Project Sub Acct. No: 19478

July 31, 2014

**Technical Requirements** 

### Section 17 – Landscaping

### **Design Requirements**

### Landscape Plan

The Contractor shall prepare a Landscape Plan for all existing plant material in all disturbed areas on the Project. The Landscape Plan shall address both temporary and permanent work. The Landscape Plan shall include the areas to be final seeded and the locations, mitigations, removals, and replacements of Project-impacted trees, shrubs, landscapes and irrigation.

The Landscaping Plan shall be required for any area of the Work where construction disturbance occurs including permanent Right-of-Way (ROW), temporary easements, staging, haul road, locations of borrow, or other areas that are disturbed as part of the Project or Work.

The Landscape Plan shall identify the locations of protected areas. The Contractor shall save, protect, and maintain all existing vegetation in the Project except for the vegetation that must be removed to accommodate construction of the Project. All construction operations shall be performed in such a manner that will avoid these protected areas.

The Landscape Plan shall be developed in conjunction with erosion control requirements, as defined in, Section 12 Drainage, of the Contract. The Landscape Plan shall be phased to promote the protection of existing vegetation and working-an-area-to-completion for final stabilization.

The Landscape Plan shall document the vegetation location and identification. This shall include species, location, condition, size, health, and a recommendation for remaining undisturbed, pruning, removal, transplanting, or replacement.

The Landscape Plan shall include photo documentation of the vegetation, including grass coverage for the extent of the Project limits.

The Landscape Plan shall include the proposed locations of replacement or proposed locations of transplanted vegetation within Project boundaries.

The Landscape Plan shall make recommendations for tree species based on the species and conditions as outlined by the State of Colorado portion of *The Roadside Use of Native Plants*, August 2000 USDOT, FHWA publication as edited by Bonnie Harper-Lore and Maggie Wilson.

Project Sub Acct. No: 19478

July 31, 2014

**Technical Requirements** 

### Section 17 – Landscaping

All non-Colorado Senate Bill 40 (SB 40) trees removed shall be replaced within the Project boundaries on a 1:1 basis. Replacement species shall match existing except for Elms or Russian Olive species. The Contractor shall comply with Local Agency planting requirements for both size and species for trees impacted or planted on local agency property.

No plantings shall include any noxious weed species.

Replaced materials shall comply with Section 214 of the *Standard Specifications* and be equal or better to the existing materials in type and function.

Project impacted trees/shrubs within a riparian area (i.e., SB 40 trees and shrubs) shall be mitigated in accordance with Section 5, Environmental Requirements, of the Contract.

The Landscape Plan shall identify the landscape and irrigation systems impacted by the Project. The Contractor shall repair, replace, relocate, or adjust all irrigation system components on Project impacted property that are disturbed by the Work. Replaced materials shall comply with

Sections 214 and 623 of the Standard Specifications and be equal or better to the existing materials in type and function.

The Landscape Plan shall include a schedule of when Work shall take place.

A watering schedule listing the Calendar Days chosen to complete the required watering shall be included as part of the Landscape Plan to facilitate reviews by the CDOT. A field review shall be necessary as part of the Acceptance of the Landscape Plan.

The Contractor shall prepare and submit drawings and narrative as part of the Landscape Plan.

The Integrated Noxious Weed Management Plan, described in this Section 17, shall be included in the Landscape Plan.

All work shall be completed by a registered landscape architect in the State of Colorado.

#### Seeding

All disturbed areas within the Right-of-Way that are not surfaced shall be re-vegetated to replicate or enhance native vegetative communities.

Project Sub Acct. No: 19478

July 31, 2014

**Technical Requirements** 

### Section 17 – Landscaping

Slopes shall be designed to be 4:1 or flatter as typical, unless otherwise accepted as a variance by the Contractor's Engineer. Slopes steeper than 4:1 shall be constructed according to additional requirements of the Section 17 of the Contract. All areas to be seeded shall be accessible to maintenance activities as Accepted by CDOT.

Native grass seed mix shall contain low growing or slow growing, cool and warm season grass seed mix appropriate for the Colorado, Denver metropolitan area and as per CDOT's Policy Directive 503 for landscaping with native grass material. Noxious weeds and re-vegetation species that attract wildlife to the Project shall not be used. The proposed native seed mix shall be included in the Landscape Plan.

Slopes in detention facilities shall be planted with a grass mix that has been successfully implemented on other CDOT projects.

### **Integrated Noxious Weed Management**

The Contractor shall use industry standard protocol for weed management, including the development of a Integrated Noxious Weed Management Plan (INWMP) to mitigate the potential adverse effects of earth disturbance. Noxious Weeds lists from CDOT, the State of Colorado, and the Local County and City shall be used.

The INWMP shall include a component to eradicate Tamarisk on the Project. The INWMP shall also incorporate appropriate methods, such as herbicides, mechanical removal, and (potentially) biological controls. Appropriate control methods shall be selected carefully, especially in sensitive areas, such as wetlands, riparian and habitat corridors.

Noxious weeds shall be spot sprayed. In locations where spot application is not practicable, a wildlife biologist will inspect the area prior to spraying to ensure crucial habitat will not be impacted. The INWMP is further described in Book 2, Section 5 - Environmental.

## **Construction Requirements**

#### **Landscape Plan**

Once the Landscape Plan is Accepted, the Contractor shall clearly tag all existing plant material that will remain undisturbed, pruned, removed or transplanted per the Accepted Landscape Plan and prior to the start of all construction activities. The Contractor shall also conduct a landscape walkthrough with the CDOT Landscape Architect prior to the start of construction. After Acceptance of the walkthrough, plant material shall be transplanted to areas, protection installed and pruning finished, as Accepted in the Landscape Plan and walkthrough. Removals may take place over the life of the Project.

Project Sub Acct. No: 19478

July 31, 2014

**Technical Requirements** 

### Section 17 – Landscaping

### **Clearing and Work Area Limits Identification and Protection**

The Contractor shall delineate the clearing and work limits in areas adjacent to existing wetlands, trees, and significant vegetation for Acceptance by CDOT. Upon Acceptance, the Contractor shall install temporary orange fencing in these areas to identify the clearing boundary. The Contractor shall flag those trees adjacent to the boundary that are to remain in place. The Contractor shall use all appropriate care to avoid damage or removal of the flagged trees. Flagged trees that are damaged shall be replaced in-kind at the Contractor's expense. Trees that are damaged and assessed as salvageable shall be promptly repaired, pruned, wrapped, and protected from further damage at the Contractor's expense. All replacement trees and shrubs shall be native species per the State of Colorado portion of FHWA's *The Roadside Use of Native Plants*, August 2000.

The Contractor shall repair or replace in-kind all landscape material and vegetation that is disturbed by the Work. Replaced materials shall be equal or better than the existing materials in size, type and, condition. Re-vegetation plans for these areas shall be coordinated with the maintaining entity.

The Contractor shall repair, replace, relocate, or adjust all irrigation system components that are disturbed by the Work. Replaced materials shall be equal or better than the existing materials in type and function. Irrigation system modifications for these areas shall be coordinated with the maintaining entity.

#### **Protection Areas**

The Contractor shall install temporary fencing for the protection of all existing vegetation that is designated to remain undisturbed, for Acceptance by CDOT. Fencing shall be placed at twice the drip line for trees. The Contractor shall use all appropriate care to avoid damage or removal of the tagged trees. Tagged trees that are damaged shall be replaced in-kind at the Contractor's expense. Trees that are damaged and assessed as salvageable shall be promptly repaired, pruned, wrapped, and protected from further damage at the Contractor's expense.

Construction activities, such as earth disturbance, storage, staging, or parking inside the drip line shall be prohibited. No chemicals shall be applied or used around or near these areas that would be detrimental to vegetation health.

The Contractor shall immediately report damage to any tree within the Work area designated to remain undisturbed, to CDOT, for assessment of the damage and survivability. Trees that are damaged which, at the sole discretion of CDOT, are determined will not survive, shall be replaced at the Contractor's expense. Trees that are damaged and are assessed as salvageable shall be promptly repaired, pruned, wrapped, and protected from further damage at the Contractor's expense.

Project Sub Acct. No: 19478

July 31, 2014

**Technical Requirements** 

## Section 17 – Landscaping

Irrigated areas to remain shall be designated in the Landscape Plan and secured to prevent access for parking, staging, or other related Work elements, to ensure there is no damage to the system.

#### **Trees and Shrubs**

#### Removal of Trees and Shrubs

Tree stumps within the roadway prism or within 10 feet of the edges of roadway pavements shall be completely removed and disposed of off the Project Site. All other tree stumps within the Project shall be ground 3 feet below finished grade.

All trees or shrubs removed from the Project shall become the property of the Contractor and shall be completely disposed of off-Site by the Contractor.

#### **Tree and Shrub Transplanting**

The Contractor shall transplant trees and shrubs impacted in existing landscaped areas to adjacent landscaped areas, if requested by CDOT. The Contractor shall coordinate with the CDOT and maintainers of existing landscaped areas to determine if transplanting trees or shrubs is desired. Transplanted trees and shrubs will not be subject to the warranty applicable to newly planted material. Trees and shrubs not transplanted shall be replaced on a 1:1 basis in adjacent landscape areas.

#### **Pruning**

The Contractor shall have all root and branch pruning that interfere with the Work completed by a licensed and certified tree surgeon. All Work shall be in accordance with American National Standard Institute – ANSI A300-1995, Section 5.3.3.2.

Root Pruning: Tree roots 2 inches or greater in diameter shall not be removed. The Contractor shall not prune roots at a depth greater than the excavation.

Branch Pruning: The Contractor may prune branches that will interfere with the Work per the Approved Landscape Plan.

The Contractor shall remove weak or dead branches on trees that are to remain within the ROW.

Project Sub Acct. No: 19478

July 31, 2014

**Technical Requirements** 

## Section 17 - Landscaping

#### Removal

All trees and shrubs removed from the Project shall be completely disposed of off Site by the Contractor.

Tree stumps within the roadway prism and 10 feet of the edges of roadway pavements shall be completely removed and disposed of off the Project Site. All other tree stumps within the Project shall be ground to a depth of 3 feet below the finished surface.

#### **Transplanting**

Transplanting shall not take place in those times where it is detrimental to the plants health. Evergreen species shall not be transplanted in the fall. All transplanted plant material shall receive wood chip mulch per *M-Standard* M-214-1 and Section 213 Mulch of the *Standard Specifications*.

#### **Replacement Plant Material**

The Contractor shall provide the following minimum tree sizes for trees to be planted or provided as part of the Work:

Deciduous trees:
 Evergreen trees:
 feet in height

3. Deciduous shrubs:4. Evergreen shrubs:5 gallon

All trees shall be balled and burlapped in accordance with M-Standard M-214-1 and Section 214 of the Standard Specifications. The Contractor shall be responsible for delivery and storage of trees per Section 214 of the Standard Specifications. Trees shall be protected from damage and deterioration during delivery and storage.

Trees will not be Accepted if the ball of earth surrounding the roots is cracked or broken during delivery and planting. Plants that have been cut back from a larger size to meet specifications (not the specified size), were improperly pruned, or have disease or insect infestation, shall not be Accepted.

All replacement tree/shrubs shall receive wood chip mulch per M-Standard M-214-1 and Section 213 Mulch of the Standard Specifications.

Project Sub Acct. No: 19478

July 31, 2014

**Technical Requirements** 

### Section 17 – Landscaping

#### Staking and Watering

New replacement and transplanted trees shall be guyed in accordance with M-Standard Plans M-214-1 and Section 214 of the Standard Specifications. Trees shall be staked for two growing seasons. Guying material shall be removed at completion of the establishment period by the Contractor. Plants should be fully established at the end of three years.

The Contractor shall water new, transplanted, and protected trees on the Project until the Project has completed the establishment period. The Contractor shall water the plant material once a week at the rate of 50 gallons per tree per watering for the months May through October, and shall be watered twice per month at the rate of 70 gallons per tree for the months November through April, or as needed.

#### Topsoil

All topsoil, either imported or salvaged on Site, shall be treated with an herbicide for noxious weeds prior to final seeding.

### Seeding

Placement of soil conditioner, topsoil, seeding, mulching (weed free), and mulch tackifier (or soil retention blanket) shall not be done in a single operation, but shall be completed immediately following each area that is to final grade per Standard Specifications 101, 107, and 208.

Fertilizer shall not be used adjacent to wetlands and waterways.

Seeding shall be drilled .25-inch to .5-inch into the soil. In small areas not accessible to drill, the Contractor shall hand-broadcast the seed at double the rate and rake into the soil .25-inch to .5-inch per Section 212 of the Standard Specifications.

Hydro mulching is an acceptable method of stabilization. Hydro seeding shall only be allowed as Accepted by the CDOT landscape architect. Hydro seeding and hydro mulching shall not be done in the same operation

All native seeding areas shall be mulched and mechanically crimped with weed free hay per Section 213 of the Standard Specifications.

Soil retention blanket shall be used for slopes steeper than 4:1. If soil retention blanket is used, mulching (weed free) and mulch tackifier are not required. Turf reinforcement mats shall be used in swales steeper than 2%. Soil retention blankets shall be per Section 216 of the Standard Special Provisions.

Project Sub Acct. No: 19478

July 31, 2014

**Technical Requirements** 

## Section 17 – Landscaping

The Contractor shall place native seed, mulch (weed free), and mulch tackifier after each construction phase and prior to any winter shutdown Work.

Native seed areas shall contain a minimum of 90 percent grass species and no noxious weeds. Native seed areas shall have 80 percent coverage prior to Project Final Acceptance. Any native seed areas having poor germination (less than 80 percent coverage) shall be reseeded until establishment is reached. No bare spots greater than 6 feet by 6 feet shall be accepted.

## Landscaping Inspection, Establishment, Acceptance, and Warranty Period

#### **Interim Landscape Inspections**

The following inspection points shall be completed and the Work shall meet the requirements of the Contract Documents prior to proceeding:

- 1. Completion of the subgrade preparation
- 2. Completion of finished grade preparation
- 3. Layout of planting beds
- 4. Layout of all plant materials
- 5. Completion of irrigation systems
- 6. Completion of planting operations

Nonconforming Work shall be replaced or repaired promptly by the Contractor at its own expense. When damage endangers public safety, or traffic, remedial action shall be taken immediately to ensure safety and prevent further disruption of traffic.

### **Substantial Landscape Completion**

Substantial Landscape Completion is defined as when all plant materials have been planted and all irrigation items are completed in compliance with the requirements of the Contract Documents. Plants shall be healthy and in flourishing condition and be free of dying branches and branch tips, and shall bear foliage of normal density, size, and color. All mulch beds shall be completely mulched.

Prior to Substantial Landscape Completion, a landscape inspection shall be held with CDOT to determine Acceptance of plant material, seeding areas, and irrigation systems. Upon Acceptance CDOT will issue a "Notice of Substantial Landscape Completion."

Project Sub Acct. No: 19478

July 31, 2014

**Technical Requirements** 

### Section 17 – Landscaping

#### **Landscape Establishment**

The Landscape Establishment Period will commence at Project Final Acceptance which will be contingent upon receipt of a written "Notice of Substantial Landscape Completion" from CDOT in accordance with the requirements of Section 214 of the Standard Specifications and herein. The Landscape Establishment Period will last for 12 months, and will begin the following spring if Project Final Acceptance is issued in the fall.

All landscape installations shall be completely maintained by the Contractor during the Landscape Establishment Period. The Contractor shall submit a detailed Landscape Maintenance Plan in accordance with the requirements of Section 214 of the Standard Specifications and prior to requesting Project Final Acceptance. CDOT will inspect the landscape installations on at least a monthly basis to determine the acceptability of the maintenance Work. Non-conforming maintenance will be brought up to acceptable levels within 5 Days of receipt of notice of maintenance deficiencies.

#### **Landscape Acceptance**

Upon completion of the Landscape Establishment Period, at the Contractor's request, CDOT will inspect the landscaping to determine compliance to the requirements of the Contract Documents. All landscape installations shall be fully established, weed-free, clean, smooth, properly graded, and without plant mortality to be Accepted. The Landscape Establishment Period and Contractor maintenance will terminate after Landscape Acceptance is reached. Should CDOT identify any areas of Nonconforming Work, the Contractor shall correct the deficiencies and extend the Landscape Establishment Period for a minimum of one additional growing season at no additional cost to the Project. If Landscape Acceptance occurs in the fall, the Contractor shall continue to maintain the landscaped area (including irrigation system) until the following spring. Any dead plant material or any damaged irrigation components shall be replaced or repaired at no additional cost to the Project. The Contractor shall perform a spring startup on the irrigation system, at no additional cost to the Project, ensuring all irrigation components are in working order.

### **Landscape Warranty Period**

All trees, shrubs, and ground covers shall be completely warranted by the Contractor for one calendar year from the date of Landscape Acceptance. Any plant material deemed deficient following this one-year warranty period shall be replaced in-kind by the Contractor at no additional cost to the Project, and shall be warranted for one additional year by the Contractor. Any additional one-year warranty period beyond the initial one-year warranty period will be considered an extended warranty period. Another inspection will be conducted at the request of the Contractor at the end of the extended warranty period to determine Acceptance or rejection.

Project Sub Acct. No: 19478

July 31, 2014

**Technical Requirements** 

### Section 17 – Landscaping

If access to a completed landscaped area is required by the Contractor after Landscape Acceptance, landscape materials will be considered existing and shall be protected in accordance with the requirements of the Contract Documents.

Trees or shrubs transplanted at CDOT's direction are not required to be warranted.

## **Project Special Provisions**

The following specifications modify and take precedence over the CDOT *Standard Specifications*.

REVISION OF SECTION 107 - PROTECTION OF EXISTING VEGETATION

Section 107 of the Standard Specifications is hereby revised for this Project as follows:

Subsection 107.12 shall include the following:

The Contractor shall save all existing vegetation (including trees, shrubs, ground covers, grasses, wetlands & riparian) in this area, except for that vegetation, which must be removed to accommodate construction of the Project, per the plans. Specific areas of vegetation to be protected shall be as directed by the Engineer and shall be protected by using orange construction fencing, wire fencing with metal posts or silt fence. Fencing for trees shall be installed at the drip line of the tree or as approved by the Engineer. Equipment shall not be installed or stockpile material placed within 15 feet of existing trees to remain.

The Contractor shall perform all the work in such a manner that the least environmental damage will result. All questionable areas or items shall be brought to the attention of the Engineer for approval prior to removal or any damaging activity.

The Contractor shall promptly report any vegetation damaged or scarred during construction to the Engineer for assessment of damages. Damaged or destroyed fenced vegetation, shall be replaced at the expense of the Contractor. Vegetation of replaceable size shall be replaced at the Contractor's expense. When trees, shrubs beyond replaceable size or wetlands have been damaged or destroyed, the Contractor shall be liable for the appraised value based upon the official current publications. For trees and shrubs use the International Society of Arboriculture, Guide for Plant Appraisals. The Contractor shall pay any fines or jail time should a wetland be damaged, at no cost to the Project. The value of disturbed vegetation shall be calculated according to the following formula:

(Vegetation size) x (Species) x (Location) x (Condition) x (Arborist or Wetland Specialist) = Vegetation value

Project Sub Acct. No: 19478

July 31, 2014

**Technical Requirements** 

### Section 17 – Landscaping

A consulting Arborist retained by the Department will determine the value of the trees and shrubs. A consulting Wetland Specialist shall determine the value of the wetland or wetland species. This value will be deducted from any money due to the Contractor.

The determination as to whether a plant is of replacement size or beyond will be made by the CDOT Landscape Architect or Wetland Specialist.

If the fence is knocked down or destroyed by the Contractor, the Engineer will suspend the work, wholly or in part, until the fence is repaired to the Engineer's satisfaction at the Contractor's expense. Time lost due to such suspension will not be considered a basis for adjustment of time charges, but will be charged as contract time.

#### **REVISION OF SECTION 202 - REMOVAL AND TRIMMING OF TREES**

Section 202 of the Standard Specifications is hereby revised for this Project as follows:

Subsection 202.02 shall include the following:

This work includes the removal and the trimming of trees as directed by the Engineer. This work includes the preservation from injury or defacement of all vegetation and objects designated to remain.

The Engineer will establish environmental limits. All trees, shrubs, plants, grasses, and other vegetative materials shall remain, except as designated by the Engineer.

Prior to beginning any Bridge construction, removal, trimming, and pruning of encroaching vegetation (as determined by the Engineer) shall be completed.

Once all directed clearing, trimming, and pruning is completed and accepted, no additional clearing, trimming, cutting, or pruning will be allowed unless approved, in writing, by the Engineer.

This work shall be done by a Contractor or subcontractor who is a qualified tree surgeon and a member of the National Arborist Association. The firm's or individual's name and qualifications shall be submitted at the preconstruction conference for the Engineer's approval. A list of references and other clients shall be included with the qualifications statement. A written description of work methods and time schedules shall be submitted and approved in writing by the Engineer prior to work commencing.

Access for the removal or pruning of trees will be extremely limited. Trees shall be felled at the risk of the Contractor. Strict limits of disturbance will be defined and shall be adhered to.

Project Sub Acct. No: 19478

July 31, 2014

**Technical Requirements** 

## **Section 17 – Landscaping**

Branches on trees or shrubs shall be removed as directed by the Engineer. All trimming shall be done by skilled workmen. All work shall be done according to the following requirements:

- 1. Pruning shall be done with proper, sharp, clean tools in such a manner as to preserve the natural character of the tree.
- 2. All final cuts shall leave no projections on or off the branch and shall not be cut so close as to eliminate the branch collar.
- 3. To avoid bark stripping, all branches 50 mm (2 inches) in diameter and larger shall be cut using the 3-cut method. These branches shall be lowered to the ground by proper ropes.
- 4. Tools used on trees known or found to be diseased, shall be disinfected with alcohol before they are used on other trees.
- 5. Structural weaknesses, decayed trunk or branches, or split crotches shall be reported to the Engineer.
- 6. When cutting back or topping trees, the Contractor shall use the drop-crotch method and avoid cutting back to small suckers. Smaller limbs and twigs shall be removed in such a manner so as to leave the foliage pattern evenly distributed.
- 7. When reducing size (cut back or topping) not more than one-third of the total area shall be reduced at a single operation.
- 8. Climbing spikes shall not be used on trees not scheduled for removal.

All brush, branches, limbs, and foliage smaller than 75 mm (3 inches) in diameter shall be chipped into mulch and stockpiled at a designated site. The trunks and limbs 75 mm (3 inches) and larger shall be cut into less than 2 m (6 foot) lengths and hauled to a designated site. Stumps shall be left no higher than 0.5 m (2 feet) above the ground surface and shall not be removed when within the areas to be excavated. When trees being cut off are outside the excavation limits, the stumps shall be cut so that no more than 75 mm (3 inches) remains above the ground surface. Stump grinding is not required in any circumstances.

Subsection 202.12 shall include the following:

Chipping, stockpiling mulch, and hauling and stockpiling trunks and limbs will not be paid for separately but shall be included in the work. Removal of trees less than 75 mm (3 inches) in diameter will not be paid for separately but shall be included in the work.

All clearing and grubbing directed by the Engineer will be paid for as lump sum under the clearing and grubbing item.

Project Sub Acct. No: 19478

July 31, 2014

**Technical Requirements** 

### Section 17 – Landscaping

REVISION OF SECTIONS 207 AND 212 - TOPSOIL

Sections 207 and 212 of the Standard Specification are hereby revised for this Project as follows:

Subsection 207.01 shall include the following:

This Work includes importing or salvaging on site topsoil that is to be placed on disturbed areas within the Project.

Subsection 207.02 shall include the following:

The source of topsoil for this Project is undesignated. This imported topsoil is subject to Acceptance by CDOT before use. The Contractor shall submit a 1 pound sample of the product four (4) weeks before its use on the Project Site for the Acceptance. The Contractor may salvage existing on site topsoil and/or import topsoil and/or prepare soil using soil preparation. If imported topsoil is used the Contractor shall submit a written notice to CDOT at least 30 days before hauling soil to the site. The Contractor shall supply a sample of the topsoil to Colorado State University Testing Laboratory for analysis. A Certificate of Compliance shall be submitted to the Engineer and to CDOT to verify the organic matter content, pH, sodium absorption ratio, electrical conductivity, and nutrient requirements.

Contractor supplied topsoil shall meet the following criteria:

Property	Minimum Value	Maximum Value
pH	6.5	7.8
Sodium Absorption Ratio	-	10.0
Salts (electrical conductivity)	-	4.0 mmhos/cm
Organic matter	3.0%	10%

The area where imported topsoil is excavated and/or stored shall be free of noxious weeds. Topsoil shall contain the following minimum ammonium DPTA (chelate) extractable nutrients (the extracting solution used by CSU Soil Testing Laboratory).

Project Sub Acct. No: 19478

July 31, 2014

**Technical Requirements** 

## Section 17 – Landscaping

Nitrogen	5 ppm air dried basis
Phosphorus	5 ppm
Potassium	30 ppm
Iron (Fe)	5 ppm

Topsoil shall not include any minerals or elements detrimental to plant growth. All rocks and debris larger than 4 inches in diameter, that are visible after topsoil is spread, shall be removed and disposed of in an appropriate manner on the Project site.

At the Contractor's option soil preparation as described below may be used instead of topsoil.

#### **REVISION OF SECTION 212 - ORGANIC AMMENDMENT**

Subsection 212.01 shall include the following:

The Work shall consist of incorporation of an organic amendment into the top 6 inches of the soil to be seeded.

Subsection 212.03 shall include the following:

All seeded areas shall be amended with composted organic amendment as shown on the plans, which shall be tilled or ripped, to a depth of 6 inches into the soil. After ripping, remove all debris such as concrete, rocks (greater than 3 inches in diameter), and other deleterious or undesirable material from the area.

Project Sub Acct. No: 19478

July 31, 2014

**Technical Requirements** 

# Section 17 - Landscaping

### **Deliverables**

The Contractor shall submit the following to the CDOT for review, Approval, and/or Acceptance:

Deliverable	Review, Acceptance,	Schedule
	or Approval	
Landscape Plan	Acceptance	Prior to construction
Landscape walkthrough and installation of temporary fencing for the protection of all existing vegetation that is designated to remain undisturbed	Acceptance	After tagging all existing plant material according to the Landscape Plan and prior to construction
Notification of use of imported topsoil	Approval	At least 30 Days prior to hauling topsoil to the site
A 1-pound sample and Certificate of Compliance for imported topsoil and 2-pound sample of organic soil amendments and Certification of Compliance	Acceptance	Four (4) weeks before its use on the Project Site
Hydro seeding	Acceptance	Four (4) weeks before its use on the Project Site
Noxious Weed Management Plan	Acceptance	As included in the Landscape Plan within 60 Days after NTP
Substantial Landscape Completion	Acceptance	Prior to Substantial Landscape Completion, a landscape inspection shall be held with CDOT to determine Acceptance of plant material, seeding areas, and irrigation systems. Upon Acceptance CDOT will issue a "Notice of Substantial Landscape Completion."
Landscape Maintenance Plan	Acceptance	In accordance with the requirements of Section 214 of the Standard Specifications and prior to requesting Project Final Acceptance
Landscape Acceptance	Acceptance	According to requirements of Section 17