

ADVERTISEMENT FOR BIDS
Furnishing of Equipment
Clare County Road Commission
Harrison, Michigan

Bids will be received by the Clare County Road Commission at their office at 3900 E. Mannsiding Road, Harrison, Michigan, 48625 (telephone 989-539-2151) until 10:00 A.M. on Friday March 03, 2017 and then publicly opened and read for the following:

ITEM #1: ONE (1) TANDEM BLADE TRUCK

ITEM #2: FURNISH AND INSTALL EQUIPMENT FOR ONE TRUCK

Bids shall be in accordance with the specifications, obtainable from the Road Commission Office and also on website: www.clarecrc.com. Bids shall be submitted upon the form provided. Bids shall be submitted in sealed envelopes plainly marked on the outside as to their contents (Truck Bid) and (Truck Equipment Bid).

The Board reserves the right to reject any and all bids and waive any defects and accept the bid which in their opinion is in the best interests of the Clare County Road Commission.

Board of County Road Commissioners
Of Clare County, Michigan

Tim Haskin
Michael Duggan
Richard Haynak

**INFORMATION FOR BIDDERS
CLARE COUNTY ROAD COMMISSION**

GENERAL

Bidders shall submit necessary information to determine compliance with the specifications. Data shall be included for options, accessories, and attachments.

Bidder shall note any exceptions to the specifications.

Bids shall remain firm for 60 days.

Delivery shall be made as soon as possible after award. Bidder shall state delivery time. Bids shall be based upon F.O.B. delivery to the road commission yard, Harrison, Michigan.

Terms are net 30 days from date truck is delivered to Truck Auxiliary Equipment Installer. However, payment may be withheld, in whole or in part, pending correction of any defects, or delivery of manuals, or delivery of spare parts. Payment is normally made the first and third Wednesdays of the month for invoices received by the prior Friday.

Bidders shall recognize that the road commission is an Equal Employment Opportunity/Affirmative Action entity.

TRUCK BIDS

The bid is for one (1) tandem blade truck.

No trade-ins are involved

INSPECTIONS

The successful bidder to whom award is made shall allow representatives of the road commission to inspect the unit at truck dealership prior to installation of auxiliary equipment.

**SPECIFICATIONS FOR ITEM #1
TANDEM AXLE BLADE TRUCK
CLARE COUNTY ROAD COMMISSION
HARRISON, MICHIGAN**

GENERAL: The following minimum specifications are for a nominal 10 yard tandem axle dump truck furnished complete with an underbody scraper, snow plow hitch, dump box, and other appurtenances. Components shall be furnished with controls installed complete and ready for operation. The truck shall be the manufacturer's current model under standard production and shall be supplied with all necessary operating accessories customarily furnished whether specified herein or not.

GROSS VEHICLE WEIGHT RATING: 64,000 lbs.

DIMENSIONS: Dimensions relating to rear axle are to center of rear axles, also known as the trunnion
Body: 156 inches
Wheelbase: 213 inches
Cab Axle: 136 inches
A/F Dimension: 74.8 inches, 6 inch box overhang
Turning Radius: 30 feet, curb to curb

ENGINE: Diesel, Cummins ISX 12, 425V/2100RPM; 1550 torque at 1200RPM or equal meeting all 2013 SCR specifications.

Furnish complete with:

Electronic speed/cruise control, governor

All season coolant (-40 degrees F)

Air cleaner - Donaldson single stage dry type under hood capable of providing dry clean air with outside air under all conditions with constant torque hose clamps

Front mounted power take off-crankshaft end shall be drilled and tapped to receive a Spicer 1300 series flange yoke, for driving the hydraulic pump specified under "Hydraulic System".

Coolant Hoses - Silicone hoses with steel tubing and constant torque hose clamps

Fan Clutch - Horton 2-speed automatic on/off type control

Air Compressor - 18.7 CFM Coolant Filter - Fleetguard spin-on-type, or equal.

Fuel check valve - In line, if necessary (NOTE: fuel tank is above engine)

Fuel Filter - Fleetguard or equal, spin on, extended life w/water separator cap

Oil Fill Tube

FRAME: Straight through full depth, full flange channel front to rear, with 1/4" "C" channel inserts forward, 120,000 PSI yield, heat treated alloy steel, 10 3/4" x 3 3/8" with full liner. Resistance to bending moment combined shall be 3,468,000 RBM's; combined section modulus shall be 28.9.

Frame shall have straight through min. 22.4" integral front extensions forward of the grill for snow plow frame mounting and bumper as specified under "Attachments".

Front Frame Extension crossmember for front mounted hyd. pump

Frame Fasteners - Huckbolt

Frame Crossmembers - shall be 3 piece type

FRONT AXLE: Meritor MFS20, setback type 20,000 lbs rating with oil lubricated wheel seals

Suspension – Multi-leaf 23,000 lb. springs, at ground or taper leaf 23,000 lb. springs greasable type pins

Shock Absorbers - heavy duty, double acting single, 2 each

Wheel Seals - C/R Scotseal Plus with window cap

Bearings - Tapered roller; Timken

REAR AXLE: 46,000 lbs. rating, single reduction tandem axle, driver controlled differential lock; driver control traction - both rear axles with indicator light, Meritor RT 46-160HP or equal, having a final drive ratio capable of maintaining 62 MPH at 1650 RPM fully loaded for truck as specified.

Suspension - Air ride type, Peterbilt airtrack or Neway ADZ 46,000/52,000 lb.series with suspension, P.S.I. gauge and lights and buzzer, dash mounted, air bag dump valve, leveling valves to be mounted above forward differential

Shock Absorbers - Heavy Duty, double acting single

Bearings - Tapered Roller; Timken

Wheel Seals - CR Scotseal plus unitized wet type

Driveline - Spicer 1710 for interaxle, 1810 for main driveline

Spring Brackets - Cast iron or cast aluminum

Lubricant - Synthetic

TRANSMISSION: Automatic, Allison model 4500 RDS or equal, with 6 speed program.
Transmission shall be suitable for engine specified.

Bell Housing: cast iron type, if available

Transmission Cooler – manufacturer's standard

Transmission Control – dash mounted push-button shifter

Oil Level – provision shall be made for sending transmission oil level to dash mounted gauge or transmission tower

CAB: Day cab with extended rear window, "Unibilt" as manufactured by Peterbilt, or equal

Windows- Tinted; Dual power window controls

Door Hinges - Stainless steel piano type door hinges, full length

Air Ride - Manufacturer's dual frame mounted cab suspension system

Two piece windshield

Visors- Interior, right & left, padded

Visor - Exterior, mounted over windshield, stainless steel or fiberglass, painted to match cab.

Extruded alum. door frames or E-coated galvanized steel with aluminized wax, rustproofing

Mirrors-Heated Single Arm breakaway design type, 7"x16" right and left.

Two 8" convex type with bracket shall be mounted below each mirror specified above.

Grab Handles - exterior dual 41" polished stainless steel

Front Hood Bug Shield-Installed with hood crown additional support

Cab - Corrosion resistant aluminum cab with lap seam construction huck bolted

Inside dimension: 66" front to back

Rear window: 918 sq. in.minimum

Fresh air intake with filter
Scoop on heater air intake, to keep from snow plugging
304 stainless steel or alum. battery box, left hand under driver's door
304 stainless steel or alum. battery box, right hand under passenger door
Padded headliner and back panels, doors w/carpet inserts and manifest pouch, cup and thermos holder, full rubber floor covering.
Insulation - Smart sound insulation package or equal
Cab Decibels - Max. 85 under any conditions
Wipers- Electric 2-speed w/adjustable intermittent feature, and electric washers; cowl mounted, linkage to be inside of cab.
Armrests - Door mounted, both sides
Seats - Bostrom Talladega T915, National 2000 Model 192 or equal cloth high back air seat with dual arms, air lumbar and suspension cover, standard passenger seat complete with seat & shoulder belts
Horns- Dual air horns w/snow shields
Horn - single electric on steering wheel
Hood - Tilt hood with fixed stainless steel stationary grill with winterfront installed
NOTE: hood must tilt over plow hitch
4", Rubber fender flares, full circumference
Gauges- Suspension P.S.I. gauge Speedometer, odometer, tachometer, hourmeter, fuel, coolant temperature, oil pressure, oil temperature, voltmeter; air cleaner dash mounted restriction gauge; engine alarm for air, oil, water; low coolant level indicator with light and buzzer alarm, and low transmission fluid level light.
Radio - Factory AM/FM stereo with clock, and electronic tuning; external antenna
Air Conditioning - Factory installed, integral with heater
Accessories - 12V power port, running boards, left & right; dome light; coat hook; factory removable floor mats, heavy duty rubber;
Strobe light pads – stainless steel, cab mount/ea. side above doors, huckbolted
Fire Extinguisher – 5lb 3A:40bc, mounted between drivers seat and door
Triangle reflector kit

FUEL TANK: Refer to "Auxiliary Equipment" section, "Diesel Fuel and Oil Tanks" for permanent tank. Transport tank to be returned to truck dealer

STEERING: Hydraulic power assisted, with tilt and telescoping steering column

Steering Gear(2): Shepherd M100 dual power
Steering Pump: Vickers/Luk LF-73 or Paccar
Reservoir: 4 quart frame mounted w/cooler

BRAKES: Full air type, dual system, wedge brakes not acceptable. Tank for rear brakes shall be located at the rear axle with a relay valve, a separate spring valve, and a service valve.

Front: 16-1/2" x 7" drum, S-cam type with dust shields, cast iron drum, single brake chamber, size 24 sq. in.

Rear: 16-1/2" x 7" drum, S-cam type, with dust shields, cast iron drum, dual brake chamber, size 30 sq. in. with camshaft reinforcement

Parking Brake: Air operated, spring set on rear axle, four corner MGM chambers.

Air Dryer: Midland Plus Pure Air part number 12V DA33100, Meritor WABCO system saver 1200 Bandix ADiSe; or equal with automatic heated drain valves

Slack Adjusters: Automatic, Eaton Meritor, Haldex Bendix, 5.5", front & rear

Trailer Connections Four wheel, with hand control valve and tractor protection for straight truck

HUBS: Front - LMS Hub piloted, steel, 285.75 MM bolt circle, 10 hole
Rear - LMS Hub piloted, steel, 285.75 MM bolt circle, 10 hole

WHEELS: Front - 12.25 x 22.5, 1 piece, 10 hole steel disc type.
Rear - Accuride #50291, extra service, 10 hole steel disc type

Wheels shall be suitable for tires specified below. Wheels shall be primed and painted as specified under COLOR & PAINT section.

TIRES: Front: 385/65R, 22.5 Michelin XZY TU., Bridgestone M854, 18 ply or equal
Rear: 11R, 22.5 Michelin XMTS4.TU., Bridgestone M799 ply or equal

ELECTRICAL: 12 volt system

Starting motor – Denzo 428000-0030

Alternator – Leese Neville 12V heavy duty; 160 amp brush type, Part No. 110775, or equal

Batteries - Maintenance free, 4 each 2800 CCA total

Wiring Identification - wires shall be numbered at 12" intervals and color coded

System shall be capable of supplying 100 amp. aux. panel, specified in "Auxiliary Equipment" section.

Trailer Connection Socket: 7-way, mounted at rear of frame

CIRCUIT BREAKERS: Auto-Reset, (Main Panel), SAE Type II complete with spare breakers: 2 @ 20 amp, 2 @ 15 amp, 2 @ 10 amp; and 2 blank spaces.

LIGHTS: Standard front halogen headlights with integral reflectors, front turn signals and cab marker lights, four-way flashers; and activation capability for other lights specified elsewhere complete with in-cab switches, (for example, back-up lights).

RADIATOR: Radiator shall allow for crankshaft power take-off to pass under, not through. Stationary full length, heavy duty, stainless steel grill shall be fixed to radiator support to provide clearance for plow hoist when hood is tilted forward.

EXHAUST SYSTEM: Horizontal run shall have 24" ground clearance for operation of underbody scraper. Vertical/Vertical exhaust system shall be located at rear of cab with stainless steel safety shield. Extend stack 6" above top of cab with 45 degree end, no rain cap .

COLOR & PAINT: Cab shall be manufacturer's standard white, basecoat with a clear coat finish. Wheels shall be white and chassis shall be black. Paint shall be DuPont Imron 5000 or approved equal. Interior color shall be light gray or manufacturer's standard color as selected by owner.

MUD FLAPS: Provide heavy rubber type for front wheels. Mud flaps shall meet state and federal laws, and have no advertising.
Rear mud flaps shall be as specified under "Auxiliary Equipment" section.

SAFETY: Unit shall be in compliance with all applicable State and Federal safety standards. Audible electric back-up alarm shall be as specified in the Auxiliary Equipment Section...

SPECIAL REQUIREMENTS: Clearance- Maintain 24" ground clearance under running boards and frame rails for underbody scraper operation. This may require the relocation of steps, air dryer(s), battery boxes, or if chassis manufacture can't supply clearance consult body equipment installer. Advertising devices or decals are not acceptable.

WARRANTY: Unit shall be warranted free from defects for 1 year. Engine shall be warranted for 5 years/200,000 miles (Peterbilt Engine and Aftertreatment Plan 1, or equivalent). Transmission shall have 2 year unlimited mileage warranty. Remainder of drivetrain shall be warranted for 3 years, unlimited miles. Full 1-year warranty on radiator and air conditioner. Cab shall be warranted against rust/corrosion through for 5 years. Warranties shall include parts and labor. Other warranties may be listed as options with prices.

MANUALS: One set for the total truck order is required, and shall include manufacturer's manuals for operation and maintenance; parts; the engine; the electrical system including schematics; the transmission; the antilock brakes; and major components. Furnish same online as available. Furnish engine diagnostic software. Furnish one copy of the manufacturer's line sheet for each truck.

SPARE PARTS: Furnish one complete set of manufacturer's replacement engine belts and filters unpainted with parts numbers legible.

One year subscription for Peterbilt Web ECAT, or equivalent, is to be included.

**SPECIFICATIONS FOR ITEM #2
AUXILIARY EQUIPMENT FURNISHED & INSTALLED
CLARE COUNTY ROAD COMMISSION
HARRISON, MICHIGAN**

GENERAL: Submit manufacturer's current product data and specifications on the equipment proposed. List brand and model numbers of major components if different from manufacturers specified. Equipment shall be furnished, installed and delivered in operable condition.

DUMP BODY and HOIST

DUMP BODY: Crysteel, Type 4, Polished 201 Stainless Steel or equivalent.

DIMENSIONS:

Capacity to be 12.3 CU. YD. struck
Inside length of 156"
Inside width of 87" at front, 87" at rear
Outside width of 96"
Side height of 44"
Tailgate height of 44"
Head-sheet height of 50"
Cab Shield shall be 16" X 88.5" wide custom cab shield

MATERIALS:

Complete body above floor shall be stainless steel, Floor shall be AR-400 steel shall have 180,000 psi tensile strength; 145,000 psi yield strength

CONSTRUCTION:

Dump body shall be constructed of 7 gauge 201 stainless steel unless specified otherwise.

Front and rear corner posts shall be full depth. A baffle plate shall be welded at the base of the rear upright posts to minimize ice and snow build-up. Top rail and rub rail shall slope outward for dirt shedding. Side wall shall be one continuous piece with formed rub rail.

Rear posts shall have cut-outs for lights specified elsewhere in Auxiliary Equipment Section. Cut-out edges shall be free of burrs and rough or sharp edges.

Body shall have a boxed top rail 201 non-rusting stainless steel with a reverse bend. (1) 8" formed side brace, full length – per side

Front / rear full depth corner pillars; front shall be 8-1/2" wide with 4" radius, rear 18" wide, both sloped to shed dirt, all manufactured of 7 gauge non-rusting 201 stainless steel.

Cab Shield shall be 10 gauge 201 stainless steel, 100% continuously welded, inside and outside, to front of body. Shield shall be mounted no more than 1" above highest exterior point of cab.

Floor shall be AR-400 steel, 1/4" thick, 1 piece, splices will not be permitted. Understructure shall be fabricated western-style. Floor to side radius shall be 9" and side wall to floor seam shall be continuously welded. Side wall to floor over lap shall be 10 1/2" from outer wall edge to seam.

Tailgate shall be 7 gauge 201 stainless steel unless otherwise specified. Tailgate attachments and auxiliary features not specified shall manufacturer's current production standard.

Tailgate shall be of 9 panel construction having full perimeter boxing with 2 horizontal braces and 2 vertical braces. Braces shall be fabricated flush with perimeter boxing, and horizontal surfaces shall be sloped outward. Tailgate height shall be flush with top of sides.

Pivots shall be flush mount, 1/2 flame cut. Hinge plates shall be heavy duty offset type, 1 1/2" flame cut. Upper and lower pins shall be 1-1/4" stainless steel. Latch hooks shall be 1" with dual 3/8" latch plates.

Tailgate release pivot points shall have stainless steel bushings. Release shall be operated by electric over air cylinder. Anchor lock model n. 241s having spring over center latch.

Tailgate lift hook shall be centered near top on inside. Chain hooks shall be provided high and low. Chains shall be 3/8" X 84"; system no 7 of high test steel hot dipped galvanized enclosed in protective plastic net loom.

Hoist shall be Crysteel model RC690 full sub-frame design, NTEA class 90 double-acting with chrome 2-3/8" cylinder rod

Rear hinge assembly shall be heavy duty grease-able and removable rear hinge pins minimum 2-3/8" diameter

All pivot points, cylinder pins top and bottom and rear hinge shall be grease-able

Both Hoist and Body shall have a 5 year warranty; 3 year full warranty and remaining 2 years to have a 50/50 parts and labor plan.

Attachments:

Stainless Steel ladders, one on each side of the dump box. Ladder shall have six rungs and fold for traveling; exact location to be determined at installation.

Chain holders shall be 201 stainless steel and welded to underside of dump body; one set of three hooks each side.

Sander tie-downs shall be 2" stainless steel D-rings mounted on each side of dump body at lower outside corner of front post.

Mud flaps shall be hung from dump body meeting federal regulations. Flaps shall be 1/2" thick heavy duty rubber, anti-sail type. Flaps shall be without advertising. Furnish one pair on front and one pair in rear of tandem axles.

Reflectors and conspicuity tape shall be placed on left and right sides of dump box. Front reflectors shall be amber; rear shall be red and may be flush mounted.

Conveyor attachment

(4) Stainless steel pipes shall run to the rear with short jumper hoses rated 3,000 PSI to feed cross conveyor, spinner assembly, and return to reservoir; shall connect to rear of the truck with stainless steel quick couplers, (4) sets; (2) sets of 3/4" and (2) sets of 1/2", all to include caps and plugs

Tarp system shall be a Roll-Rite model 6416, fully automatic aluminum system to include double arm system tarp and tension bows, four springs per side, aluminum tarp spool with aluminum wind deflector, direct mount motor and gear box, 30 degree cast aluminum elbows to give maximum clearance for loader, in-cab switch, light and reset-able circuit breaker and 20' heavy duty mesh tarp.

CENTRAL HYDRAULICS

Front mounted piston pump, crank shaft driven load sense hydraulic system to operate a double acting front plow hoist, front plow reverse, scraper up & down, scraper reverse, double function wing and double acting hoist, rear cross conveyor used for seasonal shoulder berming and a slip in sander, with bi-directional cross conveyor and dual spinner; All capable of simultaneous operation.

System shall consist of a 1300 Series Spicer driveshaft- tube style, 8.9 cubic inch piston pump; Dan Foss, Model E147C. Direct mount automatic low oil shutdown system with a manual over ride.

Rexroth, model M4/12, 9 -bank valve, 6-bank air shift and 3 bank EPC; valve to include mid inlet feature – no exceptions.

6-banks air operated: plow, plow reverse 13 GPM, scraper, scraper reverse shall be 16 GPM, wing – double acting -19 GPM, and dump body shall be 34 GPM.

3-bank EPC: main chain – single acting, 16 gallon/minute, 7 gallon/minute spinner, 15 gallon/minute side chute sander.

Valves to be installed in a stainless steel enclosure mounted outside of the cab, location determined at installation

Plow/plow reverse/scraper/scraper reverse/ wing shall be self-centering type controls and dump body control to include a lockout feature; controls shall be air proportional, configured for maximum clearance between handles by using 20/35/45/55 degree offsets, mounted on a custom built pedestal between the seats

EPC valves, 3-bank operated by Dickey-John Control Point programmable controller and including necessary electronics to operate main chain, cross conveyors and dual spinners from in side the cab; Designed for hydraulically powered spreading systems proportionally. No exceptions

Clare County Fleet Manager shall be consulted prior to installation of cab-mounted controls for placement and order of operation

Supply line from reservoir to pump shall be 2 1/2" SS hard pipe, with short hose assemblies at each end, minimum 2" I.D. swivel crimp on hose ends

Pressure lines shall be 1" SS hard pipe with 3000 min psi rated short hose assemblies including swivel fitting each end

Slip in sander, cross conveyors, spinners and wing plumbing to the rear shall be stainless steel piping and have jumper hoses each end rated minimum 3,000 PSI. And include stainless steel quick disconnects with caps and plugs for each function

Hoses, fittings and adaptors: All hose to have crimp swivel type fittings each end and have abrasive resistant sleeve covering in high wear areas. All clamps to be lined with abrasive resistant sleeve covering. Routing of pressure hoses shall be on the left side of engine as to stay away from turbo heat, using proper extension hangers and to leave room for service of engine filters

Hydraulic system to be filled with AW32 oil, pressures set and system tested.



TANKS

Model TP, manufactured by Riverside Tank MFG, no exceptions, as they are UL Certified, Meet FHWA requirements, 30 ft. drop and pressure tested. Tanks shall be combination Diesel & Hydraulic, two separate tanks, each constructed of 7 gauge steel mounted together using an angle iron carriage. Tanks are to set on neoprene cushion pads, including 1/4" retainers – total of ten; strapped in place using three spring loaded straps. Incorporate Shovel & Rake holders.

Fuel Tank:

- Mounted on street side, approximately 100 gallon capacity
- Two evenly spaced baffles
- Brass fuel cap
- 1/2" supply with 1/2" – 1/4" turn ball valve, for ease of filter service
- 1/2" return port, supply and return both top mounted
- Threaded moisture drain plug
- ISSPRO Electric fuel sending unit

Hydraulic Tank:

- Mounted on curb side, approximately 40 gallon capacity
- AB screened fill cap
- Oil sight tube
- 3" flange to accept and to include 2" Zinga suction strainer, part # 2030-3
- Top of tank flange to accept and to include Zinga return filter, RF1215-S-1 with RE-409-10 micron element
- 1/2" low level port
- 2"- 1/4 turn full flow ball valve installed at the reservoir outlet supply line
- 3/4"- 1/4 turn full flow ball valve installed at the reservoir outlet case drain line

Note: Combination tanks may have to be designed to fit chassis selected; need to match capacities.

Accessories:

- Decals as to the contents, "Diesel Fuel" or "Hydraulic Oil"
- Low oil light and alarm system installed in the cab
- Parker's low oil monitor, part #ROM1221
- Momentary over-ride switch installed in the cab

Fuel / Hydraulic Reservoir Installation:

- Shall be installed behind the cab, keep tanks as low as possible and include proper clearance for an extended back window
- Tank carriage shall be welded to the channel tank risers with the risers bolted to the truck frame with 2" X 2" X 3/8" angle iron supports, using grade 8 hardware
- Tanks to have Corsol treatment
- Hydraulic reservoirs to be painted urethane yellow
- Diesel reservoirs to be painted urethane green

LIGHTS

Auxiliary Panel: The system shall be capable of connecting any and all of the listed functions to a power source via a main junction box in the cab using a single harness, without external junction boxes.

The wiring shall be protected by an ignition relay and a 100 amp main circuit breaker.

Multi-Harness System: Truck clearance lights, emergency lights and auxiliary lights and other specified functions such as; reverse light, turn signals, plow clearance light, plow turn signals, plow hi-and low beam, plow dimmer, front strobes, rear strobes, scraper lights, spreader lights, low hydraulic oil light/alarm, body up light/alarm, fuel sending unit and two spare(s) shall be incorporated into a single multi-function harness system.

Each wire shall be individually identified as to it's function at the cab junction box.

The wiring harness shall be enclosed by a nylon mesh wrapping for protection.

Wiring harnesses shall be weather resistant, plug-in type for corrosion resistance and quick changeability

Junction boxes shall be Betts, non-rusting

Battery Disconnect – shall be manually operated switch capable of shutting off main power supply, Flaming River part number FR1005, or equal. Mount unit on drivers side floor next to left (exterior) side of seat

Switches:

Provisions shall be made for the following function-

| | | |
|---|-------------------|--|
| * | Plow Lights - | Off/On-Low-Hi - separate from truck lights |
| * | Front Strobe | On/Off |
| * | Wing Strobe Light | On/Off |
| * | Rear Strobes | On/Off |
| * | Scraper Lights | On/Off |
| * | Spreader Light(s) | On/Off |
| * | Aux. 1 | On/Off |
| * | Aux. 2 | On/Off |

Switches shall be rocker type rated at 20 amps with an individual circuit breaker.

The switch panel to be back illuminated when vehicle running lights are on and each switch shall be more intensely illuminated when function is selected.

The switch panel, utilizing the multi-harness, also, shall activate the body up switch.

Strobe Lights: Furnish two front and two rear strobes as follows:

Front strobes shall be Star Model 258 HTDAL-AG having separate power switches. Mount front strobe lights one on each side of cab on stainless steel pad above doors, huckbolted. Pads are specified under Truck section.

Mount rear oval Star 4 X 6.5 LED strobes, model DLXTHU-4-GC lights one on each side of dump body in stainless steel wedge box, complete with rubber grommet.

Rear Lights: One pair Soundoff signal, part No. ECV062STT LED, 4 x 6.5, Oval stop, turn, tail, one each side of dump body in stainless steel wedge box complete with rubber grommet.

Sequence of the two light pairs in the stainless steel wedge box's:

Top: LED Strobe lights

Middle: LED lights, stop, turn, tail

Back up Lights: One pair Trucklite model 80360, (1) each side outside the corner post

Sander Work light: (1) shock resistant rubber housed work light, clear lens Trucklite model 80360 location and switching arrangements determined at installation

Scraper Work Lights: Lights shall be shock resistant rubber housed work light, clear lens Trucklite model 80360. Furnish two each, mounted one each side as directed.

Plow Lights: Auxiliary plow lights and turn signals. Nordic model N-520 hood mounted, custom built 1/4" thick X 4" wide aluminum brackets with fiberglass in hood support plates, height to be determined at time of installation, also to include in-cab 3-way switch; High/Low/Off, wire harness and relays.

Electric Brake Controller: Reese model 80550 installed in cab.

PAIN

All carbon steel accessories, body props, cylinder, cylinder mount, etc, that are not 304 SS shall be primed and finish painted urethane black

Complete underside of dump body floor and complete understructure, long sills, etc, shall be primed, painted black and under coated with 1001 Rust Free Undercoating

UNDERBODY SCRAPER

Monroe model HD 4500:

HANGERBOARD: Designed and engineered for optimum strength. W' formed plate reinforced by W' X 7-112" flat plate to make full 1" thickness. 3.25"X .344" mechanical tube outer hinge tubes. " bar reinforced full length of the hinge. " thick trunion arms. Outer trunion arms shall be bolted to hangerboard. Welded on is unacceptable. Shall include a Manifold bracket for the grease line kit, one installed each side of the hangerboard.

HINGE SHAFT: 2-1/2" OD X 96" long with (4) grease points and (3) hinge points. The two (2) outer hinges are 3-1/4" OD X 6" long with .344 wall thickness. Each outer hinge has (1) Yz" wrap - around gusset, center hinge shall be 3 W' OD X 10 3/4" long with .344 wall and have (2) W' thick wrap - around gussets, including thrust bearing wear plates to prevent side to side shifting of moldboard.

MOLDBOARD: 1" thick X 20" high X 12' long moldboard. Heat treated 1045 steel, 185 Brinell hardness, 89 ksi tensile. Integral pressed in lower offset. Rolled formed or fabricated moldboards will not be considered where the cutting edge bolts to the moldboard. Yz" X 6" double beveled cutting edge with standard highway punched.

SHOCKS & HOUSINGS: Cushioned by two (2) extra heavy duty spring housings, allow 600 PSI down pressure. Two (2) Yz" thick flange retaining plates held by (4) 5/8" bolts with prevailing lock nuts. Housings to be slotted to relieve contaminates. Grease-able trunion mount bushings are 2-3/4" OD with a .344" wall mechanical tube trunion mount pins are 2" solid rod, bolt in removable and replaceable design.

ACTUATING CYLINDERS: Shall be 3-1/2" bore X 10" stroke with 2" socatri 1000 piston rods, with poly pac seals and cast steel heads, W' hoses and piping (supported with poly clamps) to be externally mounted for easy access. Prince in-line relief valve shall be supplied.

CIRCLE: Shall be 1" solid one piece with infinite plowing positions (no notches), minimum cut out for power reverse cylinder travel and full front circle ears as to have clamps in full contact of circle at 45 degree angle for maximum circle bearing surface. 5" ID X 6.5" OD XI" hardened center pin bushing.

CENTER PIN: Heavy Duty 5" diameter, hardened center pin, zinc coated. Grease-able with 3 port grease journal and 5/16" wide X 3/16" deep grease groove around pin. Center pin is piloted into the hangerboard.

CLAMPS: 20.5 long X 7" deep XI" thick. Shaped to follow the contour of the circle. 3/8" UHMW wear pads. Entire clamps must remain fully on the circle throughout the entire rotation of the scraper.

REVERSE CYLINDERS AND HARDWARE: (2) 4" double - acting cylinders containing 1/2" #8 SAE ports, 2" socatri 1000 rods, poly pac seals, and cast steel heads. 3" OD - 2" ID anchor pivots, 2" hardened zinc coated with spiraled grease groove removable pivot pins (grease-able at each end). Prince Cross over relief valve set at 2200 PSI to protect reversing cylinders from shock impacts.

MOUNTING PLATES: " thick custom tapered 35 X 26 X 22 full plate steel construction. With 7" X 7" cut out for ease of cleaning. Attached to the truck using " grade 8 bolts, SAE washers and prevailing lock nuts that are electronically plated for corrosion resistance.

PAINT: Shot-blasted, washed and powder coat paint TGIC polyester black. All parts are powder coated prior to assembly of scraper. Outer 12" of moldboard ends painted high visibility yellow.

SERRATED GRADE SAFETY STEP: 12" x 12" welded to outer end of the moldboard on driver's side, optional 45 degree angle cut passenger side end of moldboard.

GREASE LINE KIT: Remote grease kit that allows grease to be applied at centralized locations outside of the chassis frame. Grease hoses shall be SAE 107 Hytron hose rated at 3000 psi. Grease line kit will incorporate all 15 grease points on the scraper.

MID MOUNT PATROL WING WITH PARAGLIDE SYSTEM

General: Mid mount patrol wing shall be Monroe 9D FWMB. Installer shall consult with road commission for proper height setting prior to starting installation.

Wing shall be designed to mount behind the underbody blade, moldboard length shall be 113 inches at the top and 108 inches at the bottom, height shall measure 33" Scraper Mount, inboard and 33" outboard including cutting edge.

Moldboard shall be 3/16" A36 steel; top of moldboard formed into a 2-3/4" X 1" channel for additional strength. All seams and joints shall be 100% continuous welded.

Bottom angle shall be 4" X 4" X 3/4", reinforced between the cutting edge holes with ten (10) 3" X 3" X 1/2" gussets. Shall include six (6) 1/2" moldboard reinforcement ribs tapered from 4" at the bottom to 2-1/2" at the top.

There shall be two (2) horizontal reinforcement angles between the discharge end last two ribs, bottom 4" X 3" X 1/2" reinforcement angle shall have seven (7) evenly spaced 5/8" holes for pusharm adjustment, top 4" X 4" X 1/2" reinforcement angle shall have seven (7) evenly spaced 5/8" holes for pusharm adjustment.

Pivot pin shall be constructed of 1-1/2" steel. Front attachment pivot plate will be 1/2" steel, completely boxed and supported with 1/2" and 3/16" plate. Pivot tube for the 1-1/2" pivot bolt shall have a minimum .625" wall and be welded 100% to the inside of the 1/2" plate and outside of the moldboard.

A 1/2" safety stop eyelet and a 1/2" centered lip loop shall be on the front of the moldboard.

Cutting edge recurve style shall be 9' in length 5/8" thick X 8" tall AASHO punched. Moldboard shall be equipped with two (2) shoes. Shoes shall be bolted on with the cutting edge. One (1) shoe shall be installed on both the toe end and the heel end and shall be heavy-duty cast iron construction. Cast iron shoes shall weigh approximately 75 lbs each. Bottom of shoe shall be cut at approximately 10 degrees to match attack angle of moldboard.

Shall have 1/2" X 4" X 6" cross tube passes behind the underbody blade circle and passing thru two (2) mounting plates, 36" tall X 12" wide X 5/8" for mounting the wing to the frame of the truck.

The wing post shall allow the toe of the wing moldboard to float freely over rough roads and road shoulders, thus reducing potential damage to the wing and cab/chassis. Wing post shall be of a trailing link style with twelve inches of lift and designed to allow the moldboard to float up a minimum of eight to twelve inches when in the plowing position.

The post front structure shall be no more than 24" high and 14" wide. Post weldment shall be manufactured with a .750" inside mounting plate and a matching .500" outer plate. A .375" Ex-Ten 50 front base plate will set the width of the post, support the .500" inner lower hinge brackets and the .750" bottom cylinder mounts. Internal reinforcement with a .500 HSLA radius plate shall be welded to both side plates and the front base plate. The post weldment will serve as the anchor for three trailing link assemblies. The upper and lower link arms shall be .750" radius bar with a 1.750" machined hole on each end. The upper arm assembly will be reinforced with a 2.500" schedule 80 pipe at the front anchor. The lower arm assembly will be reinforced with a 2.500" schedule 80 pipe at the front anchor and .500 HSLA x 5.000 plate to the rear. The lift/float link will be .500" bar with a radius at the anchor end, reinforced with a 2.500" schedule 80 pipe. The rear of the lift link will be 1.000" plate reinforced with .625" bar and will include two .625" upper cylinder mounts. The rear lift weldment shall have an outer 1.000" and inner .500" bar with radius ends and machined 1.750" holes. Bars shall be spaced and supported with two 2.500" schedule pipes and two .500" x 4.000" triangular gussets. The hinge shall consist of three 1.000" thick radius ears that have 1.438" machined holes, spaced evenly and reinforced with two .250" x 2.000" x 2.000" angles. All 1.750" machined holes will have Rc 50 hardened bushings. Hinge pins shall be 1.500" OD, case hardened to Rc 55-60. Hinge pins shall be retained with machine bushings and .250" roll pins. There shall be 10 grease zerks. Lift cylinder shall be a 3.000" ID x 5.000" stroke with a 1.500" industrial hard chrome rod. Hydraulic port(s) shall be .562-18 ORB. Cylinder shall be attached within the post with 1.000" stress proof pins, machine washers and roll pins. Prior to assembly, the post will be shot blasted, washed and prepped prior to powder coating black.

The bolt for retaining the moldboard shall be 1-1/2 – 6 X 7 G8 HHCS Zinc plated with castle nut and cotter pin. Bolt shall be drilled for the cotter pin.

Lifting action for the heel end of the wing shall be a single 3" ID X 15" stroke, 2" nitrated rod, 3/4 - 16 ORB ports, polypak seals, double acting hydraulic cylinder. Heel cylinder shall be attached to the upper rear pusharm slide assembly.

Wing shall be operated by hydraulic lift; no cables or chains shall be accepted.

Rear wing mount shall be fabricated from 5" X 7" X 3/8" mild steel tubing, and shall include two (2) 28" X 18" X 1/2" frame attachment plates with 5" X 7" openings. Rear channel pusharm/cylinder mounting plate shall include two (2) 1/2" plates, flame cut with three (3) offset mounting holes to mount the rear pusharms and the heel lift cylinder. The rear upper pusharm shall be equipped with an external slide assembly to allow for mechanical float and attachment of the heel lift cylinder and the rear pusharms and heel lift cylinder shall be attached with 1-1/4" stress proof pins for quick attach and detach.

There shall be two (2) rear wing heavy duty, 2-1/2" schedule 80, adjustable, spring cushioned lift arms including safety shear pins, 6' long fully extended. Wing shall be capable of mounting with an overlap to the scraper discharge to prevent a window between the scraper and the wing moldboard.

All fabricated components shall be shot blasted and washed prior to powder coating; mounting components shall be powder coated black, Moldboard shall be powder coated orange, with a minimum curing time of 25 minutes, at temperature of no less than 400 degrees.

Mounting hardware shall include (3) schedule 80 pipe bracing, six (6) pipe balls, a flame cut 3/4" support plate, Grade 8 nuts, bolts and washers necessary for a complete installation.

One (1) sequencing valve shall be supplied with the wing and shall be adjustable for both the up sequencing of the wing and the down sequencing of the wing. Lock valves shall be built into the sequencing valve to prevent both the toe and heel cylinder from drifting when in the stored position. The sequencing valve shall allow wing to hydraulically drift up when in the plowing position and shall be equipped with an adjustable metering valve to control the speed at which the blade drops when going from the stored position to the plow position.

Wing installation shall also include:

- 2 1/2" SS hard pipes with short hose assemblies at each end
- 2 sets of Stainless steel quick couplers, caps and plugs
- 3/8" Hi Test safety chain and grab hook
- Stand Alone 60 Series LED strobe light and LED ICC light - both installed in a stainless steel 60 Series light box, mounted on discharge end of moldboard and to include in-cab switch.

ATTACHMENTS

Front Plow Hitch shall be Hustings style heavy duty 34" wide Quick Hitch, top of hitch shall be gusseted with 3/8" plate. Plunger pins shall have grease zerks and secondary locking tabs. Lift arm shall include pivoting booster arm with (3) 1/2" grab hooks. Plow cylinder shall be hydraulic double acting cylinder and the following specifications: 3" diameter bore, 10" stroke 2" socatri1000 shaft – Boss O-ring ports. Hitch shall be bolted to a heavy duty structural channel. 12" minimum 20.7 lb, front bumper with flare back and boxed ends. Hitch shall include upper and lower bracing. Hitch, bumper and bracing shall be installed with grade 8 nuts and bolts; to include extended brackets for hood cables & pull back support cable. Primed and painted urethane black.

Note: If factory bumper is used there will be an applied credit to Clare County Road Commission for fabricated structural channel bumper: Credit \$_____.

Rear Hitch: Unit shall be Holland PHT 760 pintle hitch, having 9,800 lb. tongue weight capacity, 49,000 gross trailer weight capacity, mounted to minimum 3/4" full plate with reinforcements bolted in using minimum grade 8 hardware. Shall include two 3/4" safety chain D-rings 26,500lbs rated breaking strength.

OTHER

Back Up Alarm: 97dbs minimum (electronic) Velvac part no. 697112

Rear Tow Hook: Hook at rear of truck to be determined by the Clare County Road Commission for location.

Trailer Plug: Supply and install one seven pin trailer plug in rear with removable bracket and weather packs; location to be determined at installation.

Road/Air Temperature gauge: Furnish & install as directed Road Watch RW-IRS non-contact temperature sensor with readout in Dickey John Control Panel. Unit shall display outside air temperature and road surface temperature.

Body installer to relocate 7-prong trailer connector and air glad hands supplied by truck manufacturer. Height of coupler and lay-out of D-rings, 7-prong connector and glad hands to be decided at installation by Clare County Road

SUPPLEMENTAL REQUIREMENTS

Paint: After installation the sub frames and miscellaneous components shall be properly prepared, primed and painted with a system compatible with the finish coat. Finish coat shall be manufacturer's standard gloss black.

Warranties: Auxiliary equipment shall be warranted free from defects for one year from date placed in service.

Bid form must be used when submitting a bid and any specifications and / or exceptions must be fully explained. Please mark each item "YES" if it meets specifications or "NO" if it doesn't and explain the deviation from the specification.

The Board of Road Commissioners of Clare reserves the right to accept or reject any and all bids, to waive any irregularities in bids and to make the award of the bid in the best interest of the County.

- Clare County Road Commission representatives shall be invited to the installation shop to go over all phases of placement and installation of equipment and hydraulics.
- The successful body vendor shall provide hands-on training for the service personnel and operators of the Clare County Road Commission.
- Bidders must provide four (4) reference organizations, contact name and phone numbers / email address, for which similar work has been completed:

- _____
- _____
- _____
- _____

CLARE COUNTY ROAD COMMISSION
BID FORM ITEM #1
ONE (1) TANDEM BLADE TRUCK

Furnish one tandem truck in accordance with the Advertisement, Information for Bidders, Specifications, and Bid Form.

MAKE, MODEL & YEAR _____

TOTAL PRICE _____

DELIVERY TIME, DAYS _____

COMPANY BY (signature)

ADDRESS BY (printed or typed)

TITLE

City State Zip DATE

PHONE FAX

The Board of County Road Commissioners reserves the right to reject all bids, waive defects and accept the bid which in their opinion is in the best interest of the Road Commission.

CLARE COUNTY ROAD COMMISSION
BID FORM ITEM #2
FURNISH AND INSTALL AUXILIARY EQUIPMENT

Furnish and install auxiliary equipment in accordance with the Advertisement, Information for Bidders, Specifications, and Bid Form.

TOTAL PRICE _____

COMPANY BY (signature)

ADDRESS BY (printed or typed)

TITLE

City State Zip DATE

PHONE FAX

The Board of County Road Commissioners reserves the right to reject all bids, waive defects and accept the bid which in their opinion is in the best interest of the Road Commission.