

**Guidance for using Standard Special Provisions:
207-Topsoil
212-Soil Amendments, Seeding, and Sodding
214-Nursery Stock Containers and Unrooted Cuttings**

The purpose of this Design Bulletin is to provide information regarding approved Standard Special Provisions (SSPs) and Stormwater Management Plan (SWMP) technical support resources available during Design. Phase agendas and worksheets are also being introduced to improve the quality assurance (inspection/verification tools) for project topsoil management, soil amendment products, and seeding procedures.

The new SSPs were developed and tested on Region pilot projects in order to implement recommended best practices that were included in the 2015 Revegetation Research and to reduce the time it takes to closeout stormwater permits on construction projects. Substitution of work items in the 207, 212 and 214 specifications will not be allowed unless submitted in writing to the Engineer and approved by the Region or Headquarters Landscape Architect to ensure that a subject matter expert is in agreement with the proposed change. Greater emphasis needs to be placed on the project field managing/inspecting for the subgrade soil preparation, topsoil, and seeding work to ensure CDOT is getting the value in the work we are paying for the first time, so it doesn't have to be redone later which costs additional money and keeps the project open longer.

Also being implemented are new worksheets for the construction phase (Seed Tag Calculation Worksheet and Seed and Amendment Quantities Worksheet) to document and track installed quantities. This information will be helpful to the Engineers and Region Water Pollution Control Managers (RWPCM) as part of the closeout of the project and handoff for the transfer of the stormwater permit. Both of these worksheets will be required to be filled out and become part of the project file.

DESIGN PHASE

Please first read the instructions for using the new 207 and 212 SSPs. Contact the CDOT Landscape Architecture Section staff with questions regarding the documents.

Download the *Instructions for Using 207 and 212 During the Development of the SWMP*, and supporting documents from the CDOT Landscape Architecture website at:

<https://www.codot.gov/programs/environmental/landscape-architecture/207-and-212-ssp-required-swmp-development-tools-1>

The following documents are available and include supporting design guidance:

- (1) Instructions for using the 207 and 212 during the development of the SWMP.
- (2) Topsoil Testing Procedure
- (3) Project Special Detail – Topsoil, Stockpile, Windrow, and Temporary Berm (PDF and DGN)
- (4) CSU Soil Testing Lab Soil Sample Form and Colorado Analytical Lab Chain of Custody form (Soil Samples)

*Note: Training to incorporate the design tools, including how to perform topsoil testing and submit for analytical test results, is being provided in the required training *CDOT SWMP Preparers Certification Course*.

207, 212 and 214 Standard Special Provisions

For the revegetation specifications, CDOT has moved away from an end-result specification (landscape establishment in Section 214) to more method-based specifications (prescriptive with materials and methods).

Revision of Section 207 - Topsoil SSP major changes

- (1) Four new ways to specify the topsoil management strategy with pay items in the Design Phase
 - A. Topsoil (Onsite) – original way of collecting onsite and redistributing topsoil
 - B. Topsoil (Wetland) – original way of collecting wetland soil onsite and redistributing
 - C. Seeding Media - new method of amending onsite subsoil as a seeding media in sensitive areas such as Forest Service ROWs
 - D. Topsoil (Offsite) - new method of importing and amending topsoil to minimum parameters
- (2) Site Pre-vegetation Conference with the Contractor and Sub-contractors to discuss requirements and site specific conditions for revegetation
- (3) Subsoil Preparation requirement to rip 14” deep to resolve compaction issues, and a testing method to verify in the field prior to placement of topsoil
- (4) Topsoil stockpiling identification and protection requirements during construction



Rev_207_Topsoil.pdf

Revision of Section 212 - Soil Amendments, Seeding, and Sodding SSP major changes

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Rev. September 25, 2020

- (1) Requirement to limit the amount of time to 30 days between when the Contractor can take possession of seed from the registered seed supplier until project use
- (2) Material requirements for two different classifications of organic fertilizer
- (3) Material requirements for two different classifications of compost
- (4) Material requirements for hydraulic applied biotic soil amendments
- (5) Material requirements and pay items for the following soil amendments: humate, mycorrhizae and elemental sulfur
- (6) Construction requirements and new pay items for the following methods of native seeding: Seeding (Native) Drill, Seeding (Native) Hydraulic, and Seeding (Native) Broadcast
- (7) Verification requirement to receive written acceptance from the Engineer on the Seed and Amendment Quantities Worksheet prior to amending the topsoil
- (8) Method to calibrate drill seeders
- (9) Material and construction requirements for temporary seeding



Rev_212_Soil_Amendments_Seeding_Soddi

Revision of Section 214 – Nursery Stock Containers and Unrooted Cuttings SSP major changes

- (1) Updates to conform to the 2014 American Standard for Nursery Stock
- (2) Incorporated requirements for deep rooted containers used by native plant commercial growers in Colorado
- (3) Clarified maintenance requirements for all projects until the Notice of Substantial Landscape Completion (included in the cost of work)
- (4) Nursery Stock Warranty Period that only applies to nursery stock (included in the cost of work)
- (5) Developed a Standard Special Provision Worksheet for extended landscape preservation with a separate pay item that will be paid for in monthly installments for projects with major landscaping component.



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CONSTRUCTION PHASE:

Download the *Instructions for Using the 207 and 212 Processes During Construction*, and supporting documents from the CDOT Landscape Architecture web page at:

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<https://www.codot.gov/programs/environmental/landscape-architecture/207-and-212-ppsp-construction-phase-tools>

The following documents are available and assist with verification of requirements during construction:

- (1) Instructions for using the 207 and 212 processes during construction
- (2) Additional agenda items for the Environmental Pre-construction Conference
- (3) Site Pre-vegetation Conference Agenda
- (4) Seed Tag Calculation Worksheet
- (5) Seed and Amendment Quantities Worksheet

More emphasis will be required for inspection of Contractor's work and monitoring the revegetation operations. This includes the new requirement for subgrade subsoil preparation that will be verified using a penetrometer to confirm that the Contractor has indeed ripped and loosened the soils to a depth of 12 inches below the surface prior to the placement of topsoil, seed, and fertilizer. In addition, the Contractor is also now required to submit a Permanent Stabilization Phasing Plan to keep equipment and vehicles from driving on the areas once the revegetation process has started. This will prevent compaction of the soils and damage to revegetation actions.

Detailed training video training on how to inspect and verify the proposed construction requirements and how to use the proposed tools during construction is under development and will be available in 2021. Please contact the Landscape Architecture Section with any questions or feedback so that we can collect data on effectiveness and need for future training.

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