

Mine Plan of Operations Reclamation Bond Checklist

NOTE: This checklist is provided to assist the operator in calculating the engineering and environmental costs required to properly stabilize, reclaim, and restore the area disturbed by his operations. It is not all inclusive, but is intended to serve as a reminder of things that should be considered.

In all cases, the operator is required to submit a topographic map of appropriate scale with his proposed operations and sites of disturbance clearly depicted upon it. Accompanying this map will be a document containing the actual detailed calculations of the reclamation proposed. Calculations will be indexed to the appropriate portion of the accompanying map, and to the Mining Operations Cost Estimation Summary Sheet.

The operator is advised that failure to adhere to these requirements will cause the lead agency to deem the plan of operations to be incomplete. The plan cannot be processed until the required map, detailed calculations and Summary Sheet are submitted. The lead agency will assist the operator in obtaining a proper reclamation estimate.

1. Reclamation plan and contract specifications.

- a. This is the cost of preparing before and after site restoration maps, engineering designs for the restoration of roads, pads, trenches, pits, and removal of structures. This can be avoided by preparing suitable maps and designs as part of the reclamation plan.
- b. Contract preparation is the time spent by a knowledgeable individual in drawing up a reclamation/construction contract from the data in the reclamation plan and from "a" above.
- c. The Federal agencies usually assign this portion of the cost estimate to "Administrative Overhead" to be figured at 10 - 15% of the contract cost.

2. Drill hole abandonment

- a. These are the requirements given in NAC 534. The cost of plugging, capping, and segregation of the hole from the ground water system are to be considered. In the case of abandoned holes, the lead agency will figure its costs based upon having to hire a drilling contractor to affect the proper abandonment of the drill holes. Drill holes that will be "mined through" by the proposed operation do not have to be considered for bonding. For bond reduction criteria, see item # 18 below.

3. **Access roads and drill pads**

- a. Mobilization and demobilization
- b. Recontouring or regrading to round off cut and fill slopes.
- c. Removing culverts.
- d. Ripping or scarifying the surface.
- e. Constructing water bars.
- f. Revegetation.
- g. Restoring or stabilizing drainage areas or stream beds.

4. **Waste and development rock piles**

- a. Regrading to round off sharp edges, enhance stability, reduce susceptibility to erosion, and facilitate efforts to establish vegetation.
- b. Revegetation.
- c. Diverting run-on.

5. **Dams for tailings ponds.**

- a. Covering with rock, topsoil, or other growth medium.
- b. Revegetation.
- c. Rendering the dam incapable of storing any mobile fluid in a quantity which could pose a threat to the stability of the dam, or to the public safety.
- d. Containment basins and water treatment facilities for leakage or outflow of effluent.

6. **Impoundment for tailings.**

- a. Regrading to promote run-off and reduce infiltration.
- b. Covering with waste rock, topsoil, or other growth medium.
- c. Revegetation.

- d. Diverting run-off.
 - e. Containment basins and water treatment facilities for leakage or outflow or effluent.
7. **Heaps from leaching.**
- a. Regrading to enhance structural stability, promote run-off, reduce infiltration, and control erosion.
 - b. Federal agencies will require detoxification and neutralization procedures to be covered by the bond.
 - c. Covering with waste rock, topsoil, or other growth medium.
 - d. Revegetation.
 - e. Stabilization.
 - f. Diverting run-off.
 - g. Containment and treatment of outflows of residual chemicals or fluids from the heaps.
8. **Solution ponds, settling ponds, and other non-tailings impoundments.**
- a. Backfilling and grading pursuant to the land use plan for the site area.
 - b. Restoring the pre-disturbance surface water regime.
9. **Building foundations, facilities, structures, and other equipment.**
- a. Demolishing to the level of the foundation and bury the demolished items on site in conformance with applicable solid waste disposal requirements.
 - b. Salvaging and sale.
 - c. Disposal of "a" above off the site, in conformance with applicable solid waste disposal requirements.
 - d. Continuing use in a manner consistent with the post mining land use of the land.
10. **Open pit mines.**

- a. Performing activities that will provide for the public safety.
- b. Stabilizing pit walls or rock faces where required for public safety.
- c. Constructing and maintaining berms, fences, or other means of restricting public access.
- d. Creating a lake for recreational, wildlife enhancement, or other beneficial use.
- e. Revegetation.

11. **Underground mines.**

- a. Seal shafts, adits, portals, and tunnels to prevent access.
- b. Constructing and maintaining berms, fences, or other means of restricting access.

12. **Revegetation**

- a. Application of top soil or other growth medium.
- b. Seed bed preparation.
- c. Selection of appropriate species of seeds or plants (consult lead agency staff specialist).
- d. Soil amendments such as fertilizers, mulches, or other compounds to assist in plant growth.
- e. Planting or seeding (equipment, personnel, cost of seeds/plants).

13. **Supervision**

- a. On site supervision of reclamation crews and equipment.

14. **Site Maintenance and Site Monitoring**

- a. Remedial dirtwork if the first effort doesn't "take" and begins to erode.
- b. Infill reseeding if required by lead agency if first effort doesn't "take".
- c. Any site monitoring as required by the lead agency.

- d. Monitoring wells for heaps and tailings ponds if required by NDEP.
15. **Contractor administrative overhead**
- a. For lead agency this will be the field supervisor who is overseeing the reclamation work.
16. **Contractor profit**
- a. For BLM and U.S. Forest Service this will be figured at 10% of project cost.
 - b. Call NDEP for their current percentage rate.
17. **Lead agency administrative overhead**
- a. For BLM this will be 10% of project costs and includes item #1 above.
 - b. For U.S. Forest Service this will be 15% of project costs.
 - c. Contract NDEP for rates affecting operations completely upon private lands.
18. **Reduction in Bonding**
- a. The area of the mine containing the cyanide or other leachate circuit, (solution ponds, tailings ponds, heaps, piping, makeup facilities, but not the stripping facilities), will be bonded for 100% of estimated reclamation costs, including neutralization and detoxification if on BLM lands, without exception.
 - b. The Bureau of Land Management, with the exception of "a" above, depending on the history of the operator, the amount of proposed concurrent reclamation, and the sensitivity of the area, will consider a reduction in bond amount to no less than \$2,000 per acre, unless the operator can show that estimated cost of reclamation will be less than \$2,000 per acre. If the estimated cost is less than \$2,000 per acre, the Bureau of Land Management will bond at the estimated cost. The following formula shall be used when the reclamation bond estimate for those operations exceeds \$2,000 per acre: **Estimated cost - ([estimated cost - \$2,000] ÷ 2) = bond amount per acre**. The operator must request the reduction in writing at the time of submission of his estimate.
 - c. Currently, a mine bond reduction program as described in "b" above is not available on National Forest lands.
19. **Phased or Sequential Bonding**
- a. Reclamation bonds can be accepted for specific phases or sequences of an

operation, instead of bonding for all proposed surface disturbances at one time. If an operator wishes to bond for only specific operational phases or certain time frames, he may do so. The bond estimate and amount will then be recalculated at the end of each phase or time period, and adjusted accordingly.

b. Operators wishing to use the feature must submit their reclamation estimate calculations in a manner that clearly sets out the costs for each specific phase or time frame of operations to be covered by the phased bond amounts. This may require submission of several Summary Sheets with attached phase or time specific calculations, each covering a specific phase or time period.

G. Bond (Performance & Payment)⁷ \$ _____

H. Profit⁸ \$ _____

I. Total \$ _____ \$ _____ \$ _____

J. Grand Total \$ _____

K. Remarks

⁵ Insurance premium is calculated at 15% of the total labor costs. Enter the premium amount only on this line.

⁶ For Federal construction contracts, figure BLM administration at 10% of project costs. For U.S. Forest Service, use 15% of project costs. For private lands only, contract NDEP directly for percentage rate.

⁷ Federal construction contracts over \$25,000 require both a performance and a payment bond (Miller Act, 40 USC 270 et seq.). Each bond premium is figured at 1.5% of total project costs. Enter the sum of both premium costs on this line.

⁸ For Federal construction contracts, use 10% of project costs.

⁹ If the contractor's or operator's quoted hourly rates contained FICA, SIIS, Davis-Bacon wage rates, insurance bond premiums, and profit: the contractor and operator may sign a statement under penalty of 18 USC 1001, that the above rates contain these items and that itemization of these costs are therefore not necessary.