

Terms of Reference

1. BRIEF DESCRIPTION OF TASK:

This Terms of Reference is for providing consulting services to prepare Detailed Project report with comprehensive planning approach for SEEPZ Andheri to implement the Liquid/Wet waste, Food waste and Solid Waste Management program in their 110 Acres Campus situated at Andheri East. This work will be carried out by a consultant selected for Project Development and Management Consultant (Waste Management), henceforth referred to as '(PDMC WM)' on behalf of the *Santacruz Electronic Export Processing Zone (SEEPZ)*.

2. ORGANISATION BACKGROUND:

Santacruz Electronic Export Processing Zone (SEEPZ) was set up on 1st May, 1973 as uni-product EPZ exclusively for manufacture and export of electronic items in an area of 100 acres (which was later increase to 110 acres) of land leased through the Maharashtra Industrial Development Corporation (MIDC), Andheri (East), which over the years has become a land mark of Mumbai. The objective was of

- a) Accelerating the progress of electronics manufacturing in India (presumably encompassing the technology transfer objective) and
- b) To take advantage of the growing electronics world market (export and foreign exchange objectives).

Considering the high potential and the pollution-free nature of Gem & Jewellery Industry, the Govt. of India decided to permit manufacture and export of Gem & Jewellery items from SEEPZ during 1987-88, which soon gave a glamorous twist to SEEPZ.

With a view to overcome the shortcomings experienced on account of the multiplicity of controls and clearances; absence of world-class infrastructure, and an unstable fiscal regime and with a view of attract larger foreign investments in India, the Special Economic Zones (SEZs) Policy was announced in April 2000. SEEPZ was one of the three Export Processing Zones converted as Special Economic Zone w.e.f. 1st November, 2000.

3. PRESENT WASTE MANAGEMENT INFRASTRUCTURE:

Sprawling infrastructure of SEEPZ-SEZ is spread over 111 acres. The Zone provides

necessary infrastructure for facilitation setting up of units in the Zone such as:

- Developed Plots
- Ready built up galas

There are 8 Standard Design Factories and 3 Gems & Jewellery Factories, 2 Towers in SEEPZ++area & one multi-storied building Plots are leased for 30 years and built up area is leased for five years on renewable basis. Well connected network of central roads, and a Business Facilitation Centre are facility of Zone which leads to a steady increase in pollution/foot fall count to ~98,000 employees. And accordingly the waste generation per-capita are also increased.

Presently SEEPZ SEZ provides comprehensive waste management services such as:

- Dry waste disposal,
- 3TPD Bio-Gas plant for Organic wet waste &
- 2MLD Sewage Treatment Plant for gutter and sewage waste.

The Zone has also an assured supply of 4.6 MLD of water a day for all units working inside the SEZ premises.

4. OBJECTIVES:

The objective of the assignment is to provide direct assistance to *SEEPZ for preparation of detailed project report as reference to the population forecasting and* to ensure the effective coordination and implementation of the project. The PDWMC shall be responsible for effectively leading and taking initiative to plan, design, prepare detailed project report including carrying all necessary surveys, tests and design the subproject plus assistance in procurement, preparation of bid documents. The PDWMC will work closely with the *SEEPZ* for preparation of detailed project reports with design sustainability for the SEEPZ Area and will assist in operationalising the procedures and in implementing, monitoring and quality assuring the outputs of the program.

It is proposed to prepare 3 separate DPRs for review and modification/ replacement of already laid sewage collection network and Sewage Treatment Plant, Food waste treatment and solid waste management in this assignment and implementation of all the projects by respective executing agencies including assessment and treatment for industrial effluent also for which the DPR has to be prepared as per the directives of SEEPZ after approval of the feasibility report.

5. IMPLEMENTATION ARRANGEMENT

The Zonal Development Commissioner, SEEPZ shall appoint Consultant for PDMC (WM) & the Executing Agencies (EAs) for the project. The estate officers or the officials appointed by the DC SEEPZ shall facilitate, coordinate and insure the execution of the subprojects along the framed timeline.

6. PROJECT DEVELOPMENT & MANAGEMENT PROCESS:

- I. For this project, Detailed Project Report (DPR) and Bid Document will be prepared by PDMC (WM).
- II. Field/ laboratory Investigations, surveys, formulation of technical options, design, cost estimates and solutions to resettlement & environmental issues will be made part of DPR. The finance plan including O&M strategy for the complete life cycle of the project will be an integral part of DPR.
- III. Consultants should work on the revenue generation plan and scope for the Authority higher than the present condition.
- IV. Consultant should prepare plan on the treated water distribution pipeline management for the connectivity between STP and Unit Holders.
- V. Possibilities to apply smart technologies (like moving bed bio reactors) for providing better and enhanced basic services to the establishments will be explored while formulating the DPR. And reduce space utilization for the whole plant setup at least up to 1/4th of the current land setup.
- VI. The DPR will identify contracting opportunities including exploring options for PPP/Service Level Agreements or direct contracting and accordingly provide corresponding bid document. Based on the bid document SEEPZ will procure contracting firms, according to applicable laws and rules.
- VII. The project execution will be done by the SEEPZ in efficient way. Consultant have to ensure cost, time and quality compliances as envisaged in contract agreement. Expertise of PDMC (WM) firm will be used by the SEEPZ Authority to make quick decisions so as to ensure timely completion of projects within cost estimates.
- VIII. Consultant should carry all the works according to the Laws and guidelines of SEEPZ Authorities or SEZ Rules and Acts as issued by Government of India which may also be used while planning for selling the precious metals.
- IX. The consultant should work on the energy saving criteria as integrating the STP with solar energy power plant.
- X. E-waste processing and handling demarcation of area, also to be notified and planned by the consultant and making a Standard Procedure for disposal of e-waste.

5. SCOPE OF WORK:

SEEPZ Andheri (The Autonomous body of Govt. of India) intends to prepare a detailed project report, including detailed survey, mapping and drawings for Preparation master plan of the liquid, solid and food waste, for eliminating entry of waste water into any other water bodies which may get polluted due to these wastes. The collection network of existing sewer lines also has to be studied and after the condition assessment shall be modified or replaced. All these projects shall also be taken up for Bid processing, management and project management and supervision.

The scope of work includes the Detailed Survey/ check survey, mapping of the pipelines/ streams which are meeting to the main outfall and to explore the opportunity of recycle and reuse of all the wastes into consumable form. The main objective of this assignment is to study the natural drainage pattern and to assess the existing waste generation and its projections, calculate the probable flow of waste water considering next two design periods of 15 years each. The projection shall be as per the CPHEEO Norms and the consultant shall segregate the flow of water according to natural drainage pattern and assess the projected generation of these wastes on the basis of previous available records and proposed planning for the further development of the campus. The PDMC (WM) shall identify the capacities and the probable components of the scheme and also shall strategically prepare the assessment report of the existing infrastructure and its compatibility for treatment of future generated wastes in all the three sectors in consultation with SEEPZ and propose new infrastructure accordingly to make the campus self-sustainable in terms of zero waste discharging with a possibility of having no or meager financial burden during operation and maintenance period. The PDMC (WM) shall explore the possibility of recycling the waste water/ food waste and solid waste and its financial sustainability. The PDMC (WM) shall prepare a thorough comparison of the available technologies with their advantages and disadvantages for selection of best suitable technology for construction of STP's/ food waste digesters and segregation and reuse/ recycle of solid waste. The designed components shall be constructed in such a way to release the foot prints of already occupied land portion by existing structures and to make it available for commercial purpose.

The scope of PDMC (WM) under the proposed assignment comprises components namely survey, planning, design, preparation of DPR for water supply/ sewerage, compliance of remarks at various levels and bid assistance till the approval of competent authority. PDMC (WM) shall carry out all the required investigation, design and assistance in procurement and monitoring of the project till successful completion.

The consultant will carry out a multi-stage exercise in close collaboration with the SEEPZ and other stakeholders. Without limiting the scope, the PDMC (WM) has to work in close liaison with the SEEPZ and will be responsible for the following tasks:

Project Preparation

- i. Handhold/ support SEEPZ for project investigations, design, procurement, cost control, scheduling, reporting, and ensuring compliances and due diligences required for the project;

Survey, Studies and Investigations

- i. Consult the available documents such as Completion drawings/development plans /strategy plans, sanitation plans and other reports/Plans etc.
- ii. Review existing status of physical Infrastructure based on above documents and other available secondary data & identify data gap.
- iii. Review of land availability, rehabilitation - resettlement & Environmental issues for identified projects
- iv. Identify requirements of surveys, studies and investigations;
- v. Carry out all the required engineering surveys and investigations (total station/Levelling survey, geotechnical investigation (Only Trial Pits to ascertain the strata), soil survey, construction material survey, rainfall data collection,) including sufficient off-site information as may be made available by SEEPZ and / or Other departments to allow relationship with possibly useable off-site infrastructure to be established;

Feasibility Study

- a) Review available secondary data and reports required for analyzing the existing infrastructure facilities and for designing the facilities for project;
- b) Analyze Future projections & demand assessment;
- c) Prepare conceptual plan and preliminary design including the feasibility of the infrastructure to be provided;
- d) Assist SEEPZ in first Stage consultation with the stakeholder for each sub projects or group of Sub projects, as applicable, to discuss the conceptual plan and technical options and prepare minutes for recording and circulation;
- e) Based on above, diagnostic analysis of the technical options with respect to best practices / smart options/ priorities and consultation and as per the guidelines of CPHEEO Manual
- f) Assess land requirement;
- g) Prepare and submit 'Feasibility Report' to Client. The Feasibility Report should describe the various technical options with recommendation for most appropriate option;

Detailed Design

- a) Review/revise/modify the existing components and incorporate the useful components in the Detailed Project Reports for the subprojects;
- b) Once the Feasibility Report is approved, prepare detailed designs in accordance with sound & established engineering practices; tender drawings and; cost estimates etc. The design shall meet the techno economic aspects for best possible solution after

consideration of various available alternatives and shall sufficiently be detailed to ensure clarity and understanding by all stake holders and will be incorporated into a detailed project report to be submitted for the approval of the Client. The costs estimate shall be prepared on the basis of latest Delhi Schedule of Rates of (DSR) of CPWD with latest addenda and corrigenda. For Non-SOR items, if any, adopting rates on the basis of relevant 'Schedule of Rates' of Other state (as applicable) or market rate by proper rate analysis carried out through market enquiry;

- c) Identify the possibility of private / public participation in the service delivery, as feasible and applicable, and prepare contract document for such packages;
- d) Assessment of utility shifting requirement and costs estimations; like Railway, Forest, National Highways etc.;
- e) Preparation of environmental safeguard actions including impact assessments, if any, during the design stage;
- f) Prepare Detailed Project Report including technical specifications, Contract drawings, bills of quantities and above aspects;
- g) initializing arrangement for contracting including exploring options for PPP/ Service Level Agreements / bid document;
- h) Assist SEEPZ in second Stage consultation for each sub projects or group of Sub projects, as applicable, with the stakeholder to discuss the Detailed Design report with presentations;
- i) Prepare consolidated bid documents, technical specifications, approved contract drawings, bills of quantities, and any other necessary information required till successful tendering and implementation of contracts. The Bid document should be in accordance with the CA/ Government guidelines.

Bidding process and contract award:

Assist SEEPZ in all aspects of procurement including preparing the documents for bid invitation, conditions of contract, specifications, design parameters, addendum/corrigendum, and clarifications to the bidders queries, bid evaluation, selection of contractors.

Construction Supervision and Contract Management

- a) Providing advice and guidance to the SEEPZ for modern procedures and guidelines for project implementation and management in general.
- b) To assist the SEEPZ during execution and convey the changes to be made at the time of execution according to the changed site locations and implement the project within time frame.
- c) Arrange and coordinate multi Stage Consultation proposed under the project and

accordingly ensure modification of the project components.

6. TEAM COMPOSITION & QUALIFICATION REQUIREMENTS

Team Composition

The PDMC (WM) is expected to provide support to SEEPZ till the project completion i.e. 180 Days for preparation of DPRs and 30 months from the issue of work order to the contractor for the execution of the project say total duration to be 36 months. **The role of PMC shall start after the award of contract to the successful contractor for the execution of work. The minimum staff to be deputed by PDMC (WM) shall be as per the details mentioned in the table beneath.**

Sr no.	Position	Nos	Duration (months)	Total (Months)
Key Professionals (CVs to be evaluated during technical evaluation)				
<u>During DPR Stage:</u>				
1	Team Leader cum Urban Management Specialist	1	6	6
2	Design Engineer water supply	1	6	6
3	Design Engineer Waste Water/ Drainage	1	6	6
4	Procurement Specialist (with Legal and Transaction Advisory Competency)	1	3	3
5	Back Office Support	As per requirements		

Qualification Requirements for the Key experts

Experts Title	Qualifications Skills	Experience
Team Leader cum Urban Management Specialist	<p>Graduate in Engineering. 15 years' experience in DPR Preparation/ construction management of Urban Service delivery (Water Supply/ Sewerage/ Drainage)</p> <p>Experience in leading the team</p> <p>Experience in Procurement contract conditions</p>	<ul style="list-style-type: none"> • Responsible for overall management and administration of the project components during design and construction; • Advice on procurement and bidding process • Construction supervision, quality monitoring, contract management; • Establishment of Construction Management and Project Performance Monitoring and Reporting System; • Assist in resolving contractual issue during implementation; • Preparation of Progress as well as Project Completion Report; • Scheduling and ensuring timely mobilization/ demobilization of team member
Design Engineer (water supply)	<p>Graduate/ Diploma Civil Engineer</p> <p>10 years' experience in urban Water supply projects for Graduate/ 20 Years for Diploma</p> <p>Experience in water supply design and implementation</p> <p>Post Graduate in Civil Engineering with specialization in Environmental Engineering/ Public Health Engineering shall be advantage</p>	<ul style="list-style-type: none"> • Design of water supply works • Appraisal of subprojects for Water Supply; • Preparing Water Supply master plans for cities • Assist Procurement • Oversee contract management and performance monitoring of the contractors • Ensuring the construction activities are implemented as per design infield; • Assist in preparation of Project Completion Report
Design Engineer (Waste Water/ Drainage)	<p>Graduate/ Diploma Civil Engineer</p> <p>10 years' experience in Waste Water/ Drainage projects/ 20 Years for Diploma</p> <p>Experience in waste water</p>	<ul style="list-style-type: none"> • Design of waste waterworks • Appraisal of subprojects for Waste Water; • Preparing Waste Water/ Sewerage master plans for cities • Assist Procurement • Oversee contract management and performance monitoring of the contractors

Experts Title	Qualifications Skills	Experience
	design/ Network designs and implementation Post Graduate in Civil Engineering with specialization in Environmental Engineering/ Public Health Engineering shall be advantage	<ul style="list-style-type: none"> • Ensuring the construction activities are implemented as per design infield; • Assist in preparation of Project Completion Report
Procurement Specialist (with Legal and Transaction Advisory Competency)	Graduate Engineer <ul style="list-style-type: none"> • 10 years' experience in public procurement/ 20 Years for Diploma • 5 Years' experience as Transaction Advisory and Legal frameworks. • Contracts formulation 	<ul style="list-style-type: none"> • Procurement of goods, services as per State guidelines including preparation of bid documents, evaluation of bids, contract formation and assisting State/ Cities in award of work • Contract management and Performance • Should have experience is providing Transaction Advisory Services in similar waste Management Project. • Should have competency to work on PPP model. • Should have Legal competency with knowledge in SEZ rules and Acts.

7. Reporting Requirements and Time Schedule for Deliverables

As a minimum, following are the deliverables:

- **Inception Report with Survey** in 30 days time of mobilization of consultant containing approach, methodology, work plan and staffing schedule for the project activities and schedule for deliverables;
- **Draft DPR (Detailed Project Report)** in 45 days including engineering feasibility study, survey and investigation reports, social and environmental safeguard documents, economic and financial analysis and subproject appraisal report.
- **Final DPR (60 Days) with Bid Documents -NIT (75 Days)** within 150 days including design reports supported by field/ lab investigations; population projections, detailed designs; costs estimates, rate analysis and take off sheets, and compliances over draft DPR observations.

Project Execution Phase

- Monthly Contract Performance and Management Reports
- Contract Completion Reports for each project package.
- Quarterly and Yearly Progress Reports
- Any other reports as required by SEEPZ.
- All reports will be submitted to SEEPZ in agreed timeframe.

8. Payment Schedule

The mode of payment shall be as under for Gross Cost of the scheme:

During DPR Stage (40% of the total offer)		Timeline	Payment terms (%)
1	Submission of concept report	T+6 Weeks	40%
2	Submission of the Draft DPR to the SEEPZ		
3	Submission of DPR to Committee with due compliance & presentation	T+8 Weeks	10%
4	Preparation and approval of Draft NIT	T+10 Weeks	20%
5	Bid Process Management	T+20 Weeks	10%
6	Technical & Administrative Sanction from Competent authority	T+24 Weeks	20%
Security and performance guarantee will be 5% of the entire contract amount			5%

Note on Payment of PMC staff:-

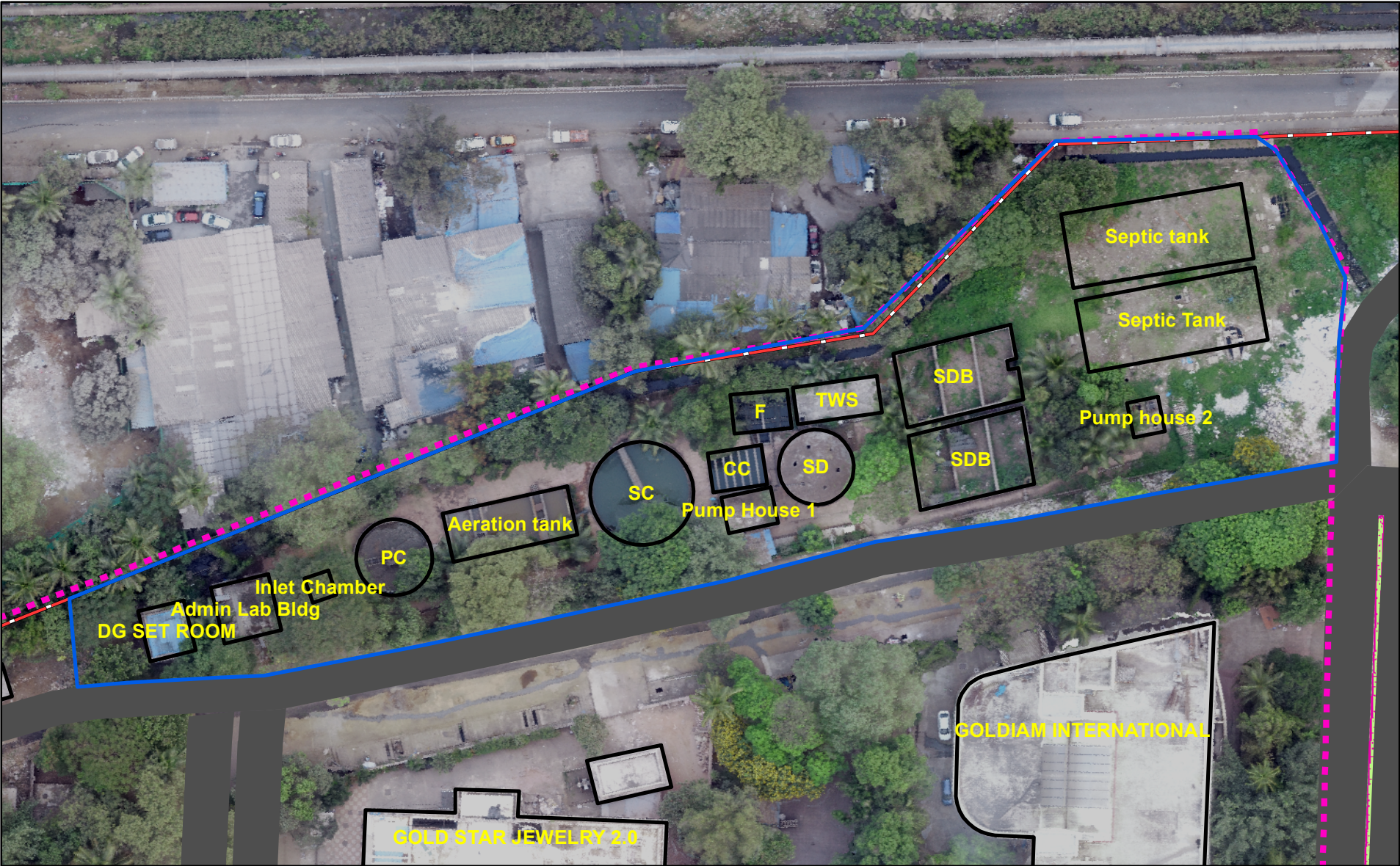
1. The SEEPZ if feels to increase the manpower it shall be binding to the PDMC (WM) to engage additional staff at the rates already approved for that expert, however he can deploy the additional staff only after getting the instructions to do so in writing.
2. If it is felt by SEEPZ to curtail/ extend the period of supervision after the stipulated time period of 6 months, then the PDMC (WM) shall be bound to provide the staff for additional period. For the first 06 months of such extension after the stipulated completion period on the same rates, for the second extension of 12 months, additional 10% amount shall be increased. If the PDMC has to be increased by another 12 months then further 10% amount shall be increased.
3. The PDMC (WM) shall also deploy support staff such as AutoCAD draftsman, office manager with computers and peripherals.
4. In case if any project is dropped for implementation after the preparation of DPR then the payment for each package shall be fixed fixed as per Payment Milestones linked to the Deliverables.

5. All the support staff, vehicles, office equipment's and running expenses shall be deemed to be included in the offer for support staff.

9. Penalty and liquidated damages:

1. If the selected PDMC (WM) fails to complete the assignment as stipulated under the Inception report in the form of milestones, the PDMC (WM) shall pay to the SEEPZ, fixed and agreed liquidated damages, and not as penalty, @ 0.25% of the contract fees for each week of delay. The aggregate maximum of liquidated damages payable to the SEEPZ shall be subject to a maximum of 5% of the total contract fees and shall be appropriated from EMD and if claim is more than the EMD the balance shall be set off from bank guarantee.
2. If the selected PDMC (WM) fails to depute manpower as stipulated under the Inception report in the form of deployment schedule, the PDMC (WM) shall pay to the SEEPZ, fixed and agreed penalty, @ 0.25% of the contract fees for each week of delay. The aggregate maximum of penalty payable to the SEEPZ shall be subject to a maximum of 5% of the total contract fees and shall be appropriated from EMD and if claim is more than the EMD the balance shall be set off from bank guarantee.

Map of STP Layout



Legend

- STP Boundary
- Compound_Wall
- STRUCTURE
- Sectoral Boundary
- Sector No
 - Sector I
 - Sector II
 - Sector III
 - Sector IV
 - Sector V
 - Sector VI
- Road Edge
- Divider

Sr. No.	Name	Area(Sq.m)
1	SC	173.676533
2	PC	94.104197
3	SD	91.637407
4	SDB	185.671097
5	Aeration tank	131.017847
6	DG SET ROOM	50.100907
7	Admin Lab Bldg	69.800887
8	Pump House 1	38.361657
9	CC	45.061146
10	TWS	65.707811
11	SDB	184.505927
12	F	46.445265
13	Septic tank	286.068343
14	Septic Tank	276.881012
15	Pump house 2	23.066212
16	Inlet Chamber	13.306478

1	28-12-2022	S.R.	S.W.	R.D.	
Rev No	Status	Date	Drawn By	Checked By	Approved By
Project Title		Map of STP Layout			
Client		SEEPZ - SPECIAL ECONOMIC ZONE			
Drawn		MAP OF STP LAYOUT			
Date					
Chkd.					
Appr.					
Date					
Project No.	Drawing No.	Scale	Rev. No.	Sheet No.	
	1	1 CM = 8 M			
GEOINFO SERVICES					
Unit No 1, Building No 3, Sector 3, Millennium Business Park, Mahape, Navi Mumbai					

1 centimeter = 8 meters

