



SECTION 01 02 50 MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Measurement and payment criteria applicable to portions of the Work performed under a unit price payment method.

1.2 RELATED SPECIFICATIONS

- A. Section 00 41 00 – Bid Form
- B. Section 00 52 00 – Agreement, Article 6 – Payment Procedures
- C. Section 00 70 00 – General Conditions
 - 1. Article 7, Paragraph 7.10 - Taxes
 - 2. Article 13, Paragraph 13.03 – Unit Price Work
 - 3. Article 15, Paragraph 15.01 – Progress Payments

1.3 MEASUREMENT OF QUANTITIES

- A. Measurement Devices:
 - 1. Weigh Scales: Inspected, tested and certified by the applicable state Weights and Measures department within the past year.
 - 2. Platform Scales: Of sufficient size and capacity to accommodate the conveying vehicle.
 - 3. Metering Devices: Inspected, tested and certified by the applicable State department within the past year.

1.4 PAYMENT

- A. Payment for each Bid item includes full compensation for all required labor, materials, products, tools, equipment, manufacturing, transportation, services and incidentals; application or installation; permits, taxes, royalties, import costs, overhead and profit.

1.5 DESCRIPTION OF BID ITEMS

- A. The work generally consists of the following, which are numbered according to the Bid schedule found in Article 5 of Section 00 41 00 – Bid Form:
 - 1. **Mobilization** – Measurement is by lump sum. Payment includes mobilization, demobilization, installation of temporary facilities, construction fencing, all bonds, insurances, permits and fees, electrical site permitting, design, and connection fees, public outreach, coordination, and implementation of erosion control, quality control and testing of materials, preparation of project schedule, project identification sign, construction survey and layout, final cleanup and project closeout, and all other items not specifically called for in any other Bid item or called for in the plans and specifications or is customary, incidental or appurtenant to performance of a complete project. This Bid item will be paid as follows:

Percent of Original Contract <u>Amount Earned</u> 5%	Percent of <u>Mobilization to be Paid</u> 40%
---	---



15%	20%
40%	30%
50%	10%

- 2. **Traffic Control** - Measurement shall be Lump Sum. Payment includes all costs to provide traffic and/or pedestrian control for the project to maintain a safe construction site for workers and users. Includes the creation and successful approval of a traffic control plan, installation of temporary facilities, traffic control coordinator, maintenance and inspections of traffic, signs, flaggers and all other items necessary for traffic management.

Percent of Original Contract <u>Amount Earned</u>	Percent of <u>Traffic Control to be Paid</u>
30%	25%
50%	25%
70%	25%
90%	25%

- 3. **SWPPP** - Measurement shall be Lump Sum. Payment covers the cost of noise control, dust and mud control, watering, surface water control, ground water control, pollution control, and all erosion control required for the project. This item also includes implementation of the Storm Water Pollution Prevention Plan.

Percent of Original Contract <u>Amount Earned</u>	Percent of <u>SWPPP to be Paid</u>
5%	40%
15%	20%
40%	30%
50%	10%

- 4. **Clearing and Grubbing** – Measurement is by square foot. Payment includes cost of all materials, equipment, transportation, labor and other items required to clear and grub the constructible area. Payment includes removal of debris, stumps, trees, roots, vegetation, pipe, concrete, asphalt, curb and gutter, gravel, sod, topsoil and other appurtenant items to excavate 6" below the existing ground and disposal of such items, and all other appurtenances required to clear and grub material within the project limits.
- 5. **Roadway Excavation-Structural** – Measurement is by cubic yard. Payment Includes cost of all materials, equipment, transportation, labor and other items required to excavate the existing pavement section, and material within the designated limits of the proposed roadway under the existing asphalt section including the removal and disposal of material off site. Includes sawcut of asphalt and concrete, backfilling of all holes resulting in material removal and all other appurtenances required to excavate material within the project limits for construction. This item is specific to material under the existing asphalt section that meets the requirements for subbase material. This item may be used for Item #13 Structural Fill but not item #17 Subbase (9" Thick). For bidding purposes assume 9-inches of under the asphalt section to meet requirements. A proctor is required for this classification. Material must be stored separately from all other excavated material.
- 6. **Roadway Excavation-Non Structural** – Measurement is by cubic yard. Payment Includes cost of all materials, equipment, transportation, labor and other items required to excavate the existing pavement section, and material within the designated limits of the proposed roadway from a foot behind the back of curb to a foot behind the other back of curb, channels, easements, and other designated areas

including the removal and disposal of material off site to the depth necessary for the roadway cross-section. Includes sawcut of asphalt and concrete, backfilling of all holes resulting in material removal and all other appurtenances required to excavate material within the project limits for construction. This item may be used for Item #14 Non Structural Fill but not item #13 Structural Fill.

7. **Remove Fence** – Measurement is by linear feet. Payment Includes all the labor, materials, transportation, fees and other items associated with the removal and disposal of fence. Payment includes removal of the foundations and backfill material to replace the excavated hole, and all other appurtenances necessary to remove the fence to comply with the project plans and specifications. Payment includes temporary fence may be required if the fence is keeping in animals. Coordination may be required with the property owner.
8. **Remove Curb & Gutter** - Measurement is linear feet. Payment includes cost of all materials, equipment, transportation, fees, labor and other items required to remove existing curb and gutter. Includes sawcut of concrete, backfilling of all holes resulting in material removal, disposal and all other appurtenances required to remove curb and gutter within the project limits for construction.
9. **Remove Asphalt** - Measurement shall be square feet, to the dimensions shown on the plans. Payment covers all costs of labor, materials, fees, equipment and appurtenances required to demolish, remove, and dispose of all asphalt pavement as required within the limits as shown on the project plans, in a safe and legal manner. Saw cutting shall be considered incidental to pavement removal.
10. **Landscape/ Irrigation Repair** - Measurement is by lump sum. Payment includes all labor, materials, equipment, and transportation necessary to repair landscaping in the park strip, including area added to the park strip where applicable, and privately owned landscaping per parcel. Item includes grading, sod, placement, and initial water, irrigation systems with all associated pipe, connections, sprinkler heads, fittings, bends, and risers, and all other appurtenances required to furnish and install the landscaping to comply with project plans and specifications. Areas on the plans may extend beyond excavation limits. Landscaping is to be replaced in kind, matching materials and depths to equal or greater condition. Contractor is to coordinate work with city and property owner.
11. **Concrete Sidewalk/Flatwork** - Measurement is per square foot. Payment includes all labor, materials, equipment, and transportation required for proper installation of sidewalk. Item includes forms, UTBC, concrete, and all other appurtenances necessary to install sidewalk according to the project plans and specifications including ADA standards.
12. **Detectable Warning Surface** - Measurement is per square foot. Payment includes all labor, materials, equipment, and transportation necessary for proper installation of detectable warning surfaces. Items include all appurtenances necessary to install detectable warning surfaces required per ADA regulations.
13. **Structural Fill** – Measurement is by cubic yard. Payment includes all labor, materials, equipment, and transportation necessary for the excavation, hauling, furnishing, placing/grading, testing, and compacting this material, to match the grades and elevations called for in the plans and specifications complete, compacted and in place. Salvaged material may be used if it has been proctored and meets the standards for #5 Roadway Excavation-Structural.
14. **Non Structural Fill** - Measurement is by cubic yard. Payment includes all labor, materials, equipment, and transportation necessary for the excavation, hauling, furnishing, placing/grading, testing, and compacting this material, to match the grades and elevations called for in the plans and specifications complete, compacted and in place. Salvaged material may be used from item #6 Roadway Excavation-Non Structural or item #4 Clearing and Grubbing with approval from the

Owner. This item may not be used under the roadway, curb and gutter or sidewalk.

15. **HMA – 1/2" (6" Thick)** - Measurement shall be Ton. Payment covers all costs for labor, materials, equipment and appurtenances required to furnish and place Hot Mix Asphalt as shown on the project plans, compacted, complete and in place. Asphalt pavement to be 15% max RAP, 1/2 inch minus aggregate, PG58-28 binder.
16. **UTBC (8" Thick)** - Measurement shall be Cubic Yard. Payment covers cost of all labor, materials, equipment, coordination, and appurtenances required to complete the following: hauling, placing, compaction, compaction testing, final grading, and any other work required to complete this item.
17. **Subbase (9" Thick)** - Measurement shall be Cubic Yard. Payment covers cost of all labor, materials, equipment, coordination, and appurtenances required to complete the following: hauling, placing, compaction, compaction testing, final grading, and any other work required to complete this item.
18. **Separation Fabric** - Measurement is per square foot. Payment Includes all labor, materials, equipment, and transportation necessary to install separation fabric in place. Item includes hauling, furnishing, placement of material as designated on the plans and cleanup of the material to match grades and elevations called for in the plans and specifications.
19. **Type "A" Curb & Gutter** - Measurement is by linear foot of curb and gutter installed. Payment includes all labor, materials, equipment, and transportation necessary for proper installation of the curb and gutter. Item includes all UTBC, concrete, and all appurtenances necessary to complete Type A curb and gutter as outlined in the plan set and City standards.
20. **Type "F" Curb & Gutter** - Measurement is by linear foot of curb and gutter installed. Payment includes all labor, materials, equipment, and transportation necessary for proper installation of the curb and gutter. Item includes all UTBC, concrete, and all appurtenances necessary to complete Type F curb and gutter as outlined in the plan set and City standards.
21. **Jersey Barrier** – Measurement is by linear foot. Payment includes all labor, materials, equipment and transportation necessary for proper installation of concrete jersey barrier. Item includes the concrete jersey barrier and all appurtenances to install the jersey barrier.
22. **Concrete Bulb Out** – Measurement is by each. Payment includes all, labor, materials, equipment, and transportation necessary for proper installation of the concrete bulb out. Item includes all gravel, concrete and all appurtenances necessary to complete the concrete bulb out as outlined in the plan set.
23. **Paint Striping** - Measurement is by linear foot. Payment includes all the labor, materials, transportation and other items necessary to furnish and install the pavement marking paint, including paint, tabs, beads, 2 coats of paint, and all other appurtenances necessary to install pavement marking paint to comply with the project plans and specifications.
24. **Pavement Messages** – Measurement is by each. Payment includes all the labor, materials, transportation and other items necessary to furnish and install the pavement messages including paint, tabs, beads, 2 coats of paint, and all other appurtenances necessary to install a pavement message to comply with the project plans and specifications.
25. **Paint Crosswalk/ Green Bike Crossings** - Measurement is by lump sum. Payment includes all the labor, materials, transportation and other items necessary to furnish and install the paint crosswalk and green bike crossings including paint, tabs, beads, 2 coats of paint, and all other appurtenances necessary to install the crossings to comply with the project plans and specifications.

26. **Bollard** – Measurement is by each. Payment includes all the labor materials, transportation and all other appurtenances necessary to install the bollard as outlined in the plan set.
27. **Signs** - Measurement is by each. Payment includes all labor, materials, equipment, and transportation necessary to furnish and install the sign. Item includes posts, reflective sheeting signs, drilling for bolts / anchors, mounting brackets plates, hardware, concrete foundations, and all other appurtenances required to furnish and install the sign to comply with project plans and specifications.
28. **RRFB System** - Measurement is by lump sum. Payment includes all labor, materials, equipment, and transportation necessary to furnish and install the signs and rectangular rapid-flashing beacons systems. Item includes posts, reflective sheeting signs, drilling for bolts / anchors, mounting brackets plates, hardware, concrete foundations, and all other appurtenances required to furnish and install the sign to comply with project plans and specifications.
29. **Storm Drain Pipe** – Measurement is by linear foot. Payment covers all costs for labor, materials, equipment, coordination and appurtenances required to furnish and install specified high-density polyethylene pipe, including proper backfill and compaction, as shown on the project plans, complete and in place. Also includes all appurtenances, fittings, and connections to existing pipes. Excavation shall be considered incidental to installation of the pipe.
30. **Irrigation Pipe** – Measurement is by linear foot. Payment covers all costs for labor, materials, equipment, coordination and appurtenances required to furnish and install specified high-density polyethylene pipe, including proper backfill and compaction, as shown on the project plans, complete and in place. Also includes all appurtenances, fittings, and connections to existing pipes. Excavation shall be considered incidental to installation of the pipe.
31. **8-Inch Water Service** – Measurement is by each. Payment covers all costs for labor, materials, equipment, coordination and appurtenances required to furnish and install c900 dr14 pipe, including proper backfill and compaction, as shown on the project plans, complete and in place. Also includes all appurtenances, fittings, and connections to existing pipes. Excavation shall be considered incidental to installation of the pipe.
32. **Irrigation Box** – Measurement is by linear foot. Payment covers all cost for labor, materials, equipment, coordination and appurtenances required to construct the irrigation junction box as shown on the project plans, complete and in place. Excavation, backfill, compaction, placement of concrete collar and placement of untreated base course shall be considered incidental to the placement of the irrigation box.
33. **Sewer Lid Adjustment** – Measurement is by each. Payment covers all costs for labor, materials, equipment, coordination and appurtenances required to adjust sewer lid according to plans; including but not limited to placement of concrete collar and replacement of parts as required and shown on the project plans, complete and in place.
34. **4'x6' Irrigation Box with Weir** – Measurement is by each. Payment covers all cost for labor, materials, equipment, coordination and appurtenances required to construct the irrigation box with weir as shown on the project plans, complete and in place. Excavation, backfill, compaction, placement of concrete collar and placement of untreated base course shall be considered incidental to the placement of the irrigation box.
35. **Storm Drain Catch Basin** – Measurement is by each. Payment covers all cost for labor, materials, equipment, coordination and appurtenances required to construct the storm drain catch basin as shown on the project plans, complete and in place. Excavation, backfill, compaction, placement of concrete collar and placement of

untreated base course shall be considered incidental to the placement of the storm drain structures.

36. **8-Inch Water Valve** – Measurement is by each. Payment covers all cost for labor, materials, equipment, coordination and appurtenances required to construct the water valve as shown on the project plans, complete and in place. Excavation, backfill, compaction, placement of concrete collar and placement of untreated base course shall be considered incidental to the placement of the water valve.
37. **Adjust Water Valve Box** – Measurement is by each. Payment covers all costs for labor, materials, equipment, coordination and appurtenances required to adjust water valve box to grade; including but not limited to placement of concrete collar and replacement of parts as required and shown on the project plans, complete and in place.
38. **4'x4' Concrete Box** – Measurement is by each. Payment covers all cost for labor, materials, equipment, coordination and appurtenances required to construct the irrigation junction box as shown on the project plans, complete and in place. Excavation, backfill, compaction, placement of concrete collar and placement of untreated base course shall be considered incidental to the placement of the storm drain structures.
39. **5' Manhole** – Measurement is by each. Payment covers all cost for labor, materials, equipment, coordination and appurtenances required to construct the manhole as shown on the project plans, complete and in place. Excavation, backfill, compaction, placement of concrete collar and placement of untreated base course shall be considered incidental to the placement of the storm drain structures.
40. **Install Fence** – Measurement is by linear foot. Payment includes all labor, materials, equipment, and transportation necessary to furnish and install the fence in kind and equal to or greater condition. Item includes tie into existing fence, drilling for bolts / anchors, mounting brackets plates, wire mesh with barbs, epoxy, hardware, fence posts, concrete foundations, and all other appurtenances required to furnish and install the fence to comply with project plans and specifications.
41. **Relocate Gate** – Measurement is by each. Payment includes all labor, materials, equipment, and transportation necessary to furnish and re install the gate. Item includes tie into existing fence, drilling for bolts / anchors, mounting brackets plates, wire mesh with barbs, epoxy, hardware, fence posts, concrete foundations, and all other appurtenances required to furnish and install the gate to comply with project plans and specifications. Contractor to coordinate with land owner.
42. **Grade New Ditch** – Measurement is by linear foot. Payment includes all labor, materials, equipment and transportation necessary to grade and clean the irrigation ditch according to the plans. Includes clearing and grubbing, backfill material, grading, excavation, compaction, and any other appurtenances required to backfill and existing irrigation ditch according to the plans and specifications.
43. **Water Meter for Landscape Irrigation** – Measurement is by each. Payment covers all cost for labor, materials, equipment, coordination and appurtenances required to construct the water meter as shown on the project plans, complete and in place. Excavation, backfill, haul and dispose excess, compaction, placement of concrete collar and placement of untreated base course shall be considered incidental to the placement of the water meter.
44. **Topsoil** – Measurement is by cubic yard. Payment includes all labor, materials, equipment, and transportation necessary to furnish and install the top soil according City project plans and specifications.
45. **Sod** – Measurement is by square foot. Payment includes all labor, materials, equipment, and transportation necessary to furnish and install the fertilizer, seed, and all other appurtenances necessary to install pre planted top soil according City

project plans and specifications.

46. **Trees** – Measurement is by each. Payment includes all labor, materials, equipment, and transportation necessary to install the trees. Item includes trees, placement, initial water and all other appurtenances required to furnish and install to comply with project plans and specifications.
47. **Shrubs** – Measurement is by each. Payment includes all labor, materials, equipment, and transportation necessary to install the shrubs. Item includes shrubs, placement, initial water and all other appurtenances required to furnish and install to comply with project plans and specifications.
48. **Perennial and Grasses** – Measurement is by each. Payment includes all labor, materials, equipment, and transportation necessary to install the perennial and grasses. Item includes perennials, grasses, placement, initial water and all other appurtenances required to furnish and install to comply with project plans and specifications.
49. **Boulders** – Measurement is by each. Payment includes all labor, materials, equipment, and transportation necessary to install the boulders. Item includes boulders, placement and all other appurtenances required to furnish and install to comply with project plans and specifications.
50. **Landscape Edging** – Measurement is by linear foot. Payment includes all labor, materials, equipment, and transportation necessary for proper installation of the landscape edging. Item includes all gravel, concrete, and all appurtenances necessary to complete landscape edging and gutter as outlined in the plan set and City standards.
51. **Landscape Fabric** – Measurement is by square foot. Payment Includes all labor, materials, equipment, and transportation necessary to install separation fabric in place. Item includes hauling, furnishing, placement of material as designated on the plans and cleanup of the material to match grades and elevations called for in the plans and specifications.
52. **Rock Mulch** – Measurement is by ton. Payment includes all labor, materials, equipment, and transportation necessary to install the rock mulch with professional grade weed barrier. Item includes grading, rock, mulch, weed barrier, placement, initial water and all other appurtenances required to furnish and install to comply with project plans and specifications.
53. **Bark Mulch** – Measurement is by cubic yard. Payment includes all labor, materials, equipment, and transportation necessary to install the bark and mulch with professional grade weed barrier. Item includes grading, bark, mulch, weed barrier, placement, initial water and all other appurtenances required to furnish and install to comply with project plans and specifications.
54. **4"-6" Cobble Rock "Pisgah"** – Measurement is by ton. Payment includes all labor, materials, equipment, and transportation necessary to install the cobble rock with professional grade weed barrier. Item includes grading, cobble, weed barrier, placement, and initial water and all other appurtenances required to furnish and install the roadbase to comply with project plans and specifications. Areas on the plans may extend beyond excavation limits. It is the intent that all roadbase that was damaged with this Contract and the previous storm drain project be restored.
55. **Backflow Preventer** – Measurement is by each. Payment covers all cost for labor, materials, equipment, coordination and appurtenances required to construct the backflow preventer as shown on the project plans, complete and in place. Excavation, backfill, compaction, placement of concrete collar and placement of untreated base course shall be considered incidental to the placement of the backflow preventer.
56. **Irrigation/Sprinkler System** – Measurement is by lump sum. Payment includes all labor,

materials, equipment, and transportation necessary to furnish and install irrigation pipe, connections, sprinkler heads, fittings, bends, and risers, drip system, irrigation boxes, valves and all other appurtenances required install a new irrigation system and to repair an irrigation system to meet the existing conditions to the land owners satisfaction. Includes documentation of property owner approval when repairs are complete.

- 57. **Clock (Nodes)** – Measurement is by each. Payment covers all cost for labor, materials, equipment, coordination and appurtenances required to construct the clock and nodes as shown on the project plans, complete and in place.
- 58. **Street Lighting** – Measurement is by lump sum. Payment includes all labor, materials, equipment, and other items necessary to all lighting as shown on the project to include connections to utility primary lines, transformer pad, secondary service, metering and distribution equipment, circuiting, lighting control, fixtures and bases. Pricing includes crosswalk lighting installations by contractor and base bid costs for cobra head street lights installed per Rocky Mountain Power requirements as shown on the drawings.
- 59. **Site Electrical** – Measurement is by lump sum. Payment includes all labor, materials, equipment, and other necessary items to provide removal and re-establishment of distribution for power and communications utilities as shown according to the plans. This includes coordination with utility reps for scheduling and equipment locations, permitting, design, service connection, providing support, removal, and reinstallation of items affected by utility adjustments, conduit infrastructure as defined by utilities plus spare conduits, trenching, backfill, pull tape/ropes, equipment pads, and secondary connections and distribution.
- 60. **2" Water Meter** – Measurement is by each. Payment covers all cost for labor, materials, equipment, coordination and appurtenances required to construct the 2" water meter as shown on the project plans, complete and in place. Excavation, backfill, compaction, placement of concrete collar and placement of untreated base course shall be considered incidental to the placement of the water meter.

Alternate Items

- 1. **Excavation for Concrete** – Measurement is by square foot. Payment includes cost of all materials, equipment, transportation, labor and other items required to clear, grub and excavate the constructible area. Payment includes removal of debris, stumps, trees, roots, vegetation, pipe, concrete, asphalt, curb and gutter, gravel, sod, topsoil and other appurtenant items to excavate below the existing ground and disposal of such items, and all other appurtenances required to excavate the area for the install of concrete flatwork within the project limits.
- 2. **Concrete Flatwork** – Measurement is by square foot. Payment includes all labor, materials, equipment, and transportation required for proper installation of concrete flatwork. Item includes forms, gravel, concrete, and all other appurtenances necessary to install concrete flatwork according to the project plans and specifications including ADA standards.
- 3. **Landscape and Sprinkler Repair** – Measurement is by lump sum. Payment includes all labor, materials, equipment, and transportation necessary to repair landscaping in the park strip, and privately owned landscaping per parcel. Item includes grading, sod, placement, and initial water, irrigation systems with all associated pipe, connections, sprinkler heads, fittings, bends, and risers, and all other appurtenances required to furnish and install the landscaping to comply with project plans and specifications. Areas on the plans may extend beyond excavation limits. Landscaping is to be replaced in kind, matching materials and depths to equal or greater condition. Contractor is to coordinate work with city and property owner.
- 4. **Remove Paint** – Measurement is by lump sum. Payment covers the cost of all labor,



materials, equipment, coordination and, appurtenances required to remove all paint striping through grinding or other approved methods as required within the limits of construction as shown on the project plans. Linear Feet does not account for paint width.

5. **Paint Striping** – Measurement is by linear foot. Payment includes all the labor, materials, transportation and other items necessary to furnish and install the pavement marking paint, including paint, tabs, beads, 2 coats of paint, and all other appurtenances necessary to install pavement marking paint to comply with the project plans and specifications.
6. **Paint Symbol** – Measurement is by each. Payment includes all the labor, materials, transportation and other items necessary to furnish and install the pavement messages including paint, tabs, beads, 2 coats of paint, and all other appurtenances necessary to install a pavement message to comply with the project plans and specifications.
7. **Signs** – Measurement is by each. Payment includes all labor, materials, equipment, and transportation necessary to furnish and install the sign. Item includes posts, reflective sheeting signs, drilling for bolts / anchors, mounting brackets plates, hardware, concrete foundations, and all other appurtenances required to furnish and install the sign to comply with project plans and specifications.
8. **Jersey Barriers** – Measurement is by linear foot. Payment includes all labor, materials, equipment and transportation necessary for proper installation of concrete jersey barrier. Item includes the concrete jersey barrier and all appurtenances to install the jersey barrier.
9. **36" White Reflective Collapsible Delineator** – Measurement is by linear foot. Payment includes all labor, materials, equipment and transportation necessary for proper installation of 36" white reflective collapsible delineator. Item includes the collapsible delineator, bolts/anchors, mounting brackets, hardware, and all appurtenances to install the collapsible delineators according to city and MUTCD standards.

END OF SECTION