

Practice: 430 - Irrigation Pipeline

Scenario #1 - PVC, 6 Inch or Smaller, Less Than 50 PSI

Scenario Description:

Description: Below ground installation of PVC (Plastic Irrigation Pipe) 6-inch or smaller diameter pipeline with less than 50 PSI operating pressure. PVC (PIP) is manufactured in sizes (nominal diameter) from 4-inch to 27-inch; typical practice sizes range from 4-inch to 24-inch; and typical scenario size is 6-inch. Construct 1/4 mile (1,320 feet) of 6-inch, Class 50 (SDR-81.0), PVC PIP with appurtenances, installed below ground with a minimum of 2 feet of ground cover. The unit is weight of pipe in pounds. 1,320 feet of 6-inch, Class 50 (SDR-81.0) PVC PIP weighs 0.936 lb/ft, or a total of 1,236 pounds. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material (additional 10% of pipe material quantity). Cost of appurtenances does not include flow meters or backflow preventers. Typical installation applies to soils with no special bedding requirements. Resource Concerns: Inefficient Use of Irrigation Water; Inefficient Energy Use. Associated Practices: 436 - Irrigation Reservoir; 441 - Irrigation System, Microirrigation; 442 - Irrigation System, Sprinkler; 443 - Irrigation System, Surface & Subsurface; 447 - Irrigation System, Tailwater Recovery; 533 - Pumping Plant; 634 - Waste Transfer.

Before Situation:

Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Situation:

Pipeline installed to convey and/or distribute water to irrigation systems or reservoirs, minimizing non-beneficial water use, reducing soil erosion, and/or reducing energy use.

Feature Measure: Length of Pipe

Scenario Unit:: Foot

Scenario Typical Size: 1320

Total Scenario Cost: \$4,869.90

Scenario Cost/Unit: \$3.69

Cost Details:

| Component Name | ID | Description | Unit | Cost | QTY | Total |
|--------------------------------------|------|--|-------|----------|------|------------|
| Equipment Installation | | | | | | |
| Trenching, Earth, 12" x 48" | 53 | Trenching, earth, 12" wide x 48" depth, includes equipment and labor for trenching and backfilling | Foot | \$1.18 | 1320 | \$1,557.60 |
| Labor | | | | | | |
| General Labor | 231 | Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc. | Hour | \$19.35 | 24 | \$464.40 |
| Materials | | | | | | |
| Pipe, PVC, dia. < 18", weight priced | 1323 | Polyvinyl Chloride (PVC) pressure rated pipe priced by the weight of the pipe materials for pipes with diameters less than 18". Materials only. | Pound | \$1.94 | 1359 | \$2,636.46 |
| Mobilization | | | | | | |
| Mobilization, medium equipment | 1139 | Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds. | Each | \$211.44 | 1 | \$211.44 |

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Scenario #2 - PVC, 8 Inch, Less Than 50 PSI

Scenario Description:

Description: Below ground installation of PVC (Plastic Irrigation Pipe) 8-inch diameter pipeline with less than 50 PSI operating pressure. PVC (PIP) is manufactured in sizes (nominal diameter) from 4-inch to 27-inch; typical practice sizes range from 4-inch to 24-inch; and typical scenario size is 8-inch. Construct 1/4 mile (1,320 feet) of 8-inch, Class 50 (SDR-81.0), PVC PIP with appurtenances, installed below ground with a minimum of 2 feet of ground cover. The unit is weight of pipe in pounds. 1,320 feet of 8-inch, Class 50 (SDR-81.0) PVC PIP weighs 1.628 lb/ft, or a total of 2,149 pounds. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material (additional 10% of pipe material quantity). Cost of appurtenances does not include flow meters or backflow preventers. Typical installation applies to soils with no special bedding requirements. Resource Concerns: Inefficient Use of Irrigation Water; Inefficient Energy Use. Associated Practices: 436 - Irrigation Reservoir; 441 - Irrigation System, Microirrigation; 442 - Irrigation System, Sprinkler; 443 - Irrigation System, Surface & Subsurface; 447 - Irrigation System, Tailwater Recovery; 533 - Pumping Plant; 634 - Waste Transfer.

Before Situation:

Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Situation:

Pipeline installed to convey and/or distribute water to irrigation systems or reservoirs, minimizing non-beneficial water use, reducing soil erosion, and/or reducing energy use.

Feature Measure: Length of Pipe

Scenario Unit:: Foot

Scenario Typical Size: 1320

Total Scenario Cost: \$6,819.60

Scenario Cost/Unit: \$5.17

Cost Details:

| Component Name | ID | Description | Unit | Cost | QTY | Total |
|--------------------------------------|------|--|-------|----------|------|------------|
| Equipment Installation | | | | | | |
| Trenching, Earth, 12" x 48" | 53 | Trenching, earth, 12" wide x 48" depth, includes equipment and labor for trenching and backfilling | Foot | \$1.18 | 1320 | \$1,557.60 |
| Labor | | | | | | |
| General Labor | 231 | Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc. | Hour | \$19.35 | 24 | \$464.40 |
| Materials | | | | | | |
| Pipe, PVC, dia. < 18", weight priced | 1323 | Polyvinyl Chloride (PVC) pressure rated pipe priced by the weight of the pipe materials for pipes with diameters less than 18". Materials only. | Pound | \$1.94 | 2364 | \$4,586.16 |
| Mobilization | | | | | | |
| Mobilization, medium equipment | 1139 | Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds. | Each | \$211.44 | 1 | \$211.44 |

Practice: 430 - Irrigation Pipeline

Scenario #3 - PVC, 10 Inch, Less Than 50 PSI

Scenario Description:

Description: Below ground installation of PVC (Plastic Irrigation Pipe) 10-inch diameter pipeline with less than 50 PSI operating pressure. PVC (PIP) is manufactured in sizes (nominal diameter) from 4-inch to 27-inch; typical practice sizes range from 4-inch to 24-inch; and typical scenario size is 10-inch. Construct 1/4 mile (1,320 feet) of 10-inch, Class 50 (SDR-81.0), PVC PIP with appurtenances, installed below ground with a minimum of 2 feet of ground cover. The unit is weight of pipe in pounds. 1,320 feet of 10-inch, Class 50 (SDR-81.0) PVC PIP weighs 2.515 lb/ft, or a total of 3,320 pounds. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material (additional 10% of pipe material quantity). Cost of appurtenances does not include flow meters or backflow preventers. Typical installation applies to soils with no special bedding requirements. Resource Concerns: Inefficient Use of Irrigation Water; Inefficient Energy Use. Associated Practices: 436 - Irrigation Reservoir; 441 - Irrigation System, Microirrigation; 442 - Irrigation System, Sprinkler; 443 - Irrigation System, Surface & Subsurface; 447 - Irrigation System, Tailwater Recovery; 533 - Pumping Plant; 634 - Waste Transfer.

Before Situation:

Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Situation:

Pipeline installed to convey and/or distribute water to irrigation systems or reservoirs, minimizing non-beneficial water use, reducing soil erosion, and/or reducing energy use.

Feature Measure: Length of Pipe

Scenario Unit:: Foot

Scenario Typical Size: 1320

Total Scenario Cost: \$9,318.32

Scenario Cost/Unit: \$7.06

Cost Details:

| Component Name | ID | Description | Unit | Cost | QTY | Total |
|--------------------------------------|------|--|-------|----------|------|------------|
| Equipment Installation | | | | | | |
| Trenching, Earth, 12" x 48" | 53 | Trenching, earth, 12" wide x 48" depth, includes equipment and labor for trenching and backfilling | Foot | \$1.18 | 1320 | \$1,557.60 |
| Labor | | | | | | |
| General Labor | 231 | Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc. | Hour | \$19.35 | 24 | \$464.40 |
| Materials | | | | | | |
| Pipe, PVC, dia. < 18", weight priced | 1323 | Polyvinyl Chloride (PVC) pressure rated pipe priced by the weight of the pipe materials for pipes with diameters less than 18". Materials only. | Pound | \$1.94 | 3652 | \$7,084.88 |
| Mobilization | | | | | | |
| Mobilization, medium equipment | 1139 | Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds. | Each | \$211.44 | 1 | \$211.44 |

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Scenario #4 - PVC, 12 Inch, Less Than 50 PSI

Scenario Description:

Description: Below ground installation of PVC (Plastic Irrigation Pipe) 12-inch diameter pipeline with less than 50 PSI operating pressure. PVC (PIP) is manufactured in sizes (nominal diameter) from 4-inch to 27-inch; typical practice sizes range from 4-inch to 24-inch; and typical scenario size is 12-inch. Construct 1/4 mile (1,320 feet) of 12-inch, Class 50 (SDR-81.0), PVC PIP with appurtenances, installed below ground with a minimum of 2 feet of ground cover. The unit is weight of pipe in pounds. 1,320 feet of 12-inch, Class 50 (SDR-81.0) PVC PIP weighs 3.594 lb/ft, or a total of 4,744 pounds. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material (additional 10% of pipe material quantity). Cost of appurtenances does not include flow meters or backflow preventers. Typical installation applies to soils with no special bedding requirements. Resource Concerns: Inefficient Use of Irrigation Water; Inefficient Energy Use. Associated Practices: 436 - Irrigation Reservoir; 441 - Irrigation System, Microirrigation; 442 - Irrigation System, Sprinkler; 443 - Irrigation System, Surface & Subsurface; 447 - Irrigation System, Tailwater Recovery; 533 - Pumping Plant; 634 - Waste Transfer.

Before Situation:

Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Situation:

Pipeline installed to convey and/or distribute water to irrigation systems or reservoirs, minimizing non-beneficial water use, reducing soil erosion, and/or reducing energy use.

Feature Measure: Length of Pipe

Scenario Unit:: Foot

Scenario Typical Size: 1320

Total Scenario Cost: \$14,375.96

Scenario Cost/Unit: \$10.89

Cost Details:

| Component Name | ID | Description | Unit | Cost | QTY | Total |
|--------------------------------------|------|--|-------|----------|------|-------------|
| Equipment Installation | | | | | | |
| Trenching, Earth, loam, 24" x 48" | 54 | Trenching, earth, loam, 24" wide x 48" depth, includes equipment and labor for trenching and backfilling | Foot | \$2.71 | 1320 | \$3,577.20 |
| Labor | | | | | | |
| General Labor | 231 | Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc. | Hour | \$19.35 | 24 | \$464.40 |
| Materials | | | | | | |
| Pipe, PVC, dia. < 18", weight priced | 1323 | Polyvinyl Chloride (PVC) pressure rated pipe priced by the weight of the pipe materials for pipes with diameters less than 18". Materials only. | Pound | \$1.94 | 5218 | \$10,122.92 |
| Mobilization | | | | | | |
| Mobilization, medium equipment | 1139 | Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds. | Each | \$211.44 | 1 | \$211.44 |

Practice: 430 - Irrigation Pipeline

Scenario #5 - PVC, 15 Inch or Larger, Less Than 50 PSI

Scenario Description:

Description: Below ground installation of PVC (Plastic Irrigation Pipe) 15-inch or larger diameter pipeline with less than 50 PSI operating pressure. PVC (PIP) is manufactured in sizes (nominal diameter) from 4-inch to 27-inch; typical practice sizes range from 4-inch to 24-inch; and typical scenario size is 15-inch. Construct 1/4 mile (1,320 feet) of 15-inch, Class 50 (SDR-81.0), PVC PIP with appurtenances, installed below ground with a minimum of 2 feet of ground cover. The unit is weight of pipe in pounds. 1,320 feet of 15-inch, Class 50 (SDR-81.0) PVC PIP weighs 5.609 lb/ft, or a total of 7,404 pounds. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material (additional 10% of pipe material quantity). Cost of appurtenances does not include flow meters or backflow preventers. Typical installation applies to soils with no special bedding requirements. Resource Concerns: Inefficient Use of Irrigation Water; Inefficient Energy Use. Associated Practices: 436 - Irrigation Reservoir; 441 - Irrigation System, Microirrigation; 442 - Irrigation System, Sprinkler; 443 - Irrigation System, Surface & Subsurface; 447 - Irrigation System, Tailwater Recovery; 533 - Pumping Plant; 634 - Waste Transfer.

Before Situation:

Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Situation:

Pipeline installed to convey and/or distribute water to irrigation systems or reservoirs, minimizing non-beneficial water use, reducing soil erosion, and/or reducing energy use.

Feature Measure: Length of Pipe

Scenario Unit:: Foot

Scenario Typical Size: 1320

Total Scenario Cost: \$20,052.40

Scenario Cost/Unit: \$15.19

Cost Details:

| Component Name | ID | Description | Unit | Cost | QTY | Total |
|--------------------------------------|------|--|-------|----------|------|-------------|
| Equipment Installation | | | | | | |
| Trenching, Earth, loam, 24" x 48" | 54 | Trenching, earth, loam, 24" wide x 48" depth, includes equipment and labor for trenching and backfilling | Foot | \$2.71 | 1320 | \$3,577.20 |
| Labor | | | | | | |
| General Labor | 231 | Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc. | Hour | \$19.35 | 24 | \$464.40 |
| Materials | | | | | | |
| Pipe, PVC, dia. < 18", weight priced | 1323 | Polyvinyl Chloride (PVC) pressure rated pipe priced by the weight of the pipe materials for pipes with diameters less than 18". Materials only. | Pound | \$1.94 | 8144 | \$15,799.36 |
| Mobilization | | | | | | |
| Mobilization, medium equipment | 1139 | Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds. | Each | \$211.44 | 1 | \$211.44 |

Practice: 430 - Irrigation Pipeline

Scenario #6 - PVC, 6 Inch or Smaller, 50 PSI or Greater

Scenario Description:

Description: Below ground installation of PVC (Plastic Irrigation Pipe) 6-inch or smaller diameter pipeline with a 50 PSI or greater operating pressure. PVC (PIP) is manufactured in sizes (nominal diameter) from 4-inch to 27-inch; typical practice sizes range from 4-inch to 24-inch; and typical scenario size is 6-inch. Construct 1/4 mile (1,320 feet) of 6-inch, SDR-51.0 PVC pipeline with appurtenances, installed below ground with a minimum of 2 feet of ground cover. The unit is weight of pipe material in pounds. 1,320 feet of 6-inch, SDR-51.0 PVC pipe weighs 1.434 lb/ft, or a total of 1,893 pounds. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material (additional 10% of pipe material quantity). Cost of appurtenances does not include flow meters or backflow preventers. Typical installation applies to soils with no special bedding requirements. Resource Concerns: Inefficient Use of Irrigation Water; Inefficient Energy Use. Associated Practices: 436 - Irrigation Reservoir; 441 - Irrigation System, Microirrigation; 442 - Irrigation System, Sprinkler; 443 - Irrigation System, Surface & Subsurface; 447 - Irrigation System, Tailwater Recovery; 533 - Pumping Plant; 634 - Waste Transfer.

Before Situation:

Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Situation:

Pipeline installed to convey and/or distribute water to irrigation systems or reservoirs, minimizing non-beneficial water use, reducing soil erosion, and/or reducing energy use.

Feature Measure: Length of Pipe

Scenario Unit:: Foot

Scenario Typical Size: 1320

Total Scenario Cost: \$6,272.52

Scenario Cost/Unit: \$4.75

Cost Details:

| Component Name | ID | Description | Unit | Cost | QTY | Total |
|--------------------------------------|------|--|-------|----------|------|------------|
| Equipment Installation | | | | | | |
| Trenching, Earth, 12" x 48" | 53 | Trenching, earth, 12" wide x 48" depth, includes equipment and labor for trenching and backfilling | Foot | \$1.18 | 1320 | \$1,557.60 |
| Labor | | | | | | |
| General Labor | 231 | Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc. | Hour | \$19.35 | 24 | \$464.40 |
| Materials | | | | | | |
| Pipe, PVC, dia. < 18", weight priced | 1323 | Polyvinyl Chloride (PVC) pressure rated pipe priced by the weight of the pipe materials for pipes with diameters less than 18". Materials only. | Pound | \$1.94 | 2082 | \$4,039.08 |
| Mobilization | | | | | | |
| Mobilization, medium equipment | 1139 | Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds. | Each | \$211.44 | 1 | \$211.44 |

Practice: 430 - Irrigation Pipeline

Scenario #7 - PVC, 8 Inch, 50 PSI or Greater

Scenario Description:

Description: Below ground installation of PVC (Plastic Irrigation Pipe) 8-inch diameter pipeline with a 50 PSI or greater operating pressure. PVC (PIP) is manufactured in sizes (nominal diameter) from 4-inch to 27-inch; typical practice sizes range from 4-inch to 24-inch; and typical scenario size is 8-inch. Construct 1/4 mile (1,320 feet) of 8-inch, SDR-51.0 PVC pipeline with appurtenances, installed below ground with a minimum of 2 feet of ground cover. The unit is weight of pipe material in pounds. 1,320 feet of 8-inch, SDR-51.0 PVC pipe weighs 2.515 lb/ft, or a total of 3,320 pounds. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material (additional 10% of pipe material quantity). Cost of appurtenances does not include flow meters or backflow preventers. Typical installation applies to soils with no special bedding requirements. Resource Concerns: Inefficient Use of Irrigation Water; Inefficient Energy Use. Associated Practices: 436 - Irrigation Reservoir; 441 - Irrigation System, Microirrigation; 442 - Irrigation System, Sprinkler; 443 - Irrigation System, Surface & Subsurface; 447 - Irrigation System, Tailwater Recovery; 533 - Pumping Plant; 634 - Waste Transfer.

Before Situation:

Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Situation:

Pipeline installed to convey and/or distribute water to irrigation systems or reservoirs, minimizing non-beneficial water use, reducing soil erosion, and/or reducing energy use.

Feature Measure: Length of Pipe

Scenario Unit:: Foot

Scenario Typical Size: 1320

Total Scenario Cost: \$9,318.32

Scenario Cost/Unit: \$7.06

Cost Details:

| Component Name | ID | Description | Unit | Cost | QTY | Total |
|--------------------------------------|------|--|-------|----------|------|------------|
| Equipment Installation | | | | | | |
| Trenching, Earth, 12" x 48" | 53 | Trenching, earth, 12" wide x 48" depth, includes equipment and labor for trenching and backfilling | Foot | \$1.18 | 1320 | \$1,557.60 |
| Labor | | | | | | |
| General Labor | 231 | Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc. | Hour | \$19.35 | 24 | \$464.40 |
| Materials | | | | | | |
| Pipe, PVC, dia. < 18", weight priced | 1323 | Polyvinyl Chloride (PVC) pressure rated pipe priced by the weight of the pipe materials for pipes with diameters less than 18". Materials only. | Pound | \$1.94 | 3652 | \$7,084.88 |
| Mobilization | | | | | | |
| Mobilization, medium equipment | 1139 | Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds. | Each | \$211.44 | 1 | \$211.44 |

Practice: 430 - Irrigation Pipeline

Scenario #8 - PVC, 10 Inch, 50 PSI or Greater

Scenario Description:

Description: Below ground installation of PVC (Plastic Irrigation Pipe) 10-inch diameter pipeline with a 50 PSI or greater operating pressure. PVC (PIP) is manufactured in sizes (nominal diameter) from 4-inch to 27-inch; typical practice sizes range from 4-inch to 24-inch; and typical scenario size is 10-inch. Construct 1/4 mile (1,320 feet) of 10-inch, SDR-51.0 PVC pipeline with appurtenances, installed below ground with a minimum of 2 feet of ground cover. The unit is weight of pipe material in pounds. 1,320 feet of 10-inch, SDR-51.0 PVC pipe weighs 3.925 lb/ft, or a total of 5,181 pounds. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material (additional 10% of pipe material quantity). Cost of appurtenances does not include flow meters or backflow preventers. Typical installation applies to soils with no special bedding requirements. Resource Concerns: Inefficient Use of Irrigation Water; Inefficient Energy Use. Associated Practices: 436 - Irrigation Reservoir; 441 - Irrigation System, Microirrigation; 442 - Irrigation System, Sprinkler; 443 - Irrigation System, Surface & Subsurface; 447 - Irrigation System, Tailwater Recovery; 533 - Pumping Plant; 634 - Waste Transfer.

Before Situation:

Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Situation:

Pipeline installed to convey and/or distribute water to irrigation systems or reservoirs, minimizing non-beneficial water use, reducing soil erosion, and/or reducing energy use.

Feature Measure: Length of Pipe

Scenario Unit:: Foot

Scenario Typical Size: 1320

Total Scenario Cost: \$13,289.50

Scenario Cost/Unit: \$10.07

Cost Details:

| Component Name | ID | Description | Unit | Cost | QTY | Total |
|--------------------------------------|------|--|-------|----------|------|-------------|
| Equipment Installation | | | | | | |
| Trenching, Earth, 12" x 48" | 53 | Trenching, earth, 12" wide x 48" depth, includes equipment and labor for trenching and backfilling | Foot | \$1.18 | 1320 | \$1,557.60 |
| Labor | | | | | | |
| General Labor | 231 | Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc. | Hour | \$19.35 | 24 | \$464.40 |
| Materials | | | | | | |
| Pipe, PVC, dia. < 18", weight priced | 1323 | Polyvinyl Chloride (PVC) pressure rated pipe priced by the weight of the pipe materials for pipes with diameters less than 18". Materials only. | Pound | \$1.94 | 5699 | \$11,056.06 |
| Mobilization | | | | | | |
| Mobilization, medium equipment | 1139 | Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds. | Each | \$211.44 | 1 | \$211.44 |

Practice: 430 - Irrigation Pipeline

Scenario #9 - PVC, 12 Inch, 50 PSI or Greater

Scenario Description:

Description: Below ground installation of PVC (Plastic Irrigation Pipe) 12-inch diameter pipeline with a 50 PSI or greater operating pressure. PVC (PIP) is manufactured in sizes (nominal diameter) from 4-inch to 27-inch; typical practice sizes range from 4-inch to 24-inch; and typical scenario size is 12-inch. Construct 1/4 mile (1,320 feet) of 12-inch, SDR-51.0 PVC pipeline with appurtenances, installed below ground with a minimum of 2 feet of ground cover. The unit is weight of pipe material in pounds. 1,320 feet of 12-inch, SDR-51.0 PVC pipe weighs 5.654 lb/ft, or a total of 7,463 pounds. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material (additional 10% of pipe material quantity). Cost of appurtenances does not include flow meters or backflow preventers. Typical installation applies to soils with no special bedding requirements. Resource Concerns: Inefficient Use of Irrigation Water; Inefficient Energy Use. Associated Practices: 436 - Irrigation Reservoir; 441 - Irrigation System, Microirrigation; 442 - Irrigation System, Sprinkler; 443 - Irrigation System, Surface & Subsurface; 447 - Irrigation System, Tailwater Recovery; 533 - Pumping Plant; 634 - Waste Transfer.

Before Situation:

Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Situation:

Pipeline installed to convey and/or distribute water to irrigation systems or reservoirs, minimizing non-beneficial water use, reducing soil erosion, and/or reducing energy use.

Feature Measure: Length of Pipe

Scenario Unit:: Foot

Scenario Typical Size: 1320

Total Scenario Cost: \$20,180.44

Scenario Cost/Unit: \$15.29

Cost Details:

| Component Name | ID | Description | Unit | Cost | QTY | Total |
|--------------------------------------|------|--|-------|----------|------|-------------|
| Equipment Installation | | | | | | |
| Trenching, Earth, loam, 24" x 48" | 54 | Trenching, earth, loam, 24" wide x 48" depth, includes equipment and labor for trenching and backfilling | Foot | \$2.71 | 1320 | \$3,577.20 |
| Labor | | | | | | |
| General Labor | 231 | Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc. | Hour | \$19.35 | 24 | \$464.40 |
| Materials | | | | | | |
| Pipe, PVC, dia. < 18", weight priced | 1323 | Polyvinyl Chloride (PVC) pressure rated pipe priced by the weight of the pipe materials for pipes with diameters less than 18". Materials only. | Pound | \$1.94 | 8210 | \$15,927.40 |
| Mobilization | | | | | | |
| Mobilization, medium equipment | 1139 | Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds. | Each | \$211.44 | 1 | \$211.44 |

Practice: 430 - Irrigation Pipeline

Scenario #10 - PVC, 15 Inch or Larger, 50 PSI or Greater

Scenario Description:

Description: Below ground installation of PVC (Plastic Irrigation Pipe) 15-inch or larger diameter pipeline with a 50 PSI or greater operating pressure. PVC (PIP) is manufactured in sizes (nominal diameter) from 4-inch to 27-inch; typical practice sizes range from 4-inch to 24-inch; and typical scenario size is 15-inch. Construct 1/4 mile (1,320 feet) of 15-inch, SDR-51.0 PVC pipeline with appurtenances, installed below ground with a minimum of 2 feet of ground cover. The unit is weight of pipe material in pounds. 1,320 feet of 12-inch, SDR-51.0 PVC pipe weighs 8.874 lb/ft, or a total of 11,714 pounds. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material (additional 10% of pipe material quantity). Cost of appurtenances does not include flow meters or backflow preventers. Typical installation applies to soils with no special bedding requirements. Resource Concerns: Inefficient Use of Irrigation Water; Inefficient Energy Use. Associated Practices: 436 - Irrigation Reservoir; 441 - Irrigation System, Microirrigation; 442 - Irrigation System, Sprinkler; 443 - Irrigation System, Surface & Subsurface; 447 - Irrigation System, Tailwater Recovery; 533 - Pumping Plant; 634 - Waste Transfer.

Before Situation:

Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Situation:

Pipeline installed to convey and/or distribute water to irrigation systems or reservoirs, minimizing non-beneficial water use, reducing soil erosion, and/or reducing energy use.

Feature Measure: Length of Pipe

Scenario Unit:: Foot

Scenario Typical Size: 1320

Total Scenario Cost: \$29,249.94

Scenario Cost/Unit: \$22.16

Cost Details:

| Component Name | ID | Description | Unit | Cost | QTY | Total |
|--------------------------------------|------|--|-------|----------|-------|-------------|
| Equipment Installation | | | | | | |
| Trenching, Earth, loam, 24" x 48" | 54 | Trenching, earth, loam, 24" wide x 48" depth, includes equipment and labor for trenching and backfilling | Foot | \$2.71 | 1320 | \$3,577.20 |
| Labor | | | | | | |
| General Labor | 231 | Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc. | Hour | \$19.35 | 24 | \$464.40 |
| Materials | | | | | | |
| Pipe, PVC, dia. < 18", weight priced | 1323 | Polyvinyl Chloride (PVC) pressure rated pipe priced by the weight of the pipe materials for pipes with diameters less than 18". Materials only. | Pound | \$1.94 | 12885 | \$24,996.90 |
| Mobilization | | | | | | |
| Mobilization, medium equipment | 1139 | Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds. | Each | \$211.44 | 1 | \$211.44 |