EXHIBIT E: RECLAMATION PLAN

Martin Marietta is amending the existing 112 Reclamation Permit No. M-1977-439 to change the final reclamation for Stage G of the Home Office site from one open water lake to two sealed water storage reservoirs using compacted clay embankment liners. Reclamation for the rest of the permit is not changing.

Site reclamation measures for Stage G, Mine Phase I and Mine Phase II are illustrated in Exhibit F1 and F3. With one foot of freeboard, Mine Phase I will have an approximate storage capacity of 520.22 acre-feet and Mine Phase II will have a storage capacity of 248.2 acre-feet, as shown in Exhibit F3.

Stage G is currently being dewatered and mined. Upon completion of mining, compacted clay liners will be constructed, utilizing on-site overburden material. There is sufficient overburden material onsite for the construction of compacted clay liners for Mine Phase I and Mine Phase II. The compacted clay liners are designed with a 4:1 side slope and will be installed from the bedrock to the top of the pit highwall. Mining and reclamation of Mine Phase I and Mine Phase II are expected to be completed by 2027, depending on market conditions. Upon completion of mining and reclamation, Martin Marietta will own both lined cells in Stage G and will conduct a leak test for submittal to the Colorado Division of Water Resources for approval for water storage. The reservoirs will be filled with free river water or utilize Martin Marietta's water rights. The reservoirs may be dry at times.

Reclamation will include seeding around the edges of the two sealed water storage reservoirs. There are no changes to the proposed seeding in this permit amendment from the original permit application and previous amendments.

O:\Projects\Longmont\8741\117-8741002\Docs\Permits\DRMS Amendment\ExhE-Reclamation Plan\Exhibit E - Reclamation Plan 2021-12.docx

EXHIBIT E - THE RECLAMATION PLAN

Prior to mining operations, general agriculture was the dominant use for the area now impacted. Irrigated pasture and crops still occur on the site and on adjacent lands. Increasing urbanization since the 1960's has resulted in a present day mixed land use, on and off site, of residential and commercial/industrial uses. The proposed end uses for the property will be to retain the existing commercial/industrial uses on the pre 1973 areas, and areas 1; 2; and, a backfilled portion of area E, as presented on Exhibit F. Recreation (fishing and parks) and wildlife will dominate the remainder of the site.

Commercial/industrial uses for the areas defined above are appropriate for several reasons. The pre 1973 areas are already being utilized by Keeton Fisheries Consultants, Inc. for its fisheries aquaculture facility. Other commercial uses occur on this area as well. Therefore, expanding the commercial/industrial base to areas 1 and 2 is not out of character with adjacent lands. It should be understood that the operator has utilized areas 1 and 2 for office buildings, shop and plant facilities, and for stockpiling local and remote sources of gravel, prior to 1973. The operator will continue to utilize these areas as its Home Office for all of its interstate and intrastate operations. The operator will ask for release of these areas subsequent to approval of this amendment, since the end use for these portions of the permit area is well established by historical precedent and well supported future intent. The proposed backfilled portion of area E does not fall into this release consideration potential at the present time.

In contrast to a virgin permit, which can incorporate the most current trends in reclamation, the history of mining in this area prior to reclamation law, and during the formative days of regulatory control, limits some of the reclamation potential of this site given its current condition and available reclamation resources. In all fairness, some end uses negate the need for revegetation considerations. These areas include the following:

* Access roads as established and represented on Exhibits C - 4, and F, will act as permanent access for the landowner subsequent to mining and reclamation operations.
* Areas 1 and 2, and the backfilled portions of area E, will remain commercial/industrial in use and will not be revegetated. Areas 1 and 2 were affected prior to 1973, and no soil was salvaged for reclamation during that time. Due to the historical use of these areas as commercial/industrial, and due to the lack of

original reclamation resources, alternate revegetation plans are not proposed for areas 1 and 2. The reclamation plan for the remainder of the HOME OFFICE MINE is offerred as alternate reclamation in the event the backfilled portion of area E does not become commercial/industrial in use within five years following its excavation.

* Except where pre 1973 areas are reaffected by new excavation, as presented under Exhibit D, no reclamation will occur in these areas.
* Rip rap will be maintained over the life of the mine, but no revegetation will be attempted over it (e.g., burying it with soil for revegetation). A detailed discussion and justification for rip rap as it occurs on the site is given under Exhibit G - Water Resources Information.
* Buildings, bridges, and other structures suitable for post mine uses will stand, and will not be disassembled or destroyed as part of reclamation. Abandoned buildings or structures will be secured from illegal entry.
* Areas T, U, and V, will not be affected for the life of the mine, and therefore, will not be reclaimed. Other non-specified lands which remain unaffected over the life of the mine will not be disturbed as part of reclamation, unless such disturbance is necessary to complete reclamation of affected lands.

Subsequently, reclamation will focus on the creation of suitable recreation and wildlife values over the affected lands, where a commercial/industrial use is inappropriate. Enhanced pond design and improved revegetation plans will be applied over all areas not specified above. Irregularity of pond shorelines and floors is increased over those originally approved, yielding greater potential edge effect and natural appearance to the resulting ponds remaining to be excavated. This will aid in enticing wildlife into the area, and for improvement of the overall aquatic habitat. Additionally, an improved native seed mixture and plantings of cattail, willow, and cottonwood, will facilitate and promote recovery of affected lands to a more natural and native habitat most suitable to the proposed end uses. Finally, the operator will retain the assistance of a professional limnologist to assure suitability of the resulting ponds for recreational fishing. It will be the limnologist's role to supervise stocking of the ponds, monitor phosphate levels, assure proper aeration, control aquatic weeds, and in general, promote the overall health and function of the final ponds. Generally, reclamation will proceed as discussed below.

Optional dikes are indicated for areas E, G, and J. This is necessary to allow flexibility in the field to respond to possible impacts on area water wells, as discussed in detail under Exhibit G - Water Resources. Resulting final water levels

of the ponds will be affected by wether or not a dike is constructed. Generally, water levels will follow the existing contours created by the excavation limits for each pond segment where a dike is established. If a dike is not constructed (the preferred option), water levels will be lower, resulting in shallows, partially submerged vegetation in the shallows, and enhanced pond shoreline irregularity and edge effect, as illustrated on Exhibit F - Reclamation Map. Approximate pond water elevations can be inferred from original elevations, utilizing a standard excavation depth of 15 feet. Again, the extent of water where dikes are created follows the excavation limits, and is not illustrated.

The optional dikes can be created by leaving them in place as excavation progresses over an area, or they can be mined through and replaced by backfilling while the pit is still dry. If dikes are created, they will not result in straight shorelines, but will be constructed to have variable undulations of 5 to 25 feet. If dikes are created by backfilling, inundation cannot occur until the entire area has been mined through, since the pits are mined dry. If dikes are left insitu, inundation can occur at the completion of the phase. This has an influence on revegetation, since the inundation would allow for earlier use of the proposed wet land seed mixture, and would enhance the reclamation that is on-going and concurrent with the excavation.

For all areas remaining to be mined, grading is concurrent with excavation, to the extent described under Exhibit D. Therefore, little to no grading is anticipated prior to resoiling once excavation is completed. Contrary to the representations on Exhibits C - 4 and F, shorelines that appear straight will have variable undulations of 5 to 25 feet. This is a significant improvement from the original permits which had no mention or concern for creating pond irregularities, and should be viewed as a significant commitment on behalf of the operator. Additionally, resulting pond depths will increase from west to east. Shallows will occur on the northwestern portions of the pond, with the deepest portions on the southeast shorelines. Consequently, since prevailing winds occur from the northwest, and shorelines to the southeast are the most perpendicular to resulting wave action, shoreline erosion can occur on those southeasterly shorelines. Therefore, excavation will provide for 4h:1v slopes from five feet above to five feet below the anticipated final pond elevations for southeasterly shorelines. Empirical evidence indicates that the 4h:1v slopes as proposed will not only tend to dissipate wave energy, but will allow for establishment of partially submerged vegetation, such as cattails. The partially submerged vegetation will act to break up wave energy and add to the shoreline irregularity and vegetation diversity. Shoreline irregularity and stability is also enhanced by selective placement of natural barriers, such as islands and peninsulas. Additionally, in area U, a large grove of

cottonwoods (see Exhibit C - 3 and C - 6) has been preserved to enhance the Fort Collins Recreation Trail and the overall reclamation of the area. An island is also proposed in area F. The island shape and extent may be changed by technical revision at a later time, in order to reflect changes to the island location and shape, but not extent. Reject fines and other waste material will be salvaged for later use in the creation of peninsulas, islands, or other pond features. Location and extent of such features will be determined after sufficient waste material has been salvaged. Features to be created would be submitted to the CMLRD for approval via technical revision.

After a mine phase has been excavated and graded, as described above and under Exhibit D, reclamation will commence. Reclamation could commence prior to completion of a mine phase if the extent of finished slopes justifies the effort of mobilizing the necessary equipment, materials, and man-power at that time. This would buy time for the operator since reclamation must be completed within five years after the completionof a phase. Regardless, concurrent reclamation will be practiced aggressively at every opportunity. The reclamation sequence and timetable for the areas concerned is detailed under Table IV.

Initially, soil will be reapplied to finished slopes between one and three months prior to revegetation efforts. At least one month is needed to allow the resoiled areas to settle. Until mulch is applied to the soil, and vegetation establishes itself, the resoiled areas are exposed to the raw forces of erosion. Applying the soil sooner than three months prior to revegetation efforts is inviting potentially high levels of soil loss from erosion. Erosion of untreated resoiled areas will be minimized by keeping final surfaces rough, and chiseling the soil into the parent material, creating parallel contours on affected slopes. Soil will be applied to a depth as detailed under Exhibit I. Soil will only be applied in the summer and early fall when the stockpiled soil is in a friable condition. Wet soil would compact and create an adverse seedbed condition. Since the principal soil stockpiles are immediately adjacent to affected slopes, application will be a matter of pushing the soil onto the affected slope, thereby minimizing haul distances. While stockpiled, the soil will act as a visual buffer to the excavation, as well as a buffer to noise and dust.

Soil will remain exposed to the elements until seeding occurs. Fertilizer will be applied to the resoiled areas in a manner that will encourage emergence and survival of the grasses without encouraging competition from weeds. Starter fertilizer will be applied before, or at the time of, seeding. Full fertilization will be applied

after emergence. Fertilizer mixtures will be based upon soil tests made on samples taken from resoiled areas prior to seeding.

Following seedbed preparation, seed will be drilled into treated areas. If slope, high rock content, or other obstacles prevent drill equipment from being utilized, those areas will be scarified by hand and the seed broadcast onto affected areas at twice the drill rate, and raked into the soil.

The U.S. Soil Conservation Service has recommended seven different seed mixtures for the four original permits, utilizing nearly 17 different grass species. The seed mixture has been simplified for this amendment, but improved. The new mixture utilizes all native grass species based upon diverse genetic characteristics that makes each one uniquely suited to the soils and climate of the permit area. Differences in and between warm and cool season grasses; bunch and turf forming grasses; and, short, mid, and tall grasses, adds to the genetic potential for the grasses to adapt to drastically altered edaphic conditions and unpredictable climatic factors. For example, drought cycles are difficult to anticipate, and can drastically affect revegetation success. Additionally, it must be remembered that disturbed soil as reapplied to affected lands is no longer a true soil since its structure has been destroyed, and mixing with different soil profile horizons is to some extent unavoidable. Therefore, resoiled areas are not as predictable as insitu soils with regard to plant-soil-water relations. A diverse genetic potential of the seed mixture will help even the odds. Once the grasses are established, soil rebuilding and restructuring will begin. Two seed mixtures are presented. One is for dry slopes and upland areas, while the other will be applied along and within ten feet of established ponds, where inundation is complete and final water levels and resulting shorelines have stabilized. Cottonwood plantings will occur regardless of dry or wet conditions, however, willow and cattail transplanting will only occur under wet conditions following inundation of an area.

AM03 for Stage F and 1990TR for rest

The revised seed mixtures and rates are detailed on ~~Table V.~~ Genetic characteristics ~~are described under Table VI~~. Species selection is also based upon occurrence, range site descriptions (see Exhibit J - Vegetation Information), and related literature and handbooks of the U.S. Soil Conservation Service.

Larimer County also requires the planting of native and ornamental trees and shrubs on the eastern boarder of area F in order to screen excavation of the area from Taft Hill Road. This requirement is listed under Table VII. Although it is out of character with the use of native species to be utilized over the remainder of the site, it is not out

of character for areas boardering and along Taft Hill Road. Urbanization is gradually encroaching upon the surrounding land uses as well.

In addition to the native grasses, the operator will plant 100 trees per area of excavation of 1-1 stock Freemont cottonwood (Populus fremontii). The stock is in containerized tublings suitable for dibbling into the ground by inexperienced personnel with minimal instruction. Plantings will occur in clusters of five trees per cluster, or twenty clusters per area of excavation. Trees will be spaced two feet apart within each cluster. Clusters will be no closer than 25 feet from another, and placed at the toe of pond banks, but with adequate distance from the pond shoreline. P. fremontii, is full sun and heat tolerant according to Native Plants of Utah.

Willow, cottonwood, and cattail, invade inundated areas readily, however, inundation will not occur for some time on certain areas. Regardless, willow and cattail will be planted in or adjacent to shallows where inundation has occurred. Stock will be taken from areas on the site where willow and cattail are already established, and will be transplanted onto appropriate areas where shallows exist. Although no specific number of willow and cattail plantings are proposed, it is to the operator's advantage to stabilize pond banks with these plantings, and thus to establish adequate levels of stocking in order to accelerate willow and cattail establishment to an optimum cover. Beaver will be controlled from impacting tree plantings. Additionally, chemical repellent may be used to protect tree plantings of cottonwood and willow. Burlington Bio-medical & Scientific Corp's. Ropel, animal, rodent, and bird repellent is being evaluated at this time. Information will be submitted to the CMLRD via technical revision, for its approval prior to its use in the field.

All grasses, shrubs, and trees to be utilized are based upon availability, and are presently available at the time of this amendment. If unavailability occurs, a technical revision to the proposed mixture would be submitted for approval.

Impacts to water resources are detailed under Exhibits C - 7 and G.
Impacts to wildlife are detailed under Exhibit H.
Impacts to soils, and soils management, is detailed under Exhibits C - 6 and J.
Climatic influences are detailed under Exhibit K.
Reclamation cost estimates are detailed under Exhibit L.

TABLE IV

RECLAMATION SEQUENCE AND TIMETABLE

AREAS W, X, Y, Z - PRE 1973 DISTURBANCE.	AREAS W, X, Y, Z - PRE 1973 DISTURBANCE - NO RECLAMATION REQ.
AREAS T, U, V - UNAFFECTED LANDS.	AREAS T, U, V - UNAFFECTED LANDS - NO RECLAMATION REQUIRED.
AREAS B, D, H - MINING COMPLETED.	AREAS B, D, H - RECLAMATION 1987 THROUGH 1992.
AREAS C, I - MINING COMPLETED 12/31/87.	AREAS C, I - RECLAMATION 1988 THROUGH 1993.
AREA F PHASE I - 1987 THROUGH 1992.	AREA F PHASE I - RECLAMATION 1992 THROUGH 1997.
AREA J PHASE I - 1987 THROUGH 1992.	AREA J PHASE I - RECLAMATION 1992 THROUGH 1997.
AREA E PHASE I - 1988 THROUGH 1993.	AREA E PHASE I - RECLAMATION 1993 THROUGH 1998.
AREA F PHASE II - 1992 THROUGH 1997.	AREA F PHASE II - RECLAMATION 1997 THROUGH 2002.
AREA J PHASE II - 1992 THROUGH 1997.	AREA J PHASE II - RECLAMATION 1997 THROUGH 2002.
AREA E PHASE II - 1993 THROUGH 1998.	AREA E PHASE II - RECLAMATION 1998 THROUGH 2003.
AREAS 3, 4 - 1993 THROUGH 1998.	AREAS 3, 4 - RECLAMATION 1998 THROUGH 2003.
AREA A - 1997 THROUGH 2002.	AREA A - RECLAMATION 2002 THROUGH 2007.
AREA 5 - 2002 THROUGH 2007.	AREA 5 - RECLAMATION 2007 THROUGH 2012.
AREA G PHASE I - 2007 THROUGH 2012.	AREA G PHASE I - RECLAMATION 2012 THROUGH 2017.
AREA G PHASE II - 2012 THROUGH 2017.	AREA G PHASE II - RECLAMATION 2017 THROUGH 2022.
AREA G PHASE III - 2017 THROUGH 2022.	AREA G PHASE III - RECLAMATION 2022 THROUGH 2027.

See Stage F reclamation in AM03 2006 & the rest of permit in 1990 TR. Both are attached at end of this exhibit

TABLE V - SEED MIXTURES AND RATES

I. Mixture for slopes and dry upland areas:

Western wheatgrass	Agropyron smithii	(Arriba)	@ 25% X 16.0 # pls/acre	= 4.00	= 4.0	# pls/acre
Switchgrass	Panicum virgatum	(Grenville)	@ 20% X 4.6 "	= .90	= 1.0	"
Big bluestem	Andropogon gerardi	(Kaw)	@ 20% X 11.0 "	= 2.20	= 2.0	"
Inland saltgrass	Distichlis stricta	(N/A)	@ 15% X 12.0 "	= 1.80	= 2.0	"
Indian ricegrass	Oryzopsis hymenoides	(Paloma)	@ 15% X 12.5 "	= 1.88	= 2.0	"
Sand dropseed	Sporobolus cryptandrus	(N/A)	@ 5% X .5 "	= .03	= .5	"

II. Mixture for moist, low lying areas adjacent to completed ponds:

Reed canarygrass	Phalaris arundinacea	(N/A)	@ 40% X 3.5 # pls/acre	= 1.40	= 1.5	# pls/acre
Inland saltgrass	Distichlis stricta	(N/A)	@ 30% X 12.0 "	= 3.50	= 3.5	"
Alkali sacaton	Sporobolus airoides	(N/A)	@ 25% X 1.5 "	= .38	= .5	"
Sand dropseed	Sporobolus cryptandrus	(N/A)	@ 5% X .5 "	= .03	= .5	

III. *Legumes (inoculated):*

Northern sweetvetch	Hedysarum boreale	= 1.5	# pls/acre
Purple prairie clover	Petalostemum purpureum	= .5	"

NOTE: The legume mixture will be added to both of the above mixtures at the time of seeding.
All species are currently available at the time of this amendment from Native Plants, Inc. of Utah.
All rates are for application with a drill. If broadcasting occurs, rates will be doubled.

TABLE VI - SEED SPECIES CHARACTERISTICS

SPECIES	TRAITS / HEIGHT	FORM	SEASON	ADAPTABILITY // SOIL	PPT.	TOLERANCE // DROUGHT	FLOOD	SALT
Western wheatgrass	mid	sod	cool	loam	10 "	good	good	very good
Switchgrass	tall	sod	warm	all	18 "	fair	good	fair
Big bluestem	tall	sod	warm	all	18 "	fair	fair	fair
Inland saltgrass	short	sod	warm	loam	8 "	good	good	very good
Indian ricegrass	mid	bunch	cool	sand/silt	9 "	very good	poor	fair
Sand dropseed	mid	bunch	warm	sand	10 "	good	fair	fair
Reed canarygrass	tall	sod	cool	all	16 "	fair	very good	poor
Alkali sacaton	mid	bunch	warm	clay	6 "	good	fair	fair

The above information was extracted from information specified in the seed catalogue of Native Plants, Inc. of Utah. More specific information listing the entire range of adaptability of each species to soils and precipitation, and general morphology, can be found in a U.S.D.A. Soil Conservation Service publication (SCS-TP-157), Plant Materials for Use on Surface-Mined Lands in Arid and Semiarid Regions. This publication, as well as SCS Technical Guide 342, "Standards and Specifications for Critical Area Planting," and, SCS Colorado Agronomy Note # 61, "Seeding Rates," was used in part in the information above, and in developing the seed mixture listed under Table V.

TABLE VII

LARIMER COUNTY ORNAMENTAL TREE AND SHRUB REQUIREMENT FOR TAFT HILL ROAD

Larimer County requires the planting of native and ornamental trees and shrubs along Taft Hill Road as specified below:

A repeating sequence is required that includes the use of deciduous trees planted at 20 to 50 foot intervals with interplantings of 3 to 5 Russian olive trees, followed by three plantings of pine and/or spruce at 10 foot intervals, and then repeating the above sequence. Choices of species to be utilized for each sequence are as follows:

* Deciduous Trees ($1^{3}/_{4}$ caliper ±) of one or a combination of:
  - Cottonless cottonwood.
  - Green ash.
  - Honey locust

* Pine or Spruce Trees (5 feet in height) of one or a combination of:
  - Austrian pine.
  - Ponderosa pine.
  - Pinyon pine.
  - Scotch pine.
  - Blue spruce.

ADDENDUM - EXHIBIT E - THE RECLAMATION PLAN
Response to the CMLRD letter of adequacy of 15 October 1987

7. As indicated on Exhibit D; Page 2, as excavation advances, grading of the perimeter will occur concurrently with mining. Therefore, much of the planned shoreline irregularity will occur as excavation advances over the site. Some backfilling should be anticipated to correct errors and to add selected enhancements where needed. Backfilling will occur both during and after inundation of proposed ponds, but for effectiveness, the intent of the operator is to complete backfilling prior to inundation and revegetation activities.

   If dikes are implemented, construction will occur prior to inundation. Exact location and shape will be established via technical revision, however, while large radius curves on proposed dikes is desireable, availability of materials and expense to the operator should be a consideration as well. As part of this amendment, straight dikes with 5 to 20 foot undulations should be allowed as the approved minimum, with the intent that the operator will consider a large radius curve at the time of the technical revision. The intent of approval at this time should provide the shortest possible shore to shore contact for the proposed dikes as an approved and acceptable dike location.

8. The primary intent for Areas 1 and 2 is to maintain this as industrial in its end-use subsequent to mining at the Home Office Mine. Should the existing use of Areas 1 and 2 continue subsequent to the completion of mining, they should be released based upon continued industrial use and intent. This point of release of Areas 1 and 2 should be made part of this amendment approval, and will be considered as such unless specifically excluded by the CMLRD.

   However, Sterling Companies agrees to implement a plan of alternate reclamation in the event that industrial use does not continue beyond completion of excavation at the Home Office Mine for Areas 1 and 2. In such an event, Areas 1 and 2 will be ripped or chisselled, since the areas are compacted by processing operations and related traffic. Area 2 was backfilled with excess overburden from Area H and resoiled with excess soils from area H according to the operator. Therefore, only Area 1 will be resoiled with excess soils from other areas to be mined at the Home Office Mine. Under this alternate reclamation plan, both Areas 1 and 2 would be revegetated in a manner described under Exhibit E of this amendment. For purposes of revegetation and related warranty costs, it will be assumed that the backfilling of the settling pond on Area 1 is completed by the time of completion of mining at the Home Office Mine. Buildings, structures, and and access roads will be retained as part of alternate reclamation of Areas 1 and 2.

   Since soil was removed prior to 1973, revegetation requirements should not exceed the availability of excess soils recovered from other mined areas at the Home Office Mine, and spread to a minimum depth of six inches over Area 1 to the extent possible and appropriate, regardless of soil estimates. Every effort will be made to salvage at least the minimum soil volume of 32,589 cu. yds. in excess soils from other areas to be mined at the Home Office Mine. Soil stockpiles will be located as identified under Exhibit I, and related maps, where "excess soil stockpiles" are identified. Additional excess soil stockpiles will be located on the perimeters of the areas from which excess soils have been salvaged.

   Warranty calculations for Areas 1 and 2 are located under the addendum to Exhibit L of 15 October 1987. The costs determined in the addendum should be added to the original total under Exhibit L of this amendment.

Western Mobile

999
Western Mobile/Northern
1800 North Taft Hill Rd.
P.O. Box 2187
Fort Collins, Colorado 80522
303-482-7854
534-4583 Metro
Fax 303-224-5564

April 2, 1990

Dan Hernandez
Colorado Mined Reclamation Division
1313 Sherman Street
Denver, Colorado 80203

RE: Technical Revision
Permit No.: M-77-439
Operation Name: Home Office Mine

Dear Sir:

Please accept this technical revision to the mine as identified above. As the result of some of the originally specified seed varieties being unavailable and a desire to improve reclamation results, we are submitting changes to the seed mixture.

Enclosed is a copy of seed blends as suggested by the US Department of Agriculture Soil Conservation Service. These native varieties are currently available and will be planted pending your approval. We believe that these varieties will produce the desired growth and ultimate reclamation at this site.

Upon approval of this revision, please sign, date and return the enclosed copy as our notification to proceed and for our files.

We appreciate your cooperation and expediency in this matter. Please call for further information at your convenience.

Respectfully submitted,

Michael D. Sheahan

Michael D. Sheahan
Aggregate Manager

Approved this____day of_____1990

Mined Land Reclamation Division

By:

CO-ECS-5
6/82
(180-12-11)
Page 1

U[illegible]epartment of Agriculture
Soil Conservation Service

PART 1 - GRASS SEEDING PLANNED

Planner: RLHP Date: 4-2-90
Producer: Western Mobile

Contract or Agreement # _____

1. Fld # ___ Ac _____ Cntrct Itm # __ Practice # & Name 342 - C.A.T.
Lnd Res Area 49 Irr __ Dryland X Range Site Shallow Foothill

2. Planned:

Seedbed Prep: (a) Method # open
(b) Approx. Dates _____
(c) Clean Till _____
Firm Seedbed X
Stubble Cover _____
Interseed _____
Other _____

Seeding Operation: (a) Method drill X
interseed ___
broadcast ___

(b) Drill Spacing 7-12" (c) Date 11/1 *
Type grassland (d) Depth 1/2-3/4"
*Nov. 1 to April 30

Fertilizer:

Pounds actual per acre N2 40
(available) P2O5 40
K _____

Weed Control:

Mowing: as needed
Chemical: ___ Type&Amt: _____
Dates: _____

Mulch:

Kind: Straw
Amount: 3000-4000 lbs/ac
How-applied: spread uniformly
How-anchored: crimped in
Anchor-depth: 3-4"

Seed:

Variety	Species	(1) Required PLS rates per acre (100%)	(2) % of species in mixture
Rosana	Western Wheatgrass	16.0	33
Sodan	Streambank Wheatgrass	11.0	25
Revenue	Slender Wheatgrass	11.0	17
Grenville	Switchgrass	4.5	17
Nezpar	Indian Ricegrass	12.5	8

(3) PLS seeding rate per species/Ac. (1)x(2)	Planned Acres	(5) Total PLS lbs/ species planned (3)x(4)
5.28		
2.75		
1.87		
0.765		
1.00		
11.665		

Remarks: This mix is for slopes and dry upland area. Livestock should be excluded from the area for at least the first growing season, after that light grazing would be okay.

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6/82
(180-12-11)
Page 1

U.S. Department of Agriculture
Soil Conservation Service

PART 1 - GRASS SEEDING PLANNED

Planner: RLHP Date: 4-2-90
Producer: Western Mobile

Contract or Agreement # _____

1. Fld # ___ Ac _____ Cntrct Itm # __ Practice # & Name 342 - C.A.T.
   Lnd Res Area 49 Irr __ Dryland x Range Site Shallow Foothill

2. Planned:

Seedbed Prep: (a) Method * open
(b) Approx. Dates _____
(c) Clean Till _____
Firm Seedbed X
Stubble Cover _____
Interseed _____
Other _____

Seeding Operation: (a) Method drill ___
interseed ___
broadcast X

(b) Drill Spacing _____ (c) Date 11/1 *
Type _____ (d) Depth 1/2-3/4"
*Nov. 1 to April 30

Fertilizer:

Pounds actual per acre N2 40
(available) P2O5 40
K _____

Weed Control:

Mowing: as needed
Chemical: ___ Type&Amt: _____
Dates: _____

Mulch:

Kind: Straw
Amount: 3000-4000 lbs/ac
How-applied: spread uniformly
How-anchored: crimped in
Anchor-depth: 3-4"

Seed:

Variety	Species	(1) Required PLS rates per acre (100%)	(2) % of species in mixture	(3) PLS seeding rate per species/Ac. (1)x(2)	(4) Planned Acres	(5) Total PLS lbs/ species planned (3)x(4)
Lovington	Blue Grama	3.0	25	.75		
Vaughn	Sideoats Grama	9.0	19	1.71		
Elida	Sand Bluestem	16.0	19	3.04		
	Alkali Sacaton	1.5	6	0.09		
	Sand Dropseed	0.5	6	0.03		
	Purple Prairie Clover	6.0	6	0.36		
	Thermopsis Montana	8.0	19	1.52		
				7.5		

Remarks: This mix is for both moist low-lying areas and dry upland areas, to be added to other mixtures. Livestock should be excluded from the area for at least the first growing season, after that light grazing would be okay.

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6/82
(180-12-11)
Page 1

U.S. Department of Agriculture
Soil Conservation Service

PART 1 - GRASS SEEDING PLANNED

Planner: RLHP Date: 4-2-90
Producer: Western Mobile

Contract or Agreement # _____

1. Fld # ___ Ac _____ Cntrct Itm # ___ Practice # & Name 342 - C.A.T.
Lnd Res Area 49 Irr ___ Dryland X Range Site Shallow Foothill

2. Planned:

Seedbed Prep: (a) Method * open
(b) Approx. Dates _____
(c) Clean Till _____
Firm Seedbed X
Stubble Cover _____
Interseed _____
Other _____

Seeding Operation: (a) Method drill X
interseed ___
broadcast ___
(b) Drill Spacing 7-12" (c) Date 11/1 *
Type grassland (d) Depth 1/2-3/4"
*Nov. 1 to April 30

Fertilizer:

Pounds actual per acre (available) N2 40
P2O5 40
K _____

Weed Control:

Mowing: as needed
Chemical: ___ Type&Amt: _____
Dates: _____

Mulch:
Kind: Straw
Amount: 3000-4000 lbs/ac
How-applied: spread uniformly
How-anchored: crimped in
Anchor-depth: 3-4"

Seed:

Variety	Species	(1) Required PLS rates per acre (100%)	(2) % of species in mixture
_____	Basin Wildrye	11.0	25
Rosana	Western Wheatgrass	16.0	25
_____	Reed Canarygrass	3.5	21
Revenue	Streambank Wheatgrass	11.0	17
Largo/Jose	Tall Wheatgrass	17.0	12

(3) PLS seeding rate per species/Ac. (1)x(2)	(4) Planned Acres	(5) Total PLS lbs/ species planned (3)x(4)
2.75		
4.00		
0.74		
1.87		
2.04		
11.40		

Remarks: This mix is for moist low-lying areas. Livestock should be excluded from the area for at least the first growing season, after that light grazing would be okay.

EXHIBIT E: RECLAMATION PLAN - STAGE F

The overall reclamation plan for the site will not deviate greatly from the plan previously presented in the July 1987 Amendment 02. For this amendment, Lafarge wishes to make minor alterations to the reclamation plan for the parcel known as the Seaworth property (Exhibit F, Area F), and previously known as the Seaworth Pit (Permit # M-86-049) prior to its incorporation into the Home Office Pit Permit in the 1987 amendment.

Per Amendment 02, the Seaworth parcel was to be reclaimed to open water; however, Lafarge now seeks to slightly reduce the number of acres of open water.

On Exhibit F (Reclamation Plan Map), the Seaworth parcel is divided into two parcels by a dotted phase line running North to South (Exhibit F, Area F, Parcel I and II). The easternmost parcel (Exhibit F, Area F, Parcel I) is bordered on the east by North Taft Hill Road and is approximately 15 acres in size. The westernmost parcel (Exhibit F, Area F, Parcel II) is bordered on the west by the Taylor and Gill Ditch and is approximately 20 acres in size. Lafarge intends to reclaim Parcel I to open water.

Previously, Parcel II was to be reclaimed to open water as well; however, Lafarge now wishes to amend the reclamation plan to allow for silt storage on the western edge and open water on the eastern edge. Approximately 11.18 acres will be utilized for silt storage, and the remainder will be reclaimed to open water. A 12 foot wide berm running southwest to northeast will separate the western silt storage area from the eastern open water area in Parcel II.

The seed mix for the areas surrounding the pits has not changed; however, a new seed mix for the silt storage area on the western portion of Parcel II will be used. The seed mix for the silt storage area is listed in Table A.

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Silt Pond Area Seed Mix

Common Name	Scientific Name	Variety	% of Mix	PLS Application Rate (lbs/ac)
Western Wheatgrass	Agropyron smithii	Arriba	10.6%	1.45
Side Oats Grama	Bouteloua curtipendia	Butte	9.2%	1.24
Canada Wildrye	Elymus canadensis	Mandan	18.1%	2.47
Basin Wildrye	Elymus cinereus	Magner	9.8%	1.34
Switchgrass	Panicum virgatum	Pathfinder	5.7%	0.78
Sand Dropseed	Sporobolus cryptandrus		0.2%	0.03
Scarlet Globemallow	Sphaeralcea coccinea	ARS2936	3.8%	0.52
American Vetch	Vica americana		42.60%	5.81
Total lbs/ac .			100%	13.64
[1]Availability may dictate the need for variety substitution				
[2]Pure Live Seed pounds per acre; rates shown are fro drill seeding; double raters for broadcast seeding				