



**SPECIAL PROVISION
FOR
SUBGRADE PREPARATION FOR RAILROADS**

**Black Hawk County
NHSX-218-7(207)--3H-07**

**Effective Date
November 18, 2014**

THE STANDARD SPECIFICATIONS, SERIES 2012, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SPECIAL PROVISIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

120206.01 DESCRIPTION.

The work covered by this Special Provision consists of furnishing all labor and materials and performing all operations in connection with the preparation of the subgrade to support new fill, subballast and ballast as designated in the contract documents for the railroad embankment sections.

120206.02 MATERIALS.

A. General.

Materials used for the subgrade preparation shall consist of: (1) native materials that will be scarified and compacted in place, and (2) new compacted Class 10 Fill that is used to replace unsuitable native soils up to the existing ground line prior to construction.

B. Unsuitable Materials.

1. Unsuitable materials are materials containing debris, brush, roots, sod, organic matter or stones with dimensions greater 3 inches and shall not be used in the subgrade. Frozen earth, snow, or ice shall not be used in the subgrade. A material will not be classified as unsuitable based on its moisture content.
2. Unsuitable materials are also subgrade materials that produce unacceptable performance when proofrolled as described in Paragraph 120206.03, B, 3.
3. Unsuitable materials that are removed shall be disposed of off-site.

C. Suitable Materials.

Suitable materials for subgrade preparation will include materials described in Paragraph A of this section.

120206.03 CONSTRUCTION.

A. Notifications.

The Engineer shall be notified at least 1 week prior to beginning any subgrade preparation for the railroad embankment sections. The Engineer will be on-site following the stripping of top soil and organics and prior to the commencement of proofrolling operations as described in Article 120206.03, B, 3.

B. Subgrade Preparation.

1. General.

- a. The required procedure for the subgrade preparation shall consist of the following tasks in sequential order:
 - 1) Remove topsoil and organics;
 - 2) Proofroll the subgrade with a loaded dump truck; and
 - 3) Remove and recompact areas that are unacceptable.
- b. Scarify exposed subgrade and compact in place. No construction traffic will be allowed on the subballast except those used to place this material. Traffic is permitted on the subgrade and fills placed but any damage to the subgrade is at the risk of the Contractor.
- c. Drainage control shall be maintained throughout construction.

2. Remove Topsoil and Organics

All topsoil and organics shall be completely removed within the limits of the embankment fills. The depth of stripping on the subgrade shall not exceed 6 inches unless directed by the Engineer. All slopes upon which fill is to be placed shall be notched and broken up so that the fill material will bond with the existing material.

3. Proofrolling

- a. The purpose of the proofrolling is to pre-load the exposed subgrade prior to the placement of fill and to identify the location of soft areas within the footprint area of the embankment.
- b. Proofrolling shall be completed using one pass of a fully-loaded tandem axle dump truck. Rutting from the proofrolling greater than 4 inches or the development of a mud wave shall be considered unacceptable performance as determined by the Engineer.
- c. The type and extent of the remedial action to mitigate unacceptable performance will be as determined by the Engineer and may consist of overexcavation, reconditioning, and recompaction; or overexcavation and replacement. Recompacted or replaced material shall be recompact to meet compaction and moisture requirements for Embankment Construction as described in Article 120206.03, C.

4. Scarification and Compaction of Exposed Subgrade

- a. Following the completion of the proofrolling, any remedial measures, and acceptance by the Engineer; the exposed subgrade shall be scarified to a depth of 8 inches and recompact to meet compaction and moisture requirements for Embankment Construction as described in Article 120206.03, C.
- b. All notching, scarifying, and breaking of ground surface shall be done parallel to the centerline of the embankment being constructed.
- c. The subgrade shall be approved by the Engineer prior to placement of embankment fill or geogrid.
- d. The surface of the exposed subgrade shall be smooth and free of rocks or clay lumps greater than 3 inches in maximum dimension.

5. Existing Embankments

At locations where the railroad embankment sections tie to existing earth embankments to complete the construction, such embankment surface slopes and crest shall be proofrolled,

notched, scarified and compacted as specified herein. When directed by the Engineer, such operations shall be accomplished parallel to the axis of the existing embankment.

120206.04 METHOD OF MEASUREMENT.

The quantity for Subgrade Preparation for Railroads, in square yards, will be the quantity shown in the contract documents.

120206.05 BASIS OF PAYMENT.

- A. The quantity accepted for payment, in square yards, will be paid for at the contract unit price for Subgrade Preparation for Railroads.
- B. Payment for stripping, proofrolling (excluding mitigation), drainage control, and scarification and compaction of exposed subgrades will be included in the price bid for "Subgrade Preparation for Railroads."