

629.03 Method of Measurement Hand labor will be measured by the hours of work actually performed, measured to the nearest ¼ hour.

629.04 Basis of Payment The accepted quantities of labor will be paid for at the contract unit price per hour

The contract unit price shall be full compensation for hiring, transporting, supervising, payment of workmen's compensation, social security taxes, unemployment insurance, overtime, benefits and for all hand tools, protective clothing and all incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
629.05 Hand Labor, Straight Time	Hour

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SECTION 631 - EQUIPMENT RENTAL

631.01 Description This work shall consist of furnishing and operating construction equipment as directed by the Resident.

631.02 General Equipment used for work under this section shall conform to the following minimum sets of requirements:

<u>Equipment</u>	<u>Description</u>	<u>Minimum Size</u>
<u>Air Compressor</u>	- Gasoline or diesel powered unit with compressor, receiver and adequate air hose	2.4 m ³ [85 ft ³] per minute at 690 kPa [100 psi]

Air Tool - Single compressed air driven hand drill, tamper, hammer, chipper, or pavement breaker

All Purpose Excavator - Approved truck, mounted type
class 2.75 Mg [3 ton] capacity lifting at 4.5 m [15
ft] radius

Heavy Duty Purpose Excavator - Approved truck, mounted type
class 6.3 Mg [7 ton] capacity lifting at 4.5 m [15 ft] radius

Bulldozer - Crawler or pneumatic tired tractor with pushing
blade 69 kW [93 hp] (flywheel), Weight(tractor) 7900 kg
[8.75 ton]

Small Bulldozer - Crawler with pushing blade
22 kW [30 hp]

Chain Saw - Gasoline or electric powered with endless chain type blade
450 mm [18 in] cutting blade

Culvert Cleaner - Water Jet nozzle, pump and tank
130 L [35 gal] per minute 8620 kPa [1,250
psi]

Front End Loader - Front end scoop mounted on pneumatic tires
1.5 m³ [2 yd³] rated capacity

Small Front End Loader - Front end scoop mounted on crawler or pneumatic
tires 0.17 m³ [6 ft³] minimum rated capacity

Grader - Tandem drive
6350 kg [7 ton]

Road Broom - Engine driven rotary broom
2.1 m [7 ft] broom

Roller (earth or base course) - Self-propelled pneumatic tire type
wt. 3700 kg/m [2,500 lbs/ft] of rolling width. 1 m [40 in] width

Gross

Tire

ground pressure 450 kPa [65 psi]

Roller (pavement) - Self-propelled pneumatic Gross
weight 25,400 kg [28 ton] minimum, 7 wheels 300 mm by
600 mm [12 in by 24 in] smooth
tread tires capable of 760 kPa
[110 psi] inflation pressure; pressure
fully ballasted wheel loads
= 3600 kg [8,000
pounds] or more

Rototiller - Rotary cultivator mounted on pneumatic tired
tractor 18 kW [25 hp]

Stump Chipper - Gasoline powered stump chipping machine
44 kW [60 hp]

Truck, small - Pneumatic tired with dump body manufacturers rating
3.8 m³ to 6.1 m³ [5 yd³ to 8 yd³], rated capacity

Truck, large - Pneumatic tired with dump body rated capacity
Over 6.1 m³ [8 yd³] manufacturers rated

631.03 General Nothing in this section shall be construed to relieve the Contractor of the responsibility for completing work under other contract items. These items shall be used to perform only such work as directed by the Resident.

631.05 Grading All grading shall be done in a manner to leave the area smooth and suitable for machine mowing and to provide proper drainage or as otherwise directed by the Resident. Suitable excavated material shall be placed and compacted on embankment slopes or other areas as directed. Unsuitable material shall be disposed of in approved waste areas.

631.06 Rolling All material under this item shall be compacted to the satisfaction of the Resident. Only those portions of roadway designated for rolling shall be rolled. The work shall be performed under such conditions that maximum compaction can be

obtained.

631.07 Method of Measurement Equipment rental will be measured by the hour to the nearest ¼-hour. Time spent moving to and from the site within the project limits and from beyond the project limits, servicing, maintaining, and changing attachments will not be measured for payment.

Supervision required in the performance of hourly equipment rental work will be measured for payment only when called for on the Plans. This item does not relieve the Contractor of the responsibility to supervise other contract items. Foreman will be measured by the hour to the nearest ¼ hour of time actually spent supervising operators of hourly equipment rental pay items. The name of the supervisor will be supplied to the Resident.

631.08 Basis of Payment The accepted quantities of equipment rental will be paid for at the contract unit price per hour for each type of equipment used. Payment shall include operators, fuel, grease, oil, and other incidentals necessary to operate the equipment.

No separate payment will be made to direct work done under these items, except when called for on the Plans. Payment will then be made under Pay Item 631.36. Payment made will be limited to the grade of foreman and limited to hours spent in actually supervising equipment operators. Such related costs as use of pickup truck, meal and room expenses, benefits, insurance, retirement, travel time, and overtime will not be paid for separately but will be considered incidental to the unit price bid for this pay item.

Payment for equipment rental will be based on experienced operators, familiar with the work being performed. Operators, determined to be below normal acceptable standards of production or workmanship, will be paid for at reduced hours as determined by the Resident.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
631.10 Air Compressor (including operator)	Hour
631.11 Air Tool (including operator)	Hour

631.12	All Purpose Excavator (including operator)	Hour
631.121	Heavy Duty All Purpose Excavator (including operator)	Hour
631.13	Bulldozer (including operator)	Hour
631.131	Small Bulldozer - Grader (including operator)	Hour
631.132	Small Bulldozer (including operator)	Hour
631.14	Grader (including operator)	Hour
631.15	Roller, earth and base operator)	Hour
631.16	Roller, Pavement (including operator)	Hour
631.171	Truck-small (including operator)	Hour
631.172	Truck-large (including operator)	Hour
631.18	Chain Saw Rental (including operator)	Hour
631.20	Stump Chipper Rental (including operator)	Hour
631.21	Road Broom (including operators and hauler)	Hour
631.22	Front End Loader (including operator)	Hour
631.221	Small Front End Loader (including operator)	Hour
631.29	Rototiller (including operator)	Hour
631.32	Culvert Cleaner (including operators)	Hour
631.36	Foreman	Hour

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SECTION 634 - HIGHWAY LIGHTING

634.01 Description This work shall consist of furnishing and installing a highway lighting system or modifying or removing an existing highway lighting system in accordance with these specifications and in reasonably close conformity with the plans.

634.02 General All material furnished by the Contractor shall be new unless otherwise specified. Substitutes for specified material may be accepted, upon approval of the Fabrication Engineer. Substitutes shall provide equal or better service. Where an existing system is to be modified, the existing material shall be removed, upgraded, or disposed of as shown on the plans or as directed.

All electrical equipment shall conform to NEMA, UL, or EIA standards, wherever applicable. In addition, all materials and workmanship shall conform to the requirements