

Section 02086

ADJUSTING MANHOLES, INLETS, AND VALVE BOXES TO GRADE

PART 1 GENERAL

1.01 SUMMARY

This Section includes adjusting elevation of manholes, inlets, and valve boxes to new grades.

1.02 MEASUREMENT AND PAYMENT

A. Unit Prices.

1. No separate payment will be made for adjusting proposed manhole frames and covers, inlets, valve boxes, and meter boxes to grade for new construction under this Section. Include payment in unit price for related item.
2. Payment for adjusting existing manholes, frame and cover, inlets, valve boxes, and meter boxes to a new grade is on a unit price basis for each.
3. Refer to Section 01270 - "Measurement and Payment" for unit price procedures.

B. Stipulated Price (Lump Sum). If Contract is Stipulated Price Contract, payment for Work in this Section is included in total Stipulated Price.

1.03 – 1.04 NOT USED

1.05 RELATED REQUIREMENTS

- A. Section 01270 – "Measurement and Payment"
- B. Section 02081 – "Cast-In-Place Concrete Manholes"
- C. Section 02082 – "Precast Concrete Manholes"
- D. Section 02084 – "Frames, Grates, Rings and Covers"
- E. Section 02085 – "Valve Boxes, Meter Boxes, and Meter Vaults"
- F. Section 02087 – "Brick Manholes"
- G. Section 02316 – "Excavation and Backfill for Structures"
- H. Section 02501 – "Ductile Iron Pipe and Fittings"
- I. Section 02506 – "Polyvinyl Chloride Pipe"

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- J. Section 02632 – “Cast-in-Place Inlets, Headwalls and Wingwalls”
- K. Section 02633 – “Precast Concrete, Inlets, Headwalls and Wingwalls”
- L. Section 02911 – “Topsoil”
- M. Section 02921 – “Hydromulch Seeding”
- N. Section 02922 – “Sodding”
- O. Section 03315 – “Concrete for Utility Construction”
- P. Section 04061 – “Mortar”
- Q. Section 04210 – “Brick Masonry for Utility Construction”

1.06 – 1.13 NOT USED

PART 2 PRODUCTS

2.01 MANUFACTURER(S) (NOT USED)

2.02 MATERIALS AND/OR CONSTRUCTION

A. Concrete Materials

1. Provide concrete, conforming to requirements of Section 03315 – “Concrete for Utility Construction”.
2. Provide precast concrete manhole sections and adjustment rings conforming to requirements of Section 02082 - “Precast Concrete Manholes”.
3. Provide mortar conforming to requirements of Section 04061 - “Mortar”.

B. Cast-Iron Materials

Provide cast-iron materials conforming to requirements of Section 02084 - Frames, Grates, Rings, and Covers.

C. Riser Piping Materials

1. Provide 6-inch PVC, Class 150, DR 18, riser pipes in accordance with Section 02506 – “Polyvinyl Chloride Pipe” or provide 6-inch ductile-iron, thickness Class 51 riser pipes in accordance with Section 02501 – “Ductile Iron Pipe and Fittings”.
2. Provide single section of pipe.

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D. Masonry Materials for Storm Sewer Manholes and Inlets

Provide brick masonry units conforming to the requirements of Section 04210 - "Brick Masonry for Utility Construction".

PART 3 EXECUTION

3.01 GENERAL / MANUFACTURER(S) (NOT USED)

3.02 PREPARATION

A. Examination

Examine existing structure, valve box, frame and cover or inlet box, frame and cover or inlet, piping and connections for damage or defects affecting adjustment to grade. Report damage or defects to Project Manager.

B. Establishing Grade

Coordinate grade related items with existing grade and finished grade or paving, and relate to established benchmark or reference line.

3.03 ERECTION/INSTALLATION APPLICATION AND/OR CONSTRUCTION

A. Adjusting Manholes and Inlets

1. Rebuild adjustment portion of manhole or inlet by adding or removing Adjustments. Follow procedures for the type of structure being adjusted detailed in the following Sections:
 - a. Section 02081 – "Cast-In-Place Concrete Manholes"
 - b. Section 02082 – "Precast Concrete Manholes"
 - c. Section 02087 – "Brick Manholes"
 - d. Section 02632 – "Cast-In-Place Inlets, Headwalls and Wingwalls"
 - e. Section 02633 – "Precast Concrete Inlets, Headwalls and Wingwalls"
2. Salvage and reuse cast-iron frame and cover or grate.
3. Protect or block off manhole or inlet bottom using wood forms shaped to fit so that no debris or soil falls to bottom during adjustment.
4. Verify that manholes and inlets are free of visible leaks as result of reconstruction. Repair leaks in manner subject to Project Manager's approval.

B. Adjusting Valve Boxes

1. Salvage and reuse valve box and surrounding concrete block as approved by Project Manager. No separate pay.
2. Remove and replace 6 inch riser pipe with suitable length for depth of cover required to establish adjusted elevation to accommodate actual finish grade. Provide riser pipe with material in accordance with Section 02085 – “Valve Boxes, Meter Boxes, and Meter Vaults”.
3. Reinstall valve box and riser piping plumbed in vertical position. Provide minimum 6 inches telescoping freeboard space between riser pipe top butt end and interior contact flange of valve box for vertical movement damping.
4. After valve box has been set, aligned, and adjusted, pour 30 inch by 30 inch by 8 inch thick concrete pad around valve box. Center valve box horizontally within concrete pad and stamp “NHCRWA” in the concrete as shown in the Plans.

C. Backfill and Grading

1. Backfill area of excavation surrounding each adjusted manhole, inlet, and valve box and compact according to requirements of Section 02316 - “Excavation and Backfill for Structures”.
2. Grade ground surface to drain away from each manhole and valve box. Place earth fill around manholes to level of upper rim of manhole frame. Place earth fill around valve box concrete slab.
3. In unpaved areas, grade surface at uniform slope of 1 to 5 from manhole frame to natural grade. Provide minimum of 4 inches of topsoil conforming to requirements of Section 02911 - “Topsoil”. Provide seeding in accordance with Section 02921 - “Hydro-mulch Seeding”, or if sodding in accordance with Section 02922 - “Sodding”.

3.04 – 3.10 NOT USED

END OF SECTION