STATE OF MINNESOTA

1.0 SCOPE — Pavement Repair Equipment

This unit shall be the most current advertised production model as modified per specifications and approved by MnDOT furnished with all standard equipment advertised whether or not specifically called for here except where the item is replaced by optional over standard equipment or conflicting equipment is specified. The unit shall be complete with all equipment required and ready for immediate operation to function as listed below. The unit must meet applicable federal and State codes and standards and be able to pass a CVI Inspection. There shall be at least one set of parts and operator manuals included with each piece of equipment, in paper or digital versions. The responder shall offer price for an additional set of parts, service, repair and operations manuals on pricing pages. The Contract Vendor shall be responsible for the cost of any inspections, adjustments, parts, labor, travel, pickup and/or delivery charges that are a result of equipment failure(s) during the warranty period. This shall be performed immediately without any delay. This warranty shall commence when the unit is put into service. The responder shall state warranty for all items offered on the equipment's description page. Manufacturer's standard color is acceptable. Must be lead free paint.

MnDOT will only purchase trailers that meet the following lighting and wiring specifications (Reference Drawing):

- Trailer shall meet or exceed all current Federal Motor Carrier Safety Regulations 393.9 thru 393.33.
- Trailer cord plug shall meet SAE spec. J560 and be wired directly to trailer cord.
- Plug to be wired as follows (no other plugs will be accepted):
  - **White** – Ground return to towing vehicle
  - **Black** – Electric brake controller – or not utilized if trailer has air, hydraulic or no brakes
  - **Yellow** – Left turn signal and hazard lamps (w/brake – *not required)
  - **Red** – Stop lamps and antilock device
  - **Green** – Right turn signal and hazard lamps (w/brake – *not required)
  - **Brown** – Clearance, marker, license plate, and tail lights
  - **Blue** – If air Brake – Continuous ABS power. If electric Brake – Ign. controlled B+ for break-away battery charge maintenance circuit
  - No adaptors will be accepted.

The trailers need to have a separate brake light and turn signal light on each side. There shall be individual brake (2 ea.) and turn signal lights (2 ea.) for a total of 4 lights. These lights shall be 4" round lights in rubber grommets or 3"x 7" oval lights in rubber grommets. Clearance and Marker lights shall be 2" round lights in rubber grommets or MnDOT approved equal.

When offering options on the price pages, the price must include everything needed so option is complete, installed and ready to use by the operator.

Jack hammers are not allowed on this contract, they are on a different contract.

2.0 POTHOLE PATCH and/or ASPHALT RECYCLER REQUIREMENTS:

2.1 Unit shall be trailer or truck/skid mounted, including tailgate mounted.
2.2 Unit shall provide a heat source.
2.3 Unit shall be: either non-engine powered, engine powered or PTO powered. Units shall not be velocity patch pothole machines.
2.4 Trailer units shall have tongue jack.
2.5 Each pothole patch and/or asphalt recycler unit shall be supplied with one set of parts, service, repair and operations manuals.
2.6 Trailer shall have lights that meet ICC specifications.
2.7 **Truck units shall not include cab and chassis in base price**, cab and chassis may be offered as an option on pricing pages, must list make, model, engine, transmission and suspension. State agencies and Cooperative Purchasing Venture members may purchase cab and chassis off the State contract for cab and chassis. The Contract Vendor shall provide the purchaser (at the time of order) the minimum specifications for the needed cab and chassis if not ordered from this Contract.

2.8 MnDOT may require inspection of similar unit in order to determine unit meets specifications before award is made.

POTHOLE VELOCITY PATCH EQUIPMENT REQUIREMENTS:

3.1 Unit shall have a hopper box with electric/air slide system capable of 1/4" minimum to at least 3/4" aggregates.
3.2 Unit shall be powered by gas or diesel engines.
3.3 Unit shall include air compressor.
3.4 Unit shall include low effort design aggregate hose and swing carrier for hose.
3.5 Unit shall include an insulated tank with heating system.
3.6 **Truck units shall not include cab and chassis in base price**, cab and chassis may be offered as an option in section 6.0 of pricing pages, must list make, model, engine, transmission and suspension. State agencies and Cooperative Purchasing Venture members may purchase cab and chassis off the State contract for cab and chassis. The Contract Vendor shall provide the purchaser (at the time of order) the minimum specifications for the needed cab and chassis if not ordered from this Contract.
3.7 Each velocity pothole patch unit shall be delivered with one set of O.E.M. air and fluid filters for all components of the unit.

4.0 CRACK/JOINT SEALING TRAILER REQUIREMENTS:

4.1 Unit shall be designed to melt asphalt rubber and/or Mastic sealants and apply them to joints or cracks.
4.2 Boiler shall be from 60-600 gal. capacity.
4.3 Unit shall be skid mount or trailer mount.
4.4 Unit shall be diesel or propane powered.
4.5 Each crack sealing unit shall be supplied with one set of parts, service, repair and operations manuals.
4.6 Trailer units shall have lights and bumpers that meet ICC specifications and allow unit to pass Certified Vehicle Inspection.
4.7 Air compressor options cannot be a separate trailer mounted air compressors. They are covered on a separate contract. Air compressors and tool options shall be a part of crack/joint sealing trailer used to assist in cleaning out cracks and joints.

5.0 PAVEMENT CUTTER REQUIREMENTS:

5.1 Unit shall be gasoline or diesel engine powered.
5.2 Unit shall have cutter head assembly for creating 1/2" or wider cuts in pavement. Circular saw blade or pin drop type units are not acceptable.
5.3 Unit shall be used for routing cracks as well as creating pavement cuts for the purpose of sealing joints on pavement surface.

6.0 CAB & CHASSIS MOUNTED OIL DISTRIBUTOR REQUIREMENTS:

6.1 Prices are for oil distributor unit only and shall not include cab and chassis. Responders must include minimum specifications on description page for Customer to supply their own chassis. Customer may buy cab and chassis themselves or they may buy it from vendor if vendor offers cab and chassis as options on pricing page. Cab and chassis prices must be a separate price. Must list: Make, Model, Engine, Transmission, Front and Rear suspension type and size, Cab to Axle distance, Wheel Base,
6.2 Oil distributor unit offered. Cab and chassis information shall be supplied when customer makes inquiry to vendor.
6.3 Distributor unit shall be able to accurately apply all types of bituminous material.
6.4 Unit shall be able to load tank with pump, transfer material from one outside source to another outside source, and pump material from tank to an outside source.
6.5 Tank manhole shall have rollover protection and meet ASTM standards.

6.6 Unit shall include cab mounted oil distributing controls with a ground speed monitoring system, and lift/shift and or fold of spray bar.
6.7 Unit shall include LED lighting package that meets ICC and FMVSS requirements.

7.0 TRAILER MOUNTED OIL DISTRIBUTOR/ SUPPLY TRAILER REQUIREMENTS:

7.1 Distributor unit shall be able to accurately apply all types of bituminous material.
7.2 Unit shall be able to pump material from tank to an outside source. Responders shall offer spray bars and spray bar options in Section 4.0 on pricing page. If the trailer can be purchased as an Oil Distributor or a supply trailer there shall be a deduct option in Section 4.0 of the price page for not having a spray bar if the spray bar is part of the base price.
7.3 Tank manhole shall have rollover protection and meet ASTM standards.
7.4 Unit shall include LED lighting package that meets ICC and FMVSS requirements.

8.0 SUPPLY TANKS

8.1 All supply tanks must be skid mounted, trailer mounted vertical style tanks and permanent above ground tanks. The tanks shall be designed to store and keep asphalt emulsion hot.
8.2 The tank shall have an electric heater that is designed to heat all the material in the tank.
8.3 The tank shall be equipped with a overflow pipe.
8.4 Unless the tank would be normally filled with a hand held fill nozzle, the tank shall have overfill protection such as high level alarm, automatic shutoff, permanently mounted sight glass or gauge that is visible to the person filling the tank.
8.5 There shall be a bottom of the tank cleanout.
8.6 The tank capacity shall be up to 15,000 gallons.
8.7 If the there is no unload pumps there shall be Legs that are five foot tall minimum and the tank shall have at least four legs.
8.8 There shall be a 16 inch, minimum, hinged manhole at the top of the tank that is capable of being bolted down
8.9 There shall also be a minimum of R11 insulation completely around the tank.
8.10 If equipped with a mixer it shall have a low level and low temperature shutdown.
8.11 No tanks that require personnel to climb inside to grease any moving parts or do periodic preventive maintenance will be accepted.
8.12 Tanks shall have a mechanical level gauge minimum.
8.13 There shall be a time clock control for the agitator if equipped.
8.14 There shall be variable agitator speed control
8.15 The electrical heaters must be able to be replaced without draining the tank or removing the insulation.
8.16 The inlets and outlets for loading and unloading shall be 3 inch and have ball type shut off valves.
8.17 The tank and controls must meet or exceed all applicable codes and standards.

9.0 PACKER/TAMPERS

9.1 Unit must be a walk behind style no riding units will be accepted.
9.2 Guides/handles must be shock mounted to reduce operator fatigue.
9.2 Unit must be powered by a gasoline or diesel engine.
9.3 Unit shall be delivered with one additional set of OEM air and fluid filters.

10.0 ROLLERS

10.1 Unit shall be self-propelled walk behind style no riding style will be allowed
10.2 Single Drum or Dual Drum models acceptable.
10.3 Controls must be easily accessible by the operator.
10.4 Unit shall be delivered with one additional set of OEM air and fluid filters.

11.0 CHIP SPREADERS

11.1 Only tailgate and self-propelled spreaders allowed.

11.2 Spreaders shall be designed to apply a uniformly distributed application of cover and seal coat aggregates.
11.3 Units shall be able to handle different size aggregates.
11.4 Spreader must be able to control spread rates.
11.5 Unit shall be delivered with one additional set of OEM air and fluid filters if applicable
11.6 Spreaders with engines must be able to meet current EPA standards or have EPA approval to be selling those engines.