# SECTION 012000 MEASUREMENT AND PAYMENT

A. Work Listed in the Schedule of Work Items

1. Work under this contract will be paid on a unit price or lump-sum basis as outlined on the Bid Form for the quantity of work installed.

2. The unit prices and lump-sum prices include full compensation for furnishing the labor, materials, tools, and equipment and doing all the work involved to complete the work included in the contract documents.

3. The application for payment will be for a specific item based on the percentage completed or quantity installed. The percentage complete will be based on the value of the partially completed work relative to the value of the item when entirely completed and ready for service.

B. Work Not Listed in the Schedule of Work Items

1. The General Conditions and items in the Special Provisions, general requirements, and specifications which are not listed in the schedule of work items of the Bid Form are, in general, applicable to more than one listed work item, and no separate work item is provided therefor. Include the cost of work not listed but necessary to complete the project designated in the contract documents in the various listed work items of the Bid Form.

2. The bids for the work are intended to establish a total cost for the work in its entirety. Should the Contractor feel that the cost for the work has not been established by specific items in the Bid Form, include the cost for that work in some related bid item so that the Proposal for the project reflects the total cost for completing the work in its entirety.

C. Bid Items

The following is a description of the bid items.

1. Bid Item No. 1 - Mobilization

a. Measurement

Measurement for Bid Item No. 1 shall be based upon completion of such work as a lump sum. This is a non-proratable pay item, and shall require completion of all of the listed items during the first 30 days following Notice to Proceed.

b. Payment

Payment for Mobilization shall be made at the time of the first progress payment after the Contractor has obtained bonds, insurance and permits, submitted an approved construction schedule, and established a presence on the job site.

2. Bid Item No. 2 – Sheeting, Shoring, and Bracing

a. Measurement

Measurement for Bid Item No. 2 shall be based on completion of the work on a lump sum basis.

b. Payment

Payment for Bid Item No. 2 shall be on a percent complete basis based on the lump sum amount and shall include full compensation for furnishing the labor, materials, tools, equipment, and doing all the work involved for providing sheeting and shoring and bracing for the protection of life and limb and protection of existing utilities, and shall include, but is not limited to:

Complying with all applicable federal, state, and local regulations; Design of shoring and/or bracing by a civil/ structural engineer as required; Providing jacks, trench boxes, sheets, shoring, piles, etc, as required to comply with the specifications, regulations and the drawings; Protecting in place and bracing existing utilities, including thrust blocks, high pressure gas pipelines, and overhead utility poles.

3. Bid Item No. 3 - Traffic Control and Regulations

a. Measurement

Measurement for Bid Item No. 3 shall be based on completion of the work on a lump sum basis.

b. Payment

Payment for Bid Item No. 3 shall be made on a percent complete basis based on the lump sum amount, and shall include full compensation for furnishing the labor, materials, tools, and equipment and doing all the work involved to implement Traffic regulation/control throughout the project duration in accordance with the Contract Documents, and the City of Santa Maria Encroachment permit conditions.

4. Bid Item No. 4 - Ductile Iron Water Main – 18-inch

a. Measurement

Measurement for Bid Item No. 4 shall be based on completion of the work on a linear foot basis. The pipe shall be measured horizontally over the pipe centerline from the outside face of valve flanges and/or the outside face of fitting flanges in the case(s) where the fitting is part of a separate pay item.

b. Payment

Payment for Bid Item No. 4 shall be by the linear foot of 18-inch Ductile Iron Water Main and Appurtenance installed. The unit costs shall include full compensation for furnishing all labor, materials, tools, and equipment and doing all work involved to provide the 18-inch Ductile Iron Water Main and Appurtenances in place and operational in accordance with the plans and specifications including, but not limited to:

Trench excavation, ductile iron pipe, fittings, pipe bedding, Pipe Zone, Trench Zone, and Street Zone backfill, compaction, erosion control; removal and disposal of excavated soil not suitable for backfill; dewatering; pavement cutting along trench edge; joint restraint; connection to fittings and pay items, maintenance of service; pipeline disinfection, testing; pressure testing, including temporary bulkheads and fittings required to perform the testing

5. Bid Item No. 5 – Connection at Blosser Road and West Taylor Street

a. Measurement

Measurement for Bid Item No. 5 shall be based on completion of the work on a lump sum basis. The pay limit for this Bid Item is defined in Detail 1, Sheet C-101 from connection to existing through the outside face of the valve flange.

b. Payment

Payment for Bid Item No. 5 shall be made on a percent complete basis based on the lump sum amount and shall include full compensation for furnishing all labor, materials, tools, and equipment and doing all work involved to provide the Connection at West Taylor Street and Blosser Road in place and operational in accordance with the plans and specifications including, but not limited to:

Trench excavation, pipe, fittings, couplings, adapters, thrust blocks, valves, pipe bedding, pipe bedding, Pipe Zone, Trench Zone, and

Street Zone backfill, compaction, erosion control; removal and disposal of excavated soil not suitable for backfill; dewatering; pavement cutting along trench edge; maintenance of service; pipeline disinfection, testing; pressure testing, including temporary bulkheads and fittings required to perform the testing.

6. Bid Item No. 6 - Flow Control Valve and Flow Meter Stations

   a. Measurement

      Measurement for Bid Item No. 6 shall be based on completion of the work on a lump sum basis. The pay limit for this Bid Item is defined as Station 15+34.42 through Station 16+10.29, as shown in Detail 1, Sheet C-401.

   b. Payment

      Payment for Bid Item No. 6 shall be made on a percent complete basis based on the lump sum amount and shall include full compensation for furnishing all labor, materials, tools, and equipment and doing all work involved to provide the Flow Control Valve and Flow Meter Stations in place and operational in accordance with the plans and specifications including, but not limited to:

      Excavation, pipe bedding, backfill in the Pipe Zone, Trench Zone, and Street Zone, compaction, dewatering, hauling and disposal of excavated soil not suitable for backfill, normal crushed rock base; precast concrete vaults, hatches, ladders, wall seals; connections to distribution pipe; valves, meters, pipes, fittings, vents, sump pumps, concrete pads, pipe supports, flexible couplings, grading, connections, pressure reducing valves, gauges, transducers, limit switches, conduit, antenna, control panel(s), connection to and integration with the District's and the City's SCADA systems, electrical wiring.

7. Bid Item No. 7 – Blow-off Valves, 6-inch

   a. Measurement

      Measurement for Bid Item No. 7 shall be based on completion of the work on a unit cost basis.

   b. Payment

      Payment for Bid Item No. 7 shall be on a unit cost basis per 6-in Blow-off assembly installed. The unit price for Bid Item No. 7 shall include full compensation for furnishing all labor, materials, tools, and equipment and doing all work involved to provide the 6-in Blow-off

assembly in place and operational in accordance with the plans and specifications including, but not limited to:

Trench excavation, pipe, fittings, couplings, adapters, thrust blocks, valves, valve boxes, concrete rings, lids, pipe bedding, Pipe Zone, Trench Zone, and Street Zone backfill, compaction; erosion control; removal and disposal of excavated soil not suitable for backfill; dewatering; pavement cutting along trench edge; maintenance of service; pipeline disinfection, testing; pressure testing, including temporary bulkheads and fittings required to perform the testing.

8. Bid Item No. 8 - Combination Air-Release Valves, 2-inch

a. Measurement

Measurement for Bid Item No. 8 shall be based on completion of the work on a unit cost basis.

b. Payment

Payment for Bid Item No. 8 shall be on a unit cost basis per 2-in Combination Air / Vacuum Release Valve assembly installed. The unit price for Bid Item No. 8 shall include full compensation for furnishing all labor, materials, tools, and equipment and doing all work involved to provide the 2-in Combination Air / Vacuum Release Valve assembly in place and operational in accordance with the plans and specifications including, but not limited to:

Trench excavation, combination air and vacuum release valve, pipe, fittings, couplings, adapters, thrust blocks, valves, valve boxes, concrete rings, concrete pads, combination air valve enclosures, lids, pipe bedding, Pipe Zone, Trench Zone, and Street Zone backfill, compaction, erosion control; removal and disposal of excavated soil not suitable for backfill; dewatering; pavement cutting along trench edge; maintenance of service; pipeline disinfection, testing; pressure testing, including temporary bulkheads and fittings required to perform the testing.

9. Bid Item No. 9 - Combination Air-Release Valves, 4-inch

a. Measurement

Measurement for Bid Item No. 9 shall be based on completion of the work on a unit cost basis.

b. Payment

Payment for Bid Item No. 9 shall be on a unit cost basis per 4-in Combination Air / Vacuum Release Valve assembly installed. The unit price for Bid Item No. 9 shall include full compensation for furnishing all labor, materials, tools, and equipment and doing all work involved to provide the 4-in Combination Air / Vacuum Release Valve assembly in place and operational in accordance with the plans and specifications including, but not limited to:

Trench excavation, combination air and vacuum release valve, pipe, fittings, couplings, adapters, thrust blocks, valves, valve boxes, concrete rings, concrete pads, combination air valve enclosures, lids, pipe bedding, Pipe Zone, Trench Zone, and Street Zone backfill, compaction, erosion control; removal and disposal of excavated soil not suitable for backfill; dewatering; pavement cutting along trench edge; maintenance of service; pipeline disinfection, testing; pressure testing, including temporary bulkheads and fittings required to perform the testing

10. Bid Item No. 10 - Butterfly Valves, 18-inch

a. Measurement

Measurement for Bid Item No. 10 shall be based on completion of the work on a unit cost basis, per Specification Section 400520 and in detail 1, drawing C-502.

b. Payment

Payment for Bid Item No. 10 shall be on a unit cost basis per 18-inch Butterfly Valve installed. The unit price for Bid Item No. 10 shall include full compensation for furnishing all labor, materials, tools, and equipment and doing all work involved to provide the 18-inch Butterfly Valve in place and operational in accordance with the plans and specifications including, but not limited to:

Trench excavation, valve with appurtenances, valve boxes, lids, concrete pad, locator wire, connections, thrust blocks, pipe bedding, Pipe Zone, Trench Zone, and Street Zone backfill, compaction, erosion control; removal and disposal of excavated soil not suitable for backfill; dewatering; pavement cutting along trench edge; maintenance of service; pipeline disinfection, testing; pressure testing, including temporary bulkheads and fittings required to perform the testing.

11. Bid Item No. 11 – Provisions for Future Pig Launching Facility

a. Measurement

Measurement for Bid Item No. 11 shall be based on completion of the work on a lump sum basis. The pay limit for this item is defined as Station 50+09.42 through Station 50+84.70 as shown on Sheet C-403.

a. Payment

Payment for Bid Item No. 11 shall be made on a percent complete basis based on the lump sum amount and shall include full compensation for furnishing all labor, materials, tools, and equipment and doing all work involved to provide the provisions for the future pig launching facility in place and operational in accordance with the plans and specifications including, but not limited to:

Trench excavation, ductile iron pipe, fittings, valves, valve boxes, concrete rings, anchor blocks and tie-downs; pipe bedding, Pipe Zone, Trench Zone, and Street Zone backfill, compaction, erosion control; removal and disposal of excavated soil not suitable for backfill; dewatering; pavement cutting along trench edge; joint restraint; connection to fittings and pay items, maintenance of service; pipeline disinfection, testing; pressure testing, including temporary bulkheads and fittings required to perform the testing.

12. Bid Item No. 12 - Ductile Iron Water Main and Appurtenances, 24-inch (Deep Trench)

a. Measurement

Measurement for Bid Item No. 12 shall be based on completion of the work on a linear foot basis. The pay limit for this item is defined as Station 53+66 through Station 61+34.77 as shown on Sheets C-112, C-113 and C-114. The pipe shall be measured horizontally over the pipe centerline from the outside face of valve flanges and/or the outside face of fitting flanges in the case(s) where the fitting is part of a separate pay item.

b. Payment

Payment for Bid Item No. 12 shall be by the linear foot of deep trench 24-inch Ductile Iron Water Main and Appurtenances installed. The unit costs shall include full compensation for furnishing all labor, materials, tools, and equipment and doing all work involved to provide the 24-inch Ductile Iron Water Main and Appurtenances in place and operational in accordance with the plans and specifications including, but not limited to:

Trench excavation, marker tape, tracer wire, ductile iron pipe, fittings, pipe bedding, Pipe Zone, and Trench Zone backfill, compaction, erosion control; removal and disposal of excavated soil not suitable for backfill; dewatering; joint restraint; connection to fittings and pay items, maintenance of service; coordination of access to adjoining properties and work areas for property owner, farmer(s) (in accordance with easement) and Bid Package #1 Contractor; pipeline disinfection, testing; pressure testing, including temporary bulkheads and fittings required to perform the testing.

13. Bid Item No. 13 – Bore and Jack 36-inch Casing and 18-inch Ductile Iron Pipe (Under Storm Drain)

    a. Measurement

    Measurement for Bid Item No. 13 shall be based on completion of the work on a lump sum basis. The pay limit for this Bid Item is defined as Station 21+63.38 through Station 22+47.78 on Sheet C-105 and Detail 1, Sheet C-404.

    b. Payment

    Payment for Bid Item No. 13 shall be made on a percent complete basis based on the lump sum amount and shall include full compensation for furnishing all labor, materials, tools, and equipment and doing all work involved to provide the casing and carrier pipe in place and operational in accordance with the plans and specifications including, but not limited to:

    36-inch steel casing (approximately 55 linear feet), 18-inch ductile iron carrier pipe (approximately 72 linear feet), casing seals, filling the casing, fittings, connections to pipelines, valves; pavement cutting, removal and disposal of pavement, excavation, trenching, pipe bedding, Pipe Zone, Trench Zone, and Street Zone backfill; sheeting shoring and bracing; additional utility investigation, video inspection; pipeline disinfection, testing; pressure testing, including temporary bulkheads and fittings required to perform the testing, settlement monitoring; complying with all requirements of jurisdictional permits and agencies.

14. Bid Item No. 14 - Bore and Jack 36-inch Casing and 24-inch Ductile Iron Pipe (Under Levee)

    a. Measurement

    Measurement for Bid Item No. 14 shall be based on completion of the work on a lump sum basis. The pay limit for this Bid Item is defined as 50+84.70 through Station 53+66 as shown on Sheet C-112.

    b. Payment

    Payment for Bid Item No. 14 shall be made on a percent complete basis based on the lump sum amount and shall include full compensation for furnishing all labor, materials, tools, and equipment and doing all work involved to provide the casing and carrier pipe in place and operational in accordance with the plans and specifications including, but not limited to:

    36-inch steel casing (approximately 270 linear feet), 24-inch ductile iron carrier pipe (approximately 274 linear feet), casing seals, filling the casing, fittings, connections to pipelines, valves; pavement cutting, removal and disposal of pavement, excavation, trenching, pipe bedding, Pipe Zone, Trench Zone, and Street Zone backfill; sheeting shoring and bracing; additional utility investigation, protecting existing utilities; pipeline disinfection, testing; pressure testing, including temporary bulkheads and fittings required to perform the testing, settlement monitoring; complying with all requirements of jurisdictional permits and agencies.

15. Bid Item No. 15 - Protect Existing Utilities

    a. Measurement

    Measurement for Bid Item No. 15 shall be based on completion of the work on a lump sum basis.

    b. Payment

    Payment for Bid Item No. 15 shall be made on a percent complete basis based on the lump sum amount and shall include full compensation for furnishing all labor, materials, tools, and equipment and doing all work involved to protect existing utility in place and operational, or removal and replacement if protection is not practical, as determined by the Owner's Representative, in accordance with the plans and specifications and the District's Standards including, but not limited to:

Trench excavation, utility support, additional shoring; raising 6" gas main; maintenance of service; or reconstruction or repair of the utility as required.

16. Bid Item No. 16 - Asphalt Concrete Paving and Repair

a. Measurement

Measurement for Bid Item No. 16 shall be based on a square footage unit cost basis. Bid Item No. 16 shall be measured as providing trench resurfacing in accordance with the Contract Documents, Detail 4 on Sheet C-503 and the City of Santa Maria Encroachment Permit. Pavement placed in excess of the maximum cross section will not be considered for payment without prior written authorization from the Owner.

b. Payment

Payment for Bid item No. 16 shall be on a square foot basis with the limitations discussed in the measurement section. The unit cost shall constitute full compensation for furnishing all labor, materials, tools, and equipment associated with performing all work involved including but not limited to:

Removal and disposal of existing pavement, secondary saw cutting, placement of new pavement, surface finishing, temporary and permanent pavement markings, traffic striping; connection to existing pavement; Pavement Zone backfill; subgrade and base preparation prior to placing pavement after backfilling.

17. Bid Item No. 17 – Potholing and Utility Investigation

a. Measurement

Measurement for Bid Item No. 17 for subsurface utility locating by test hole excavation (potholing) will be based on a unit cost basis for each completed test hole excavation. Locations will be as shown on the Plans.

b. Payment

Payment for Bid Item No. 17 shall be made on a unit cost basis. The unit cost shall constitute full compensation for furnishing all labor, materials, tools, and equipment associated with performing all work involved for each test hole excavation, including providing the Contractor's pothole excavation field logs/reports to the Owner, and

coordinating with and facilitating formal field data collection by Owner's Surveyor.

Pothole work performed for the Contractor's convenience shall be paid as part of the Bid Item the work is done for. No separate payment shall be made.

18. Bid Item No. 18 – Protection and Restoration of Agricultural Topsoil

a. Measurement

Measurement for Bid Item No. 18 shall be based on a unit cost basis. Bid Item No. 18 shall be measured per cubic yard of top soil removed and protected onsite in accordance with the Contract Documents. Excavation shall not exceed 5 feet of depth without prior written authorization from Owner's Representative.

b. Payment

Payment for Bid Item No. 18 shall be on a unit basis per cubic yard and shall include full compensation for conducting all work required for protection and restoration of topsoil on agricultural lands per Specification Section 011160 Mitigation Monitoring Compliance and Reporting to a depth of 5 feet. If additional depth is required, per the Owner's Representative, payment for the authorized additional protection and restoration will be made at the contract unit price.

19. Bid Item No. 19 – Exclusionary and Silt Fencing

a. Measurement

Measurement for Bid Item No. 19 shall be based on completion of the work on a linear foot basis. The unit cost shall constitute full compensation for furnishing all labor, materials, tools, and equipment associated with installing and maintaining silt and/or exclusionary fencing for compliance with the District's adopted environmental mitigation requirements for the construction of the District's Project.

b. Payment

Payment for Bid Item No. 19 shall be by the linear foot of silt or exclusionary fencing installed. The unit price shall include full compensation for installing and maintaining exclusionary and/or silt fencing required for complying with the District's adopted environmental mitigation requirements for the construction of the District's Project. See Specification Section 011160 Mitigation Monitoring Compliance and Reporting.

Payment for this item does not include site security fencing (i.e. chain link fencing around excavations, and/or staging areas), site security fencing shall be paid as part of the work requiring the site security fencing and no separate payment will be made therefor.

20. Bid Item No. 20 – Environmental Mitigation

Payment for Bid Item No. 20 shall be on a lump sum basis and shall include full compensation for conducting all work, not covered in a separate pay item, required for complying with the District's adopted environmental mitigation requirements for the construction of the District's Project. See Specification Section 011160 Mitigation Monitoring Compliance and Reporting.

D. Additive Bid Items

The following bid items shall not be included in the base bid, but may be required as part of this work effort. The Contractor must notify and obtain written authorization from the Owner's Representative before conducting the activities listed below.

21. Additive Bid Item No. 21 - Pipe Trench Foundation/Subgrade Stabilization (rock refill encased in filter fabric):

a. Measurement

Measurement for Bid Item No. 21 shall be based on completion of the work on a linear foot basis, and shall be measured horizontally over the pipe centerline from the outside face of manholes and/or structures.

b. Payment

At locations authorized by the Owner's Representative, perform trench subgrade/foundation stabilization by over-excavating soft, yielding, and unstable soils and installing rock refill encased in filter fabric in conformance with Specification Section 312316. Payment for this item shall be on a linear foot basis and shall include full compensation for furnishing all labor, materials, tools, and equipment and doing all work involved to perform pipe trench foundation/sugrade stabilization in place, operational, and in conformance with the specifications including, but not limited to:

Removal and disposal of excavated soil not suitable for backfill; placing, installing, and compacting rock refill material; placing and installing soil stabilization fabric in conformance with manufacturer's recommendations; additional trench excavation, trench shaping, additional shoring. Maximum overexcavation shall be 18 inches below the pipe bedding.

The Owner's Representative shall be the sole judge as to the necessity, the limits, and the depth of additional refill material required for trench foundation/subgrade stabilization in any given situation. Rock refill that is used by the Contractor for his convenience, but not authorized by the Owner's Representative, will not be measured for payment but shall be at the Contractor's sole expense.

END OF SECTION