

**GREATER VISAKHAPATNAM MUNICIPAL CORPORATION**

**Rc.No.29/2015-16/CE/SE(P-1)/ EE(PD-III)/GVMC, Dt:10-09-2015 (Item 4)**

***Expression of Interest (EOI)***

***“Consultancy Services for preparation of Comprehensive Storm Water Disposal System (DPR) for Gajuwaka Assembly Constituency***

Consultancy Services are invited from Leading Engineering Consultancy firms for preparation of Comprehensive Storm Water Disposal System (DPR) for Gajuwaka Assembly Constituency in GVMC. The documents for the above areas containing terms & conditions may be downloaded from website of [www.gvmc.gov.in](http://www.gvmc.gov.in) from 11-09-2015. The last date for submission of bids date extended from 11-09-2015 to 15-10-2015 duly enclosing Rs.10,000/- Demand draft drawn in favour of 'The **Commissioner, GVMC, Visakhapatnam**

***For more details contact:***

Greater Visakhapatnam Municipal Corporation  
E-mail: eepd3gvmc2014@gmail.com  
Cell Nos. : A.E.: 7729995924, Dy.EE : 9848889696  
EE(PD-III) : 9848308821

**Chief Engineer  
GVMC**

**Expression of Interest (EOI)**

**CONSULTANCY SERVICES FOR**  
**PREPARATION OF COMPREHENSIVE STORM WATER DISPOSAL SYSTEM**  
**(DPR) FOR**  
**GAJUWAKA ASSEMBLY CONSTITUENCY IN GVMC**

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**Part I**  
**Information to Bidders**

**CONSULTANCY SERVICES FOR**  
**PREPARATION OF COMPREHENSIVE STORM WATER DISPOSAL SYSTEM**  
**(DPR) FOR**  
**GAJUWAKA ASSEMBLY CONSTITUENCY IN GVMC**

**COVER- 'A' TECHNICAL PROPOSAL**

**CONSULTANCY SERVICES FOR PREPARATION OF COMPREHENSIVE  
STORM WATER DISPOSAL SYSTEM (DPR) FOR GAJUWAKA ASSEMBLY  
CONSTITUENCY IN GVMC**

**1. OBJECTIVE**

The main objective of the consultancy is to prepare a D,P.R. for Comprehensive Storm Water Disposal System for Greater Visakhapatnam Municipal Corporation, **Gajuwaka Assembly Constituency** deliver the desired level services in the i) immediate / short ii) medium and iii) long terms.

**Request for Proposal – Criteria – Quality and cost base - Selection**

Technical bids and price bids are invited from reputed Consulting firms with a view to entrust the preparation of detailed project report of Comprehensive storm water drainage scheme, **Gajuwaka Assembly Constituency**. The Consulting firm will be selected based on Quality and cost based selection procedure described in this document.

**2. Eligibility Criteria**

Sealed bids are invited from intending eligible bidders and a two cover system (Technical proposal and Financial Proposals in two separate sealed covers) for Preparation of Detailed Project Report of Comprehensive Storm Water Drainage Scheme to the GVMC, **Gajuwaka Assembly Constituency**.

- (i) The bidder should have completed D.P.R. for a Storm water drainage project for any town or city whose population is not less than One Lakh (as per census 2011) in any one financial year during the last five years i.e. from 01-04-2010 to 31.03.2015.
- (ii) The Annual turnover of the bidder should not be less than Rs.25.00 lakh (similar work) in any one financial year during the last five years i.e. from 01-04-2010 to 31.03.2015.

Your proposal in response could form the basis for future negotiations and ultimately a contract between your firm and the Project Coordinator (the client) may materialize. The contact will be a lump sum contract with payments based on outputs indicated in the subsequent paras.

Please note that the costs of preparing the proposal and of negotiating the contract, including a visit to the town/s and to the Client's offices are not reimbursable as a direct cost of the Assignment. We wish to remind you that in order to avoid a conflict of interest, any firm providing goods, works or services with which you are affiliated or associated may not be eligible to participate in bidding for any additional goods, works or services associated with this assignment unless specifically agreed upon by the Client. This clause will be invoked wherever applicable.

To enable you to submit a proposal, please find enclosed the terms of reference (ToR) for this Proposal. This includes the purpose and scope of the Proposal, the envisaged tasks, the expertise required along with inputs, the outcomes and deliverables and the reporting schedule and timings.

## **II. PREPARATION OF PROPOSALS**

### **Technical Proposal**

1. Format for the technical proposal is in the TOR including the format for CV's which should be followed. The Bidders are expected to examine the documents in detail before submission of proposals.
2. For assignments on a staff-time basis, the estimated number of Professional staff in person months is only indicative. The proposal shall, however be based on the number of professional staff that will be deployed in person months estimated by the firm.
3. A brief description of the firm's organizational setup and an outline of recent experience on assignments of a similar nature. For each assignment, the outline should indicate, inter alia, the profiles and names of the staff provided, duration of the assignment, and firm's involvement.
4. Any comments or suggestions on the terms of reference.
5. A description of the methodology and work plan for performing the assignment.
6. The list of the proposed staff team and specialization, the tasks that would be assigned to each staff member, and their timing. CVs of the proposed professional staff duly signed, should be submitted. Key information should include number of years working for the firm/entity, and level of responsibility held in various assignments during the last ten (10) years due additional weightage will be awarded for professionals having good and relevant experience in the field of UFW/NRW studies.
7. Estimates of the total staff effort (professional and support staff; staff time in man months) required carrying out the assignment, supported by bar chart diagrams showing the time proposed for each professional staff team member.
8. Each key staff proposed shall be associated with only one consultant
9. It is desirable that the majority of the key professional staff proposed be permanent employees of the firm or have an extended and stable working relation with it.
10. Alternative professional staff shall not be proposed, and only one CV may be submitted for each position.
11. The technical proposal shall not include any financial information.

### **Financial Proposal –**

1. The Costs should be expressed in Indian Rupees only inclusive of all taxes (including social security) as applicable, duties, fees, levies, and other charges imposed under the applicable law, on the consultants, sub consultants, and their personnel.

### III SUBMISSION, RECEIPT AND EVALUATION OF PROPOSALS

#### 1. Submission of Proposals:-

Proposals should be submitted in one original document. Proposals must be prepared in indelible ink and be signed by the authorized representative of the Consultants.

All technical proposals shall be placed in one envelope clearly marked "Technical Proposal," and the financial proposals in another envelope marked "Financial Proposals." These two envelopes, in turn, shall be sealed in an outer envelope bearing the Following Information.

**Preparation of Comprehensive Storm water disposal scheme in Greater Visakhapatnam Municipal Corporation, Gajuwaka Assembly Constituency.**

**and addressed to: The Commissioner,  
Greater Visakhapatnam Municipal Corporation**

The RFP documents shall be downloaded from the GVMC Website: [//www.gvmc.gov.in/](http://www.gvmc.gov.in/) from **11-09-2015** onwards the submission dates was extended **up to 15-10-2015, 2-00 PM** and Consultants have to submit their sealed Tenders on or **before 15-10-2015, 3.00 PM**, which will be opened at 3.30 PM on the same day at O/o. Chief Engineer, GVMC, Visakhapatnam, A.P.

Your completed technical and financial proposals must be delivered to this address on or before **3.00 PM on 15-10-2015**.

Technical and financial proposals shall be written in English including project/study reports. The Client reserves the right to modify and extend the deadline for the submission of proposals.

**Dy.Executive Engineer (PD-III), Mobile No.9848889696**

**Executive Engineer (PD-III), Mobile No.9848308821**

#### 2. Bid Evaluation

The technical bids will be evaluated first by the **Superintending Engineer (P-I), GVMC** prior to opening of any financial proposals. All the technical bids will be evaluated based on their experience. The **Superintending Engineer (P-I), GVMC** shall carry out its evaluation applying the evaluation criteria:

CV's of the available Team leader/s and key personnel for the proposed study/studies will be rated for item (ii) above in accordance with:

1.	General qualifications <ul style="list-style-type: none"> <li>• Professional educational qualification (25)</li> <li>• Professional Membership (5)</li> </ul>
2	Adequacy for the Project <ul style="list-style-type: none"> <li>• Total length of experience (20)</li> <li>• Professional Experience specific to the assignment (30)</li> <li>• Experience in imparting / transfer of knowledge (10)</li> </ul>
3	Experience in the Region <ul style="list-style-type: none"> <li>• Experience in the Region (8)</li> <li>• Knowledge of local language (2)</li> </ul>
Total points	

The bidders will be selected based on the technical score.

**The following are the key professionals to be nominated for the study:**

Sl. No	Key Position	No. of persons	Area of specific Expertise desired	Minimum qualification and Professional Experience desired
1	Project Manager (Team Leader )	1	In designing Storm water Drainage.	A post graduate degree in Civil Engg. with about 20 years experience or A graduate in Civil Engg. With about 25 years experience.
2	Project Engineer (Civil) (Stormwater Drainage)	1	In designing Storm water Drainage	A graduate in Civil Engineering with about 10 years experience.
3	Project Engineer (Civil) (Water resources / Hydrology)	1	In the field of Hydrology, water resources and Hydrogeology, with exposure to assessment of potential of water sources.	A graduate in Civil Engg. with about 10years experience
4	Project Engineer (Elec / Mech)	1 or 0	Experience in selection and installation of pumps electrical panel boards etc. and erection works, with exposure to Energy Audit studies.	A graduate in Electrical/Mechanical Engg. With about 10 years



### **3. Negotiations**

The DPR for comprehensive Storm water drainage scheme for the proposed Greater Visakhapatnam Municipal Corporation is intended to entrust to qualified bidder based on the above criteria depending on the capability.

The Client will notify the bidder who submitted the highest scoring technical bids and invite them for negotiations. Negotiations will aim to reach agreement and initial a draft contract. Modifications if any will be reflected in the Consultant's financial proposal based on negotiations for that Greater Visakhapatnam Municipal Corporation.

Negotiations shall commence with a discussion of the technical proposal, the proposed methodology (work plan), staffing pattern with suggestions to improve the ToR. Agreement shall then be reached on the ToR, the staffing pattern and the bar charts, which shall indicate the activities, staff engaged and their deployment, their periods in the field and in the home office, staff months, logistics and reporting. Special attention shall be paid to optimizing the required outputs from the Consultants within the available budget to ensure satisfactory implementation of the Assignment. The Commissioner, Greater Visakhapatnam Municipal Corporation / custodian of Government funds and is expected to exercise prudence in their expenditure.

Having selected Consultants based on, among other things, an evaluation of proposed key professional staff, the Client expects to negotiate a contract based on the staff named in the proposal. Prior to contract negotiations, the client requires assurances in the form of undertaking from the firm as well as the personnel that the staff members will be actually available for the proposed studies. The client shall not consider substitutions during contract negotiations.

The negotiations shall be concluded with a review of the draft form of the contract. The client and the consultants shall finalize the contracts to conclude negotiations. The assignment will commence on signing of the contract.

### **4. Bid Validity**

The bidders are requested to hold their proposal valid for 90 days from the date of submission, during which time they shall maintain, without change, the personnel proposed for the assignment. The Commissioner, Greater Visakhapatnam Municipal Corporation reserves the right to accept or reject any or all of the bids relating to the studies of the GVMC **Gajuwaka Assembly Constituency**. The decision of the Commissioner, Greater Visakhapatnam Municipal Corporation in this regard shall be final and binding on all the bidders. No correspondence will be entertained in this regard. Furthermore, as quality is the principal selection criteria, the client does not bind itself in any way to select the firm offering the Gajuwaka prices.

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## **5. Terms of Payment**

Payment shall be regulated in accordance with the payment conditions stipulated in the ToR.

## **6. Facilities to Be Provided By the Client**

The client will provide the following services to the extent available to the consultant for the duration of the assignment:

Access to the available data including documents, reports, accounts and maps. Permissions to enter works and offices as appropriate and necessary to undertake the proposed study. The consultants shall discuss and highlight the requirements essential for the proposed study to the Commissioner, Greater Visakhapatnam Municipal Corporation or his designate Superintending Engineer (P-I), GVMC.

## **7. Facilities to be provided by the Consultant**

The consultant shall include in the financial proposal for all items necessary to complete the work and outputs as defined in the ToR. Any other relevant item with the consent of the client in a manner satisfactory to the client for completion of the study.

## **8. Implementation Arrangements for conducting the Study**

The main agency responsible for this report is the Greater Visakhapatnam Municipal Corporation. The Commissioner, Greater Visakhapatnam Municipal Corporation is responsible for overall supervision of the project and Assistant Engineer appointed by the Commissioner, Greater Visakhapatnam Municipal Corporation will be responsible for day-to-day liaison with the consultants.

The commissioner, Greater Visakhapatnam Municipal Corporation will have overall responsibility for appointing consultants including monitoring and approving their work. While the Commissioner, Greater Visakhapatnam Municipal Corporation will facilitate the work of the consultants, the consultants will also be responsible for obtaining approval from the relevant utility line agencies if required - i.e. in particular ULB/UDA/Police/ Telephones/Electricity /R&B/ PR/ Transport/ Highways/RTC/ Railways/Revenue Depts. etc. The Commissioner, Greater Visakhapatnam Municipal Corporation will inform about this study and the role of the consultants. However, the consultants should contact the Greater Visakhapatnam Municipal Corporation themselves to ensure liaison with the **GVMC Dept. Officers like Assistant Engineers.**

The consultant shall report to the Commissioner, Greater Visakhapatnam Municipal Corporation and liase closely with appointed counterpart officers in Greater Visakhapatnam Municipal Corporation. The consultant shall keep the Commissioner, Greater Visakhapatnam Municipal Corporation fully informed at all times, and should liase closely with all other relevant State/Central/municipal agencies involved in the project.

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## **9. Suggestions by the Consultant**

The consultant is requested to make any suggestions for improvements to the ToR in the technical proposal. The financial implications, if any, of these recommendations should be indicated in the financial proposal.

## **V. AWARD OF CONTRACT.**

The contract will be awarded following negotiations.

The firm is expected to commence the assignment on the date and location intimated separately.

## **VI. CONFIDENTIALITY**

Information relating to evaluation of proposals and recommendations concerning awards shall not be disclosed to the consultants who submitted the proposals or to other persons not officially concerned with the process until the successful Firm has been notified that it has been awarded the contract.

## **APPENDIX A**

### **3. TECHNICAL PROPOSAL – STANDARD FORMS**

- 3A. Technical Proposal submission form.
- 3B. Firm's references.
- 3C. Comments and suggestions on the Terms of Reference and on data services, and facilities to be provided by the Employer.
- 3D. Description of the methodology and work plan for performing the assignment.
- 3E. Team composition and task assignments.
- 3F. Format of Curriculum Vitae of proposed professional staff.
- 3G. Time schedule for professional personnel.
- 3H. Activity (work) schedule.

**3A. TECHNICAL PROPOSAL SUBMISSION FORM**

[Location, Date]

From: (Name of Firm)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

To:

The Commissioner,  
Greater Visakhapatnam  
Municipal Corporation.  
Visakhapatnam

Ladies/Gentlemen,

Sub : Consultancy Services for preparation of Comprehensive Storm Water Disposal System (DPR) for Greater Visakhapatnam Municipal Corporation, **Gajuwaka Assembly Constituency** - Technical Proposal.

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Subject:

We, the undersigned, offer to provide the consulting services for the above in accordance with your request for Proposal **dated - 09-2015** and our Technical and Financial Proposal. We are hereby submitting our Proposal which includes this Technical Proposal, and a Financial Proposal sealed under a separate envelope.

If negotiations are held during the period of validity of the Proposal, i.e., **before - 09- 2015**, we undertake to negotiate on the basis of the proposed staff. Our proposal is binding upon us and subject to the modifications resulting from contract negotiations.

We understand you are not bound to accept any Proposal you receive.

We remain,

Yours sincerely,

Authorized Signatory Signature:  
Name and Title of Signatory:  
Name of Firm:  
Address:

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### 3B. FIRM'S REFERENCES

#### Relevant Services Carried Out in the Last Five Years

Relevant Services Carried Out in the Last Five Years That Best Illustrate Qualifications Using the format below, provide information on each reference assignment for which your firm/entity, either individually or as a corporate entity or as one of the major companies within an association, was legally contracted.

Assignment Name:		Country:
Location within Country:		Professional Staff Provided by Your Firm/entity (profiles):
Name of Employer:		No. of Staff:
Address:		No. of Staff-Months; duration of assignment:
Start Date (Month/Year):	Completion Date (Month/Year):	Approx, Value of Services (in Rs)
Name of Associated Consultants, if any:		No. of Months of Professional Staff, provided by Associated Consultants:
Name of Senior Staff (Project Director/Coordinator, Team Leader) involved and functions performed:		
Narrative Description of Project:		
Description of Actual Services Provided by Your Staff:		

Firm's Name: \_\_\_\_\_

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**3C. COMMENTS AND SUGGESTIONS OF CONSULTANTS ON THE TERMS OF REFERENCE AND ON DATA, SERVICES AND FACILITIES TO BE PROVIDED BY THE EMPLOYER**

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**On the Terms of Reference:**

- 1.
- 2.
- 3.
- 4.
- 5.

**On the data, services, and facilities to be provided by the Employer**

- 1.
- 2.
- 3.
- 4.
- 5.

**CONSULTING FIRM'S NAME:**

**3D. DESCRIPTION OF THE METHODOLOGY AND WORK PLAN FOR PERFORMING THE ASSIGNMENT**

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**3E. TEAM COMPOSITION AND TASK ASSIGNMENTS**

**1. Technical / Managerial Staff**

S. No.	Name	Position	Task
1.			
2.			
3.			
4.			
..			
..			

**2. Support Staff**

S. No.	Name	Position	Task
1.			
2.			
3.			
4.			
..			
..			

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**3F. Format of Curriculum Vitae (CV) For Proposed Professional Staff**

Proposed Position: \_\_\_\_\_

Name of Firm: \_\_\_\_\_

Name of Staff: \_\_\_\_\_

Profession: \_\_\_\_\_

Date of Birth: \_\_\_\_\_

Years with Firm /Entity: \_\_\_\_\_ Nationality: \_\_\_\_\_

Membership in Professional Societies:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Detailed Tasks Assigned:

\_\_\_\_\_  
\_\_\_\_\_

**Key Qualifications:**

*[Give an outline of staff member's experience and training most pertinent to tasks on assignment. Describe degree of responsibility held by staff member on relevant previous assignments and give dates and locations. Use about half a page.]*

**Education:**

*[Summarize college/university and other specialized education of staff member, giving names of schools, dates attended, and degrees obtained. Use about one quarter of a page.]*

\_\_\_\_\_  
\_\_\_\_\_

**Employment Record:**

*[Starting with present position, list in reverse order every employment held. List all positions held by staff member since graduation, giving dates, names of employing organizations, titles of positions held, and locations of assignments. For experience in last ten years, also give types of activities performed and Employer references, where appropriate. Use about three-quarters of a page.]*

\_\_\_\_\_

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**Languages:**

[For each language indicate proficiency: excellent, good, or poor; in speaking, reading and writing]

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**Certification:**

I, the undersigned, certify that to the best of my knowledge and belief, these data correctly describe me, my qualifications, and my experience.

\_\_\_\_\_ Date: \_\_\_\_\_

[Signature of staff member and authorized representative of the Firm]

Day/Month/Year

**Full name of staff member:** \_\_\_\_\_

**Full name of authorized representatives:** \_\_\_\_\_

**Note:** CV of each individual should be signed in original by the respective staff member along with the date and endorsed by the authorized representative of the lead firm.

**3G. TIME SCHEDULE FOR PROFESSIONAL PERSONNEL**

S. No.	Name	Position	Reports Due / Activities	Months (in the form of a Bar Chart)						
				1	2	3	4	5	6	Number of Months

Full-time: \_\_\_\_\_  
 Reports Due: \_\_\_\_\_  
 Activities Duration: \_\_\_\_\_

Part-time: \_\_\_\_\_  
 Signature: \_\_\_\_\_  
 (Authorized Representative)  
 Full Name: \_\_\_\_\_  
 Title: \_\_\_\_\_  
 Address: \_\_\_\_\_

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**3H. ACTIVITY (WORK) SCHEDULE**

**A. Field Investigation and Study Items:**

S. No.	Item of Activity (work)	Month wise Program (in form of Bar Chart) [1st, 2nd ,etc. are months from the start of assignment]					
		1st	2nd	3 <sup>rd</sup>	4th	5th	6th
	_____						
	_____						
	_____						
	_____						
	_____						

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**B. Completion and Submission of Reports**

Reports: *	Programmed: (Date)
1. Inception Report and Detailed Work Plan	
2. Concept Report	
3. Draft Final Report	
4. Final Report	

\* MODIFY AS REQUIRED FOR THE ASSIGNMENT

(Consultants will indicate as per the requirement)

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**TERMS OF REFERENCE**

**1. OBJECTIVE**

The main objective of the consultancy is to prepare for Comprehensive Storm Water Disposal System (DPR) for **Greater Visakhapatnam Municipal Corporation, Gajuwaka Assembly Constituency** deliver the desired level services in the i) immediate / short ii) medium and iii) long terms.

**2. SCOPE OF SERVICES**

The scope shall broadly cover the following phases:

- A. *Reviewing the existing situation, and undertaking necessary assessments;***
- B. *Feasibility Analysis and detailed planning;***
- C. *Capacity Enhancement and Sustainability.***

The scope involves the following aspects:

- The work shall be done in a consultative manner by consulting various stakeholders at the ULB level, through the active participation of municipal staff involved in Drain cleaning and sanitation.
- Undertake all necessary assessments, including technical, financial, economic, environmental and social, institutional that feed into the planning of interventions.
- The outputs and recommendations of the study shall be integrated with the state level initiatives.
- The proposals shall conform to the guide lines issued by the GOI and GOAP including CPHEEO manual on Sewerage and sewage treatment, CPHEEO manual on O&M. and as per check list of G.O.I for UIDSSMT schemes.
- Planning shall be done for the horizon of at Gajuwaka next 30 years (aiming at year 2045), unless justified otherwise. Rehabilitation measures on the existing system shall also be given due consideration based on feasibility before proposing any new investments.
- The designs shall be in compliance with the relevant Indian Standards (as amended up to date, with all correction slips) and CPHEEO manual. Wherever such standards are not available, appropriate standards shall be followed after discussions with the ULB.
- For any studies and assessments, the required equipment / tools / logistics shall be arranged by the consultants themselves.

- The consultant shall be wholly responsible for all the details of the proposal, the physical and site conditions, the execution methodology etc. All data utilized in preparation of the proposal shall be presented indicating the sources of the data and also the basis of assumptions, if any. The consultant shall be responsible for all the data or designs and drawings given by them.
- The Scope will include completion of planning exercise and preparation of Detailed Project report and getting it cleared by the CPHEEO and necessary procurement documentation.
- As part of the Inception Report, the consultants shall develop the overall structure of outputs and inter linkages between them. As the work progresses, the consultants shall also prepare the Table of contents of the reports and get that vetted by the concerned SE (P-I), GVMC.
- All documentation for obtaining permissions from the Pollution Control Board (PCB), CPHEEO etc. where ever required shall be prepared by the consultant, and necessary assistance will be provided by the client. The ULB will obtain the permissions. The consultant shall assist the GVMC Engineers in obtaining technical sanction from competent authorities.

### **3A. Reviewing the Existing Situation and undertaking assessments**

The consultants would review the present situation in the ULB, and analyze the current strengths and weaknesses for providing efficient service.

1. Review of existing system, survey of the existing drains sizes, catchment areas, location, width of roads etc.
2. Survey the entire area and prepare contour map.
3. Establish design principles and prepare options;
4. Select options, priorities and cost interventions;
5. Prepare final comprehensive Storm Water Drainage (including sullage) study report including identifying priority works
6. Recommend improved institutional arrangements for effective operation and maintenance

#### **3.A.1. Information Collection**

Collect and present the Information on the Existing situation:

- i.) Review existing maps, studies, and other related documentation to obtain a better understanding of **GVMC, Gajuwaka Assembly Constituency** Storm Water Drainage system prior to the start of fieldwork. The consultant will be provided copies of any previous studies carried out and of the available records)

- ii.) The consultant shall meet regularly (at IGajuwaka once a week) with the municipal engineers and work closely with them. He will identify the Greater Visakhapatnam Municipal Corporation's Storm Water Drainage concerns and obtain copies of town maps. The consultant shall keep the Greater Visakhapatnam Municipal Corporation informed of the progress of the task.
- iii.) Identify the main storm water drainage and sullage issues including severity and location of inundation; location of main drains and outfalls; pollution and other environmental issues; and identify any gaps in the existing Storm Water Drainage system. Additionally, identify physical constraints to Storm Water Drainage; i.e., encroachments into Storm Water Drainage channels; solid waste dumping; natural and human made obstructions, including pipe culverts and low level causeways, road and rail over bridges, flyovers, canals, permanent ways etc
- iv.) Working with the town planner and other relevant officials (including Urban Development Authority if concerned), the consultant shall assess the current development in the town with regards to saturation density and growth rates, identifying retention areas, construction of roads and railways and other human interventions into the Storm Water Drainage system. The consultant shall also examine the existing Storm Water Drainage regime and assess its capacity to accommodate the design storm flows. This will also involve the integration of the capacity and usefulness of the various main drains in the town constructed by the Greater Visakhapatnam Municipal Corporation, R&B Department and other agencies including those areas which form part of the water shed for this drainage area as they may fall outside the municipal limits. The consultant shall also examine converting the defunct irrigation channels and surplus courses of irrigation tanks into storm water and sullage drains in consultation with AP Irrigation and Panchayat Engineering Departments.
- v.) The impacts of growth and interventions on the Storm Water Drainage system shall be assessed along with possible future land use for assessment of the Storm Water Drainage regime, design parameters, particularly infiltration factors and drain sizes.
- vi.) Estimate both existing and future dry-weather and wet weather flows in the various catchments. Care shall be exercised to ensure that drain sizes are not too large while using the rational method. Flood return periods also shall be considered to ensure economic drain sizes. The drain sizes shall be checked considering the road widths and their flood disposal capacities in case of large storms at longer return periods of storm.
- vii.) Produce town plans of the existing Storm Water Drainage system showing the existing pattern of flood discharge especially at control points and outfall points and Storm Water Drainage flow estimates in and around the Greater Visakhapatnam Municipal Corporation, denoting catchment basins (including the areas outside municipal boundary), Storm Water Drainage structures and features (including katcha nalas) and other items described above.

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viii.) Present practices of operation and maintenance including type of tools and equipment available shall be analysed and necessary alternate options for effective O&M shall be suggested including institutional arrangements for strengthening the O&M system.

**Main Output:** the Main output of this exercise is a report on Existing Situation, Identified Priority interventions (with their procurement and implementation plan), Planning Parameters and Design Basis to be considered in further designs, drawing upon these assessments.

There are some specific assessments to be undertaken as indicated in Section 3.A.2 below, the required outputs of which are indicated there-in.

By the completion of this task, the Greater Visakhapatnam Municipal Corporation shall have:

- An accurate assessment and understanding of the **GVMC Gajuwaka Assembly Constituency** storm water drainage system.
- Detailed costs for Storm Water Drainage works with phasing and standard type designs and plans.
- Short, medium, and long term Storm Water Drainage strategy.
- Increased awareness of staff towards maintenance of the Storm Water Drainage System by the Greater Visakhapatnam Municipal Corporation.
- Public awareness campaign.
- Educating the Municipal staff and a training calendar.

### **3.A.2. Analytical Framework & Methodology for Collection of Data and Assessments**

The consultant shall develop the framework and methodology for completing the Tasks the methodology shall be agreed with the client before undertaking the assessments. Some of the specific assessments listed below shall follow the framework indicated:

- a) **Field Surveys and Preparation / Updating of Base Maps:** Undertake Total Station Survey and prepare / update the base maps, indicating all the infrastructure elements along with their key features. Review existing data, maps, previous studies if any and other related documentation to obtain a better understanding of the town's sanitation and sewerage system prior to commencement of field work. The consultant shall access and obtain related maps and previous related studies.
- b) The consultant shall present necessary proposals for rehabilitating and upgrading the existing sewerage system and integrate the same with the comprehensive sanitation system duly calculating the **IRR.**
- c) Conduct field visit to the entire town to assess the soil characteristics in different areas and ground profile, zoning/sub-zoning, ground water level, geographical conditions and environmental factors which are likely to affect the treatment and construction of storm water drains.

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- d) Study the municipal water supply system, per capita supply as per municipal records, and other water supplies like individual bore wells, community bore wells, supplies to remote colonies, new colonies, future developments based on the population demand and saturation densities for the horizon year 2045 so as to assess the per capita sewage contribution for commercial establishment, public conveniences, function halls, theatres, schools, colleges hostels including industrial wastewater for the present and for the future industries if any.
- e) Study the existing sanitation systems like low cost sanitation, individual septic tanks, community septic tanks, community toilets and any other sewage treatment units available with the community/commercial establishments/institutions and industry; suggest isolated/localized compact treatment plants for cost effectiveness duly considering possible adverse environmental impacts.
- f) Study the options for disposal of final treated effluent through land, water bodies, sea or reuse.
- g) Identify the location of drains and outfall drains and related pollution and other environmental issues; identify gaps in the existing sewerage system. Additionally, identify physical constraints to sanitation and sewerage; adequacy of gradients, availability of space for treatment units, railways and road way crossings, natural and manmade obstructions, including pipe culverts and low level causeways, road and rail over bridges, flyovers, canals, permanent ways, etc.
- i) Working with the town planner and other concerned officials/personnel (including Urban Development Authority), assess the current development in the town with regards to saturated density and growth potential, construction of roads and railways and other human interventions in the sanitation should be identified. Examine the existing drainage system and assess its capacity to carry the design flows. The impacts of growth and interventions on the Sewerage system should be assessed along with possible future land use to assess the sewerage design requirements.
- ii) **WORKING WITH THE MHO, ASSESS WATER STAGNATION AND UNHYGIENIC AREAS OF THE TOWN FOR ATTENDING TO SPECIFIC AREAS AND PROBLEMS AND ASSESSING ENVIRONMENTAL ISSUES.**
- h) Produce town plans with the existing sanitation and sewerage system and its condition, duly taking into consideration the sewage contribution from adjoining and upstream areas (including the areas outside municipal boundary).
- i) Present practices of operation and maintenance including type of tools, equipment and machinery available shall be analyzed along with the manpower requirement and necessary measures shall be proposed for effective operation and maintenance of the system.

### **3B.Feasibility Analysis and Detailed Planning**

Based on the information collected in the preceding phase, Plan the capital improvements to meet the desired service levels. Ensure that there is adequate focus on rehabilitation and strengthening as feasible, while opting for new investments.

Before proceeding with detailed designs, analyze the feasibility of options /alternatives looking from various analyses: technical, environmental, social (including resettlement and rehabilitation), financial and economic. Prepare concept plans highlighting possible options, benefits and impacts, drawings and preliminary costs, with a recommendation on the preferred option. Identify Short Term/Immediate, medium and long term investment plans for Storm water Drainage

Once the option and phased improvement plan is agreed with the client, undertake preliminary and detailed designs and finalize the respective analyses for that option.

Prepare cost estimates, contract packages, bid documents, procurement, implementation and O&M plans. Prepare strategies/practical plans for monitoring of progress of procurement, implementation and O&M. Finalize the Detailed Project Reports with all this information.

#### **3B.1. Aspects to be covered**

Cover the following aspects in the analysis:

- a) *Service Levels:* Establish the present and Desired Service levels in a consultative manner, backed up by costs and impacts.
- b) *Population:* *Population projections based on appropriate projection technique based on the growth status of the Greater Visakhapatnam Municipal Corporation and economic factors;*
- c) *Infrastructure planning that is technically feasible, meets the growth needs of the municipal development, integrates into city development plan, economically effective and has Gajuwaka environmental and social impacts.*
- d) *Environmental protection;*
- e) *Identification of industrial wastewater discharges;*
- f) *Estimates of industrial and municipal wastewater flows including seasonal fluctuations – the consultants shall agree future design horizons with the Greater Visakhapatnam Municipal Corporation;*
- g) *Identify opportunities for segregating industrial and municipal wastewater discharges and treatment;*
- h) *Identify possible locations and treatment options for municipal wastewater treatment facilities and conceptual costs; identify location of treatment plants with reference to location of the town and wind direction;*

- i) For municipal wastewater treatment options, consider "low maintenance wastewater treatment systems" such as waste stabilization ponds, plantation for rapid evapo-transpiration, fixed bed filters, baffled septic tanks, constructed wetlands etc. Other technologies are not considered appropriate because they are expensive to operate and maintain, and require skilled operators that are not available. The systems shall be sustainable in the long run. Any localized solutions may also be suggested with merits and justification.
- j) Prepare plans showing the existing and all the above features to a suitable scale
- k) **Economic Analysis:** Undertake Quantitative cost-benefit analysis for subprojects estimated to cost over Rs 15 crore, and it should demonstrate an economic rate of return above the opportunity cost of capital, currently estimated at 12%, or cost-effectiveness.

At the Feasibility stage, organize a workshop in the ULB to present the findings of different feasible options and the preferred one. Justify this with respect to the impacts, costs and municipal capacities. Document the consultations.

### **3B.2. Surveys, investigations and tests required:**

The list of Surveys, investigations and tests required and their scope is in Annex-1.

### **3.B.3. Detailed Designing, Procurement and Implementation Planning**

- Design principles are to be as per CPHEEO Manual for sewage and sewage treatment, Ministry of Urban Development, Govt of India.
- Design period shall be 30 years for sewerage system and 15 years for pumping systems with provision for future expansion necessary.
- The consultant shall formulate a set of functional criteria for the system and provide justification for the design parameters adopted and assumptions if any.
- Divide the town into various zones/sub zones based on relevant requirements to draw up hierarchy of the Drainage system and their locations for designing the most cost-effective and viable system.
- Prepare project cost estimates including capital, operation and maintenance costs and carry out project financial analysis and economic analysis including Internal Rate of Return / Economic Rate of Return of the project. Justify the assumptions made with illustrations which are implementable.
- The treatment units are so selected that they shall be most cost effective based on the local conditions and ensure effective Operation and maintenance at optimum cost. The location shall be so selected that it does not cause any inconvenience or which may not lead to any public health hazards due to foul smell, fly or mosquito menace or ground water contamination.

- The design shall ensure that the effluents shall not contaminate ground water.
  - The design shall ensure that the industrial effluents shall not be mixed with municipal sewage without minimizing the concentration of the industrial effluents.
  - Financial analysis shall be carried out for recycling of sewage effluent for domestic purposes other than drinking and cooking.
  - Entire town shall be surveyed with levels and TBMs shall be established on the ground.
  - The disposal of the effluent into water bodies/rivers/canals etc. shall ensure that the source of water supply or bathing ghats on the down stream side of the disposal point are not polluted.
- I. Provision should be made to allow storm water to enter in the starting nodes of network to achieve flushing velocities during the monsoon seasons.
  - II. Necessary hydraulic calculations shall be made for the present, prospective and ultimate demands and shall be enclosed. The design procedure shall be carried out after due concurrence of the population projections and hydraulic calculations from the Department.
  - III. Detailed solutions shall be presented for the bottlenecks like crossings (manmade or natural structures) and land acquisition.
  - IV. Recommend organizational setup for implementation of the project with 3rd party QA and QC, with operation and maintenance arrangements and PPP options.
  - V. Formulate a capacity building action plan with costs for imparting training to the municipal engineers and technical staff at different levels including operating and maintenance staff.

**Service Improvement Plan:** For the proposed option, develop a Service Improvement plan covering the following:

- Progressive achievement of service levels defined and strategies to achieve this over time. Define the service levels based on the framework suggested by the Ministry of Urban Development, Government of India. The physical investments under the sub-project and other initiatives are expected to progressively enhance the service performance of the ULB.
- Possible automation in O&M;
- Spares, tools and equipment – procurement plan, annual budgeting for them, maintenance of tools and equipment;
- Institutional roles and responsibility, structure of O&M unit, outsourcing possibilities, citizen involvement, training to O&M staff, O&M monitoring, supervision of O&M responsibilities, job description for staff;
- complaint monitoring and redressal, service monitoring and dissemination of performance.
- Tips and guidelines on reduction of costs through preventive maintenance.
- Propose strategies for continuous service monitoring, linking to the state framework with relevant indicators

**Output:**

The outputs of this exercise are:

- Feasibility and Concept Plans;
- Detailed Project Report with all the information above, supplemented with drawings, other supplementary reports and IEC material as required.
- By the completion of this task the Greater Visakhapatnam Municipal Corporation shall have:
- An accurate assessment of the quantities and composition of sewage, sullage and other inflows like ground water infiltration, industrial waste water, waste water from institutions, commercial establishments etc. for the present and future population for design periods;
- The complete details of various physical, chemical and biological processes, detailed hydraulic and structural designs for the various treatment process units for primary, secondary and tertiary treatment and safe disposal to land or river/canal/nala/lake water disposal standards as per site conditions.
- Model Treatment options and relevant designs shall also be furnished for independent sewage treatment systems for large institutions /apartments/hotels with cost analysis and O&M implications and costs so as to reduce and reuse of waste water and to effect economy in the water use;
- Incentives for reduction/reuse of waste water and the policy to be adopted therefore;
- Cost estimates for sewerage system i.e., sewers of all categories including laterals, earth work, manholes and other appurtenances and treatment units, zone wise with phasing and implementation plan;
- O & M plan shall be prepared for the proposed system with additional manpower and financial obligation with type of training and capacity building required for maintenance; detailed O&M estimates with costs and budgetary provisions to be made;
- For the sustainability of the sewerage system, economics shall be worked out for fixing the tariff including any deposits to be collected from the customers. However, the existing social and economic aspects of residents of different localities/ poor settlements shall be kept in mind, while evaluating the tariff.
- Short and long term sanitation and sewerage strategy which includes recycling of waste water, selling of fuel gas, dry sludge cakes, incentives for reduction, reuse of waste water etc.
- Increased awareness of municipal engineering staff and operating staff towards municipal wide sanitation and sewerage issues;

#### 4. Schedule of completion of tasks

The total contract period is of three months period, Specific timelines are the following:

a) Existing Situation and Design Basis Report	.....	15 days
b) Feasibility analysis and concept plan	.....	15 days
c) Detailed designs, estimates and Bid documents	.....	60 days

If any items mentioned above if does not cover under scope of DPR Preparation of levels of ground in the town map as per standards duly considering 150 to 200 M development from the existing developed town they may be treated as redundant items.

#### 5. Data, services and facilities to be provided by the client

(i) The maps and other data related to this work, to the extent available in the Municipal office will be provided.

(ii) Assistance for obtaining FMB sketches and adangal for preparing land plans from the land survey department will be given by the client.

(iii) A copy of all the available DPRs as in where in condition would be provided.

#### 6. Final Outputs (drawings, reports etc.) to be furnished by the consultant

##### a. Existing Situation and Design Basis Report, Priority Interventions, Procurement Documents for Priority Interventions

Based on the understanding developed on the existing system through studies and assessments, present the existing situation; and develop the Basis of Designs and planning parameters.

##### b. Feasibility and Concept Plan

Results of Feasibility analysis for various options, along with Environmental and Social Screening, documentation of stakeholder consultation, preliminary costs; Concept Plan of preferred option supported by justification, drawings and costs.

Consultant

Commissioner

**c. Detailed Designs and Estimates and Bid Documents**

Detailed designs for the finalized plan, detailed cost estimates, with supplementary reports, drawings, IEC material, procurement and implementation plans including timeline of R&R actions to be taken before commencement of works, EAs, EMPs and RAPs, project monitoring plans.

Identify the priority interventions with their costs for the immediate term that will give maximum benefits to the ULB with reasonable cost and time. Provide a procurement and implementation plan for these along with bid documents.

**7. The Consultant should get the DPR approved by CPHEEO/ HUDCO /any other funding agency.**

**8. List of key professionals position whose CV and experience would be evaluated:**

<b>Sl.No</b>	<b>Key Position</b>	<b>No. of persons</b>	<b>Area of specific Expertise desired</b>	<b>Minimum qualification and Professional Experience desired</b>
<b>1</b>	Project Manager (Team Leader )	1	In designing Storm water Drainage.	A post graduate degree in Civil Engg. with about 20 years experience Or A graduate in Civil Engg. With about 25 years experience.
<b>2</b>	Project Engineer (Civil) (Storm Water Drainage)	1	In designing Storm water Drainage	A graduate in Civil Engineering with about 10 years experience.
<b>3</b>	Project Engineer (Civil) (Water resources/Hydrology)	1	In the field of Hydrology, water resources and Hydrogeology, with exposure to assessment of potential of water sources.	A graduate in Civil Engg. with about 10years experience
<b>4</b>	Project Engineer (Elec/ Mech)	1 or 0	Experience in selection and installation of pumps electrical panel boards etc. and erection works, with exposure to Energy Audit studies.	A graduate in Electrical/Mechanical Engg. With about 10 years

Consultant

Commissioner



**9. Schedule of Payment:**

<b>S. No.</b>	<b>Activity</b>	<b>%age of payment</b>
1.	Submission of report on Existing Situation and Design Basis Report	<b>10% of contract amount</b>
2.	Submission of feasibility analysis and concept plan	<b>15% of contract amount</b>
3.	Detailed designs, estimates and Bid documents	
	a) on approval of draft DPR	<b>20% of contract amount</b>
	b) on approval of final DPR by funding agency	<b>55% of contract amount</b>

**10. Submission of reports:** Hard copies of all reports namely Design basis report, feasibility analysis and concept plan and Detailed Designs, estimates and bid documents shall be submitted in 6 (six) copies along with soft copy.

The information pertaining to the scheme submitted by the consultant belongs to the ULB and shall not be utilized for any other purpose without permission of the ULB.

11. The bill of quantities furnished by the consultant in the DPR shall not vary more or less than 15% during actual execution otherwise the consultant will be black listed.

**Annexure - I**

**Surveys, investigations and tests required and their scope**

**a. Data**

The details given in the technical conditions and specifications taken in conjunction with the study, is only a reasonable preliminary basis. The nature of the overall contract is such that after the proposal, the consultant shall be wholly responsible for all the details of the proposal, the physical and site conditions, the execution methodology etc. All data utilized in preparation of the proposal shall be presented indicating the sources of the data and also the basis of assumptions, if any. The consultant shall be responsible for all the data designs, and drawings given by them.

Consultant

Commissioner



**b. Survey and Analysis**

The consultant shall conduct his own studies and prepare estimates based on schedule of rates specified by Government but updated to reflect actual market conditions wherever necessary. The Public Health and the local body concerned shall not be responsible (except as to risks specifically accepted under the conditions of contract) for the validity of the project details and designs and estimates.

**c. Project site survey and Stakeholder Consultations**

The local body shall indicate the Project sites and their measurements. The consultant shall be responsible for its verification. The consultants shall be responsible for carrying out the survey to determine the losses of water in the system and the condition of the pipes. The consultant shall be responsible for carrying out consultations with stakeholders who are likely to be affected by the potential sub-projects and documenting these consultations, including positive and negative responses to the proposed works.

**d. Soil Investigation and Tests**

Soil tests as per relevant IS/IRC Standards have to be done by consultants to arrive at design parameters for the formation and safe bearing capacity. At locations proposed for important installations like pump house, OHT/sumps etc., at IGajuwaka one bore hole for every such installation, should be made to determine the SPT N values at depth specified in the relevant IS codes. Soil samples taken from boreholes should be visually classified, index properties determined and presented in along with the final report. These boreholes should be normally taken to a depth whose N value is greater than 100 plus a further 3m depth (to account for any drastic fall in N value below these strata.). The subsurface water at each borehole be sampled and a chemical analysis carried out, to recommend appropriate cement/admixture for use in concrete mixed for the foundations. Recommendations of a geo-technical expert should be furnished in the soil report and should cover aspects e.g., appropriate soil stabilization measures if required, bearing capacity of the founding strata.

- I) Carry out site surveys including taking levels with a view to fix alignment of pipelines and decide on introduction of additional facilities/engineering parameters like line boosters/Underground/Elevated Service Reservoirs, sluice valves, air valves, scour valves etc., for ensuring daily and equitable water supply from the existing source to all areas including the existing un-served areas/areas with low pressure.
- II) Test the quality of water of the sources to find out the degree of treatment required.
- III) Carryout site evaluation analysis based on borehole data and soil test.

**Annexure II**

UIDSSMT Guide lines for preparation and submission of Detailed Project Report of Storm Water drainage may be obtained from

[www.urbanindia.nic.in](http://www.urbanindia.nic.in)

**Annexure III**

Check list for submission of Detailed Project Report of Storm Water drainage may be obtained from

[www.urbanindia.nic.in](http://www.urbanindia.nic.in)

**COVER 'B' FINANCIAL PROPOSAL**

**APPENDIX B**

**4. FINANCIAL PROPOSAL – STANDARD FORMS**

- 4A. Financial Proposal submission form

**4A. FINANCIAL PROPOSAL SUBMISSION FORM**

**[Location, Date]**

From: (Name of Firm)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

To:

The Commissioner,  
Greater Visakhapatnam  
Municipal Corporation.  
Visakhapatnam.

Ladies/ Gentlemen,

Sub : Consultancy Services for preparation of comprehensive storm water disposal System (DPR) for Greater Visakhapatnam Municipal Corporation, **Gajuwaka Assembly Constituency** - Financial Proposal.

--- xxx ---

We, the undersigned, offer to provide the consulting services for the above in accordance with your Request for Proposal **date -09-2015** and our (technical and Financial Proposals). We submit our financial proposal as follows:

Sl. NO.	Description	Job	Percentage on cost of DPR in figures	Percentage on cost of DPR in words
1.	Consultancy Services for preparation of comprehensive storm water disposal System (DPR) for Greater Visakhapatnam Municipal Corporation, <b>Gajuwaka Assembly Constituency</b>	1 Job		

Our financial proposal shall be binding upon us subject to the modifications resulting from contract negotiations, up to expiration of the validity period of the proposal, i.e., \_\_\_\_\_.

We undertake that in competing for (and, if the award is made to us, in executing) the above contract, we will strictly observe the laws against fraud and corruption in force in India namely "Prevention of Corruption Act, 1988".

We understand you are not bound to accept any Proposal you receive.  
We remain,

Yours sincerely,

Authorized Signatory Signature:  
Name and Title of Signatory:  
Name of Firm:  
Address:

Consultant

Commissioner