

INVITATION TO BID

The Marysville Fire District is soliciting bids for the purchase of one or more new rescue tools and/or complete systems. The Bid shall include pricing for all optional equipment to be purchased, at the Fire Districts discretion, and as described in the specifications. All Bids must be received by the District Secretary, at the Administration Building, 1094 Cedar Avenue, Marysville, WA, 98270, no later than 3:00 PM, June 18, 2022. The bid opening shall take place at 3:15 PM, June 18, 2022. The successful bidder will be notified within 30 days of the bid opening.

Marysville Fire District
Administration Building
1094 Cedar Avenue
Marysville WA, 98270
Phone (360) 363-8500

INSTRUCTIONS TO BIDDERS

The Marysville Fire District intends to acquire one or more sets of new hydraulic/electric rescue tools through a sealed bid process. Any questions in regards to this project may be directed to Josh Farnes, Fleet and Facilities Lead, at (425) 754-5233.

All bids shall be clearly marked on the outside of the envelope with the words, "Sealed Bid Rescue Tools", once across the front and once across the back. All Bids must be received by the District Secretary, at the Administration Building, no later than 3:00 PM, June 18, 2022.

Marysville Fire District
1094 Cedar Avenue
Marysville, WA 98270

The bid opening shall take place at 3:15 PM, June 18, 2022. The successful bidder will be notified within 30 days of the bid opening.

The Marysville Fire District (District) reserves the right to reject any or all bids, and reserves the right to waive any irregularities in the bids or bidding procedure.

The successful bidder must be a factory authorized distributor to sell the equipment specified and proposed.

Contract/purchase documents shall be included with all bids and shall conspicuously include;

- reference to this document as part of the contract, and
- any and all exclusions or exceptions to the specifications, and
- total price of the contract with and without sales tax, and
- total price for each option, and
- price of any alternate or optional proposals.

Documentation shall be submitted, with the bid, describing in detail the qualifications of the bidder and manufacturer to manufacture and maintain rescue tool systems. In addition, the bid shall include a list of agencies (with contact name and phone number) for all systems sold/installed in Snohomish County by the bidder within the last 2 years.

Documentation shall be submitted, with the bid, describing in detail the proposed system(s), including but not limited to: diagrams, drawings, and/or pictures of each system component, psi ratings, cutting/spreading force, power plant horsepower, etc.

Political subdivisions of the State of Washington are allowed to purchase from Marysville Fire District bids in accordance with RCW 39.30.040 Interlocal Cooperative Act, for a period of not less than 120 days from the time of bid award. Bidder agrees to sell at the same price, terms, and conditions. Currently, Marysville Fire District and other Snohomish County Fire Districts have agreed to utilize this bidding process for purchasing either jointly or as separate entities.

The Purchaser reserves the right to exercise the Purchase of additional components or systems from the final contract for a period of up to three (3) years if in the best interest of the Purchaser. Additional purchases will be based upon negotiated price adjustments following the Consumer Price Index, and annual adjusted rate of inflation for emergency equipment.

SPECIFICATIONS FOR RESCUE TOOLS AND SYSTEMS

Current Operations

The Marysville Fire District currently utilizes 5 hydraulic rescue tool systems, one set located at each of its five stations. The current tools are up to 15 years in age, and of the Holmatro Company. The Holmatro tools have provided the Marysville Fire District with excellent service through the years however; with the advent of electric powered tools, and with the limited storage area available on its apparatus, comes the need for a smaller and more compact system design.

General

It is the intention of the Marysville Fire District to purchase various rescue tool components to outfit at least one or more complete rescue tool systems, and potentially up to 6 additional complete tool systems. All components shall be new and of current manufacturer design. Used, surplus, and discontinued equipment are unacceptable.

The general description of the system(s) components shall be vendor supplied hydraulic/electric rescue tools, generally consisting of; one hydraulic/electric spreader, one hydraulic/electric cutter, one hydraulic/electric ram, six (6) batteries, and three (3) battery chargers with applicable charging and diagnostic wiring harnesses.

All exceptions must be listed on a separate sheet entitled "SPECIFICATION EXCEPTIONS" and included with the bid in the sealed bid envelope. Each exception must be clearly documented and explained. NO EXCEPTIONS

All bid data sheets must be completely filled out and included with the bid. Bidder shall include any options or optional equipment available and deemed by the bidder to be potentially advantageous to, or desirable by, the Fire District.

Where not specifically followed by the words NO EXCEPTIONS, it is assumed that components meeting the "equivalent" requirements shall be deemed acceptable. In order to be considered for "equivalent" status, the bidder must provide documentation describing the reasoning for such assertions. NO EXCEPTIONS

Definitions

Bidder	A Factory Authorized Distributor of the Rescue Tools.
Successful Bidder	The Bidder who has been selected by the Fire District to supply components as described in this document.
Vendor	The Successful Bidder upon contract signing, for the purpose of fulfilling the requirements of this document
Fire District	The Marysville Fire District.
District	The Marysville Fire District.
psi	pounds per square inch

lbf foot pounds

Equivalent components, design, construction techniques, material, etc., deemed by the Marysville Fire District to be acceptable in substitution for said items prescribed in the bidding specifications, as equal or better than those specified.

Specifications

A. General Tool and Battery:

For maximum safety of the operator all cutters, spreaders and rams shall contain twist dead man control mechanisms with automatic neutral position. NO EXCEPTIONS.

The control mechanisms shall provide full grip for the operators' hand. Control handles utilizing thumb or finger controls are not desirable.

Tool batteries shall not be positioned at the back of the rescue tool. This allows a depleted battery to be replaced without removing the tool from its location during rescue operations. Front load batteries avoid the risk, during an exchange of a depleted battery, of becoming trapped between the vehicle and tool during operation.

The control handle shall have two speed modes that allow the operator to switch between the tool's high-speed and low-speed mode for optimal speed control during rescue operations.

Hydraulic pump oil flow, and thus the speed of the tool, shall be maximized at every load by a step less mechatronic system located within the pump and not by a means of multiple pressure stages.

The electric drive motor shall have an auto start/stop function. The motor/drive system shall automatically stop when the tool is not operated, or has reached maximum pressure in order to conserve battery capacity. The drive system shall resume operation by returning the control mechanism to the neutral position then reactivating the control.

The tool shall be equipped with a temperature management system. This system will monitor and manage the tool, and battery temperature to avoid overheating. This allows the tool to be used intensively in hot and cold conditions without causing damage to the tool or drive mechanism.

The tool shall have an on-tool charge function that allows the battery to be charged while mounted and connected to the tool. This ensures that the battery is fully charged and ready for use without having to install or swap batteries.

The on-tool battery charger cord shall have a magnetic connector for quick and easy connection/disconnection to the tool. On-tool battery charger cords shall be a minimum of seventy-eight (78) inches in length.

The battery charger device shall be able to charge both the battery on a tool and a battery on the charger simultaneously without the need to swap batteries from the tool to the charger.

The battery charging device shall indicate the state of charge and the health of a battery.

Battery charging devices shall be powered by a 120 volt 15 amp A/C circuit. It shall be possible to connect up to three (3) AC battery chargers in sequence allowing all three chargers to be powered from a single outlet.

All tools and batteries shall be suitable for underwater use with a minimum rating of IPX7 allowing the tool and battery to be submerged in up to one (1) meter of water for a minimum of thirty (30) minutes without water intrusion into the tool or battery. Tools shall have a minimum foreign particulate rating of IP57, and batteries shall have a minimum foreign particulate rating of IP67.

Internal and external aluminum parts of the tool that are susceptible to wear or corrosion must be protected by anodization to provide maximum durability. The tool must be capable of withstanding a 10 day salt spray test, and still be able to function normally.

Tool systems shall have the ability to complete a performance check of the drive system through the use of diagnostic software.

All systems shall be certified compliant according to NFPA 1936 Standard on Powered Rescue Tools Systems, 2020 or newer edition by a third party testing agency. Documentation shall be provided in the Bid either indicating compliance, or explaining what level of compliance the system, its components, and individual tools, attain. All tools shall be labeled with a NFPA 1936 compliance label that includes the identifying mark of the independent testing institute.

All moving parts such as yokes and levers must be protected by a cover for the safety of the operator. NO EXCEPTIONS.

All Components shall be designed for the use of non-toxic mineral oil. NO EXCEPTIONS.

B. Cutters:

The tool must be capable of withstanding a static over-load pressure of twice the working pressure. This 2:1 over-load ratio is a requirement to provide maximum safety to the operator. NO EXCEPTIONS.

The tool must be a “one-person” operated lightweight tool, which means that one person will be able to position, guide and operate the tool without the assistance of other people. NO EXCEPTIONS.

The tool must be activated by means of a rotary dead man's handle, operated by a twist of the wrist. For ease of operation, the handle shall have a maximum rotation of 20° in either direction. When the dead man's handle is released, it must return to the neutral position automatically. The dead man's handle will provide one-handed control of opening and closing functions. The dead man's handle shall provide 360 degree access to the operator allowing operation of the tool in any position. The dead man's handle must be located in such a way that it can be operated, guided and supported easily by right and left handed operators without having to change the position of the hands, even when wearing gloves. The dead man's control must be capable of withstanding 6000 endurance cycles, one cycle consisting of opening and closing the tool.

Cutter blades shall be mounted at an angle of thirty (30) degrees in relation to the body of the tool. A thirty (30) degree angle provides for an ergonomic positioning when cutting above or below waist height and reduces the effect of the tool movement towards the passenger and patient compartment.

Cutter blades when in the full open position shall have a U-shape design, this design improves the ability of the blades to pull material into the cutting recess improving overall cutter performance.

Cutter blades shall have a minimum blade opening of 7.2 inches at the tips. The opening distance of the cutter shall be determined at 21°C opened to the fullest extent using the rated system input and no external load.

Cutter shall have a maximum cutting force of not less than 312,250 lbf and a minimum cutting capacity of A8 B8 C7 D9 E9 F4 as listed in NFPA 1936.

Cutters shall incorporate a central bolt head and nut mounted directly to the cutter blades resulting in less blade separation, optimum cutting performance and a flatter design for increased access.

Cutter blades shall be machined from high grade tool steel, forged materials are not desired.

The cutter blade holder shall be fitted with a set of steel protection covers to shield the front of the tool from damage during rescue operations.

Cutter shall have a maximum working hydraulic pressure of not less than 10,400 psi.

Complete tool weight including battery and all permanently attached guards, caps, and accessories shall not exceed 47.5 lbs.

Tool dimensions including battery and all permanently attached guards, caps and accessories shall not exceed 35.25 inches long, 10.75 inches wide, and 11 inches tall.

Sound emission from the tool at 1 meter while performing at full load shall not exceed 75 dB(A).

In order to provide improved grip in all weather conditions, the carrying handle must have a non-slip surface. To assist the operator and increase safety while working in dark or poorly lighted circumstances the carrying handle shall have integrated LED lights. The lights shall be designed with a fixed focus on the working area of the tool and shall be completely weatherproof. Lights shall be powered by the main tool battery and have the ability to be turned on and off by a switch.

C. Spreaders:

The tool shall be capable of withstanding a static over-load pressure of twice the working pressure. This 2:1 over-load ratio is a requirement to provide maximum safety to the operator. NO EXCEPTIONS.

The tool shall be a “one-person” operated lightweight tool, which means that one person will be able to position, guide and operate the tool without the assistance of other people. NO EXCEPTIONS.

The tool shall be activated by means of a rotary dead man's handle, operated by a twist of the wrist. For ease of operation, the handle shall have a maximum rotation of 20° in either direction. When the dead man's handle is released, it must return to the neutral position automatically. The dead man's handle will provide one-handed control of opening and closing functions. The dead man's handle shall provide 360 degree access to the operator allowing operation of the tool in any position. The dead man's handle must be located in such a way that it can be operated, guided and supported easily by right and left handed operators without having to change the position of

the hands, even when wearing gloves. The dead man's control must be capable of withstanding 6000 endurance cycles, one cycle consisting of opening and closing the tool.

In order to provide improved grip in all weather conditions, the carrying handle must have a non-slip surface. To assist the operator and increase safety while working in dark or poorly lighted circumstances the carrying handle shall have integrated LED lights. The lights shall be designed with a fixed focus on the working area of the tool and shall be completely weatherproof. Lights shall be powered by the main tool battery and easily turned on or off by the use of a switch.

The spreader shall have a minimum opening of not less than 28.5", exert no less than 80,000 lbf spreading force at the steel tips, and a minimum pulling force of not less than 14,500 lbf at the steel tips. The spreader pulling distance shall not be less than 24" and the minimum squeezing force shall not be less than 29,000 lbf.

The forces shall be measured at the effective tip area on the moving arms, perpendicular to the centerline of the tool when in an unfixed state. This measurement of force shall be calculated and approved by a third party testing agency, and measure the actual force created by the tool when used by the operator.

The weight of the ready-for-use tool shall not exceed 47lbs including the battery and all permanently attached guards, caps, and accessories. Length of tool not to exceed 38.5". Width not to exceed 11.5". Height not to exceed 11.5".

Sound emission from the tool at 1 meter while performing at full load shall not exceed 79 dB(A).

The spreader tips shall include a flat spreading profile for easy and deep insertion of the tips into narrow gaps. The spreader tips outer surface shall include teeth pointing in opposing directions for optimal grip throughout the full spreading range. The inner surface of the spreader tips shall have an interlocking profile design.

Accessories shall be included with the spreaders as follows:

- 2x pulling adapter tip
- 2x spreader tip
- 2x cutting tip in a plastic carrying box.

D. Telescopic Ram

The tool shall be capable of withstanding a static over-load pressure of twice the working pressure. This 2:1 over-load ratio is a requirement to provide maximum safety to the operator. NO EXCEPTIONS

The tool must be a "one-person" operated lightweight tool, which means that one person will be able to position, guide and operate the tool without the assistance of other people. NO EXCEPTIONS.

The tool must be activated by means of a rotary dead man's handle, operated by a twist of the wrist. For ease of operation, the handle shall have a maximum rotation of 20° in either direction. When the dead man's handle is released, it must return to the neutral position automatically. The dead man's handle will provide one-handed control of opening and closing functions. The dead

man's handle shall provide 360 degree access to the operator allowing operation of the tool in any position. The dead man's handle must be located in such a way that it can be operated, guided and supported easily by right and left handed operators without having to change the position of the hands, even when wearing gloves. The dead man's control must be capable of withstanding 6000 endurance cycles, one cycle consisting of opening and closing the tool.

To assist in carrying and positioning of the rescue ram it shall be supplied with a carrying handle. In order to provide improved grip in all weather conditions, the carrying handle must have a non-slip surface. To assist the operator and increase safety while working in dark or poorly lighted circumstances the carrying handle shall have integrated LED lights. The lights shall be designed with a fixed focus on the working area of the tool and shall be completely weatherproof. Lights shall be powered by the main tool battery and easily turned on or off by the use of a switch.

When the ram plunger is fully extended and under maximum load, the safety factor against bending or buckling must be at least 2:1. NO EXCEPTIONS

The tool will have automatic, non-return check valves built in so that the tool will hold the load when the dead man's handle is released.

The first plunger will have a maximum pushing force of no less than 30,500 lbf. The second plunger will have a maximum pushing force of no less than 14,500 lbf.

Dimensions of the Ram shall be as follows;

- Length of closed tool not to exceed 23"
- Length of extended tool not to exceed 54"
- Width not to exceed 10.5"
- Height not to exceed 17.5"
- Stroke of first plunger no less than 15.75"
- Stroke of second plunger no less than 15"
- Weight not to exceed 37 lbs

Accessories included with the ram shall be as follows:

- Extension pipe, 17.2 inches, with automatic lock system and unlocking by pushing a release button.
- Set of 2 cross ram supports to provide a solid base during cross ramming on vehicles in order to prevent the ram from pushing through the car construction.
- Ram support for use on the rocker channel and B-pillar of a car to provide a solid platform for a ram.

E. Battery:

Batteries shall be compliant with the latest edition of NFPA 1936 Standard on Powered Rescue Tool Systems.

The batteries shall be suitable for under water use with a minimum protection rating of IP67.

It shall be possible to charge a battery while connected to the tool, this ensures that the tool is always ready for use without having to install or swap batteries upon deployment during rescue operations.

The battery shall be able to read out a detailed state of health percentage of the battery by means of diagnostic software.

Complete battery charge time, from a fully depleted state to a fully charged state, shall not exceed sixty (60) minutes. A continuous feedback of the state of charge shall be displayed on the battery.

Battery type shall be a Li-Ion and shall have a minimum capacity of 7Ah.

Battery voltage shall be 28 Volts DC.

F. Battery Charger:

Battery charger shall have an on-tool charge function, making it possible to charge the battery while mounted and connected to the tool, thus insuring the tool is always ready for use without having to install or swap batteries.

The battery charger shall include a quick disconnect magnetic power cord for quick and easy installation and removal from the tool. Power cord length shall be a minimum of seventy-eight (78) inches in length.

The battery charging device shall be able to connect three (3) separate battery chargers in sequence. This allows all three charging devices to be powered from a single outlet.

The battery charger shall indicate the state of health of a battery.

Battery charger shall have an input voltage range of 100-240 volt AC, able to withstand a HZ range of 50-60, and draw a maximum of 300 watts while performing at full capacity.

G. Tool diagnostics:

A cable to connect the tool to a PC or laptop for battery and tool diagnostics shall be included. The cable shall have a minimum of 12.5 feet in length and have a magnetic connector to allow for quick and easy attachment to the tool.

A docking station to connect a battery to a tool diagnostic cord for easy checking of individual batteries in a row through diagnostic software on a PC or laptop shall be included.

H. Identification:

All major components and accessories shall be clearly identified with permanently affixed nameplates stating the make, model and serial number, where appropriate. Other pertinent information such as capacities, pressure, voltage, currents, etc. are to be indicated in the proper manner.

I. Documentation & Instructions:

Two documentation packages shall be delivered with each system or component, containing information on operation, maintenance, troubleshooting and replacement parts. Component manuals may be combined into, or as a part of, a complete system manual, (one for the Maintenance Division, one for the Training Division.)

A documentation package shall include, at a minimum, an Operator's Instruction and Maintenance manual, recommended spare parts list, warranty information and a start-up/warranty registration form.

The Operator's Instruction and Maintenance Manual for the system shall be as detailed as possible, outlining all operation and maintenance instructions. The manual shall include detailed illustrated drawings for all system components along with a complete parts listing for all illustrated components. Warnings and safety precautions shall be identified clearly in the manual.

Appropriate tags and warning labels shall be affixed where necessary for safety and ease in the operation and adjustment of the valves, switches and controls.

J. Testing & Warranty:

The system shall be tested by the manufacturer prior to shipment. A copy of the manufacturer's test report shall accompany the system at shipment.

All equipment shall be factory assembled, thoroughly tested and backed by a minimum of one-year limited warranty covering parts and labor. The warranty period shall be a minimum of one year regardless of the hours accumulated on the equipment. The warranty shall commence once the Fire District accepts the system.

K. Shipment & Delivery:

The system shall be suitably prepared for motor freight transport.

Shipment shall be delivered to:

Marysville Fire District
1094 Cedar Avenue
Marysville, WA 98270

Freight charges shall be included in the bid. A vendor representative shall be available for post-delivery inspection of the equipment to assure that the equipment meets specifications of the bid.

Vendor agrees that all components ordered for the installation of this system shall be delivered within 8 weeks of bid award notification to the vendor.

L. Acceptance and Payment:

The Fire District shall accept the system once the Fire District is satisfied that all portions of the agreement between the vendor and the Fire District have been completed to the satisfaction of the Fire District. This shall include, but is not limited to, satisfactory training and orientation of Fire District maintenance personnel and adequate display of proper operation. Once the Fire District accepts the system, full payment shall be made within normal payment processing constraints, generally no longer than 45 days.

M. Authorized Service Center:

The Bidder shall provide with this bid, the name, address and phone number of the nearest factory authorized service center. The service center must be factory authorized to perform warranty work, preventative maintenance, and on-going service.

Sales offices without access to factory trained service personnel shall not be accepted. A letter written on the manufacturers' letterhead shall accompany the bid to attest to; the factory authorization of the service center, and; a listing of trained technicians employed by the service center.

Replacement repair parts shall be available from the manufacturer within 7 days of order receipt, to Marysville Fire District.

The bid shall include information on the requirements of the manufacturer to authorize a repair facility as a "factory authorized service center" in the event the Marysville Fire District Fleet and Facilities Division wishes to pursue such authorization, for the repair of its own equipment and potentially the equipment of other agencies participating, via an interlocal agreement, with the Marysville Fire District for equipment and vehicle repairs and maintenance.

SPECIFICATION EXCEPTIONS

Bid Data Sheet

<u>Component</u>	<u>Price without tax</u>	<u>Shipping Fees</u>
1. Ram		
2. Spreader		
3. Cutter		
4. Battery		
5. Battery Charger		
6. Package System (1, 2, 3, 4, 5 above)		
7. Diagnostic Kit		
<i>Other Options Available: (bidder presented list)</i>		
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Attach additional sheets as necessary.