

SECTION 2900

**CITY OF FARGO SPECIFICATIONS
PAVEMENT MILLING OR PROFILING**

**PART 1
DESCRIPTION OF WORK**

The work to be done under these Specifications and the accompanying plans consist of furnishing all labor, material, accessories, and plant necessary to complete the improvement of certain streets, avenues or alleys in the City of Fargo.

This item provides for the profiling of the existing pavement to produce a uniform section and smooth riding surface. This item also includes the removal of all milling residue and the sweeping and cleaning of the existing surface, adjusting manholes and valve boxes to grade, and all other work as may be necessary to properly complete the pavement profiling work in accordance with these Specifications and the accompanying plans.

PART 2
MATERIALS

2.1. EQUIPMENT

All equipment shall be maintained in good repair and shall meet the approval of the engineer. Water for the milling and cleaning operation is available from the city hydrants, however the use of such hydrants shall comply with the City of Fargo Water Department regulations.

2.1.1. MILLING MACHINE

The milling machine shall be a self-propelled machine specifically designed to fully or partially remove existing pavement to the desired depth, profile, cross slope and surface texture. The machine shall have a control system to automatically control the elevation and transverse slope of the milling head. The machine shall be equipped with a conveyor capable of loading the milled material directly from the roadway to a truck. The machine shall be equipped with a minimum 15-foot long skid or rolling straightedge and grade control sensors to automatically maintain proper grade and alignment.

2.1.2. BROOMS

The contractor will be required to have a mechanical broom of the revolving type and be so constructed that the revolutions may be adjusted to it's progression. The broom shall be of the "pick-up" or vacuum type wherein material from the road surface is removed by the machine for subsequent disposal at a different location.

PART 3 CONSTRUCTION

3.1. SURFACE PREPARATION

The existing pavement surface shall be cleaned of deleterious material prior to the milling operation.

3.2. MILLING FULL WIDTH

The milled surface shall be free from transverse and longitudinal irregularities in excess of 1/4 inch when measured with a 10-foot straightedge. Special care shall be taken along the face of the curb section to remove all asphalt, seal material, or other debris from the exposed face of the curb and gutter section. Milling shall proceed from curb to curb at a width and depth designated by the engineer.

3.3. EDGE MILLING (revised January, 2002)

The pavement edge shall be milled from the face of the gutter section to approximately 8 feet out from the edge of the gutter section; that point being at a distance where the milling shall “daylight” out or that the transition in depth shall be non-discernible. Special care shall be taken along the face of the gutter section to remove all asphalt, seal material, or other debris from the exposed face of the curb and gutter section. Milling depth along the curb shall generally be from 1” to 1 1/2” in depth or as designated by the engineer.

3.4. DISPOSAL OF THE MILLED MATERIAL

Unless otherwise designated in the special instructions, the milled material shall be hauled to the City of Fargo Landfill at 7th Ave N. and 45th St. The contractor shall coordinate all hauling times with the landfill personnel. The milled material shall be dumped at the location designated by the landfill personnel who will then move and stockpile the material.

3.5. CLEANING OF THE MILLED SURFACE

The milled pavement surface shall be cleaned by sweeping during and immediately after the milling operation. The contractor shall make every effort to keep the dust to a minimum and to ensure that the milled debris is not spread onto the adjacent boulevards and sidewalks. Any debris inadvertently spilled on sidewalks or boulevards shall be promptly removed to the satisfaction of the engineer.

3.6. TRAFFIC MAINTENANCE

All streets, roads, highways, and other public thoroughfares that are closed to traffic or have restricted access shall be protected by means of effective barricades on which shall be placed acceptable warning signs. Traffic control devices shall comply with the "Manual of Uniform Traffic Control Devices" as set forth by the U. S. Department of Transportation and Federal Highway Administration.

All barricades and obstructions shall be illuminated by means of amber lights or reflectorized sheeting for nighttime hours. The police, fire, and ambulance service shall be immediately notified upon closing street, avenues, highways or other public thoroughfares.

3.7. CASTINGS AND GATE VALVES TO GRADE (revised January, 2002)

Prior to the overlay, the contractor shall locate and mark all manholes and valve boxes that will be affected by the paving operation.

A. CASTINGS TO GRADE

This item includes all labor, materials and equipment necessary to adjust the various castings to the proper line and grade. Changes in grade shall be made as follows:

With concrete adjusting rings-

Adjustments shall be made with two (2) inch thick precast adjusting rings whenever possible. For fine adjustments of less than two inches, steel shims shall be used to temporarily support the casting. In any case, the castings shall be laid in a full bed of mortar. The rings and cone section shall be cleaned to assure a flat seating surface and the rings installed in alignment with no noticeable offsets.

With polyethylene adjusting rings-

Adjustments shall be made with polyethylene adjustment rings. The cone shall be cleaned and the rings dry stacked to determine the best ring height and slope ring combination to obtain the proper height and slope match. Once this is determined, the rings shall be marked with a vertical line for future reference and disassembled. A ¼ inch bead of butyl caulk shall be applied to the cone surface and the first ring placed on the cone section. Another bead of butyl caulk shall be placed on the bottom of the next

ring as close as possible to the male lip and this ring installed interlocking with the first and aligning the vertical line. This procedure is repeated for each adjustment ring, including caulking the joint between the slope ring and the casting.

The contractor shall bring the castings to grade after the overlay has been completed. It is the contractor's responsibility to mark and record the locations of the castings by an approved method. In any event, the contractor shall dig the casting out of the existing pavement and raise the entire casting from underneath. In no case will the use of metal adapter rings be allowed without the engineer's permission.

The casting shall be encased in a concrete collar as shown in Detail 2500.5.1. Care shall be taken to adjust the casting to the proper grade so the final riding surface is smooth and free of bumps and it conforms to the alignment and grade of the adjoining pavement. Any castings not satisfying these requirements shall be redone to the satisfaction of the engineer. Castings should be set flush to the pavement surface.

Sanitary sewer manholes with adjustable castings shall be replaced with a standard manhole casting with a sealed lid. Adjustable castings being utilized on storm manholes shall have the threaded adjusting pegs lowered to the minimum setting and the casting adjusted in the same manner as a standard casting. All casting adjustments shall include grouting the rings. If manhole seals are found in the sanitary manholes, the contractor shall use care in the removal of the seals. These seals will then be reinstalled on the same manholes from which they were removed.

The casting to grade item also includes cleaning all construction debris or dirt from the manhole or inlet bottom and installing a wiped mortar finish around the inside circumference of the precast concrete adjusting rings.

This bid item shall include adjusting castings with up to 4 adjusting rings. Additional rings shall be paid under the casting to grade (over depth) bid item.

B. GATE VALVES TO GRADE

This item shall include all labor, material, and equipment necessary to raise or lower water gate boxes to the final grade. Care shall be taken to adjust the valve box to the proper grade so the final riding surface is smooth and free of bumps and that it conforms to the grade of the adjoining pavement. Any valve boxes not satisfying these requirements shall be redone to the satisfaction of the engineer. Valve boxes should be flush with the finished pavement surface.

The gate valves shall be brought to grade in accordance with the drawing shown in Detail 2500.5.1. The contractor shall dig around the valve box a sufficient distance so that it can be screwed up to the desired final grade. If no adjustment in this manner is possible, an approved riser shall be installed below the top section of the gate box at no charge to the City.

The gate box to grade item also includes cleaning all construction debris or dirt from the box, insuring that the box is straight and undamaged, and insuring that the valve is operable.

3.8. CASTING TO GRADE – (OVER DEPTH) (revised January, 2002)

The bid item for casting to grade (over depth) shall include all costs associated with adjusting manholes to grade when there are 5 or more adjusting rings. The bid item shall cover increments of up to an additional 4 rings.

PART 4
GUARANTEE, MEASUREMENT & PAYMENT

4.1. MEASUREMENT AND PAYMENT

The guarantee is not applicable to this section.

4.2. MEASUREMENT AND PAYMENT

4.2.1. MILLING PAVEMENT SURFACE

Milling pavement surface shall be measured by the square yard of actual milled surface. Payment will be based on the unit bid price per square yard at the applicable depth ranges.

4.2.2. EDGE MILLING

Edge milling will be measured and paid for based on the lineal feet of edge milling completed. Payment will be based on the unit bid price per lineal foot.

4.2.3. MANHOLES AND GATE VALVES TO GRADE (revised January, 2002)

Manholes and gate valve boxes to grade shall be paid for at the unit bid price per each. The cost shall include all necessary labor, material, and equipment necessary to adjust these facilities. Casting to grade shall include up to 4 rings. Adjustment of manholes with 5 or more rings shall be made in 4 ring increments and paid under the Casting to Grade (Over Depth) bid item.

4.2.4. OTHER COSTS

The costs of cleaning, sweeping the existing surface, transporting the milled material, and all other costs shall be incidental to the work unless specifically provided for in the contract proposal.