Innovative Revegetation Construction Site Revegetation QC Visits

Project: Urban Metro Area

Site Visit Date: 6/6/2014

Process	Control Items	Yes (1)/No(0)	Verification Point (V)	Specification	Remarks
Contract					Second visit due to snow conditions on 3/18/2014
Seed	Seed type selected applicable to site environment	1		NR	Revised by CDOT Landscaper
	Seed type and amount of PLS required stated	1	V	212.02	30 #/acre
	Type and application rate of mulch specified	1	V	213.01	1.5 as per SWMP
	CDOT formula used to calculate pounds PLS	0		212.02	No documentation
	Fertilizer and conditioner type and application rate specified	1	V	212.06	As per SWMP
	Seed application rates identified	1		212.06	As per SWMP
	Native seed to ecozone selected	1	V	NR	
Reclamation Planning	Stormwater Management Plan contain seed mixture information	1		SWMP	
	Contractor develops detailed Revegetation Plan	0	V	NR	
	Contractor and CDOT discuss revegetation at Pre-Construction Meeting	0	V	NR	
	Contractor and CDOT Landscape Architect/WQCM meet on site prior to seeding	0	V	NR	
	Percent Vegetative Cover Evaluation performed before any ground disturbance	0	V	SWMP	Photo documentation not adequate from car
Top Soil Management	Stored top soil free of subsoil, refuse, stumps, woody roots, rocks, noxious weeds	1		207.02	
	Wetland topsoil identified in plans for excavation	NA		207.02	Some imported soil
	Wetland topsoil excavated to maximum depth of 12 inches and placed within specified area	NA			
	Depth of topsoil determined for removal, stockpiling and revegetation	0		NR	Visual and not measured
	Roadway topsoil salvaged before hauling, excavating and fill operations	1	V	207.03	
	Excavated roadway topsoil stored in designated locations	1	V	207.03	
	Stockpiled salvaged topsoil (roadway and wetland) measured in cubic yards	0		207.04	No documentation
	Herbicides not used on top soil	1		217.03	
	Chemical testing of salvaged soils performed	0	V	NR	
	Adjustments made to fertilizer and soil amendments based upon chemical data	0	V	NR	

Seed Evaluation					
	Containers labeled with following information	0		212.02	From seed tab
	Supplier name/address	1		212.02	From seed tab
	Seed name/lot number	1		212.02	From seed tab
	Seed net weight/origin/percent weed content	1		212.02	From seed tab
	Percentage purity and germination	1		212.02	From seed tab
	Pounds of pure live seed for each species	1		212.02	From seed tab
	Total pounds of pure live seed	1		212.02	From seed tab
	Seed samples taken and tested for viability	0	V	NR	No sample taken due to lack of sample
Soil Preparation	Slopes flatter than 2:1 tilled 4 inches deep with even and loose seed bed	0	V	212.06	Based upon field observation
	Slopes are free of miscellaneous materials such as rocks, concrete, debris or other materials that can affect plant revegetation	1		212.06	
	Fertilizer worked into top 4 inches of soil	0	V	212.06	Based upon field observation
	Organic amendments uniform over soil surface and incorporated into top 6 inches of soil	0	V	212.06	Based upon field observation
Soil Conditioning/Fertilizer	Fertilizer containers unopened with guaranteed analysis	0		212.02	Compost use questionable
	Soil conditioner compost, biological nutrient, culture or humic acid based material	0		212.02	Unknown
	Compost data provided to Project Engineer and consistent with specification requirements	0		212.02	
	Soil conditioning and fertilizer application rates specified by Contractor	0		212.03	Unclear
	Fertilizer and conditioner applied before seeding	1		212.06	Unclear about compost use
Seeding	CDOT WQCM or Landscaping representative present during seeding operations	0		NR	
	Selected seed species are planted	1		NR	
	Seeding Season within seasonal windows established by specification	1		212.03	Not clear if followed; broadcasted seeding unknown
	Seed, soil conditioner and fertilizer not applied during inclement weather	1		212.03	
	Seeding occurs within 24 hours of tilling or scarification	1		212.06	
	Slope less that 2:1 seeded via mechanical drills with packer wheels or chain	1		212.06	
	Mechanical drills with depth of at least 1/4 inch	1		212.06	
	Mechanical drill spacing not greater than 7 inches			212.06	
	Broadcast or hydraulic type seeding (if used) uses twice the seeding rate specified in contract	1		212.06	

	Broadcast seeding raked in or covered with soil to depth at least 1/4 inch; only on small or non-accessible equipment areas	1		212.06	
	Seed drill machinery calibrated to a least 1/4 inch or according to CDOT Landscaping representative	0			No documentation
Mulching	Mulch certified as weed free	1		213.02	
	Project Engineer has inspected and approved of mulch bales	0		213.02	
	Straw or hay used for mulch is not decomposed	1		213.02	
	Wood cellulose fiber and mulch tackifier meets specifications	NA			
	No bare soil showing after application	1		213.03	
	Areas mulched and crimped within four hours after seeding	UNK		213.03	
	Areas tacked immediate after or simultaneously upon completion of mulching and crimping	UNK		213.03	
	Wood chip mulch at 4 inch depth	NA		213.03	
	Spray On Mulch blanket requires product representative during mixing and application	NA		213.03	
	Spray on mulch applied at 2600 pound per acre with no cure time	NA		213.03	
Revegetation Monitoring	Revegetation Monitoring Performed by CDOT WQCM or Landscape representative at least quarterly	0		NR	
	Seeded areas covered with mulch	1		NR	Poor coverage
	Test areas indicated plant germination and growth	0		NR	
	Revegetation areas inspected routinely	0		NR	
	Year One vegetative cover determination	NA		NR	
	Determine need for corrective action	NA		NR	
	Year Two vegetative cover determination	NA		NR	
	Regional WQCM and Landscaping Coordination and Evaluation	0		NR	
	Final Percent Vegetative Cover Analysis	NA		SWMP	
	Deactivate CDPHE Stormwater Permit	NA		SWMP	

Soil Data

Salvage Sample	Depth	pH	EC	Saturation%	Sol. Ca	Sol Mg	SAR	NO3-N	NH4-N	Inorg N	SO4-S	Olsen P	Bray P-1	Ex K	Ex Ca	Ex Mg	Ex Na	OM	Sand	Silt	Clay	Texture
	inches	SU	dS/m	%	meq/L			mg/kg						meq/100 g				%				
NRCS	0-6	7.8	0.32	37	2	0.3	0.5	0.5	2.2	0.7	2.9	1.1	22	135	11.9	1.2	0.1	0.8	79	11	10	Sandy Loam
No Salvage	0-18	8	0.36	33	1.6	0.5	1.9	1.9	2.1	0.7	2.8	1.3	14	90	21.5	1.8	0.2	1.3	69	18	13	Sandy Loam
Top Soil	Pile	7.5	3.23	36	19.5	5.3	10.4	3	21.7	0.9	22.6	1.8	32	155	16.1	1.8	0.7	1.4	74	15	14	Sandy Loam

Seed Mix

Seed Tag Species	#/acre	Seed Tag
Oats	3	x
Western Wheatgrass	4	x
Big Blue Stem	4	x
Green Needlegrass	3	x
Sideoat Grama	2	x
Little Bluestem	2	x
Prairie Sandreed	3	x
Inland Saltgrass	2	x
Blue Grama	1.5	x
Lewis Blue Flax	0.5	x
Alkaligrass	1	x
Mexican Hay	0	x
Alkali Sacaton	2	x
Sand Dropseed	0.7	x
Baltic Rush	1	x

x = present

Conditioner

Type	Application Amount
	#/acre
Organic Based Conditioner	no application data
Biosol, Sustane, GrowPower	no application data
Humate	no application data
Compost	no compost