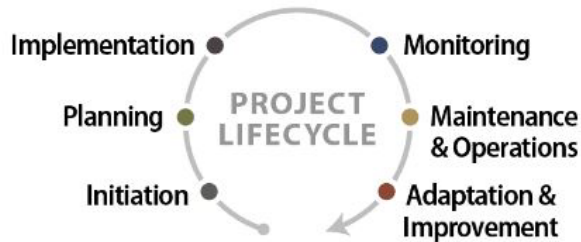


Instructions for using the 207 and 212 project standards during construction

Background:

After all of the grading and infrastructure improvements are completed (built capital), the process of amending topsoil and seeding is collectively known as “roadside revegetation,” or constructing the natural capital. When planned well, successful roadside revegetation programs support transportation goals for safety and efficiency, stabilize slopes, reinforce infrastructure, and create natural beauty and diversity along the roadside that supports pollinators while also improving the road user’s experience (FHWA Roadside Revegetation Manual). CDOT’s existing roadside revegetation process has been under evaluation for the last 4 years, starting with a research project that provided an assessment of past and active construction projects. To start evaluating the research recommendations, CDOT conducted a Pilot Program during the 2018 construction season that implemented substantial changes to roadside revegetation methods through design and construction. The Landscape Architecture Section is now ready to apply the latest version of the roadside revegetation best practices as standards. Proposed processes are still under evaluation, and feedback would be appreciated regarding the documents.



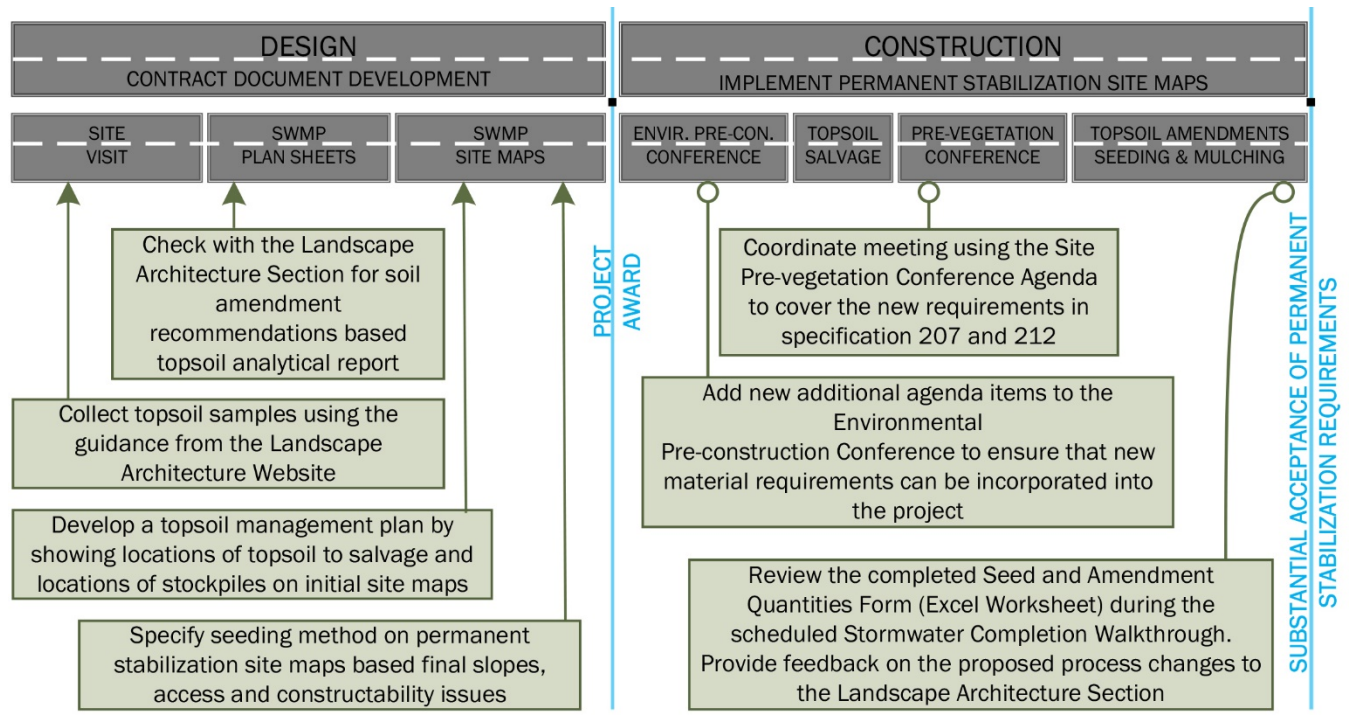
Recommended Integrated Approach to Improve Roadside Revegetation by FHWA

Application of this Guidance:

These instructions will provide the overall directions for using the additional tools. The Landscape Architecture Section staff would be interested in observing projects to complete Inspector/Engineer-in-Charge training.



Project Delivery Timeline



CONSTRUCTION PHASE: Tools and Options

The shift from the design phase to the construction phase involves personnel changes and a more adaptive approach to complete the work. The SWMP Permanent Stabilization Plan Sheets and Site Maps (revegetation plan) are implemented in the construction phase: materials are obtained, topsoil is improved and seeding takes place. Revegetation includes topsoil management (salvage, stockpiling and placement), soil conditioning, seeding methods and affixing final mulch cover (straw/hay, hydraulic mulches or soil retention blankets). Please download the following documents to be used during construction from the Landscape Architecture web page.

1. *Additional agenda items for the Environmental Pre-Construction Conference*
2. *Site Pre-vegetation Conference Agenda*
3. *Seed Tag Calculation Worksheet*
4. *Seed and Amendment Quantities Form*

Step 1 – Environmental Pre-Construction Conference

To successfully complete the roadside revegetation the specifications requires two main meetings involving representatives from the agency, award winning contractor along with other stakeholders. The first meeting is the Environmental Pre-Construction Conference.



To improve the communication regarding the revegetation requirements, use the downloaded agenda items. This meeting is coordinated by the Regional Water Pollution Control Manager (RWPCM), but if the region's Revegetation Subject Matter Expert (RSME) is a different individual they should also attend for learning and contributing input as the project progresses.

Step 2- Site Pre-Vegetation Conference

The second main progress meeting required from specification 207.03 is referred to as the Site Pre-Vegetation Conference, scheduled by the Engineer-in-Charge. The Regional Landscape Architect or RSME should conduct the meeting using the conference agenda provided. It is critical that this meeting be conducted just prior to the start of the required subgrade soil preparation, in order to effectively communicate contract revegetation requirements to the subcontractor. Previous experience from the pilot projects has determined that a meeting length of 2-3 hours is needed to address all questions from grading and revegetation contractors, inspectors and other stakeholders.

Step 3- Seed Tag Calculation Worksheet

An Excel worksheet has been developed to calculate the amount of pure live seed (PLS) is in each sealed seed bag and the amount of bulk seed required for each of the seeding phase, based on the SWMP Seed Plan requirements. The worksheet is intended to be completed by the Engineer-In-Charge and/or the inspector to assist with verifying the correct amount of seed to use. The tool was designed to incorporate the information provided on a standard seed tag, and to be used repeatedly to handle multiple phases of the permanent stabilization improvements. Detailed instructions on how to use the Seed Tag Calculation Worksheet is on the first tab of the worksheet.

Step 4- Verification of Quantities

An Excel form has been developed to track product approvals and to calculate topsoil amendment and final mulch covering quantities for each of the seeding phases, based on the SWMP requirements. The form is intended to be completed by the Engineer-In-Charge and/or the inspector as material is delivered and installed on the project. The tool was designed to incorporate all new requirements of the specifications and SWMP designer's options, and to be used repeatedly to handle multiple phases of the permanent stabilization improvements. Detailed instructions on how to use the Seed and Amendment Quantities Form is on the first tab of the worksheet. The completed form will be reviewed by the Regional Revegetation Subject Matter Expert during Stormwater Completion Walkthrough.

For assistance with any of these documents, please contact:

Pam Cornelisse Landscape Architecture Section	Greg Fischer Landscape Architect 720-253-2936 greg.fischer@state.co.us	Susan Suddjian Landscape Specialist 303-757-9481 susan.suddjian@state.co.us
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