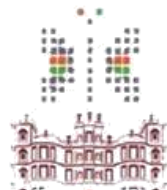




KANH & SARASWATI RIVERFRONT DEVELOPMENT



Smart City
INDORE

हम सबका सपना, स्मार्ट इन्दौर हो अपना



Kanh & Saraswati Rivers and Major 6 Nallas joining the Rivers

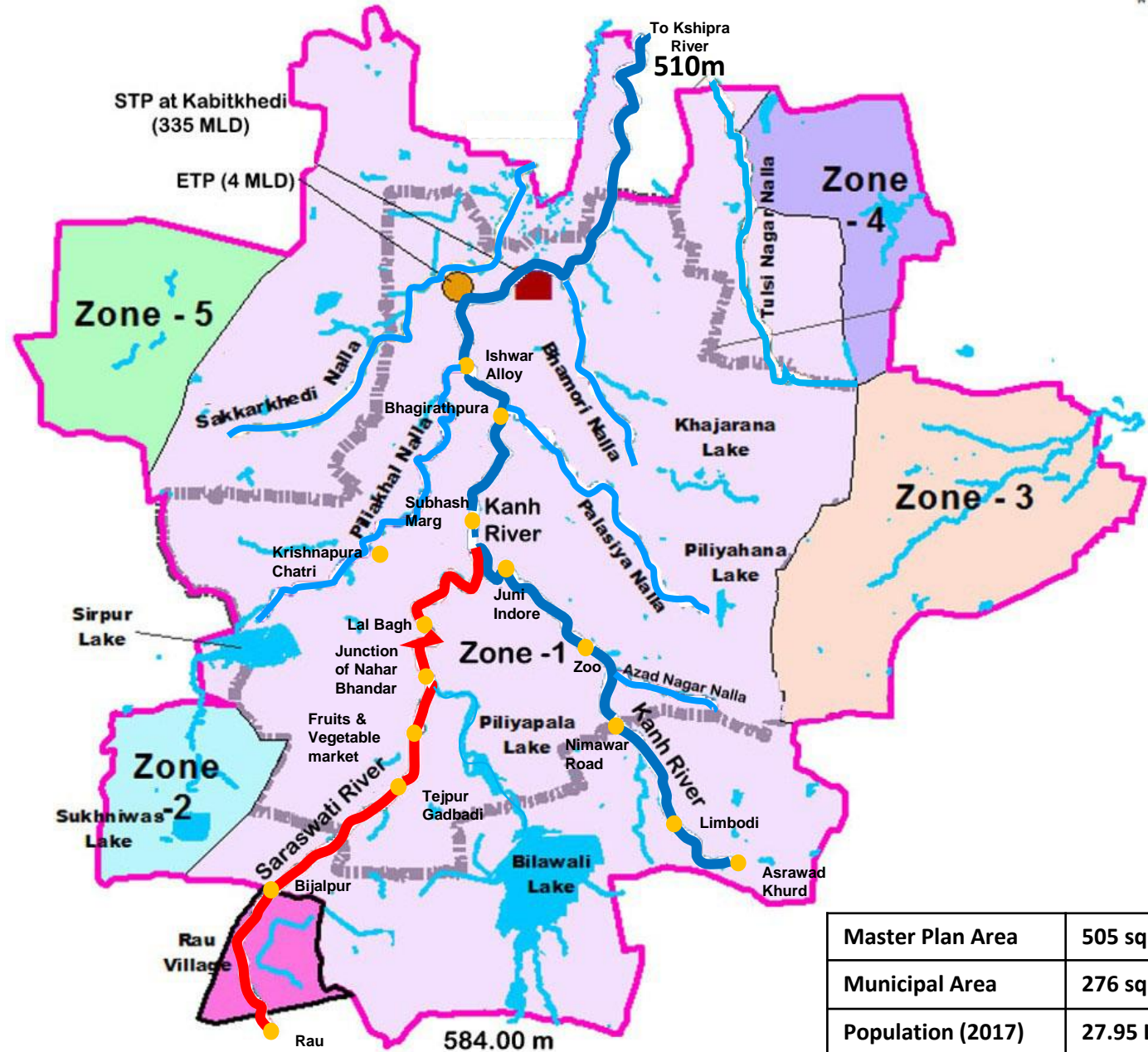


RIVERS IN CITY AREA

1. Kanh River-27 km (Asarawad Khurd-Kshipra)
2. Sarswati River-12 km (Machla Ki Pahadi-Rau talab-Sanjay setu)

MAIN NALLAS

1. Bhamori Nalla- 9.05 km (Khajrana talab-Kabithkedi)
2. Palasia Nalla- 8.32 km (Pipliyahana talab-Bhagirathapura)
3. Piliakhal Nalla- 11.30 km (Sirpur talab-hatipura)
4. Azad Nagar- 2.6 km (Virat Nagar-Madina Nagar)
5. Tulsi Nagar- 7.25 km (Scheme no. 134-Mangliya)
6. Sakkarkhedi Nalla- 11.73 km (Bijasan-Sakkarkhedi)



Master Plan Area	505 sq km
Municipal Area	276 sq km
Population (2017)	27.95 Lakhs

ACTION PLAN

- Trapping of Sewage outfalls in order to eliminate municipal sewers flowing into rivers
- Decentralized Wastewater Treatment Plants along the Rivers
- Removal of Encroachments along river banks
- Cleaning of Rivers from settled sludge / mud and municipal solid waste
- Plantation along river sides in outer areas
- Riverfront Development (Pilot Project) for 4 km

Laying of Sewer-lines by Trenchless Technology along River Banks for Trapping of Sewage flowing into the Rivers

Sewerage Works in progress (Convergence with IMC / JNNURM Funding)

- Trapping sewers outfalls of Kanh & Saraswati Rivers and 6 Nallas
 - Total Length - 74.5 Km
 - Sanctioned Amount – Rs. 162.95 Cr
- Sewer Line Laid
 - Length – 35 Km
 - Amount Spent – Rs. 74 Cr

Sewerage Works Awarded (Convergence with AMRUT)

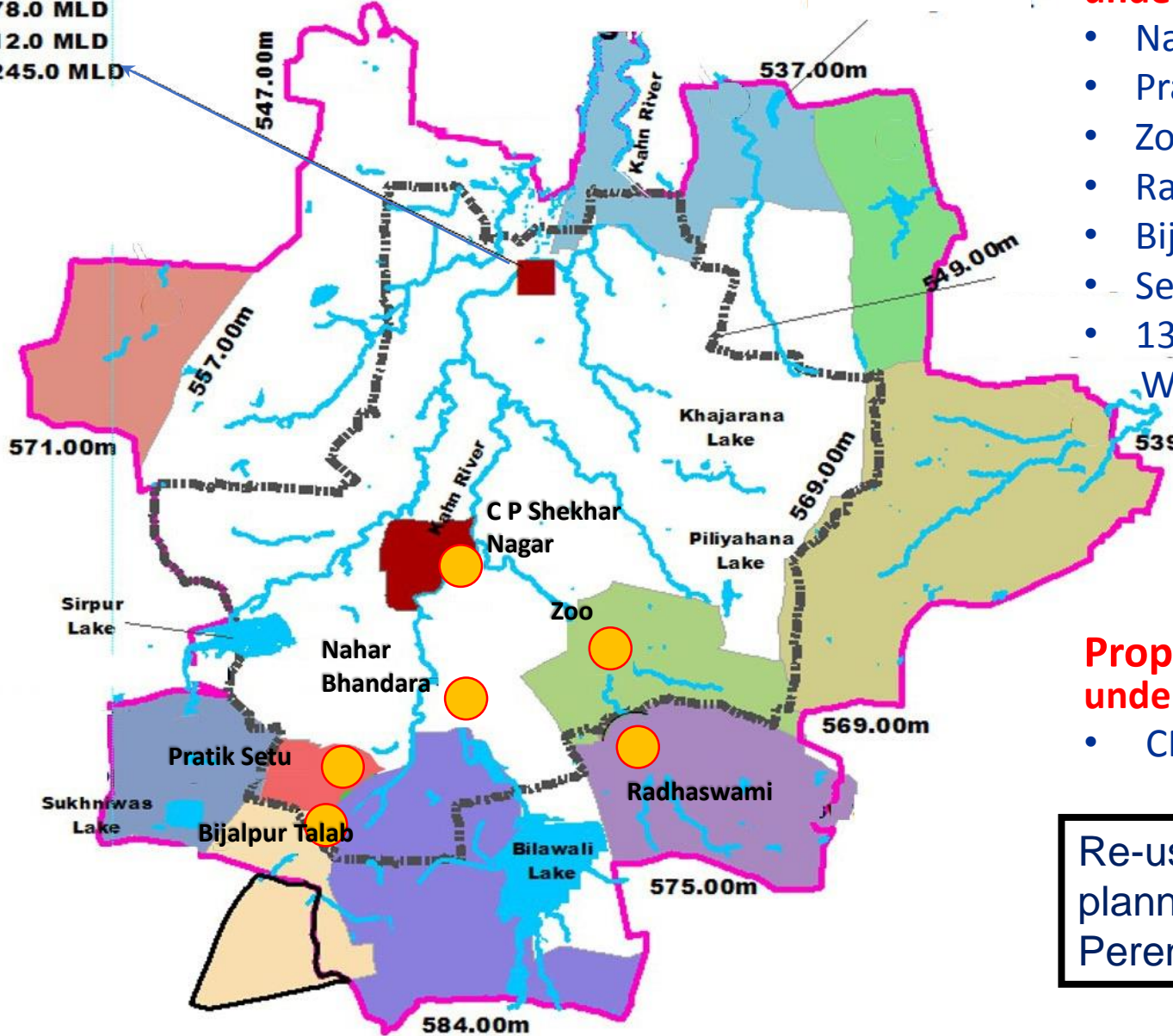
- Trapping sewers outfalls 3 Nallas and Laying of Sewerlines in Uncovered Areas
 - Total Length - 114 Km
 - Sanctioned Amount – Rs. 89.75 Cr
 - Agency: M/s N P Patel, Ahmedabad



Location of Existing STP & Proposed Decentralized STPs

Existing STP's (Kabirkhedi)

- 1) 78.0 MLD
- 2) 12.0 MLD
- 3) 245.0 MLD



Proposed DEWATS under AMRUT Project

- Nahar Bhandara - 11 MLD
- Pratik Setu - 8 MLD
- Zoo - 35 MLD
- Radhaswami Ground - 6 MLD
- Bijalpur talab - 7 MLD
- Sewer line - 161 km
- 13 MLD Treated - 30 km

Water Network

Work awarded @ Rs. 183.60 Cr
Agency: Laxmi Const, A'bad

Proposed DEWATS under Smart City Mission

- CP Shekhar Nagar - 10 MLD

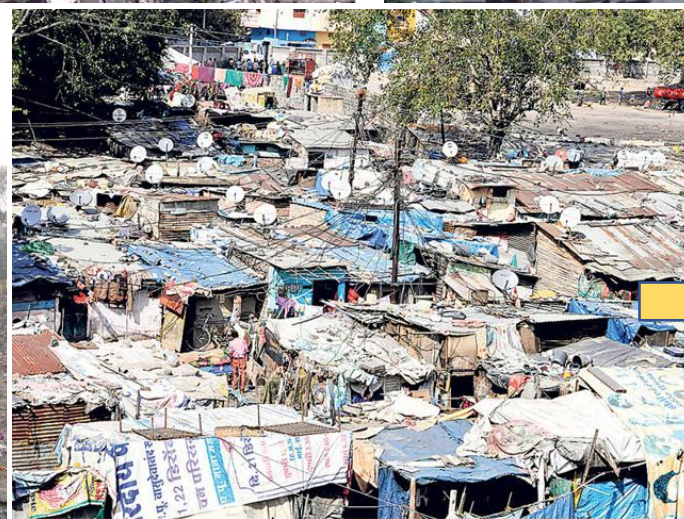
Re-use Water Network + OHT planned for Gardens and Perennial Water Flow in Rivers

Clearance of Encroachments along River Banks

EARLIER SCENARIO WITH SLUMS



AFTER CLEARING THE SLUMS



- More than 1300 slums rehabilitated from CP Shekhar Nagar to BSUP Housing Project.
- More than 300 slums rehabilitated from Shankar Bag, Tejpur Gadbad, New Prakash Nagar, Chandrabhaga and other areas to BSUP Housing Project.

Desilting of River Bed / Ghat Rejuvenation



Desilting of River Bed / Ghat Rejuvenation



- More than 9 Poclain and Other Machines are deployed for 10-12 hours per day and spending more than Rs. 2 Lakh / day for desilting / desludging.
- Around 2.5 km river length is completed in last 3 months by spending around Rs. 2 Crore.
- Total amount required for the complete river cleaning is estimated as Rs. 200 Crore.

Clearance of Dumped Wastes supported by Effective Implementation of Door-to-Door Collection System



Plantation with Fencing on both sides of the Rivers

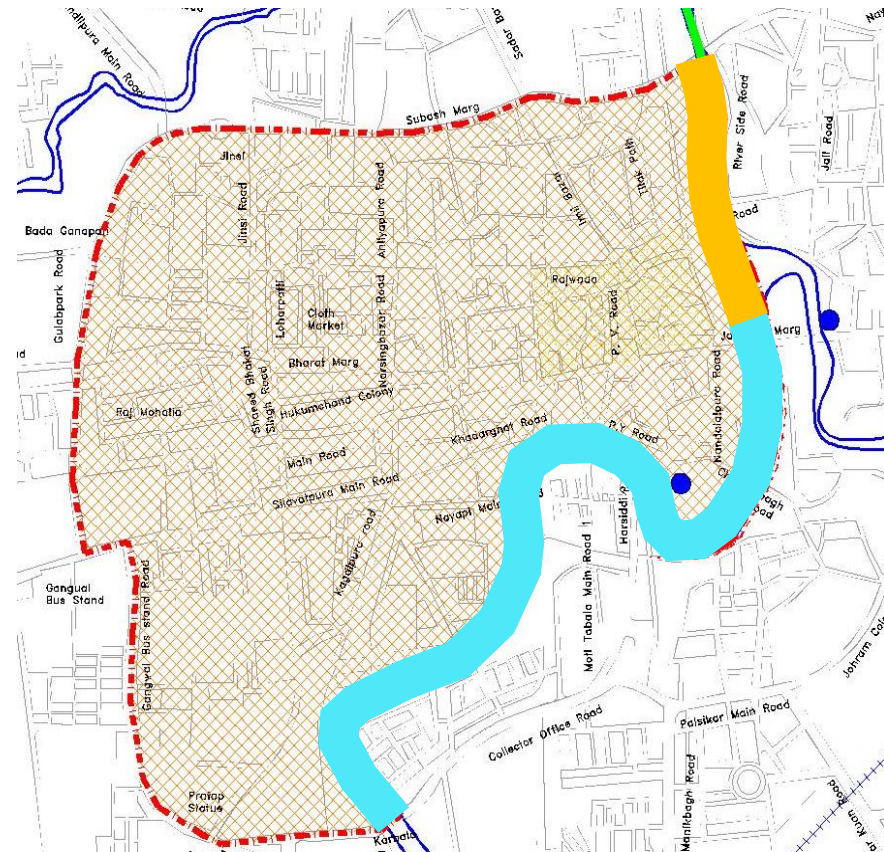


Location: MR-10

RIVERFRONT DEVELOPMENT IN SMART CITY PROJECT

SECTION	Cost (Rs. Crore)	STATUS	AGENCY
Subhash Marg Bridge to MG Road Bridge	3.57	Work in Progress	Vijay Pratap Sharma
MG Road Bridge to Jawahar Marg Bridge	21.32	Work in Progress	S K Sodani
Jawahar Marg Bridge to Chandrabhaga Bridge	17.58	Bids Received	
Chandrabhaga Bridge to Harsiddhi Bridge (I)	4.36	Work in Progress	Sanjay Vyas
Harsiddhi Bridge (I) to Harsiddhi Bridge (II)	7.37	DPR Prepared	
Harsiddhi Bridge (II) to Gangour Bridge			
Gangour Bridge to Jairam Bridge	8.26	DPR Prepared	
Jairam Bridge to Lal Bagh Bridge	10.81	DPR Prepared	
TOTAL	73.27		

TOTAL STRETCH IN ABD AREA = 3.9 Km
 SARASWATI RIVER - 3.4 Km
 KANH RIVER - 0.5 Km



ABD AREA

SCOPE & OBJECTIVES

- Create city-level green recreational space along the river which will strengthen the green & blue harmony and will revitalize the riverfront.
- Develop formal parks with terracing and attractive landscaping, seating areas, kids' play areas with support facilities like parking, toilet block, etc.
- Rehabilitate existing informal fruits & vegetable shops to an on-site formal market and existing slums to a well-equipped affordable housing project.
- Proper lining of river banks and dredging of river bed to improve water flow.
- Facilitate construction of Master Plan Road to ease traffic movement.
- Establish decentralized sewage treatment plant to prevent sewage flow into the river and improve water quality

COMPONENTS

- Riverbed dredging and lining
- Promenade development
- Landscaping / Garden development
- Recreational Spaces and Children's play areas
- Redevelopment of vegetable & fruit market
- Public conveniences (parking, toilets, etc.)
- DP Road 24 m wide & Bridge
- Integration of existing temples, Ashram etc.
- Illumination & Signages
- STP-10 MLD



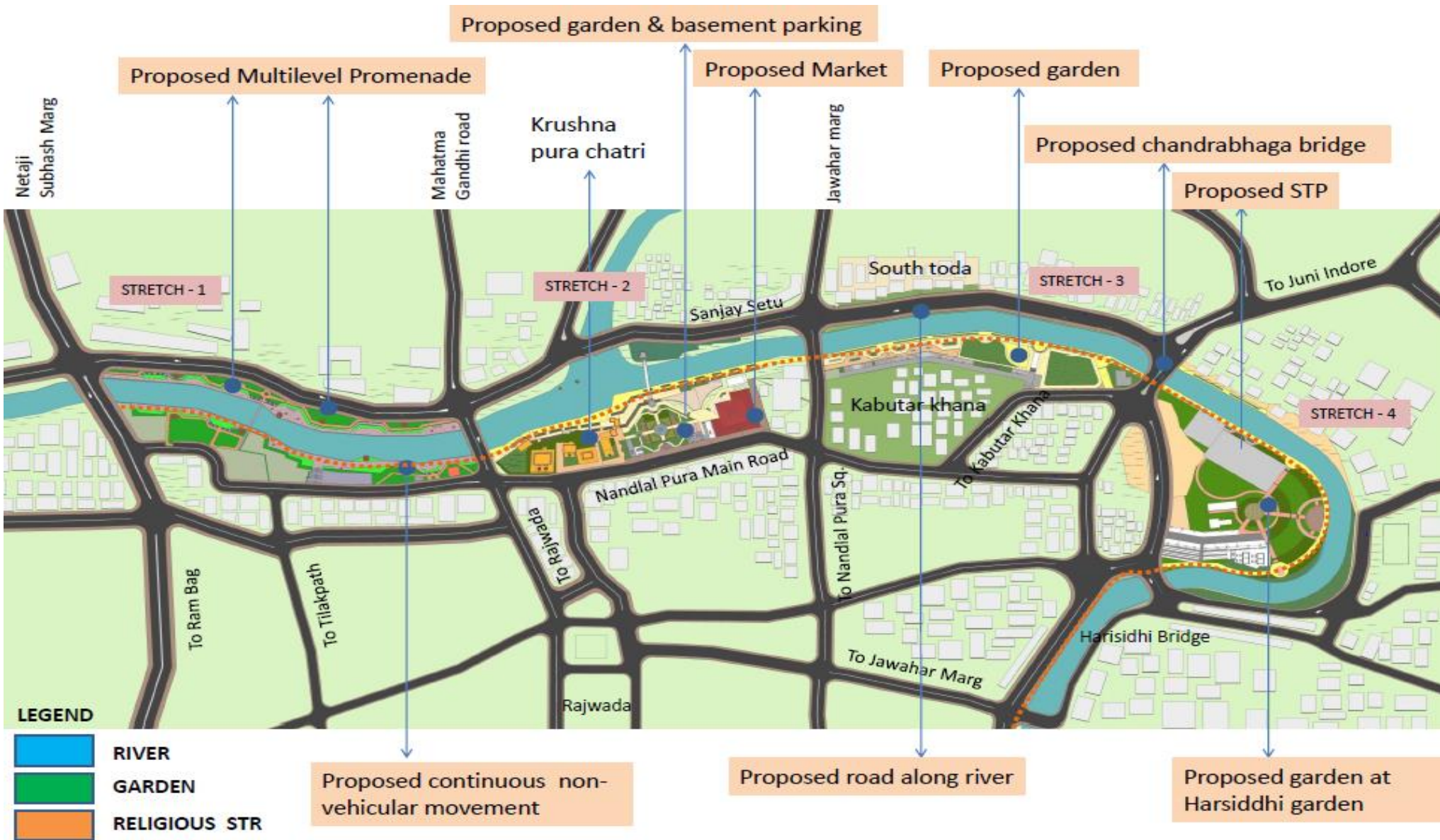
CHALLENGES/DIFFICULTIES ENCOUNTERED

- Removal of Encroachments along river banks
- Trapping of Sewage outfalls in order to eliminate municipal sewers flowing into rivers
- Cleaning of Rivers from settled sludge / mud and municipal solid waste

PROJECT BENEFITS / IMPACTS

- Clearance of encroachment
- Cleaning of water and riverbed
- Ground water recharge
- Creation of city-level recreational space
- Efficient rainwater discharge
- Reduction in BOD of River water
- Environmental improvement
- Visual improvement of the areas

PHASE 1 (MASTER PLAN)



SUBHASH MARG BRIDGE TO MG ROAD BRIDGE



PRESENT VIEW



PROPOSED VIEW

SUBHASH MARG BRIDGE TO MG ROAD BRIDGE

WORK IN PROGRESS



MG ROAD BRIDGE TO JAWAHAR MARG BRIDGE

PRESENT VIEW



MG ROAD BRIDGE TO JAWAHAR MARG BRIDGE

PRESENT VIEW



PROPOSED VIEW



CHANDRABHAGA BRIDGE TO HARSIDDHI BRIDGE

EARLIER SCENARIO WITH SLUMS



AFTER CLEARING THE SLUMS



More than 1300 slums rehabilitated in Apartments built under BSUP



PROPOSED

CHANDRABHAGA BRIDGE TO HARSIDDHI BRIDGE

WORK IN PROGRESS



Political Guidance / Support for the Rejuvenation of Rivers





Thank you