

**SECTION 02501  
TRENCH SURFACE RESTORATION**

**PART 1: GENERAL**

1.1 SCOPE

- A) This section includes all surface restoration and related work for the construction of the designated pipelines and other work as required for the completion of the project.
- B) Surface restoration includes, but is not limited to, the following:
  - 1) Restoration of all surfaces disturbed during construction including asphalt concrete (AC) pavement, concrete, gravel, lawns, topsoil, trees, shrubbery, flowers, fences, mailboxes, signs, landscaping, etc.
  - 2) Surfaces shall be restored in-kind unless otherwise shown on the drawings or directed by the Engineer.
  - 3) Maintenance of all surfaces until final surface restoration is completed. Temporary AC pavement cold patching may be required for all street crossings which are not permanently restored within seven (7) days of excavation depending on the permit requirements of governing agency.
  - 4) Depth, type and compaction of materials shall be equal to original surfaces unless otherwise specified herein or shown on the drawings.

1.2 CLASSIFICATIONS

- A) Class A: Asphalt concrete pavement restoration for State Highway, County Roads or City streets, whichever is the governing agency in the area of the work. Also asphalt concrete driveways.
- B) Class B: Gravel Road restoration.
- C) Class C: Gravel shoulder restoration including graveled driveways.
- D) Class D: Concrete driveways, sidewalks, curbs and gutter restoration.
- E) Class E: Unimproved or open areas restoration.

## **PART 2: PRODUCTS**

### 2.1 AGGREGATE BASE COURSE MATERIAL (ROAD BASE)

- A) Aggregate Base Course Material or Road Base used for surface restoration shall be material meeting the requirements of the Colorado Department of Transportation (CDOT), Mesa County or the City of Grand Junction, whichever is the governing agency in the area of the work.

### 2.2 TOPSOIL

- A) Native topsoil shall be removed and stockpiled to be used for topsoil replacement when possible. Where imported topsoil is required, it shall be clean sandy loam, free from sulfates or alkali.
- B) Depth of topsoil shall be determined by actual existing field conditions or as directed by the Engineer.

### 2.3 ASPHALT CONCRETE (AC) PAVEMENT

- A) AC pavement shall conform to the requirements of CDOT, Mesa County or the City of Grand Junction, whichever is the governing agency in the area of the work.

### 2.4 PORTLAND CEMENT CONCRETE

- A) All concrete shall conform to the requirements of CDOT, Mesa County or the City of Grand Junction, whichever is the governing agency in the area of the work.

### 2.5 GRASS SEED AND MULCH

- A) Grass seed and mulch shall conform to the requirements of CDOT, Mesa County or the City of Grand Junction, whichever is the governing agency in the area of the planting, except as modified herein.
- B) Seed mixtures shall be compatible with the immediately surrounding vegetation.
- C) Seed mix to be approved by the Engineer prior to application.

## 2.6 GRASS SOD

- A) Grass sod shall be certified nursery grade cultivated grass sod with a strong fibrous root system, free of stones and burned or bare spots, and compatible with the immediately surrounding grass.

## **PART 3. EXECUTION**

### 3.1 GENERAL

- A) The intent of this specification is that cleanup activities and surface restoration work immediately follow the installation of pipe, construction of structures, etc. This is imperative so as to impact activities by the property owner, or other users, as little as possible.
- B) Trench backfill and subgrade shall meet compaction requirements as set forth in the applicable sections contained herein prior to proceeding with surface restoration work.
- C) All workmanship for AC pavement surface restoration shall conform to the standard requirements of CDOT, Mesa County or the City of Grand Junction, whichever is the governing agency and in accordance with the project permit requirements for Asphalt Concrete Pavement replacement and patching.
- D) The Contractor shall notify the Engineer a minimum of 24 hours in advance of performing any AC pavement surface restoration work. No AC pavement surface restoration work shall be performed when weather conditions, in the Engineers opinion, are not suitable for placement of AC pavement.
- E) All workmanship for concrete restoration shall conform to the standard requirements of CDOT, Mesa County or the City of Grand Junction.
- F) In areas designated for Class E surface restoration, topsoil shall be removed and stored at an approved location prior to excavation.

### 3.2 PROTECTION

- A) No heavy construction vehicle shall operate on any pavement, curbing or walk.
- B) Concrete Curbing and Walks:

- 1) No concrete shall be mixed, transported, placed or finished when the temperature of the base, subgrade or air is below 40°F or whenever, in the opinion of the Engineer, the temperature may fall below 40°F within twenty four (24) hours after the concrete has been placed.
- 2) The Contractor shall take such precautions as are necessary to protect newly placed concrete from rain.
- 3) The Contractor shall protect newly placed concrete from freezing for no less than seven (7) days.

3.3 CLASS A SURFACE RESTORATION - Asphalt Concrete Pavement and Driveways

- A) Asphalt concrete pavement restoration shall conform to all standards and requirements of the Colorado Department of Highways (CDOT), Mesa County or City, whichever is the governing agency in the area of the work.
- B) The wearing course shall match the existing pavement in thickness, line and grade but in no case shall the pavement thickness be less than three (3) inches placed in two (2) lifts.

3.4 CLASS B SURFACE RESTORATION - Gravel Roads

- A) Surface restoration shall conform to all standards and requirements of Mesa County or City, whichever is the governing agency in the area of the work.
- B) The wearing course shall match the existing road surface in thickness, line and grade, but in no case shall the gravel thickness be less than four (4) inches.

3.5 CLASS C SURFACE RESTORATION - Gravel Shoulders and Driveways

- A) Gravel shoulder restoration shall conform to all standards and requirements of the Colorado Department of Highways (CDOT), Mesa County or City, whichever is the governing agency in the area of the work.
- B) Gravel driveway restoration shall conform to the same requirements as gravel shoulder restoration or as directed by the Engineer. The gravel thickness shall not be less than six (6) inches.
- C) Gravel shoulders and driveways shall be compacted by mechanical means to ninety five percent (95%) of the maximum dry density per AASHTO T-180 unless otherwise directed by the Engineer.

3.6 CLASS D SURFACE RESTORATION - Concrete Driveways, Walks, Curb and Gutter

- A) Concrete driveways, sidewalks, curb and gutter restoration shall conform to all standards or requirements of the Colorado Department of Highways (CDOT), Mesa County or City, whichever is the governing agency in the area of the work.
- B) Concrete surface restoration shall also conform to drawing details and specifications, Paragraph 3.08, contained herein. Where there is a difference between the agencies requirements and these specifications, the most stringent requirement shall take precedence.
- C) The supporting aggregate base course shall be not less than six (6) inches thick and shall be compacted by means of mechanical compaction to ninety five percent (95%) of the maximum dry density per AASHTO T-180.

3.7 CLASS E SURFACE RESTORATION - Unimproved or Open Areas

- A) Surface restoration shall conform to all standards and requirements of the governing agency.
- B) Surface restoration shall also conform to drawing details and specifications contained herein.
- C) Compact to density of existing in place materials by mechanical means unless otherwise directed by the Engineer.
- D) Contractor shall replace trees, shrubbery, flowers, ground cover in kind to match existing as approved by the Engineer.
- E) Re-Seeding:
  - 1) All areas to be seeded shall be made substantially clear and free of weeds, briars, sticks, loose stones greater than 1-inch, and all other debris detrimental or toxic to the growth of grass.
  - 2) The surface soil in all areas to be seeded shall be in a condition favorable for the germination and growth of grass seed. A minimum of 1/2-inch and maximum of 1-1/2 inches of surface soil shall be in a loose condition.
  - 3) Soil preparation operations shall be directional along the contours of the areas involved.

- 4) Seed shall be applied at a time approved by the Engineer when conditions are favorable for germination.

F) Re-Sodding:

- 1) Provide a finish grade such that the top of installed and fresh-cut mature grass will be level with all adjoining sidewalks and curbs. Add or remove topsoil as necessary to achieve proper finish grade.
- 2) All areas to be sodded shall be made substantially clear and free of weeds, briars, sticks, loose stones greater than 1-inch, and all other debris detrimental or toxic to the growth of grass.
- 3) The surface soil in all areas to be sodded shall be in a condition favorable for the growth of grass. A minimum of 1/2-inch and maximum of 1-1/2 inches of surface soil shall be in a loose condition.
- 4) Lay sod perpendicular to direction of slope with alternating joints. Fit sod pieces tightly together: no joints and overlapping; hand tamp firmly and evenly.
- 5) Top dress lightly with topsoil to fill depressions and joints between strips; leave finished sodding smooth and free of lumps and depressions.
- 6) Roll sod to ensure the root system is bound to the soil.
- 7) Sod shall be applied at a time approved by the Engineer when conditions are favorable for growth.

3.8 CONCRETE CURBING, WALKS AND DRIVEWAYS

- A) All soil subgrade under driveways, curbs, curb and gutter and walks shall be compacted in accordance with the requirements of the applicable sections contained herein.
- B) All curbs, sidewalks and driveways shall conform to the lines, grades and thicknesses of existing structures, but in no case shall the thickness be less than sixteen (16) inches for Type "C" curbs, four (4) inches for sidewalks, and six (6) inches for driveways and driveway aprons.
- C) A minimum 6-inches of 3/4-inch aggregate base course and granular material leveling course shall be provided under all curbs, sidewalks and driveways.

- D) Unless otherwise authorized by the Engineer, sidewalks and/or curbs shall be constructed to match the joint pattern of the existing and surrounding sidewalks and/or curbs.

## **PART 4: SPECIAL PROVISIONS**

### 4.1 MEASUREMENT AND PAYMENT

- A) When not listed in the Proposal, all "SURFACE RESTORATION" costs will be considered incidental work for which no separate payment will be made.
- B) When listed in the Proposal, payment for work specified under this section to be made at the units and prices named in the Proposal for each class of surface restoration, complete and acceptable to the Engineer.
- C) Length to be measured horizontally along center line of the trench to the nearest foot without deducting for structures, valves, etc.
- D) Restoration of concrete curbing and walks shall be considered incidental to the restoration of the street to which it is adjacent unless otherwise listed in the proposal.
- E) Cutting of AC pavement costs, when not listed in the Proposal, will be considered incidental work for which no separate payment will be made. However, in no case will payment be made for duplicate cuts where over-excavation, inadequate backfill compaction or less than prompt repaving results in the need for new cuts.
- F) Payment indicated to include complete compensation for all labor, equipment, materials and incidentals required for completion of the work. No additional compensation to be allowed.

END OF SECTION