STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION
HIGHWAYS

ADDENDUM NO. 2
FOR
FURNISHING AND DELIVERING MOTOR VEHICLES AND EQUIPMENT, ISLANDS OF OAHU, MAUI, LANAI, MOLOKAI, HAWAII, AND KAUAI
PROJECT NO. HWY-CM-26-01

April 24, 2026

This Addendum shall make the following amendment(s) to the Solicitation:

A. TABLE OF CONTENTS

1. Delete **TABLE OF CONTENTS**, dated 02/24/2026, in its entirety and replace it with attached **TABLE OF CONTENTS**, dated r04/24/2026.

B. SPECIFICATIONS

2. Delete **SECTION 11 - SIX MAN Crew Cab – One Ton with Utility Box and Lift Gate**, Page 11-1 dated 02/26/2026, and replace it with attached **SECTION 11 - SIX MAN Crew Cab – One Ton with Utility Box and Lift Gate,** Page 11-1, dated r04/24/2026.

3. Delete **SECTION 12 - TRUCK TANK, 4,000 GALLONS**, dated 02/25/2026, in its entirety and replace it with attached **SECTION 12 - TRUCK TANK, 4,000 GALLONS**, dated r04/24/2026.

4. Delete **SECTION 13 - CAB/CHASSIS WITH 7 CUBIC YARD DUMP BODY AND 17 TON HOIST**, dated 02/26/2026, in its entirety and replace it with attached **SECTION 13 - CAB/CHASSIS WITH 7 CUBIC YARD DUMP BODY AND 17 TON HOIST**, dated r04/24/2026.

5. Delete **SECTION 14 - CAB/CHASSIS WITH 2 ½ CUBIC YARD DUMP BODY**, dated 02/26/2026, in its entirety and replace it with attached **SECTION 14 - CAB/CHASSIS WITH 2 ½ CUBIC YARD DUMP BODY**, dated r04/24/2026.

6. Delete **SECTION 15 - SIX (6) MAN CREW CAB ONE (1) TON DUMP WITH LIFT GATE**, dated 02/26/2026, in its entirety and replace it with attached **SECTION 15 - SIX (6) MAN CREW CAB ONE (1) TON DUMP WITH LIFT GATE**, dated r04/24/2026.

7. Delete **SECTION 16 - REGENERATIVE AIR SWEEPER, TRUCK MOUNTED**, dated 02/26/2026, in its entirety and replace it with attached **SECTION 16 - REGENERATIVE AIR SWEEPER, TRUCK MOUNTED**, dated r04/24/2026.

8. Delete **SECTION 19 - CAB/CHASSIS WITH DIGGER DERRICK**, dated 02/25/2026, in its entirety and replace it with attached **SECTION 19 - CAB/CHASSIS WITH DIGGER DERRICK**, dated r04/24/2026.

9. Delete **SECTION 20 - CAB/CHASSIS UTILITY BODY WITH 35 FOOT AERIAL**, dated 02/25/2026, in its entirety and replace it with attached **SECTION 20 - CAB/CHASSIS UTILITY BODY WITH 35 FOOT AERIAL**, dated r04/24/2026.

10. Delete **SECTION 21 - CAB/CHASSIS UTILITY BODY WITH 40 FOOT AERIAL**, dated 02/25/2026, in its entirety and replace it with attached **SECTION 21 - CAB/CHASSIS UTILITY BODY WITH 40 FOOT AERIAL**, dated r04/24/2026.

11. Delete **SECTION 22 - CAB/CHASSIS UTILITY BODY WITH 55 FOOT AERIAL**, dated 02/26/2026, in its entirety and replace it with attached **SECTION 22 - CAB/CHASSIS UTILITY BODY WITH 55 FOOT AERIAL**, dated r04/24/2026.

12. Delete **SECTION 26 - UTILITY TRACTOR WITH REAR ROTARY MOTOR**, dated 02/26/2026, in its entirety and replace it with attached **SECTION 26 - UTILITY TRACTOR WITH REAR ROTARY MOTOR**, dated r04/24/2026.

13. Delete **SECTION 30 - CAB/CHASSIS WITH 12 CUBIC YARD DUMP BODY**, dated 02/26/2026, in its entirety and replace it with attached **SECTION 30 - CAB/CHASSIS WITH 12 CUBIC YARD DUMP BODY**, dated r04/24/2026.

14. Delete **SECTION 31 - 30-TON TELESCOPIC CRANE**, dated 02/26/2026, in its entirety and replace it with attached **SECTION 31 - 30-TON TELESCOPIC CRANE**, dated r04/24/2026.

15. Delete **SECTION 35 - PROFILE THERMOPLASTIC APPLICATOR**, dated 02/26/2026, in its entirety and replace it with attached **SECTION 35 - PROFILE THERMOPLASTIC APPLICATOR**, dated r04/24/2026.

16. Delete **Section 38 - 4WD CAB/CHASSIS UTILITY BODY WITH 40 FOOT AERIAL**, Page 38-1 dated 02/26/2026, and replace it with attached S**ection 38 -4WD CAB/CHASSIS UTILITY BODY WITH 40 FOOT AERIAL**, Page 38-1 dated r04/24/2026.

17. Delete **SECTION 39 - CAB/CHASSIS WITH 7 CUBIC YARD DUMB BODY**, dated 02/26/2026, in its entirety and replace it with attached **SECTION 39 -CAB/ CHASSIS WITH 7 CUBIC YARD DUMB BODY**, dated r04/24/2026.

18. Delete **SECTION 48 - TRUCK TRACTOR**, dated 02/25/2026, in its entirety and replace it with attached **SECTION 48 - TRUCK TRACTOR**, dated r04/24/2026.

C. PROPOSAL SCHEDULE

1. Delete **PROPOSAL SCHEDULE**, Page PF-1 dated 12/8/2026, and replace it with attached **PROPOSAL SCHEDULE** Page PF-1 dated r04/24/2026.

The following is provided for information.

D. RESPONSES TO REQUESTS FOR INFORMATION (RFI'S/QUESTIONS)

1. The attached **RESPONSES TO REQUESTS FOR INFORMATION** are provided for information.

Please acknowledge receipt of this **ADDENDUM NO. 2** by recording the date of its receipt in the space provided on the **PAGE PF-4** of the Proposal.

MAAZA MEKURIA
Acting Engineering Program Manager
Construction & Maintenance Branch

TABLE OF CONTENTS

Section 11 – SIX MAN Crew Cab - One Ton with Utility Box and Lift Gate

11.1- SCOPE OF WORK - The work consists of furnishing and delivering two (2) each Six (6) Man Crew Cab - One (1) Ton with Utility Box and Lift Gate, to the Island of Hawaii. The Contractor shall present the equipment complete, ready to use, and fully operational.

11.2- SIX (6) MAN CREW CAB ONE (1) TON WITH UTILITY BOX AND LIFT GATE - The Specifications contained herein establish minimum standards (unless stated differently). Equipment offered shall include any other standard features not listed but detailed in manufacturer's brochures and deemed necessary for proper and safe operation of equipment.

DETAILED SPECIFICATION FOR A SIX (6) MAN CREW CAB ONE (1) TON WITH UTILITY BOX AND LIFT GATE

1. Model/Year: Crew Cab Truck, 2025 or latest production.
2. Type: 2X4 two-wheel drive
3. GVW Rating: 19,500 lbs. minimum capacity.
4. Wheel Base: 137 inches minimum.
5. Engine:
    a. 6.7 liter power stroke diesel or equal with engine idle shutdown.
    b. Fuel (diesel) tank (40 gallons) minimum.
    c. Heavy duty cooling system.
6. Transmission:
    a. 6-speed Automatic Transmission with tow/haul mode, minimum.
    b. Transmission oil cooler.
    c. Auxiliary transmission oil cooler.
7. Axle: 3.55 rear gear ratio posi-locking rear differential.
8. Electrical System: Twelve (12) volt with heavy duty alternator (157 amp minimum)
9. Steering: Power or power assisted.

10. Brakes:

    a. Power or power assisted 4-wheel disc brake.

    b. Anti-lock brake system.

    c. Exhaust/engine brake

11. Cab/Interior:

    a. Crew Cab, Four (4) Doors

    b. Front - Bench seat (40/20/40 split bench seat) heavy duty vinyl material.

    c. Rear - Bench seat, heavy duty vinyl material.

    d. Driver and passenger air bag

    e. Interior rear view mirror with glare control.

    f. Power windows and power door locks.

    g. Floor covering vinyl/rubber with insulation.

    h. AM/FM radio with Bluetooth.

    i. Rhino Liner floor mats or equal.

    j. Factory installed air condition.

    k. Rain guards or vent shades on all doors.

    l. Twelve (12) volt power accessory outlet.

    m. Trailer brake controller.

    n. Upfitter switches (4)

    o. 2500 Watt Power Inverter mounted under rear seat

12. Body/Exterior:

    a. Power mirrors

b. Utility Truck Bed: Royal Truck Body, 9 foot standard DRW, Model 40-VDO-108, or equivalent.
    i. Length: 108 inches
    ii. Height: 40 inches
    iii. Body Width 79 inches
    iv. Compartment Depth: 22 inches
    v. Floor Width: 49 inches
    vi. Weight: 1570 pounds
    vii. Storage Capacity 81.5 cubic feet
    viii. Safety body prop and all lights and reflectors as required to meet Federal and State requirements.

c. Roof clearance lights

d. Exterior back up alarm

e. Skid plate transfer case and fuel tan

f. Spray-in bed liner

g. Power trailer tow mirrors

h. Electric/Hydraulic lift gate with power closing; diamond plate steel platform; 1,500 lbs lift capacity; Tommy Gate G2 series dual cylinders or equal

i. Reverse sensors

13. Tires/Wheels:

    a. All terrain tires E rating that meets Federal GAWR requirements for GVW submitted.

    b. Full size spare mounted on carrier, on vehicle.

    c. Jack and wheel wrench.

    d. 18 inch 6-Spoke Cast-Aluminum Wheels or manufacturer standard

14. Suspension:

    a. Heavy duty – springs and shock absorbers shall meet manufacturer and Federal GAWR requirements for GVW submitted.

15. Color:

    a. White, Dupont 93-96923 High Gloss Enamel or manufacturer's equal.

b. Chevron markings on lift gate bottom, Omaha orange and white (comparable to existing HDOT Highways Division Fleet).

16. Other:

a. Operator's Manual two (2) copies, Shop Repair Manual one (1) copy, Parts Manual one (1) copy. Book format/CD/DVD.

b. Safety Inspection, License, Registration, and Certificates as required in General Specifications.

c. Complete after factory rustproof, minimum of seven (7) years unlimited mileage warranty, in accordance with Federal Specifications 297A or its latest revision.

d. One (1) each 2.2 kg (5 lbs.) ABC Fire extinguisher mounted in cab.

e. Complete factory towing/electrical. To include wire harness connectors (Cole Hersee male 6-prong, part no. 1236, or equivalent) and 7pin & 4pin plug, under carriage tow receiver (Type IV), 3-inch pintle hook and 2-inch ball combination receiver.

f. Light Bar – Make ECCOESG Model 12-50068-ES or equal; sleek, low-profile strobe; amber color; mounted on the cab in the middle with controls in cab. All cable and wiring shall be conduit protected and shall use grommets through sheet metal panels.

g. Warranty shall be minimum 36 months/36,000 miles (to include all attachments).

h. First Service Kit shall include all required filters (oil, fuel, air, breather, transmission, etc.).

i. First Aid Kit (OSHA/ANSI recommended).

j. Triangle road safety kit

k. Heavy-duty jumper cables

17. Training:

Upon request by receiving agency, Contractor shall provide proper fueling procedure/safe operation and maintenance of equipment. This training shall include a minimum of one (1) hour classroom and one (1) hour per operator hands on training. This service shall be provided at no additional cost to the State. Contractor shall provide classroom site. Training shall be consistent to OSHA requirements.

Copy of attendance record showing class date, time, location, class type, instructor's name, and attendees shall be submitted to:

State of Hawaii, Highways Division
Construction and Maintenance Branch
Attention: Equipment Superintendent/Safety Coordinator
869 Punchbowl Street
Honolulu, Hawaii 96813

SECTION 12 - TRUCK TANK, 4,000 GALLONS

12.1- SCOPE OF WORK - The work consists of furnishing and delivering one (1) only, Truck Tank, 4,000 Gallons to the Island of Hawaii. The Contractor shall present the vehicle/equipment complete, ready to use, and fully operational.

12.2- TRUCK TANK, 4,000 GALLONS - The Specifications contained herein establish minimum standards (unless stated differently). Vehicle/equipment offered shall include any other standard features not listed but detailed in manufacturer's brochures and deemed necessary for proper and safe operation of vehicle/equipment.

DETAILED SPECIFICATIONS FOR A TRUCK TANK, 4,000 GALLONS

1. Model/Year: Truck Tank, 2026 or latest production.
2. GVW Rating: 66,000 lbs. capacity, minimum.
3. Wheelbase: 4,826 mm (190 in.) minimum.
4. Cab:
    a. Aluminum conventional cab with tilt hood or steel conventional cab with tilt hood and manufacturer standard corrosion-perforation warranty.
    b. Steps both sides of cab with 3-point access.
    c. Cab entry handles located both sides of cab, exterior "B" pillar mounted.
    d. Passenger side grab handle, interior mounted on "A" pillar.
    e. Driver seat – manufacturer standard air or hydraulic suspension, with adjustable mechanical lumbar support, front cushion adjustment to include 3-point seat belt
    f. Passenger seat. manufacturer standard air or hydraulic suspension, with adjustable mechanical lumbar support, front cushion adjustment to include 3-point seat belt
    g. Full-width, clear safety glass for rear window. Shall have manufacturer installed or custom built right door peep window and rear quarter/corner windows both sides of cab, or equivalent visibility provided through mirrors or other manufacturer-standard components.
    h. Full instrumentation, including gauges for engine temperature, oil pressure, air pressure, tacho meter, fuel and amp meter/voltmeter.

5. Engine:

   a. PX-9 or equal - Diesel powered, wet sleeved engine or dry sleeved engine with manufacturer's standard engine warranty, minimum 6 years. Emissions compliant, Tier 4. Shall be capable of operating on a B20 blend of bio-diesel without any adverse effects.

   b. Net Horsepower - 380 HP minimum at rated RPM.

   c. Six (6) cylinder.

   d. Heavy duty cooling system, with deaeration system with tank and sight glass.

   e. Low coolant temperature indicator, and audible alarm.

   f. Low oil pressure indicator and audible alarm.

   g. Heavy duty, dry type air cleaner with pop-up restriction indicator.

   h. Oil filter- spin-on type.

   i. DAVCO Fuel Pro 382 fuel/water separator B20 Bio-Diesel compatible, or equivalent.

   j. Engine idle shut down, set at five (5) minutes. Engine shall not shut down when warning lights are in operation.

   k. Single horizontal muffler with after treatment device frame mounted and vertical exhaust pipe with protective shield and rain cap. Shall have two position exhaust switch to inhibit diesel particulate filter regeneration as long as switch is "on" position.

6. Electrical:

   a. Twelve (12) volts.

   b. Battery - Three (3) AGM batteries rated at 2775 CCA.

   c. Alternator - 200 amp minimum, capable of charging at low engine speeds.

   d. Heavy duty transistorized turn signal.

7. Transmission:

    a. Allison 4500 RDS, or equivalent; Water/oil heat exchanger; Automatic transmission oil temperature gauge; Transmission shift control push button/lever; transmission oil cooler.

    b. PTO drive grab must provide a minimum of 17.w (750 feet per minute), pitch line velocity to adequately handle related equipment of the flusher hydrostatic front engine drive.

8. Steering:

    a. Hydraulic power assisted.

    b. Steering wheel 457.2mm (18 in.) diameter.

9. Suspension:

    a. Must meet manufacturers and Federal GAWR requirements for GVW submitted.

    b. Axle, front - 20,000 lbs. capacity, minimum.

    c. Axle, rear - 46,000 lbs. capacity, minimum

    d. Shock absorbers – Heavy duty front.

10. Brakes:

    a. Service - 100% full air; front and rear reserved, 29,338.1 cm3 (1,790 cu. in.) total system capacity, minimum.

    b. Compressor – 373.8 cm3 (13.2 cu. ft.) per minute capacity, minimum. Equipped with pressure gauge and low-air warning buzzer.

    c. Parking/Safety Brakes - Spring-loaded on rear axle; cab-controlled; includes dedicated emergency air tank for brake release.

    d. Retarder ~~-~~/Supplemental Braking - Driveline-mounted Telma or Klam electromagnetic retarder or industry-standard supplemental braking system suitable for heavy vocational water tanker applications. Acceptable systems include driveline-mounted electromagnetic retarders, hydraulic driveline retarders, or transmission-integrated retarders. Unit shall include hand control lever and integrate with foot-brake application.

e. Anti-Lock Brake System (ABS) - Four-wheel ABS with front and rear disc brakes equipped with dust shields

f. Air dryer - Installed, with automatic purge function

11. Frame: Manufacturer standard; Heavy duty and reinforced, double framed 2,500,000 RBM minimum.

12. Fuel Tank: 110 gallon tank; mounted under cab. Locking fuel cap.

13. Wheels: Eight (8) - 24.5 inch x 8.25 inch Alcoa Dura-Bright Polished, or equivalent; Hub Pilot (two (2) Spars to be included)

14. Tires: Front- Three (3) each to match wheel and rated for GVWR, 16-ply tubeless radial (includes spare).
Rear- Five (5) each to match wheel and rated for GVWR, 16-ply tubeless radial (includes spare).

15. Accessories:

a. All as required by law and MVS, MCB, General Order No. 2 as amended.

b. Dual electric windshield wiper and washer.

c. Power windows/locks.

d. Four-way hazard warning switch connected to indicator lights.

e. Two (2) front tow hook.

f. Light Bar – Make ECCOESG Model 12-50068-ES or equal; Sleek, Low Profile Strobe; Amber Color; Mounted on the cab in the middle with controls in cab

g. Light Bar – Make ECCOESG Model 12-50006-ES or equal; Sleek, Low Profile Strobe; Amber Color; Mounted on top of the rear center of the tank in the middle with controls in cab connected to the front cab light bar

h. Air horn mounted on cab.

i. Instrument panel to include, engine tachometer, oil, amp meter, hour meter, and temperature gauges.

j. Mirrors:

k. Powered dual exterior rear view mirrors, 152.4mm (6 in.) x 406.4mm (16 in.) minimum, west coast type or equal, with convex bottom section. All brackets and backs shall be of stainless steel, aluminum or corrosion proof composite. Shall have a down view mirror on passenger door.

l. Clearance lights, reflectors, identification lights and directional lights shall conform with PUC regulations. Shall be LED lighting.

m. Electronic reverse alarm signal.

n. One (1) 4.5 kg (10 lbs.) ABC dry chemical fire extinguisher mounted in cab.

o. Road safety triangle kit; and self-charging four pack Kit Aervoe Super LED Road Flares, shall have yellow housing with red LED lighting. All housing and case shall be etched "HDOT HIGHWAYS".

p. AM/FM/Bluetooth radio. Reverse Camera.

q. Factory installed air condition. Heater/defroster vents.

r. Color – White, Dupont 93-96923 High Gloss Enamel or equal.

TANK

16. Body:

a. Capacity - Tank minimum 15,040 L (4,000 gal.) capacity; tank maximum 15,040 L (4,000 gal.) capacity (OMCO, Rosco, Hydra-Flush, or equal).

b. Tank - The cross section of the tank is to be oval or elliptical, with the longer axis horizontal. Material shall be T304L stainless steel; natural stainless steel exterior finish is acceptable if premium industrial finish is used; bottom section of tank and head to be 3/16 inch T304L-2B minimum; upper section ten (10) gauge T304 stainless steel; surge plates ten (10) gauge T304L stainless steel. Skid mount rails shall be constructed from 3/16 inch stainless steel T304L-2B. The shell skin shall be un-spliced section for the entire length of the tank and be electrically welded longitudinally. Entire tank to be acid bathed, prime coated outside and painted with Sherwin Williams G2A-7603-00 (State buff) urethane or equal. The tank shall be designed so as to give proper load distribution on the truck. Heads are to be convex, dished or flanged and reinforced. A sufficient number of stainless steel surge plates shall be built inside the tank, not more than 1220 mm (48 in.) apart (between surge plates and or heads), so as to minimize surging of the water. Surge plates and baffles may be 10-gauge stainless steel, dished and flanged. Surge plates shall have crawl holes of adequate size to permit a man to pass through, and sufficient additional holes to allow free flow of water to provide complete draining of the tank, crawl holes shall

be staggered. Drafting/self-fill plumbing is not required; optional if standard with tank manufacturer

c. Opening - A T304L manhole of minimum 508 mm (20 in.) diameter is to be provided at the top of the tank; having quick opening; with gasket ~~; constructed to relieve when pressure in tank reaches 34.5 kPa (5lbs. Per square inch)~~. An overflow pipe of 76.2mm (3 in.) minimum diameter shall be provided on the tank centerline, extending down through the bottom of the tank in such a location to clear all truck members. Tank to have float type overload indicator at top front of tank, visible to operator at hydrant, indicating when eighty (80) percent full.

d. Clean Out - A clean out and drain hole shall be provided at the bottom of the tank.

e. Tank Mounting - Full-length tank cradle with manufacture cushioning design to allow for tank flexing; A rear canopy is not required. Full length catwalks on each side of the tank of non-skid tread stainless steel plate shall be provided prior to painting, State buff G2A-7603-00 high gloss urethane or equal. Side walkways may be eliminated if a full-length top walkway with non-skid surface is provided. Flusher to be prime painted, and finish painted with State buff.

f. Tank Accessories - Pump and all components, necessary stainless steel plumbing, and installation shall be completely provided. Pump may be side-mounted if consistent with manufacturer's standard design and meets all performance requirements. Compartment and rear deck to be stainless steel.

g. Pump - Flushing pump shall be single stage high-pressure pump with a vertically slipcase, having a minimum 101.6mm (4 in.) suction, and 101.6mm (4 in.) discharge ports. It shall have a performance capacity of 2,271 1/min (600 gpm) at 100 psi and be capable of maintaining at 266.8 N (60#) pressure, with four (4) nozzles operating. Self-priming pump shall be directly connected to the hydraulic drive motor.

h. Nozzles - Five (5) adjustable flushing nozzles. They shall be bronze, two-piece, horizontally split, slot type, and adjustable swivel in three planes. Lockable in position. Each nozzle shall have a capacity 567.8 1/min (150 gallons per minute) at 344.8 kPa (50 lbs. per square inch) pressure. One (1) nozzle shall be located midway right side between the truck wheels and cab; two (2) mounted at the front corners of the truck; and two (2) mounted at the rear corners of the truck; front of rear nozzles shall have a minimum discharge arc of fifteen (15) degrees; mid ship nozzle should be able to discharge six (6) feet outward and eight (8) feet upward approximately.

i. Top of tank mounted monitor cannon. Remote controlled from inside cab or console.

j. Shall have a spray bar running across rear of truck.

k. Shall be equipped with a hose reel mounted at right side rear area with auto and manual rewind fitted with 338.1m (125 ft.) by 25.4mm (1 in.) hose with an adjustable spray nozzle. Hose shall be connected to the pump. The discharge from the nozzle shall be controlled by remote control valve utilizing air pressure from truck. Truck to be equipped with air control system. There shall be a solenoid-operated valve for each control valve. Solenoids shall be controlled by switch mounted in truck cab.

l. Fire hydrant quick connect adapter and 25 feet length of 2 ½ inch diameter hose for filling from hydrants.

m. Piping - Shall be a stainless steel, in combination with high-pressure rubber water hose for increased flexibility. Suction plumbing size shall match pump inlet size as specified by pump manufacturer (e.g., 4-inch inlet requires 4-inch supply). Piping system to be provided with petcocks or plugs to fully drain pump, valves and entire system. Shall have hydrant filling capabilities mounted at right side rear area.

n. Water Pressure Gauge and Controls - All controls shall be panel-mounted in truck cab and fully operational within easy reach of operator. To include hour meter electric automatic water system pressure control – an electrical sensing system with a quadrant throttle to control water pump speed and reference pressure gauge mounted in cab for operating pressure selection. The operator may change to higher or lower pressure settings by the singe selector dial only. The system shall provide consistent water pressure regardless of water flow or vehicle speed in the range of 3 to 25 MPH. A manual switch at the control panel shall be provided to override the constant pressure sensing system, if necessary. nozzles (Discharge Control) the discharge from each nozzle to be controlled by remote controlled valve with cold water replaceable disc and built-in diaphragm to open and close valve, using air pressure from truck system. All valves to be solenoid activated with controls at panel in cab.

o. Full length fenders, for rear wheels.

17. Hydrostatic Pump Drive: Hydrostatic transmission PTO drive/front engine PTO. Consisting of:

a. Pump – 6.1 C.I.R. closed loop hydro-static pump/transmission

b. Motor – 2.44 C.I.R. bent axis VOAC motor.

18. Hydraulic Components:

a. High-pressure hoses and fittings per SAE standard.

b. Reservoir: Minimum 37.96 (10 gal.) reservoir with dial thermometer.

c. Filter: 10 micron replaceable spin on cartridge type suction filter.

d. Oil Cooler: Radiator mounted cooler.

19. Other:

a. First Service Kit shall include all required filters (oil, fuel, air, breather, transmission, etc.) for truck/tank system.

b. Truck/tank shall be outlined with conspicuity material (tape) along the perimeters. Conspicuity material shall be red and white (reflexite or equal).

c. Four (5) Work lights Make ECCO Model EW3132 or equal; two (2) mounted on the driver side at the top, front and rear of the tank, two (2) on the passenger side at the top front and rear of the tank; one (1) mounted on the rear of the tank

d. Complete after factory rustproof with minimum seven (7) year unlimited mileage requirement warranty. In accordance with Federal Specification 297A or its latest revision.

e. List of factory trained authorized personnel who will provide service.

f. Contractor shall provide the following technical manuals (book format/CD/DVD):

i. Two (2) copies Operator's Manual.
   - One (1) copy Service and Repair Manual.
ii. Two (2) copies Parts Manual.
iii. Two (2) copies each, Service, Parts, and Repair Manuals for hydrostatic pump and components.

g. PUC Certification, License, Registration and Certificates as required in General Specifications.

h. Vehicle shall conform to code of Federal Regulations, Title 40, Part 85, Control of Air Pollution From New Motor Vehicles, Engines, Environmental Protection Agency; Federal Motor Vehicle Safety Standard.

i. Vehicle shall conform to all applicable State, Federal and OSHA requirements, necessary for safety, licensing, registration, and certification purposes.

j. First Aid Kit OSHA/ANSI recommended.

k. Upon "Notice to Proceed", Contractor shall submit "Application" (To State Motor Vehicle Safety Office) to meet the requirements of Section 286-202 (12), Hawaii revised statutes, for approval of a major modification. Construction, or reconstruction of a vehicle with a gross vehicle weight rating (GVWR) of 10,001 pounds and above.

Application is available at:

State of Hawaii
Department of Transportation
Highways Division
Motor Vehicle Safety Office
339 Ponohana Place
Aiea, Hawaii 96701

Copy of approved application shall be submitted at time of delivery.

20. Training:

Bidder shall provide manufacturer training syllabus at time of bid submittal. Contractor shall provide manufacturer training at initial delivery and refresher training one (1) year after initial training for proper and safe operation, maintenance of equipment. This training shall include a minimum of one (1) hour classroom and one (1) hour per operator hands on training. Training shall be consistent to OSHA requirements. This service shall be provided at no extra cost to the State. Copy of attendance record showing class date, time, location, class type, instructor's name and attendees shall be submitted to:

State of Hawaii
Highways Division
Construction and Maintenance Branch
Attn: Equipment Superintendent/Safety Coordinator
869 Punchbowl Street
Honolulu, Hawaii 96813

Bidder(s) shall submit to the Project Manager within five (5) working days after bid opening a certified letter(s) from the manufacturer(s) to certify the prospective bidder as the factory authorized warranty dealer (letter required for both chassis and equipment).

Note:

The new unit shall be capable of carrying the factory rated capacity without adverse effects.

SECTION 13 - CAB/CHASSIS WITH 7 CUBIC YARD DUMP BODY AND 17 TON HOIST

13.1- SCOPE OF WORK – The work consists of furnishing and delivering two (2), Cab/Chassis with Seven (7) Cubic Yard Dump Body and Seventeen (17) Ton Hoist to the Island of Hawaii. The contractor shall present the vehicle complete, ready to use and fully operational.

13.2- CAB/CHASSIS WITH 7 CUBIC YARD DUMP BODY – The specifications contained herein establish minimum standards (unless stated differently). Vehicle offered shall include any other standard features not listed but detailed in manufacturer's brochures and deemed necessary for proper and safe operation of vehicle.

DETAILED SPECIFICATIONS FOR A CAB/CHASSIS WITH 7 CUBIC YARD DUMP BODY

1. Model/Year: Dump Truck, 2026 or latest production year.
2. GVW Rating: 15,876 kg (35,000 lbs.) minimum capacity.
3. Wheel Base: 3,680.8 mm (152 in.) minimum.
4. Cab to Axle: 2,108.2 mm (83 in.) minimum.
5. Axle to Frame: 1,600.2 mm (63 in.) minimum.
6. Engine:
    a. Diesel powered, wet sleeved engine or dry sleeved engine with manufacturer's standard engine warranty, minimum 6 years. 2018 emissions compliant, Tier 4.
    b. Liquid cooled with deaeration system with tank and sight glass. Silicone radiator and heater hoses.
    c. Six (6) cylinders.
    d. Net horsepower: 223.7kw (300 HP) minimum at rated RPM.
    e. Fuel water separator (Racor Model 21000) or manufacturer's equal.
    f. Heavy duty dry type air cleaner with pop-up restriction indicator.
7. Exhaust: Single horizontal muffler with after treatment device, frame mounted and vertical exhaust pipe with protective shield with rain cap. Shall have two position exhaust switch to inhibit diesel particulate filter regeneration as switch is in "on" position.

8. Transmission:

    a. Automatic Allison MD 3500RDS-P, rugged duty service. 935 lb. ft. torque, or equal.

    b. Water/oil heat exchange.

    c. PTO: Hot Shift PTO with piggyback pump (Chelsea 230XKAJX-A3XE or equal).

    d. Automatic transmission oil temperature gauge.

    e. Transmission shift control – push button/lever.

    f. Transmission oil cooler.

9. Axle:

    a. Front: 6,350.4 kg (14,000 lbs.) capacity, minimum.

    b. Rear: 10,433 kg (23,000 lbs.) capacity, minimum single reduction with 200 wheel end (Spicer W-230S or equivalent).

10. Springs:

    a. Front: 6,350.4 kg (14,000 lbs.) heavy-duty capacity, minimum.

    b. Rear: 10,433 kg (23,000 lbs.) capacity, minimum.

    c. Auxiliary Rear: 2,041.2 kg (4,500 lbs.) capacity, minimum.

    d. Note: Front and rear springs shall not bottom out at maximum vehicle load capacity set by the manufacturer (the State carries various materials at various weights).

11. Shock Absorbers: Heavy Duty front.

12. Wheels:

    a. Seven (7) each, disc type, hub piloted; Same size single front, dual rear, and spare.

    b. 22.5 x 7.5 or 22.5 x 8.5, 10-stud DC rims, compatible with GVW and tire size.

13. Tires:

    a. Seven (7) each, truck, tubeless type, same size single front, dual rear, and spare. 11R 22.5, 16-ply load range H.

b. Dual rear wheels shall be able to accept any brand of tire; tires shall not touch when inflated and loaded.

14. Brakes:

a. Dual air system with 18.7 CFM compressor, anti-lock with air dryer, and pressure gauge with low air warning buzzer.

b. Parking piggyback, spring actuated, double diaphragm: Anchor lock, MGM or equal.

c. Safety spring loaded on rear axle, cab controller emergency air tank for release.

d. Trailer hand control brake lever mounted on steering column and tractor protection valve.

e. Non-asbestos material.

f. Anti-lock brake system.

g. Retarder – Telma Retarder, driveline mount with handle lever positioner, or equivalent hydraulic retarder with comparable performance.

15. Steering: Powered.

16. Electrical:

a. Dual twelve (12) volt batteries. Gel type maintenance free, batteries shall have the rating of 2775 CCA, minimum. Aluminum battery storage box.

b. Alternator: 200 amp minimum, capable of charging at low engine speed.

c. Electrical brake controller wired to seven-way receptacle at rear pintle hitch. Control switch within view and reach of driver.

17. Cab:

a. Aluminum conventional cab with tilt hood or steel conventional cab with tilt hood and seven (7) year unlimited warranty..

b. Complete head lining.

c. Cab shall include manufacturer-installed or custom visibility features providing equal or better visibility than right-side peep windows and rear corner windows. Acceptable systems include look-down mirrors, convex mirrors, enlarged rear window glass

panels, or equivalent visibility solutions. Peep windows and rear corner windows are optional when alternate visibility components are provided.

d. Individual seats for driver and passenger with safety belts, driver's seat shall be air suspension type (Bostrom Freedom XC or equal), with adjustable mechanical lumbar support, front cushion adjustment, vinyl material. Passenger seat shall be two-man passenger, vinyl.

e. Steps and grab handles located both sides of cab. Allow for 3-point contact.

f. Floor mats.

g. Sun visor for driver and passenger.

h. Factory installed air condition.

18. Chassis Frame: Heat treated alloy steel 120,000 psi yield, minimum.

19. Dump Body:

a. Contractor's Type – 5.4m (7 cubic yards).

b. Dimensions – 3.m length x 2,209.8mm width x 863.6mm height (10 ft. x 87 in. x 34 in.) with steel side board 3.m x 50.4mm x 203.2mm (10 ft. x 2 in. x 8 in.), to be installed on left and right sides atop dump box. 1,066.8 mm (42 inch) tailgate.

c. Headboard and sides – minimum 8 gauge steel. Shall be 100,000 yield PSI; 110,000 tensile PSI minimum.

d. Floor and tailgate – minimum 4.76mm (3/16 in.) minimum eight (8) gauge steel. Shall be 145,000 yield PSI; 180,000 tensile PSI minimum. Tailgate shall be full boxed framed.

e. Head board with half cab shield fully welded between dump body and headboard.

f. Grab bar on driver side front top of box; grab bar outside of box on both sides above rear tires.

g. Horizontal bracing.

h. Dump box shall be equipped with the following: 304.8mm (12 inches) spreader apron; four (4) lashing hooks on each side of box and two (2) lashing hooks on tailgate; flat (not angled) running board or catwalk to extend out along each bottom side of box with safety threads or a painted on non-slip coating (no metal grating).

i. Safety step ladder slide out left and right side, with grab handles for 3-point contact.

j. High Lift Air tailgate with controls in cab.

k. Pull tarp automatic load cover (one man operation), retractable, with steel protector shield.

l. ~~Shall be lined inside with spray on liner minimum of 6.35mm (1/4 inch) thickness (liner shall be compatible with hot/cold asphalt mix).~~

20. Hoist:

a. 15,422 kg (17 ton) minimum capacity, class 60.

b. Under-body mounted with safety locks.

c. Control levers with safety lock mounted on floorboard of cab (right side of driver's seat).

d. There shall be a stopper block designed to lock dump body and hoist in place, in the event of a weld failure at dump box frame and hoist connected while dump is being operated.

21. Bumper:

a. Heavy duty front bumper with 16,000 lbs. warn winch or equal mounted in bumper

b. One (1) or two (2) tow hooks mounted on front bumper or chassis front frame.

c. Pintle hook with two "D" rings, 8,164.6 kg (9 ton) minimum tow capacity, a Holland Hitch CP400H or equal. Mounted on rear "A" bracket frame. Center of hitch to be mounted approximately 711.12 mm (28 in.) from ground.

22. Preparation: All bare metal shall be treated with OSPHO and primed prior to application of finish coat on dump body.

23. Other:

a. Dual step-type fuel tanks, 189.3 L (50 gal.) minimum capacity each, with additional swing step for both sides. Single fuel tanks, 378.5 L (100 gal.), are also allowed. Aluminum construction with locking tank cap(s).

b. Full radiator gravel guard.

c. Air horn.

d. Glad hands and plumbing with electrical wire connection (Warner 13-281-001 or equal) mounted at rear. Additional Cole Hersee #12063 six (6) prong socket trail hook-up, or equivalent, shall also be mounted at rear. All electrical connectors to include both male and female connectors.

e. Instrument Panel:

i. Gauges; coolant temperature, fuel, tachometer, amp meter, oil pressure, air pressure, and hour meter.
ii. Parking brake control dash mounted.
iii. Water in fuel warning light and buzzer; low oil pressure, low coolant level, and high coolant temperature.
iv. AM/FM radio.
v. Twelve (12) volt power accessory outlet.

f. Mirrors: Dual exterior rear view mirrors (aluminum or stainless steel backs/bracket or non corrosive composite type), 152.4 mm x 406.4 mm (6 in. x 16 in.) minimum, West Coast type or equal, with convex bottom section. Power type.

g. Clearance lights, reflectors, identification lights, and directional lights shall conform with PUC regulations.

h. Anti-sail mud flaps, front and rear tire.

i. Electronic reverse alarm.

j. One (1) 2.2 kg (5 lbs.) ABC dry chemical fire extinguisher mounted in cab.

k. Road safety triangle kit and four-pack PF200 Power Flare Safety Light, with carry bag. Power Flare shall have yellow housing with red LED lighting. All housing shall be etched “HDOT HIGHWAYS”.

l. Light Bar – Make ECCOESG Model 12-50068-ES or equal; sleek, low profile strobe; amber color; mounted on the cab in the middle with controls in cab.

m. Color – White, Dupont 93-96923 high gloss enamel or equal; Chevron markings on tailgate – Omaha orange and white (comparable to existing HDOT Highways Division Fleet).

n. Complete after factory rust proofing, with minimum seven (7) year, unlimited mileage requirement warranty. In accordance with Federal Specifications 297A at its latest revision.

o. PUC Certification, License, Registration, and Certificates as required in General Specifications.

p. Vehicle shall conform to Code of Federal Regulations, Title 40, Part 85, Control of Air Pollution from New Motor Vehicles, Engines, Environmental Protection Agency; Federal Motor Vehicle Safety Standards.

q. Vehicles shall conform to all applicable State, Federal and OSHA requirements necessary for licensing, registration and certification process.

r. Technical resources: One (1) copy of Repair Manual, one (1) copy of Parts Catalog, two (2) copies of Operator's Manual. Book format/CD/DVD.

s. First Service Kit shall include all required filters (oil, fuel, air breather, transmission, etc.).

t. Vehicle shall be outlined with conspicuity material tape, along the perimeters. Conspicuity material shall be red and white (reflexite or equal).

u. 457.2mm (18 inches) x 457.2mm (18 inches) x 1,066m (42 inches) aluminum weather proof frame mounted lockable toolbox.

v. First Aid Kit, OSHA/ANSI recommended.

w. Upon "Notice to Proceed", Contractor shall submit "Application" (To State Motor Vehicle Safety Office) to meet the requirements of Section 286-202 (12), Hawaii Revised Statutes for approval of a major modification, construction, or reconstruction of a vehicle with a gross vehicle weight rating (GVWR) of 10,001 pounds and above.

   Application is available at:

   Hawaii Department of Transportation
   Motor Vehicle Safety Office
   601 Kamokila Boulevard, #511
   Kapolei, Hawaii 96707

   Copy of approved application shall be submitted at time of delivery.

24. Training:

Contractor shall provide proper and safe operation, maintenance of equipment. This training shall include a minimum of one (1) hour classroom and one (1) hour per operator hands-on training. Training shall be consistent to OSHA requirements. This service

shall be provided at no additional cost to the State. Contractor shall provide classroom site.

Copy of attendance record showing class date, location, class type, instructor's name and attendee's shall be submitted to:

Hawaii Department of Transportation
Construction and Maintenance Branch
Attn: Equipment Superintendent/Safety Coordinator
869 Punchbowl Street #301
Honolulu, Hawaii 96813

25. Bidder(s) shall submit to the Project Manager within five (5) working days after bid opening a certified letter(s) from the manufacturer(s) to certify the prospective bidder as the Factory Authorized Warranty Dealer (letter required for both chassis and equipment).

26. Note:

The new unit shall be capable of carrying the factory rated capacity without adverse effects.

SECTION 14 – CAB/CHASSIS WITH 2 ½ CUBIC YARD DUMP BODY

14.1- SCOPE OF WORK – The work consists of furnishing and delivering one (1), Cab/Chassis with 2 ½ Cubic Yard Dump Body to the Island of Hawaii. The contractor shall present the vehicle complete, ready to use and fully operational.

14.2- CAB/CHASSIS WITH 2½ CUBIC YARD DUMP BODY – The specifications contained herein establish minimum standards (unless stated differently). Vehicle offered shall include any other standard features not listed but detailed in manufacturer's brochures and deemed necessary for proper and safe operation of vehicle.

DETAILED SPECIFICATIONS FOR A CAB/CHASSIS WITH 2 ½ CUBIC YARD DUMP BODY

1. Model/Year: Dump Truck, 2026 or latest production.
2. GVW Rating: 11,753.6 kg (26,000 lbs.) capacity maximum.
3. Wheel Base: 3,680.8 mm (152 in.) minimum.
4. Cab to Axle: 2,108.2 mm (83 in.) minimum.
5. Axle to Frame: 1,600.2 mm (63 in.) minimum
6. Engine:
    a. Diesel powered, wet sleeved engine or dry sleeved engine with manufacturer's standard engine warranty, minimum 6 years. 2016 emissions compliant, Tier 4. Shall have capability of operating on a B20 blend of bio-diesel, with no adverse effects.
    b. Liquid cooled with deaeration system with tank and sight glass, full radiator guard.
    c. Silicone cooling hoses.
    d. Six (6) cylinders.
    e. Net horsepower 223.7 kW (300 HP) minimum, at rated RPM. 1,150 ft. lb. torque.
    f. Fuel water separator DAVCO Fuel Pro 382, or equivalent.
    g. Engine compression brake, exhaust brake shall be rejected.

7. Exhaust: Single horizontal muffler with after treatment device, frame mounted and vertical exhaust pipe with protective shield with rain cap. Shall have two position exhaust switch to inhibit diesel particulate filter regeneration as switch is in "on" position.

8. Transmission:

   a. Automatic, close ratio, 6-speed, with PTO gear (Allison MD-3060P or equal).

   b. Transmission shift control – push button with lockout or lever type.

   c. PTO power shift.

   d. Automatic transmission oil temperature gauge.

   e. Transmission oil cooler.

9. Axle:

   a. Front – 3,628.8 kg (8,000 lbs.) capacity, minimum.

   b. Rear – 7,938 kg (17,500 lbs.) capacity minimum.

      i. 180/190 wheel ends.
      ii. Gear ratio – manufacturer recommended to meet criteria of both highways (including up/down hill terrain) and off road hauling and dumping of various materials (density and weight).

10. Springs:

   a. Front – 4,082.4 kg (9,000 lbs.) capacity, minimum.

   b. Rear – 8,618.4 kg (19,000 lbs.) capacity, minimum.

   c. Auxiliary Rear – 1,360.8 kg (3,000 lbs.) capacity, minimum.

   d. Note – Front and Rear springs shall not bottom out at maximum vehicle load capacity set by the manufacturer (the State carries various materials at various weights).

11. Shock Absorbers: Heavy Duty front and rear.

12. Wheels:

a. Seven (7) each, disc type, hub piloted; Same size single front, dual rear, and spare.

b. 22.5 x 7.5, 10-stud DC rims with steel hubs.

13. Tires

a. Seven (7) each, truck, tubeless type, same size single front, dual rear, and spare. 10R 22.5, 14-ply load range G, minimum.

b. Dual rear wheels shall be able to accept any brand of tire; tires shall not touch when inflated and loaded.

14. Brakes:

a. Dual air system 22.4m3 /h (13.2 cubic feet) compressor, with air dryer, and pressure gauge with low air warning buzzer.

b. Safety spring loaded on rear axle, cab controller emergency air tank for release.

c. Parking piggyback, spring actuated, double diaphragm: Anchor lock MGM or equal.

d. Front and rear disc brake system.

e. Anti-lock brake system. Traction control.

15. Steering: Powered.

16. Electrical:

a. Dual twelve (12) volt battery. AGM type batteries shall have the rating of 1250 CCA, minimum.

b. Alternator: 115 amp minimum, capable of charging at low engine speed.

17. Cab:

a. Aluminum cab with tilt hood or steel conventional cab with tilt hood and manufacturer standard warranty.

b. Complete head lining.

c. Clear safety glass on rear window. Shall have manufacturer installed or custom built right door lower peep window and rear quarter/corner windows both sides of cab, or other means to provide equal view.

d. Seating for two (2), vinyl upholstery, seat belts for two (2) people; high back air ride seats.

e. Steps and grab handles located on both sides of cab, allowing for 3-point contact upon entering/disembarking.

f. Floor mats.

g. Sun visor for driver and passenger.

h. Factory installed air condition, heater, defroster, and vent system.

i. AM/FM/Bluetooth radio; Reverse Camera.

j. Power windows and locks; Rain guards both doors.

18. Chassis Frame: High strength low alloy steel (120,000 psi yield); 2,136,000in./lbs. per rail.

19. Dump Body:

a. Dimensions - 3,048 mm (10 ft.) length, 2,133.6 mm (7 ft.) width, 304.8 mm (12 in.) high, minimum measurements. With wood side boards, 3,048 mm (10 ft.) long, 50.8 mm (2 in.) thick, 304.8 mm (12 in.) high; to be installed on left and right sides, at top of dump box.

b. Drop-side extenders (cheater boards) – 3,048 mm (10 Ft.) length, 2,133.6 mm (7 ft.) width, 609.6 mm (24 in.) high, minimum measurements.

c. Automated retractable load cover with steel protector system, mounted at front of dump box.

d. Head board and sides: Ten (10) gauge steel minimum.

e. Floor and tailgate: Eight (8) gauge steel minimum. Tailgate shall be double paneled.

f. Dump box shall be furnished with four (4) lashing hooks of each side of box and three (3) lashing hooks on tailgate.

g. Headboard with half-cab shield, fully welded between dump body and headboard.

h. Light Bar – Make ECCOESG Model 12-50068-ES or equal; sleek, low profile strobe; amber color; mounted on the cab in the middle with controls in cab.

i. Shall be lined inside with spray on liner minimum of 6.35 mm (1/4 in.) thickness (liner shall be compatible with asphalt).

j. Air actuated tailgate release, with controls in cab. Four-way tailgate.

20. Hoist:

a. 9,071.8 kg (10 ton) minimum lift capacity.

b. Under-body mounted with safety locks.

c. Control levers with safety lock mounted on floorboard of cab (right side of driver seat).

d. Safety drop leg.

e. There shall be a stopper block designed to lock dump body and hoist in place, in the event of a weld failure at dump box frame and hoist connection while dump is being operated.

21. Bumper:

a. Heavy duty front bumper.

b. One (1) or two (2) tow hooks mounted on front bumper or chassis front frame.

c. Pintle hook with two (2) "D" rings, 8,164.6 kg (9 ton) minimum tow capacity, a Holland Hitch PH30 or equal, mounted at rear "ICC" bracket frame. Center of hitch to be mounted approximately 711.2 mm (28 in.) from ground.

22. Preparation: All bare metal shall be treated with OSPHO and primed prior to application of finish coat on dump body.

23. Other:

a. Step-type fuel tank, 189.3 L (50 gal.) capacity, including seven (7) gallon DEF tank minimum.

b. Full radiator gravel guard.

c. Air horn.

d. Anti-sail mud flaps, front/rear tire.

e. Instrument Panel:

- Gauges: Coolant temperature, fuel, tachometer, ammeter/volt meter, oil pressure, and hour meter.
- Parking brake control dash mounted.
- Warning light: Water in fuel.
- Warning light and buzzer: Low oil pressure, low coolant level, and high coolant temperature.

f. Mirrors: Powered dual exterior rear view mirrors (backs and brackets shall be aluminum or stainless steel or non-corrosive composite type), approximate 152.4 mm x 406.4 mm (6 in. x 16 in.) minimum, West Coast type or equal, with convex bottom section. Passenger door down view mirror.

g. Clearance lights, reflectors, identification lights, and directional lights shall conform with PUC regulations.

h. Electronic reverse alarm.

i. One (1) 2.2 kg (5 lbs.) ABC dry fire extinguisher mounted in cab.

j. Road safety triangle kit; and self-charging four pack kit AERVOR Super LED Road Flares, shall have yellow housing with red LED lighting. All housing and case shall be etched "HDOT Highways".

k. Glad hands with complete air plumbing/connections with electrical six-wire (Cole Hersee, or equivalent) connector mounted at rear. With tractor protection valve and hand control lever. Electric brake controller wired to seven-way receptacle; Control switch shall be mounted within operator reach.

l. Color – White, Dupont 93-96923 High Gloss Enamel or manufacturer's equal; Chevron markings on tailgate – Omaha orange and white (comparable to existing HDOT Highways Division Fleet. Vehicle shall be outlined with conspicuity material tape along the perimeters. Conspicuity material shall be red/white (reflexite or equal).

m. Complete after factory rust proofing, with minimum seven (7) year, unlimited mileage requirement warranty. In accordance with Federal Specifications 297A at its latest revision.

n. PUC Certification, License, Registration and Certificates as required in General Specifications.

o. Vehicle shall conform to Code of Federal Regulations, Title 40, Part 85, Control of Air Pollution from New Motor Vehicles, Engines, Environmental Protection Agency; Federal Motor Vehicle Safety Standards.

p. Vehicles shall conform to all applicable State, Federal and OSHA requirements necessary for licensing, registration and certification process.

q. Technical resources: One (1) copy of Repair Manual, one (1) copy of Parts Catalog, two (2) copies of Operator's Manual. Book format/CD/DVD.

r. First Service Kit shall include all required filters (oil, fuel, air, breather, transmission, etc.).

s. DAVCO Shop Pro, Model FXP, Part No. 782050DAV01-07 with regulator, filtration equipment, or equivalent. To include Manufacturer training for mechanics.

t. Aluminum weather proof frame mounted lockable toolbox approximate measurement 457.2 mm (18 in.) x 457.2 mm (18 in.) x 914.4 mm (36 in.).

u. Upon "Notice to Proceed", contractor shall submit "Application" (To State Motor Vehicle Safety Office) to meet the requirements of Section 286-102 (12), Hawaii Revised Statutes, for approval of a major modification, construction, or reconstruction of a vehicle with a gross vehicle weight rating (GVWR) of 10,001 pounds and above.

Application is available at:

Hawaii Department of Transportation
Motor Vehicle Safety Office
601 Kamokila Boulevard, #511
Kapolei, Hawaii 96707

Copy of approved application shall be submitted at time of delivery.

24. Training:

Contractor shall provide proper and safe operation, maintenance of equipment. This training shall include a minimum of one (1) hour classroom and one (1) hour per operator hands-on training.

Training shall include manufacturer training for the equipment.

Training shall be consistent to OSHA requirements. This service shall be provided at no additional cost to the State. Contractor shall provide classroom site.

Copy of attendance record showing class date, location, class type, instructors name and attendee's shall be submitted to:

Hawaii Department of Transportation
Construction and Maintenance Branch
Attn: Equipment Superintendent/Safety Coordinator
869nchbowl Street
Honolulu, Hawaii 96813

25. Bidder(s) shall submit to the Project Manager within five (5) working days after bid opening a certified letter(s) from the manufacturer(s) to certify the prospective bidder as the Factory Authorized Warranty Dealer (letter required for both chassis and equipment).

26. Note:

The new unit shall be capable of carrying the factory rated capacity without adverse effects. The unit shall be designed for both highway and off-road hauling and dumping of various materials (density and weight).

SECTION 15 - SIX (6) MAN CREW CAB ONE (1) TON DUMP WITH LIFT GATE

15.1- SCOPE OF WORK - The work consists of furnishing and delivering one (1) only Six (6) Man Crew Cab - One (1) Ton Dump, to the Island of Hawaii. The Contractor shall present the equipment complete, ready to use, and fully operational.

15.2- SIX (6) MAN CREW CAB ONE (1) TON DUMP WITH LIFT GATE - The Specifications contained herein establish minimum standards (unless stated differently). Equipment offered shall include any other standard features not listed but detailed in manufacturer's brochures and deemed necessary for proper and safe operation of equipment.

DETAILED SPECIFICATION FOR A SIX (6) MAN CREW CAB ONE (1) TON DUMP WITH LIFT GATE

1. Model/Year: Pickup Truck, 2025 or latest production.
2. Type: 2X4 two wheel drive
3. GVW Rating: 19,500 lbs. minimum capacity.
4. Wheel Base: 137 inches minimum.
5. Engine:
   a. 6.7 liter power stroke diesel or equal with engine idle shutdown.
   b. Fuel (diesel) tank (40 gallons) minimum.
   c. Heavy duty cooling system.
6. Transmission:
   a. 6-speed Automatic Transmission with tow/haul mode, minimum.
   b. Transmission oil cooler.
   c. Auxiliary transmission oil cooler.
7. Axle: 3.55 gear ratio posi-locking rear differential.
8. Electrical System: Twelve (12) volt with heavy duty alternator (157 amp minimum)
9. Steering: Power or power assisted.

10. Brakes:

    a. Power or power assisted 4-wheel disc brake.

    b. Anti-lock brake system.

    c. Exhaust/engine brake

11. Cab/Interior:

    a. Crew Cab, Four (4) Doors

    b. Front - Bench seat (40/20/40 split bench seat) heavy duty vinyl material.

    c. Rear - Bench seat, heavy duty vinyl material.

    d. Driver and passenger air bag

    e. Interior rear view mirror with glare control.

    f. Power windows and power door locks.

    g. Floor covering vinyl/rubber with insulation.

    h. AM/FM radio with bluetooth.

    i. Husky Liner floor mats (front & rear) or equal.

    j. Factory installed air conditioning.

    k. Rain guards or vent shades on all doors.

    l. Twelve (12) volt power accessory outlet.

    m. Trailer brake controller

    n. Upfitter switches (4)

    o. 2500 Watt Power Inverter mounted under rear seat

12. Body/Exterior:

    a. Power mirrors

b. Cargo Box: 2-yard cubic drop side dump body minimum, 3 yard maximum, Knapheide KDBDS912, or equal. Ends & sides of minimum 12-gauge, floor of minimum 10-gauge 50,000 PSI yield high strength alloy steel. 8' long x 78" inside width with 14" high sides, 20" high tailgate, 35" bulkhead. Bulkhead to be furnished with minimum ¼, maximum ½-cab protector shield and rear-view mirror, cut out with screen. 7" interlocking longsills. Side board pocket extensions with rumber removable 6" "cheater" boards. Mud flaps fore and aft of rear wheels. Safety body prop and all lights and reflectors as required to meet Federal and State requirements.

c. Hoist: Underbody subframe scissor hoist, 6.8-ton light capacity, single acting, NTEA performance class 10. Electric pump with push button control, mounted in cab near diver side

d. Roof clearance lights

e. Exterior back up alarm

f. Skid plate transfer case and fuel tank

g. Spray-in bed liner

h. Power trailer tow mirrors

i. Reverse sensors

j. 16,000 lbs (minimum) Winch with remote mounted on front of vehicle.

13. Tires/Wheels:

a. All terrain tires E rating that meet Federal GAWR requirements for GVW submitted.

b. Full size spare mounted on carrier, on vehicle.

c. Jack and wheel wrench.

d. 18 inch 6-Spoke Cast-Aluminum Wheels if manufacturer standard

14. Suspension:

a. Heavy duty – springs and shock absorbers shall meet manufacturer and Federal GAWR requirements for GVW submitted.

15. Color:

a. White, Dupont 93-96923 High Gloss Enamel or manufacturer's equal.

b. Chevron markings on dump box gate bottom, Omaha orange and white (comparable to existing HDOT Highways Division Fleet).

16. Other:

a. Operator's Manual two (2) copies, Shop Repair Manual one (1) copy, Parts Manual one (1) copy. Book format/CD/DVD.

b. Safety Inspection, License, Registration, and Certificates as required in General Specifications.

c. Complete after factory rustproof, minimum of six (6) years unlimited mileage warranty, in accordance with Federal Specifications 297A or its latest revision.

d. One (1) each 2.2 kg (5 lbs.) ABC Fire extinguisher mounted in cab.

e. Complete factory towing/electrical. To include wire harness connectors (Cole Hersee male 6-prong) and 7pin & 4pin plug, under carriage tow receiver (Type IV), 3-inch pintle hook and 2 inch ball combination receiver.

f. Light Bar – Make ECCOESG Model 12-50068-ES or equal; sleek, low profile strobe; amber color; mounted on the cab in the middle with controls in cab. All cable and wiring shall be conduit protected and shall use grommets through sheet metal panels.

g. Warranty shall be minimum 36 months/36,000 miles (to include all attachments).

h. First Service Kit shall include all required filters (oil, fuel, air, breather, transmission, etc.).

i. First Aid Kit (OSHA/ANSI recommended).

j. Triangle road safety kit

k. Heavy duty jumper cables

17. Training:

Upon request by receiving agency, Contractor shall provide proper fueling procedure/safe operation and maintenance of equipment. This training shall include a minimum of one (1) hour classroom and one (1) hour per operator hands on training. This service shall be provided at no additional cost to the State. Contractor shall provide classroom site. Training shall be consistent to OSHA requirements.

Copy of attendance record showing class date, time, location, class type, instructor's name, and attendees shall be submitted to:

State of Hawaii, Highways Division
Construction and Maintenance Branch
Attention: Equipment Superintendent/Safety Coordinator
869 Punchbowl Street
Honolulu, Hawaii 96813

SECTION 16 - REGENERATIVE AIR SWEEPER, TRUCK MOUNTED

16.1- SCOPE OF WORK - The work consists of furnishing and delivering two (2) only, Regenerative Air Sweepers Truck Mounted, one (1) each to the island of Hawaii and one (1) each to the island of Kauai. The Contractor shall present the vehicle/equipment complete, ready to use, and fully operational.

16.2- REGENERATIVE AIR SWEEPER, TRUCK MOUNTED - The Specifications contained herein establish minimum standards (unless stated differently). Vehicle/equipment offered shall include any other standard features not listed but detailed in manufacturer's brochures and deemed necessary for proper and safe operation of vehicle/equipment.

DETAILED SPECIFICATION FOR A REGENERATIVE AIR SWEEPER, TRUCK MOUNTED

1. Model/Year: Air Sweeper Truck, 2026 or latest production, with Schwarze A8000, Tymco 600, Elgin Crosswind1, or approved equal.

2. Type:

   a. Four-wheeled, truck mounted.

   b. Regenerative Air, Vacuum.

   c. Front wheel-steered. Dual steering and controls.

   d. Diesel powered.

3. Hopper:

   a. Volumetric capacity 4.59 cum (6.0 cu. yd.) minimum.

   b. Variable dump height of 609.6mm (24in.) to 3,600mm (144in.) minimum, or single dump height of 1,524mm (60in.).

   c. Hopper lift arid dump control - located in cab.

   d. Position indicator, to include audible sound when hopper is lifted.

   e. Shall be constructed of 304 stainless steel, including door, screens and dust separator.

4. Dimensions:

   a. Wheelbase maximum 4,166mm (164 in.).

   b. Turning radius maximum 6,959mm (22 ft. 10 in.).

c. Maximum height 3,200.4mm (126 in.).

d. Maximum width, brooms retracted 2,590.8mm (8 ft. 6 in.).

5. Cab:

a. Full enclosed cab over- Aluminum or galvanized steel construction (with ten (10) year unlimited warranty) - rubber mounted to frame for isolation; cab tilt assist system for access to engine/transmission.

b. Single operator, dual steering and controls.

c. Dust and weather sealed.

d. Ventilation (in dash) fresh air/heater.

e. Air condition - in dash.

f. Adjustable bucket-type adjustable seats with lumbar support; seat belts; air suspension type (Bolstrom T series or equal).

g. Powered West Coast style mirrors with spot mirrors, two (2) each; aluminum/stainless steel/corrosion proof composite backs and brackets. Passenger door down view mirror.

h. Windshield wipers - Two speed electric with washer.

i. Power windows and locks.

j. Two (2) sun visor.

k. Low exit steps and grab handles shall be mounted, for safety, easy access and exit (3-point contact) to cab.

l. 2.2 kg (5 lbs.) ABC fire extinguisher, mounted in cab.

m. Road safety triangle kit; and self-charging four pack kit Aervoe Super LED Road Flares, shall have yellow housing with red LED lighting. All housing and case shall be etched "HDOT HIGHWAYS".

n. AM/FM/Bluetooth Radio; Reverse Camera.

o. Twelve (12) volt accessory outlet.

6. Power Unit: (Truck)

a. Diesel powered, wet sleeved engine or dry sleeved engine; with manufacturer's standard engine warranty, minimum 6 years. 2016 emissions compliant, Tier 4.

b. 223.7 kW (300 HP) at rated RPM required minimum.

c. Six (6) cylinder minimum.

d. 190 L (50 gals.) fuel capacity minimum. Fuel water separator, DAVCO Fuel Pro 382, or equivalent.

e. Single Stage dry type air cleaner with safety element and restriction indicator.

f. Shall be equipped with an engine compression brake or exhaust brake.

g. Single muffler with after treatment device frame mounted or manufacturer standard. Two position switch to inhibit diesel particulate filter regeneration, as long as the switch is "on" position.

7. Power Unit: Sweeper auxiliary engine. The following section only applies to dual-engine machine offerings and shall not be required for single-engine machines.

a. Diesel - liquid cooled. 2016 emissions compliant, Tier 4.

b. 115 HP governed at 2,400 RPM minimum.

c. Four (4) cylinder minimum.

d. Fuel 190 L (50 gal.) common minimum. Including nine (9) gallon DEF tank minimum.

e. Two stage dry type air filter with safety element; restriction indicator (mounted in cab).

f. Fuel water separator. DAVCO Fuel Pro 382, or equivalent.

g. Engine and radiator shall be vibration isolated.

h. High temperature shut down system.

i. Sweeper to have mounted in cab, tachometer, hour meter, voltage meter, oil pressure, and temperature, air intake restriction indicator.

j. Engine housing shall have dual access doors, for full access for daily maintenance at ground level.

8. Chassis:

   a. GVW - 14,968.8 kg (33,000 lbs.) minimum.

   b. Wheel Base - 3,073.4mm (121 in.) minimum.

   c. Cab to Axle - 2,311.4mm (91 in.) minimum.

9. Steering: Power or power assisted.

10. Transmission: Automatic with oil cooler; Allison MD3060 or equal. 6-speed or equal; controls located within easy reach of driver on both driver stations; transmission oil temperature gauge; magnetic oil drain plug.

11. Axle:

    a. Front axle - 5,443.2 kg (12,000 lbs.); front spring suspension 5,896.8 kg (13,000 lbs.) minimum; heavy duty shock absorbers.

    b. Rear Axle - 9,525.6 kg (21,000 lbs.); rear suspension 10,659.6 kg (23,500 lbs.) minimum, multi leaf spring suspension or air bag suspension; heavy duty shock absorbers; dual speed, ratio 5.38/7.50:1 or manufacturers recommendation.

12. Wheels:

    a. Seven (7) each, disc type: Same size single front, dual rear and spare.

    b. 22.5 x 7.5, 10-hole DC rims with steel hubs.

13. Tires:

    a. Seven (7) each, truck tubeless type, same size single front, dual rear, and spare. 11R22.5G, 14-ply minimum.

    b. Dual rear wheels shall be able to accept any brand of tire; tires shall not touch when inflated and loaded.

14. Brakes:

    a. Full air brakes with 22.4m3/h (13.2 cu. ft.) compressor.

    b. Equipped with air dryer, and pressure gauge with low air warning buzzer.

    c. Safety spring loaded on rear axle, cab controlled emergency air tank for release.

    d. Piggyback, spring actuated, double diaphragm; anchor lock, MGM or equal.

    e. Front and rear disc or drum brake system.

    f. Anti-lock brake system; Traction Control.

15. Electrical:

    a. Minimum 150 amp alternator for chassis.

    b. Minimum 65 amp alternator for sweeper, if required.

    c. Two (2) 12-volt 750 CCA maintenance free AGM batteries for chassis.

    d. One (1) 850 CCA maintenance free AGM battery for auxiliary engine, if required.

    e. LED type headlights, stop, tail, backup, license plate, clearance, signal, identification, side broom, and directional lights with hazard switch. Flood lights for brooms

    f. Truck engine to have speedometer/odometer, tachometer, voltmeter, fuel, oil, air pressure and temperature gauges, warning light and audible alarm for low oil and coolant level, and warning lights for battery, cab latch, water in fuel, seat belt and hour meter.

    g. Full load indicator.

    h. Warning lights/indicators/gauges for air brakes, park brakes, air filter, full load, engine oil filter restriction, charging system, parking brake, hopper up, machine level and low spray water.

16. Hydraulic:

    a. 16 gpm @ 1,800 RPM, for total operation minimum.

    b. Minimum 94 L (25 gal.) reservoir with outside level indicator.

c. Four stage direct gear pump. Electronic - hydraulic controls.

d. All pressure hydraulic fittings to be positive seal "O" ring type/ JIC type (pipe threads are not allowed).

e. All pump circuits to have quick connect/disconnect pressure checkpoints.

f. Filtration - 100-mesh inlet strainer; 10-micron spin on filter.

17. Brooms:

a. Side Brooms/Gutter brooms two (2) each: 1,118mm (44 in.) minimum diameter. All controls from cab; variable speed; brooms to stop/raise automatically in reverse; non-reversible; shall have position indicators in cab.

b. All controls from cab to include; tilt angle adjustments; down pressure adjustments; broom extension override.

c. Side brooms shall be recessed with shielded broom motor.

d. Broom contact pattern must remain constant with regards to vertical broom movement due to changes in pavement condition.

18. Fan:

a. Radial closed face or equal.

b. Direct drive. Fan speed independent of vehicle speed.

c. Sound suppressed housing and includes replaceable wear liner or constructed of abrasion resistant steel. Housing shall incorporate an inspection/clean out door.

d. Vacuum enhancer for heavy/light material.

e. Re-greaseable sealed bearings.

f. Fan; Fan compartment; and All drive mechanism shall be housed in an enclosed compartment for safety and additional sound suppression.

19. Pick Up Head.

    a. Minimum of 2,209.8mm (87in.) wide with abrasion resistant steel shoes/runners; heavy duty 8.5mm (3/8in.) thick wall wire-reinforced rubber hoses attaching to hopper; quick disconnect on suction hose only; suspended from a minimum of four (4) adjustable springs one (1) on each comer of pick-up head or equivalent design.

    b. For safety, the Pick-up Head must automatically raise when the truck is placed in reverse.

    c. A quick disconnect shall be located near the pick-up head to allow for easy clean out.

20. Water System:

    a. 1,135.5 L (300 gals.) capacity minimum. Tank shall have a minimum ten (10) year warranty.

    b. No steel tanks; no ferrous material in system to rust.

    c. Centrifugal Pump - capable of running dry indefinitely with no damage.

    d. 7.6 m (25 ft.) wash down hose

    e. Anti-siphon water fill with strainer.

    f. Controls and water indicators located in cab.

    g. One (1) front-spray bar; Minimum two (2) spray nozzles for each side/gutter broom; Minimum one (1) spray nozzle inside of hopper to dampen debris being swept by suction system; All nozzles controlled separately from in-cab controls; Spray system shall be protected with a stainless steel mesh filter to prevent clogging; Spray systems shall be constructed with galvanize/brass.

21. Color: Federal Safety School Bus Yellow.

22. Dust Control: Shall effectively control dust by one of the following methods:

    a. By use of water (wet).

    b. Dry dust control without use of water (dry). Through vacuum fan and filters.

    c. Combination of wet and dry.

23. Other:

a. Chassis and sweeper power units to have auto shutdown for high temperature, low oil pressure and low hydraulic oil level.

b. Sweeper power unit shall be protected from weather and elements; shall have a vandalism package, and be keyed alike.

c. Three (3) beacons (Whelen Super LED Stainless Steel Micro 400s or equal) to be mounted with mirror mount brackets left and right side of cab and mounted at rear of sweeper top. To include cab switches, warning lights, power supply and all necessary wiring.

d. Complete after factory rust proofing with minimum seven (7) year unlimited mileage. In accordance with Federal Specifications 297A at its latest revision.

e. PUC Certification, License, Registration and Certificates as required in General Specifications.

f. Operator Manual two (2) copies. Book Format/CD/DVD/Flash Drive.

g. Repair/Service Manual, Parts Catalog and Electric Manual one (1) copy each. Book Format/CD/DVD/Flash Drive.

h. First Aid Kit OSHA/ANSI recommended.

i. First service kit shall include all required filters (oil, fuel, air, breather, transmission, etc.). For both truck and sweeper engines.

j. One (1) each spare broom set, side, gutter and main (if applicable).

k. Contractor shall furnish letter from the manufacturer to certify full compliance with Federal motor vehicle safety standards.

l. Electronic reverse alarm.

m. Dual electric horn.

n. Arrow Board (MUTCD approved) approximately 30in. X 60in. with 25 lamps, legible visibility of .75mile, to be mounted at rear with control in cab.

o. Sweeper, truck mounted shall be lined with conspicuity material (reflexite or equal); red/white.

p. Sweeper shall be equipped with an automatic lubrication system.

q. Contractor to provide certified letter from sweeper manufacturer that PMl0 requirements have been met. Letter shall be submitted at time of bid submission. Failure to submit letter shall be grounds for rejection of bid.

r. Upon "Notice to Proceed", Contractor shall submit "Application" (To State Motor Vehicle Safety Office) to meet the requirements of Section 286-202 (12), Hawaii revised statutes, for approval of a major modification. Construction, or reconstruction of a vehicle with a gross vehicle weight rating (GVWR) of 10,001 pounds and above.

   Application is available at:

   State of Hawaii
   Department of Transportation
   Highways Division
   Motor Vehicle Safety Office 601
   Kamokila Boulevard, #511
   Kapolei, Hawaii 96707

   Copy of approved application shall be submitted at time of delivery.

24. Training:

Contractor shall provide initial manufacturer's training at time of delivery for proper operation and maintenance of equipment and refresher manufacturer training one (1) year after initial delivery. This training shall include a minimum of one hour classroom and one hour per operator hands on training. Training shall be consistent to OSHA requirements. This service shall be provided at no extra cost to the State.

Copy of attendance record showing class date, time, location, class type, instructor's name and attendees shall be submitted to:

State of Hawaii
Highways Division
Construction and Maintenance Branch
Attn: Equipment Superintendent/Safety Coordinator
869 Punchbowl Street
Honolulu, Hawaii 96813

25. Note:

Bidder(s) shall submit to the Project Manager within five (5) working days after bid opening, a certified letter(s), from their manufacturer(s) to certify the prospective bidder as the factory authorized warranty dealer (letter required for both chassis and equipment); and PMlO certified letter required for part no. 23r of this specification. Failure to submit certified letter(s) shall be sufficient grounds for rejection of bid.

SECTION 19 - CAB/CHASSIS WITH DIGGER DERRICK

19.1- SCOPE OF WORK – The work consists of furnishing and delivering, One (1) only, Cab/Chassis with Digger Derrick, to the island of Oahu. The Contractor shall present the vehicles complete, ready to use, and fully operational within 24 months of the start date.

19.2- CAB/CHASSIS WITH DIGGER DERRICK - The Specifications contained herein establish minimum standards (unless stated differently). Vehicle/equipment offered shall include any other standard features not listed but detailed in manufacturer's brochures and deemed necessary for proper and safe operation to vehicle/equipment.

DETAILED SPECIFICATIONS FOR A CAB/CHASSIS DIGGER WITH DERRICK

1. Model/Year: Cab/Chassis with Digger Derrick or equal, 2026 or latest Production.
2. GVW Rating: 16,329.6 kg (36,000 lbs.) minimum capacity
3. Wheel Base: 4,572mm (180 inches) minimum.
4. Cab to Axle: 2,743.2 mm (108 inches) minimum.
5. Engine:
    a. Diesel powered, wet sleeved engine or dry sleeved engine with manufacturer's standard engine warranty, minimum 6 years. 2013 emissions certified, Tier 4.
    b. Liquid cooled with deaeration system with tank and sight glass.
    c. Six (6) cylinder.
    d. Net Horsepower: 260.9 kw (350 HP) minimum at rated RPM. 1,000 ft. lb. torque.
    e. Fuel water separator (Racor Model 21000) or manufacturer's equal.
    f. Heavy duty dry type air cleaner with pop-up restriction indicator.
6. Exhaust: Single horizontal muffler with after treatment device frame mounted and Short tail pipe or manufacturer standard. Two position exhaust switch to inhibit diesel particulate filter regeneration as long as switch is "on" position.

7. Transmission:

    a. Automatic Allison MD 3000RDSP, 1200 lb. ft. torque, or equal. Six (6) speeds or equal.

    b. Water/oil heat exchange.

    c. PTO: Hot shift PTO with piggy back pump (Chelsea 230XKAJX-A3XE or equal).

    d. Automatic transmission oil temperature gauge.

    e. Transmission shift control – push button/lever

    f. Transmission oil cooler.

8. Axle:

    a. Front: 6,350.4 kg (14,000 lbs.) capacity, minimum.

    b. Rear: 10,433 kg (23,000 lbs.) capacity, minimum single reduction with 200 wheel end.

    c. Auxiliary: 2,041.2kg (4,500 lbs.) capacity, minimum.

    d. Differential locking/limited slip.

9. Springs:

    a. Front: 6,350.4 kg (14,000 lbs.) heavy-duty capacity, minimum.

    b. Rear: 10,433 kg (23,000 lbs.) capacity, minimum.

    c. Note: Front and rear springs shall not bottom out at maximum vehicle load capacity set by the manufacturer.

10. Shock Absorbers: Heavy duty front.

11. Wheels:

    a. Seven (7) each disc type, hub piloted; same size single front, dual rear, and spare.

    b. 22.5 x 8.25, 10-stud DC painted rims; with steel hubs.

12. Tires:

a. Seven (7) each, truck tubeless type, same size single front, dual rear, and spare. 11R 22.5, 16-ply, loading range H. Air stems extended for all wheels for easy access.

b. Dual rear wheels shall be able to accept any brand of tire; tires shall not touch when inflated and loaded.

13. Brakes:

a. Dual air system with 18.7 cubic foot compressor, anti-lock with air dryer, and pressure gauge with low air warning buzzer.

b. Front disc brakes. System shall comply with new stopping distance NHSTA regulations.

c. Parking — Piggyback, spring actuated, double diaphragm: Anchor lock, MGM or equal, S-cam

d. Safety spring loaded on rear axle, cab controlled emergency air tank for release.

e. Anti-lock brake system. Full vehicle wheel control.

f. Retarder - Telma Retarder, driveline mount with handle lever positioner. Rated for 60A0 lb. gross combination.

14. Steering: Powered.

15. Electrical:

a. Dual, twelve (12) volt batteries. Maintenance free gel type, batteries shall have the rating of 2775 CCA, minimum.

b. Alternator: 200 amp minimum, capable of charging at low engine speed.

c. Color coded wiring or continuously numbered.

16. Cab:

a. Aluminum conventional cab with tilt hood, aluminum cab shall have no steel reinforcements, and have a dual air bag suspension design; or steel conventional cab with tilt hood and manufacturer corrosion warranty for aluminum or steel.

b. Complete head lining.

c. Clear safety glass on rear window. Shall have manufacturer installed or custom built right door peep window and rear quarter/corner windows both sides of cab. These windows shall provide additional visibility for the operational safety of the vehicle, or other means to provide equal view.

d. Individual seats for driver and passenger with safety belts, driver's seat shall be air suspension type (Bostrom Freedom XC or equal), with adjustable mechanical lumbar support, front cushion adjustment, vinyl material. Passenger seat shall be two-man passenger, vinyl. Air bag protection for driver/passenger.

e. Steps and grab handles located both sides of cab. Allow for 3-point contact.

f. Floor mats. Rain guards on both doors.

g. Sunvisor, driver and passenger.

h. Factory installed air condition.

i. Travel height placard mounted on dash.

17. Chassis Frame: Heat treated alloy steel (120,000 psi yield), RBM 2,239,600, minimum.

18. Digger Derrick/Body:

a. Altec Model No. DC45, Terex Model No. 4045, 2014 or latest production, or equal. Complete hydraulically actuated boom package, designed for mounting over rear axle, mounted directly to chassis frame through a full length tubular steel structure sub-frame; 100 degree minimum boom travel; 13.2L (50 gallon) hydraulic oil reservoir; Hydraulic tool circuit at curbside, includes 25 foot hose and automatic take up reel under walkway curbside, also tool circuit at upper controls; Boom angle indicator; Boom interlock; Continuous unrestricted rotation; Single stick control if available. All lower control functions shall be from an operator's seat pedestal. Full pressure stacked valves or proportional hydraulic controls will be utilized; Start/stop and throttle advance at top controls; canvas covers for upper and lower controls; dual lift cylinders; Fiberglass hydraulic upper boom; Insulated, rated at 46KV, dielectrically tested at 100KV; Meet/exceed ANSI A10.31; Open center hydraulic system; Front/rear A-type outriggers, independently controlled; Outrigger motion alarm; Outrigger/boom interlock; Truck angle indicator; Transferable pole buddy; 6,804kg (15,000 lbs.) turn table winch; Synthetic rope anchoring. Minimum of 115 feet of "Sampson Spectron II" braid rope with eye on both ends, with swivel hook, Crosby type,

designed for 6 metric tons; Material handling jib; Hydraulic overload system; Digger transfer protection (protect against damage to transfer mechanism when stowing digger and auger; 12,000 foot pound, two speed digger, planetary gear drive powered by reversible hydraulic motor mounted on main boom and transferable to second stage; Auger 60" long x 18" diameter and have 2 5/8 hex drive hub with adjustment holes. Auger shall be 9" between flights. Auger shall have carbide teeth. Auger storage latch release hydraulic operated form handle rack control stations. Safety latch for auger. Auger roll up rope with Sampson braid rope, storage bracket to be equipped with torque limiter; Auger storage; Fiberglass personnel platform with fall protection anchor and canvas cover; Truck ground reel including 75 feet of 600 volt, 1/0 copper cable, with ferrule and approved ground clamp on one end. Mounted on the rear tail shelf of the curb side, pay out to side of vehicle; Pole puller and accessories;

Tilt pole guide (heavy duty) to be transferable from second to third stage and vice versa. To be equipped with a holding valve on tilt cylinder and control shall be full pressure hydraulically operated. A safety switch will be in place to prevent extension of the fiber boom with pole claws in the down position.

b. Body – Lineman type 150"L x 48"H x 92"W with a 56" floor space and 18" compartments; Body shall be constructed of 16 gauge, A-60 galvanized steel with 100% zinc alloy coating or galvannealed steel; Floor of bed and back of line body to be constructed of ¼" diamond plate. The rear of the bed (rear overhang) will have a 2" lip all the way around. Several slots shall be cut in at bed level to allow water to drain; Top of compartments are to be covered with tread plate; Drip moldings over all doors; Body including interior painted to match cab/chassis; Mud flaps installed behind rear wheels; Non-skid paint on all walk surfaces; Double panel doors with flush, twist T-type stainless steel folding three point latches, keyed alike cylinder type locks and a master lock system; Automotive type door seals (seals that stick/glue on shall be rejected): Limiting chains on all compartment doors, doors spring operated with stainless steel hinges; Two (2) pole carriers designed to carry aluminum/wooden poles. Swivel LED lights, four each, two each mounted at back of cab, and two each at rear of truck to illuminate body/work area.

c. Compartment Curbside – 1st vertical 24" five stationary "J" hooks located 1-3-1; 24" side entrance step up with hand rails both sides; 2nd vertical 24" three adjustable shelves with dividers on two inch centers; Horizontal 54" three slide out drawers with thumb latches at rear, front open; Rear vertical 24" five stationary "J" hooks located 1-3-1.

d. Compartment street side – 1st vertical 24" five stationary "J" hooks located 1-3-1; 2nd vertical 24" two adjustable shelves with adjustable dividers on two inch centers; 3rd vertical 24" three adjustable shelves with dividers on two inch centers; Horizontal 54" open; Rear vertical 24" three adjustable shelves with

adjustable dividers on two inch centers; 126” x 9” thru shelf at top with rear drop down door (hot stick bin); 22” rear tail shelf with thru compartment with drop down door on each side.

e. LED lights in all compartments with independent switches and master switch located in cab.

f. Two cable type stirrup steps and grab handles one each side at rear of platform.

g. Four (4) outrigger pad racks located under the line body. Four (4) outrigger pads, wooden type, 24” x 24” x 3”.

h. Holland T100A (10 ton) pintle hook with reinforcement and safety chain D-rings, or equivalent.

i. Two rubber dock bumpers installed at rear of chassis frame rails. Four (4) wheel chocks and holders built into wheel wells.

j. Six (6) tie down rings — three (3) on each side on the inside of bed.

k. Clearance lights, reflectors, identification lights and directional lights shall conform to PUC regulations. Lights shall be LED type.

l. Inverter 2.5 kW installed in left rear vertical cabinet, with two GFI outlets mounted at front and rear of body.

m. Hydraulic pole tamp — Racine model HPT59-RI, or equivalent, with 18” whips, to be provided.

n. Hydraulic impact wrench — Racine model HIW716VT, or equivalent, including 8' of non-conductive hose and Bruning FF-371-6FP female and FF-372-6FP male couplers, or equivalent, to be provided.

o. Hydraulic 12-ton compression tool — Burndy Y644HSXT, or equivalent, 12-ton compression tool with 8 feet of non-conductive whip hose with Bruning FF-371-6FP female and FF-372-6FP male couplers to be provided.

19. Bumper:

a. Heavy duty front bumper.

b. One (1) or two (2) tow hooks mounted on front bumper or chassis front frame.

20. Preparation: All bare metal shall be treated with OSPHO and primed prior to application of finish coat; A40 galvannealed steel may be used as an alternative.

21. Other:

a. Single step-type fuel tank, 189.3 L (50 gal.) capacity located left side under cab with seven (7) gallon DEF tank, minimum.

b. Full radiator gravel guard.

c. Air horn.

d. Glad hands and plumbing with electrical wire connection (Warner 13-281-001 or equal) mounted at rear. Additional Cole Hersee #12063 six (6) prong socket trail hook-up, or equivalent, shall also be mounted at rear. All electrical connectors to include both male and female connectors.

e. Instrumental panel:

i. Gauges; coolant temperature, fuel, tachometer, volt meter, oil pressure, air pressure, and hour meter.
ii. Parking brake control dash mounted.
iii. Water in fuel warning light and buzzer; low oil pressure, low coolant level, and high coolant temperature.
iv. AM/FM radio.
v. Twelve (12) volt power accessory outlet.

f. Mirrors: Dual exterior view mirrors (aluminum or stainless steel backs/brackets or non corrosive composite type), 152.4mm x 406.4mm (6 in. x 16 in.) minimum, west coast type or equal, with convex bottom section. Power type.

g. Anti-sail mud flaps, front and rear tire.

h. Electronic reverse alarm.

i. Two (2) each 2.2 kg (5 lbs.) ABC dry chemical fire extinguisher, one each mounted in cab, and one each mounted rear of lineman body.

j. Road Safety Triangle Kit, and Four Pack PF200 Power Flare Safety Light, or equivalent, with carry bag. Power flare shall have yellow housing with red LED lighting. All housing shall be etched "STATE DOT HIGHWAYS".

k. Four LED light system, Whelen Model DOT3701, or equivalent, DOT3 System Four light head system to include two (2) Amber Micro Freedom LED light head with branch guard, installed on cab/mirror mounted, two (2) Rectangular 7-gauge welded steel housings installed on rear of body, one on each side, containing two (2) 700 series amber linear LED light heads, one on each side, two (2) 700 series red LED brake/tail/turn light heads, one (1) on each side, two (2) 700 series clear back-up lights, one on each side, one (1) Whelen Model ISP94, 90-watt output power supply installed in cab behind seat, allowing for service access, one (1) standard lighted switch panel with Diagnostic indicator installed in or under dash within easy reach of driver. Waterproof, oil, and corrosion resistant TPR cables with waterproof connectors shall be installed with the above system. AMECA certified to SAE standards and/or minimum specifications.

l. Color — White, Dupont 93-96923 high gloss urethane or equal; Chevron marking on tailgate — Omaha orange and white (comparable to existing State Highways Division fleet).

m. Complete after factory rust proofing, with minimum seven (7) years unlimited mileage requirement warranty in accordance with Federal Specifications, 297A or its latest revision.

n. PUC Certification, License, Registration, and Certificates as required in General Specifications.

o. Vehicle shall conform to Code of Federal Regulations, Title 40, Part 85; Control of Air Pollution from New Motor Vehicles, Engines, Environmental Protection Agency; Federal Motor Vehicle Safety Standards.

p. Vehicle shall conform to all applicable State, County, Federal, and OSHA requirements necessary for licensing, registration, and certification purposes.

q. Technical Resources: One (1) copy of Repair Manual, one (1) copy of Parts Catalog, two (2) copies of Operator's Manual. Book format/CD/DVD.

r. First Service Kit shall include all required filters (oil, fuel, air, breather, transmission, etc.).

s. Twenty (20) each "Geotab G06" plug and play device by Sprint with five (5) year "Pro Plan", to enhance vehicle safety and security. Report information shall be monitored by the Highways Construction and Maintenance Branch.

t. Vehicle shall be outlined with conspicuity material (tape along the perimeters). Conspicuity material shall be red and white (reflexite or equal).

u. First Aid Kit, OSHA/ANSI recommended.

v. Upon "Notice to Proceed", Contractor shall submit "Application" (to State Motor Vehicle Safety Office) to meet the requirements of Section 286-202 (12), Hawaii Revised Statutes, for approval of a major modification. Construction or reconstruction of a vehicle with a gross vehicle weight rating (GVWR) of 10,001 pounds and above. Application is available at:

State of Hawaii
Department of Transportation Highways Division
Motor Vehicle Safety Office
601 Kamokila Boulevard, #511
Kapolei, Hawaii 96707

Copy of approved application shall be submitted at time of delivery.

22. Bidder(s) shall submit to the Project Manager within five (5) working days after bid opening a certified letter(s) from the manufacturer(s) to certify the prospective bidder as the Factory Authorized Warranty Dealer (letter required for both chassis and equipment).

23. Training:

Contractor shall provide proper and safe operation and maintenance of equipment. This training shall include a minimum of one (1) hour classrooms and one (1) hour per operator hands-on training. This service shall be provided at no additional cost to the State. Contractor shall provide classroom site. Training shall be consistent to OSHA requirements.

Copy of attendance record showing class date, time, location, class type, instructor's name and attendees shall be submitted to:

State of Hawaii
Highways Division
Construction and Maintenance Branch
Attn: Equipment Superintendent/Safety Coordinator
869 Punchbowl Street
Honolulu, Hawaii 96813

SECTION 20 - CAB/CHASSIS UTILITY BODY WITH 35 FOOT AERIAL

20.1- SCOPE OF WORK – The work consists of furnishing and delivering one (1) each, Cab/Chassis Utility Body with 35 Foot Aerial, to the island of Oahu. The Contractor shall present the vehicle complete, ready to use, and fully operational within 24 months of the start date.

20.2- CAB/CHASSIS UTILITY BODY WITH 35 FOOT AERIAL - The Specifications contained herein establish minimum standards (unless stated differently). Vehicle offered shall include any other standard features not listed but detailed in manufacturer's brochures and deemed necessary for proper and safe operation of vehicle.

DETAILED SPECIFICATIONS FOR A CAB/CHASSIS UTILITY BODY WITH 35 FOOT AERIAL

1. Model/Year: Model/Year: Cab/Chassis Utility Body with Aerial, 2026 or latest production.

2. GVW Rating: 8,164.8 kg (18,000 lbs.) capacity minimum.

3. Wheel Base: 3,860.8 mm (152 in.) minimum.

4. Cab to Axle: 2,133.6mm (84 in.) maximum.

5. Engine:

    a. Diesel powered, 2013 emissions certified, Tier 4.

    b. Liquid cooled with deaeration system with tank and sight glass, full radiator guard.

    c. Size (6) cylinder. Engine brake.

    d. Net horsepower 223.7kW (300 HP) minimum, at rated RPM.

    e. Fuel water separator (Racor Model 21000) or manufacturers equal. Fuel tank 151.4L (40 gal.) minimum. Including nine (9) gallon DEF tank.

    f. Exhaust, single horizontal muffler with after treatment device frame mounted and short tail pipe or manufacturer standard. Two position exhaust switch to inhibit diesel particulate filter regeneration as long as switch is "on" position.

    g. Hour meter and tachometer.

6. Differential: Locking

7. Frame:

    a. Steel channel type.

    b. 80,000 psi, minimum.

8. Transmission:

    a. Automatic, 6-speed or equal.

    b. PTO/Clutch Pump for aerial unit operation.

    c. Automatic transmission oil temperature gauge.

9. Electrical:

    a. Twelve volt system with dual gel type batteries.

    b. 160 AMP alternator, capable of charging at low engine speeds.

    c. Color coded wiring or continuously numbered.

    d. Circuit breakers at main panel to replace all fuses except instrument cluster feed.

10. Steering: Powered.

11. Brakes:

    a. Hydraulic system.

    b. Antilock Brake System – full vehicle wheel control.

    c. Parking Brake System.

    d. Four wheel disc brake system. Shall comply with new reduced stopping distance NHTSA regulations.

12. Wheels/Tires:

    a. Seven (7) each; single front, dual rear, spare.

    b. Tires – 225/70 R 19.5 load rating G.

c. Wheels – 19.5 x 6.0, disc painted steel 10-stud with steel hubs.

13. Axle:

a. Front —3,175.2 kg (7,000 lbs.) minimum.

b. Rear — 6,123.6 kg (13,500 lbs.) minimum.

14. Springs:

a. Front — 3,175.2 kg (7,000 lbs.) minimum with shock absorbers.

b. Rear — 6,123.6 kg (13,500 lbs.) minimum.

c. Manufacturer's standard auxiliary springs.

d. Heavy duty front shock absorber (front and rear).

15. Cab:

a. Aluminum conventional cab or steel conventional cab with 10-year unlimited warranty.

b. Complete head lining.

c. Clear safety glass on rear window (full width).

d. Full width bench seat or split bench and seat belts for three (3) persons. Front and side air bag protection for driver and passenger.

e. Steps and grab handles located on both sides of cab, to allow for 3-point contact when entering or disembarking.

f. Floor mats.

g. Sun visor, driver and passenger.

h. Factory installed air condition.

i. Vinyl/cloth upholstery.

j. AM/FM radio, factory installed.

k. Dual exterior powered rear view mirrors (backs/brackets shall be aluminum/stainless steel, or non-corrosive composite type, 152.4mm x 406.4mm (6 in. x 16 in.), with convex bottom section minimum. West Coast type or manufacturer's equal.

l. Rain guards on both doors.

m. The lightbar system shall be a Whelen Model FCOHIDOT, part no. 01-0684294-72 or equal. The bar shall be sixty (60) inches long minimum. The main structure of the lightbar must be an extruded aluminum I-Beam design. The lightbar shall house all electronic components. The lightbar must have Hi/Low power control of all inboard LED modules. The lightbar shall contain one (1) control module I/O board which must control all internal light heads. The I/O board shall produce a minimum flash rate of 75 Comet flashes per minute with alternating corners, not an "x' pattern. There shall be ten (10) Scan Lock flash patterns to choose from. Each pair of LED lamps must be capable of operating in a different flash pattern. The lightbar shall have all linear LED modules and shall meet SAE-J845 Class I and SAE-J595 requirements. The lightbar shall have linear LED modules in the four corners.

Each linear 18 corner module shall consist of a minimum of eighteen (18) high output LED's permanently mounted within a single dual (over/under) "removable" highly mirrored parabolic reflector for maximum light output. The eighteen (18) LED's shall be mounted in two straight lines of 9 LED's each (over/under) for maximum light output. The linear reflector shall extend to the MR11 alley light with no appreciable open gap between the LED module on the alley light. The LED work light must be the same size module as used for the warning lights, but must consist of two staggered rows of six Super LED's and be able to flash and steady burn. All LED panels shall be the same design as the Linear 18 described above, and must contain 12 Super LED's (6 over 6). All inboard light heads must be 400 Series (this will allow for placement of this light head in any inboard position). All LED inboard modules must produce a minimum 180 degree light pattern. The I/O module shall be 100% solid state with built-in reverse polarity protection and output short protection. The I/O board shall operate from 10 — 16 VDC with no degradation in flash rate. The lightbar shall be designed to have up to eight (8) lamps to the front, eight lamps to the rear, and one (1) on each end. Each lamp module position shall have colored lens sections, independent of the others, that match the color of the LED module. For split modules, clear lenses must be used. The LED panel must be mounted within the lightbar. The corner Linear LED's must have a two-intensity cruise light mode. This provides a lightbar that has illuminated corners (no flashing), which are used for marker lights. The user shall have a choice of ten (10) Scan-Lock flash patterns to choose from the LED modules, and four (4) Scan-Lock flash patterns for the flashing work lights and flashing alleys. The pattern must be

selected by an external connection, not requiring the user to open the lightbar to change flash patterns.

The light bar shall have: Front — Two (2) Corner Linear 18's (amber), Eight (8) inboard Linear12 LED's (6 amber / 2 white); Rear — Two (2) Corner Linear 18's (amber), Six (6) Inboard Linear12 LED's,(4 amber / 2 red), Two (2) Inboard staggered white TIR12 Super-Led modules for use as work lights; Ends — Two (2) MR11 alley lights; Additional, two (2) spare MR11 halogen replacement bulbs.

The light bar shall be wired to function as follows: All Amber warning LED's; All white warning LED's and flashing LED work light; Left Alley; Right Alley; Flashing Alley; LED Work light, steady; Hi/Low power.

All switches shall be lighted type and mounted within a console attached to the dash or mounted as part of OEM console, with provisions to mount an external radio system. Lightbar power cable must be brought to the power source with a fuse (thermal circuit breakers shall be rejected). Power cable shall be labeled with a permanent label at the power source, marked "Lightbar". All cable and wiring shall be conduit protected and shall use grommets through sheet metal panels.

Note: The rear bar red LED's must be separately wired and switched for activation.

The four corner Linear18's must be identical and all other inboard light heads must be 400 series. All internal light heads must snap into sliding brackets that are mounted in the lightbar.

The lightbar must contain a maximum of eight (8) screws, four (4) for each end cap to access all internal light heads. Light heads that require the removal of more than eight screws to remove all internal light heads are unacceptable. Lightbars with modules mounted outside of the main lightbar are not acceptable. The lightbar shall contain a permanent mounting kit to prevent theft of the lightbar, and be laser etched “STATE DOT HIGHWAYS", lettering shall be 1.5 inches tall.

n. Twelve (12) volt power accessory outlet.

o. Rear window guard.

p. Travel height placard, mounted on dash.

q. Air bag protection for driver and passenger.

16. Body:

a. Aerial Service Line/Step Body, Knapheide 6133HC or equal, suitable for installing on any chassis with a minimum CA dimension of 2,133.6mm (84 in.), built in

accordance with standard specifications with dimensions and compartments as specified.

b. Body fabricated from hot-dipped galvanized steel with 100% iron zinc alloy coating or galvannealed steel:

1. Sixteen (16) gauge outside panels.
2. Fourteen (14) gauge end panels.
3. Eighteen (18) gauge shelving.
4. Twenty (20) gauge double panel doors.
5. Twelve (12) gauge tread plate steel door.
6. Structural channel sub base with 76.2mm (3 in.) cross members.
7. Fourteen (14) gauge tread plate installed on top of body compartments.

c. Body dimensions: Minimum

1. 3,352.8mm (132 in.) overall length.
2. 2,362.2mm (93 in.) outside width.
3. 1,092.2mm (43 in.) body height.
4. 457.2mm (18 in.) compartment depth.
5. 1,447.8mm (57 in.) floor width (cargo area).

d. Compartments – left side (driver's side)

1. First vertical – 762mm (30 in.) w. Two (2) adjustable shelves with removable dividers on 101.6mm (4 in.) centers.
2. Second vertical - 711.2mm (28 in.) w. Two (2) adjustable shelves with removable dividers on 101.6mm (4 in.) centers.
3. Horizontal - 1,168.4mm (46 in.) w. One (1) removable shelf with removable dividers on 203.2mm (8 in.) centers.
4. Rear vertical - 711.2mm (28 in.) w. Six (6) fixed material hooks.

e. Compartments – right side (passenger side)

1. First vertical - 762mm (30 in.) w. Six (6) fixed material hooks.
2. Second vertical - 711.2mm (28 in.) w. Six (6) fixed material hooks.
3. Horizontal - 1,168.4mm (46 in.). One (1) removable shelf with removable dividers on 203.2mm (8 in.) centers.
4. Rear vertical - 711.2mm (28 in.) w. Two (2) adjustable shelves with removable dividers on 101.6mm (4 in.) centers.
5. Through shelf, full length and rear door.

f. Standard Body features:

1. Wheel chock holders, installed one (1) each side in fender panels behind rear wheels, with rubber wheel chocks with metal handles.
2. All doors full double paneled self-sealed with built in drainage for maximum weather tightness. Stainless steel hinge rod extends entire length of door.
3. All doors shall have stainless steel flush type, single point locks with recessed handles, included keyed alike locks and two-stage strikers.
4. All edges either folded or rolled for strength and safety.
5. Door header drip rail at top for maximum weather protection.
6. Neoprene fenders.
7. Completely painted; all interior bases and walking surfaces shall be coated with non-skid.
8. Lights in all compartments, pressure switches on each door, compartment lights wiring through master switch in cab.

g. Custom Features:

1. Galvanized or galvannealed steel rear extension/bumper tail-shelf 736.6.mm (29 in.).
2. One (1) each cable step. Install curbside of rear platform extension.
3. Grab handles curbside of tail-shelf (shall be designed for 3-point contact).
4. Two (2) each large splash aprons, installed behind rear wheels.
5. Two (2) each large mud flaps/brackets mounted behind rear wheel.
6. One (1) 2.2 kg (5 lbs.) ABC Dry Chemical Fire extinguisher mounted in first left side compartment.
7. Lights and reflectors in accordance with FMVSS#108 modular lighting package, all wiring connections crimped with solderless connectors and enclosed in shrink tube with waterproof sealant. All wire ends are tinned before insertion into plugs. All plug connections are completely sealed and weather proof. Entire assembly is enclosed in a continuous plastic loom to form a one-piece harness. Lighting package is complete with sealed polycarbonate lenses and housings, affording superior impact and heat protection, flush mounted in rubber grommets as follows:

   two (2) clear back up lights; four (4) red stop/turn/tail lights; seven (7) 63.5 mm (2.5 in.) diameter red clearance lights; license plate light. Lighting shall be LED type.

17. Aerial Unit:

a. ALTEC AT-40G or approved equal (shall be approved in writing ten (10) days before bid opening), insulated articulating arm and continuous rotation. Installed behind chassis cab.

b. Front torsion bar- front axle, under frame.

c. Rear torsion bar- rear under frame.

d. Ground to bottom of platform height 10,911.84mm (35.8 ft.).

e. Working height 12,435.84mm (40.8 ft.).

f. Maximum reach to edge of platform 8,625.84mm (28.3 ft.) at 3,870.96mm (12.7 ft.) platform height (edge of platform).

g. Post type pedestal design with large service openings.

h. Continuous rotation provided by worm gear drive, equipped with extended shaft for manual rotation driving a shear ball bearing rotation gear. Provisions for adjusting backlash.

i. Turntable shall have a steel bottom plate, minimum thickness of 25.4mm (1 in.). Bottom of plate shall be machined to insure flat mounting surface for rotation bearing.

j. The articulating arm shall be designed so that the stress proof articulating arm and lower boom are compensating. Articulating arm shall remain within 457.2mm (18 in.) of side of truck.

k. Lift cylinders shall be one-piece design cast steel on the blind end, which utilizes cartridge type bi-directional counter balance holding valves.

l. Lower boom- fabricated, reinforced steel box structure. Pivot pin of high strength chrome plated steel with self-lubricating replaceable, non-pivot pin metallic bearings.

m. Upper Boom - rectangular filament wound fiberglass, providing a minimum of 203mm (8 in.) of isolation when retracted and 889mm (35 in.) when extended.

n. Upper Boom extension shall be extended and retracted by a double acting hydraulic extension cylinder installed within the booms.

o. Platform is leveled by hydraulic leveling means, contained within the upper boom and designed to maintain the dielectric integrity of the aerial device. Controls for leveling and tilting the platform shall be located at the platform and at lower control. Leveling system shall include a system to lock the platform in the event of hydraulic

line failure. System shall maintain a level platform throughout the full range of boom articulation.

p. Dielectric rating, ANSI, Category C, 46 kV.

q. ISO 9001 certification, this aerial device shall be manufactured in a facility that is certified to meet ISO 9001 requirements.

r. The control system shall be a full pressure type, operating at 152 BAR (2,200 PSI) maximum. The upper control located at the platform shall consist of a single handle control. This control shall allow the operator to make simultaneous multiple boom movements. An additional separate control shall activate the articulating arm, this control shall be mechanically locked to prevent accidental actuation and should not require the actuation of the trigger on the single hand control. Conventional multiple lever ground controls located at the turntable shall include an upper control override.

s. A valve located at the boom tip and easily accessible by the operator without having to remove any covers, allows the lower boom to be lowered in the case of engine/hydraulic system failure.

t. Hydraulic tool circuit control easily accessible to the operator activated the tool circuit to provide 18.9 LPM (5GPM) at 138 BAR (2,000 PSI). One set of HTMA quick disconnect couplings located within a protected location inside the control cover at the platform.

u. Diagnostic pressure test, quick disconnect couplings located at turntable.

v. Two (2) strobe LED lights Whelen Model No. MC40ED4A or equal mounted one on each side of aerial pivot base arm.

w. "Boom out of Stow" warning light in cab.

x. Engine start/stop control at the platform, and toggle switch at the turntable.

y. Emergency Operating System: Electrical powered, includes pump and motor operated from truck battery, captive air activated, automatic.

z. Basket 159kg (350 lbs.) capacity with 180° platform rotator, and platform cover.

aa. Vertical outrigger installed rear of chassis cab. Maximum of 2,171.7mm (85.5 in.) spread at maximum penetration. Controls located at right and left sides of tail-shelf. Shall have motion alarm switches. To include outrigger pads.

18. Other:

a. Two (2) each large safety harness (fall protection), and positioning lanyards. To include proper fall protection training consistent to OSHA requirements.

b. Electrical switch panel – coin box style to include truck/equipment switch; hour meter; boom out of stow; strobe flashers.

c. Electrical inverter DC to AC static, 1,800 w with duplex (GFI protected outlets mounted at right rear. Two (2) deep cycle gel type batteries group 27,700 CCA, wired in isolation.

d. Work lights, two (2) each 100,000 candle power, located at rear of cab and at platform. Battery powered.

e. Hydraulic oil reservoir 56.7 L (15 gal.) minimum capacity, internally mounted suction filter and gate valve.

f. Boom rest.

g. Front bumper, manufacturer standard with single/dual tow hooks.

h. First service kit shall include all required filters (oil, fuel, air, breather, transmission, etc.).

i. Safety Inspection/PUC Certification, License, Registration and Certificate as required in General Provisions.

j. Complete after factory rustproof with seven (7) year unlimited warranty (complete unit). Applied in accordance with Federal Specifications 297A at its latest revision.

k. Electronic reverse alarm.

l. Road safety triangle kit; and four pack PF200 Power Flare Safety Light, or equivalent, with carry bag. Power flare shall have yellow housing with red LED lighting. All housing shall be etched "STATE DOT HIGHWAYS".

m. Technical resources - one (1) copy of repair manual, one (1) copy of parts catalog, two (2) copies of operations manual. Book format/CD/DVD.

n. Color, white high gloss urethane, complete unit. Apply non-skid to all walking surfaces. Shall be outlined with conspicuity material (reflexite or equal) red and white.

o. First Aid Kit (OSHA/ANSI recommended).

p. Complete unit shall be designed to carry a minimum of 907.2 kg (2,))) lbs.) materials and supplies not including the driver, passengers and fluids.

q. Upon "Notice to Proceed", Contractor shall submit "Application" (To State Motor Vehicle Safety Office) to meet the requirements of Section 286-202 (12), Hawaii revised statutes, for approval of a major modification. Construction, or reconstruction of a vehicle with a gross vehicle weight rating (GVWR) of 10,001 pounds and above. Application is available at:

State of Hawaii
Department of Transportation
Highways Division
Motor Vehicle Safety Office
601 Kamokila Boulevard, #511
Kapolei, Hawaii 96707

Copy of approved application shall be submitted at time of delivery.

19. Training:

Bidder shall provide manufacturer training syllabus at time of bid submittal.

Contractor shall provide manufacturer training for proper and safe operation, maintenance of equipment, and fall protection. This training shall include a minimum of one (1) hour classroom and one (1) hour per operator hands on training. This service shall be provided at no additional cost to the State. Contractor shall provide classroom site. Training shall be consistent to OSHA requirements.

20. Copy of attendance record showing class date, time, location, class type, instructor's name and attendees shall be submitted to:

State of Hawaii
Highways Division
Construction and Maintenance Branch
Attn: Equipment Superintendent/Safety Coordinator
869 Punchbowl Street
Honolulu, Hawaii 96813

21. Bidder(s) shall submit to the Project Manager within five (5) working days after bid opening a certified letter(s), from the manufacturer(s) to certify the prospective bidder as the Factory Authorized Warranty Dealer (letter required for both chassis and equipment).

SECTION 21 — CAB/CHASSIS UTILITY BODY WITH 40 FOOT AERIAL

21.1- SCOPE OF WORK – The work consists of furnishing and delivering two (2) only, Cab/Chassis Utility Body With 40 Foot Aerial, to the Island of Oahu. The Contractor shall present the vehicles complete, ready to use, and fully operational within 24 months of the start date.

21.2- CAB/CHASSIS UTILITY BODY WITH 40 FOOT AERIAL - The Specifications contained herein establish minimum standards (unless stated differently). Vehicle offered shall include any other standard features not listed but detailed in manufacturer's brochures and deemed necessary for proper and safe operation of vehicle.

DETAILED SPECIFICATIONS FOR A CAB/CHASSIS UTILITY BODY WITH 40 FOOT AERIAL

1. Model/Year: Model/Year: Cab/Chassis Utility Body with Aerial, 2026 or latest production.
2. GVW Rating: 8,845.2 kg (19,500 lbs.) capacity minimum.
3. Wheel Base: 3,860.8 mm (152 in.) minimum.
4. Cab to Axle: 2,133.6 mm (84 in.) maximum.
5. Engine:
    a. Diesel powered, we sleeved engine or dry sleeved engine with manufacturer's standard engine warranty, minimum 6 years. 2013 Emissions Certified, Tier 4.
    b. Liquid cooled with deaeration system with tank and sight glass, full radiator guard.
    c. Size (6) cylinder.
    d. Net horsepower 1223.7 kW (300 HP) minimum, at rated RPM. With engine brake, exhaust brake shall not be accepted.
    e. Fuel water separator (Racor Model 21000) or manufacturers equal. Fuel tank 151.4L (40 gal.) minimum. Including nine (9) gallon DEF tank.
    f. Exhaust, single horizontal muffler with after treatment device frame mounted and short tail pipe or manufacturer standard. Two position exhaust switch to inhibit diesel particulate filter regeneration as long as switch is "on" position.
    g. Hour meter and tachometer.

6. Differential: Locking/limited slip.

7. Frame:

    a. Steel channel type.

    b. 80,000 psi, minimum.

8. Transmission:

    a. Allison 1000RDS, 6-speed or equal.

    b. PTO/Clutch Pump for aerial unit operation.

    c. Automatic transmission oil temperature gauge.

9. Electrical:

    a. Twelve volt system with dual gel type batteries.

    b. 150 AMP minimum alternator, capable of charging at low engine speeds.

    c. Color coded wiring or continuously numbered.

    d. Circuit breakers at main panel to replace all fuses except instrument cluster feed.

10. Steering: Powered.

11. Brakes:

    a. Hydraulic system.

    b. Antilock Brake System – full vehicle wheel control.

    c. Parking Brake System.

    d. Four wheel disc brake system. Shall comply with new reduced stopping distance NHTSA regulations.

12. Wheels/Tires:

    a. Seven (7) each; single front, dual rear, spare.

b. Tires – 225/70 R 19.5 load rating G.

c. Wheels – 19.5 x 6.0, disc painted steel 10-stud with steel hubs.

13. Axle:

a. Front —3,175.2 kg (7,000 lbs.) minimum.

b. Rear — 6,123.6 kg (13,500 lbs.) minimum.

14. Springs:

a. Front — 3,175.2 kg (7,000 lbs.) minimum with shock absorbers.

b. Rear — 6,804 kg (15,000 lbs.) minimum.

c. Manufacturer's standard auxiliary springs.

d. Heavy duty front shock absorber (front and rear).

15. Cab:

a. Aluminum conventional cab or steel conventional cab with ten (10) year unlimited warranty.

b. Complete head lining.

c. Clear safety glass on rear window (full width). Shall have manufacturer installed or custom built right door peep window and rear quarter/corner windows both sides of cab (these windows shall provide additional visibility for the operational safety of the vehicle).

d. Full width bench seat or split bench and seat belts for three (3) people.

e. Steps and grab handles located on both sides of cab, to allow for 3-point contact when entering or disembarking.

f. Floor mats.

g. Sun visor, driver and passenger.

h. Factory installed air condition.

i. Vinyl/cloth upholstery.

j. AM/FM radio, factory installed.

k. Dual exterior rear view mirrors (backs/brackets shall be aluminum/stainell steel, or non-corrosive composite type, 152.4mm x 406.4mm (6 in. X 16 in.) minimum. West Coast type or equal with convex bottom section.

l. Rain guards on both doors.

m. The lightbar system shall be a Whelen Model FCOHIDOT, part no. 01-0684294-72 or equal. The bar shall be sixty (60) inches long minimum. The main structure of the lightbar must be an extruded aluminum I-Beam design. The lightbar shall house all electronic components. The lightbar must have Hi/Low power control of all inboard LED modules. The lightbar shall contain one (1) control module I/O board which must control all internal light heads. The I/O board shall produce a minimum flash rate of 75 Comet flashes per minute with alternating corners, not an "x' pattern. There shall be ten (10) Scan Lock flash patterns to choose from. Each pair of LED lamps must be capable of operating in a different flash pattern. The lightbar shall have all linear LED modules and shall meet SAE-J845 Class I and SAE-J595 requirements. The lightbar shall have linear LED modules in the four corners.

Each linear 18 corner module shall consist of a minimum of eighteen (18) high output LED's permanently mounted within a single dual (over/under) "removable" highly mirrored parabolic reflector for maximum light output. The eighteen (18) LED's shall be mounted in two straight lines of 9 LED's each (over/under) for maximum light output. The linear reflector shall extend to the MR11 alley light with no appreciable open gap between the LED module on the alley light. The LED work light must be the same size module as used for the warning lights, but must consist of two staggered rows of six Super LED's and be able to flash and steady burn. All LED panels shall be the same design as the Linear 18 described above, and must contain 12 Super LED's (6 over 6). All inboard light heads must be 400 Series (this will allow for placement of this light head in any inboard position). All LED inboard modules must produce a minimum 180 degree light pattern. The I/O module shall be 100% solid state with built-in reverse polarity protection and output short protection. The I/O board shall operate from 10 — 16 VDC with no degradation in flash rate. The lightbar shall be designed to have up to eight (8) lamps to the front, eight lamps to the rear, and one (1) on each end. Each lamp module position shall have colored lens sections, independent of the others, that match the color of the LED module. For split modules, clear lenses must be used. The LED panel must be mounted within the lightbar. The corner Linear LED's must have a two-intensity cruise light mode. This provides a lightbar that has illuminated corners (no flashing), which are used for marker lights. The user shall have a choice of ten (10) Scan-Lock flash patterns to choose from the LED modules, and four (4) Scan-Lock flash patterns for the flashing

work lights and flashing alleys. The pattern must be selected by an external connection, not requiring the user to open the lightbar to change flash patterns.

The light bar shall have: Front — Two (2) Corner Linear 18's (amber), Eight (8) inboard Linear12 LED's (6 amber / 2 white); Rear — Two (2) Corner Linear 18's (amber), Six (6) Inboard Linear12 LED's,(4 amber / 2 red), Two (2) Inboard staggered white TIR12 Super-Led modules for use as work lights; Ends — Two (2) MR11 alley lights; Additional, two (2) spare MR11 halogen replacement bulbs.

The light bar shall be wired to function as follows: All Amber warning LED's; All white warning LED's and flashing LED work light; Left Alley; Right Alley; Flashing Alley; LED Work light, steady; Hi/Low power.

All switches shall be lighted type and mounted within a console attached to the dash or mounted as part of OEM console, with provisions to mount an external radio system. Lightbar power cable must be brought to the power source with a fuse (thermal circuit breakers shall be rejected). Power cable shall be labeled with a permanent label at the power source, marked "Lightbar". All cable and wiring shall be conduit protected and shall use grommets through sheet metal panels.

Note: The rear bar red LED's must be separately wired and switched for activation.

The four corner Linear18's must be identical and all other inboard light heads must be 400 series. All internal light heads must snap into sliding brackets that are mounted in the lightbar.

The lightbar must contain a maximum of eight (8) screws, four (4) for each end cap to access all internal light heads. Light heads that require the removal of more than eight screws to remove all internal light heads are unacceptable. Lightbars with modules mounted outside of the main lightbar are not acceptable. The lightbar shall contain a permanent mounting kit to prevent theft of the lightbar, and be laser etched “STATE DOT HIGHWAYS", lettering shall be 1.5 inches tall.

n. Twelve (12) volt power accessory outlet.

o. Rear window guard.

p. Travel height placard, mounted on dash.

q. Air bag protection for driver and passenger.

16. Body:

a. Aerial Service Line/Step Body, Knapheide 6133HC or equal, suitable for installing on any chassis with a minimum CA dimension of 2,133.6mm (84 in.), built in

accordance with standard specifications with dimensions and compartments as specified.

b. Body fabricated from hot-dipped galvanized steel with 100% iron zinc alloy coating or galvannealed steel:

1. Sixteen (16) gauge outside panels.
2. Fourteen (14) gauge end panels.
3. Eighteen (18) gauge shelving.
4. Twenty (20) gauge double panel doors.
5. Twelve (12) gauge tread plate steel door.
6. Structural channel sub base with 76.2mm (3 in.) cross members.
7. Fourteen (14) gauge tread plate installed on top of body compartments.

c. Body dimensions: Minimum

1. 3,352.8mm (132 in.) overall length.
2. 2,362.2mm (93 in.) outside width.
3. 1,092.2mm (43 in.) body height.
4. 457.2mm (18 in.) compartment depth.
5. 1,447.8mm (57 in.) floor width (cargo area).

d. Compartments – left side (driver's side)

1. First vertical – 762mm (30 in.) w. Two (2) adjustable shelves with removable dividers on 101.6mm (4 in.) centers.
2. Second vertical - 711.2mm (28 in.) w. Two (2) adjustable shelves with removable dividers on 101.6mm (4 in.) centers.
3. Horizontal - 1,168.4mm (46 in.) w. One (1) removable shelf with removable dividers on 203.2mm (8 in.) centers.
4. Rear vertical - 711.2mm (28 in.) w. Six (6) fixed material hooks.

e. Compartments – right side (passenger side)

1. First vertical - 762mm (30 in.) w. Six (6) fixed material hooks.
2. Second vertical - 711.2mm (28 in.) w. Six (6) fixed material hooks.
3. Horizontal - 1,168.4mm (46 in.). One (1) removable shelf with removable dividers on 203.2mm (8 in.) centers.
4. Rear vertical - 711.2mm (28 in.) w. Two (2) adjustable shelves with removable dividers on 101.6mm (4 in.) centers.
5. Through shelf, full length and rear door.

f. Standard Body features:

1. Wheel chock holders, installed one (1) each side in fender panels behind rear wheels, with rubber wheel chocks with metal handles.
2. All doors full double paneled self-sealed with built in drainage for maximum weather tightness. Stainless steel hinge rod extends entire length of door.
3. All doors shall have stainless steel flush type, single point locks with recessed handles, included keyed alike locks and two-stage strikers.
4. All edges either folded or rolled for strength and safety.
5. Door header drip rail at top for maximum weather protection.
6. Neoprene fenders.
7. Completely painted; all interior bases and walking surfaces shall be coated with non-skid.
8. LED lighting in all compartments, pressure switches on each door, compartment lights wiring through master switch in cab.

g. Custom Features:

1. Galvanized or galvannealed steel rear extension/bumper tail-shelf 736.6.mm (29 in.).
2. One (1) each cable step. Install curbside of rear platform extension.
3. Grab handles curbside of tail-shelf (shall be designed for 3-point contact).
4. Two (2) each large splash aprons, installed behind rear wheels.
5. Two (2) each large mud flaps/brackets mounted behind rear wheel.
6. One (1) 2.2 kg (5 lbs.) ABC Dry Chemical Fire extinguisher mounted in first left side compartment.
7. Lights and reflectors in accordance with FMVSS#108 modular lighting package, all wiring connections crimped with solderless connectors and enclosed in shrink tube with waterproof sealant. All wire ends are tinned before insertion into plugs. All plug connections are completely sealed and weather proof. Entire assembly is enclosed in a continuous plastic loom to form a one-piece harness.

   Lighting package is complete with sealed polycarbonate lenses and housings, affording superior impact and heat protection, flush mounted in rubber grommets as follows:

   two (2) clear back up lights; four (4) red stop/turn/tail lights; seven (7) 63.5 mm (2.5 in.) diameter red clearance lights; license plate light. Lighting shall be LED type.

17. Aerial Unit:

a. ALTEC AT-40P or approved equal (shall be approved in writing ten (10) days before bid opening), insulated articulating arm and continuous rotation. Installed rear of cab.

b. Front torsion bar- front axle, under frame.

c. Rear torsion bar- rear under frame.

d. Ground to bottom of platform height 12,192 mm (40 ft.).

e. Working height 13.7 m (45 ft.).

f. Maximum reach to edge of platform 9.4 m (30.8 ft.).

g. Post type pedestal design with large service openings.

h. Continuous rotation provided by worm gear drive, equipped with extended shaft for manual rotation driving a shear ball bearing rotation gear. Provisions for adjusting backlash.

i. Turntable shall have a steel bottom plate, minimum thickness of 25.4mm (1 in.). Bottom of plate shall be machined to insure flat mounting surface for rotation bearing.

j. The articulating arm shall be designed so that the stress proof articulating arm and lower boom are compensating. Articulating arm shall remain within 457.2mm (18 in.) of side of truck.

k. Lift cylinders shall be one-piece design cast steel on the blind end, which utilizes cartridge type bi-directional counter balance holding valves.

l. Lower boom- fabricated, reinforced steel box structure. Pivot pin of high strength chrome plated steel with self-lubricating replaceable, non-pivot pin metallic bearings.

m. Upper Boom - rectangular filament wound fiberglass, providing a minimum of 203mm (8 in.) of isolation when retracted and 889mm (35 in.) when extended.

n. Upper Boom extension shall be extended and retracted by a double acting hydraulic extension cylinder installed within the booms.

o. Platform is leveled by hydraulic leveling means, contained within the upper boom and designed to maintain the dielectric integrity of the aerial device. Controls for

leveling and tilting the platform shall be located at the platform and at lower control. Leveling system shall include a system to lock the platform in the event of hydraulic line failure. System shall maintain a level platform throughout the full range of boom articulation.

p. Dielectric rating, ANSI, Category C, 46 kV.

q. ISO 9001 certification, this aerial device shall be manufactured in a facility that is certified to meet ISO 9001 requirements.

r. The control system shall be a full pressure type, operating at 152 BAR (2,200 PSI) maximum. The upper control located at the platform shall consist of a single handle control. This control shall allow the operator to make simultaneous multiple boom movements. An additional separate control shall activate the articulating arm, this control shall be mechanically locked to prevent accidental actuation and should not require the actuation of the trigger on the single hand control. Conventional multiple lever ground controls located at the turntable shall include an upper control override.

s. A valve located at the boom tip and easily accessible by the operator without having to remove any covers, allows the lower boom to be lowered in the case of engine/hydraulic system failure.

t. Hydraulic tool circuit control easily accessible to the operator activated the tool circuit to provide 18.9 LPM (5GPM) at 138 BAR (2,000 PSI). One set of HTMA quick disconnect couplings located within a protected location inside the control cover at the platform.

u. Diagnostic pressure test, quick disconnect couplings located at turntable.

v. Two (2) strobe lights (Whelen Model No. MC40ED4A or equal) mounted one on each side of aerial pivot base arm.

w. Shall have "Boom out of Stow" warning light in cab.

x. Engine start/stop control at the platform, and toggle switch at the turntable.

y. Emergency Operating System: Electrical powered, includes pump and motor operated from truck battery, captive air activated, automatic.

z. Basket 181.4kg (400 lbs.) capacity with 180° platform rotator, and platform cover.

aa. Vertical outrigger installed rear of chassis cab. Maximum of 2,171.7mm (85.5 in.) spread at maximum penetration. Controls located at right and left sides of tail-shelf. Shall have motion alarm switches. Including outrigger pad storage and pads.

18. Other:

a. Two (2) each large safety harness (fall protection), and positioning lanyards.

b. Electrical switch panel – coin box style to include truck/equipment switch; hour meter; boom out of stow; strobe flashers.

c. Electrical inverter DC to AC static, 1,800 w with duplex (GFI protected outlets mounted at right rear. Two (2) deep cycle gel type batteries group 27,700 CCA, wired in isolation.

d. Work lights, two (2) each 100,000 candle power, located at rear of cab and at platform. Battery powered.

e. Hydraulic oil reservoir 56.7 L (15 gal.) minimum capacity, internally mounted suction filter and gate valve.

f. Boom rest.

g. Front bumper, manufacturer standard with single/dual tow hooks.

h. First service kit shall include all required filters (oil, fuel, air, breather, transmission, etc.).

i. Safety Inspection/PUC Certification, License, Registration and Certificate as required in General Provisions.

j. Complete after factory rustproof with seven (7) year unlimited warranty (complete unit). Applied in accordance with Federal Specifications 297A at its latest revision.

k. Electronic reverse alarm.

l. Road safety triangle kit; and four pack kit AERVOR Super LED Road Flares, or equivalent, shall have yellow housing with red LED lighting. All housing shall be etched "STATE DOT HIGHWAYS”.

m. Technical resources - one (1) copy of repair manual, one (1) copy of parts catalog, two (2) copies of operations manual. Book format/CD/DVD.

n. Color, white high gloss urethane, complete unit. Apply non-skid to all walking surfaces. Shall be outlined with conspicuity material (reflexite or equal) red and white.

o. Complete unit shall be designed to carry a minimum of 907.2 kg (2,000 lbs.) materials and supplies not including the driver, passengers and fluids.

p. First Aid Kit (OSHA approved).

q. One (1) each per vehicles “Geotab G06” plug and play device with harness by Sprint with five (5) year “Pro Plan” to enhance vehicle safety and security. Report information shall be monitored by the Highways Construction and Maintenance Branch.

r. Upon "Notice to Proceed", Contractor shall submit "Application" (To State Motor Vehicle Safety Office) to meet the requirements of Section 286-202 (12), Hawaii revised statutes, for approval of a major modification. Construction, or reconstruction of a vehicle with a gross vehicle weight rating (GVWR) of 10,001 pounds and above. Application is available at:

State of Hawaii
Department of Transportation
Highways Division
Motor Vehicle Safety Office
601 Kamokila Boulevard, #511
Kapolei, Hawaii 96707

Copy of approved application shall be submitted at time of delivery.

19. Training:

Bidder shall provide manufacturer training syllabus at time of bid submittal. Contractor shall provide manufacturer training for proper and safe operation, maintenance of equipment, and fall protection. This training shall include a minimum of one (1) hour classroom and one (1) hour per operator hands on training. This service shall be provided at no additional cost to the State. Contractor shall provide classroom site. Training shall be consistent to OSHA requirements.

20. Copy of attendance record showing class date, time, location, class type, instructor's name and attendees shall be submitted to:

State of Hawaii
Highways Division
Construction and Maintenance Branch
Attn: Equipment Superintendent/Safety Coordinator
869nchbowl Street
Honolulu, Hawaii 96813

21. Note:

Bidder(s) shall submit to the Project Manager within five (5) working days after bid opening a certified letter(s), from the manufacturer(s) to certify the prospective bidder as the Factory Authorized Warranty Dealer (letter required for both chassis and equipment).

SECTION 22 — CAB/CHASSIS UTILITY BODY WITH 55 FOOT AERIAL

22.1- SCOPE OF WORK – The work consists of furnishing and delivering one (1) only, Cab/Chassis Utility Body with 55 Foot Aerial, to the island of Oahu. The Contractor shall present the vehicle complete, ready to use, and fully operational within 24 months of the start date.

22.2- CAB/CHASSIS UTILITY BODY WITH 55 FOOT AERIAL - The Specifications contained herein establish minimum standards (unless stated differently). Vehicle offered shall include any other standard features not listed but detailed in manufacturer's brochures and deemed necessary for proper and safe operation of vehicle.

DETAILED SPECIFICATIONS FOR A CAB/CHASSIS UTILITY BODY WITH 55 FOOT AERIAL

1. Model/Year: Model/Year: Cab/Chassis Utility Body with Aerial, 2026 or latest production.
2. GVW Rating: 14,968.8 kg (33,000 lbs.) capacity minimum.
3. Wheel Base: 4,470.4 mm (176 in.) maximum.
4. Cab to Axle: 2,743.2 mm (108 in.) maximum.
5. Axle to Frame: 1,905 mm (75 in.) minimum.
6. Engine:
    a. Diesel powered, wet sleeved engine or dry sleeved engine with manufacturer's standard engine warranty, minimum 6 years. 2013 emissions compliant, Tier 4.
    b. Liquid cooled with deaeration system with tank and sight glass, full radiator guard.
    c. Six (6) cylinders.
    d. Net horsepower 223.7 kW (300 HP) minimum, at rated RPM.
    e. Fuel water separator (Racor Model 21000) or manufacturers equal. Fuel tank 189 L (50 gal.) minimum. Including nine (7) gallon DEF tank, minimum.
    f. Exhaust, single horizontal muffler with after treatment device frame mounted and short tail pipe or manufacturer standard. Two position exhaust switch to inhibit diesel particulate filter regeneration as long as switch is "on" position.
    g. Hour meter and tachometer.

7. Differential: Locking

8. Frame:

    a. Double steel channel type. With full frame length C-channel reinforcement.

    b. 120,000 psi yield, RBM (Resisting Bending Moment), 3,500,000 in.-lbs. Minimum.

9. Transmission:

    a. Allison MD3500RDS 6-speed or equal.

    b. PTO – Hot shift PTO with piggy back pump.

    c. Automatic transmission oil temperature gauge.

10. Electrical:

    a. Twelve volt system with dual gel type batteries.

    b. 200 AMP alternator, capable of charging at low engine speeds.

    c. Color coded wiring or continuously numbered.

    d. Circuit breakers at main panel to replace all fuses except instrument cluster feed.

11. Steering: Powered.

12. Brakes:

    a. Front Disc brakes, system shall comply with new reduced stopping distance NHTSA regulations.

    b. Dual air system with 22.4 m3/H (13.2 CFM.) compressor, with air dryer, and pressure gauge with low air warning buzzer.

    c. Antilock Brake System - full vehicle wheel control.

    d. Parking - piggy back, spring adjusted, double diaphragm; anchor lock, MGM or equal, SCAM.

    e. Safety spring loaded on rear axle. Cab controlled emergency air tank for release.

f. Trailer hand control lever mounted on steering column, and tractor protection valve.

g. Jacob driveline brake (electromagnetic) or equal.

13. Wheels/Tires:

a. Seven (7) each; single front, tandem rear, spare.

b. Tires – 11R 22.5, 16 ply rating load rating H.

c. Wheels – 22.5 x 8.25, disc painted steel 10-stud with steel hubs.

14. Axle:

a. Front —5,443.2kg (12,000 lbs.) minimum.

b. Rear — 9,525 kg (21,000 lbs.) minimum. Single reduction with 200 wheel ends.

15. Springs:

a. Front — 5,443.2 kg (12,000 lbs.) minimum with shock absorbers.

b. Rear — 9,525.6 kg (21,000 lbs.) capacity minimum, with 2,041.2kg (4,500 lbs.) auxiliary springs.

c. Heavy duty front shock absorbers.

16. Cab:

a. Aluminum or steel conventional cab with tilt hood.

b. Complete head lining.

c. Clear safety glass on rear window (full width). Shall have manufacturer installed or custom built right door peep window and rear quarter/corner windows both sides of cab. These windows shall provide additional visibility for the operational safety of the vehicle, or other means to provide equal view.

d. Seats — Driver air suspension, intermediate back, isolated, with two position front cushion adjustment, minus two degree to plus fifteen degree seat back adjustment. Mechanical lumbar support, adjustable head rest,3-point lap/shoulder belt; Passenger seat shall be two man, low back with adjustable head rests and one (1) 2-point lap belt and one (1) 3-point shoulder belt.

e. Non skid steps and grab handles located on both sides of cab, to allow for 3-point contact when entering and disembarking.

f. Floor mats.

g. Sun visor, driver and passenger.

h. Factory installed air condition.

i. Vinyl upholstery.

j. AM/FM radio, factory installed.

k. Dual exterior powered rear view mirrors (backs/brackets shall be aluminum/stainless steel, or non-corrosive composite type, 152.4mm x 406.4mm (6 in. x 16 in.) minimum. West Coast type or equal with convex bottom section.

l. Rain guards on both doors.

m. The lightbar system shall be a Whelen model FCOHIDOT, part no. 01-0684294-72 or equal. The bar shall be sixty (60) inches long minimum. The main structure of the lightbar must be an extruded aluminum I-Beam design. The lightbar shall house all electronic components. The lightbar must have Hi/Low power control of all inboard LED modules. The lightbar shall contain one (1) control module I/O board which must control all internal light heads. The I/O board shall produce a minimum flash rate of 75 Comet flashes per minute with alternating corners, not an "x' pattern. There shall be ten (10) Scan Lock flash patterns to choose from. Each pair of LED lamps must be capable of operating in a different flash pattern. The lightbar shall have all linear LED modules and shall meet SAE-J845 Class I and SAE-J595 requirements. The lightbar shall have linear LED modules in the four corners.

   Each linear 18 corner module shall consist of a minimum of eighteen (18) high output LED's permanently mounted within a single dual (over/under) "removable" highly mirrored parabolic reflector for maximum light output. The eighteen (18) LED's shall be mounted in two straight lines of 9 LED's each (over/under) for maximum light output. The linear reflector shall extend to the MR11 alley light with no appreciable open gap between the LED module on the alley light. The LED work light must be the same size module as used for the warning lights, but must consist of two staggered rows of six Super LED's and be able to flash and steady burn. All LED panels shall be the same design as the Linear 18 described above, and must contain 12 Super LED's (6 over 6). All inboard light heads must be 400 Series (this will allow for placement of this light head in any inboard position). All LED inboard modules

must produce a minimum 180 degree light pattern. The I/O module shall be 100% solid state with built-in reverse polarity protection and output short protection. The I/O board shall operate from 10 — 16 VDC with no degradation in flash rate. The lightbar shall be designed to have up to eight (8) lamps to the front, eight lamps to the rear, and one (1) on each end. Each lamp module position shall have colored lens sections, independent of the others, that match the color of the LED module. For split modules, clear lenses must be used. The LED panel must be mounted within the lightbar. The corner Linear LED's must have a two-intensity cruise light mode. This provides a lightbar that has illuminated corners (no flashing), which are used for marker lights.

The user shall have a choice of ten (10) Scan-Lock flash patterns to choose from the LED modules, and four (4) Scan-Lock flash patterns for the flashing work lights and flashing alleys. The pattern must be selected by an external connection, not requiring the user to open the lightbar to change flash patterns.

The light bar shall have: Front — Two (2) Corner Linear 18's (amber), Eight (8) inboard Linear12 LED's (6 amber / 2 white); Rear — Two (2) Corner Linear 18's (amber), Six (6) Inboard Linearl2 LED's (4 amber / 2 red), Two (2) Inboard staggered white TIR12 Super-Led modules for use as work lights; Ends — Two (2) MR11 alley lights; Additional, two (2) spare MR11 halogen replacement bulbs.

The light bar shall be wired to function as follows: All Amber warning LED's; All white warning LED's and flashing LED work light; Left Alley; Right Alley; Flashing Alley; LED Work light, steady; Hi/Low power. All switches shall be lighted type and mounted within a console attached to the dash or mounted as part of OEM console, with provisions to mount an external radio system. Lightbar power cable must be brought to the power source with a fuse (thermal circuit breakers shall be rejected). Power cable shall be labeled with a permanent label at the power source, marked "Lightbar". All cable and wiring shall be conduit protected and shall use grommets through sheet metal panels.

Note: The rear bar red LED's must be separately wired and switched for activation.

The four corner Linear18's must be identical and all other inboard light heads must be 400 series. All internal light heads must snap into sliding brackets that are mounted in the lightbar.

The lightbar must contain a maximum of eight (8) screws, four (4) for each end cap to access all internal light heads. Light heads that require the removal of more than eight screws to remove all internal light heads are unacceptable. Lightbars with modules mounted outside of the main lightbar are not acceptable. The lightbar shall contain a permanent mounting kit to prevent theft of the lightbar, and be laser etched "STATE DOT HIGWAYS', lettering shall be 1.5 inches tall.

n. Twelve (12) volt power accessory outlet.

o. Cab guard (to protect cab top, lightbar and hood area); and rear window guard.

p. Travel height placard, mounted on dash.

q. Air bag protection for driver/passenger.

r. Dual air horn.

17. Body:

a. Knapheide Aerial Service Line/Step Body, suitable for installing on any chassis with a minimum CA dimension of 2,743.2 mm (108 in.), built in accordance with standard specifications with dimensions and compartments as specified. Body shall have a six (6) year warranty.

b. Body fabricated from hot-dipped galvanized steel with 100% iron zinc alloy coating or galvannealed steel:

1. Fourteen (14) gauge outside panels.
2. Twelve (12) gauge end panels.
3. Eighteen (18) gauge shelving.
4. Fourteen (14) gauge double panel doors.
5. Twelve (12) gauge tread plate steel floor.
6. Structural channel sub base with 76.2mm (3 in.) cross members.
7. Fourteen (14) gauge tread plate installed on top of body compartments.

c. Body Dimensions: Minimum

1. 4,064 mm (160 in.) overall length.
2. 2,362.2 mm (93 in.) outside width.
3. 1,193.8 mm (47 in.) front of body height; 1,143 mm (45 in.) rear of body height.
4. 457.2 mm (18 in.) compartment depth.
5. 1,447.8 mm (57 in.) floor width (cargo area).

d. Compartments – left side (driver's side)

1. First vertical — 609.6 mm (24 in.) w. One (1) plain fixed shelf 381 mm (15 in.) from top for inverter storage. Two (2) fixed shelves with removable dividers on 101.6 mm (4 in.) centers. Back of compartment louvered above inverter storage shelf.
2. Second vertical — 558.8 mm (22 in.) with five (5) fixed material hooks (1-3-1).

3. Third vertical — 558.2 mm (22 in.) with five (5) fixed material hooks (1-3-1).
4. Horizontal — two (2) each, 2,053.2 mm (58 in.) with one (1) plain fixed shelf extending through rear vertical compartment.
5. Rear vertical — 863.6 mm (34 in.) with top portion incorporated into horizontal compartment, lower portion vacant.
6. Through shelf. From second vertical to rear of left side with hot-stick brackets and rear door.

e. Compartments – right side (passenger side)

1. First vertical — 508 mm (20 in.) with five (5) fixed material hooks (1-3-1).
2. Second vertical — 508 mm (20 in.) with five (5) fixed material hooks, water cask and mounting bracket with drain spout.
3. Third vertical — 660.4 mm (26 in.) with access steps to cargo area (between second/third cabinets), hinged to provide storage for auxiliary battery. Lock to be keyed like compartments. Notch compartment to allow clearance for spring hanger.
4. Horizontal — 1, 524 mm (60 in.) with two (2) fixed shelves with removable dividers on 203.2 mm (8 in.) centers.
5. Rear vertical — 863.6 mm (34 in. with three (3) fixed shelves with removable dividers on 101.6 min (4 in.) centers.

f. Standard Body features:

1. Wheel chock holders, installed one (1) each side in fender panels behind rear wheels, with rubber wheel chocks with metal handles.
2. All doors full double panel, self-sealed with built in drainage for maximum weather tightness. Stainless steel hinge extends entire length of doors.
3. Stainless steel paddle activated rotary style latches, included keyed alike locks.
4. All edges either folded or rolled for strength and safety.
5. Door header drip rail at top for maximum weather protection.
6. Neoprene fenders.
7. Completely painted; all interior bases and walking surfaces shall be coated with non-skid.
8. Led lights in all compartments, pressure switches on each door, compartment lights wiring through master switch in cab.

g. Custom Features:

1. Galvanized or galvannealed steel rear extension shelf with recess for pintle hook, 25.4 mm (1 in.) lip welded on rear face to prevent

materials from rolling off; 609.6 mm (24 in.) on right side and 28 inch on left side. Triplex wire reel racks mounted on rear extension right and left sides.

2. Raise floor level up to provide 139.7 mm (5.5 in.) rear face.
3. Two (2) each cable steps, one (1) each side at rear.
4. Two (2) each grab handles one (1) each side at rear.
5. Two (2) each compartment top access steps, installed behind right side and left side compartments in cargo area.
6. Two (2) each access steps, grip-strut, installed on top of rear right side and left side compartments for access to bucket.
7. Rigid grip-strut access step installed under right side body access.
8. Two (2) each grab handle at right side access step.
9. Four (4) each outrigger pad holders, 482.6 mm x 482.6 mm x 88.9 mm (19 in. x 19 in. x 3.5 in.), add 12.7 mm (.5 in.) lip at opening. Install one (1) under each corner of line body.
10. Two (2) each large splash aprons, installed behind rear wheels.
11. Two (2) each large anti sail mud flaps with brackets mounted behind rear wheels.
12. Triangle kit mounted in first left side compartment; and four pack PF200 Power Flare Safety Light with carry bag. Power flare shall have yellow housing with red LED lighting. All housing shall be etched "STATE DOT HIGHWAYS".
13. One (1) 2.2 kg (5 lb.) ABC Dry Chemical fire extinguisher mounted in first left side compartment.
14. Two (2) each bubble level indicators, with gauges. One (1) mounted to rear surface left side compartment. The other mounted on cargo area side of left side compartment near aft end.
15. Battery box, for gel type deep cycle battery, group 27.
16. Lights and reflectors in accordance with FMVSS#108 modular lighting package, all wiring connections crimped with solderless connectors and enclosed in shrink tube with waterproof sealant. All wire ends are tinned before insertion into plugs. All plug connections are completely sealed and weather proof. Entire assembly is enclosed in a continuous plastic loom to form a one-piece harness. Lighting package is complete with sealed polycarbonate lenses and housings, affording superior impact and heat protection, flush mounted in rubber grommets as follows: two (2) clear back up lights; four (4) red stop/turn/tail lights; seven (7) 63.5 mm (2.5 in.) diameter red clearance lights; license plate light. Lights shall be LED type. There shall be two additional amber warning LED lights (Whelen series 700 model SSN F106A single strobe plus) mounted at rear of utility boxes and wired to operate with the light bar.

18. Aerial Unit:

a. ALTEC Model TA55; TECO Vanguard V5-55 or equal, articulating over center, installed over rear axle, built in accordance with standard specifications and to include the following features as specified.

b. Ground to bottom of platform height: 16.5 m (54.4 ft.), minimum.

c. Working height 18.1 m (59.4 ft.), minimum.

d. Maximum reach from centerline to lip of platform 11.8 m (38.8 ft.).

e. Insulated, lifetime platform leveling system.

f. Pedestal and turntable, box structure design with large service openings and easy to remove covers.

g. Rotation, continuous.

h. Continuous rotation provided by worm gear drive, equipped with extended shaft for manual rotation driving a worm gear speed reducer and gear bearing.

i. The articulating arm shall be designed so that the stress proof articulating arm and lower boom are compensating.

j. ~~Elevator section — Elevator link arms are mechanically compensated to provide a ten foot vertical lift to the aerial~~

k. Lower boom- fiberglass insert isolation gap; Articulation 0 to 125 degrees (35 degrees beyond vertical).

l. Upper Boom - round filament wound fiberglass; Articulation of 270 degrees in relation to lower boom.

m. Upper Boom extension shall be extended and retracted by a double acting hydraulic extension cylinder installed within the booms. Upper boom hold down device.

n. Platform leveled by positive mechanical system utilizing insulated fiberglass rods and a roller chain.

o. Dielectric rating, ANSI, Category C, 69kV and below.

p. ISO 9001 certification, this aerial device shall be manufactured in a facility that is certified to meet ISO 9001 requirements.

q. The control system shall be a full pressure type. The upper control located at the platform shall consist of a insulated single handle control with an interlock to prevent inadvertent boom movement. This control shall allow the operator to make simultaneous multiple boom movements. An additional separate control shall activate the articulating arm, this control shall be mechanically locked to prevent accidental actuation and should not require the actuation of the trigger on the single hand control.

   Conventional multiple lever ground controls located at the turntable shall include an upper control override.

r. A valve located at the boom tip and easily accessible by the operator without having to remove any covers, allows the lower boom to be lowered in the case of engine/hydraulic system failure.

s. Hydraulic tool circuit control easily accessible to the operator activated the tool circuit to provide 18.9 LPM (5GPM) at 138 BAR (2,000 PSI) minimum. One set of HTMA quick disconnect couplings located within a protected location inside the control cover at the platform.

t. Diagnostic pressure test, quick disconnect couplings located at turntable.

u. Two (2) strobe LED lights (Whelen Model No. MC40ED4A or equal) mounted one on each side of aerial pivot base arm.

v. "Boom out of Stow" warning light in cab.

w. Engine start/stop control at the platform, and toggle switch at the turntable.

x. Emergency Operating System: Electrical powered, includes pump and motor operated from truck battery, captive air activated, automatic.

y. Platform two man, 272.1 kg (600 lbs.) capacity with 180° platform rotator. Fiberglass Construction; Complete platform liner; Platform cover; Hydraulic circuits for hand tools (quick disconnect) two (2) each; Material lifting winch and jib mounted at platform area, fiberglass construction, minimum 453.6 kg (1,000 lb.) capacity rating.

z. A-frame outriggers (primary and auxiliary), located aft of the pedestal through rear compartment; auxiliary outriggers shall be located between cab and body. Controls located at right and left sides of tail-shelf. Shall have motion alarm switches. Interlock switches (for primary and auxiliary) to prevent boom operation until

outriggers are lowered. "Outrigger Down" warning light in cab; Switch to isolate warning alarm during tool circuit operations. Slope indicator located at operator dash area.

19. Other:

    a. Two (2) each; safety harness large; and positioning lanyards.

    b. Electrical switch panel - coin box style to include truck/equipment switch; hour meter; boom out of stow; strobe flashers.

    c. Electrical inverter DC to AC static, 2200 w, with duplex (GFI protected outlets mounted at platform and right rear.

    d. Work lights, three (3) each 200,000candle power (swivel type), located at rear of cab, right rear of bed, and at platform. Battery powered. One (1) swivel spotlight mounted from below cab guard near right center just back of windshield area.

    e. Hydraulic oil reservoir 75.7 L (20 gal.) minimum capacity, internally mounted suction filter and gate valve.

    f. Sub-base installed between primary and auxiliary outriggers. Boom rest installed behind of cab.

    g. One (1) platform support mounted under stowed aerial platform.

    h. Four (4) each outrigger pads, aluminum, Sauber Model #1818 or equal 457.2 mm x 457.2 mm x 63.5 min (18 in. x 18 in. x 2.5 in.).

    i. Ballast as required by manufacturer requirements.

    j. Towing package to include; Pintle hook (Holland #380) or equal, mounted 685.8 mm (27 in.) above ground, reinforced as required; Two (2) "D" rings; Provide and install electrical, glad hands, dust covers, to include all plumbing and connections.

    k. Air/electric to end of frame rails with 914.4 mm (36 in.) of extra line.

    l. Impact wrench, Stanley IW08 or equal, 3,657.6 mm (12 ft.) non-conductive hose assembly and quick connect coupler to match aerial tool circuits; chain saw, Stanley CS06 or equal, with non-conductive hose and quick connect coupler to match aerial tool circuits; Chain saw scabbard at platform. Tool circuits at tail shelf, indented section added to one of the outrigger valve section area. Two (2) sets of quick disconnects.

m. Front bumper, manufacturer standard with single/dual tow hooks.

n. First service kit shall include all required filters (oil, fuel, air, breather, transmission, etc.).

o. Safety Inspection/PUC Certification, License, Registration and Certificate as required in General Provisions.

p. Complete after factory rustproof with seven (7) year unlimited warranty (complete unit). Applied in accordance with Federal Specifications 297A at its latest revision.

q. Electronic reverse alarm.

r. Technical resources - one (1) copy of repair manual, one (1) copy of parts catalog, two (2) copies of operations manual. Book format/CD/DVD.

s. Twenty (20) for each vehicle "Geotab G06" plug and play device by Sprint, with five (5) year "Pro Plan", to enhance vehicle safety and security. Report information shall be monitored by the Highways Construction and Maintenance branch.

t. Color, white high gloss urethane, complete unit. Apply non-skid to all walking surfaces. Shall be outlined with conspicuity material (reflexite or equal) red and white.

u. First Aid Kit (OSHA/ANSI recommended).

v. Upon "Notice to Proceed", Contractor shall submit "Application" (To State Motor Vehicle Safety Office) to meet the requirements of Section 286-202 (12), Hawaii revised statutes, for approval of a major modification. Construction, or reconstruction of a vehicle with a gross vehicle weight rating (GVWR) of 10,001 pounds and above. Application is available at:

State of Hawaii
Department of Transportation
Highways Division
Motor Vehicle Safety Office
601 Kamokila Boulevard, #511
Kapolei, Hawaii 96707

Copy of approved application shall be submitted at time of delivery.

20. Training:

Bidder shall provide manufacturer training syllabus at time of bid submittal.

Contractor shall provide manufacturer training for proper and safe operation, maintenance of equipment, to include proper fall protection training. This training shall include a minimum of one (1) hour classroom and one (1) hour per operator hands on training. This service shall be provided at no additional cost to the State. Contractor shall provide classroom site. Training shall be consistent to OSHA requirements.

Copy of attendance record showing class date, time, location, class type, instructor's name and attendees shall be submitted to:

State of Hawaii
Highways Division
Construction and Maintenance Branch
Attn: Equipment Superintendent/Safety Coordinator
869 Punchbowl Street Room 404
Honolulu, Hawaii 96813

Bidder(s) shall submit to the Project Manager within five (5) working days after bid opening a certified letter(s), from the manufacturer(s) to certify the prospective bidder as the Factory Authorized Warranty Dealer (letter required for both chassis and equipment).

SECTION 26 - UTILITY TRACTOR WITH REAR ROTARY MOWER

26.1 SCOPE OF WORK - The work consists of furnishing and delivering one (1) only, Utility Tractor with Rear Rotary Mower, to the Island of Kauai. The Contractor shall present the equipment complete, ready to use, and fully operational.

26.2 UTILITY TRACTOR WITH REAR MOUNTED ROTARY MOWER - The Specifications contained herein establish minimum standards (unless stated differently). Equipment offered shall include any other standard features not listed but detailed in manufacturer's brochures and deemed necessary for proper and safe operation of equipment.

DETAILED SPECIFICATIONS FOR UTILITY TRACTOR WITH REAR ROTARY MOWER

1. Model/Year: Case Farmall 75C, Kubota 7060HDC, John Deere 5075E, 2026 or latest production; or equal.

2. Type: Mechanical 4-Wheel drive.

3. Engine:

   a. Diesel powered, liquid cooled. EPA Tier 4 and EU Stage III A compliant. Shall have capability of operating on a B20 blend of bio-diesel with no adverse effects.

   b. 75 Horsepower minimum, 80 horsepower maximum

   c. Fuel water separator, DAVCO Fuel Pro 243, or equivalent, B20 Bio-Diesel compatible.

   d. Combination pre-screener/pre-cleaner or turbo cleaner indicator.

4. Transmission:

   a. Manufacturer's standard full synchromesh 12x12 hydraulic with shuttle and creep minimum, or equal.

   b. Lock type differential.

5. Electrical:

   a. Twelve (12) volt system.

   b. Alternator capable of charging at low engine speeds.

6. PTO:

   a. Rear PTO at 540 RPM.

b. Independent PTO.

7. Steering: Powered.

8. Brakes: Manufacturer's standard service and parking brake system.

9. Tires:

   a. All tires mounted on compatible rims.

   b. Front – 12.5/80-18 16, F-2 (Industrial Sure Grip Tread) or manufacturers equal

   c. Rear - 16.9 x 30, R-4 (Industrial Surge Grip Tread) or manufacturers equal R-1.

   d. Spares - Front and rear, one (1) each.

10. Axles: Heavy duty, front/rear.

11. Hydraulic:

   a. Open or closed center.

   b. Suction line shall have a 100 mesh filter.

   c. Main in tank filter to be 10 micron, full flow with restriction gauge.

12. Accessories:

   a. R.O.P.S. and enclosed cab shall meet OSHA requirements: with factory installed air conditioning

   b. Hinged protective expanded metal screen over rear window, must be able to swing open to clean glass.

   c. Reverse warning alarm.

   d. Horn.

   e. Interior rear-view mirror; two (2) exterior mirror mounted right/left side of cab.

   f. Working and traveling lights - headlights; LED hazardous flashing lights front/rear; LED directional signals front/rear; LED combination tail/brake lights; six (6) work lights, front - two (2) each on cab roof and two (2) each mounted at lower windshield area. Rear - two (2) each mounted to rear top of cab, to include limb guards.

g. Super LED Mini Light Bar, twelve (12) volt, clear dome (Whelen MC11PCA Class I or equal), mounted on top of cab.

h. Manufacturer front and rear fenders (if available).

13. Rear Mounted Rotary Mower

a. Heavy Duty Rear Rotary Mower (Bush Hog 326) or approved equal.

b. Offset mount with return to center with 3 point hitch connection.

c. Heavy duty gear box of 156.6 kw (210 HP) rating.

d. Cutting width 1,828.8 mm (72 in.) minimum.

e. Cutting height 50.8 mm to 304.8 mm (2 in. to 12 in.).

f. Shall be able to shred brush/pruning up to 100.16 mm (4 in.).

g. 7-gauge deck thickness

h. Approximate weight of unit 635.04 kg (1,400 lbs.).

i. Shall be able to shred brush as well as cut grass.

j. Rear trash deflector shall be provided at rear of unit.

k. Rear trash deflector shall have double row of safety chains to provide safety from flying material.

l. Category 5 driveshaft with safety shielding.

m. Slip clutch for driveline protection.

n. Quick hitch attachment.

14. Other:

a. Unit shall have cushioned, adjustable operators seat with backrest and seat belt.

b. List of factory trained and authorized personnel who will provide service.

c. Tractor shall have a five (5) year warranty on drive train, axles and cutter gear box.

d. List of scheduled item/systems which require maintenance by factory authorized.

e. Counterweight - manufacturer's recommended.

f. SMV (Slow Moving Vehicle) emblem.

g. Tool Box 254mm x 254mm x 508mm (10 in. x 10 in. x 20 in.) approximately, lockable.

h. Operators Manual, two (2) copies. Service/Repair Manual, Parts Catalog; one (1) copy each (for tractor and rear flail). CD/DVD/Flash Drive.

i. Color, Federal Safety School Bus Yellow, High Gloss urethane or manufacturer equal.

j. First Service Kit to include all necessary filters, as required. (Oil, fuel, air, breather, etc.).

k. Hour meter.

l. Slope degree indicator, model 7489, R&B, Inc. Manufacturing or equal.

m. Complete vandalism protection package at all service/cab/dash/fuel points and to be keyed alike.

n. 2.2 kg (5lb.) ABC fire extinguisher mounted in cab.

o. First Aid Kit OSHA/ANSI recommended.

15. Training:

Contractor shall provide initial training at time of delivery for proper operation and maintenance of equipment and refresher training one (1) year after initial delivery. This training shall include a minimum of one (1) hour classroom, and one (1) hour per operator hands on training. Contractor shall provide classroom site. This training shall be at no additional cost to the State. Training shall be consistent to OSHA regulations.

Copy of attendance record showing class date, time, location, class type, instructor's name and attendees shall be submitted to:

State of Hawaii
Highways Division
Construction and Maintenance Branch
Attention: Equipment Superintendent/Safety Coordinator
869 Punchbowl Street, Room 404
Honolulu, Hawaii 96813

SECTION 30 - CAB/CHASSIS WITH 12 CUBIC YARD DUMP BODY

30.1- SCOPE OF WORK - The work consists of furnishing, delivering, one (1) only, Cab/Chassis with 12 Cubic Yard Dump Body, to island of Molokai. The Contractor shall present the vehicle/equipment complete, ready to use and fully operational.

30.2- CAB/CHASSIS WITH 12 CUBIC YARD DUMP BODY - The Specifications contained herein establish minimum standards (unless stated otherwise). Vehicle/equipment offered shall include any other standard features not listed but detailed in manufacture's brochures and deemed necessary for proper and safe operation of vehicle/equipment.

DETAILED SPECIFICATIONS FOR CAB/CHASSIS WITH 12 CUBIC YARD DUMP BODY

1. Model/Year: Cab/Chassis with 12 Cubic Yard Dump Body, 2025 or Latest production.
2. GVW Rating: 66,000 lbs. (29,937.6 kg) maximum capacity.
3. Wheelbase: 172 in. (4,368.8 mm).
4. Cab to Axle: 108 in. (2,743.2 mm).
5. Axle to Frame: 53 in. (1,346.2 mm).
6. Engine:
    a. Diesel powered, wet sleeved engine or dry sleeved engine with manufacturer's standard engine warranty, minimum 6 years. Current Emissions certified, tier 4.
    b. Liquid cooled with deaeration system with tank and sight glass. Full radiator guard. Silicon cooling system hoses.
    c. Six (6) cylinders.
    d. 485 HP, 1,850torque lb. ft @1,200 RPM, minimum.
    e. Fuel water separator with sight bowl. DAVCO Fuel Pro 483, or equivalent.
    f. Magnetic engine oil drain pan.
    g. Idle shut down timer.
    h. Engine oil temperature gauge.

i. Throttle hand control, electronic mounted at instrument panel.

j. Air cleaner restriction gauge.

k. Electronic governor.

l. Engine shutdown, key operated.

m. Full flow spin-on oil filter.

n. Fuel filter, engine mounted.

7. Exhaust:

   Single vertical muffler and exhaust pipe with protective shield (down to frame), and rain cap. After treatment device, frame mounted. Two (2) position exhaust switch to inhibit diesel particulate filter and regeneration as long as switch is "on" position.

8. Transmission:

   a. Automatic, Six (6) speed (Allison 4500RDS or equal); magnetic drain plug.

   b. Heavy Duty Oil cooler.

   c. Transmission shift control – push button with lockout.

   d. PTO: Hot shift PTO with piggyback pump.

   e. Transmission oil pressure gauge.

9. Axle:

   a. Front: 18,000 lbs. (8,164.8 kg) capacity, minimum.

   b. Rear: 46,000 lbs. (20,865.6 kg) capacity, minimum tandem single reduction with 200-wheel end. Magnetic drain plugs. Air operated power divider lock, cab controlled with indicator light. Traction control.

   c. Pucher: Neway Model LSZ13 Auxiliary Steerable Lift Axle Suspension System (Part No. LSZ1310AAEE) 13,500 lbs. (6,123.6 kg) capacity. In-cab air controlled (Part No. 90560171)

10. Suspension:

    a. Front: 20,000 lbs. (9,072.4 kg) heavy duty capacity, minimum.

    b. Rear: 46,000 lbs. (20,865.6 kg) capacity, minimum. Hendrickson HAULMAAX, HMX460 or Chalmers 800 series model 800-46, or equivalent, fifty-four (54) inch axle spacing.

    c. Note: Front and rear springs shall not bottom out at maximum vehicle load capacity set by the manufacture (the State carrier's various materials at various weights).

11. Shoch Absorbers: Heavy duty fronts and rears.

12. Wheels/Tires:

    a. Front: 22.5 x 9.00, hub piloted DC rims with steel hubs or similar.

    b. Front: 315/80R 22.5 L, 20 ply, load range L or similar.

    c. Rear: 22.5 x 8.25, hub piloted DC with steel hubs or similar. To include pusher axle.

    d. Rear: 1R 22.5 H, 16 ply, load range H, highway traction or similar. To include pusher axle. Dual rear wheels shall be able to accept any brand of tire; tires shall not touch when inflated and loaded.

    e. One (1) each spare tire and wheels for front and rear.

13. Brakes:

    a. Dual air system with minimum 18.0 cubic feet compressor, with air dryer and pressure gauge with low air warning buzzer.

    b. Retarder- Telma or Klam Retarder, driveline mount with handle lever positioner and foot brake application.

    c. Parking- Piggyback, spring actuated, double diaphragm; Anchor lock, MGM or equal, S-cam.

    d. Safety spring loaded on rear axle, cab-controlled emergency air tank for release.

    e. Trailer hand control brake lever mounted on steering column and tractor protection valve.

    f. Anti-lock brake system; Traction control.

g. Front and rear disc brake for severe duty application.

14. Steering: Powered

15. Electrical:

a. Three (3), twelve (12) volt batteries. AMG type batteries shall have the rating of 2400 CCA, minimum.

b. Alternator- 200 amp minimum, capable of charging at low engine speed.

16. Cab:

a. Aluminum or steel conventional cab with tilt hood and manufacturer standard corrosion-perforation warranty. Double-galvanized steel cab acceptable.

b. Complete head lining.

c. Clear safety glass on rear window (full width) shall have manufacture installed or custom-built right door peep window and rear quarter/rear windows both sides of cab (these windows shall provide additional visibility for the operator's safety of the vehicle), or other means to provide equal view.

d. Individual seats for driver and passenger with safety belts, driver's seat shall be air suspension type (Bostrom Freedom XL or equal), with adjustable mechanical lumbar support, front cushion adjustment, vinyl material. Passenger seat shall be two (2) - man passenger, vinyl seat.

e. Steps and grab handles located both sides of cab, to allow for three (3) point contact upon entering or disembarking from cab.

f. Rubber floor mats.

g. Sun visor, driver and passenger.

h. Factory installed air condition, heater, defroster and vent system.

i. AM/FM/Bluetooth radio, hands free system, reverse camera.

j. Power windows and door locks.

17. Chassis Frame: Heat treated alloy steel (110,000 psi yield), double frame 2,594,000 RBM.

18. Dump Body:

a. Rock Dump, 12 cubic yard, minimum.

b. 15 ft. length x 87 in. width x 42 in. height (4,572 mm x 2,209.8 mm x 1,066.8 mm).

c. Headboard, sides, floor and tailgate- ¼ in (6.35 mm), minimum.

d. Headboard with half cab shield fully (continuous) welded between dump body and headboard.

e. Grab bars on both sides front top of box, grab bar outside of box on both sides above rear tires.

f. Horizontal and vertical bracing.

g. Dump box shall be equipped with the following: 8 in. (203.2 mm) spreader apron, six (6) lashing hooks on each side of box and two (2) lashing hooks on tailgate. Flat (not angled) running board or catwalk to extend out along each bottom side of box with safety threads or a painted-on slip coating (no metal grating), 42 in (1,066.8 mm) high tail gate.

h. Air tailgate release and power tailgate with controls in cab. Tailgate shall be multi-function (traditional dump through, sliding and high lift).

i. Automated pull trap load cover, retractable, with steel protection cover.

j. Safety step ladder slides out left and right side, ladders welded front and rear on both sides of dump box.

k. ~~Shall be lined inside with spray-on liner minimum of ¼ in. (.25 mm) thickness. Liner shall be compatible with hot/cold asphalt.~~

19. Hoist:

a. 42-ton minimum capacity, NTEA class 120, front mounted telescopic.

b. Under-body mounted with safety locks and props.

c. Control lever with safety lock mounted on floorboard of cab (right side of driver's seat).

d. Six (6) in. diameter cylinder, three (3) stage, 138 in. stroke, minimum.

20. Bumper:

    a. Heavy duty front bumper.

    b. One (1) or two (2) hooks mounted on front bumper or chassis front frame.

    c. Pintle hook with two (2) “D” rings, a Holland Hitch PH300 with air operated plunger or equal. Mounted on rear “A” bracket frame. Center of hitch to be mounted approximately 26 in. (660.4 mm) from ground level with additional installation height of 30 in. (762 mm).

21. Preparation: All bare metal shall be treated with OSPHO and primed prior to application of finish coat on dump body.

22. Other:

    a. Dual step-type fuel tanks, 189.3 L (50 gal.) minimum capacity each, with additional swing step. Single fuel tanks, 378.5 L (100 gal.), are also allowed

    b. Full radiator gravel guard.

    c. Air horn.

    d. Glad hands and plumbing with electrical wire connection (Warner 13-281-001 or Equal) mounted at rear. To include electric trailer brake control.

    e. Instrument panel:

    f. Gauges: coolant temperature, fuel, tachometer, amp meter, oil pressure, air pressure and hour meter.

    g. Parking brake control dash mounted.

    h. Water in fuel warning light and buzzer, low oil pressure, low coolant level and high coolant temperature.

    i. Twelve (12) volt accessory outlet.

    j. Mirrors: Powered dual exterior rear view mirrors (aluminum or stainless-steel backs/brackets or no-corrosive composite type), 6 in. x 16 in. (152.4 mm x 406.4 mm) minimum, west coast type or equal, with convex bottom section. Shall have a down view mirror on passenger door.

k. 18 in. x 18 in. x 42 in. (457.2 mm x 457.2 mm x 1,066.8 mm) frame mounted weatherproof aluminum lockable tool box.

l. Clearance lights, reflectors, identification lights and directional lights shall conform with PUC regulations. Lights shall be LED type.

m. Electronic reverse alarm.

n. One (1) 5 lbs. (2.2 kg) ABC dry chemical fire extinguisher mounted in cab.

o. Road safety triangle kit and four (4) pack kit Aervor Super LED Road flares shall have yellow housing with red LED lighting. All housing and case shall be etched "State DOT Highways".

p. LED light system Whelen Model DOT3710D, or equivalent, to include two (2) stainless steel Micro 400, installed on dump headboard shield, two (2) rectangular 7-guage welded steel housings installed on rear of dump body, one (1) on each side, containing two (2) 700 series amber linear strobe light heads, one (1) on each side, two (2) 700 series red LED brake/turn/tail light heads, one (1) each side, two (2) 700 series clear back up lights, one (1) on each side, one (1) standard PCC4W lighted switch panel with diagnostic indicator installed in or under dash, within easy reach of driver. Waterproof, oil, and corrosion resistant TPR cables with waterproof connectors shall be installed with above system. AMECA certified to SAE standards and/or minimum specifications.

q. Color- Shall be "State Buff" Sherwin Williams 62A-7603-00 high gloss urethane or equal. Chevron marking on tailgate- Omaha orange and white (comparable to existing State Highways Division fleet). Vehicle shall be outlined with conspicuity material tape along the perimeters. Conspicuity material shall be red and white (reflexite or equal).

r. ~~Complete after factory rust proofing with minimum seven (7) year, unlimited mileage requirement warranty. In accordance with Federal Specifications 297A at its latest revision.~~

s. **Complete after factory rust proofing with manufacturer's standard warranty. In accordance with Federal Specifications 297A at its latest revision.**

t. PUC Certification, License, Registration and Certificates as required in General Specifications.

u. Vehicle shall conform to Code of Federal Regulations, Title 40, Part 85, Control of Air Pollution from NEW Motor Vehicle Safety Standards.

v. Vehicle shall conform to all applicable State, Federal and OSHA requirements, necessary for licensing, registration and certification purposes.

w. Technical Resources: One (1) copy of Repair Manual, one (1) copy of Parts Catalog, two (2) copy of Operator's Manual. CD/DVD/Book Format.

x. First service kit shall include all required filters (oil, fuel, air, breather, transmission, etc.).

y. One (1) each DAVCO Shop Pro Model Part No. 782050DAV01-07, or equivalent, with regulator, filtration equipment. To include manufactures training for mechanics.

z. First Aid Kit OSHA/ANSI recommended.

aa. Upon "Notice to Proceed", Contractor shall submit "Application" (To State Motor Vehicle Safety Office) to meet the requirements of Section 286-202 (12), Hawaii revised statutes, for approval of a major modification. Construction or reconstruction of a vehicle with a gross weight rating (GVWR) of 10,001 pounds and above.

Application is available at:

State of Hawaii Department of Transportation
Highways Division
Motor Vehicle Safety Office
601 Kamokila Boulevard, #511
Kapolei, Hawaii 96707

23. Training:

Contractor shall provide proper and safe operation, maintenance of equipment. This training shall include a minimum of one (1) hour classroom and one (1) hour per operator hands-on training. This service shall be provided at no additional cost to the State. Contractor shall provide classroom site. Training shall be consistent to OSHA requirements. Training shall include manufacturer training for mechanics on the DAVCO filtration equipment.

Copy of attendance record showing class date, time, location, class type, instructors name and attendees shall be submitted to:

State of Hawaii Highways Division
Construction and Maintenance Branch
Attn: Equipment Superintendent/Safety Coordinator
869 Punchbowl Street
Honolulu, HI 96813

24. NOTE:

The new unit shall be capable of carrying the factory rated capacity without adverse effects. The unit shall be designed for both highway and off-road hauling and dumping of various materials (density and weight).

Bidder(s) shall submit to the Project Manager within five (5) working days after bid opening a certified letter(s) from the manufacturer(s) to certify the prospective bidder as the Factory Authorized Warranty Dealer (Letter required for both chassis and equipment). Failure to submit certified letter(s) shall be sufficient grounds for rejection of bid.

SECTION 31 - 30-TON TELESCOPIC CRANE

31.1- SCOPE OF WORK - The work consists of furnishing and delivering 1 (one), 30-Ton Telescopic Crane to the island of Maui. The Contractor shall present the vehicle complete, ready to use and fully operational.

31.2- 30-TON TELESCOPIC CRANE - The Specifications contained herein establish minimum standards (unless stated differently). Vehicle offered shall include any other standard features not listed but detailed I manufacturer's brochure's and deemed necessary for proper and safe operation of vehicle.

DETAILED SPECIFICATION FOR 30-TON TELESCOPIC CRANE

1. Model/Year: 30-Ton Telescopic Crane, 2026 or latest production.
2. Type: Flatbed/Platform Body with Lift/Pull Device/Crane.
3. Expected Front Axle(s) Load: 20,000 LBS. (9,071 KG.).
4. Expected Rear Drive Axle(s) Load: 40,000 LBS. (18,143 KG.).
5. Expected Gross Vehicle Weight Capacity: 60,000 LBS. (27,215 KG.).
6. Expected Gross Combination Weight: 80,000 LBS (36,287 KG.)
7. Wheelbase: 261-inches (662 cm) minimum, 270-inches (685 cm) maximum.
8. Cab to Axle: 195-inches (495 cm) minimum, 204-inches (518 cm) maximum.
9. Engine:
    a. Diesel powered, Emissions compliant, Tier 4, shall be B20 Bio-Diesel compatible with no adverse effects.
    b. 370 HP @2100 RPM, 1250 LB-FT @ 1200 RPM.
    c. Heavy-Duty cooling system.
    d. Turbocharged 18.7 CFM Air Compressor with Internal Safety Valve.
10. Transmission:
    a. Allison 3000 RDS, or equivalent, Automatic Transmission with PTO provision.

b. Heavy-Duty water to oil transmission cooler.

c. Synthetic Transmission Fluid (TES-295 Compliant).

d. Push Button or similar electronic shift control, dash or column mounted.

11. Front Suspension:

a. 20,000 LBS. Taperleaf Front Suspension.

b. Graphite Bronze Bushing with Seals.

c. Front Shocks.

12. Rear Axle:

a. 40,000 LBS. R-Series Tandem Rear Axle.

b. 5.86 Rear Axle Ratio.

c. Iron Rear Axle Carrier with Optional Heavy-Duty Axle Housing.

d. Driver Controlled Traction Differential, Both Tandem Rear Axle.

13. Rear Suspension:

a. 40,000 LBS. Rear Suspension.

b. Ride Height of 10.50-inches.

c. Rear shock Absorbers, 2 (two Axles).

14. Brake System:

a. Wabco 4S/4M ABS, or equivalent.

b. Reinforced Nylon, Fabric Braid and Wire Braid Chassis Air Lines.

c. Fiber Braid Parking Brake Hose.

d. Relay Valve with 5-8 PSI Crack Pressure, No Rear Proportioning Valve.

e. BW AD-9 Brake Line Air Dryer or equivalent.

f. Pull Cable on Wet Tank, Petcock Drain Valves on all other air tanks.

15. Electrical Systems:

a. 12-volt, 160-amp 28-SI Quadramount Pad Alternator, or equivalent, with Remote Battery Volt Sense.

b. Singal Battery Box Frame Mounted Left-hand Side Back of Cab.

c. Standard Battery Jumpers.

16. Tires/Wheels:

a. Front- Continental, HAC3 425/65R22.5, 20 Ply Radial Tire, or approved equivalent.

b. Alcoa LVL One 82462x22.5x12.25 10 Hub Pilot 4.68 Inset 10-Hand Aluminum Disc Front Wheels, or approved equivalent.

c. Rear- Continental HDR2+ 11R22.5 14 Ply Radial Tire, or approved equivalent.

d. Alcoa ULA18x 22.5x8.25 10-Hub Pilot Aluminum Disc Rear Wheels or approved equivalent.

e. Front and Rear Mounting Nuts.

f. 1 (one) each, Spare Tire for Both Front and Rear.

17. Steering: Power or Power Assisted.

18. Cab Exterior:

a. 108-inch BBC Flat Roof Aluminum or Double-Galvanized Steel Conventional Cab.

b. Left- and Right-Hand Grab Handles.

c. No noise Shield-engine Compartment.

d. Fiberglass Hood.

e. Singal 14-inch Round Hadley Air Horn.

f. Single Electric Horn.

g. Rear license Plate Mount end of Frame.

h. Front Headlights shall be Halogen. Front Turn, all Side and Clearance Marker Lights, Rear Stop, Turn, Tail and Reverse Lights shall be all LED.

i. Door mounted, Bright Finish Mirrors with Convex mirrors with Left and Right remote.

j. Composite Exterior Sun Visor.

k. 2 Gallon (8 Liter) Windshield Washer Reservoir, Cab Mounted, Without Fluid Level Indicator.

l. Electric Powered Windows.

19. Cab Interior:

a. Factory Installed A/C and Heater.

b. Basic High Back Air Suspension Driver Seat, with Dual Armrest, Mechanical Lumbar and Integrated Cushion Extension. Basic High Back Non-Suspension Passenger Seat, with No Armrest. Both Driver and Passenger Seat shall be covered in Black Vinyl.

c. Premium LED Cab Lighting.

d. Electric Door Locks.

e. Black Seat Belts with Driver Indicator Light and Audible Alarm.

f. Adjustable Tilt and Telescoping Steering Column.

g. Black Floor Mats.

h. Dash Mounted 12 Volt and Dual USB-C Outlet.

i. Digital Alarm Clock in Driver Display.

j. Electronic Accelerator control.

k. Low Air Pressure Indicator Light and Audible Alarm.

l. Dual Needle Primary and Secondary Air Pressure Gauge.

m. Fully Configurable Center Instrument Panels.

n. AM/FM/Bluetooth Radio. Reverse Camera.

o. Electric Gauges- Fuel, Engine Coolant Temperature, Engine Oil Pressure, Transmission Oil Temperature.

p. PTO Controls for Enhanced Vehicle Electric/Electronic Architecture.

q. Engine and Trip Hour meters Integral within Driver Display.

20. Crane Specification:

a. 30 Ton lifting Capacity, 30102C A-Frame Chassis, or equal.

b. Front A-Frame Outrigger, Rear Out and Down Outrigger. Equipped with Double-Acting hydraulic Cylinders, large Pivoting Pads and Audible Alerts when Outriggers/Stabilizers are in motion.

c. Dual operator Stations Equipped with Engine Start/Stop, Foot Throttle, Signal Horn, Boom Angle Indicator, load Chart and Range Diagram.

d. 2 (two) Speed Planetary Hoist, Grooved Drum and Tapered Flanges.

e. 102 ft. (31 m), 4 Section Proportional Boom.

f. Front Bumper Stabilizer to allow 360-degree work.

g. Main Winch Cable Diameter: 9/16 in. (14 mm) Rotation Resistant.

h. Main Winch: Bent axis 2-Speed Hydraulic Motor (Activated Electrically).

i. 2 Part Line, Single Sheave Block.

j. Hydraulic Reservoir Capacity: 70 gal. (284 l).

k. Weather-resistant Electrical System.

l. Externally Wired LMI with Crane Function Cut-Offs for Overload Protection.

m. Externally Wired Anti-Two Block System.

n. Aluminum 2-Person Man Basket.

o. Aluminum Toolbox: Length-48 in. (1219 mm) by Width-24 in. (610 mm) by Height-24 in. (610 mm).

p. Steel Bed.

21. Paint:

a. Cab Color: White, High Gloss Urethane or manufacturer's equal.

b. Chassis Color: Black High Solid Urethane or manufacturer's equal.

c. Crane Color: Manufacturer's standard.

22. Other:

a. Operator's manual 2 (two) copies, Shop Repair and Parts Manual 1 (one) copy each. Book Format/CD/DVD.

b. 5 LBS. (2.2 kg) Fire Extinguisher mounted in cab.

c. First Aid Kit (OSHA/ANSI recommended)

d. Road Safety Triangle Kit and Self-Charging Four Puck Kit. Aervoe Super LED Road Flairs shall have yellow housing with red LED lighting. All housing and case shall be etched "STATE DOT HIGHWAYS".

e. Reverse Alarm.

f. Safety Inspection, License, Registration and Certificates as required.

g. Complete Factory Rust Proofing with Manufacturer Warranty.

h. The light bar system shall be a Whelen Model HIDOTF4W0 with photo cell or equal. The bar be 60 (sixty) inches long minimum. The light bar shall house all electronic components. The light bar must have Hi/Low power control of all inboard LED modules. The I/O board shall produce a minimum flash rate of 75 comet flashes per minute with alternating corners, not an "X" pattern. Ther shall be 10 (ten) scan lock flashes patterns to choose from. Each pair of LED lamps must be capable of operating in a different flash pattern. The light bar shall have all linear LED modules and shall meet SAE-J845 Class I and SAE-J595 requirements. All LED inboard modules must produce a minimum 180 degree light pattern. The I/O module shall be 100 percent solid state with built in reverse polarity protection and output short protection. The I/O board shall operate from 10-16 VDC with no degradation in flash rate. Shall have a switch controller Whelen PCC10W or equal. The light bar shall be programmed/wired for a rear lower duplex traffic advisor function. Switching

sequence as follows: #1- Amber warning, #2-White warning lights (flashing), #3-Red rear warning lights (flashing), #4- Left ally, #5- Right ally, #6- Rear work lights steady burn, #7- Cruise light corner steady burn, #8- traffic advisor left, #9- traffic advisor right, #10- Front work lights steady burn. Note, #8 and #9 will activate split traffic advisor by turning both left and right traffic advisor buttons at the same time. All switches shall be lighted type and mounted within a console attached to the dash or mounted as part of OEM console, with provisions to mount an external radio system. Light bar power cable must be brought to the power source with a fuse (thermos circuit breaker shall be rejected). All cable and wiring shall be grommet protected and shall use grommets through sheet metal panels.

The four-corner linear 18's must be identical and all other inboard light heads must be 400 series. All internal light heads must snap into sliding brackets that are mounted in the light bar. The light bar shall contain a permanent mounting kit to prevent theft of the light bar, and be laser etched "STATE DOT HIGHWAYS", lettering shall be 1.5 inches tall. Etching shall be at top of light bar on both ends, lettering to face out.

i. First Service Kit shall include all filters as required by manufacturer (oil, air, breather, fuel, transmission, etc.).

23. Training:

Contractor shall provide initial training at time of delivery for proper and safe operation and maintenance of vehicle/equipment and refresher training 1 (one) year after initial delivery. This training shall include a minimum od 1 (one) hour classroom and 1 (one) hour per operator hands on training. This service shall be provided at no cost to the State. Contractor shall provide classroom site. Training shall be consistent to OSHA requirements.

Copy of attendance record showing class date, time, location, class type, instructor's name and attendees shall be submitted to:

State of Hawaii Highways Division
Construction and Maintenance Branch
Attention: Equipment Superintendent/Safety Coordinator
869 Punchbowl Street
Honolulu, HI 96813

SECTION 35 – PROFILE THERMOPLASTIC APPLICATOR

35.1- SCOPE OF WORK – the work consists of furnishing and delivery of one (1) Profile Thermoplastic Applicator to the island of Maui. The contractor shall present the equipment complete, ready to use and fully operational.

35.2- PROFILE THERMOPLASTIC APPLICATOR – The specification contained herein establish minimum standards for the Profile Thermoplastic Applicator. Equipment offered shall include any other standard features not listed but detailed and deemed necessary/required for proper and safe operation of the equipment.

DETAILED SPECIFICATION FOR PROFILE THERMOPLASTIC APPLICATOR

1. Model/Year: Profile Thermoplastic Applicator, 2025 or latest production.

2. Dimensions:

   a. Length: 54-inches (137 cm)

   b. Width: 37-inches (94 cm)

   c. Height: 52-inches (132 cm)

   d. Weight: 600 Pounds (272 kg)

3. Self-Propulsion System:

   a. Hydrostatically powered 5.5 H.P. propane-fired engine (Honda or industry-standard equivalent) capable of propelling the Profile Thermoplastic Applicator and, if applicable, any attached or detachable operator ride-on unit. Systems using a single propulsion engine or multiple engines shall be acceptable, provided performance meets or exceeds the operational requirements of this specification.

   b. Capable of infinite forward and reverse up to 4 mph (7 kph)

   c. Include unique steering system that allows for straight steering or preset curve.

4. Frame: Shall support minimum weight of 600 pounds (272 kg). Constructed of steel.

5. Tires/Wheels:

   a. Front: Airless type wheels, bolted to heavy duty hubs, with grease fittings and dust caps.

b. Rear: Heavy-duty swivel casters with foot actuated track locking mechanism. Bearings shall be heavy duty type.

6. Material Container:

   a. Holding tank storage capacity of 360 pounds (163 kg), vertical tank.

   b. Top shall have 2 (two) hinged lids, 1 (one) for loading of material and 1 (one) for inspection of material with a locking mechanism to prevent splashing out of molten material.

   c. Designed for rapid, safe and easy removal of tank for change of material or cleaning.

   d. Shall include additional 15-gallon tank.

7. Agitation:Automatic agitation system.

8. Pointer Guide:

   a. Front mounted, plated steel.

   b. Adjustable for each die size used.

9. Heating System:

   a. 1 (one), minimum of 5lb pound propane cylinder filled tank.

   b. System regulator and related hoses rated for use with LPG (Liquide Propane Gases) system.

   c. System shall provide propane fuel to the main burner and any other systems needing heat.

   d. Minimum operating pressure shall be adjustable from 4-7 PSI.

   e. Replaceable brass main burner with a minimum rating of 25,000 BTU for rapid heating of thermoplastic.

   f. Shall be furnished with all necessary safety features, connections, fuel lines, regulators, etc. for connection to a propane cylinder.

   g. Inspection door in material tank to allow for safe lighting of the burner. To include handheld torch for safe lighting.

h. Shall include additional 15 (fifteen) gallon material holding tank.

10. Controls:

a. Adjustable steel handles for ease of operation and maneuverability (aluminum control handles not acceptable).

b. The following shall be located for operator convenience: shut-off valve on the propane bottle, the LP gas regulator, the die control handle, control for the thermoplastic material gate, bead control lever for drop on beads and material agitator.

11. Glass Bead System:

a. All steel (rust proof) glass bead hopper with a minimum 50 lbs. (22.68 kg) capacity of glass spheres. Mounted at rear of applicator. Connection between hopper and dispenser shall be with a flexible see through bead hose, with a positive on-off cut off valve.

b. Glass bead dispenser shall be automatic with on-off lever. Adjustability for flow of beads shall be controlled without the use of additional tools.

c. Bead system shall be independent of extrusion dies.

d. Designed for variable widths of 4-inch, 6-inch, 8-inch and 12-inch lines.

12. Thermoplastic Extrusion Dies:

a. Shall include dies from 4-inch, 6-inch, 8-inch and 12-inch lines.

b. Die walls shall be construed of 3/16-inch (4.7 mm) heat treated steel plated. Aluminum will not be accepted.

c. Shall have replaceable tungsten carbide runners. Include spare set of runners for each die.

d. Dies shall be fully adjustable to apply extruded material from .000-inch to .150-inch thick.

e. Dies shall be operated by a single handle convenient to operator. Handle shall have a safety stop to prevent accidental opening of the die. Systems using springs to assist in closing of the die shall not be accepted.

f. Dies shall have its own set of stainless-steel jet burners to maintain constant die and material temperatures. Burners shall be individually controlled by control valves.

g. Shall use quick disconnect fittings and flexible fuel lines.

13. Detachable Operator Ride-On:

a. Ride-on unit shall be powered either by: a Honda GX engine (160 cc / 5.5 hp) or industry-standard equivalent, or a propulsion system integrated with the primary engine described in Section 35 Part 3, provided the ride-on performance (speed, torque, maneuverability) meets or exceeds the minimum requirements listed in Items 13(b) through 13(g). Either configuration shall be acceptable.

b. Shall have a manual pull starting system.

c. Shall have a fuel capacity of 0.95 gallon (3.6 LTR).

d. Forward operating speed up to 10 (ten) MPH (16 km/h).

e. Reverse operating speed of 6 (six) MPH (10 km/h).

f. Weight: 265 pounds (120 kg).

g. Adjustable padded seat.

14. Other:

a. Parking brake system, foot actuated.

b. Shall include thermostatic temperature control adjustable to 550 degrees Fahrenheit, mounted in moisture proof enclosure.

c. Shall include temperature gauge with readings to 550-degree Fahrenheit, mounted into material tanks.

d. First Service Kit to include all necessary filters as required by manufacturer.

e. List of factory trained and authorized personnel who will provide service.

f. List of scheduled item/systems, which require maintenance by factory, authorized.

g. Operator's manual 2 (two) copies, Service and Repair manual 2 (two) copies, Parts catalog 1 (one) copy. Book format/CD/DVD.

15. Training:

Contractor shall provide operator and maintenance training to demonstrate proper and safe operation of equipment. This training shall include a minimum of 1 (one) hour classroom and 1 (one) hour hands on training. Contractor shall provide classroom site. This training shall be provided at no cost to the State. This training shall be consistent to OSHA requirements.

Copy of attendance record showing class date, time, location, class type, instructors name and attendees shall be submitted to:

State of Hawaii Highways Division
Construction and Maintenance Branch
Attention: Equipment Superintendent/Safety Coordinator
869 Punchbowl Street
Honolulu, HI 96813

SECTION 36 – FRONT-END LOADER

36.1- SCOPE OF WORK- The work consists of furnishing and delivering one (1) Front-End Wheel Loader, to the island of Molokai. The contractor shall present the Front-End Wheel Loader complete, ready to use, and fully operational.

36.2- Front-End Wheel Loader - The specifications contained herein establish minimum standards for the Front-End Wheel Loader. Equipment offered shall include any other standard features not listed but detailed in manufacture's brochures and deemed necessary for proper and safe operation of equipment.

DETAILED MINIMUM SPECIFCATION FOR FRONT-END WHEEL LOADER

1. Model/Year: New and undemonstrated of current year or current production model, similar in size, capability, capacity, and general quality to the Caterpillar 950 Front-End Wheel Loader, or approved equal (e.g., Hyundai), subject to meeting all performance, safety, and dimensional requirements.

2. Dimensions:

   a. Machine wheelbase shall be 11-feet 0-inches (3350 mm).

   b. Machine operating weight shall be no less than 42,357 lbs. (19,213 kg) with a 3.75 cubic yard multi-purpose bucket with bolt-on edges.

   c. Machine shall have an overall height to top of hood of 8-feet 9-inches (2678 mm).

   d. The height to top of ROPS shall be 11-feet 4-inches (3446 mm).

   e. B-Pin maximum height shall be at least 13-feet 3-inches (4027 mm).

   f. Minimum ground clearance with 23.5R25-L3 tires shall be 1-foot 3-inches (385 mm).

   g. Bucket design shall provide greater than or equal to 100% of rated material retention and have integrated spill guards.

3. Engine:

   a. Engine maximum power according to SAE J1995 shall be at least 250 hp. (187 kw) at 2100 rpm.

   b. Engine max net power according to SAE J1349 shall be at least 230 hp. (171 kw) at 2100 rpm.

c. Engine shall be configured to provide constant net horsepower at full parasitic load.

d. Engine shall have displacement of 428 cubic inches (7.01 L).

e. Diesel powered C7.1 engine or equivalent, meeting or exceeding U.S EPA Tier 4 Final (Stage IV) Emission Standards.

f. Shall have the capability of operating on a B-20 Blend of Bio-Diesel with no adverse effect.

g. Engine net torque at 1300 rpm per SAE J1349 shall be 858 ft-lb (1,163 N-m).

h. Engine electronic control modules and sensors shall be completely sealed against moisture and dust.

i. Engine bore shall be 4.13-inches (105 mm) and stroke shall be 5.31-inches (135 mm).

j. Automatic engine regeneration allowing manual activation when required without affecting work ability.

k. Engine shall have four idle control settings to help maximize fuel efficiency: Hibernate allows idle speed to drop after a preset time, Work provides flexibility in working engine idle speeds, Warm up helps keep the engine from dropping below a set temperature in cold conditions, and Low Voltage mode prevents battery drain due to high electrical loads from attachments.

l. Engine shall provide low rpm idle feature to conserve fuel.

m. Engine shall have a 24-volt starting and charging system.

n. Engine air pre-cleaner shall remove at least 93% of particles from the air before reaching the primary filter.

o. Variable speed fan shall draw air in from the rear of the machine and exhaust it out the sides and top of the hood.

4. Exhaust Emission Control:

a. Equipment must meet all Federal, State of Hawaii Requirements.

b. Emissions package shall be mounted on a platform bolted to the machine frame and allow access to top of the engine.

5. Transmission/Powertrain:

   a. Machine shall have an electronic power shift countershaft transmission.

   b. Machine shall have standard Lock-up Clutch Torque-Converter to allow increased speeds when on-roading or when climbing ramps.

   c. Machine shall have an Electronic Clutch Pressure Control to modulate clutch engagement individually to allow smoother speed and directional shifts.

   d. Machine shall have a variable shift control that allows the transmission to upshift at lower engine RPM's.

   e. Engine shall have 5 (five) speeds forward, capable of 24 mph (40 km/h), and 3 (three) speeds reverse, capable of 16 mph (25.7 km/h).

   f. Machine shall have an electronically controlled, variable on-demand speed fan.

   g. Torque based downshift from 2nd to 1st gear shall be standard as opposed to speed based.

   h. Recommended transmission filter change interval shall be 2,000 hours.

6. Wheels/Tires:

   a. Manufacture's recommended, lug type industrial, spare included.

7. Steering:

   a. Steering shall be via Joystick. Operator must be able to articulate machine by operating a joystick at all operating speeds. Said joystick should be speed sensitive and articulate 40 degrees to either side.

   b. A dedicated pump shall be standard for steering. When not steering, more engine power is available for rimpull, breakout force, and lift force and shall result in reduced fuel consumption.

8. Brakes:

   a. An integrated braking system shall reduce axle oil temperatures and improve transmission neutralizer smoothness.

   b. An electro-hydraulic parking brake disk & caliper shall be standard for ease of service.

c. Brake wear indicators shall be standard for ease of inspection.

9. Electrical System:

a. Machine shall have 2 (two) maintenance free 1400 CCA batteries.

b. Alternator that has a minimum charging capacity of 145 amperes.

c. A heavy -duty electric starter shall be standard.

d. Battery disconnect switch (master switch) must be available which will provide a basic level of machine security and prevent battery drain during periods of inactivity.

e. All wiring and harnesses shall be braided, color coded, and numbered for easy diagnostics, fuse block located in the cab.

f. Machine shall be equipped with 3 (three) standard 12V electrical sockets.

g. All pin connectors shall be sealed to prevent dirt and moisture infiltration.

10. Capacities:

a. Engine cooling systems shall hold minimum of 15.6 gal (59 L).

b. Engine crankcase shall hold minimum of 5.8 gal. (22 L).

c. Fuel tank shall hold minimum 72.6 gal. (275 L).

d. DEF tank shall hold minimum 4.2 gal (16 L).

e. Hydraulic tank shall hold minimum 33 gal. (125 L).

f. Transmission shall hold minimum 11.4 gal (43 L).

g. Front and rear differentials and final drives shall each hold at minimum 11.4 gal (43 L).

11. Loader Linkage:

a. Breakout force shall be a minimum of 40,690 lb. (181 kN) with a 4.1 cubic yard (3.1 cubic meter) general-purpose bucket with bolt-on edges.

b. Linkage shall be a single-tilt optimized Z-bar design that incorporates parallel lift capabilities in one single linkages.

c. Linkage shall maintain tilt forces throughout the entire lift range.

d. Linkage shall provide line of sight visibility to pallet forks from the seated operator position at ground level and truck bed height.

e. Linkage rack and dump straps shall be integrated at single interface points between the tilt lever the crossmember to eliminate induced torsion on linkage components due to uneven contact points.

12. Axles:

a. Machine shall have a fixed front axle that is rigidly mounted to the frame.

b. Rear axle shall oscillate +/- 8 degree and follow the contour of the ground to allow the cab to stay steady.

13. Work Tool Options:

a. A quick coupler shall be available for ease of changing work tools without leaving the cab.

b. A quick coupler system that has zero “offset” between coupler and tool shall be available from factory so there is no loss of performance on tipping load when using system.

c. Machine shall be provided with a 3.75 cubic yard multipurpose bucket with bolt-on edges and bucket teeth.

d. Machine shall be provided with a 96-inch fork carriage attachment for handling of standard pallet sizes, logs and lumber.

14. Hydraulic System:

a. Hydraulic pump output shall be 76 gal per minute (286 L per minute).

b. Total hydraulic cycle time shall be no more than 8.9 seconds.

c. Machine shall feature load-sensing hydraulics to automatically adjust to operating conditions and provide only hydraulic flow required by the implement.

d. A ride control system with 2 (two) accumulators shall be standard.

e. Control of raise/lower and rack back/dump shall be able to be operated simultaneously.

f. Electrohydraulic implement controls shall provide the operator with in-cab programmable kick-outs to prevent material spillage.

g. Optional joystick hydraulic implement controls with integrated third and/or fourth function shall be available.

h. Recommended hydraulic filter change interval shall be 500 hours.

15. Cooling System:

a. Cooling system shall be isolated from the engine compartment by a non-metallic shield.

b. Extended life coolant shall be standard.

16. Operator Cab and Interface:

a. The operator sound pressure level for a standard machine configuration shall be a maximum of 70 dB(A) with the cooling fan speed net at maximum value, per ISO 6396:2008.

b. Cab shall be attached to the frame with viscous mounts to reduce shock loads from the ground.

c. An integrated ladder with aggressive-tread steps shall keep debris buildup to a minimum.

d. Ladder shall be at a 15-degree incline for easy entry and exit.

e. Full-length ladder shall be standard on the right side to facilitate safe exit if needed.

f. Platforms shall be wide enough to allow ease of movement to the front or rear of the machine.

g. Front hinged cab door shall be able to be opened and closed by the operator while seated and shall feature sliding windows on both sides that can be opened incrementally with 1 (one) hand operation.

h. Front hinged door shall open automatically with the assistance of a gas strut.

i. Pull type door handle shall be located on the lower right-hand corner of the door for easy access when standing on the ground or first step of the ladder.

j. A door opening switch shall be available so operator can open door from ground level without having to climb the 1st step of the ladder.

k. Convex windshield shall help enhance visibility, increase cab space, decrease sound levels in the cab, and offer greater durability than flat glass.

l. Wet-arm wipers shall be on both front and back windows.

m. Cab roof shall have channels to direct rain off the corners of the cab to keep the windows clear.

n. Cab shall have an overhang on all sides to protect the operator from glare.

o. Window access platform shall extend along the front of the convex windshield for fast, safe and more convenient cleaning access.

p. Non-slip step near the A pin and horizontal folding (along a vertical axis) external mirrors shall be added to help assist operators when stepping onto the window cleaning platform.

q. An operator tie-in point shall be provided standard on the top right-corner of the ROPS structure.

r. Standard rear vision camera shall be located in a pocket on the grill to protect it from damage and the elements and help monitor movement behind the loader.

s. A color touchscreen display that monitor machine condition and operator preference should be also used to display the rear view camera.

t. Minimum of 2 (two) rear hood mounted LED type lights shall illuminate the area behind the machine in low light conditions.

u. Minimum of 2(two) forward mounted LED type lights shall illuminate the area in front and side of the machine in low light conditions.

v. Only 1 (one) main control panel shall be located on the right side of the ROPS post to keep everything in reach of the operator while maintaining visibility to the ground.

w. Main control panels shall retain large membrane style switches which contain LED's to denote activation/mode and have a positive feel and "click" to signal activation.

x. Climate control system shall automatically adjust the air temperature and fan speed to maintain the operator's preferred climate setting.

y. Seat shall have 6-way adjustments and shall feature automotive-style lumbar support.

z. Seat shall have a cast 1 (one) piece back and seat pan to prevent protrusion under the cushions.

aa. Right and left armrest shall be mounted to the seat arms and have integrated controls that adjust for comfortable, convenient operation and must move with the seat.

bb. External 12-inch by 9-inch mirrors shall contain an integrated spot mirror and have optional heated and remotely adjustable function.

cc. Stop, tail and turn signal lights shall mount in a pocket for extra protection and are LED style.

dd. Cab shall contain 3 (three) 12-volt outlets.

ee. Right side of cab contain MP3 player jack, MP3 player/cell phone holder and 2 (two) cup holders.

ff. A monitoring system shall be available for critical systems to alert the operator to potential need for service. 3 (three) levels of warning shall allow the operator to assess the situation more accurately.

gg. The operator station shall be removeable within 45 minutes and shall use quick disconnects so no wire needs to be cut and no refrigerant lost.

hh. Cab shall have channels in the cab floor and no threshold at the door for easy cleaning.

ii. The machine shall be equipped with deep skid-resistant, self-cleaning steps.

jj. Machine shall have GPS based tracking to collect and track information on machine location, service meter hours, productivity information and other relevant items.

17. Serviceability:

a. Machine shall have well protected, easily visible sight gauges for transmission oil, hydraulic oil, and radiator coolant.

b. A single mechanical lift cylinder with manual backup shall be standard to open the hood.

c. If necessary, the entire hood shall be removable using the built-in lift points.

d. With the hood closed, quick checks on engine oil and coolant sight gauges can be completed through the rear clamshell.

e. Panels located behind the tires shall lift up and can be removed for additional access.

f. Roading fenders shall hinge from the rear and swing out, allowing easier access to the engine compartment.

g. The clamshell hood shall provide access to the front and rear faces of the radiator and ATAAC cores for easy cleaning.

h. A perforated and corrugated grill shall minimize debris buildup and shall swing out for easy cleaning and access to the cooling cores.

i. Full width air conditioning condenser and oil cooler cores shall swing out to allow easy cleaning of the rear radiator faces.

j. Cab air filters shall be easily accessible from the exterior of the cab.

k. Ecology drains for simple and clean fluid drainage shall be provided for the engine, transmission and hydraulics.

l. Grease fittings shall be grouped on the right side of the machine in 2 (two) locations: below the right-side service platform and just off the non-engine end frame.

m. Transmission oil and hydraulic filters shall be located behind the hinged, right-side access platform. The hydraulic oil tank shall be drainable from this location.

n. Auto-lube system shall be provided and available to provide precise, automatic lubrication of pins and bushing.

o. Maintenance free batteries, relay panel, jump start receptacle and optional toolbox shall be located below the left-side access platform.

p. Master shutdown switch shall be housed with the relay panel.

q. Pressure taps for the steering, hydraulic systems, transmission and brakes shall be grouped behind an access panel just below the right-side service platform.

18. Gauges:

a. Fuel level, hour meter, speedometer, tachometer, gear range indicator, DEF level, hydraulic temperature, engine coolant temperature, transmission oil temperature.

19. Operational Warning System Indicators:

a. The machine shall have audible warning alarms for engine coolant temperature, engine oil pressure, DEF low level and hydraulic oil temperatures.

b. The machine shall be equipped with sight gauges on the hydraulic tank and radiator.

c. The machine shall be equipped with standard system pressure and fluid analysis test ports.

20. A/C Systems:

a. Factory installed OEM system using R-134 type refrigerant with cab filters.

b. Air conditioning condenser shall not be mounted on any other cooling core(s), and have independent electrical cooling fans, separate from the main cooling fan.

21. Loader Attachments:

a. 96-inch-long fork with carriage.

b. Quick coupler.

22. Miscellaneous Features:

a. The equipment shall meet all applicable Federal, State of Hawaii safety requirements.

b. 1 (one) 2lbs. ABC type, UL approved fire extinguisher mounted in cab.

c. First aid kit OSHA/ANSI recommended.

d. Back-up alarm.

e. Super LED mini light bar, 12-volt, clear dome (Whelen MC11PCA class 1 or equal to allow for 360-degree lighting), mounted on top of cab.

f. 4 (four) sets of keys will be provided upon delivery of equipment.

g. SMV (slow Moving Vehicle) emblem.

h. 2 (two) sets of operating manuals, 1 (one) set each OEM parts manual, OEM shop service and repair manual, book/CD/DVD/Flash Drive.

i. Additional counterweight for use with other attachments (if required).

j. Diagnostic Computer and software to be included. Any other standard items or equipment components and accessories listed in manufacture's brochure shall be included.

k. Equipment body, hubs, axles, springs, welded seams, and non-painted or unprotected areas shall be coated with a Cosmoline type corrosion preventative to guard from rust and rust bleed from salt spray during shipping, any visible signs of rust will be cause for rejection. Treatment to be cleaned off during dealer prep on Maui or Oahu.

l. Equipment shall be delivered with 1 (one) full spare wheel and tire for critical spare to housed on-site.

23. Paint:

a. Manufacturer's standard color provided in anticorrosion coating.

24. Shipping:

a. Equipment body, hubs, axles, springs, welded seams and non-painted or unprotected areas shall be coated with a Cosmoline type corrosion preventative to guard from rust and rust bleed from salt spray during shipping, any visible signs of rust will be cause for rejection. Treatment to be cleaned off during dealer prep on Maui or Oahu.

25. Warranty For Chassis/Body:

a. Manufacturer's standard warranty to be listed and furnished with bidder's proposal.

26 Optional Extended Warranty:

a. Additional extended warranty coverage up to 4 years or 4,000 hours on the equipment all inclusive of Labor, Parts and Miscellaneous Charges.

27. Delivery:

a. Furnish and deliver to the State of Hawaii, Department of Transportation, Highways, Maui District, Molokai Baseyard, located at 111 Ulili Street, Kaunakakai, Hawaii 96748.

28. Training:

Contractor shall provide initial training at time of delivery for proper and safe operations, maintenance of equipment and refresher training one (1) year after initial

delivery. This training shall include a minimum of one (1) hour classroom and one (1) hour per operator hands on training. Training shall be provided at no additional cost to the State. Contractor shall provide classroom site. This training shall be consistent to OSHA requirements. Copy of attendance record showing class date, time, location, class type, instructor's name and attendees shall be submitted to:

State of Hawaii Highways Division
Construction and Maintenance Branch
Attn: Equipment Superintendent/Safety Coordinator
869 Punchbowl Street, Room 404
Honolulu, HI 96813

SECTION 38 - 4WD CAB/CHASSIS UTILITY BODY WITH 40 FOOT AERIAL

38.1- SCOPE OF WORK- The work consists of furnishing and delivering one (1) 4WD Cab/Chassis Utility Body with 40 Foot Aerial, to the island of Maui. The contractor shall present the vehicle complete, ready to use, and fully operational within 24 months of the start date.

38.2- CAB/CHASSIS UTILITY BODY WITH 40 FOOT AERIAL- The Specifications contained herein establish minimum standards (unless stated differently). Vehicle offered shall include any other standard features not listed but detailed in manufacturer's brochures and deemed necessary for proper and safe operation of vehicle.

DETAILED SPECIFICATION FOR A CAB/CHASSIS UTILITY BODY WITH 40 FOOT AERIAL

1. Model/Year: Cab/Chassis Utility Body, 2025 or latest production.
2. GVW Rating: 8,845.2 kg (19,500 lbs.) capacity minimum.
3. Wheelbase: 4,292.6 mm (169 in.) minimum.
4. Cab to Axle: 2,133.6 mm (84 in.) maximum.
5. Engine:
    a. Diesel powered, wet sleeved engine or dry sleeved engine with seven (7) year unlimited mileage warranty. 50 State emissions, Clean Idle Certification, and be B20 Bio Diesel compatible with no adverse effects.
    b. Liquid cooled with deaeration system with tank and sight glass, full radiator guard.
    c. V-8 turbo diesel minimum.
    d. Net horsepower 246.1kW (330 HP) minimum, 317.5 kg (700 lbs.) of torque at rated RPM. With engine brake, exhaust brake shall not be accepted.
    e. Fuel water separator DAVCO Fuel Pro 382, or equivalent, B20 Bio- Diesel compatible. Fuel tank 151.4L (40 Gal.) rear mounted minimum. Including seven (7) gal DEF tank Mid-Mounted minimum.
    f. Exhaust, single horizontal right-side exhaust. Shall have two (2) position exhaust switch to inhabit diesel particulate filter regeneration as long as switch is "on" position.
    g. Hour meter and tachometer.
    h. No idle engine shutdown required.

SECTION 39 - CAB/CHASSIS WITH 7 CUBIC YARD DUMP BODY

39.1- SCOPE OF WORK – The work consists of furnishing and delivering, one (1) only, Cab/Chassis with 7 Cubic Yard Dump Body, to the island of Oahu. The Contractor shall present the vehicles complete, ready to use, and fully operational.

39.2- CAB/CHASSIS WITH 7 CUBIC YARD DUMP BODY - The Specifications contained herein establish minimum standards (unless stated differently). Vehicle/equipment offered shall include any other standard features not listed but detailed in manufacturer's brochures and deemed necessary for proper Ind safe operation to vehicle/equipment.

DETAILED SPECIFICATIONS FOR A CAB/CHASSIS WITH 7 CUBIC YARD DUMP BODY

1. Model/Year: Cab/Chassis with 7 Cubic Yard Dump Body, 2026 or latest production.
2. GVW Rating: 15,876 kg (35,000 lbs.) minimum capacity.
3. Wheel Base: 3,860.8mm (152 inches) minimum.
4. Cab to Axle: 2,108.2 mm (83 inches) minimum.
5. Axle to Frame: 1,600.2mm (63 inches) minimum.
6. Engine:
    a. Diesel powered, wet sleeved engine or dry sleeved engine with manufacturer's standard engine warranty, minimum 6 years.
    b. Liquid cooled with deaeration system with tank and sight glass.
    c. Net Horsepower: 223.7 kw (300 HP) minimum at rated RPM.
    d. Fuel water separator (Racor Model 21000) or manufacturer's equal.
    e. Heavy duty dry type air cleaner with pop-up restriction indicator.
7. Exhaust:
    a. Single horizontal muffler and vertical exhaust pipe with protective shield, and rain cap.

8. Transmission:

   a. Automatic Allison MD 3560P, 935 lb. FT. Torque.

   b. Water/oil heat exchange.

   c. PTO: Hot shift PTO with piggyback pump (Chelsea 230XKAJX-A3XE or equal).

   d. Automatic transmission oil temperature gauge.

   e. Transmission shift control - push button/lever.

   f. Transmission oil cooler.

9. Axle:

   a. Front: 6,350.4 kg (14,000 lbs.) capacity, minimum.

   b. Rear: 10,433 kg (23,000 lbs.) capacity, minimum single reduction with 200 wheel end (Spicer W-230S or equal).

10. Springs:

   a. Front: 6,350.4 kg (14,000 lbs.) heavy duty capacity, minimum.

   b. Rear: 10,433 kg (23,000 lbs.) capacity, minimum.

   c. Auxiliary Rear: 2,041.2 kg (4,500 lbs.) capacity, minimum.

   d. Note: Front and rear springs shall not bottom out at maximum vehicle load capacity set by the manufacturer (the State carries various materials at various weights).

11. Shock Absorbers: Heavy duty front and rear (if available).

12. Wheels:

   a. Seven (7) each disc type, hub piloted; same size single front, dual rear, and spare.

   b. 22.5 x 8.25, 10-stud DC rims; with steel hubs.

13. Tires:

   a. Seven (7) each, truck tubeless type, same size single front, dual rear, and spare. 11R 22.5, 16-ply, loading range H.

b. Dual rear wheels shall be able to accept any brand of tire; tires shall not touch when inflated and loaded.

14. Brakes:

a. Dual air system with 22.4m^3/H (13.2 cubic feet) compressor, anti-lock with air dryer, and pressure gauge with low air warning buzzer.

b. Parking — Piggy back, spring actuated, double diaphragm: Anchor lock, MGM or equal, S-cam.

c. Safety spring loaded on rear axle, cab controlled emergency air tank for release.

d. Trailer hand control brake lever mounted on steering column and tractor protection valve.

e. Non-asbestos material.

f. Anti-lock brake system.

g. Retarder — Thermal Retarder, driveline mount with handle lever positioner or transmission-mounted hydraulic retarder with similar performance.

15. Steering: Powered.

16. Electrical:

a. Dual, twelve (12) volt batteries. Maintenance free, batteries shall have the rating of 2775 CCA, minimum.

b. Alternator: 200 amp minimum, capable of charging at low engine speed.

c. Electrical brake controller wired to seven way receptacle at rear pintle hitch. Controller switch within view and reach of driver.

17. Cab:

a. Aluminum conventional cab with tilt hood or steel conventional cab with tilt hood and manufacturer standard corrosion-perforation warranty.

b. Complete head lining.

c. Clear safety glass on rear window.

d. Individual seats for driver and passenger with safety belts, driver's seat shall be air suspension type (Bostrom Freedom XC or equal), with adjustable mechanical lumbar support, front cushion adjustment, vinyl material. passenger seat shall be two-man passenger, vinyl.

e. Steps and grab handles located both sides of cab. Allow for 3-point contact.

f. Floor mats.

g. Sunvisor, driver and passenger.

h. Factory installed air condition.

18. Chassis Frame: Heat treated alloy steel (110,000 psi yield).

19. Dump Body:

a. Contractor's Type - 5.4m^3 (7 cubic yards).

b. 3.m length x 2,209.8mm width x 863.6mm height (10 ft. x 87 in. x 34 in.) with steel side board 3.m x 50.4mm x 203.2mm (10 ft. x 2 in. x 8 in.), to be installed on left and right sides atop dump box.

c. Headboard and sides - minimum 10 gauge steel.

d. Floor and Tailgate – minimum 4.76mm (3/16 in.) minimum eight (8) gauge steel.

e. Head board with half cab shield fully welded between dump body and headboard.

f. Grab bar on drivers side front, top of box; grab bar outside of box on both sides above rear tires.

g. Horizontal bracing.

h. Dump box shall be equipped with the following: 304.8mm (12 inches) spreader apron; four (4) lashing hooks on each side of box and two (2) lashing hooks on tailgate; flat (not angled) running board or catwalk to extend out along each bottom side of box with safety threads or a painted on non-slip coating (no metal grating).

i. Safety step ladder slides out left and right side.

j. Air tailgate release with controls in cab.

k. Pull tarp load cover (one man operation), retractable, with steel protector shield.

l. ~~Shall be lined inside with spray on liner minimum of 6.35mm (¼ in.) thickness (liner shall be compatible with asphalt).~~

20. Hoist:

a. 10,886.4 kg (12 ton) minimum capacity, class 60.

b. Under-body mounted with safety locks.

c. Control lever with safety lock mounted on floorboard of cab (right side of driver's seat).

d. There shall be a stopper block designed to lock dump body and hoist in place in the event of a weld failure at dump box frame and hoist connection while dump is being operated.

21. Bumper:

a. Heavy duty front bumper.

b. One (1) or two (2) tow hooks mounted on front bumper or chassis front frame.

c. Pintle hook with two "D" rings, 8,164.6 kg (9 ton) minimum tow capacity, Holland Hitch CP400H or equal. Mounted on rear "A" bracket frame. Center of hitch to be mounted approximately 711.12mm (28 inches) from ground level.

22. Preparation: All bare metal shall be treated with OSPHO and primed prior to application of finish coat on dump body.

23. Other:

a. Dual step-type fuel tanks, 189.3 L (50 gal.) minimum capacity each, with additional swing step for both sides. Single fuel tanks, 378.5 L (100 gal.), are also allowed.

b. Full radiator gravel guard.

c. Air horn.

d. Glad hands and plumbing with electrical wire connection (Warner 13-281-001 or equal) mounted at rear. Additional Cole Hersee #12063 six (6) prong socket trail hook-up shall also be mounted at rear. All electrical connectors to include both male and female connectors.

e. Instrumental panel:

1. Gauges; coolant temperature, fuel, tachometer, amp meter, oil pressure, air pressure, and hour meter.
2. Parking brake control dash mounted.
3. Water in fuel warm light and buzzer; low oil pressure, low coolant level, and high coolant temperature.
4. AM/FM radio.
5. Cigarette lighter.

f. Mirrors: Dual exterior view mirrors aluminum or stainless- steel backs/brackets or non-corrosive composite type, 152.4mm x 406.4mm (6 in. x 16 in.) minimum, west coast type or equal, with convex bottom section.

g. Clearance lights, reflectors, identification lights, and direction lights shall conform with PUC regulations.

h. Anit-sail mud flaps, front and rear tire.

i. Electronic reverse alarm.

j. One (1) 2.2 kg (5 lbs.) ABC dry chemical fire extinguisher mounted in cab.

k. Road Safety Triangle Kit, and ten (10) each Yellow Green Safety Glow Light Sticks, 10-inch size with bipod stand by Omni Glow.

l. Three strobe light system, Whelen Model DOT3102D, DOT3 System 102D Three lighthead system to include one (1) DOT6H strobe beacon lighthead with optional DOT6HBG branch guard on beacon, installed on cab, two (2) Rectangular 7-gauge welded steel housings installed on rear of dump body, one on each side, containing two (2) 700 series amber linear strobe lightheads, one on each side, two (2) 700 series red LED brake/tail/turn lightheads, one (1) on each side, two (2) 700 series clear back-up lights, one on each side, one (1) Whelen Model ISP94, 90-watt output strobe power supply installed in cab behind seat, allowing for service access, one (1) standard lighted switch panel with Diagnostic indicator installed in or under dash within easy reach of driver. Waterproof, oil, and corrosion resistant TPR cables with waterproof connectors shall be installed with the above system. AMECA certified to SAE standards and/or minimum specifications. To include one (1) spare strobe flash tube for beacon strobe, two (2) spare strobe reflector modules for rear lightheads, and two (2) spare bulbs for back-up lights, or equal.\

m. Color — State buff, Dupont 93-35686 high gloss enamel or equal; Chevron marking on tailgate — Omaha orange and white (comparable to existing State Highways Division fleet).

n. Complete after factory rust proofing, with manufacturer's standard warranty in accordance with Federal Specifications, 297A or its latest revision.

o. PUC Certification, License, Registration, and Certificates as required in General Specifications.

p. Vehicle shall conform to Code of Federal Regulations, Title 40, Part 85; Control of Air Pollution from New Motor Vehicles, Engines, Environmental Protection Agency; Federal Motor Vehicle Safety Standards.

q. Vehicle shall conform to all applicable State, Federal, and OSHA requirements necessary for licensing, registration, and certification purposes.

r. Technical Resources: One (1) copy of Repair Manual, one (1) copy of Parts Catalog, two (2) copies of Operator's Manual. Book format/CD/DVD.

s. First Service Kit shall include all required filters (oil, fuel, air, breather, transmission, etc.).

t. Vehicle shall be outlined with conspicuity material (tape along the perimeters). Conspicuity material shall be red and white (reflexite or equal).

u. 457.2mm (18 inches) x 457.2mm (18 inches) x 1,066mm (42 inches) frame mounted lockable toolbox.

v. First Aid Kit, OSHA/ANSI recommended.

w. Upon "Notice to Proceed", Contractor shall submit "Application" (to State Motor Vehicle Safety Office) to meet the requirements of Section 286-202 (12), Hawaii Revised Statutes, for approval of a major modification. Construction or reconstruction of a vehicle with a gross vehicle weight rating (GVWR) of 10,001 pounds and above. Application is available at:

State of Hawaii Department of Transportation
Highways Division
Motor Vehicle Safety
Office 601 Kamokila Boulevard, #511
Kapolei, Hawaii 96707

Copy of approved application shall be submitted at time of delivery.

24. Training:

Contractor shall provide proper and safe operation and maintenance of equipment. This training shall include a minimum of one (1) hour classrooms and one (1) hour per

operator hands-on training. This service shall be provided at no additional cost to the State. Contractor shall provide classroom site. Training shall be consistent to OSHA requirements.

Copy of attendance record showing class date, time, location, class type, instructor's name and attendees shall be submitted to:

State of Hawaii Highways Division
Construction and Maintenance Branch
Attn: Equipment Superintendent/Safety Coordinator
869 Punchbowl Street
Honolulu, Hawaii 96813

25. Note:

The new unit shall be capable of carrying the factor rated capacity without adverse effects. The unit shall be designed for both highway and off-road hauling and dumping of various materials (density and weight). Unit shall be able to ascend and descend roads such as Heleakala and Crater Road on the Island of Maui, with no adverse effects as to power and braking (loaded or unloaded).

Bidder(s) shall submit to the Project Manager within five (5) working days after bid opening a certified letter(s) from the manufacturer(s) to certify the prospective bidder as the Factory Authorized Warranty Dealer (letter required for both chassis and equipment). Failure to submit certified letter(s) shall be sufficient grounds for rejection of bid.

SECTION 42 - EQUIPMENT TRAILER WITH LOCKBOX

42.1- SCOPE OF WORK- The work consists of furnishing and delivering one (1) only, Equipment Trailer with Lockbox, to the island of Kauai. The Contractor shall present the vehicle complete, ready to use, and fully operational.

42.2- EQUIPMENT TRAILER- The Specifications contained herein establish minimum standards (unless stated differently). Equipment offered shall include any other standard features not listed but detailed in manufacturer's brochures and deemed necessary for proper and safe operation of equipment.

DETAILED SPECIFICATIONS FOR EQUIPMENT TRAILER WITH LOCKBOX

1. Model/Year: Equipment Trailer or approved equivalent, 2026 or latest production.
2. Type: Tilt Deck w/ tie down rings at front midship and rear on both sides.
3. Deck Length: 24 ft; Overall Length: 30.8 ft.
4. Deck Width: 102 in.
5. GVWR at 55 mph: 44,820 lbs.
6. Payload at 55 mph: 35,520 lbs.
7. Radial tires on disc wheels, spare tire/wheel assembly.
8. Lockable storage box.
9. Adjustable heavy duty Lunette eye.
10. Heavy duty quick-drop jack stand.
11. Painted in New CAT Yellow with white/red conspicuity tape on frame & deck rails.
12. Air Brakes on all wheels with glad hand connections and 7 pole lighting connector. Electric brakes are not accepted.
13. Training:

    The contractor shall provide operator and maintenance training to demonstrate the proper and safe operation of equipment. This service shall be provided at no additional cost to the State. Training shall be consistent with OSHA requirements.

Copy of attendance record showing class date, time, location, class type, instructor's name and attendees shall be submitted to:

State of Hawaii Highways Division
Construction and Maintenance Branch
Attention: Equipment Superintendent/Safety Coordinator
869 Punchbowl Street
Honolulu, Hawaii 96813

SECTION 48 – TRUCK TRACTOR

48.1 SCOPE OF WORK - The work consists of furnishing, delivering, one (1) only, Truck Tractor and to the Island of Kauai. The Contractor shall present the vehicle/equipment complete, ready to use, and fully operational.

48.1 TRUCK/TRACTOR - The Specifications contained herein establish minimum standards (unless stated differently). Vehicle/equipment offered shall include any other standard features not listed but detailed in manufacturer's brochures and deemed necessary for proper and safe operation of vehicle/equipment.

DETAILED SPECIFICATIONS FOR TRUCK TRACTOR

1. Model/Year: Truck Tractor, 2026 or latest production, or equal.
2. Wheelbase: 4,953mm (195 in.) minimum.
3. Cab to Axle: 2,667mm (105 in.) minimum.
4. Axle to Frame: 1,346.2mm (53 in.) minimum.
5. Engine:
    a. Cummins X15 Performance Series, Diesel powered, wet sleeved engine. Emissions certified tier 4 or approved equal. Capable of operating on a B20 blend of biodiesel with no adverse effects.
    b. Six (6) cylinders.
    c. 525 hp; 1,850 torque lb. ft. @ 1200 RPM minimum.
    d. Throttle, hand control electronic mounted at instrument panel.
    e. Air cleaner restriction gauge.
    f. Electronic governor.
    g. Electric engine shutdown, key operated.
    h. Spin-on type oil filter - full flow.
    i. Water filter engine mounted.
    j. Fuel filter engine mounted

k. Fuel-water separator with sight bowl. DAVCO Fuel Pro-48., Bio-Diesel compatible.

l. Magnetic engine oil drain plug.

m. Idle shutdown timer. Shall be set at five (5) minutes. Engine shall not shutdown while warning lights are in operation.

n. Engine oil temperature gauge or digital cluster reading.

6. Cooling System:

a. Heavy duty radiator core design and construction.

b. Deaeration system with tank and sight glass.

c. Automatic on/off fan drive system, with normally closed temperature control.

d. Premium rubber/silicone hoses.

7. Transmission:

a. Manual transmission, 18-speed (Fuller RTLO-20918B) with double overdrive and double-lo, internal lube oil pump and air shift or approved equal.

b. Oil cooler - transmission.

c. PTO opening required.

d. Magnetic drain plug.

e. Aluminum gear case not acceptable.

f. Oil temperature gauge for manual transmission.

8. Clutch:

a. Spicer 393.7mm (15.5 in.), two (2) plate pull type, ceramic faced, (Spicer EP 1552), an Eaton Fuller Advantage clutch equivalent, or approved equal.

b. Manual quick-adjust.

c. Greaseable throw-out bearing.

9. Power Divider:

    a. Shall include lockout mechanism, driver controlled or automatic.

    b. Magnetic drain plug.

    c. Aluminum gear case not acceptable.

    d. Shall have heavy duty interaxle shaft.

10. Electrical System:

    a. Twelve (12) volt system, standard.

    b. 200 amp alternator, minimum.

    c. Three (3) maintenance free AGM batteries, 1950 CCA total minimum.

    d. Circuit breakers, auto reset (main panel) to replace all fuses except instrument cluster feed.

    e. Chassis wiring shall be color coded and/or continuously numbered.

    f. Enclosed battery compartment, mounted under cab, left side.

11. Axle Front:

    a. Minimum 6,350.4 kg (14,000 lb.) capacity wide track axle for maximum turning angle.

    b. Designed for heavy duty service.

    c. Oil lubricated and sealed wheel bearing with visible oil supply.

    d. Ample tire clearance at maximum turning angle.

12. Axle Rear:

    a. Tandem assembly, minimum 20,865.6 kg (46,000 lbs.) capacity (Rockwell RT-46-164EPH) or approved equal. Single reduction with 200 wheel ends.

    b. Gear ratio manufacturer recommended for highway/off road conditions.

    c. Heavy duty, factory balanced drive line.

    d. Heavy duty radius/torque rods. Off highway articulation and oscillation characteristics.

e. Positive accel alignment.

f. Magnetic drain plug

13. Suspension:

a. Front springs, minimum 6,350.4 kg (14,000 lbs.) capacity.

b. Heavy duty shock absorbers

c. Spring shackles and mounting brackets shall be designed for extreme service.

d. Rear tandem suspension (Hendrickson HMX 460) or approved equal. 1,371 6mm (54 in.) axle spacing 20,865.6 kg (46,000 lb.) capacity

14. Wheels:

a. 24.5 X 8.25, Heavy duty disc type, hub piloted to include spare, with steel hubs, 10-stud.

b. Note: Tires and wheels shall provide tire chain clearance without the use of adaptors, spacers, spoke extensions, etc.; local modification not acceptable.

15. Tires:

a. Front — three (3) 11R 24.5 unisteel G159 (Goodyear) 471 rev/mile, load range G, 14-ply or equal.

b. Rear — eight (8) 11R 24.5 unisteel G177 (Goodyear) 471 rev/mile, load range G, 14-ply or equal

c. Spare tire equal to model standard.

16. Steering:

a. Heavy duty design.

b. Steering gear power, Ross TAS-65 or equal.

c. Stationary steering column.

d. Manufacturer standard steering wheel

17. Brakes:

    a. Full air system, s-cam actuated drum type, 16.5 in.x6 in. front, 16.5 in.x8.625 in. rear.

    b. Minimum 18.7 CFM, air compressor lubricated via the engine lubrication system, including a means of filtering air inlet

    c. Reservoir shall meet requirements of FMVSS-121, shall include drain cocks with lanyard pull.

    d. Automatic low-pressure release setting.

    e. Rear service brake control.

    f. Bendix/Westinghouse air dryer system or approved equal.

    g. Brake pressure indicator, low air pressure warning light and audible alarm

    h. Auxiliary interrupter switch for cab and trailer clearance/marker lights, mounted at instrument panel.

    i. Hand control air valve.

    j. Color coded brake line.

    k. Parking brake valve - combination valve for tractor and trailer.

    l. Tractor protection valve.

    m. Spring-loaded, piggyback parking brake chambers on both rear axles.

    n. Auxiliary glad hand air connection at reservoir.

    o. Antilock brake system with automatic traction control.

18. Exhaust:

    a. Vertical exhaust system with protective guard and rain cap (all exposed areas shall include protective mesh covering, down to and including frame level). With after treatment device frame mounted. Two position exhaust switch to inhibit diesel particulate filter regeneration as long as switch is "on" position.

    b. Jacobs engine compression brake, with selector switch, exhaust brake shall be rejected.

c. Discharge pipe with perforated muffler guard shall be located behind the cab, frame mounted, or side mounted.

d. Shall keep noise level to lowest possible level, and in accordance with Federal regulations,

e. Local modifications not acceptable with perforated muffler guard.

19. Frame:

a. Bolted construction designed for heavy-duty service.

b. Steel strength of at least 110,000 psi yield.

c. Total rail RBM rating of at least 2.5 million inch-lbs., with or without channel reinforcements, local frame modifications not acceptable.

20. Fuel System:

a. Single/Double tank(s), with total minimum capacity of 378 L (100 U.S. Gal.). Including DEF tank.

b. Heavy duty plumbing.

c. Auxiliary fuel filter shall be included.

d. Tank(s) shall be vented and have non-skid steps.

e. Fuel lines shall be high quality flexible wire braid or equal. Locking fuel tank cap.

21. Cab:

a. Aluminum conventional cab or steel conventional cab with a minimum warranty of 5 years.

b. Front End - tilt type; aluminum/fiberglass construction.

c. Bug screen mounted behind grille.

d. Vinyl upholstery.

e. Driver seat - air suspension type; isolated; with adjuster; with adjustable lumbar support; 3-point seat belt, lap and shoulder type (Bostrom Freedom XC or equal).

f. Passenger seat - non-suspension type; isolated; with adjuster, adjustable back angle; seat cushion; lumbar support; 3-point seat belt, lap and shoulder type (Bostrom 900R or equal)

g. Tinted safety glass. Safety glass on rear window (full width), shall have manufacturer installed or custom-built right door peep window and rear quarter/corner windows both sides of cab (these windows shall provide additional visibility for the operational safety of the vehicle).

h. Full instrumentation including tachometer and engine hour meter, all illuminated. Digital instrumentation will be accepted.

i. Power windows/locks.

j. All switches and gauges shall be clearly identified.

k. Insulated floor cover with floor mats.

l. Headlights, parking lights, stop, turn, back-up, running lights (daytime), hazard, clearance/marker lights, and fog lights, to conform to PUC requirements. LED type.

m. Dual windshield wipers and washer

n. Two (2) sun visors.

o. Dual air horn.

p. Heater/Defroster/Vent system with independent motor(s) or control.

q. Grab handles both sides of cab (shall allow for 3-point contact).

r. Factory installed air condition.

s. AM/FM/Bluetooth weather radio.

t. Two (2) LED work lights (Whelen PCP2 or equal) at rear of cab.

u. Powered dual exterior rear view mirrors west coast type 406.4mm X 177.8mm (16 in. X 7 in.), with stainless steel head and brackets or composite type material. Separate convex mirror, stainless steel or composite type material 203.2mm (8 in.) diameter to be mounted below primary mirrors. Passenger door down view mirror.

v. Color: "State Buff', Dupont 93-35686 high gloss urethane or approved equal.

22. Other:

a. Fog lights at front bumper.

b. Front tow hook(s).

c. Stainless Steel half fenders over rear wheels with rear anti-sail mud flaps mounted on spring loaded stainless steel 45degree slant brackets bolted to rear of frame rails.

d. Electronic reverse alarm.

e. 4.5 kg (10 lbs.) ABC fire extinguisher mounted in cab.

f. Road safety triangle kit and self-charging four pack kit AERVOR Super LED Road Flares, shall have yellow housing with red LED lighting. All housings and case shall be etched "STATE DOT HIGHWAYS".

g. Seven-way electrical plug and socket, 4,572mm (15 ft.) coiled lighting cable; 4,572mm (15 ft.) nylon coiled air line with glad hands, two (2) each one (1) for service, one (1) for emergency; pogo stick with necessary hose/cable mountings.

h. Two (2) Warning lights (Whelen Stainless Steel Micro 400) or equal, with mirror mount brackets, cab switch, warning light, power supply and all necessary wiring.

i. Fifth Wheel: 914.4mm (36 in.) diameter, heavy-duty fifth wheel, air-controlled sliding type, 914.4mm (36 in.) travel, minimum.

j. Wet Line Kit: Shall include an air shift PTO, 45gpm pump, and 189.3 L (50 gal.), aluminum tank with dipstick/level gauge. The kit shall include all necessary hydraulic and pump valves, suction and pressure hoses, quick couplers and air controls in the cab.

k. Two (2) each 2,721.5 kg (3 ton) come-along, 4.6m (15 ft.) pull, roller link type.

l. Complete after factory rustproof (not applicable to aluminum or fiberglass) with minimum seven (7) year unlimited mileage requirement warranty. In accordance with Federal Specifications 297A at its latest revision.

m. Truck tractor to be lined with conspicuity material (reflexite or equal) both sides of truck tractor (red/white). Shall be consistent with low-boy trailer

n. PUC Certification, License, Registration, and Certificates as required in General Specifications.

o. Two (2) each Operator's Manual, Two (2) each Service and Repair Manual, Two (2) each Parts Manual. Book format, USB Flash Drive. Complete diagnostic platform

including semi-rugged laptop with Cummins Insight, anti-lock brakes, powertrain and vehicle diagnostic programs installed.

p. Contractor shall provide a list of factory-trained and authorized personnel capable of providing installation and service support. Contractor shall provide a list identifying those items and systems, which require factory-authorized personnel to install and maintain. Contractor shall also stock all necessary parts for the same.

q. First Service Kit to include all required filters (oil, fuel, Air, breather, transmission, etc.).

r. First Aid Kit OSHA/ANSI recommended.

23. Notes:

    a. Vehicle and accessories offered shall comply with all applicable Federal and State of Hawaii laws.

    b. Truck Tractor shall be matched for proper connection/operation to Trail King TK80SA sliding axle trailer owned by the State.

24. Upon "Notice to Proceed", Contractor shall submit "Application" (To State Motor Vehicle Safety Office) to meet the requirements of Section 286-202 (12), Hawaii revised statutes, for approval of a major modification. Construction, or reconstruction of a vehicle with a gross vehicle weight rating (GVWR) of 10,001 pounds and above.

    Application is available at:

    State of Hawaii
    Department of Transportation
    Highways
    Motor Vehicle Safety Office
    339 Ponohana Place Aiea, Hawaii, 96701

    Copy of approved application shall be submitted a time of delivery

25. Training:

    a. Contractor shall provide operator and maintenance training and refresher training one (1) year after delivery to demonstrate proper and safe operation of vehicle and equipment. This training shall consist of a minimum of one (1) hour class and one (1) hour hands on training, per operator. Contractor shall provide classroom site. This service shall be provided at no additional cost to the State. Training shall be consistent to OSHA requirements.

b. Copy of attendance record showing class date, time, location, class type, instructor's name and attendees shall be submitted to:

State of Hawaii – Highways
Construction & Maintenance Branch
869 Punchbowl Street Room 404
Honolulu, Hawaii, 96813
Attn: Equipment Superintendent/Safety Coordinator

c. Note:

Bidder(s) shall submit to the Project Manager within five (5) working days after bid opening a certified letter(s) from the manufacturer(s) to certify the prospective bidder as the Factory Authorized Warranty Dealer (letter required for both chassis and equipment). Failure to submit certified letter(s) shall be sufficient grounds for rejection of bid.

PROPOSAL TO THE STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS

Project:	FURNISHING AND DELIVERING MOTOR VEHICLES AND EQUIPMENT, ISLANDS OF OAHU, MAUI, LANAI, MOLOKAI, HAWAII, AND KAUAI
PROJECT NO.:	HWY-CM-26-01
CONTRACT TIME:	Delivery of the above Motor Vehicles, Trailers, Utility Tractors, and Equipment to agency indicated shall be completed within 365 calendar days from the date indicated in the Notice to Proceed from the Department unless otherwise stated in the Specifications for individual vehicles.
LIQUIDATED DAMAGES:	Refer to Section 8.2 Liquidated Damages, of the Special Provisions.
NOTE:	**NO BID, PERFORMANCE AND PAYMENT BONDS ARE REQUIRED FOR THIS PROJECT**
ELECTRONIC SUBMITTAL:	**Bidders shall submit and upload the complete proposal to HIePRO prior to the bid opening date and time. Any additional support documents explicitly designated as confidential and/or proprietary shall be uploaded as a separate file to HIePRO. See SPECIAL PROVISIONS 2.3 DELIVERY OF PROPOSALS for complete details. FAILURE TO UPLOAD THE COMPLETE PROPOSAL TO HIePRO SHALL BE GROUNDS FOR REJECTION OF THE BID.**

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS

RESPONSES TO REQUEST FOR INFORMATION (RFIs/QUESTIONS)

Project: FURNISHING AND DELIVERING MOTOR VEHICLES AND EQUIPMENT, ISLANDS OF OAHU, MAUI, LANAI, MOLOKAI, HAWAII, AND KAUAI, PROJECT NO. HWY-CM-26-01, HIePRO SOLICITATION NO. B26001941

The following RFIs/Questions were submitted via HIePRO by prospective bidders. The questions and responses are as follows:

1. **Contract Time on the bid shows 365 days after NTP. Altec units listed in sections 19, 20, 21,22 & 38 would have a min lead time of 24 months after receipt of order FOB Altec plant. I would estimate another 2-3 months for the trucks to arrive at the delivery locations however that would be in the hands of the chassis dealer.**

   Response: Accepted. See attached Addendum No. 2.

2. **Sections 19, 20, 21, 22 & 38, there are multiple sections that call for "galvanized steel", could we request a substitute for galvannealed steel? Thank you.**

   Response: Accepted. See attached Addendum No. 2.

3. **Section 31 – 30-Ton Telescopic Crane (Maui)**
   10d. Will the State please revise to read, "Push button or similar Electronic shift control, Dash or column Mounted." We only offer a column-mounted electronic shifter that has 100% of the functionality of the push button, saves dashboard space and allows ease of use without removing hands from steering wheel.
   11b. We do not offer graphite bronze bushings in our front suspension. The following is acceptable to our crane manufacturer. Is it acceptable to the State? "Parabolic Taper Leaf, Shackle Type, 22,000-lb Capacity, Steel Springs 20K Capacity and (2) Rubber Auxiliary Springs 2K Capacity, with Shock Absorbers"
   18a. Will the State please revise to read, "Approximately 108-inch BBC Flat Roof Aluminum or Steel Conventional Cab."? The International HV cab we'd like to offer has a 107-inch BBC and is double-galvanized steel. It is excellent for this application.

   Response: 31, Item 10(d) – Shift Control: See attached Addendum No. 2.
   31, Item 11(b) – Suspension: Not Accepted. Parabolic taper-leaf/shackle type front suspension request rejected.
   31, Item 18(a) – Cab: See attached Addendum No. 2.