

FEASIBILITY OF HYDRO–LANDSCAPE WITH SPECIAL REFERENCE TO ZERO DISCHARGE CONCEPT IN FARIDABAD REGION

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ABSTRACT

The widespread water woes, are a concern of many a professional be it hydrologists, engineers, architects & landscape architects. Water experts everywhere are advocating the process of water harvesting—capturing, diverting and storing non-portable, or “reclaimed”, water for landscape irrigation and a variety of other uses. In keeping with the concept of zero discharge, harvesting rainwater and storm water can greatly reduce the possibility of damage from flooding and erosion at building sites. Furthermore, the water available from water harvesting can be used effectively as a resource to create an aesthetic landscape and thermally comfortable spaces. The said concept has been demonstrated through a case study. The case study of M/s Escorts private Ltd, Faridabad occupies an area of 27 acres & has a freshwater demand including that of office workers & floating population equal to **82.5 Cu metre/day**. This demand can easily be met from the existing four tube wells on site. Further, the horticulture & landscape irrigation demand equals **50 Cu metre/day**. At present, the total demand of water is **132.5 Cu metre/day**; of which **103.96 Cu metre** is being abstracted from the tube wells & the stage of ground water development as per ground water estimation committee, 2006 equals to **127 %** which is categorized as a **black site area** as per the NABARD norms.

It is rather alarming to note that the water level has already acquired a declining trend in the study area. The failure of water bodies is an obvious consequence but the loss of biodiversity though not that evident as of now is bound to have far reaching consequences. For, many plant species either have been eradicated completely or are on the verge of eradication. This trend is not only creating implications for the biodiversity but will eventually affect human health. For, the non-absorption of suspended particulate matter owing to the eventual extinction of plant species will lead to increased pollution in water.

The present study thus is an attempt to provide remedial measures for the improvement of the stage of ground water development by virtue of providing the required planning and design of the hydro landscape. The proposed design of the hydro landscape will not only reduce the stage of ground water development from **127% to 75%** but also provide guidance in terms planning criteria in an industrial sector like this to achieve zero discharge. This will further contribute to the adoption of a futuristic approach for cleaning of rivers in India in general & Yamuna River in particular. The present study “*Feasibility of Hydro–Landscape with special reference to zero discharge concept in Faridabad Region*” will also be useful to planners, landscape architects, architects, engineers, scientists & other concerned administrators, bureaucrats working in this direction.

KEYWORDS: Zero Discharge, Recyclable Potential, Rain Water Harvesting