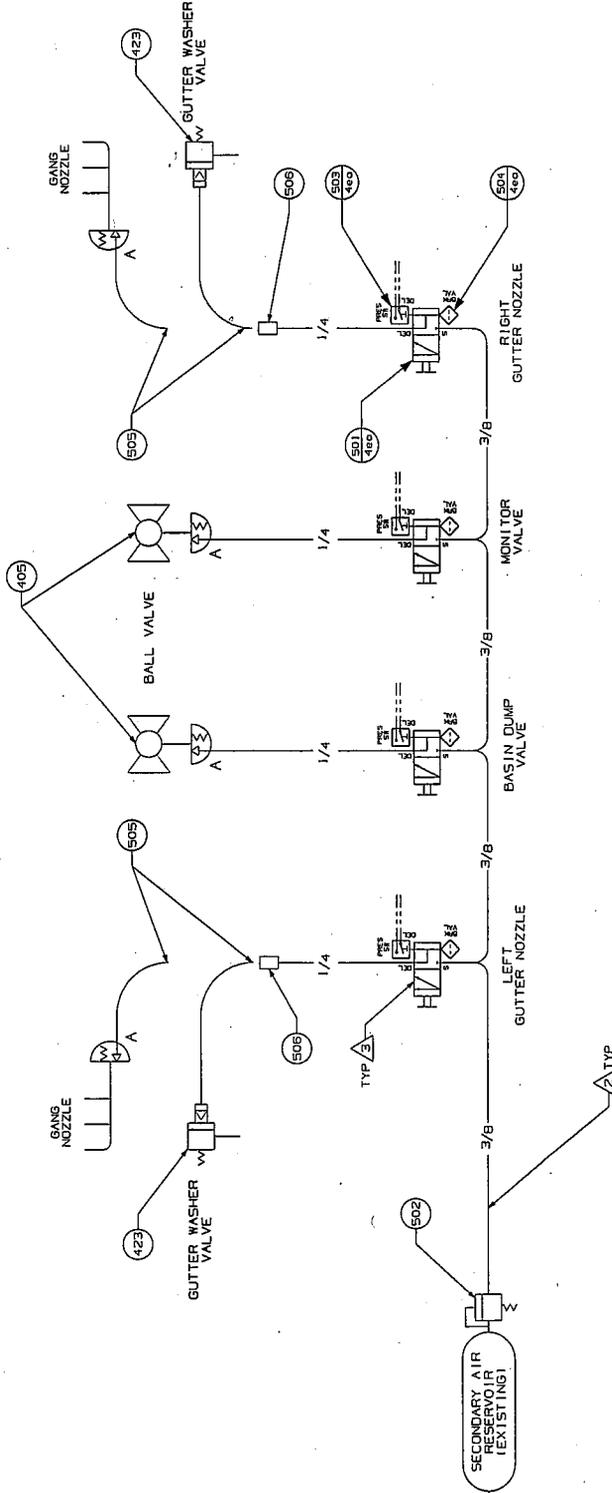
LEGEND	
	2-WAY VALVE
	3-WAY VALVE
	PRESSURE RELIEF VALVE
	COVER
	PRESSURE GAUGE
	PUMP DRIVE HEAT EXCHANGER
	GUTTER SPRAY
	MONITOR
	SHIVEL JOINT
	H2O OIL
	HEAT EXCHANGER
	STRAINER

BILL OF MATERIALS

ITEM	QTY	DESCRIPTION	MANUF. CT NO.
501	4	VALVE, HAND OPERATED NC TH-1	BENDIX 229635 013-1791
502	1	PRESSURE PROTECTION VALVE	HALDEX KN3101D 013-3697
503	4	PRESSURE SWITCH HYDRAULIC, N.O.	COLE HERSEE 8629 013-1116
504	4	FILTER, EXHAUST BRONZE/STEEL, 1/8 NPT	McMASTER 4450K1
505	4	1/4" NPT AIR QUICK DISCONNECT NUT	PREVOST JSP-0362D1
506	2	1/4" NPT AIR QUICK DISCONNECT COUPLER	PREVOST JSP-0375D1 908-2240
			USC 1915D1 908-4627



ITEM 501



- NOTES:
- ALL WELDS, ELECTRICAL, AND PAINT WILL BE IN ACCORDANCE WITH THE CALIFORNIA EQUIPMENT QUALITY STANDARDS GO TO CALIFORNIA EQUIPMENT QUALITY STANDARDS TO VIEW EQUIPMENT QUALITY STANDARDS.
 - FLEXIBLE AIR LINE HOSE SHALL CONFORM TO SAE J844 AND DOT FMVSS 108 TYPE A OR B NYLON TUBING. I.E. PARFLEX OR SYNIFLEX AIR BRAKE TUBING.
 - AIR LINE PUSH IN FITTINGS SHALL MEET SAE J1914 AND SAE J1915 FOR 3/8" AND 1/2" P.S.I. PUSH-IN AIR LINE FITTINGS. I.E. PNEUMATIC OR 40-001 PUSH-IN AIR LINE FITTINGS.
 - ALL EQUIPMENT USING PNEUMATIC COMPONENTS SHALL NOT LEAK.

PE 32-12-4901

REV.	DATE	DESCRIPTION	BY
C	1/707	CHG'D ITEM 501 TO TOGGLE HANDLE	DOWNIN
STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION DIVISION OF EQUIPMENT			
MANUFACTURER'S SPECIFICATIONS			
3000 GALLON WATER TANKER			
PNEUMATIC BRAKE SYSTEM			
SAE J844 AND DOT FMVSS 108 TYPE A OR B			
NYLON TUBING I.E. PARFLEX OR SYNIFLEX			
AIR LINE FITTINGS I.E. PNEUMATIC OR 40-001			
PUSH-IN AIR LINE FITTINGS			
ALL EQUIPMENT USING PNEUMATIC COMPONENTS SHALL NOT LEAK			

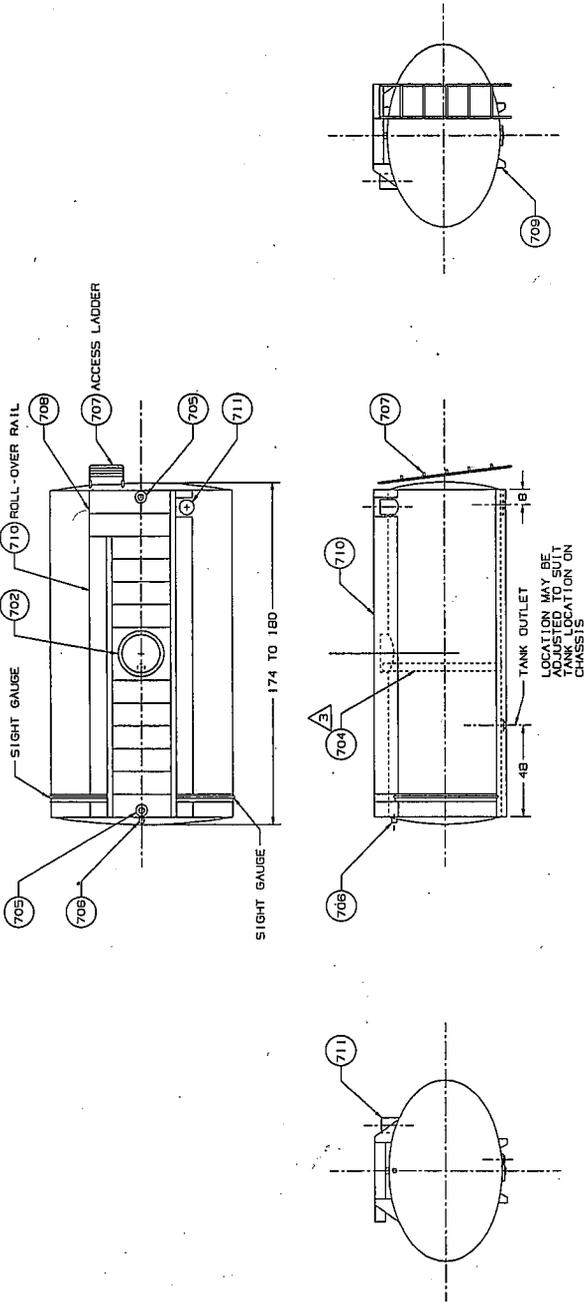
BILL OF MATERIALS

ITEM	QTY	DESCRIPTION
701	1	3000 GALLON TANK S.S.
702	1	20" DIAMETER MANHOLE
703	1	6" DIAMETER SUMP W/ ANTI-VORTEX
704	1	4" DIAMETER OVERFLOW
705	2	AIR VENTS
706	1	2 1/2" NPT COUPLER S.S. PUMP FILL
707	1	LADDER S.S.
708	1	WALKWAY S.S.
709	2	SILLS S.S.
710	2	ROLL-OVER RAIL S.S.
711	1	ONE-WAY VALVE AIR GAP FILL INLET
712	1	10" DIAMETER SUMP
713	2	3" NPT BONNIE FLANGE S.S.

NOTES:

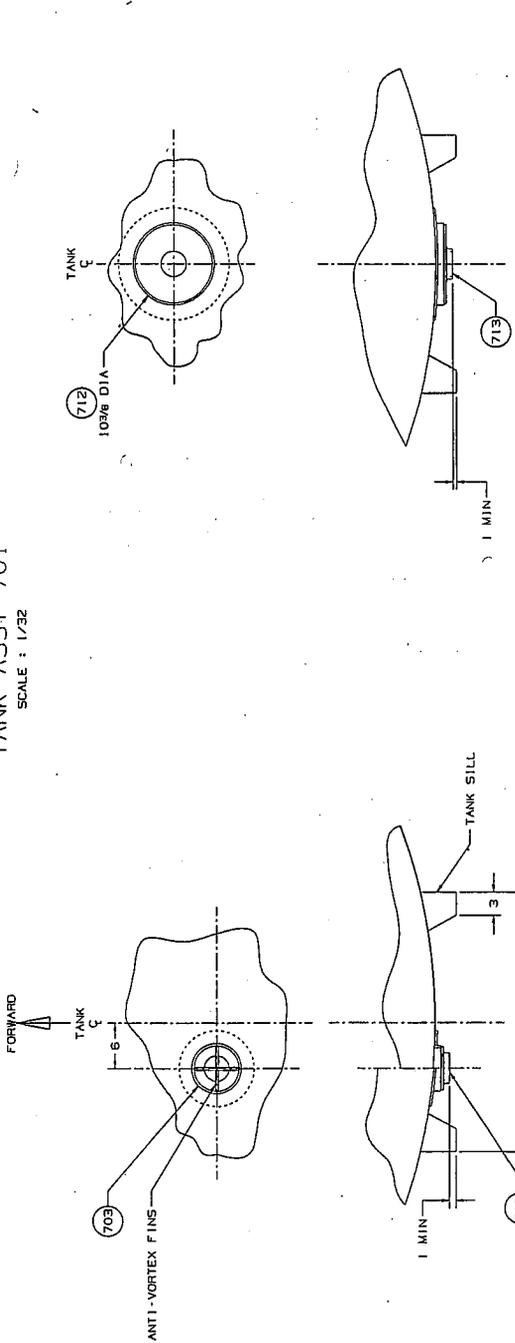
- ALL JOINTS TO BE WELDED CONTINUOUS UNLESS OTHERWISE SPECIFIED. WELDS TO BE AT LEAST THE THICKNESS OF THE THINNER OF THE ADJACENT METALS.
- ALL WELDS, ELECTRICAL AND PAINT WILL BE IN ACCORDANCE WITH ALL APPLICABLE QUALITY STANDARDS GO TO WWW.CORECORP.COM/CSQC TO VIEW EQUIPMENT QUALITY STANDARDS.

OVERFLOW TO BE WITH 3" FROM TOP OF TANK AND SUPPORTED FOR SIDE LOADS.



TANK ASSY 701

SCALE: 1/232



PE 32-12-4901

REV	DATE	DESCRIPTION	BY
D	05/07	CHG'D MANHOLE FROM 18"	JDR
C	01/07	ADDED NOTE TO TANK OUTLET	DOBRIN

DEPARTMENT OF TRANSPORTATION
DEPARTMENT OF EQUIPMENT

3000 GALLON WATER TANKER
MANHOLE SPECIFICATIONS

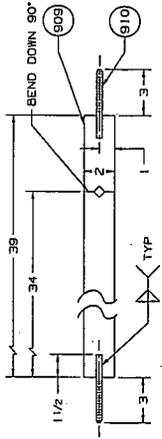
SCALE AS NOTED DATE 02/03/09
DRAWN BY J. J. STINE
CHECKED BY T. J. BARR
PROJECT NO. 05-1-05380-71K
REVISED DATE 05/07/09

BILL OF MATERIALS

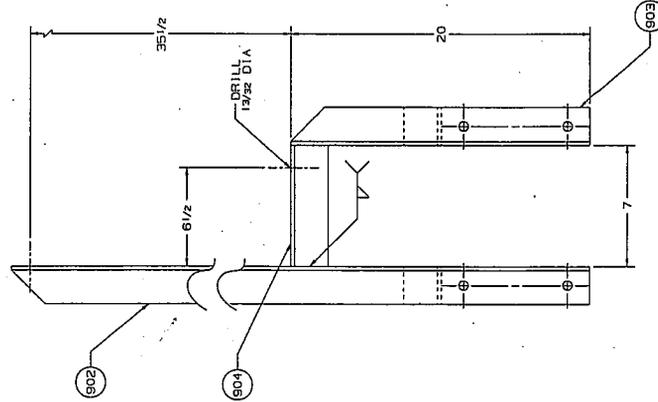
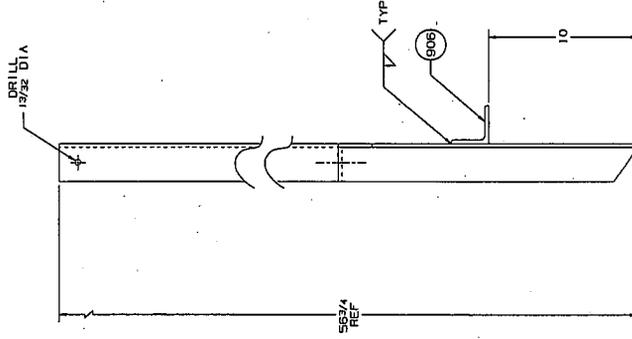
ITEM	QTY	DESCRIPTION
901	2	WEL'D ASSY C/O 902 - 905 I-RIGHT, I-LEFT
902	1	2 1/2 x 2 1/2 x 1/4 x 563/4 LG STL ANGLE
903	1	2 1/2 x 2 1/2 x 1/4 x 20 LG STL ANGLE
904	1	2 1/2 x 2 1/2 x 1/4 x 7 LG STL ANGLE
905		
906	2	2 1/2 x 2 1/2 x 1/4 x 2 1/2 LG STL ANGLE
907		
908	2	WEL'D ASSY C/O 909 - 910
909	1	1/8 x 2 x 2 x 39 LG STL FLAT BAR
910	2	3/8 UNC x 4 1/2 LG STL THREAD ROD
911	2	3/8 UNC HEX LOCK NUT 1/2 HEAVY FLAT WASHERS
912		

NOTES:

1. ALL WELDS ELECTRICAL AND PAINT WILL BE IN ACCORDANCE WITH THE EQUIPMENT LOCAL STANDARDS GO TO WWW.CALTRANS.COM FOR VIEW EQUIPMENT QUALITY STANDARDS.
2. REMOVE ALL BURRS AND SHARP EDGES.
3. ALL JOINTS TO BE WELDED CONTINUOUS UNLESS OTHERWISE NOTED. THE THICKNESS OF THE WELDS OF THE ADJACENT METALS, WELDS TO BE UNIFORM AND NEAT IN APPEARANCE.



ITEM 908.
SCALE: 1/4



PE 32-12-4901

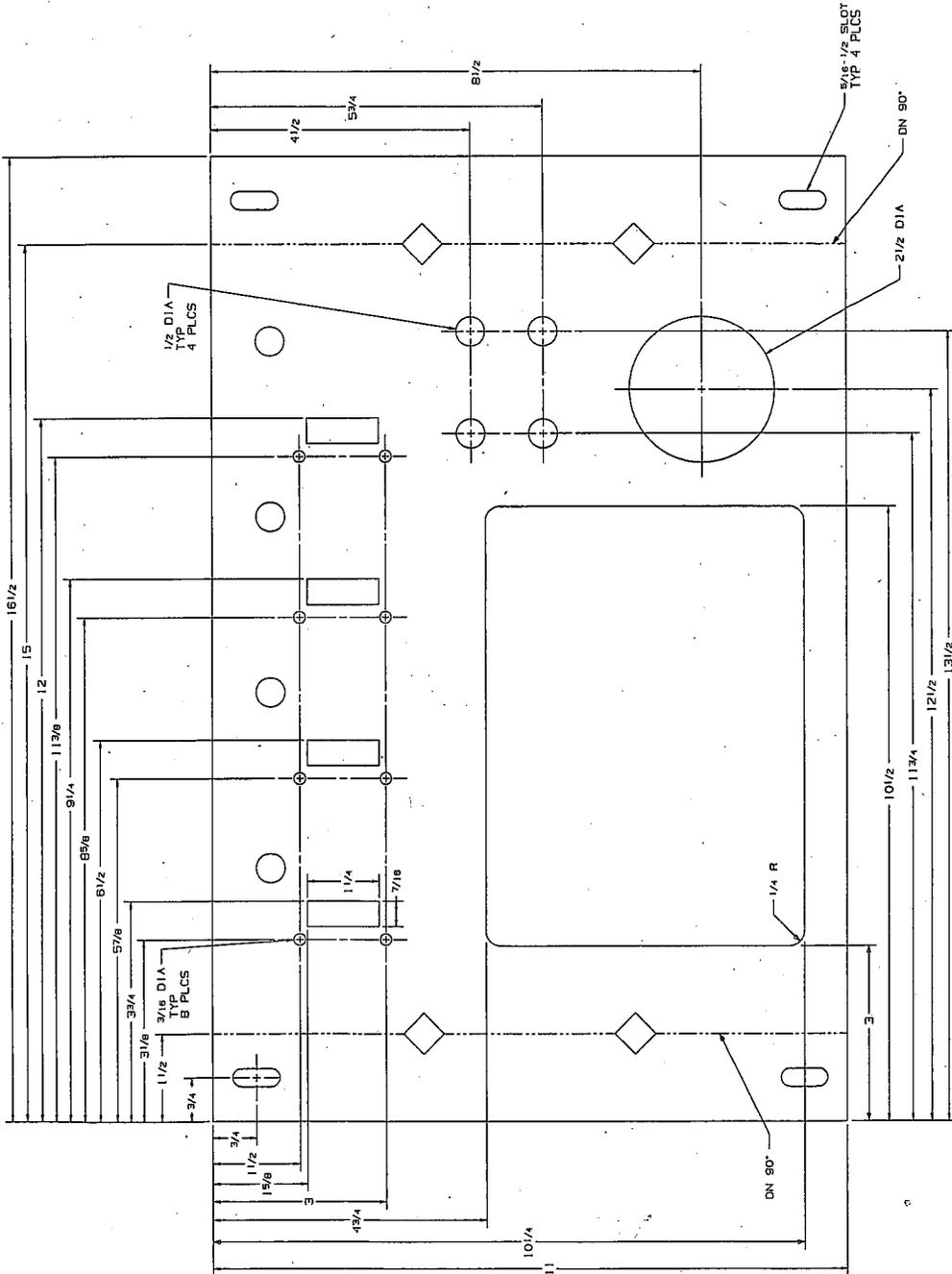
TYPICAL TANK MOUNT.
VERIFY FIT BEFORE FABRICATION.
DISCUSS MODIFICATION INFORMATION
WITH CALTRANS ENGINEER BEFORE
BUILDING.

ITEM 901
HYD. TANK MOUNT
DRIVER'S SIDE - SHOWN
LEFT SIDE - OPPOSITE
SCALE: 1/4

C	10/17/07	CHANGED ITEM 909 FROM 3/16 TO 1/8	DOWNIN
REV	DATE	DESCRIPTION	BY
1		REPLACEMENT OF CALIFORNIA	
		REGULATIONS	
		DIVISION OF EQUIPMENT	
3000 GALLON TANKER HYDRAULIC TANK MOUNT PART NUMBER: 1-05390-91M DATE AS NOTED FROM: 09/07/05 DRAWN BY: JCR CHECKED BY: JCR APPROVED BY: JCR PART NUMBER: 1-05390-91M			

BILL OF MATERIALS

ITEM	QTY	DESCRIPTION
201	1	126A x 11 x 16 1/2 LG STL SHEET



PE 32-12-4901

ITEM 201

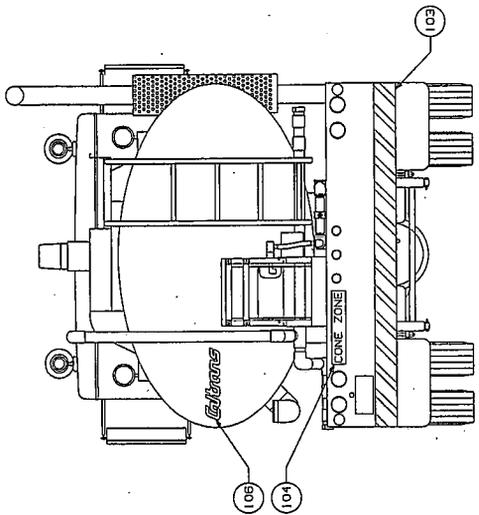
REV	DATE	DESCRIPTION	BY

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	
DIVISION OF EQUIPMENT	
WATER TANKER CENTER CONSOLE W/FLIPPER VALVES	
TELEPHONE: 441-0100	STATE AGENCY: 1-05380-CS2
DESIGNER: J. J. ...	APPROVED: J. J. ...
DRAWN: J. J. ...	CHECKED: J. J. ...
SCALE: AS SHOWN	PROJECT NO.: 32-12-4901

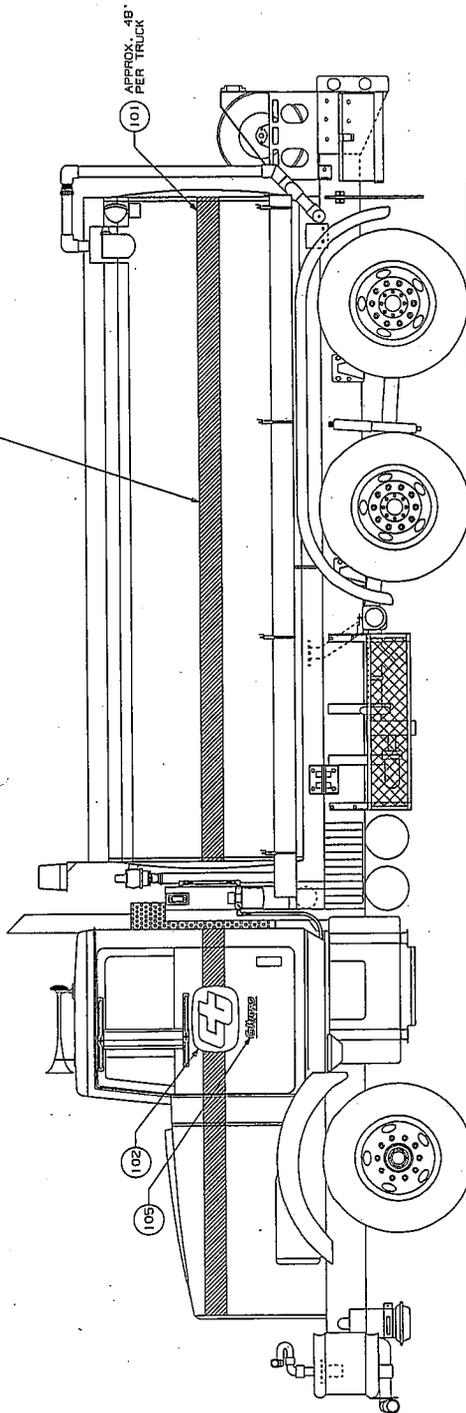
BILL OF MATERIALS

ITEM	QTY	DESCRIPTION
101	AR	3M SCOTCHLITE ORANGE REFLECTIVE TAPE 3M# 680-14 6" WIDE CT# 053-4751
102	2	DECAL, "CT" CT# 053-4760
103	1	STRIPING ORANGE AND WHITE DIAGONAL CT# 053-2047
104	1	"CONE ZONE" DECAL CT #053-4829
105	2	DECAL, BLACK "CALTRANS" CT# 053-4762
106	1	DECAL, ORANGE "CALTRANS" CT# 053-4800

- STRIPING INSTALLATION RECOMMENDATIONS:
- STRIPING BOUNDARY LINE GUIDE. REEL BACK A MANAGEABLE AMOUNT TO MARK'S LENGTH OF STRIPING MATERIAL AND SQUEEGEE IT ONTO THE TANK SURFACE. POKE ESCAPE HOLES FOR ANY AIR BUBBLES AND USE OR SQUEEGEE TO ENSURE PROPER ADHESION TO VEHICLE SURFACE.
 - STRIPING BOUNDARY LINE GUIDE. REEL BACK A MANAGEABLE AMOUNT TO MARK'S LENGTH OF STRIPING MATERIAL AND SQUEEGEE IT ONTO THE TANK SURFACE. POKE ESCAPE HOLES FOR ANY AIR BUBBLES AND USE OR SQUEEGEE TO ENSURE PROPER ADHESION TO VEHICLE SURFACE.



REAR VIEW



LEFT SIDE VIEW

NOTES:

- 1 LOWER EDGE OF ITEM 101 TO BE LOCATED AS NEAR AS POSSIBLE TO CENTERLINE OF FENDER WELLS AND BODY AS OUTLINES (IF FENDER WELLS) AND BODY CENTERLINE PERMIT. NEVER PLACE THE LOWER CENTERLINE OF THE VEHICLE.
- 2 ITEM 102 TO BE LOCATED SUCH THAT THE LOWER CENTERLINE OF THE DOOR AND THE HORIZONTAL CENTERLINE OF THE STRIPE.

PE 32-12-4901

REV.	DATE	DESCRIPTION	BY
1		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION DIVISION OF EQUIPMENT 3000 GALLON WATER TANKER ASSEMBLY DELINEATION	
DATE	09/20/2005	SCALE	1-05390-DE
DRAWN	JOHNSON	DESIGNED	WHEELER
CHECKED	WHEELER		

BILL OF MATERIALS

ITEM	QTY	DESCRIPTION	MP R # / CT DNG #	CT SIR #
101	1	DECAL, REFLECTIVE WIDE REFLECTIVE WIDE REFLECTIVE WIDE	36-5200CH 36-5200CH 36-5200CH	053-4751
102	2	DECAL, "CT" DOOR, WHITE REFLECT. 9" X 12" REFLECT. 9" X 12"	03-0004-01 03-0004-01	053-4760
103	1	DIAGONAL, 8" X 8" DIAGONAL, 8" X 8"	X	053-2047
104	1	DECAL, "CON TRANS" BLACK "CON TRANS" BLACK	X	053-4829
105	2	DECAL, "CON TRANS" ORANGE SCRIPT, 2 1/2" SCRIPT, 2 1/2"	03-0005-01 03-0005-01	053-4763
106	2	DECAL, "GAL TRANS" ORANGE "GAL TRANS" ORANGE	03-0007-01 03-0007-01	053-4800
107	1	SPECIAL ORDER SPECIAL ORDER	X	053-4892
108	1	DECAL, "DIESEL FUEL" "DIESEL FUEL"	X	053-1511

NOTES:

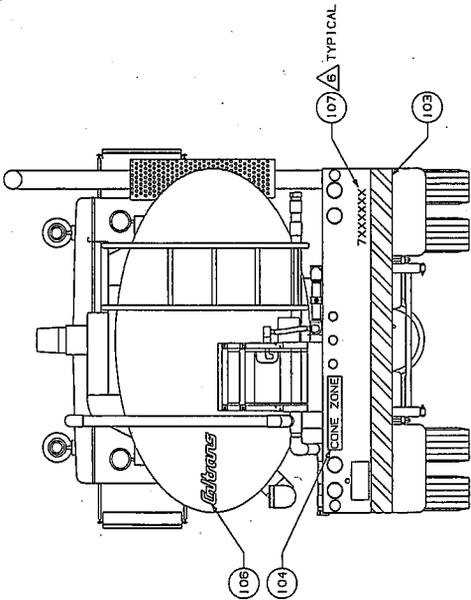
- ALL DELINEATION WILL BE IN COMPLIANCE WITH CALTRANS EQUIPMENT QUALITY STANDARDS. GO TO WWW.CALTRANS.ORG/STANDARDS FOR EQUIPMENT QUALITY STANDARDS.
- STRIPE APPLICATION: ALL STICKERS, LABELS AND DECALS MUST BE APPLIED TO THE SURFACE AND DEBRIS FREE. NO SLICING OF TAPE OR STRIPING SHALL BE ACCEPTABLE. ALL EDGES ON STRIPING SHOULD BE FINISHED WITH A 1/8" RADIUS. EDGES OF DECALS, PANELS, ENGRAVED LETTERS, EMBLEMS, ETC., ANY REFLECTIVE TYPE OF STRIPE OR STICKER MAY NOT BE PULLED FROM THE VEHICLE AND REFLECTIVE MATERIAL WILL BE COMPROMISED.

- △ LOWER EDGE OF ITEM 101 TO BE LOCATED AS NEAR TO THE HORIZONTAL CENTERLINE OF THE VEHICLE BODY AS CUTOUTS (IF CENTER WELLS) AND BODY CONTOUR LINES PERMIT. NEVER PLACE THE LOWER EDGE OF THE STRIPE BELOW THE HORIZONTAL CENTERLINE OF THE VEHICLE.
- △ ITEM 102 TO BE LOCATED SUCH THAT THE LOGO IS CENTERED ON THE VERTICAL CENTERLINE OF THE DOOR AND THE HORIZONTAL CENTERLINE OF THE STRIPE.
- △ ITEM 105 TO BE LOCATED BELOW THE "CT" LOGO AND ALONG THE VERTICAL CENTERLINE OF THE DOOR.
- △ SEVEN-DIGIT EQUIPMENT IDENTIFICATION NUMBER (EID) TO ALWAYS STARTS WITH A "7", THE 7XXXXXX. IT SHALL BE AFFIXED TO ALL FOUR SIDES OF THE TANK AS NEAR TO THE CENTERLINE AS POSSIBLE. FIVE-DIGIT EQUIPMENT CLASS NUMBER (ECN) SHALL BE AFFIXED BY THE FUEL FILLER.
- △ FUEL TYPE DECAL SHALL BE AFFIXED BY THE FUEL FILLER.

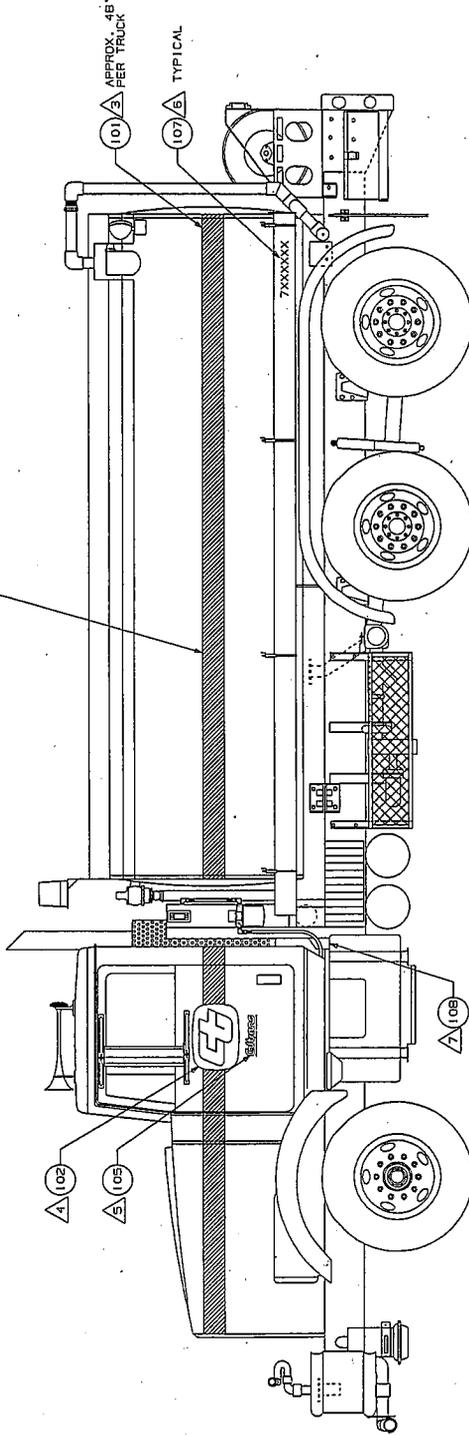
PE 32-12-4901

REV	DATE	DESCRIPTION	TANK	BY
A	03/07/13	REVISED PER 107 & 108I DRAWING STANDARDS		
STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION DIVISION OF EQUIPMENT				
3000 GALLON WATER TANKER ASSEMBLY				
DELINEATION				
DRAWN BY: J. J. JONES				
CHECKED BY: J. J. JONES				
APPROVED BY: J. J. JONES				
PROJECT NUMBER: 1-05380-DE				
DRAWING NUMBER: 3000GALLON WATER TANKER ASSEMBLY				

STRIPE INSTALLATION RECOMMENDATIONS:
 - CLEAN SURFACE WITH ACETONE BEFORE CREATING LINE.
 - USE A LASER LEVEL AND 3/4" TAPE TO MARK YOUR STRIPING BOUNDARY LINE GUIDE. REEL BACK A MANAGEABLE AMOUNT (TANK'S LENGTH) OF STRIPING MATERIAL AND SQUEEGEE IT ONTO THE TANK SURFACE.
 - POLICE SQUEEGEE TO WORK OUT AIR BUBBLES AND USE OR SQUEEGEE TO ENSURE PROPER ADHESION TO VEHICLE SURFACE.



REAR VIEW



LEFT SIDE VIEW

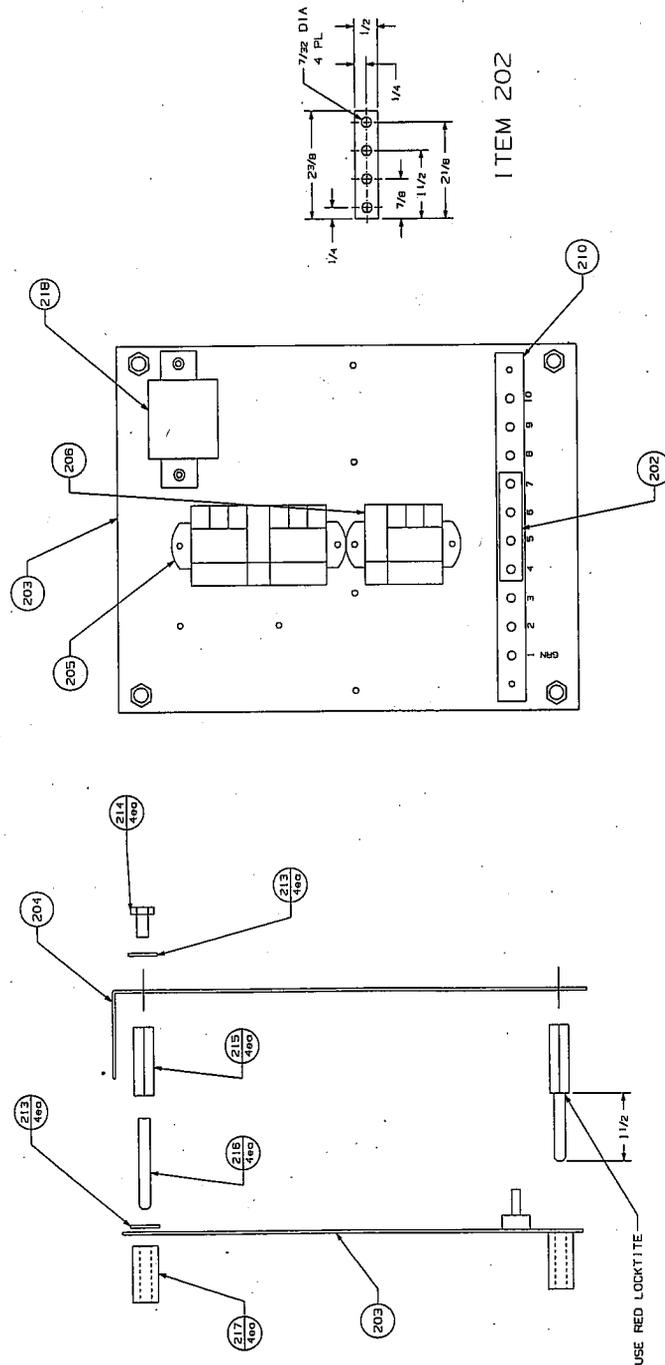
BILL OF MATERIALS

ITEM	QTY	DESCRIPTION
201	1	FUSE PANEL ASSEMBLY
202	1	COPPER RECT BAR 1/16 X 1/2 X 2 3/8 ASTM B187
203	1	FLASHER-FUSE PANEL U1-0023-19
204	1	COVER, FLASHER-FUSE PANEL U1-0023-18
205	1	FUSE BLOCK ATOMATO MARKS 030-3892
206	1	FUSE BLOCK ATOMATO MARKS 030-4278
207		
208	6	RING TERM-10, BLU NYL INS, DBL CRIMP, 18-14 ga 7113K6E3
209	2	RING TERM-10, RED NYL INS, DBL CRIMP, 22-18 ga 7113K6E6
210	1	TERMINAL BLK, 10 GANG, 10-32, 5TUD TERM 4721-PI0
211		
212		
213	8	1/4" WASHER, SAE, Zn PLATED STEEL 801260Z9
214	4	1/4-20 X 1/2, HEX HD GRADE 5, Zn PL STL 80284Z9
215	4	1/4-20 X 1/2, NYL 6/6 COMPLING NYL, 1/2 PL STL 80284Z9
216	4	1/4-20 X 3/4 SOCKET SET SCW, ALLOY STL 91375A550
217	4	SPACER, 1" LG X 1/2 OD X 1/4 SCW, ALUM 92510A346
218	1	RELAY POWER, 75 AMP WITH DIODES BOSCH 032002156 687-4259

NOTES:
1. ALL WELDS, ELECTRICAL AND PAINT WILL BE IN COMPLIANCE WITH CALTRANS EQUIPMENT QUALITY STANDARDS GOVT. WWS-001-00000000/eqsc TO VIEW EQUIPMENT QUALITY STANDARDS.
2. REMOVE ALL BURRS AND SHARP EDGES.

PE 32-12-4901

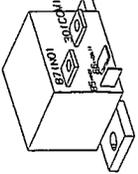
B	Feb 07	REMOVED ITEM 207, 208 & 209	J Payne
A	Dec 05	ITEM 213 WAS 4 ea	J Payne
REV	DATE	DESCRIPTION	BY
STATE OF CALIFORNIA			
DEPARTMENT OF TRANSPORTATION			
DIVISION OF EQUIPMENT			
FUSE PANEL ASS'Y, 3000 GAL WATER TRUCK, CENTER CONSOLE			
RELEASED FOR THE ENGINEER			
DATE: 11 May 05			
DRAWN BY: J Payne			
CHECKED BY: J Payne			
APPROVED BY: J Payne			



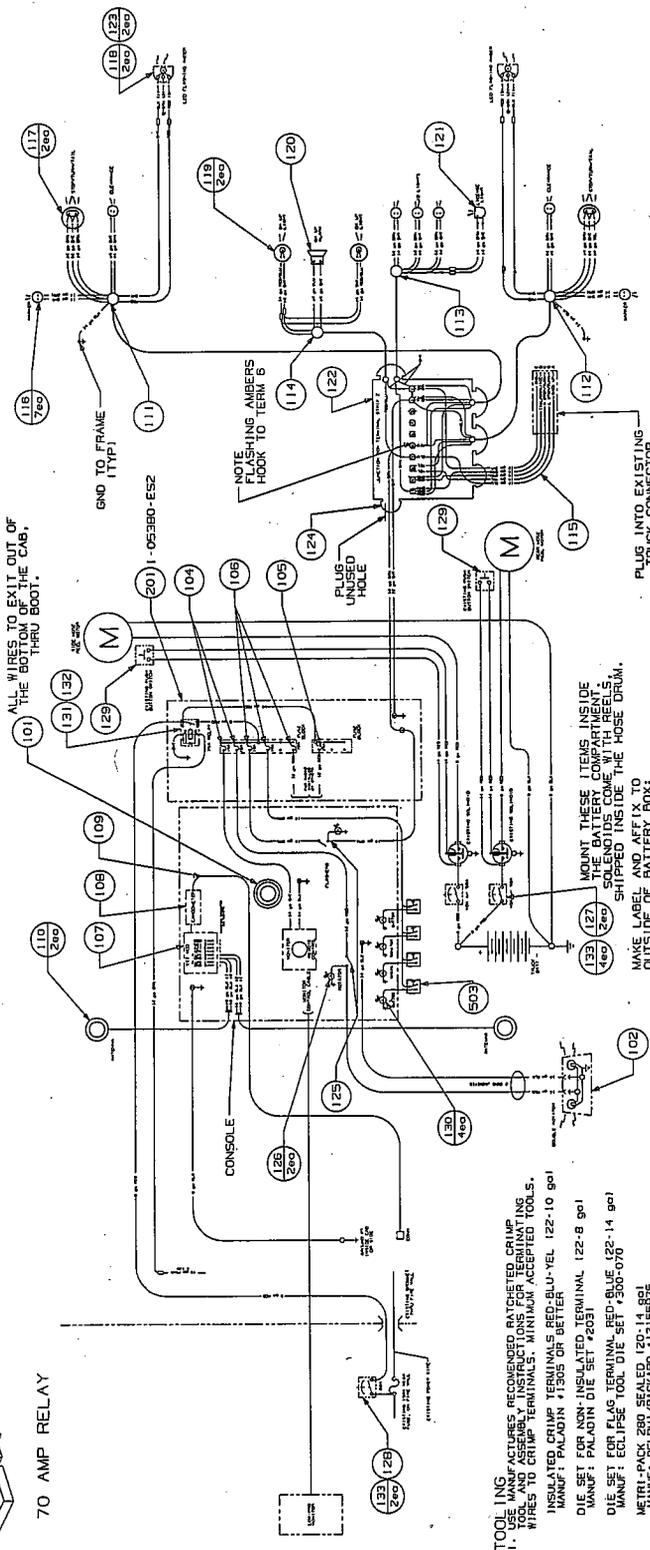
ITEM 201

ITEM 202

INTERNATIONAL 7600



70 AMP RELAY



PE 32-12-4901

- NOTES:**
1. ALL WIRE ELECTRICAL AND PAINT WILL BE IN ACCORDANCE WITH THE EQUIPMENT QUALITY STANDARDS. GO TO www.det-co.com/eqc TO VIEW EQUIPMENT QUALITY STANDARDS.
 2. ALL WIRE AND CABLE TO BE SECURED AND SUPPORTED EVERY 18" BY INSULATED METAL LOOP CLAMPS.
 3. PLASTIC TIE WRAPS SHALL NOT BE USED AS A MEANS OF SUPPORT. THEY MAY BE USED FOR BUNDLING OR RETENTION OF MULTIPLE CONDUCTORS.
 4. ALL BATTERY CABLE CONNECTIONS SHALL BE HEAVY DUTY RING STYLE LUGS, SEAMLESS COPPER, TIN PLATED CRIMP OR SOLDER. TAMP/1526xxx-2 OR MULEX/1922-01xxx1
 5. RING TERMINALS AND BUTT SPLICES FOR 22 TO 10 GA. WIRE SHALL BE INSULATED WITH RED CRIMP TERMINALS DOUBLE CRIMP STYLE. TIN PLATED COPPER, UL LISTED, NYLON INSULATED, RED, BOLT/YELLOW RATED TO EXTERIOR OF THE CAB SPLICES AND TERMINALS SHALL BE SEALED WITH ADHESIVE LINED HEAT SHRINK TUBING.
 6. ALL EXTERIOR OF THE CAB EXPOSED ELECTRICAL TERMINAL STUDS OR SCREWS SHALL BE COATED WITH LUGS AND SOCKET ELECTRICAL GREASE. ALL ELECTRICAL SHALL BE FILLED WITH NY-77 COMPOUND (MANUF BY TRUCK LITE) TO SEAL OUT MOISTURE.
 7. ALL NYLON INSULATED AND UNINSULATED CRIMPS SHALL BE DONE WITH A RATCHING TYPE CRIMP TOOL WITH THE CORRECT DIES FOR THE TERMINALS BEING CRIMPED.
 8. HEAVY DUTY RING LUGS SHALL BE CRIMPED WITH A HEAVY DUTY COMPOUND LEVER STYLE, DIE TYPE TOOL OR SOLDERED.
 9. ALL NON INSULATED CRIMP/SOLDER TERMINALS OUTSIDE OF THE CAB WILL BE SEALED WITH ADHESIVE LINED HEAT SHRINK TUBING.
 10. EACH POSITIVE BATTERY TERMINAL OR SHIELD, BOLT OR SCREW SHALL BE SECURED TO THE POSITIVE TERMINALS WITH ALL POSITIVE TERMINALS.
 11. ALL WIRE ROUTING SHALL NOT BE PLACED UNDER MOVING PARTS. NYLON SPLIT LOOM SHALL PROTECT THE HARNESS IN THE OPERATING ENVIRONMENT. NYLON SPLIT LOOM SHALL BE USED TO PROTECT WIRE FROM DAMAGE WHENEVER WIRES ARE RUN THRU HOLES IN METAL PARTITIONS. THE HOLES SHALL BE EQUIPPED WITH SUITABLE MECHANICAL PROTECTION GROMMETS.
 12. ALL ADDED UNDER HOOD AND UNDER BODY WIRING MUST BE CROSS-LINKED POLYETHYLENE, HIGH TEMPERATURE (MIN 125 °C) INSULATED WIRE.
 13. FOLLOW MANUFACTURE INSTALLATION INSTRUCTIONS.
 14. ALL CABLE AND HARNESS ASSEMBLIES TO BE DONE PER IPC/WHMA-A-620.

IT IS OK TO MAKE JACKETED CABLE BY USING SINGLE WIRES RUN INSIDE THE NYLON SPLIT LOOM

SIZE	NUM OF ANG COND	INSULATION COLOR	TYPE	MANUF PART NUM. (OR EQUIV)
14	2	RED & BLK	PARALLEL WIRE JACKETED, GRT INS	WAYTEK WIRE W08B1-4-2
6	1	RED, BLK	AUTOMOTIVE STARTER BATT CABLE	15WC SAE J-1127
8	1	RED, BLK	AUTOMOTIVE STARTER BATT CABLE	15WC SAE J-1127
10	1	RED	SAE J1128 TYPE GXL	15WC 50X 8 0" SXL B
12	1	WHT, GRN, RED	SAE J1128 TYPE GXL	15WC 6XL 10
14	1	YEL, GRN, BLK, WHT, RED	SAE J1128 TYPE GXL	15WC 6XL 12
16	1	BLUE	SAE J1128 TYPE GXL	15WC 6XL 14
16	1	INSULATION	TYPE	15WC 6XL 16

WIRE REQUIREMENT LIST

133 6 TERMINAL INSULATOR B-2 GA, RED 032-4825 SUPERIOR STUDS S2381-RED

BILL OF MATERIALS

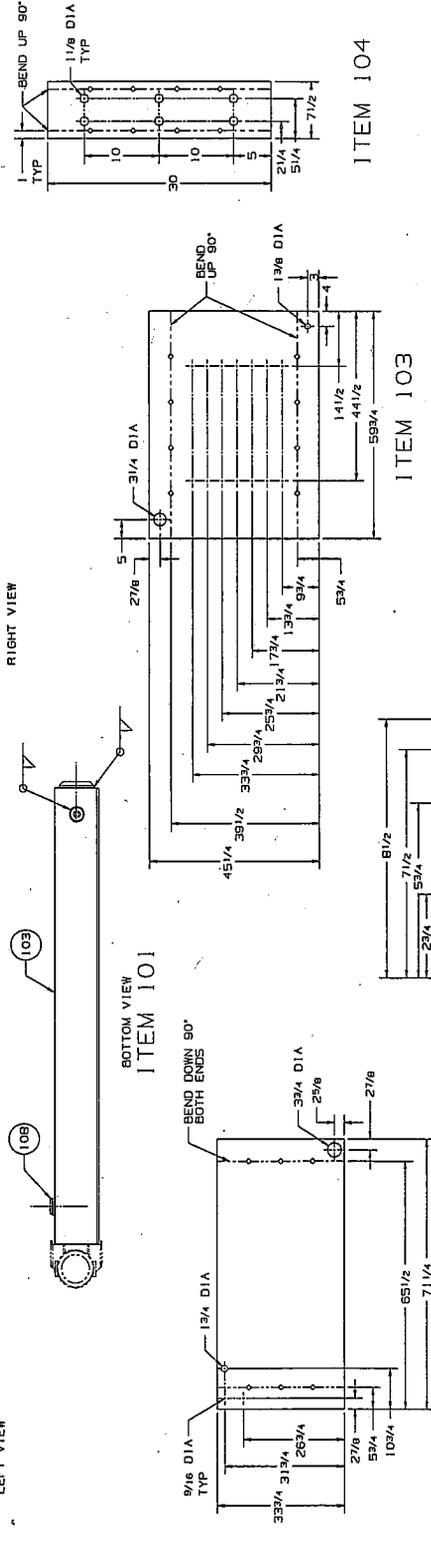
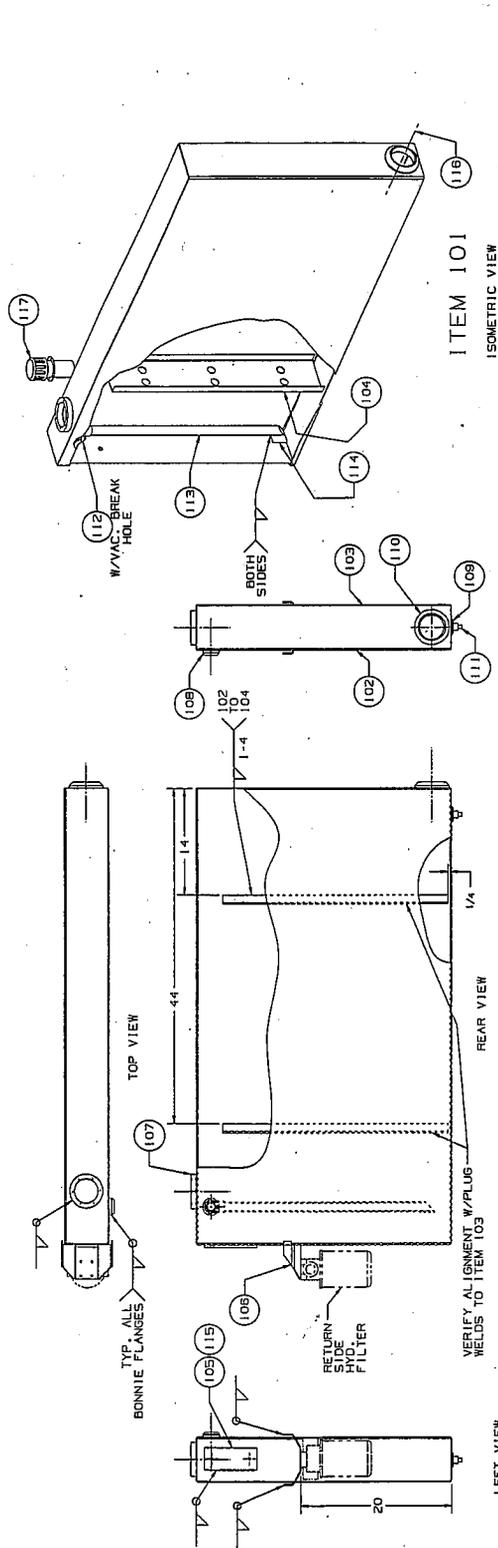
ITEM	QTY	DESCRIPTION	MANUF / PRT NO.	CT. NO. / ALT. NO.
101	1	CABLE BOOT, 3" BLK BRACKETING, BLACK	TRUCK LITE 450112-02	034-1964
102	1	MINI LIGHTBAR, DUAL ROTATOR, 12V AMBER	BUSSMANN 15A	030-3236
103	2	ATC/ATO BLADE FUSE	BUSSMANN 25A	030-3155
104	2	ATC/ATO BLADE FUSE	BUSSMANN 10A	030-3152
105	1	VEHICLE INFORMATION TRANSMITTER	E-7, WAP VIT-5K	003-4479
106	1	CANDIDEMETER, HEAVY DUTY DIESEL, 5 PIN	E-7, WAP J700-SP-D	003-4493
107	1	DIAGNOSTIC TOOL, DIESEL, 5 PIN	E-7, WAP J700-SP-D	003-4493
108	1	DIAGNOSTIC TOOL, DIESEL, 5 PIN	E-7, WAP J700-SP-D	003-4493
109	1	DIAGNOSTIC TOOL, DIESEL, 5 PIN	E-7, WAP J700-SP-D	003-4493
110	2	ADAPTER RING, DIESEL, 5 PIN	E-7, WAP J700-SP-D	003-4493
111	1	HARNESS, RIGHT SIDE STOP /TAIL /TURN-MARK-FLASH	TRUCK LITE 51251	034-3555
112	1	HARNESS, LEFT SIDE STOP /TAIL /TURN-MARK-FLASH	TRUCK LITE 51251	034-3554
113	1	HARNESS, ID & LIC PLATE LIGHT	TRUCK LITE 50224 0168	034-3557
114	1	HARNESS, BACK UP LT AND ALARM	TRUCK LITE 50224 0168	034-3557
115	1	HARNESS, 5 POS METR PACK TO INTL	UI-0023-04	X
116	7	MARKER & CLEARANCE RED LED 2/2 SEALED	TRUCK LITE 10050R	034-4890
117	2	STOP TAIL TURN RED LED 1/2 SEALED	TRUCK LITE 10050R	034-4824
118	2	LED TAIL TURN LIGHTING	TRUCK LITE 60130130	034-5060
119	2	BACK UP LAMP 4" SEALED SINGLE LAMP	TRUCK LITE 40084	034-1280
120	1	BACK UP ALARM 102 db, 12-24 V	ECCO 054-1654	
121	1	LICENSE PLATE LIGHT LED 150-10	TRUCK LITE 150-10	034-4897
122	1	JUNCTION BOX FOR LIGHT HARNESS	UI-0023-07	
123	2	HOUSING, PAR 46 LAMP	TARGET TECH 3250-04	034-1793
124	1	MULTI CORD GRIP 1/2 NPT 3 HOLE, 1/8"	McMASTER 26807K37	
125	2	SWITCH, HO TOGGLE SPST, 2 SCREW	COLE HERSE 5520	030-2637
126	2	INDICATOR LIGHT, AMBER, 24V DC	ARCOELECTRIC 1R6705A	030-1688
127	2	INDICATOR LIGHT, RED, 24V DC	ARCOELECTRIC 1R6705A	030-1688
128	1	CIRCUIT BREAKER, 50 AMP, 120V AC	BUSSMANN 16550R	
129	2	ENCLOSURE, 4 X 4 X 3 STEEL, NEMA 13	McMASTER 7871K11	030-4479
130	4	INDICATOR LIGHT, GREEN, 24V DC	ARCOELECTRIC 1R6705B	030-1689
131	1	SERIES 56 CONNECTOR 29P	DELPHI 29655447	030-4763
132	2	SERIES 56 CONNECTOR 29P	DELPHI 29655447	030-4792

REV	DATE	DESCRIPTION	BY
B	Feb 07	THESE CHANGES TO THE WIRING DIAGRAM ARE FOR THE NEW 7600.	J. Pajovic
A	Dec 05	REVISION TO THE WIRING DIAGRAM TO ADD THE NEW 7600.	J. Pajovic

DEPARTMENT OF TRANSPORTATION
DIVISION OF EQUIPMENT
WATER TRUCK INTL 7600
DC ELECTRICAL SCHEMATIC 2005 RUN
DATE: 25 DEC 05
DRAWN BY: J. Pajovic
CHECKED BY: J. Pajovic
REVISIONS: 1-05390-0516-1
WORK SHEET: 2472-2-2-01

BILL OF MATERIALS

ITEM	QTY	DESCRIPTION
101	1	WELD'D ASS'Y C/O ITEMS 102-114
102	1	12 GA X 33 3/4 X 7 1/4 LG HRS PLATE
103	1	12 GA X 45 1/4 X 59 3/4 LG HRS PLATE
104	2	12 GA X 7 1/2 X 30 LG HRS PLATE
105	1	3/8 X 3 X 7 LG CRS PLATE
106	1	3/16 X 5 X 8 1/2 LG HRS PLATE
107	1	RISEY, WELD NECK LENZ# LWR-1
108	1	FLANGE, BONNIE 1" NPT CT# 907-1301
109	1	FLANGE, BONNIE 3/4" NPT CT# 907-1300
110	1	FLANGE, BONNIE 3" NPT CT# 907-5442
111	1	3/4 PLUG, PIPE CT# 907-5255
112	1	ELBOW, 1" NPT CT# 907-5088
113	1	PIPE, 1" NOM X 26" LG
114	1	3/16 X 2 X 2 LG HRS PLATE
115	1	GAUGE, SIGHT LEVEL LENZ, 550-S, CT# 003
116	1	STRAINER FLO-EZY 550-100-RV CT# 904-1800
117	1	CAP, BREATHYER LENZ 57ALOWPS



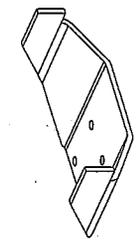
NOTES:

- ALL JOINTS TO BE WELDED CONTINUOUS UNLESS OTHERWISE SPECIFIED. SIZE OF ALL WELDS TO BE THE THICKNESS OF THE THINNER OF THE ADJACENT METALS.

PE 32-12-4901

REV.	DATE	DESCRIPTION	BY
A	01/07	CHANGED ITEM FROM 8 TO 8 1/2	DORRIN

STATE OF CALIFORNIA	DEPARTMENT OF INDUSTRIAL RELATIONS
DIVISION OF EQUIPMENT	
32 GALLON HYD. TANK	
3000 GAL-TANKER 05380	
DATE: 01/07/05	BY: 01-0036-01
DRAWN BY: DORRIN	CHECKED BY: WHEELER
SCALE: AS NOTED	PROJECT: 01-0036-01
WORK SHEET NO. 1	DATE: 01-07-05



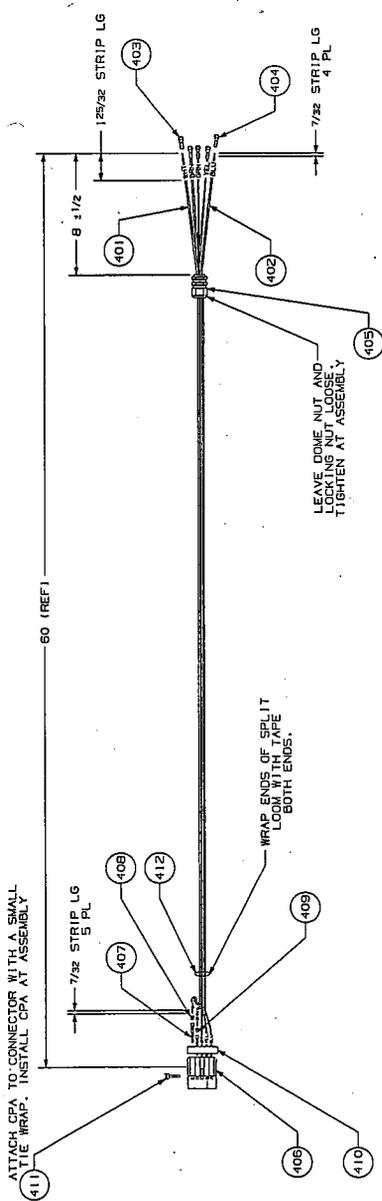
WIRE LIST

WIRE NO	SIZE AWG	COLOR	LENGTH	FROM	TO	REMARKS
1	12	WHT	60"	RING TERM ITEM 103	SM-E ITEM 106	
2	14	BRN	60"	RING TERM ITEM 104	SM-D ITEM 106	
3	14	GRN	60"	RING TERM ITEM 104	SM-C ITEM 106	
4	14	YEL	60"	RING TERM ITEM 104	SM-B ITEM 106	
5	14	BLUE	60"	RING TERM ITEM 104	SM-A ITEM 106	

SEE QUALIFIED ELECTRICAL PARTS LIST

ITEM	QTY	DESCRIPTION	MANUF / DNG NO	CT NO
401	60"	12 GA. GXL. PRIMARY WIRE. W/RE. SAE J1128, WHITE	IEWC 6XL 12	OR EOUV
402	60"	14 GA. GXL. PRIMARY WIRE. SAE J1128, BRN, GRN, YEL, BLU	IEWC 6XL 14	OR EOUV
403	1	RING TERM. 103, YEL. NYL. INCL. DDL CRIMP. 12-10 BR	MCMMASTER 7113R668	OR EOUV
404	4	RING TERM. 104, BLU. NYL. INCL. DDL CRIMP. 12-10 BR	MCMMASTER 7113R668	OR EOUV
405	1	NYL. TIE ROD. 1/8" DIA. 1/2" L. NPT. 5 HOLES. 1-16 99	MCMMASTER 7807041	EOUV
406	1	CONN. METRI-PACK 280 5/8 W/CLIP SLOT	DELPHI 12186400	
407	5	MALE TERM. 12801 SEALED 12-14 99. TIN BRASS	DELPHI 12129497	
408	1	CABLE SEAL. METRI-PACK 4.3-3.45mm DIA. BLUE	DELPHI 12015193	
409	4	CABLE SEAL. METRI-PACK 3.49-2.81mm DIA. GRAY	DELPHI 12010293	
410	1	TERMINAL POSITION ASSURANCE (TPA) 5 POS	DELPHI 12084673	
411	1	CONNECTOR POSITION ASSURANCE (CPA)	DELPHI 12020833	
412	48"	SPLIT LOOM, 3/8 ID NYL. BLK/W GRN STRIPE	MCMMASTER 2365R24	030-24

- NOTES:
- USE ELECTRICAL AND PAINT WILL BE IN COMPLIANCE WITH CALTRANS EQUIPMENT QUALITY STANDARDS. GO TO www.doe.ca.gov/hq/eqsc TO VIEW EQUIPMENT QUALITY STANDARDS.
 - USE MANUFACTURER RECOMMENDED RATCHETED CRIMP TOOL AND ASSEMBLY INSTRUCTIONS FOR TERMINATING WITH MINIMUM ACCEPTED TOOL FOR RING TERMINALS: MANUF: PALADIN #1305 OR BETTER MINIMUM ACCEPTED TOOL FOR METRI-PACK 280: MANUF: DELPHI PART # 12186400
 - USE INDIVIDUAL CHARACTER OR WRITE ON WIRE MARKER LABELS.
 - ALL CABLE AND HARNESS ASSEMBLIES TO BE DONE PER: JPC/WHMA-A-620.



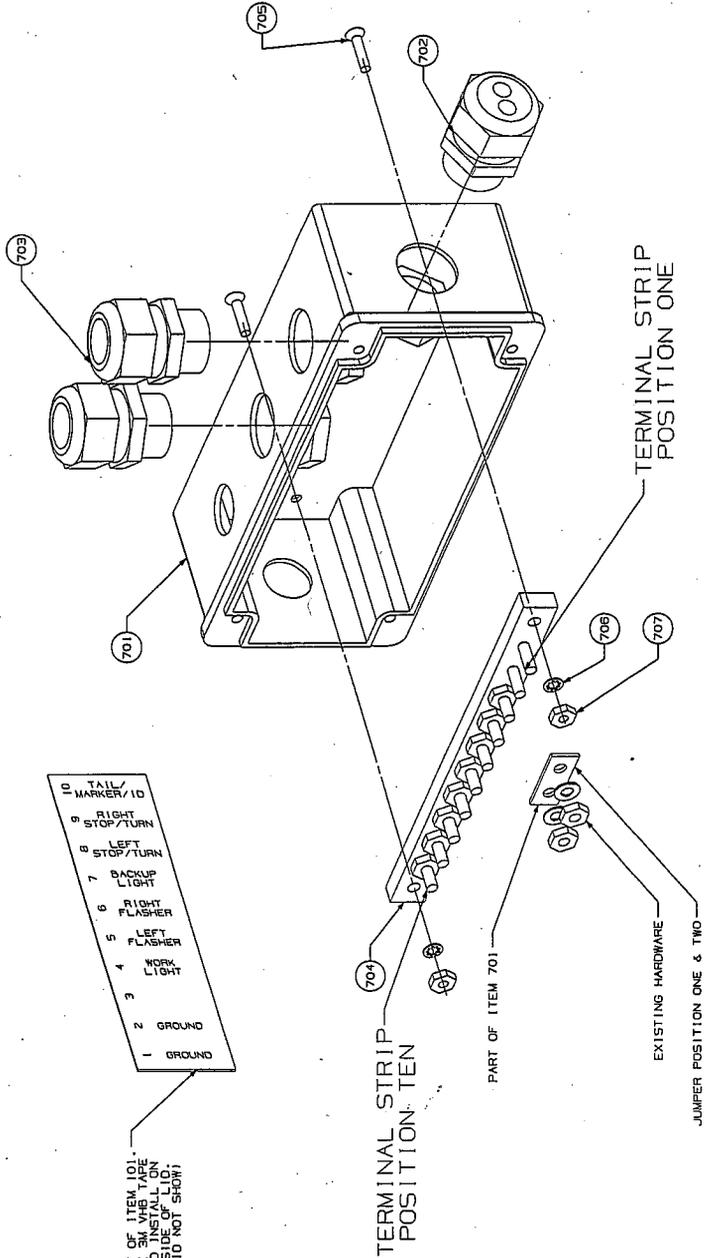
PE 32-12-4901

REV	DATE	DESCRIPTION	BY
1		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	
2		DIVISION OF EQUIPMENT	
3		4 METRI-PACK 280 POS	
4		4 METRI-PACK 103 INCL	
5		DATE: 02/04/04	
6		WORK SHEET NO: UI-DD23-04	
7		ISSUED BY: JPC	
8		REVISIONS: 1	
9		REVISIONS: 2	
10		REVISIONS: 3	

BILL OF MATERIALS

ITEM	QTY	DESCRIPTION	MANUF. DNG NO.	CT NO.
701	1	JUNCTION BOX LIGHT HARNESS (UNTL 7400)	UI-0023-08	-
702	1	CORD GRIP, NYLON 3/4 INLT, 2 HOLET, .51	MCMASTER 7807444	OR EOUV
703	2	CORR GRIP, NYLON 3/4 INLT, .51	MCMASTER 8591565	OR EOUV
704	1	TERM WASH BLOCK 10-32	9751486	OR EOUV
705	2	WASER, FLAT HD, RHT, 8-32 X 3/4", Zn PLT STL	MCMASTER 80273A197	OR EOUV
706	2	LOCK WASHER, INT	MCMASTER 91113A009	OR EOUV
707	2	MACH SCW, HEX NUT, 8-32, Zn PLT STL	MCMASTER 90480A009	OR EOUV

- NOTES:
- ALL WELDS, ELECTRICAL AND PAINT WILL BE IN COMPLIANCE WITH CALTRANS EQUIPMENT QUALITY STANDARDS. REFER TO CALTRANS SPECIFICATIONS FOR EQUIPMENT QUALITY STANDARDS.
 - REMOVE ALL BURRS AND SHARP EDGES.
 - ENCLOSURE ASSEMBLY DRAWING ONLY, SEE APPROPRIATE DRAWING FOR INSTALLATION.



PE 32-12-4901

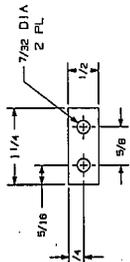
REV	DATE	DESCRIPTION	BY
1		INITIAL ASSEMBLY	
2		REVISIONS	
3		REVISIONS	
4		REVISIONS	
5		REVISIONS	
6		REVISIONS	
7		REVISIONS	
8		REVISIONS	
9		REVISIONS	
10		REVISIONS	

DESCRIPTION: JUNCTION BOX LIGHT HARNESS ASSEMBLY
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF EQUIPMENT
 4 YARD JUNCTION BOX FOR LIGHT HARNESS ASSEMBLY (UNTL)
 SCALE: X
 DATE: 1 Nov 04
 DRAWN: J. P. GIBSON
 CHECKED: K. J. WILSON
 PROJECT: UI-0023-07
 SHEET: 1 OF 1

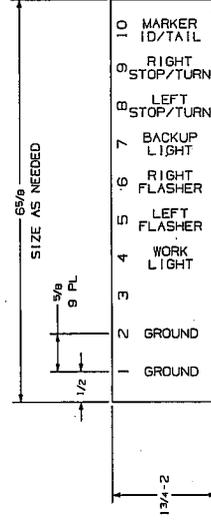
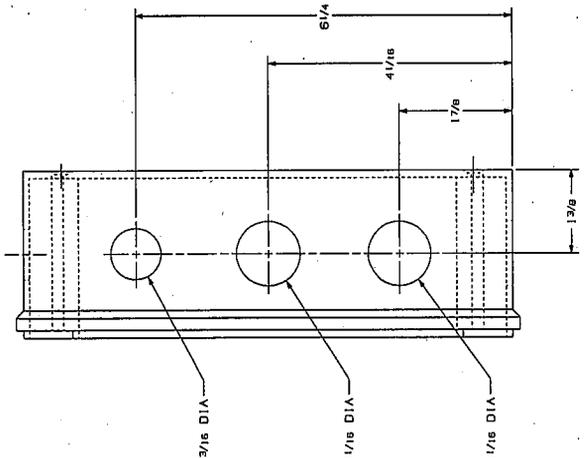
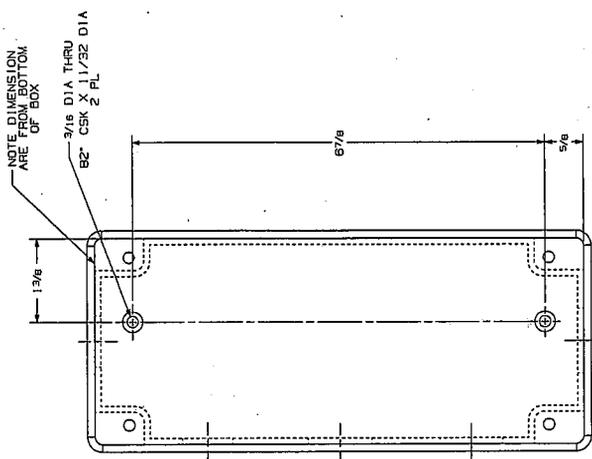
BILL OF MATERIALS

ITEM	QTY	DESCRIPTION	MANUF. DWS NO.	CT NO.
801	1	ENCL., SMALL, JCT. F6, 8.4 X 3.6 X 3.1	MCMASTER 2268K14	
802	1	COPPER RECT BAR, ASTM B197, 1/16 THK X 1/2 WIDE	MCMASTER 8864K721	OR EQUIVALENT
803	1	BLK ANODIZED ALUMINUM ENGINEERING SHIT., 1/2-1/16 THK	GRAVORAPH 12172E	OR EQUIVALENT

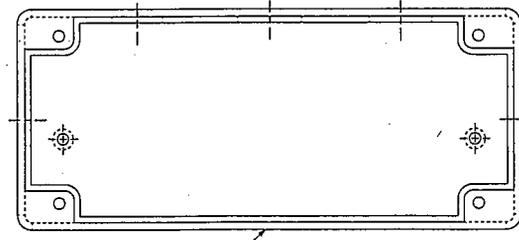
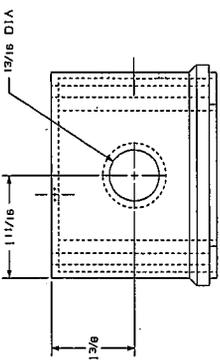
NOTES:
 1. ALL WELDS TO BE IN ACCORDANCE WITH THE STANDARDS SET FORTH IN THE SPECIFICATIONS TO VIEW EQUIPMENT QUALITY STANDARDS. NOTES:
 2. REMOVE ALL BURRS AND SHARP EDGES.



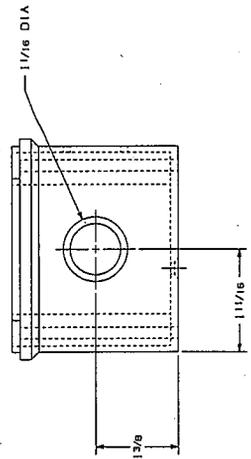
ITEM 802



ITEM 803



ITEM 801



SHOWN WITH
LID REMOVED

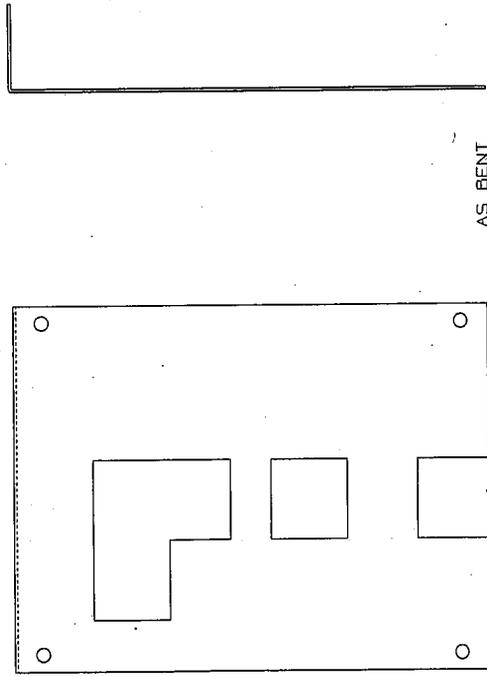
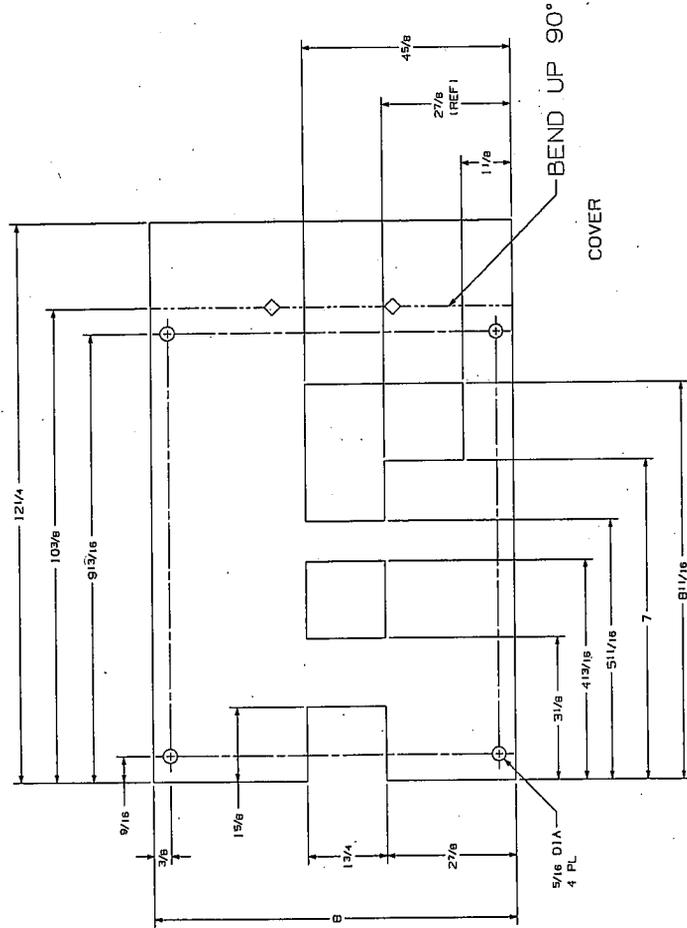
PE 32-12-4901

REV	DATE	DESCRIPTION	BY
1		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION DIVISION OF EQUIPMENT 4 YARD - JUNCTION BOX FOR LIGHT HARNESS, INTLLI	
2		REVISIONS	
3		SECTION	
4		DATE	
5		BY	
6		PROJECT	
7		NO.	
8		REVISED	
9		DATE	
10		BY	

BILL OF MATERIALS

ITEM	QTY	DESCRIPTION
1801	1	16 G#-12 1/4 X 6 HOT OR COLD ROLLED STEEL SHEET COMMERCIAL QUALITY. ASTM A-368.

NOTES:
 ALL WELDS, ELECTRICAL AND PAINT WILL BE IN ACCORDANCE WITH TRANS EQUIPMENT QUALITY STANDARDS. GO TO WWW.GOT.CO.GOV/HA/EEQC TO VIEW EQUIPMENT QUALITY STANDARDS.
 1A: PART TO BE PAINTED WHITE.
 2. REMOVE ALL BURRS AND SHARP EDGES.



AS BENT

PE 32-12-4901

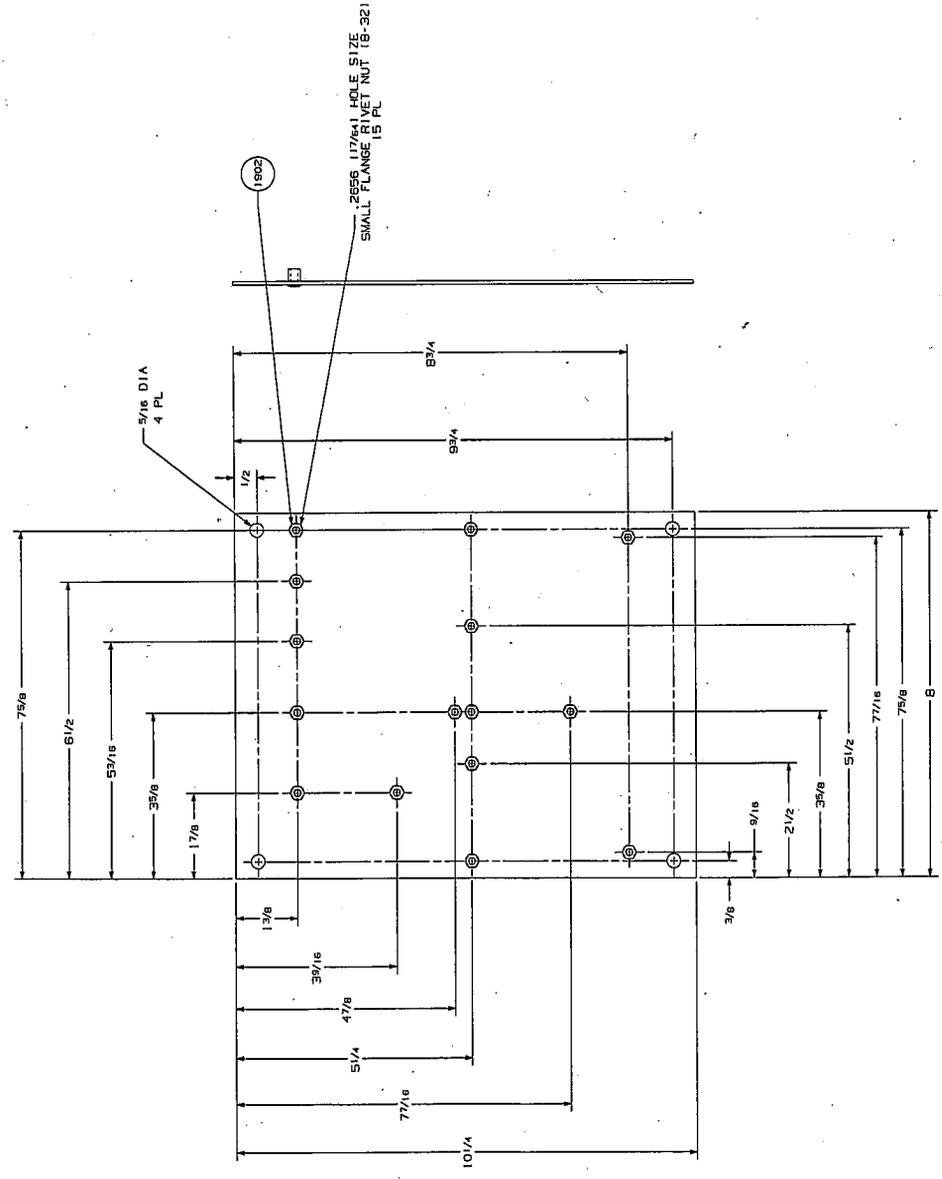
REV	DATE	DESCRIPTION	BY
A	Mar 05	ADDED CUTOUT FOR FUSE BLOCK	J Payne

NEXT ASSEMBLY		STATE OF CALIFORNIA	
DRAWING NUMBER		DEPARTMENT OF TRANSPORTATION	
PROJECT NUMBER		DIVISION OF EQUIPMENT	
SHEET NUMBER		COVER, FLASHER-FUSE PANEL, CENTER CONSOLE	
SCALE		DATE 27 Jun 05	
DRAWN BY		CHECKED BY	
J Payne		J Payne	
PROJECT		UI-0023-1B	
SHEET NUMBER		SHEET 2 OF 2	

BILL OF MATERIALS

ITEM	QTY	DESCRIPTION
1801	1	16 10 1/4 X 8 1/2 PL OR COLD ROLLED STEEL SHEET (MINI) ASTM A-368, ASTM A-368.
1902	15	8 32 SMALL FLANGE KNURLED RIVET UNF. STEEL. 1. F.S. 4585E-SR. OR EQUIV.

NOTES:
 1. ALL WELDS ELECTRICAL AND PAINT WILL BE IN COMPLIANCE WITH CALTRANS EQUIPMENT QUALITY STANDARDS. GO TO WWW.COE.CA.GOV/REQ/ESQ TO VIEW EQUIPMENT QUALITY STANDARDS.
 1A: PART TO BE PAINTED BLACK.
 2. REMOVE ALL BURRS AND SHARP EDGES.



PE 32-12-4901

A	REV	DATE	DESCRIPTION	J Payne
			ADDED EXTRA FUSE BLOCK	
			STATE OF CALIFORNIA	
			DEPARTMENT OF TRANSPORTATION	
			DIVISION OF EQUIPMENT	
FLASHER-FUSE PANEL, CENTER CONSOLE				
DRAWN BY: J Payne				DATE: 27 Jun 05
CHECKED BY: J Payne				DATE: 27 Jun 05
DESIGNED BY: J Payne				PROJECT: UI-0023-19
SCALE: 1"=1'-0"				SCALE: 1"=1'-0"
SHEET NO.: 1 OF 1				TOTAL SHEETS: 1