



**ADDENDUM #2
Public Works - Road Maintenance
Plow Trucks
RFP # 7390-22**

November 9, 2022

The attached addendum supersedes the original Information and Specifications regarding RFP # 7390-22 where it adds to, deletes from, clarifies or otherwise modifies. All other conditions and any previous addendums shall remain unchanged.

ATTENTION:

An addendum was issued earlier on one of our online platforms due to a data entry error. While this is the second addendum related to this RFP, this is the only one that contains new information regarding this procurement.

Please note: Due to COVID-19, BIDS will only be accepted electronically by emailing purchasing@bouldercounty.org.

Please see page 5 for Tandem Axel Specifications.

1. Question: The specification page states that you are going to purchase (2) AWD and (3) tandem snowplows. Are there specifications for the tandem chassis or equipment? Pages 6-27 only have the requirements for the (2) AWD, nothing for the (3) Tandems.

ANSWER: We will provide requirements for tandems.

2. Question: Will there be a spec for the tandem chassis and equipment?

ANSWER: Yes. We will provide specifications for tandems.

3. Question: Will you encourage cooperative purchasing with this RFP?

ANSWER: We will accept cooperative pricing.

4. Question: Will there be specifications for the following - Wing Plow & Extendable Plow?

ANSWER: Yes, we will provide these specifications.

5. Question: Page 6 Item 1 - Will another RFP and specifications document be released for the stated tandem axle trucks?

ANSWER: Yes, we will provide these specifications.

6. Question: Page 6 Item 2 - Does the county know the breakdown of 4x4 vs. tandem trucks it wishes to purchase in the 2023 budget cycle?

ANSWER: Yes, 4 AWD and 1 Tandem.

7. Question: Page 13 - Description of a stack valve and electronically controlled section could indicate two different valve models. Will the county clarify if the valve is to be full electric or if only the spreader controls are to be electric?

ANSWER: Spreader controls and valve controls will be full electric.

8. Question: Page 15 - Heavy Duty Front Plow, Model MP48R12-ISSBT-CO, 316, LL, Angle Iron PF. The model number would indicate a 3/16 moldboard skin. One-piece A569 10-gauge steel roll formed moldboard...
Will the county clarify if the plow is to be 3/16 or 10 gage for the moldboard skin?

ANSWER: preferably 3/16 in moldboard skin.

9. Question: Without a flat plate style of hitch where does the county wish to have the two jacks being requested located?

ANSWER: closest to the A frame mounting points.

10. Question: The described "single pick point level lift" conflicts with the Page 16 "PLOW LIFT RAM NOTE: ADD TWO -2- CHAINS FROM TOP PIVOT POINT OF CYLINDER DOWN TO BASE MOUNTING ANGLE". Will the county clarify which pick it is requesting?

ANSWER: We are requesting a single pick point level lift.

11. Question: Page 16 - Under body scraper. Does the county wish to require the 5" center pin to be "piloted into the hanger board" so as to take the stress off the 3 mounting bolts?

ANSWER: It preferably would be plotted into the hanger board if the truck configuration allows for it. We are open to comparable alternatives as well.

12. Question: Does the county wish to require the curl cylinders to be trunnion mounted for ease of service?

ANSWER: Trunnion mounting for curl cylinders is not required.

13. Question: Does the county wish to require a central grease bank requirement for maintenance of the scraper?

ANSWER: No. We prefer not to have a central grease bank due to the high failure rate we had in the past with these.

14. Question: Page 17. Are the described "artic hoses" only required for the scraper function?

ANSWER: We want all hydraulic hoses to rated as artic hoses not just scraper hoses.

15. Question: Page 18 - Salt Sand Spreader - Model number MSV-144-84-56-604-10/76:1 -2.0 SFT. The model number would indicate material thickness of 10 gage sides/supports and 7 gage longsills. Given the county's issue with chassis mounted sanders cracking with the 12 longsills and 10 gage sides & supports material. Will the county clarify desired material descriptions of 7 gage longsills and 10 gage sides & supports?

ANSWER: This was based on a Monroe brand product we have purchased in the past that performed well. The 7-gauge longsills and 10-gauge sides would be made of 304 stainless steel.

16. Question: A 4" x 6" stainless steel box beam will be elevated 3" above the top edge of the hopper. Will the county accept a 6"x9# wide flange "H" beam powder coat mild steel center beam to support the top screens?

ANSWER: We would prefer this box beam be made of 304 stainless steel due to the constant contact with granular salt. If stainless is not available, we could consider the H beam be made of mild steel.

17. Question: Page 19 - Will a full width light bar that incorporates all the desired lights be acceptable?

ANSWER: No. reason being is the integrated lighting has proven reliability and are placed out of harms way by being recessed. Recessed lighting is also typically more cost effective.

18. Question: Q. Will the county require the auger tube to be 7" schedule 80 to reduce auger failure?

ANSWER: if the auger setup is of comparable durability would consider it.

19. Question: Will the county accept a 3.6"1 planetary with a 24.9 cu in motor in lieu of the described direct couple motor?

ANSWER: We prefer direct couple motor because it is a simpler setup with fewer moving parts. We would consider a planetary setup depending on cost.

20. Question: Does the county want to require a dump over chute on the spinner assembly for easier unloading of the material?

ANSWER: No, we do not have this on any of our spreaders.

21. Question: Does the county want to require a hydraulic pipe for the plumbing alongside the V-box from the front of the sander to the rear as has been provided in past builds?

ANSWER: Yes. This saves us a lot of failures and leaks with hydraulic systems.

22. Question: Page 21 Item 4. What is the base description for the optional wing?

ANSWER: NA

23. Question: Page 22. Will the parallel lift plow be based on the basic dimension and features of the base plow.

ANSWER: YES. 12ft and the same moldboard

24. Question: Page 23 - Guarantees and warranties. "Units furnished here under shall be fully warranted (bumper to bumper) on parts and labor for a minimum of 3 years. " Does this statement relate to the chassis only? Or does this include all installed hydraulic and snow and ice equipment?

ANSWER: 3 years on the chassis

Tandem Axle Snowplow Truck	
	(LIST SPECIFIC INFORMATION IN ANSWER SECTION FOR EACH ITEM)
Information Requested	Answer
Cab and Chassis Model Proposed: TRUCK- Mack GU812, Western Star 4700 or Proven Equal, Day Cab	
ENGINE: MINIMUM-500HP @ 1500-1800 rpm, pe1650 lb-1850ft. max torque @1100-1400 rpm, turbo charge, after cooled, engine governor type MIN-MAX.	
CRANKSHAFT ADAPTOR: Crankshaft adaptor for front mounted hydraulic pump	
CARB 2008 IDLE REGULATION: Idle emission certification CARB 08, Engine idle shutdown	
EMISSIONS: Must meet current federal and state emissions standards	
ENGINE BRAKE: 3 Levels Jacobs or equal	
ELECTRONIC ENGINE AND POWER TRAIN COMPONENTS: Programed for 62 mph top end speed	
KEYS: 3 sets of keys	
CRUISE CONTROL: Electronic	
FUEL FILTERS: Primary and secondary	
AIR CLEANER: Dry type under hood single element, in cab restriction monitor	
AIR-INTAKE: Inside and outside air intake w/in-cab control for snowplows	
LUBRICATION SYSTEM: Full flow with spin on filters	
EXHAUST SYSTEM: Bright finish, heat shield, 9'6" from ground, stack, and SCR cover, single (R/S) vertical exhaust cab mounted, lower diffuser, turned end, exhaust heat shield, DEF tank 10 or more-gallon, painted finish left side frame mounted, exhaust after treatment system diesel particulate filter ceramic passive regen w/emission on board diagnostics	

COOLING SYSTEM: Heavy duty, with permanent antifreeze, -40 degree protection with conditioning & filter, silicone radiator and heater hoses, electronically modulated fan drive, bug screen black aluminum mounted behind grille and winter front cover	
FUEL-WATER SEPARATOR: fuel filter 12V/electrical heater w/internal fuel/water separator	
ENGINE BLOCK HEATER: 120 Volt, 1500-Watt female plug located driver side kick panel	
TRANSMISSION: FULLER RTLO-16913A (12.31/0.73), or equivalent 13 speed. Transmission oil cooler (integral oil pump), Eaton Fuller shifter, 50 weight synthetic lubricant, aluminum bell housing, remoter lube fittings clutch release bearing and both cross shafts mounted under left hand hood, driveline Spicer SPL250XL extend lube series	
FRONT STEERING: TAS66+RCH60 TRW Power, dual steer gearbox or proven equal. NOTE: Due to recent steering issues please ensure steering gear listed will provide safe steering before and after 4X4 conversion	
STEERING COLUMN: Adjustable tilt & telescope	
ELECTRICAL SYSTEM: 12 Volt with Three (3) low maintenance 650/1950 cold cranking amps, shock pads under battery, battery box shall be complete steel enclosures (front, sides, and bottom) with aluminum box cover, mounted right side behind SCR, and two emergency start studs	
BATTERY DISCONNECT SWITCH:- wired on negative side, inside driver's door on floor	
ENGINE STARTING AID: Electric preheater, idle up technology with maximum increase of 10 minutes	
ELECTRIC CIRCUIT PROTECTION PACKAGE: 12 volt with circuit breakers	
ELECTRONIC BODY BUILDER HARNESS: For simplicity of body company tying into truck electric system	

WIRING HARNESSSES – All chassis and power harness with heavy duty casing	
LIGHTING – Long life LED or halogen head lights with daytime running feature, dual face turn signals, fog lights, all lighting, and reflectors to meet Federal Motor Vehicle Safety Standard FMVSS and DOT regulations, LED lighting	
INTERIOR LIGHTING: Dome lamps, door and switch activated	
CLUTCH TRANSMISSION EQUIPMENT: EATON/FULLER Shifter, CL39DC EATON advantage ez-pedal, 9 spring, 2 plate, 15.5” ceramic clutch, 4 paddles, manual adjustment, Two-piece clutch break, open grated clutch pedal, clutch assist mechanical cable	
ALTERNATOR: LEECE NEVILLE 12-V 160AMP, Brush type or equivalent	
WINDSHIELD WIPERS: 2 speed electric motor with intermittent feature	
INSTRUMENTATION: Provide the following gauges: oil pressure, water temperature, dual air pressure, brake application, transmission temperature, forward axle temperature, rear axle temperature, low oil pressure, high engine temperature and low air pressure, and fuel gauge. Low oil pressure, high engine temperature and low air pressure shall have a visual and audible warning. Provide the following meters: speedometer, tachometer, odometer, and hour meter	
HORNS: Dual note electric and cab mounted air horn with snow covers	
AIR BRAKE SYSTEM: Drum type, Wabco 318 18.7 cfm., AD-9 heated, Wabco air dryer, 1200UP w/T cutoff valve, ADSP spin on style cartridge, with coalesce oil filter, heated automatic drain valve, heated supply tank, w/lanyards on all other tanks	

WHEELBASE: 5125MM (202 INCH) WHEELBASE Manufacturer & body builder may change specs based on mounted snow removal equipment	
FRONT AXLE: DETROIT DA-F-23.0-5 23,000# FL1 71.0 KPI/3.74 DROP SINGLE AXLE or equivalent	
FRONT BRAKES: Per manufacturer specifications: Meritor S cam type 16.5" X 6" Q+, external cast iron removable brake drums, Meritor R403 brake lining, Haldex automatic slack adjusters, front brake chambers manufacturer specified	
REAR AXLE: RT-46-160P 46,000# R-SERIES TANDEM REAR AXLE or equivalent TUFTRAC suspension or equivalent	
AXLE RATIO'S: Geared for urban & mountainous use with the top end speed of 68mph, capable of 13% grades for extended periods of time, 4.10 Ratio or equivalent	
REAR AXLE BRAKES: Per manufacturer: Meritor-cam type 16.5" X 7 P brakes, cast iron external removable drums without removal of axle shafts, Haldex automatic slack adjusters, rear brake chambers manufacturer specified, Meritor R403 lining	
TIRES AND WHEELS: All wheels to be steel hub piloted 10 hole, with 425/65R 22.5 Tubeless radial highway on front (appropriate load rating) traction tread on rear 12/R22.5 (appropriate load rating) one spare rear tire and wheel with traction tread per unit, front, and rear wheel guards	
TRACTION CONTROL SYSTEM: ABS sensor 4S/4M system rear wheel sensors, anti-lock brake system with Bendix traction control, Bendix switches and	

valves where possible	
MUD FLAPS: Front & Rear-in front of and behind tandem axles. Front Mudflaps will be solid aluminum, rears will be flexible rubber.	
BUMPER: Bumper position extended 20" (snow), front & rear tow hooks	
FRAME: Front frame-integral front frame extension (not welded or bolt on type). Frame Rails Steel 300MM x 90MM, (11.81" x 3.54" x 0.37"), Frame reinforcement-inside, 5mm steel, full length of main rail, cross members back of cab and intermediate(s) steel heavy duty back-to-back channel, rear I-beam cross member	
CAB TYPE: Day Cab MACK GU812 R or equal, w/cab fender extensions	
CAB GLASS: Tinted heated front windshield, tinted side & rear windows, peep window passenger side	
INTERIOR TRIM LEVEL: Purebred slate gray	
CAB INTERIOR: All vinyl, vinyl covered headliner, hood insulation, in dash storage	
DASH MOUNTED SWITCHES: Six assignable bodybuilder dash switchers (5 on-off, 1 momentary)	
TURN SIGNALS: Self-canceling	
SEATS (CLOTH UPHOLSTERY): Driver seat to be Air-Bostrom Talladega 915 wide ride, hi back 4 chamber air lumbar, passenger seat fixed high back w/integral storage compartment	
STEERING WHEEL: 2 spoke urethane grip, charcoal spokes, w/o switches	
SEAT BELTS: Driver and passenger with lap and shoulder harness	
AIR CONDITIONING/HEATER: Air Conditioning, Heater, and defroster	
INTERIOR SUN VISORS: Drivers and passengers' side	
EXTERIOR VISOR: Fiberglass exterior color white to match cab	

RADIO: AM/FM Stereo, CD player, MP3, weather band, hands-free interface, Bluetooth, auxiliary input port, antenna mounted driver's side behind driver's door, radio mounting reinforcement in header console, includes auto radio shutoff when truck is in reverse gear, speakers mounted appropriately for sound quality	
MIRRORS: Bright finish left & right hand 8" heated convex, aerodynamic moto mirror package, left hand & right hand motorized heated w/weatherproof external plug at mirror	
TILT HOOD: Front tilting fiberglass hood, hood tilt locking hatch, anodized aluminum bright finish stationary grille	
AIR INTAKE GRILLE: Bright finish grille, air restriction indicator	
GRAB HANDLES: Bright finish grab handles	
FRONT BUMPER: Heavy duty with two (2) tow hooks or eyes, frame mounted	
SAFETY ITEMS: 5-lb. ABC Rated, mounted between left hand seat base and door, with valve aimer rearward, reflector kit mounted	
BACKUP ALARM: ECCO back-up alarm 575 constant sound level 107 dB	
FUEL TANK: Sidestep mount, driver side (LH), 116 gallon or larger aluminum, braided fuel lines	
EXTERIOR PAINT COLOR: Prime and paint truck chassis white w/urethane clear coat	
SAFETY PACKAGE: Windshield wipers forced to slowest intermittent setting when parking brake set, headlights automatically on when windshield wiper is on, parking brake alarm sounds when parking brake is not set and any door is opened, brake lights override hazard lights	

HYDRAULIC EQUIPMENT	
<p>HYDRAULIC PUMP: The hydraulic pump shall be a U.S. manufactured axial piston pressure and flow compensated load-sensing type. The pump shall be rated to 4.67 cubic inches per revolution at maximum stroke which will deliver 19.2 GPM @ 1000 engine RPM. The pump shall have a 2” inch suction line and ¾” case drain line plumbed directly back to the reservoir. The pump shall be rated for 4000 PSI maximum and 3500 PSI continuous. The pump shall have a severe duty, high pressure outboard Teflon shaft seal that protects the pump shaft bearing and seal from external contamination and salt spray. The pump shall be a Force America FASD34 right hand rotation for REPTO application</p>	
<p>MOUNTING The hydraulic pump shall be mounted with shaft centerline parallel to the crankshaft centerline and at a level to create not more than a <u>three-degree angle</u> on the driveline. The pump mounting shall be incorporated with a bracket fabricated to mount in the extended frame rails of the truck.</p>	
<p>DRIVE LINE The hydraulic pump shall be driven directly off the engine crankshaft via a splined driveline to allow for movement. The driveline shall include grease fittings on both u-joints. Driveline shall be a Force America model 1310 series. Shall include companion flange on pump side for ease of removing driveline to change engine belts.</p>	
<p>RESERVOIR 50-gallon capacity upright style hydraulic reservoir. 10-gauge pickled steel, powder coat pickled steel, angle iron brackets for vehicle frame mount with rubber bushing and coil spring mounting kit hardware. Internally baffled to prevent aeration, bottom ports, filler breather cap, low/hot oil temperature sensor, oil temp and level sight gauge. Mount the reservoir above truck frame behind cab and in front of dump body.</p>	

<p>FILTER The hydraulic oil filter shall be mounted at the reservoir and equipped with a 1 ¼” ball valve to be installed with the reservoir and filter to allow servicing of the filter without siphoning oil from the reservoir. The hydraulic filter shall have 1¼” ports with a 10-micron micro-glass spin-on element that is rated for no less than 70 GPM and include a filter condition indicator gauge. The filter shall be Force America model SF510-120-25-10MLR-PG or prior approved equal. The system shall be delivered with one spare filter element.</p>	
<p>SHUT DOWN SYSTEM: A high pressure ¼ turn ball valve shall be installed at the discharge port of the pump.</p>	
<p>HIGH PRESSURE FILTER There shall be a high-pressure filter plumbed between the hydraulic pump and the control valve assembly. The hydraulic filter shall be a 25-micron absolute and rated for 6000 psi. The filter shall be an Eaton model HP3.170-0014 or prior approved equal and be equipped with a visual and electrical bypass indicator. A warning light and buzzer shall be mounted in the cab and wired to the electrical indicator.</p>	
<p>HYDRAULIC CONTROL VALVE: Control valve shall be a load sensing type with o-ring ports. Mid-inlet section porting will be #16 inlet, #20 outlet, #16 hoist section, #4 load sense port, and #10 or #12 for all other sections. The hoist section shall be stacked to one side of the mid-inlet and all other sections will be stacked on the other side. There will be a main relief in the mid-inlet section that will be set at 2500 PSI to protect the system from being over pressurized.</p>	
<p>Control valves will be electronically controlled, section to be arranged as follows:</p>	
<p>Plow Lift, 3-way for a single acting cylinder with detent in the down position for float with flow control.</p>	
<p>Plow Angle, 4-way for a double acting cylinder with flow control.</p>	

Double acting scraper curl with flow control	
Double acting scraper angle with flow control	
Double acting scraper left level and right level with float and flow control	
Spin-A-Veyer end cover electric PWM sander valve 14 GPM sander, 7GPM spinner.	
Valve shall be Force America Add-A-Stack 4020 valve	
<p>HYDRAULIC VALVE ENCLOSURE: The valve assembly shall be mounted in weather-tight enclosure. The valve enclosure shall be fabricated of 10- and 12-gauge steel. Enclosure shall be designed to not allow humidity to be trapped inside. The cover shall be held to the enclosure by four heavy rubber latches. All plumbing shall be external, directly out the bottom of the valve enclosure.</p>	
<p>The dump body manifold shall be stacked next to the inlet section, and capable of 40 GPM with SAE #12 porting. All valve manifolds shall be manufactured from 6061-T6 aluminum and be anodized to MIL-A-8625F specifications. The hydraulic control valves shall be pulse-width modulated, proportionally controlled. Each hydraulic valve segment shall be individually mounted to the manifold base assembly and be serviceable without removing any hydraulic hoses or any other hydraulic valve segments. Each hydraulic valve segment shall have individual pressure compensation to achieve independent simultaneous operations. All segments shall have heavy-duty continuous duty coils and connections shall be with Deutsch DT connectors. All coils shall operate at 12 VDC and require a maximum of 1400 milli-amps. Each segment shall be equipped with a manual override. The dump body segment shall be rated to 40 GPM, with all other segments rated to 20 GPM. If a double acting hoist is utilized, the dump body segment shall be equipped with a downside relief to protect the body down</p>	

<p>function. This relief shall be set to the hoist manufacturer's specifications. The valve shall include a main relief set at 2500 PSI. Valve segments shall be FORCE America Add-A-Fold® 4020 model or prior approved equal.</p>	
<p>ELECTRONIC SPREADER CONTROL: The electronic spreader control shall be a Force America 5100/6100 series or equivalent.</p>	
<p>The multi-stick controls Joystick outputs shall be communicated over the spreader control CAN bus to the Valve Module. Spreader control outputs and joystick control outputs shall be operated on the same Valve Module, or multiple modules as necessary. The electronic spreader control shall be designed for precise, closed-loop control of granular and prewet liquid applications and operate on a CAN Bus protocol. The Central Processing Unit (CPU) shall have keyed and color-coded connections to prevent incorrect installation. The CPU shall be mounted in the cab with visual access to diagnostic LED's. Mounting of the CPU unit outside of the cab is unacceptable. The unit shall have USB connectivity for file and data transfer, Ethernet connection, a J1939 communication port for connection to the vehicle bus, a second CAN bus communication port for spreader-only data use, a J1708 connection for a road and air temperature sensor, and a RS-232 connection for AVL communication. The CPU shall have on-board diagnostics, which provide real-time status of CAN bus communication, processor activity, and power status. The CPU shall have a built-in audible alarm for diagnostic purposes. The CPU operating system shall NOT be Windows-based. The spreader control interface shall have two, color-coded, continuous rotation encoders for granular and spinner control.</p>	

These encoders shall have integrated push buttons for blast mode and stand-by. The controller shall have a third multifunction 4-way joystick that has an integrated rotary encoder and push button, that can be used for menu navigation, prewet liquid control, or an additional conveyor function. There shall be four, two-way soft keys included in the interface that are generically labeled and user-configurable for different functions depending on the equipment needs. The controller shall also utilize USB technology that is capable of using a Supervisor key to provide access to the calibration parameters without the access code. The entire operator interface shall be backlit and encased in flexible silicone material with wear-limiting coating applied to the base silicone material. The operator interface shall communicate on the spreader control system CAN bus. The use of an LCD touch screen to change spreader function settings while driving is unacceptable.

The spreader control display shall be a remote-mounted, 10" diagonal color TFT LCD with capacitive touch and a low-profile 16:9 widescreen format and minimum of 1024X600 pixel resolution. LCD shall have variable LED backlighting. CCFL backlighting is unacceptable. The display shall include a scratch-resistant polycarbonate lens with anti-glare coating. Display unit shall have a built-in audible alarm. To avoid driver distraction, the display shall have no integrated dials or pushbuttons. Display shall communicate on the spreader control system CAN bus.

The operator menus shall be color-coded to match the encoder knobs on the operator interface. The display shall be capable of displaying the following on-screen simultaneously: Granular material name, granular material set point and actual application rate including units of measure, prewet liquid name, prewet liquid set point and actual application rate including units of measure, spread width, road temperature, air temperature,

material usage total, liquid usage total, vehicle speed, and current date and time. The operator shall have the option of selecting five data items to be displayed onscreen during operation. The display will also provide four warning light indicators for low oil level, body up, oil temp, and filter bypass. These warning lights are to be functional regardless of spreader operation or status. The display shall have integrated antennas for GPS and cellular communication. Cab mounted antennas are unacceptable. The display shall be capable of communicating wirelessly with road and air temperature sensors. A proportional PWM driver and input module (Valve Module) shall be remotely mounted inside the hydraulic valve enclosure for control of both spreader control and joystick control outputs. The entire Valve Module shall be of rugged design for a mobile environment. Must meet IP68 requirements for dust and water ingress. The Valve Module shall include a minimum of ten proportional PWM outputs with potted valve output connections. All outputs shall be protected against short-circuits. Outputs shall be current-compensated and have adjustable PWM frequency. There shall be a minimum of five switch-to-ground type inputs for monitoring hydraulic system inputs such as oil level, body up, High and Low filter bypass, and oil temperature warnings. A minimum of two switch-to-ground type pulse train inputs shall be included in the Valve Module for connection of feedback sensors such as auger feedback and prewet liquid flowmeter feedback. A keyed and color-coded connection shall be provided for CAN bus connection to the CPU module inside the cab. A second CAN bus connection must be provided for daisy-chaining of multiple Valve Modules within the valve enclosure. Diagnostic LEDs shall be included for every input and output on the Valve Module, as well as a power status LED and CAN bus activity LED's. The Valve

<p>Module shall be potted.</p> <p>The integrated spreader control and joystick control system shall be equipped with a qualified ESTOP device that immediately disconnects battery power from all outputs. All spreader control and joystick-operated outputs shall immediately cease to function, and the system display shall inform the operator that the ESTOP device has been activated. The ESTOP device must remove power from all output devices, while maintaining power to the display and CPU for diagnostic purposes. Resetting of the ESTOP device shall not result in spreader control and joystick-operated outputs returning to an ON state without operator acknowledgement.</p> <p>Spreader control supplied with bulkhead connector and cable for internal speed sensor on spreader motor and pre wet flow meter connection if sander is equipped with pre wet tanks and power unit.</p>	
<p>DIRECT LIQUID MODULE</p> <p>The 6100-spreader control shall include an ISOBUS connection mounted at the rear of the chassis. A CAN BUS and input/output module shall be mounted on the direct liquid system and connect to the chassis through the ISOBUS connection. The input/output module shall have 2-inputs for flowmeter feedback and low liquid. There shall be 4-outputs rated at 5 amp each for multi lane ball valves and anti-drip valve.</p>	

HYDRAULIC EQUIPMENT CONTINUED	
Electronic Control Console: Force America 5100 or 6100 pedestal style control console for plow and scraper with accessories.	
System shall have a 50 GPM electric selector valve to allow for the dump body hoist or pup trailer hoist to function, an in-cab switch shall be provided for valve activation. A hydraulic line shall be run to rear of the dump body above pintle plate with quick disconnect for pup trailer connection.	
Hydraulic Hoses and Fittings: All fittings shall be SAE hydraulic fittings using boss 'O' rings. Piping on the side of the V-Box shall be stainless steel tubing, clamped at each vertical hopper brace using Parker style hydraulic tube clamps. Flexible hydraulic hoses from the valves to the stainless-steel tubes and from the stainless-steel tubes to the V-Box motors shall be double wire braid with minimum 3,500-pound working pressure. All flexible hydraulic hoses shall be equipped with JIC swivel fittings on both ends. Front hydraulic quick-disconnects for the snowplow shall be located per county specified location easily accessible for the operator. Hydraulic hoses from front pump to hydraulic valve and from valve for front snowplow shall be secured to truck frame, in an orderly fashion, as high as possible with hanger brackets, hose clamps and hoses spaced to avoid rubbing and snow loads.	
HEAVY DUTY FRONT PLOW	
Monroe Model MP48R12-ISSBT-CO, 316, LL, Angle Iron PF or Proven Equal	
Plow dual spring break over, length 12', Height 48", 3/4" base angle, 1/2"x8"x12' steel cutting edge single pick point level lift, 12" rubber deflector, 24" orange rod markers, two (2) jack stands, 4"x10" single acting lift cylinder, universal pin hitch with thrust arm mounting	
One-piece A569 10-gauge steel roll formed moldboard with a tensile strength of 55,000 to 70,000 lbs.	
Six 1" x 4" one-piece solid flame cut ribs that taper to 2" at the top of the moldboard	
2"x3"x318" top moldboard angle	
4"x4"x314" bottom moldboard angle	
3"x3"x1/4" non-spring horizontal angle bracing	
3"x3"x1/2" horizontal spring support angle bracing	
HEAVY DUTY dual compression trip spring assemblies	
Monroe built in special heavy duty level lift assembly	
Main push tube is 4" x4"x318" A36 steel seamless wall tubing.	
Moldboard and frame to be 100% continuously welded	
Moldboard to be shot blasted and painted powder coat ORANGE, with push frame painted black	

Two 3" x 10" with 211 rod power reverse cylinders with cushion valve	
518" x 8" AASHTO C I080 top punched cutting edge	
Truck portion of hitch to be 30.5" pin style. (Due to type of use, plow rarely is taken off of truck)	
Cheek plate mounts	
4"x10" SA lift ram	
Plow portion of hitch to be 30.5" pin style	
12" moldboard rubber deflector	
Two 36" moldboard markers	
2"x5"x34" push plate in lieu of standard I"	
2" swivel plate bolt	
Extra half ribs on outer section of moldboard for additional support	
LOCATION TO BE DETERMINED AT TIME OF INSTALLATION.	
Dump Body	
R/S Godwin Model AG Aluminum Series or J&J TA20486. Aluminum dump body 180" Inside Length, 86" Inside Width, 42" Side Height, 54" Tailgate Height or Approved Equal	
The outside width shall not exceed 96".	
The sides shall have board extension pockets at the front and rear to accept 2" x 6" wood board.	
Full Length 2" x 8" pressure treated fir boards shall be provided and bolted to front and rear board pockets.	
The cab shield shall extend 24" forward of the of the truck body	
The floor of the dump body shall be fabricated of a single sheet of .375" or thicker aluminum.	
The sides and front of the body shall be fabricated from a single sheet of .250" aluminum.	
The tailgate shall be a 2-way barn door design	
The rear hinge shaft shall be no less than 1-3/4" diameter and extend full width of the angle. All pivot points shall be equipped with accessible grease zerks for lubrication.	
Removable 8" asphalt apron. Designed to cleanly dump into a variety of paving machines.	
The hoist will be a Mailhot head lift hoist model M130-6.5-3. or equivalent	
Electric tarp system, black vinyl tarp, aluminum tarp housing, aluminum tarp arms with aluminum tension arms, control switch in-cab.	
Rear Body Accessories	
Rear pintle hitch with chipper bar built per county supplied drawing. Reinforced 3/4" pintle plate, 2" chipper bar, 45-Ton air compensated pintle hook, (2) 1" forged D-rings, air glad hands, six prong electric plug, two prong electric plug,	

license plate light.	
Electric brake control.	
Cougar model DC-3200 body switch	
Removable rear mud flaps.	
Body up whisker switch with in-cab indicator light.	
Back-up alarm.	
SNOW PACKAGE LIGHTING:	
Shall supply LED or halogen plow headlights lights with integral turn signals.	
Plow lights shall be high / low beam and wired so that when plow light switch is activated the truck OEM lights do not operate.	
Snowplow headlights and driving lights shall be mounted on a stainless three-point mounting bracket for stability and be equipped with 8" convex mirrors.	
All strobe/warning lights should be integrated circuit within the light bulb not through central flasher.	
LED warning lights shall be amber clear and blue clear 24 LED minimum, 6" oval recessed rubber grommet mounted in front & side corners cab shield top & bottom protection (See Pictures).	
Shall be supplied with one amber and one blue 6" high strobe beacon mounted below top of V-Box rail	
Shall have a 304 stainless steel light bar on the upper rear of the V-Box between strobe beacons that has LED stop/tail/turn and three 2.5" LED marker lights.	
Shall have license plate mounting bracket and light.	
Shall be equipped with a back-up alarm.	
All wiring shall be heavy duty rubber jacketed that is flexible in cold climates to minus forty degrees Fahrenheit, and shall be abrasion, corrosion, and oil resistant.	
Shall only use environmentally sealed Deutsch DT series connectors for any electrical connection.	
All holes that an electrical wire passes through shall be drilled and have an appropriately sized grommet.	
Wiring shall be securely clamped a minimum of every 18" using heavy-duty vinyl molded coated clamps and minimum ¼" grade 5 bolts, nuts, and washers.	
In-cab switching shall include rocker switches back lit and labeled for Blue Strobes, Amber Strobes, Snowplow Lights and Rear Spinner Lights.	
All lighting and reflectors shall meet the FMVSS 108 regulations.	
SLIDE IN SALT & SAND SPREADER: SWENSON DA EVA-100-14-84-62 OR PROVEN EQUAL	

The spreader hopper shall be constructed of 12-gauge 304 stainless steel with a 2" double crimped top edge forming for greater rigidity.	
The hopper body length shall not be less than 14' Length, maximum 84" Width, 62" Height, 11 cubic yard capacity	
The capacity of the hopper shall be 8 cubic yards water level full.	
The body sides shall have not less than a forty-five-degree slope to insure free flow of material to conveyor.	
The body longitudinal shall be manufactured of 10-gauge 304 stainless steel.	
The channel cross sills shall be 7 gauge formed 304 stainless steel channel that ties the lower edge of the longitudinal to each side support. These cross supports shall be wide enough to allow the hopper box to be mounted on various width truck frames or slide into a dump body.	
A 4" x 6" stainless steel box beam will be elevated 3" above the top edge of the hopper, thus providing a longitudinal brace and hinge point for the top screens.	
There shall be a 10-gauge stainless steel formed channel welded under the box beam to each side for additional side support.	
The body and conveyor longitudinal shall be electrically welded into a rugged solid unit.	
There shall be 12 gauge formed stainless steel side supports that extend the full angle height spaced on approximately two (2) foot centers.	
A heavy-duty stainless-steel lift hook shall be provided at each corner.	
A 44" wide 304 stainless steel light bar shall be provided on top rear of the hopper, with LED stop, tail, turn and tree marker lights.	
Mounted below the light bar to the outside of the hopper one (1) ECCO 7965A Amber street-side and one (1) ECCO 7965B Blue curbside LED beacons that are wired into running lights.	
Front spill shield full hopper width, constructed of 10 gauge stainless steel, designed to cover and protect tarp system.	
Shall be equipped with six (6) minimum 5-inch diameter cast wheels. The wheels shall attach to the spreader using a minimum of 5/8-inch diameter stainless steel bolts and have a lubeable bronze center bushing. Two (2) front frame mounted to contact the dump body floor and two (2) each side that are width adjustable for	

guide centering into dump body.	
A self-loading/unloading system provided, constructed of stainless steel by the spreader manufacturer.	
The front "legs" shall be constructed of 3" x 4" x 1/4" formed tubing and shall be designed to fold up as the vehicle backs underneath the stand.	
Rear "legs" shall be of a self-storing telescopic design.	
Leg ground pads shall be a minimum of 5" x 6" x 1/4" and have a lifting handle incorporated for storage. Ground pads must be hinged and pivot freely for loading and unloading on uneven surfaces.	
Shall allow loading and unloading without removal of asphalt extension.	
AUGER SYSTEM	
The "dual augers" system shall be twin augers 7" in diameter running longitudinally with the body, feeding material the full length of the hopper.	
The augers shall consist of a 4" O.D. pipe with a 2" cold roll end shaft and fluting continuously welded the full length.	
The fluting shall be 1/2" thick. The fluting shall have three (3) different pitches so the hopper will unload evenly from the front, middle and rear.	
The augers shall be driven by an 18 H.P. hydraulic motors directly coupled by a spline shaft coupling.	
The drive motor shall have a sensor for ground speed.	
The coupling shall be equipped with grease fitting so that the motor spline and coupling can be lubricated.	
The idler end of the auger shall be supported by a 4-bolt flange, heavy duty, dust sealed, self-aligning ball bearing.	
This bearing must be able to be lubricated from the rear of the dump body.	
Both the auger drive and idler end plate shall be manufactured from 7GA. steel.	
An adjustable in height stainless steel inverted V shall be provided to keep material load off the auger for easier auger start-up.	
A protective carbon steel grate shall be placed over the exposed auger outside the hopper.	
The spreader shall be equipped with a safety interlock device to positively prevent power from reaching the auger motor when the auger covers, and top screens are opened beyond the normal operation position.	
Spreader shall dispense 75-100 lbs. per lane mile minimum with blast override button located on shifter	
TOP SCREENS	
The top screens shall be constructed of 3/8" rods welded	

to form a 2.5" square mesh which is framed by a combination of 1/4" x 1 1/2" flat steel and 2" angle iron with the edge supports reinforced by 1/4" x 1" flat steel bar.	
The screens shall be manufactured in sections not over 45" wide. Each section shall be easily removable by using the "drop-n-lock" type hinge. Screen utilizing hardware that may vibrate loose is unacceptable.	
SPINNER ASSEMBLY	
The distributor disc shall be at least 18" in diameter of 7-gauge steel and have six replaceable formed 7-gauge carbon steel fins.	
This disc shall be mounted on a cast iron replaceable hub and connected directly to the hydraulic motor.	
The material shall be guided from the auger to the disc by means of one adjustable, internal, 12-gauge stainless steel deflector.	
This deflector shall control the spreader pattern from right to left by controlling where the material drops on the disc.	
The entire spinner assembly shall be manufactured of not less than 12-gauge 304 stainless steel and shall be adjustable in height to accommodate chassis mounted V-box.	
There shall be four (4) spinner baffles, one front fixed, two side and one rear adjustable without the use of tools.	
The spinner disc shall be driven by an independent low speed high-torque "orbital type" motor.	
This motor shall be directly coupled to the spinner hub thus eliminating any extra extension shaft or bearings.	
The entire spinner assembly shall be capable of repositioning without the use of special tools to allow for cleaning, storage, and unloading from the conveyor without the interference from the spinner assembly.	
Liquid De-Icing System	
The tanks shall be polyethylene, mounted into the open area along both sides of the spreader. Gallons shall be marked on the end cap of the polyethylene tank. The tanks shall be sufficiently supported on the bottom. All supports and bands attaching the tanks shall be of nylon ratchet straps & winches. The tanks shall draw its contents a minimum of 2-inches from the bottom.	
Capacity of 800 total gallons minimum, 1800 Maximum	
The dispensing system shall be capable of precisely covering three 12-foot traffic lanes @ 10 to 50 gallons per lane mile at a truck speed up to 50 miles per hour.	
A hydraulic motor will be direct coupled to drive a centrifugal pump. The product pump shall have a cast iron housing and impeller and be rated at 207 GPM at 30 psi liquid output. This requires 13GPM hydraulic flow.	

<p>The booms shall have the capability of being operated individually or simultaneously.</p>	
<p>The dispensing system shall be equipped with:</p> <ul style="list-style-type: none"> • A closed loop 2” flow meter rated at 8 to 158 gallons per minute to assure a positive flow rate. Flow meter shall be 12v, compatible with control system, and be of Turbine style. • Lane selection from electronically operated 2-inch valves with glass filled polypropylene body and stainless steel ball valves. All hand valves shall be readily accessible from the rear of the unit to an operator standing on the ground. • Shall be equipped with a blast feature that has an adjustable duration timer form maximum gallon per minute application. • GPM display for – total volume, daily volume, and seasonal volume. • Filter post pump Y-type with #12 stainless steel mesh filter element to protect the flow meter. • The piping shall be 2-inch polypropylene glass reinforced or stainless steel. <p>Hoses shall be capable of handling pressure spikes and must be resistant to the chemical deicers being utilized. Hoses to be spiral ribbed reinforced “EPDM</p>	
<p>Tank Fill:</p> <ul style="list-style-type: none"> • Ground level fill with 2-inch diameter piping and relief vent for pressure and overflow protection. A single fill point shall fill all tanks. • Filtration: 2-inch Y-type with #12 stainless steel mesh filter elements on the fill port. • All valves shall be glass filled polypropylene or stainless steel. • The tank drain valve shall be 2-inch NPT glass filled polypropylene, ¼-inch turn ball valve with a 2-inch cam-lock cap closure. • The system shall be equipped with truck pump off provisions to easily off load any unused product. The draw port shall be at bottom of tanks to empty completely. A single draw port shall empty all tanks. <p>The fill and pump off ports shall be no higher than 48-inches from the ground when the unit is mounted in the truck. The ports shall be equipped with a 2-inch female cam-lock. The fitting shall face the ground.</p>	
<p>Spray bar/nozzles:</p> <ul style="list-style-type: none"> • The spray bar shall be stainless steel pipe. • Shall be a drip-less design with one check valve for each bar that prevents excessive dripping when the vehicle is stopped as well as providing immediate chemical application when the vehicle starts and the system is activated. 	

<ul style="list-style-type: none"> • The spray bar shall be easily adjusted from 14-inches to 20-inches off the roadway surface. • The spray nozzles shall be easily changed without the use of tools. • The center spray bar shall be equipped with non-adjustable stream nozzles for deicing with the addition of a manual hand valve controlled fan nozzle bar for pre-wetting. The hand selector valve shall be marked and located at the left rear corner of the system. <p>The side spray bars shall be equipped with ball and socket type adjustable nozzle bases.</p>	
A rubber splash shield shall be installed between the spray bar and the rear of the truck within 8-inches in front of spray bar and extending to 3” above ground with truck loaded.	
Liquid Pre-wet System	
Shall be complete with pump, flow meter, nozzles, hoses, and fittings.	
Shall be equipped with a hydraulic motor driven bronze gear pump with internal liquid by-pass.	
The liquid flow shall be controlled through a 12-volt DC pulse width modulated hydraulic valve section to be included with the truck hydraulic system.	
Shall be equipped with one fan spray nozzle mounted in the spreader chute. The nozzle shall be easily removed for cleaning.	
Shall be equipped with a 20-mesh suction strainer installed prior to the brass liquid pump.	
Shall be equipped with a 15 gallon per minute flow meter installed downstream of the liquid pump to verify rate per ton of granular material (Raven #RFM-15 or equivalent).	
The pre wet pump and flow meter shall be housed in a NEMA fiberglass enclosure that is accessible from the rear of the unit for service.	
Customer Service	
Truck Manufacturer-provide information that supports the dealership’s ability to meet the needs of Boulder County.	
Body Builder-provide information that supports the body builder’s ability to meet the needs of Boulder County.	
Please Bid the following options separately:	
Air disc brakes in lieu of air drum brakes	
Front plow HD 12’x 48”	
Underbody scraper	
2. Wing Plow Monroe 8-MEW Mid-Mount extendable wing or	

equivalent	
Stainless Steel V-Box Sander Dual Auger Type	
Stainless Steel V-Box Conveyor Type	
3. Parallel lift option for front plow	
4. Extendable Plow option for Tandem trucks Henke 36in extendable plow or equivalent	
5.	
6. Cab & Chassis Warranty Service Call Flat Rate If Applicable	
7.	
8. Body Builder Warranty Service Call Rate If Applicable	
9. SUCCESSFUL VENDOR SHALL PROVIDE: MINIMUM OF FOUR (4) HOURS TRAINING ON THE SAFETY, MAINTENANCE/SERVICE TO INCLUDE ENGINE AND TRANSMISSION, PROPER OPERATIONAL PROCEDURES BY FACTORY TRAINED/CERTIFIED PERSONNEL WITHIN THIRTY (30) DAYS FROM DATE OF DELIVERY AT BOULDER COUNTY FLEET SERVICES, 5201 ST. VRAIN ROAD, LONGMONT, CO. 80503	
10. PROVIDE: ONE (1) PARTS BOOKS (CD ROM IF AVAILABLE) AND ONE (1) TECHNICAL MANUAL (CD ROM IF AVAILABLE, ONE (1) OPERATOR'S MANUAL, ONE (1) LINE SHEET, AND ONE (1) ELECTRICAL SCHEMATIC WITH EACH UNIT DELIVERED.	
11. PROVIDE: ONE (1) COMPLETE SET OF REPLACEMENT FILTERS TO INCLUDE ENGINE CRANKCASE, AIR INDUCTION, FUEL AND COOLANT ALONG WITH ONE (1) LAMINATED FILTER REPLACEMENT LIST AND ONE (FLUID/OIL SPECIFICATION CHART AT TIME OF DELIVERY.	
CERTIFICATES, MANUALS, AND WARRANTIES:	
DOCUMENTS OF TITLE	
CERTIFICATES OF ORIGIN	
EMISSIONS CERTIFICATIONS	
REPAIR/OWNERS MANUALS SPECIFIED	
WEIGHT SLIP	

STATEMENT OF COMPLETE UNIT	Cost Disc Brakes _____ Cost Drum _____ Brakes _____
MOTOR VEHICLE REGULATIONS:	Installed Cost _____
Unit(s) ordered shall be furnished with all equipment necessary to comply with all applicable rules and regulations of the Colorado Department of Motor Vehicles and shall be in compliance with Safety Standards required by the Federal Motor Vehicle Standards required by OSHA and applicable ANSI standards in reference to the operation of such vehicles within the State of Colorado.	Installed Cost _____
GUARANTEES AND WARRANTIES:	Install Cost _____
Units furnished hereunder shall be fully warranted (bumper to bumper) on parts and labor for a minimum of three (3) years. In the event that a factory standard warranty exceeds our stipulated warranty, the factory standard warranty shall prevail.	Installed Cost _____
No deductible shall apply during the first three (3) years of coverage.	Installed Cost _____
It is understood that units offered in response to this request for proposals will be of new design. In the event that unforeseen operational problems occur because of new design, the manufacturer shall warrant that it will retrofit at no cost to Boulder County, any improvements developed to correct problems of repeated or early failure in meeting acceptable performance standards for a period of one (1) year from date of delivery	Installed Cost _____
WARRANTY REPAIRS:	Cost _____
Cab & Chassis provided hereunder are under warranty (bumper to bumper), all repairs shall be completed within five (5) working days after receipt of units. This period may be extended at the user's option and such extensions shall be documented in writing.	Cost _____

SERVICING:	
Units ordered under this Price Agreement shall be completely serviced and ready for operation upon delivery.	
PARTS AVAILABILITY:	
All replacement parts/components required by Boulder County shall be provided within five (5) working days during the warranty period. This period may only be extended at the user's option.	
PARTS DISCOUNT:	
Parts discount to be provided to Boulder County.	
Truck Manufacture	
Body Builder	
RESPONSIBILITY OF VENDORS:	
It shall be the responsibility of the vendor to secure written quotation on price and delivery from manufacturers meeting the general specifications set forth herein. Only those manufacturers who can provide delivery of completely assembled unit(s) within a date acceptable to Boulder County, shall be considered by the bidder.	
Maintenance and reliability experience of units in service for at least one (1) year.	
Dealer may be required to provide additional data on actual performance of equipment, which in the opinion of the bidder will assist Boulder County in selecting the most effective cost-efficient unit offered by bidder.	
CHASSIS MAKE AND MODEL PROPOSED: _____	
Truck Manufacture State Time of Delivery: _____ \$25 per day dollar penalty for each day past stated delivery	

Body Builder Completion Delivery Date After Truck Delivery _____ \$25 per day dollar penalty for each day past stated delivery	
Item 1. Net price for Boulder County Fleet Services, 5201 St. Vrain Rd., Longmont, CO. 80503. Two (2) Current Production Year, Mack AWD Snowplow Trucks with 12' Auger Type V-Box Sander, and Front Mount Plow at the following net cost.	
\$ _____ per unit	
Written _____ Dollars.	
Model: _____	
Delivery will take _____ after receipt of order.	
	Parts Discount Offered _____









Submittal Instructions:

Submittals are due at the email box only, listed below, for time and date recording on or before **2:00 p.m. Mountain Time on November 16, 2022.**

Please note that email responses to this solicitation are limited to a maximum of 50MB capacity.

NO ZIP FILES OR LINKS TO EXTERNAL SITES WILL BE ACCEPTED. THIS INCLUDES GOOGLE DOCS AND SIMILAR SITES. ALL SUBMITTALS MUST BE RECEIVED AS AN ATTACHMENT (E.G. PDF, WORD, EXCEL).

Electronic submittals must be received in the email box listed below. Submittals sent to any other box will NOT be forwarded or accepted. This email box is only accessed on the due date of your questions or proposals. Please use the Delivery Receipt option to verify receipt of your email. It is the sole responsibility of the proposer to ensure their documents are received before the deadline specified above. Boulder County does not accept responsibility under any circumstance for delayed or failed email or mailed submittals.

Email purchasing@bouldercounty.org; identified as RFP # 7390-22 in the subject line.

All proposals must be received and time and date recorded at the purchasing email by the above due date and time. Sole responsibility rests with the Offeror to see that their bid is received on time at the stated location(s). Any bid received after due date and time will be returned to the bidder. No exceptions will be made.

The Board of County Commissioners reserve the right to reject any and all bids, to waive any informalities or irregularities therein, and to accept the bid that, in the opinion of the Board, is in the best interest of the Board and of the County of Boulder, State of Colorado.



**RECEIPT OF LETTER
ACKNOWLEDGMENT**

November 9, 2022

Dear Vendor:

This is an acknowledgment of receipt of Addendum #2 for RFP #7390-22, Plow Trucks.

In an effort to keep you informed, we would appreciate your acknowledgment of receipt of the preceding addendum. Please sign this acknowledgment and email it back to purchasing@bouldercounty.org as soon as possible. If you have any questions, or problems with transmittal, please call us at 303-441-3525. This is also an acknowledgement that the vendor understands that **due to COVID-19, BIDS will only be accepted electronically by emailing purchasing@bouldercounty.org.**

Thank you for your cooperation in this matter. This information is time and date sensitive; an immediate response is requested.

Sincerely,

Boulder County Purchasing

Signed by: _____ **Date:** _____

Name of Company _____

End of Document