



BANGLADESH UNIVERSITY OF ENGINEERING & TECHNOLOGY-BUET

Department of Civil Engineering

CE 404

Write Up of Week 3

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Redevelopment of the Secondary Transfer Station at Lalbagh (DSCC- Ward 20) with Integrated Compaction and Waste Transport Facility

Summary of the project

Our concerning STS is at Ward 20 (Lalbagh), built by Dhaka South City Corporation. It collects wastes from BUET, Dhaka Medical College, hospital areas, Dhaka University, respective varsity halls and their surrounding areas and store them at the station for approximately 11/12 hours before finally transferring to the landfill (Matuail). But the problem is that existing STS does not contain modern facilities and efficient waste transportation system. Therefore, this project of redevelopment of the STS is necessary. After the redevelopment, there will be expanded new station building, modern container trucks/vans with multiple compartment facility for waste collection ensuring proper segregation of different type of wastes, modern equipment like- imported containers and compactors at the station, recycling mechanism for dry waste like paper and polythene etc. As our landfills are almost out of their capacity, this compaction system will solve the problem. Also, reduced volume and water content will cause less leachate and odor problem.

Introduction

Current situation of secondary waste transfer station

1. Mixture of All Types of Wastes
2. Lack of Modern Facilities
3. Inefficient Waste Transportation System

Objectives of the project

1. Reconstruction and Extension of Existing STS
2. Waste Collected by Modern Two Compartment Truck/Van
3. Waste Segregation and Recycling
4. Waste Compaction
5. Efficient Transportation and Transfer to Landfill

Methodology

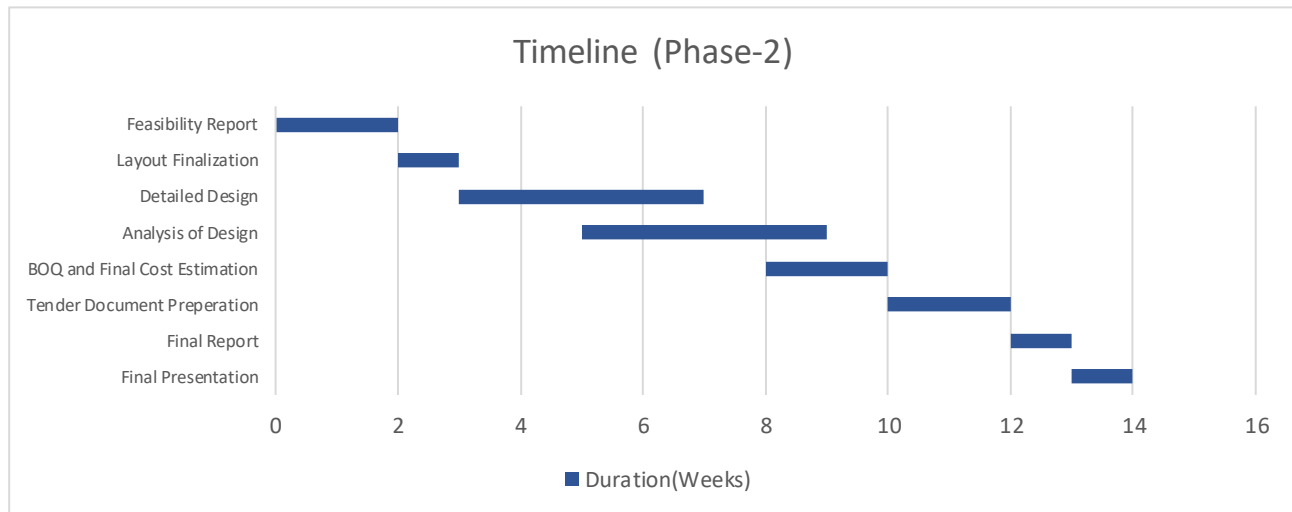
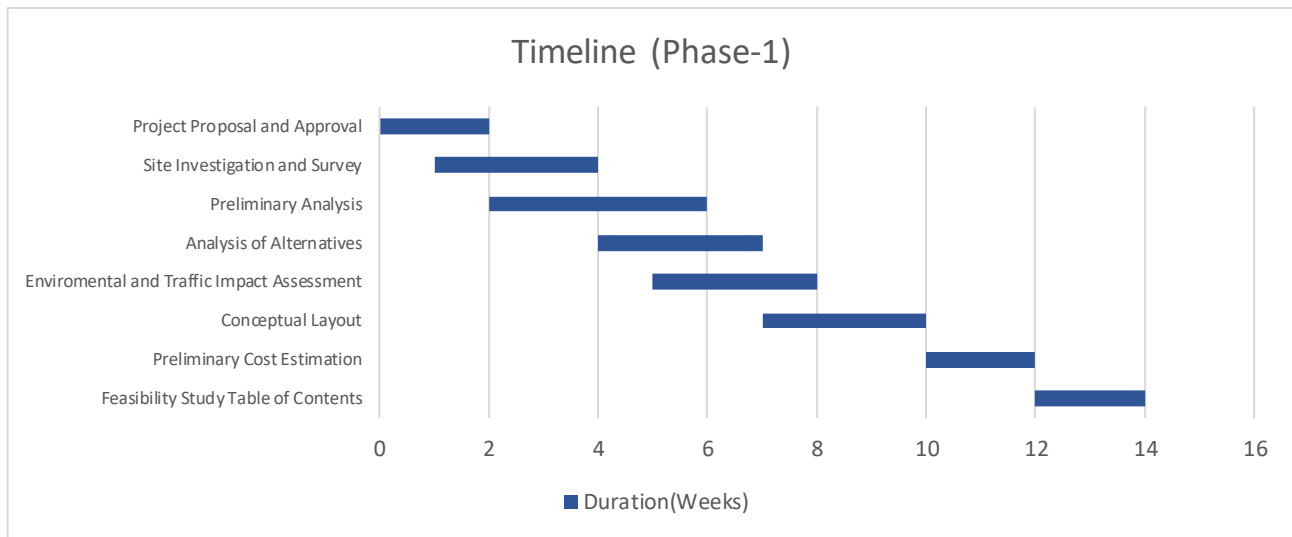
1. **Analysis of Present Conditions:** Visit the STS to gather initial insights and ideas.
2. **Necessary Surveys:** Identify the current shortcomings and strengths of the existing STS through surveys, interviews, and feedback from staff and customers.
3. **Personnel and resources:** Assess available personnel and resources for the project.
4. **Data collection:** Analyze the exact demand for the station. Different survey will be conducted. Also, Annual Waste Management Report and previous waste collection data (no of houses, no of trucks/vans used, no of containers at trucks, no of containers present at the existing station, volume of the containers, waste collection frequency etc.) must be collected from the city corporation office.
5. **Feasibility studies:** Carry out feasibility studies.

6. **Preliminary Design:** Evaluate the existing space and determine the optimal layout for improved functionalities and facilities.
7. **Financial and Economic Analysis:** Perform financial and economic analysis.
8. **Preliminary cost estimation:** Based on preliminary design, provide an initial cost estimation.
9. **Environmental Impact Assessment:** Assess the impact of the new STS on the people and Matuail Landfill.
10. **Traffic Impact Assessment:** Analyze traffic and pedestrian flow near the STS, considering the placement and frequent flow of trucks/vans.
11. **Project Approval:** Secure necessary approvals from relevant authorities for the project.
12. **Detailed planning and Design:** Develop detailed plans and designs for the project's execution.
13. **Tendering:** Initiate the tendering process.
14. **Implementation and Construction:** Implement and construct the proposed changes and additions to the STS.

Involvement of The Civil Engineering Divisions

1. **Environment:** Waste Management and Recycling
2. **Structure:** Construction and Expansion of STS
3. **Geotechnical:** Foundation of STS
4. **Transportation:** Efficient Transportation System of Waste

Timeline:



Description of Final Deliverables:

Deliverables (Phase 1)	Submission Week
Project Idea	Week 2
Project Proposal	Week 3
Detail planning, methodology, data/survey requirement, stakeholder identification, and identification of external expert requirement	Week 5
Draft Masterplan	Week 8
Data/Survey Summary	Week 9
Preliminary Analysis and Design	Week 11
Analysis of Alternatives, EIA, and preliminary cost estimation	Week 12
Feasibility Study Table of Content	Week 13

Deliverables (Phase 2)	Submission Week
Feasibility Study (Technical, Social, Environmental, Economic and Financial)	Week 2
Finalization of layout	Week 3
Analysis output	Week 5
Detail Design Report	Week 8
Final BOQ and Cost Estimation	Week 9
Tender Document, Implementation Schedule	Week 11
Final Report	Week 12
Final Presentation	Week 13

Reference List:

1. [Tabassum, Sumaiya. \(2020\). PERFORMANCE ASSESSMENT OF SECONDARY TRANSFER STATION FOR SOLID WASTE MANAGEMENT IN DHAKA NORTH CITY CORPORATION \(DNCC\).](#)
2. [BNBC: Bangladesh National Building Code-2020.](#)
3. [‘Waste Management Report 2019-2020’-DSCC.](#)
4. [Words and Areas of Dhaka South City Corporation.](#)
5. [Google Map Location.](#)

Appendix:

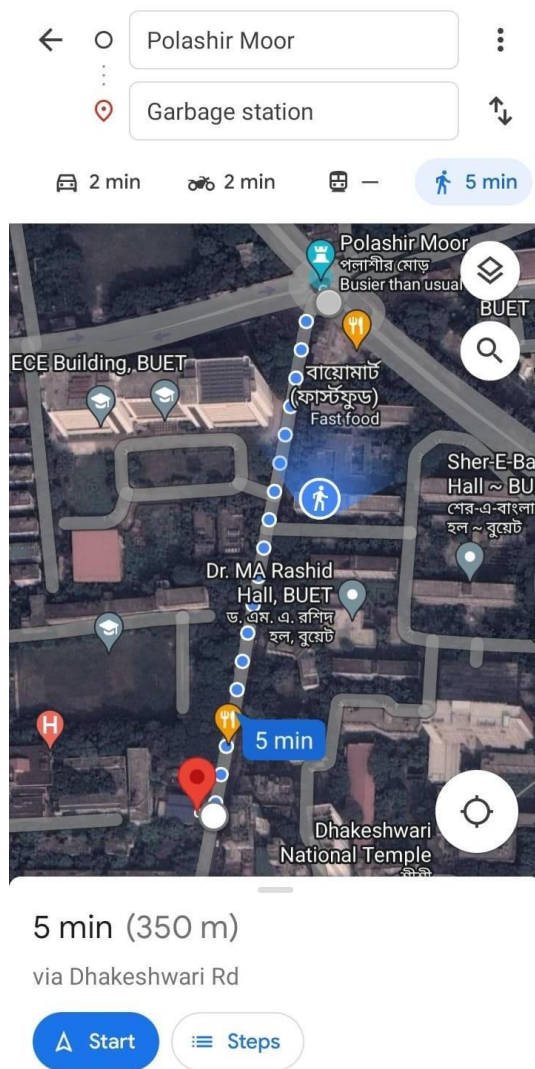


Figure: Location and Existing Scenario of Secondary Transfer Station of Waste at Lalbagh, Dhaka.