

To Study Concept of Bridge Garden with Special Emphasis on Recycled Water (A Review Paper)

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Abstract— The Bridge Garden is a new concept developed in 2011 at England up till that the various structures are built and make their identity as Garden Bridge. But the Garden Bridge was built in 2014 at London in Westminster over the Thames river. Garden Bridge is a planned pedestrian bridge over the river Thames in London, England. Conceived by the actress Joanna Lumley in 1998 and designed by Thomas Heatherwick, working with Arup, on a commission from Transport for London, it is planned to feature trees and gardens.[4]

Keywords— Bridge Gardaning.

I. INTRODUCCION

The Bridge Garden concept is new to all over the world but contain some special points regarding the present atmospheric and traffic problem. The concept itself elaborates the meaning and usefulness of the project. The world arising with the daily new structures. This is also having the uniqueness of the civil structure This project will improve transport connectivity, efficiency and resilience for the area by providing a direct connection, will support the economic development of areas adjoining the bridge on both sides of the river and to help bring forward development also useful to create a new public space and garden. To compensate the area which are likely to be used for Garden on the mid of the garden. The concept of elevated garden should implement here.[1]

The area can be used for any another reason The requirement of this concept will help in future. where the need of area is increasing rapidly. The provision of road along with the garden gives it uniqueness and also helps in reducing the traffic problem in spread area.[3]

It is proposed to have efficient clean water supply & sanitary fittings and fixtures with appropriate services. Energy efficient electrical fittings & fixtures. Possible use of solar energy. Also include Waste water treatment plant. Possibilities of Water recycle & reuse (including rain water) It is proposed to have large open space, landscape, paved area etc.

Providing world class facilities in the Bridge Garden serve as tourism place.

To give the pleasant appearance to compensate the pollution of spread area and to solve the traffic problem as well as the space conditions. [6]

II. METHODOLOGY

1. CONSTRUCTION ANALYSIS

The analysis of a bridge should be undertaken by a designer who has received sufficient training and experience. The method of analysis selected should be appropriate to the type of bridge being considered.

On many concrete bridges the bending moments and shear resulting from the application of traffic load on a bridge deck are not necessarily carried by just the portion of bridge deck immediately under the load. When the affected area deflects, the deck bends transversely and twists, thereby spreading load to either side.[2]

The assessment of the load that is shared in this way and the extent to which it is spread across the deck depends on the bending, torsion and shear stiffness of the deck in both longitudinal and transverse direction. Computer methods are generally used to analyze the load effects. The most versatile of these is the grillage analysis, which treats the deck as a two-dimensional series of beam elements in both the longitudinal and transverse directions. Construction analysis useful for designing bridge by considering all loads & also useful to decide method of construction. [3]

2. GROUND CONDITION STUDY

On restricted sites the choice of substructure is often controlled by the space available and the plant that can be used. In particular, large-bored piles and raking piles require a considerable amount of space. Overhead power lines can seriously restrict the use of plant. The interaction of construction with existing traffic is an essential factor in the design of the work. If it is possible to acquire additional land for construction, this may be cheaper than the cost of delay caused by extending the programme.[3]

III. GARDEN ANALYSIS

Everybody needs to patch up the open space by developing lavish green grass, appealing blossoms, trees and different sorts of plants. We are master in the Landscaping work and developing plants in such a way, to the point that the open space is wisely used, and the mix of plants and their area increase the value of the place.[8] The thought behind "regular finishing" is to make yards and patio nurseries that come as close as could be expected under the circumstances to what is found in nature. By impersonating what works normally in our own particular geographic area, green spaces made y people can bring the same advantages that regular, untouched territories bring, including rain and tempest water filtration, natural surroundings for creatures and low-support ground cover.[9]

IV. IMPACT OF BRIDGE GARDEN ON MITHI RIVER

Prompt conclusion of all the unapproved exercises, which release mechanical effluents, muck, oil and chemicals. Procurement of legitimate refuse gathering framework to keep nationals from dumping the same into the waterway. Arrangement for interceptor sewers on both the banks and give Sewage treatment plants at different areas .Such plants can be given wherever legitimate seepage lines exist today. Dig the whole length of Mithi stream bed to enhance its conveying limit. Give legitimate junk accumulation stations to the event of hutment inhabitants. [5]

V. STUDY OF DRAINAGE FACILITIES

Ineffective drainage of runoff may effect a bridge

In several ways:

If flooding of the deck occurs due to blockage of the drainage system, it may create a serious traffic hazards;

If water flows uncontrolled over concrete or steel surfaces below deck level, corrosion problems will result; [1]

If debris collects, it will retain moistures and promote corrosion;

If water is discharged off the bridge other than into a proper drainage channel, it may cause erosion of approaches and possibly undermining of foundation;

If water is trapped in blocked pipes and freezes, the pipes or their enclosed concrete may be ruptured. [6]

VI. CONCLUSION

The Garden Bridge can survive as a traffic line for two places as well as economical standards to fulfill the requirements which are laid by existing one. It gives atheistic view by this project we can give other proposing site for garden and recycled water will save water

requirement for Garden, hence it is environmental beneficial construction.

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