

**Reclamation Plan for Dumping Site in respect of FCA proposal for construction of road from Bijmal to Halau via Shallan GP Halau km. 0/0 to 7/0 Gram Panchayat Halau Block Chopal Tehsil Chopal District Shimla, H.P.**

Diversion of 04-53-38 hac. of forest land has been proposed for the construction of Bijmal to Halau via Shallan km. 0/0 to 7/0 Gram Panchayat Halau Block Chopal Tehsil Chopal Distt. Shimla, H.P.

The total length of the road is 7/0 kms, and the length i.e. 5045 mtrs. passes through the forest land and 1955 mtrs through private land. The road will be constructed in cut and fill method. A total quantity of 122091.07 cum of muck will be generated during the construction of this road. Since after excavation of earth there will be some increase in volume of soil which is calculated @ 40%. The serviceable material will be stacked at site in the form of stone/aggregate i.e 17418.84 m<sup>3</sup>, 17418.84 m<sup>3</sup> of muck generated will be used in dry masonry & edge wall, nearly 15% of muck generated will be used for leveling of road. After increase in volume 129904.89 Cum muck will have to be disposed off in the identified dumping sites as per reclamation plan.

Thus all the muck generated will be dumped in the designated dumping sites. 6 numbers dumping sites designated as DS-1, DS-2, DS-3, DS-4, DS-5 & DS-6 have been identified for dumping of muck/debris to be produced during the construction phase of the project. It is proposed that the dumping sites are treated in such a manner that these do not pose any problem to the environment management of the locality. This reclamation plan has been formulated with the following objective:-

- i. To arrest the dumped muck in situ so that it does not find its way to the nearby drainage channels, thus altering the drainage pattern of the area.
- ii. To rehabilitate the dumped area over a period of time so that it merges with the adjoining natural landscape and does not stand out as a sore point.
- iii. To improve the aesthetic view of the dumping grounds/dumping site by planting suitable plants and trees species thereby increasing the vegetable cover in the area.
- iv. To stabilize the dumping sites by vegetative and engineering structure.

**Implementation**

The proposal will be implemented by the user agency itself at its own cost as detailed in this plan. The implementation of the plan will be supervised by the forest department from time to time and the progress will be periodically monitored. In case of default the sanction of diverted land may be revoked with suitable penalty as decided by the Govt. of India.

**Strategy**

The two pronged approach will be followed for reclamation of the dumping sites. In the first instance crate walls will be erected around the dumping site so that required capacity for dumping of muck is created at the sites. The detailed drawings of the crate works to be undertaken are enclosed. The primary objective of the crate works will be to arrest the dumped muck to the dumping site and not to allow its spillage to the adjoining are eventually to nearby drainage lines. The capacity of the dumping sites has been calculated i.e. 132147.39 m<sup>3</sup> as detail in the table at page 87 and will be enough to hold the muck to be dumped in each of the sites.

In the second phase once the dumping is complete it will be ensured that the dumping site is planted with the grasses, bushes shrubs so that it gives an aesthetic look This vegetal cover will also help in binding the soil and will prevent its erosion For vegetating the dumping sites suitable local species will be preferred. However, it may be noted that bulk of the muck to be dumped will be excavated material which will be lacking in essential nutrients and organic matter and hence it will be desirable to increase the nutrients status of the top soil to be conducive to tree vegetal growth. For this purpose maturing of the top soil be done if requited the imported soil be brought to replenish the top soil. Intently the grasses and bushes will be planted in the area of improve the soil condition. Once these grasses and bushes take hold to the site the trees species will be planted, in the next phase. The trees species to be planted will be mainly Deodar (Cedrus deodara), Kail (pinus walichiana), Chir (Pinus roxburghii) BL (Baan). Grasses like Steria and Napier will also propagated. Trees will be planted at the closer spacing so that canopy is closed at the earliest. Hence the spacing will be kept at 1.5x1.5 mts. The total area involved in the dumping site is 15615.00 Sqm. Thus in all plants will be planted at the dumping site. Shrubs and bushes will be planted in between these trees. The dumping site will be fenced with barbed wire fencing to prevent the entry of the stray cattle thereby ensuring the protection of the plant from grazing. Also due to inert nature of the soil, plant will be need extra care for their establishment for the purpose imported soil/organic manure will be added in each pit for easy establishment of plants. Watering of the plant in dry session will be provided to prevent mortality. The plantation will be further maintained in project cost for ten years when beating up of failure will be done.

The cost estimate of dumping site is enclosed as Annexure R1 at page and the cost of trees will be met from the yearly programme of plantation during rainy season. The plantation work will be started from the year following the completion of dumping site. However erection of the crate walls around the dumping sites will be done prior to actual dumping.

The total cost of the reclamation Plan is Rs. 11,06,100.00 only.

**Post reclamation arrangements:**

Since the area in question is required by the user agency only for the temporary use of dumping, hence the area will be reverted back to the forest department after implementing the reclamation plan, if so stipulated by Govt. of India. However if at the time of so reverting back the forest department if any activity as per this reclamation plan is found wanting then the forest department may realize the cost of that activity from the user agency at the prevailing wage rates applicable in forest department and may get the same done departmentally at the project cost.

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