**Section 300.130 Reclamation of Gob Disposal Areas and Outside Slopes of All Overburden Deposition Areas**

a) Temporary Gob Refuse Areas

Gob disposal areas that will be covered with four (4) feet of earth material capable of supporting vegetation within a four (4) month period are exempt from surety bond. The operator shall request permission for the commencement of such a program and keep the Department advised of locations and progress should permission be granted. Establishment of a refuse area without approval shall be considered a violation.

b) Erosion Control and Vegetation

The slopes of new or laterally extended gob piles and outside slopes of all deposition areas shall be treated with appropriate vegetation and water disposal practices to prevent erosion of the slopes, exposing toxic materials and the deposition of sediment below.

c) Covering

Gob piles not capable of supporting vegetation shall be covered a minimum depth of four (4) feet with soil material capable of being vegetated and an acceptable cover shall be established.

d) Slopes

The outside slope of all overburden deposition areas and gob piles shall not be steeper than thirty percent (30%).

e) Vegetative Treatment for Gob Disposal Areas

1) Reforestation – Five hundred (500) trees will be the minimum standard for acceptable stocking and shall be determined by the method described in Section 300.120(a). A nurse crop of oats, rye, rye grass or similar species is suggested to minimize erosion.

2) Pasture – An eighty-five percent (85%) stand of seeded legumes and/or perennial grass shall be required in August through October of the seeding year. Areas not meeting the standard shall be reworked and reseeded.

3) Mulching – is suggested at a rate of two (2) tons of hay or straw per acre. Mulch should be anchored with asphalt or mulch net.

f) Vegetative Treatment

Vegetative treatment for outside slopes of overburden deposition areas shall meet the standards as established in either Section 300.120(a) or Section 300.120(b).

g) Engineering Procedure For Erosion Control and Water Disposal

Appropriate water disposal practices, such as diversions and terraces, unless excepted by the Director, shall be applied. These structures will be vegetated as described in subsection (e) above.

1) Terraces – Slopes having a vertical height greater than forty (40) feet shall have a terrace constructed at the mid-point of the slope. On slopes having a height greater than eighty (80) feet, two (2) such terraces will be installed at equal intervals. Other methods of interrupting the outside slope of unconsolidated deposition areas, having a height exceeding forty (40) feet, may be approved by the Director where such measures will effectively control erosion of the slope and sediment deposition on surrounding areas.

A) Size – Terraces shall have a minimum top width of twelve (12) feet and a minimum depth of one and five-tenths (1.5) feet. The channel may be parabolic, V-shaped, or trapezoidal. The ridge shall have a minimum top width of three (3) feet at the design depth and shall have side slopes not steeper than three-to-one (3:1). They shall be large enough to carry the design flow of the outlet at a safe velocity (see Illustration B).

B) Slope – Terraces and channels will have a minimum average slope of two-tenths (.2) feet per one hundred (100) feet to provide drainage to the outlets.

C) Outlets – Closed conduit or other acceptable structural outlets shall be provided at the lowest point in the terrace profile to collect and conduct the water stored in the terrace to a stable outlet. The capacity of the outlets shall be such that the available storage in the terrace and the outlet release shall be sufficient to control the twenty-four (24) hour, ten (10) year frequency runoff without overflow from the terraces. The outlet must be capable of releasing the stored water in a twenty-four (24) hour period. These requirements may be met by providing the storage and outlet capacities shown in Table A.

TABLE A

Water Storage – Outlet Capacity

|  |  |
| --- | --- |
| Storage Provided  (Watershed Inches) | Minimum Outlet Capacity  (cfs per acre of watershed) |
| Greater than 2.0 | 0.1 |
| 1.0 to 2.0 | 0.2 |
| 0.5 to 1.0 | 0.4 |
| 0.3 to 0.5 | 1.0 |
| Less than 0.3 | 2.0 |

AGENCY NOTE: One (1) acre-inch released in twenty-four (24) hours equals forty-two thousandths (0.042) cfs.

2) Water Disposal Above Slopes –

A) The top of the spoil areas shall be away from the outer slope.

B) The top of gob piles shall be shaped to provide storage for excess rainfall and conduits shall be installed to conduct the collected water to adequate outlets. The entire area shall be uniformly graded to carry all water to satisfactory outlets. The storage area and outlets shall be sufficient to control the twenty-four (24) hour, ten (10) year frequency runoff without flowing over the outer slope. These requirements may be met by providing the outlet and storage capacities, as described under subparagraph (g)(1)(C) above, "Terrace Outlets."

3) Diversions – Diversions shall be constructed at the base of all outside deposition areas having a height greater than forty (40) feet to divert the water from the slopes to areas where it can safely be disposed of.

A) Capacity – Diversions must have the capacity to carry the peak runoff from a twenty-four (24) hour, ten (10) year frequency storm with a free board of not less than five-tenths (0.5) feet.

B) Cross Section – The channel may be parabolic, V-shaped, or trapezoidal. The diversion shall be designed to have stable side slopes not steeper than three-to-one (3:1). The ridge shall have a minimum top width of three (3) feet at the design depths. The cross sectional area and the slope shall be such that the design discharge can be safely carried at a non-erosive velocity.

C) Outlets – Each diversion must have an adequate outlet. The outlet may be grassed waterway, vegetated area, grade stabilization structure, or stable water course.

4) Closed Conduits or Other Acceptable Structural Outlets For Terrace and Storage Area Outlets

Closed conduit or other acceptable structural outlets shall be designed for a minimum fifty (50) year life. Materials meeting appropriate ASTM's and Commercial Standards shall be selected for this purpose. Materials selected shall be consistent with the corrosive nature of the materials in which they are placed. They shall be strong enough to withstand the loads due to fill and settlement.

A) Size – The minimum size of closed conduits will be four (4) inches.

B) Intakes –

i) Where the amount of water stored is less than five-tenths (0.5) watershed inches, an intake or riser extending above the ground shall be included to direct the flow into the underground outlet.

ii) The intake shall be of sturdy construction and securely connected to the outlet conduit. The minimum height of the inlet shall be eighteen (18) inches. Openings shall be placed in the inlet from the ground level to the top to permit flow to enter and restrict the entrance of trash. Openings shall be slots one (1) inch wide and four (4) inches high, or shall be the equivalent. Openings shall be sufficiently numerous to pass the required flow even when some are obstructed. Where less than five-tenths (0.5) watershed inches of storage are provided, the outlets shall be sized as full-flow structures having appropriate inlets at the entrance. If a large number of storage areas will be emptied with a common underground outlet, overtopping of lower storage areas may occur if the same conduit size is used throughout. This should be prevented by providing appropriate conduit sizes, grades, or restricting devices at inlets, to prevent pressure flow in the outlets.

C) Outlet Protection – Where the flow from the outlets will cause erosion at the discharge point, riprap or other suitable protection will be provided.

D) Installation – The pipe conduit or other acceptable structural outlet shall be placed on a firm foundation to the lines and grades shown on the plans. The width of the pipe trench shall be a minimum of two and five-tenths (2.5) diameter of the pipe. The bottom of the trench shall be shaped to receive one-sixth (1/6) of the periphery of the pipe. The trench shall be sloped on a minimum of one-to-one (1:1). Selected backfill material shall be placed around the pipe in six (6) inch (maximum) layers and each layer shall be thoroughly compacted by hand-held compactors. Compaction equipment, such as a sheepsfoot roller, shall not be used within two (2) feet of the pipe. The area over the pipe shall be crowned a minimum of three (3) inches to provide for settlement.