

**STATE OF
COLORADO****Lennberg - DNR, Patrick** <patrick.lennberg@state.co.us>

Preliminary Adequacy Review Response TR-03, M-1979-189

1 message

Green, Brian <bcgreen@auroragov.org>

Tue, Jan 26, 2021 at 9:19 AM

To: "Lennberg - DNR, Patrick" <patrick.lennberg@state.co.us>

Hi Patrick,

Attached, please find responses to numbered items 3 & 4 from the Division's adequacy review for TR-03 at the Superior S&G Pit. Items 1 and 2 are still pending from the engineering firm. I will submit them as soon as I review them for accuracy. With that said, it looks like we will need to request an extension to accomplish the entirety of the items in the review. May we extend the decision date for at least 15 days, to allow for the completion of the items?

Thank you,

Brian Green

Open Space and Natural Resources Superintendent

Open Space and Natural Resources Division

303-326-8428 office

720-319-1939 cell

**THE CORE**
Integrity • Customer Service
Respect • Professionalism**From:** Lennberg - DNR, Patrick <patrick.lennberg@state.co.us>**Sent:** Friday, January 08, 2021 11:51 AM**To:** Green, Brian <bcgreen@auroragov.org>**Subject:** Adequacy Review Letter, TR-03, Superior S&G Pit, M1979-183

Good Morning Brian,

Please find attached to this email a copy of the Division's adequacy review for TR-03 at the Superior S&G Pit.

A hard copy will not be mailed unless you request one.

Please let me know if you have any questions.

Thank you,

Patrick

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Patrick Lennberg

Environmental Protection Specialist



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2 attachments



Summary of reclamation to State.pdf

174K



Seed Mixes for M1979189 TR-03.pdf

390K



Open Space and Natural Resources
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Aurora, Colorado 80012
303.739.7166

1/26/2021

Patrick Lennberg, Environmental Protection Specialist
State of Colorado
Division of Reclamation, Mining and Safety
1313 Sherman St. Rm 215
Denver, CO 80203

RE: Summary of planned reclamation efforts (*Adequacy Review; Technical Revision (TR-03); Superior S&G Pit, Permit No. M-1979-189*)

The Superior S&G Pit will be restored to a natural area open space now called "Confluence Open Space". Limited access through the site will be via a soft-surfaced trail. The site is protected with a conservation easement, which limits activities to passive recreation only.

The first efforts toward this goal will be to complete the reclamation from the past mining and close out the mining permit. The technical revision to the original plan has been submitted to the Division. The overall goal of restoration at this site will be to prevent any damage or disturbance to the existing wetland areas, while accomplishing the goal of reclaiming the site.

Reclamation will include regrading of areas to a safe 3:1 slope as required. A remaining spoils pile will be lowered, and haul routes will be restored. A fill area has been established outside of the floodplain, but still on-site to receive excess soil from the regrading of slopes. All areas disturbed in the reclamation process will have soils amended and be re-seeded with custom-designed, site-specific seed mixes consisting of native grass, sedge, shrub and forb species. Plant material has been selected to provide habitat benefits to native wildlife and pollinator species. All seeded areas will be either mulched with mechanically crimped straw or covered with biodegradable erosion control blankets, staked in with wooden stakes.

Please let me know if more details are needed, or other questions have surfaced.

Sincerely,

Brian Green
Open Space and Natural Resources Superintendent

Custom seed mixes designed by Great Ecology for reclamation of mine: M-1979-189

Multiple soil samples were taken from the soil that will remain following the initial grading. These were analyzed and reviewed for suitability. Custom amendments will be used to increase the success of the restoration seeding. The following seed mixes were developed taking into consideration the soil analysis and amendments, as well as precipitation patterns. All the included species are native to Colorado, have habitat value for wildlife, and are appropriate at this site.

Confluence Natural Area Seed Mixes

Scientific Name and Variety	Common Name	Recommended PLS lbs/ac	% of Seed Mix by Wgt	PLS/sq ft	% of PLS/sq ft
Wetland/Riparian Seed Mix					
Graminoids					
<i>Carex nebrascensis</i>	Nebraska sedge	4.50	15	7	4
<i>Carex pellita</i>	wooly sedge	0.50	2	12	7
<i>Distichlis spicata</i>	inland saltgrass	1.50	5	18	11
<i>Eleocharis palustris</i>	creeping spikerush	0.60	2	9	5
<i>Elymus canadensis</i> "Mandan"	Canada wildrye	4.50	15	11	7
<i>Elymus trachycaulus</i> spp. <i>trachycaulus</i> "San Luis, Pryor, or Copperhead")	slender wheatgrass	5.50	19	21	13
<i>Juncus arcticus</i> ssp. <i>littoralis</i>	mountain rush	1.00	3	14	9
<i>Juncus torreyi</i>	Torrey's rush	0.05	0	14	9
<i>Pascopyron smithii</i> "Arriba, Rosana, or Rodan"	western wheatgrass	6.00	20	18	11
<i>Poa palustris</i>	fowl bluegrass	0.08	0	13	8
Graminoid Total		24.23	83	136	85
Forbs					
<i>Asclepias speciosa</i>	showy milkweed	3.63	12	5	3
<i>Helianthus nuttallii</i>	Nuttall sunflower	1.00	3	5	3
<i>Monarda fistulosa</i>	wild bergamot	0.25	1	7	4
<i>Verbena hastata</i>	blue verbena	0.18	1	7	5
Forb Total		5.06	17	25	15
Seed Mix Total		29.29	100	161	100

Scientific Name and Variety	Common Name	Recommended PLS lbs/ac	% of Seed Mix by Wgt	PLS/sq ft	% of PLS/sq ft
Upland Seed					
Graminoids					
<i>Achnatherum hymenoides</i> "Rimrock"	Indian ricegrass	3.00	7	13	6
<i>Aristida purpurea</i>	purple three awn	2.00	5	11	5
<i>Bouteloua curtipendula</i> "Butte, Vaughn, or Pierre"	sideoats grama	3.50	8	15	7
<i>Bouteloua dactyloides</i> 'Bison, Cody, Plains or Bismark ecotype'	buffalo grass	8.00	19	10	5
<i>Bouteloua gracilis</i> 'Hachita, Lovington or Bad River'	blue grama	0.80	2	14	7
<i>Calamovilfa longifolia</i>	sand reed grass	3.00	7	19	9
<i>Elymus elymoides</i>	Bottlebrush squirreltail	3.00	7	13	6
<i>Elymus trachycaulus</i> ssp. <i>trachycaulus</i> "San Luis or Pryor"	slender wheatgrass	5.00	12	20	9
<i>Nasella viridula</i> "Lodorm"	green needlegrass	3.00	7	10	5
<i>Pascopyron smithii</i> "Arriba or Rosana"	western wheatgrass	6.00	14	18	8
<i>Sorghastrum nutans</i>	Indian grass	2.00	5	8	4
<i>Sporobolus airoides</i>	alkali sacton	0.30	1	12	6
<i>Sporobolus cryptandrus</i>	sand dropseed	0.13	0	16	8
Graminoid Total		39.73	93	181	84
Forbs and Shrubs					
<i>Achillea millefolium</i> var. <i>occidentalis</i>	western yarrow	0.05	0	5	2
<i>Artemisia ludoviciana</i>	Louisiana sagewort	0.05	0	5	2
<i>Ericameria nauseosa</i>	rubber rabbitbrush	0.30	1	5	2
<i>Ipomopsis aggregata</i>	scarlet gilia	0.70	2	6	3
<i>Liatris punctata</i>	dotted gayfeather	1.00	2	4	2
<i>Machaeranthera tanacetifolia</i>	plains aster	0.50	1	5	3
<i>Ratibida colmnifera</i>	yellow coneflower	0.30	1	5	2
Forb Total		2.90	7	35	16
Seed Mix Total		42.63	100	216	100