

**SECTION 01270**  
**MEASUREMENT AND PAYMENT**

**PART 1 GENERAL**

**1.01 SUMMARY**

- A. The Unit Price Work shall include CONTRACTOR provided labor, materials, equipment, overhead, profit, insurance, incidentals, etc. to cover the finished Work. Cost of all applicable taxes, permits, etc. shall be included in the cost of construction of this Project. Even though an item of the Work is included in the Contract Documents, if it is not both covered herein and specifically itemized on the Unit Price Schedule of Section 00330, Bid Form, payment for it shall not be separately made. Such Work shall be considered a necessary part of or incidental to its related Work. The CONTRACTOR shall be paid only for quantities installed and approved by Resident Project Representative (RPR). Measurement for payment on a unit price basis shall be as described below. Payment for each unit installed shall be made according to the unit price bid, as listed in the Bid Form. Only those items appearing in the Bid Form will be considered for payment on a unit price basis.
- B. Applications for payment shall be submitted in accordance with Section 01290, Applications for Payment, Section 00700 - General Conditions, Section 00800 - Supplementary Conditions, and Section 00514 - Agreement. Cost of all applicable taxes, permits, etc., shall be included in the cost of construction of this Project.

**1.02 MEASUREMENT**

- A. General: Measuring, and metering devices used to measure quantity of materials for the Work shall be suitable for purpose intended and conform to tolerances and specifications as specified in National Institute of Standards and Technology, Handbook 44.
- B. Where measurement of quantities depends on elevation of existing ground, elevations obtained during construction will be compared with those shown on Drawings. Variations of 1 foot or less will be ignored, and profiles shown on Drawings will be used for determining quantities.

- C. Units of measure shown on Unit Price Schedule included with Bid Form shall be as follows, unless specified otherwise.

<b>Item</b>	<b>Method of Measurement</b>
AC	Acre—Field Measure by OWNER
CY	Cubic Yard—Field Measure in-place by OWNER within limits specified or shown
EA	Each—Field Count by OWNER
LF	Linear Foot—Horizontal Field Measure by OWNER
LS	Lump Sum—by OWNER
SF	Square Foot – Field Measure by OWNER
SY	Square Yard—Field Measure by OWNER
VF	Vertical Feet—Field Measure by OWNER
WK	Week—by OWNER

D. Definitions:

1. Acre (AC): Field measured and calculated OWNER. Measurement shall be horizontal distances measured to the nearest foot, calculated in square feet, converted to acres, and rounded to the nearest acre by OWNER.
2. Cubic Yard (CY): Field measured and calculated by OWNER. In-place yards prior to excavation or after placement and compaction. Measured to the nearest 0.5 foot, calculated in cubic feet, converted to cubic yards, and rounded to the nearest cubic yard.
3. Each (EA): Field counted by the OWNER as installed and accepted.
4. Linear Foot (LF): Field measured horizontally by the OWNER.
5. Lump Sum (LS): Field verified by OWNER.
6. Square Foot (SF): Field measured and calculated by OWNER. Measurement shall be horizontal distances measured to the nearest 0.1 foot and calculated to the nearest square foot.
7. Square Yard (SY): Field measured and calculated by OWNER. Measurement shall be horizontal distances measured to the nearest 0.5 foot, calculated in square feet, converted to square yards, and rounded to the nearest square yard by the OWNER.
8. Vertical Foot (VF): Field measured by OWNER in accordance with Paragraph D.4.a.2, above.
9. Week (WK): Field determined by OWNER as seven consecutive 24-hour days, rounded to the nearest week. A 1-day allowance for equipment set up and relocation shall be allowed. Multiple location times shall be added together to determine total time in weeks.

1.03 STORED MATERIALS AND EQUIPMENT

- A. No applications shall be processed by Owner which includes amounts for stored materials. Owner shall not pay Contractor for stored materials.
  - 1. For unit price contracts or components Contractor's application for payment shall be based upon installed units identified on the bid form.
  - 2. For lump sum price contracts or components Contractor's application for payment shall be based upon approved schedule of values.

1.04 ITEMS NOT CONSIDERED AS PAY ITEMS

- A. Unless explicitly stated in this Contract Document, the following items are not considered as pay items:
  - 1. **Clearing and Grubbing** (Section 02230)
  - 2. **Finish Grading** (Section 02310)
  - 3. **Control Blasting** (Section 02311)
  - 4. **General Excavation** (Section 02315)
  - 5. **Excavation, Bedding, and Backfill for Utilities** (Section 02321)
  - 6. **Waterlines – Disinfection and Testing** (Section 02516)
  - 7. **Sanitary Sewers – Air Testing Guidelines** (Section 02533)
  - 8. **Concrete for Utility Lines** (Section 03303)
  - 9. **Storage, Handling, and Transportation of Plastic Pipe** (Section 15101)
  - 10. **Tracer Wire Installation for Non-Electrically Conductive Pipe** (Section 15105)
  - 11. **Static Electric Discharge Procedure for Polyethylene Pipe** (Section 15265)
  - 12. **Natural Gas Polyethylene Pipe Joining Procedures** (Section 15350)
- B. **Unclassified excavation** for utilities is not a pay item unless explicitly stated in this Contract Document. Unclassified excavation shall be considered and designated a necessary part of the construction for trench depths as defined by the individual unit price for the line installation and as required by the Project Drawings. Unit prices bid for utilities with which unclassified excavation is connected shall be full compensation for this item.
- C. **Rock Excavation** is not a pay item unless explicitly stated in this Contract Document. Rock excavation shall be considered and designated a necessary part of the construction, and unit prices bid for items which rock excavation is connected shall be full compensation for this item.
- D. Payment will not be made for rejected or unused products. Payment will not be made for the following:

1. Loading, hauling, and disposing of rejected material.
2. Quantities of material wasted or disposed of in manner not called for under Contract Documents.
3. Rejected loads of material, including material rejected after it has been placed by reason of failure of Contractor to conform to provisions of Contract Documents.
4. Material not unloaded from transporting vehicle.
5. Defective Work not accepted by Owner.
6. Material remaining on hand after completion of Work.

#### 1.05 BID ITEM PAYMENT

- A. Payment for unit price items covers all the labor, materials, overhead, and services necessary to furnish and install the following items.
- B. Payment for the bid items will be as follows:

**Pay Item No. 1000 Mobilization** to the job site is a lump sum pay item. One time cost to include all CONTRACTOR- incurred mobilization costs associated with such site. **Payment for Mobilization is Limited to Unit Price Bid or 8.25 % of Project Bid Total, Whichever is Less.** Demobilization is not a pay item and shall be considered a necessary part of the work and the cost of such included herein. If the CONTRACTOR had to pull all men and equipment off the job at the request of the OWNER and subsequently had to re-mobilize then he would be paid the lump sum price for mobilization a second time.

**Pay Item No(s). 1005a-b – Erosion Prevention and Sediment Control – Type A and C Silt Fence** are linear foot unit price pay items. Unit price items include material, labor, installation complete, and all measures and controls required per Section 01570 and shall include, but are not limited to, those shown on the plans. All measures shall be monitored and maintained per specifications and shall not be removed until all associated permits or approvals have been obtained.

**Pay Item No. 1010a - Traffic Control – Plans** is a lump sum pay item. Item to be paid lump sum once the CONTRACTOR has received all approved traffic control plans, as required for Work, which have been prepared, submitted, and stamped by a registered professional engineer. Payments for this lump sum item will be made based on percentage of work complete for the entire project. See Section 01550, Work Zone Traffic Control and Appendix, Policy on Work Zone Traffic Control and Temporary Traffic Control Permit.

**Pay Item No. 1010b - Traffic Control – Implementation** is a lump sum pay item, which includes temporary facilities, maintenance, relocation, removal, personnel, police officers, signage, and routine coordination with permitting

agencies. Item also include installation, maintenance, relocation, and removal of temporary chain link fencing, as required by traffic permits. Payments for this lump sum item will be made based on percentage of work complete for the entire project. See Section 01550, Work Zone Traffic Control. See Section 01550, Work Zone Traffic Control and Appendix, Policy on Work Zone Traffic Control and Temporary Traffic Control Permit.

**Pay Item No. 1015 - Pre-Construction Site Video Recording** is a lump sum pay item. Video recording shall include all materials, equipment, and labor to record the sewer route at the beginning of the project as specified in Section 01380.

**Pay Item No(s). 3000a-n - Water Lines** are linear foot unit price pay items. Unit prices are for water lines installed according to KUB Specification 02513. The quantities of pipe for which payment will be allowed shall be expressed in linear feet for each size and type of pipe listed in the bid form in terms of the horizontal lengths of pipe installed in place as measured along the centerline, with no deductions for fittings, valves or temporary blow-offs or tracer wire. Such payment shall be full compensation for the furnishing and installing of pipe including pipe bedding, excavation, backfill, (full stone backfill if less than 3 feet from edge of pavement or if under pavement), testing, and all other work necessary for and incidental to completion of the work. Restrained joint gaskets shall be paid for per each installed when directed by OWNER. Pipe depths will be measured from the bottom of the pipe to the existing surface.  
**CONTRACTOR will furnish all water line materials required for the water line installation.**

**Pay Item No. 3000 o - 8" Water Line Installed inside of existing 48" Steel Tunnel/Casing** is a linear foot unit price pay item. Unit price item includes installing 8-inch water main in a 12-inch casing pipe and then installed in an existing 48-inch steel tunnel. Payment shall be for carrier, casing pipe, fittings, flowable fill, replacing end seals, dewatering and other appurtenances required to install the main in the casing.

**Pay Item No. 3000p - Clean Stone Backfill in or Within 3' of Pavement** for water mains and services is a linear foot unit price pay item. Unit price bid for clean stone backfill of trench with compaction per Section 2321 for areas in or within 3' of pavement includes all labor, materials, and equipment required to install full stone backfill in or within 3' of pavement. If the CONTRACTOR installs a main in or within 3' of pavement by means of directional bore rather than open cut installation, the contractor will be paid the unit price for full stone backfill for the linear footage that would have had to been paid if the open cut installation was used. Unless approved by the OWNER or stated otherwise on the project drawing(s), all pipe shall be installed at a minimum of 3 feet away from the curb. No payment shall be made for full stone backfill in or within 3' of

pavement if the OWNER does not give prior alignment approval or it is not specifically indicated on the Drawing(s).

**Pay Item No(s). 3005a-g - Water Main Bore** are linear foot unit price pay items. The quantities of pipe in place for which payment will be allowed shall be expressed in linear feet of water line in terms of the length of pipe installed in place as measured along the centerline of the alignment with no deductions for valves or fittings. Such payment shall be full compensation for the furnishing and installing of water pipe, fittings, pipe bedding, excavation, backfill per Section 02321, tracer wire, reaction blocking, surface restoration, excavating bore pits, backfill and compaction of bore pits, resurfacing of asphalt, resurfacing of lawns (seed or sod), and all other work necessary for and incidental to completion of the work. Fitting required to join new pipes are included in this line item.

**CONTRACTOR will furnish all water line materials required for the water line installation.**

**Pay Item No(s). 3010a-h - Water Valve Installation** are per each unit price pay items. Unit price bids for each shall be full compensation for these items and for all labor, materials including crushed stone bedding, valve boxes, pipe, thrust blocking, backfill, surface restoration as required, and necessary equipment required to complete the item in accordance with the Drawings and Specifications. See Section 02514 Water Lines – Valves. **The CONTRACTOR will furnish all water line materials required for the water valve installation.**

**Pay Item No(s). 3015a-e - Air Valves, Blowoff Valves, & Hydrants** are per each unit price pay items. Unit prices bids for each shall be full compensation for these items and for all labor, materials including crushed stone bedding, valve boxes, pipe, thrust blocking, backfill, surface restoration as required, and necessary equipment required to complete the item in accordance with the Drawings and Specifications. See Section 02512 Water Lines - Air Valves, Blowoffs and Hydrants. **The CONTRACTOR will furnish all water line materials required for the air valves, blowoff valves and hydrant installations.**

**Pay Item No. 3020a - Tie-ins to Existing Facilities** is a per each unit price pay item when called out specifically on the bid form and is for all water tie-ins at each designated location. The unit price amount includes all taps, saddles, corporation stops, tees, fittings, sleeves, bends, and appurtenances needed for tie-ins, except for the valves that will be paid for at unit prices. Other connections shown on the drawings are considered incidental to the work and are not pay items. See Section 02515 Water Lines – Tie-Ins. **The CONTRACTOR will furnish all water line materials required for the water main tie-ins.**

**Pay Item No(s). 3025 a-g - Service Connections (Reconnection at main and meter)** are per each unit price pay items. Unit prices bid for each shall be full

compensation for this item and for all labor, materials including crushed stone bedding, backfill as required and necessary equipment required to complete the item in accordance with the Drawings and Specifications. Unit price item will include the service tap connection to the main and the reconnection of the service pipe to the meter assembly. Contractor shall be responsible for coordinating and compensating the work of the Licensed Plumber on private property as needed to make the connection to the existing water service line. Contractor shall coordinate and ensure proper communication between Property Owner, Licensed Plumber, and Owner. Contractor shall be responsible for any damages that may result from the work on private property. Unit price for this pay item will include any asphalt pavement repair for service pipes less in 4-inches diameter. Asphalt pavement repair will be paid separately for 4-inch diameter water service connections and larger. **The CONTRACTOR will furnish all water line materials required for the water service connections to the main and meter.**

**Pay Item No(s). 3025 h-n – Meter well and lid, meter horn, and associated fittings** are per each unit price pay items. Unit prices bid for each shall be full compensation for this item and for all labor, materials including crushed stone bedding, backfill as required and necessary equipment required to complete the item in accordance with the Drawings and Specifications. Meter Assemblies will be relocated to the edge of the proposed easement and replaced as identified by the Owner. Water Meter Assembly Replacement(s) shall be installed in accordance to Specifications Section 02518. Complete **asphalt repair** meter assembly replacement shall be approved by project manager and paid according to unit pricing on bid form. Contractor shall be responsible for coordinating and compensating the work of the Licensed Plumber on private property. Contractor shall coordinate and ensure proper communication between Property Owner, Licensed Plumber, and Owner. Contractor shall be responsible for any damages that may result from the work on private property. **The CONTRACTOR will furnish all water line materials required.**

**Pay Item No(s). 3025 o-v –Service Pipe** are linear foot unit price pay items. Unit prices bid for each shall be full compensation for this item and for all labor, materials including crushed stone bedding, backfill as required and necessary equipment required to complete the item in accordance with the Drawings and Specifications. Long Side Service Relays are required to be relayed via trenchless technology with three attempts. If after three attempts contractor is unsuccessful pavement must be saw cut. Additionally, complete asphalt repair for service pipe installation is included as part of this bid item, for water services smaller than 4-inch diameter. Asphalt repair will be paid separately for 4-inch diameter water service connections and larger. Contractor shall be responsible for coordinating and compensating the work of the Licensed Plumber on private property. Contractor shall coordinate and ensure proper communication between Property

Owner, Licensed Plumber, and Owner. Contractor shall be responsible for any damages that may result from the work on private property.

**Pay Item No. 3030a - Retire Existing Water Facilities – Abandon Existing Mains** is a lump sum price pay item. Each item abandoned per Sections 02512 and 02513. Water Mains will be abandoned generally by three techniques. Existing taps with corporations will be abandoned at the corporation stop. Mechanical tees will be plugged at the tee, and leadite joints will be completely removed and replaced with solid sleeves. Payment is for all labor, materials, asphalt repair and equipment required completing the item, which shall include all items that are incidental to proper abandoning existing facilities.

**Pay Item No. 3030b & c - Retire Existing Water Facilities - Abandon Existing Water Valves, Air Valves, Blowoff Assemblies & Fire Hydrants** is a per each unit price pay item. Each item abandoned per Sections 02512 and 02513. Water Mains will be abandoned generally by three techniques. Existing taps with corporations will be abandoned at the corporation stop. Mechanical tees will be plugged at the tee, and leadite joints will be completely removed and replaced with solid sleeves. Payment is for all labor, materials, asphalt repair and equipment required completing the item, which shall include all items that are incidental to proper abandoning existing facilities.

**Pay Item No. 4050a – Creek Crossing** in accordance with ARAP including surface/bank restoration & stabilization, and environmental protection of waterway is a pay item based on lump sum for designated location from the edges of the creek banks. Any additional footages will be paid in accordance with Pay Item 3000 of this Measurement and Payment Section.

**Pay item 6005a - Pavement Repair (Installed by Contractor): Permanent Patching, Base Course + Surface Course (to be installed as directed)** is a linear foot unit price pay item. Unit price item includes excavation of temporary pavement repair, excavation of stone base as needed, material (Base Grade B or B-M and Surface Course Grade D), compaction, cleanup, striping (if needed), milling (as directed), and straight line truing of existing surface as needed. See KUB Standards Section 02321 General Excavation, Bedding and Backfill for Utilities; Section 02740 Pavement Repair; and Section 1740 Surface Restoration Special Provisions. Pay item 6005a shall be paid exclusive of Pay Item Nos. 6005b and 6005c and shall not be priced in combination with pay items 6005b or 6005c for any area(s) of work (payment for any given unit of measure shall be made for either Item Nos. 6005a, 6005b, or 6005c ). Payment for this unit price item will be made based on the length of trenches, to the limits of excavation, including manhole excavations, as specified in the bid documents OR as approved in writing by OWNER.



**Pay item 6005b - Pavement Repair (Installed by Contractor): Permanent Patching, Base Course** is a linear foot unit price pay item. Unit price item includes excavation of temporary pavement repair, excavation of stone base as needed, material (Base Grade B or B-M), compaction, cleanup, striping (if needed), milling (if needed), and straight line truing of existing surface as needed. See KUB Standards Section 02321 General Excavation, Bedding and Backfill for Utilities; Section 02740 Pavement Repair; Section 02770 Concrete for Utilities and Concrete Pavement Construction; and Section 1740 Surface Restoration Special Provisions. Pay item 6005b shall be paid exclusive of Pay Item Nos. 6005a and 6005c and shall not be priced in combination with pay items 6005a or 6005c for any area(s) of work (payment for any given unit of measure shall be made for either Item Nos. 6005a, 6005b or 6005c ). Payment for this unit price item will be made based on the length of trenches, to the limits of excavation, including manhole excavations, as specified in the bid documents OR as approved in writing by OWNER.

**Pay Item No. 6005c - Pavement Repair (Installed by Contractor): Permanent Patching, Portland Cement Concrete Pavement** is a linear foot unit price pay item. Unit price item includes excavation of temporary pavement repair, excavation of stone base as needed, additional compacted stone base as needed, dowelling to existing slab and rebar installation, as required, forming as needed, material (Portland Cement Concrete Pavement), Placement, finishing, and curing, cleanup, striping (if needed), milling (if needed), and straight line truing of existing surface as needed. See KUB Standards Section 02321 General Excavation, Bedding and Backfill for Utilities; Section 02740 Pavement Repair; Section 02770 Concrete for Utilities and Concrete Pavement Construction; and Section 1740 Surface Restoration Special Provisions. Pay item 6005c shall be paid exclusive of Pay Item Nos. 6005a and 6005b and shall not be priced in combination with pay items 6005a or 6005b for any area(s) of work (payment for any given unit of measure shall be made for either Item Nos. 6005a, 6005b or 6005c). Payment for this unit price item will be made based on the length of trenches, to the limits of excavation, including manhole excavations, as specified in the bid documents OR as approved in writing by OWNER.

**Pay Item No. 6005d - Pavement Repair (Installed by Contractor): Pavement Cutback** is a linear foot unit price pay item. Unit price item includes full depth excavation of required cutback along **both** trench walls as directed by OWNER, excavation of stone base as needed, material (Base Grade B or B-M), compaction, cleanup, milling (if needed), straight line truing of existing surface, as needed, and warranty repairs during warranty period. CONTRACTOR shall be relieved of responsibility if cutbacks are topped by OWNER or other entity prior to expiration of warranty. See KUB Standards Section 02321 General Excavation, Bedding and Backfill for Utilities; Section 02740 Pavement Repair; Section 02770 Concrete for Utilities and Concrete Pavement Construction; and Section

1740 Surface Restoration Special Provisions. Payment for this unit price item shall be made only upon prior written approval of Owner and shall be made based on the length of trenches, as specified in the bid documents OR as approved in writing by OWNER and shall include cutbacks on both sides of the trench for a given trench length measurement.

**Pay Item No(s). 6010 a,b,c & e - Removal and Replacement** are square yard unit price pay items. Unit price items include excavation, removal and disposal of material, replacement material to duplicate material type and specification, depth, width, and length of removed materials, cleanup, and 30 days of maintenance. Compensation will be by square yard of repair for Owner approved areas surrounding the work. See Section 02321, Excavation, Bedding, and Backfill for Utilities, Section 02770, Concrete for Utilities and Concrete Pavement Construction, and Section 02740, Pavement Repair.

**Pay Item No(s). 6010d & f - Removal and Replacement** are linear foot unit price pay items. Unit price items include excavation, removal and disposal of material, replacement material to duplicate material type and specification, depth, width, and length of removed materials, cleanup, and 30 days of maintenance. Compensation will be per linear foot of repair for Owner approved areas surrounding the work. See Section 02321, Excavation, Bedding, and Backfill for Utilities, Section 02770, Concrete for Utilities and Concrete Pavement Construction, and Section 02740, Pavement Repair.

**Pay Item No. 6025 - Seeding** is a square yard unit price pay item. Unit price item includes topsoil, reseeding per property owner's preference and as directed by the Resident Project Representative to match existing condition, maintenance for 60 days or until re-established; maintenance includes water, fertilizer, and mowing. Re-establish at no additional compensation. See Section 02920, Seeding.

**Pay Item No. 6030 - Sodding:** is a square yard unit price pay item. Unit price item includes top soil, sodding per property owner's preference and as directed by the Resident Project Representative to match property owner's existing condition, or until re-established; maintenance includes water, fertilizer, and mowing. Re-establish at no additional compensation. Sod installation to be installed per manufacturer's recommendations. See Section 02925, Sodding.

**Pay Item No. 6035 - Sodding:** is a square foot unit price pay item. Unit price item includes top soil, sodding per property owner's preference and as directed by the Resident Project Representative to match property owner's existing condition, or until re-established; maintenance includes water, fertilizer, and mowing. Re-establish at no additional compensation. Sod installation to be installed per manufacturer's recommendations. See Section 02925, Sodding.

**Pay Item No. 6040 - Riprap** is a per ton unit price pay item. Unit price item includes geotextile, base, and riprap material, placement and cleanup. See Section 02372, Geotextiles and Section 02371, Riprap.

**Pay Item No. 6041 - Riprap Lined Ditch** is a square yard unit price pay item. Unit price item includes the excavation and grading, geotextile, and riprap material, placement and cleanup of a riprap lined ditch at locations, grades, and dimensions depicted in the project drawings or as designated by Owner. See Section 02372, Geotextiles and Section 02371, Riprap.

**Pay Item No. 6045 – Cleanup Restoration & Closeout** is a lump sum pay item. Lump sum price bid for site restoration, lawn repair, landscape repair, etc., shall be full compensation for this item and for all labor, materials, water and equipment required to complete the restoration to its original or better condition. Payments for this lump sum item will be made based on percentage of work complete for the entire project. **It is highly recommended that the CONTRACTOR photograph existing conditions at the Site prior to commencing with the Work.**

END OF SECTION

[HOME](#)