

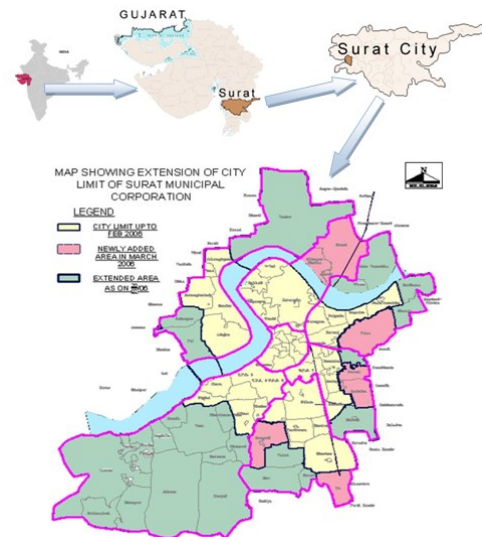
Remodelling and Restructuring of existing creek

1. Name Of Project :

Remodelling and Restructuring of existing creek to create open spaces with smart features

2. Background:

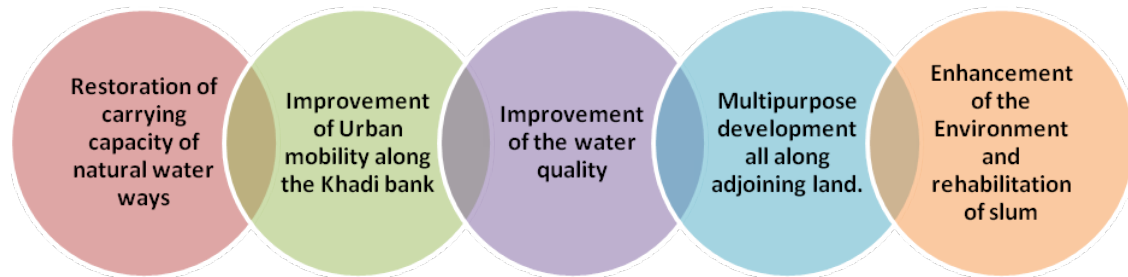
Surat is a city located on the western part of India in the state of Gujarat. It is one of the most dynamic city of India with one of the fastest growth rate due to immigration from various part of Gujarat and other states of India. Surat city has observed remarkable population rise in recent decades. To regularize the development and to make it sustainable, the state government has increased limits of the city area falling under administration of the municipal corporation.



The river Tapi flows through the northern part of Surat city. The runoff from this part naturally drains in to the Tapi. Varacha creek and Chaparabhatha creek add its storm water into Tapi. Whereas in southern part of city drains its storm water mainly in the creeks namely Koyali, Mithi, Kankara, Bhedwad, Sonari and Kahod. The Mithi creek originates near bardoli. After confluence of Mithi creek and koyli creek, Kankara creek comes in to existence. Further downstream of Kankara creek, Bhedwad creek meets near bamroli village. Ultimately, Kankara creek meets Mindhola River at its mouth. Almost 67 Km of total length of these drains passes through the area of Surat city. Drains are playing a significant role in carrying polluted water to the main drain of Mindhola River.

In recent decade, developmental & encroachment activities took place near or across creek, thus reducing the water way of creek. Villages, colonies, slums also discharge their effluent and refuge directly in the creek, leads to obstruction and blockage to creek flow. This leads to frequent creek flood in the event of heavy rain in the catchment.

3. Vision



Development of Koyli Creek including remodeling and restructuring at surat to fulfill the following objectives;

- Improvement of Urban mobility along the creek by providing road
- Improvement of Existing water quality in creek
- Development of land adjoining the creek
- Restoration of carrying capacity of natural drain

4. Sector: DRAINAGE DEPARTMENT

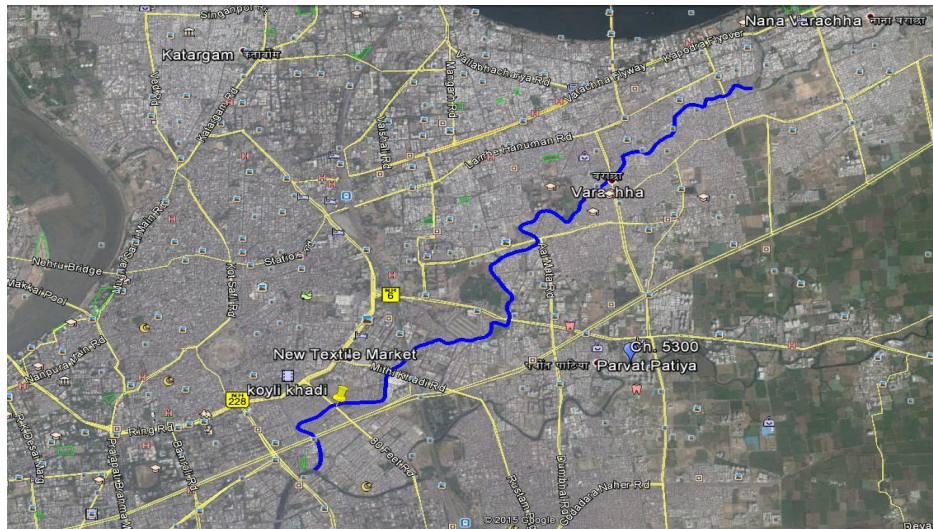
5. Cost and financing:

- SCP Cost :Rs. 200.00 Cr
- DPR Cost : Gross Rs. 449.29 cr. and Net Rs. 436.20 cr.
- Tender Estimated Cost :Rs. 155.78 cr. (Part 1- 82.41 Cr. & Part 2- 73.56 Cr.)
- Tender Sanctioned Cost :Rs. 180.29 Cr. (Part 1- 95.26 Cr. & Part 2- 85.03 Cr)
- Convergence Scheme/PPP/SMC – : SJMSVY-90.00Cr.
- Convergence/PPP/SMC Costing- : Rs. 00.00 Cr

6. Brief Description about koyli khadi (Technical Details):-

Koyali khadi has its origins within the Surat city limit. The khadi has a total catchment area of 13.45 Sq Km. Length of the khadi is 8.35 Km. it was found that there has been considerably dense development through residential as well small industrial establishments. Also, there has been identified encroachment in the khadi land parcel through growth of slums on the banks. The khadi has Karanj sewage treatment plant on its right bank and having one STP on its left bank.

Looking to the site condition, hydrology, and the survey & soil investigation data following factors are considered for different sites has been considered.



Proposed Structures for Koyli khadi

As per the site condition of koyli khadi, following structures to meet the objective.

Total Length: **5.5 Kms**

Proposed Structures: Continuous Diaphragm wall with Top girder with slab

Proposed sectional area of khadi from

15.0mt wide x 3.5mt RCC box type structure=3.6 kms

20.0mt wide x 3.5mt RCC box type structure=1.9 kms

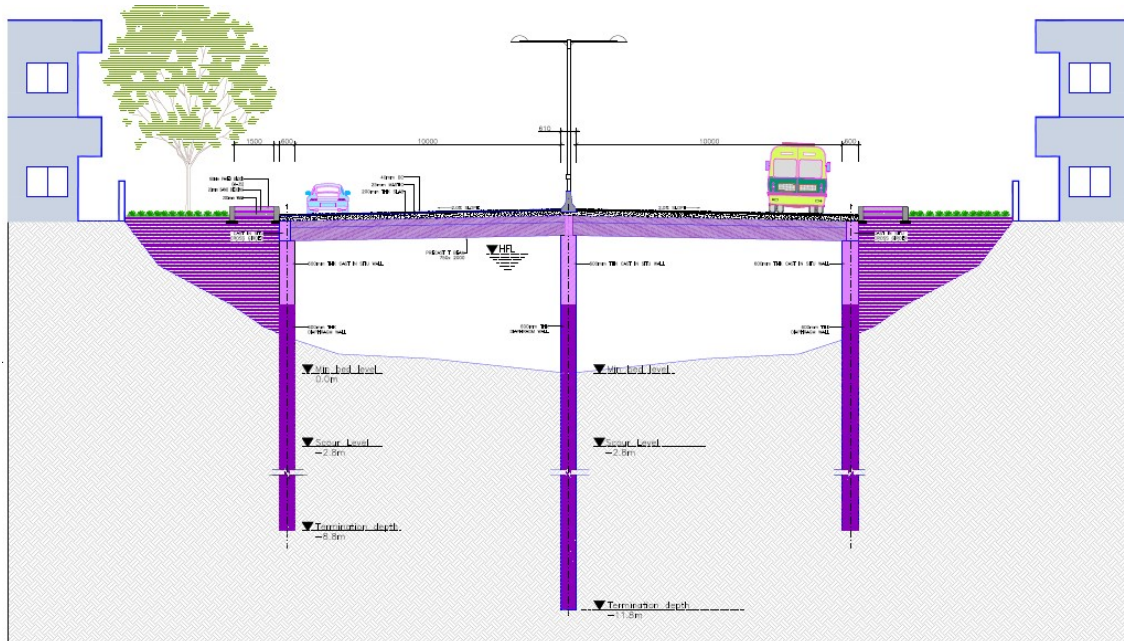
Speciality/ Benefits:Development of koyli khadi including remodelling and restructuring will minimize the following existing problems in khadi;

- Degradation of the surrounding environment
- Irregular and un-developed banks
- Obstruction in natural flow
- Encroachment in creeks

- Reducing the water way of creek
- Unhygienic environment
- Discharging of effluent and refuse into creek
- Improve accessibility and connectivity
- Due to explosion of population and rapid industrialization the transportation in the city increased to unimaginable heights but due to the want of efficient Mass Transit system, individual vehicular growth also touched the heights. Thus the explosion of population, rapid industrialization and highest growth rate in vehicle population made the traffic problems complicated.
- Road Transport, a fundamental need of the human society. Keeping all these in mind, a concept of constructing a road over the creek is envisioned for better mobility corridor to interlink the city network.

Bank Protection

- Presently the Koyli creek banks are unlined and weakened. To strengthen the creek banks we have considered following factors for proposing the structures
- Ease in the construction
- Protection against the scour
- To retain soils during the construction
- To take up high vertical loads from above ground structures during construction (e.g. top-down approach). In addition, during the servicing of the completed structures, the diaphragm walls, internal piles and basement raft act together as a single unit to perform as piled raft.
- To retain the earth
- Improving carrying capacity of creek for effective storm water disposal considering the climate change.
- To provide the new road corridor along the bank of creek or over the creek for improving traffic solution and urban mobility to fulfill the Smart City requirement.
- For sustainable environment and fulfill the mission of the "Swachha Bharat" by providing cleanliness of creek.
- Commercial use of adjoining land for income generation for SMC.
- Reduce risk of erosion and flooding in flood prone neighborhoods,
- Stop the flow of sewage; keep the creeks clean and pollution-free,
- To interlink the city network with areas across creeks
- Promote business development along and adjacent to the creeks.
- To add aesthetic beauty



7. Implementation plan

Current status of the project: - Tender approved by standing committee level on 07/10/2017. Work order to be given shortly.

Likely completion date of project:--06/10/2019.

Site Plan (Google Map)

