BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL, EASTERN ZONE

BENCH AT KOLKATA

O.A.No.180OF2024/EZ

In the Matter of:

Prayag Kumar

...Applicant

-Versus-

Bihar State Housing Board & Ors.

...Respondents

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3.	Copy of the Detailed Project Report	-R/2-	
4.	Vakalatnama	-R/3-	

Date: 01-03-2025

Place: Siwan, Bihar.

Filed by:

Ghanshyam Pandey
Advocate

Mr. Ghanshyam Pandey,
Advocate,
"HastingsChamber",7C,
K. S. R. Road, 2nd Floor, Room
No. 206, Kolkata- 700 001.
M:9686750386
E:ghanshyamlegal@gmail.com

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL, EASTERN ZONE

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In the Matter of:

Prayag Kumar

...Applicant

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Bihar State Housing Board & Ors.

...Respondents

Counter Affidavit filed on behalf of Respondent no. 2(i.e. Nagar Parishad, Siwan)

I, Arvind Kumar Singh (Male) aged about 39 years old, son of Late Viresh Singh resident of village-NH28, Devapur, P.S.- Barauli, District- Gopalganj by occupation-Government Service, presently posted as Executive Officer, Nagar Parishad, Siwan, Bihar working for gain at the Office of Municipal Commissioner, Nagar Parishad, Siwan, Bihar, Pin-841226, do hereby solemnly affirm and state as followed:

1. That I have made my self acquainted with the facts and circumstances of the Original Application filed by the applicant and I have thoroughly gone through all the documents pertaining to the subject matter of this instant case and I am competent to file the instant Affidavit before this Hon'ble Tribunal.

2. **That district administration siwan as well as Nagar Parishad, Siwan has been already taken steps for removal of garbage and silt of Daha River and a DPR has been already prepared for this work. The technical and administrative work is in under process.**

That the Nagar Parishad Siwan Published an EOI No. 04/2019-20 for preparing of DPR for rejuvenation of Daha River under Siwan Municipal Area and M/s. Alpha Solution Infra was selected for this work and accordingly the work order was issued to this firm by the Executive Officer, Nagar Parishad, Siwan vide letter No. 597dated 25.03.2020.

Copy of EOI No. 04 / 2019-20 & vide Letter No. 597 dated 25.03.2020 and Letter No. 555 are attached herewith and mark as Annexure- R/1 Collectively.

4. That after receiving this work order this firm started survey the river falling under municipal area and preparing a detail DPR for this work, submitted it to the Nagar Parishad.

Copy of the Detailed Project Report is attached herewith and mark as Annexure- R/2.

5. That after receiving this DPR the Executive Officer, Nagar Parishad sent it to the Executive Engineer, BUIDCO Siwan to examine this DPR and complete the process of its technical approval vide letter no. 1919 dated 05.12.2020.

6. That upon examination of the Detailed Project Report by the Executive Engineer, Buidco, the total estimated cost of the project i.e. DPR was Rs. 28.96 Crore. As the estimated cost was beyond the approval limit of the Executive Engineer, BUIDCO, the said file was forwarded to the Superintending Engineer, Saran Division for technical approval or further action vide letter no. 424 dated 11.12.2020 and similarly, a copy of the said letter was also sent to the District Magistrate, Siwan and the Executive Officer, Nagar Parishad, Siwan.

7. Accordingly, the Superintending Engineer, Saran Division examined the DPR, and sent the file to the Chief Engineer, BUDCO with the request for granting technical approval, and thereafter placing the same before the Principal Secretary, Urban Development and Housing Department Bihar for granting administrative approval vide letter no. 01/2019-209 dated 26.12.2020. But the Chief Engineer, BUDCO returned this file with DPR vide letter no. 280 dated 13.01.2021 to the Superintending Engineer, Saran Division saying this that he had not received any instruction and direction by Urban Development and Housing Department in this regard.

NOTARY VIJAY NARAYAN BHARTI Reg. No. 375/19 Valid Till - 14-01-2029 SIWAN GOVT OF BIHAR

8. That the Executive Officer, Nagar Parishad, Siwan, in order to avoid any disturbance and/or delay sent the file with DPR to the Chief Engineer, Urban Development and Housing Department Bihar vide letterno.4209dated28December,2024andalsorequestedhimto send it to the Secretary, Urban Development and Housing Department, Bihar for administrative approval after giving its technical approval.

9. That I have thoroughly gone through the contents of this counter affidavit and I have fully understood the same I am competent to file and sign the instant Affidavit before this Hon'ble Tribunal

10. That the respondent no. 4 (i.e. Nagar Parishad, Siwan) states and submits that the answering respondent are ready and willing to abide by the order/s direction/s made by this Hon'ble Tribunal and has taken all possible steps to comply the directions of the Hon'ble Tribunal and the Inspection Committee.

11. I state that the statements contained in Paragraphs no. 1 - 9 are true to the best of my knowledge and belief and the rest are my humble submissions before this Hon'ble Court.

NOTARY VIJAY NARAYAN BHARTI Reg. No. 395/19 Valid Till 14-01-2029 SIWAN GOVT OF BIHAR

Arvind kumar Singh
DEPONENT

Identified by me,
Prafull Kr. Adv.
Advocate.
1/03/2025

Prepared in my office.
Ghanshyam Pandey,
Advocate
Ghanshyam Pandey
Advocate

BEFORE ME

NOTARYPUBLIC

VERIFICATION

Verified at Siwan, Bihar by the deponent above named on this the day of 01 Mar, 2025, and say that the contents of this affidavit made in paragraph nos. 1 are true to my knowledge, those made in paragraph no. 2 to 8 are information derived from records which I verily believe to be true and the rest are my respectful submissions before this Hon'ble Tribunal.

Arvind Kumar Singh
DEPONENT

I identify the deponent who has signed / put his / her L.T.I. in my presence.
Prafull Nayan
Advocate, Siwan

NOTARY
VIJAY NARAYAN BHARTI
Regd. No. 375/19
Valid Till - 14-01-2029
SIWAN
GOVT OF BIHAR

INDIA JUDICIAL

Government of Bihar

e-Court Fee

e-Court Fee Receipt No.	:	BRECR076C250300006373
Date & Time	:	01-Mar-2025 11:57 AM
Name of the ACC/ Registered User	:	District Co-operative Central Bank, Siwan
Location	:	Civil Court Siwan
Name of Applicant	:	ARVIND KUMAR SINGH
e-Court Fee Amount	:	100 (One Hundred Rupees Only)

NOTARY
VIJAY NARAYAN BHARTI
Reg. No. 375/19
Valid Till - 14-01-2029
SIWAN
GOVT OF BIHAR

IN 2500450778

Statutory Alert:
1. The authenticity of this Stamp certificate should be verified at https://enibandhan.bihar.gov.in or using enibandhan Mobile App. Any discrepancy in the details on this Certificate and as available on the website/Mobile App renders it invalid.
2. The onus of checking the legitimacy is on the users of the certificate.
3. In case of any discrepancy please inform the Competent Authority.

SIWAN MUNICIPAL COUNCIL

दूरभाष नं०- (06154) 242125
मोबाईल नं०- 8630882026
E-Mail :- Siwan.nagarparishad@gmail.com

SHORT NOTICE INVITING EXPRESSION OF INTEREST

EOI No.:- 04/2019-20

Siwan Municipal Council, siwan Invites Expression of Interest for Preparation of DPR for Rejuvanation of Daha River under Siwan Municipal Area. The Details of the schedule for the bid are given below :-

S. No.	Event	Date	Venue
1	2	3	4
1	Date of Dowloading EOI (Through Website: https://nagarseva.bihar.gov.in/siwan/)	03.08.2019 To 10.08.2019 12:00 PM	Meeting Hall Municipal Council Siwan (Nagar Parishad Siwan)
2	Pre Submission meeting	03.08.2019 11:00 AM	
3	Last Date for receiving queries & comments	09.08.2019 16:00 PM	
4	Last Date for submission of expression of interest (Hard copy)	10.08.2019 16:00 PM	
5	Opening of EOI	10.08.2019 14:00 PM	

a) If any date specified here in is a holiday, then the next working day will be considered for the activity and the time will remain the same.

b) The schedule indicated above is tentative and siwan Municipal Council, Siwan may change any or the entire schedule under intimation through notice in the Website or to the agencies.

c) A registered Agency only can participate in the Expression of Interest.

d) The EOI has to be submitted in closed covers and addressed to the Municipal Executive Officer, Municipal Council, Near Jp Chauk Siwan.

e) EOI can be downloaded from the municipal Website https://nagarseva.bihar.gov.in/siwan/ from date: 03.08.2019 To 10.08.2019 16:00 Pm onwards. For any queries and clarifications, send E-mail Siwan.nagarparishad@gmail.com to 09.08.2019 16:00 PM.

* **All other** details can be seen in **the EOI .**

Municipal Executive Officer
Municipal Council, Siwan.

कार्यालय नगर परिषद,सिवान

पत्रांक...555.../

प्रेषक,

नगर कार्यपालक पदाधिकारी,
नगर परिषद्, सिवान।

प्रेषित,

अपोलो इन्फ्रा सोलुसन
51h फ्लोर बिन्देश्वरी प्लाजा,
इन्कम टैक्स गोलम्बर के पास किदवईपुरी, पटना।

सिवान, दिनांक 20 वीं मार्च 2020 ई0।

विषय :– **नगर परिषद्, सिवान द्वारा EOI नम्बर– 04/2019–20 के तकनिकी एवं वित्तीय बीड़ की स्वीकृति के उपरान्त एकरारनामा करने के संबंध में।**

महाशय,

उपर्युक्त विषयक के संबंध में कहना है नगर परिषद्, सिवान के अन्तर्गत अवस्थित दाहा नदी के जिर्णोद्धार/सौन्द्रर्यीकरण हेतु **EOI** का प्रकाशन किया गया था, जिसका तकनीकी बीड़ की स्वीकृति कार्यपालक अभियंता, बुडको के पत्रांक 19 दिनांक 09.01.2020 के द्वारा दिये गए अनुशंसा के आलोक में दिनांक 24.02.2020 को वित्तीय बीड़ खोली गई। साथ ही साथ सशक्त स्थायी समिति की बैठक दिनांक 17.02.2020 के प्रस्ताव सं0– 06 (अन्यान्य) के VIII पर आपके द्वारा दिये गए निवेदित दर 0.80 प्रतिशत पर कार्यादेश निर्गत करने हेतु स्वीकृति दी गई है। उक्त प्रस्ताव के आलोक में आपको आदेश दिया जाता है कि 1000.00 (एक हजार) रूपए का स्टाम्प पेपर लेकर यथाशिघ्र एकरारनामा करना सुनिश्चित करें ताकि कार्यादेश निर्गत किया जा सकें।

20/03/2020

नगर कार्यपालक पदाधिकारी,
नगर परिषद्, सिवान।

Office Municipal Council, Siwan

Letter No. 555/

Sender,
City Executive Officer, Municipal Council, Siwan.

Sent,
Apollo Infra Solutions
5th Floor Bindeshwari Plaza, Near Income Tax Golambar Kidwaipuri, Patna.

Siwan, dated 20th March, 2020.

Subject- Regarding making an agreement after approval of the technical and financial bid of EOI number- 04/2019-20 by Nagar Parishad, Siwan.

Sir,

Regarding the above mentioned subject, it is to be said that EOI was published for the renovation/beautification of Daha river situated under Nagar Parishad, Siwan, whose financial bid was opened on 24.02.2020 in the light of the recommendation given by Executive Engineer, BUIDCO's letter no. 19 dated 09.01.2020 for approval of Technical Bid. Along with this, approval has been given to issue work order at the requested rate of 0.80 percent given by you on VIII of proposal no. 06 (miscellaneous) of the empowered standing committee meeting dated 17.02.2020. In the light of the said proposal, you are ordered to take a stamp paper of Rs. 1000.00 (one thousand) and ensure to make an agreement as soon as possible so that work order can be issued.

Sd/- 20/03/2020
City Executive Officer, Municipal Council, Siwan.

स्वच्छ सिवान

कार्यालय नगर परिषद,सिवान

स्वच्छ सिवान
दूरभाष सं0 – (06154) 242123
मोबाईल नं0–9430892026
E-Mail :- Siwan.nagarparishad@gmail.com

पत्रांक 597 /

प्रेषक,

नगर कार्यपालक पदाधिकारी,
नगर परिषद, सिवान।

प्रेषित,

अपोलो इन्फ्रा सोलुसन
6Th फ्लोर बिन्देश्वरी प्लाजा,
इन्कम टैक्स गोलम्बर के पास किदवईपुरी, पटना।

सिवान, दिनांक 25वीं मार्च 2020 ई0।

विषय :– नगर परिषद, सिवान के अन्तर्गत दाहा नदी का जीर्णोद्धार का डी0पी0आर0 तैयार करने हेतु कार्यादेश।

उपरोक्त विषयक के सबंध में कहना है कि EOI No. 04 में तकनिकी एवं वित्तिय रूप से सफल निविदाकार अपोलो इन्फ्रा सोलुसन के द्वारा दिया गया दर निविदित दर 0.80 प्रतिशत न्यूनतन पाया गया है, जिसकी स्वीकृति राशक्त स्थायी समिति के बैठक दिनांक 17.02.2020 के प्रस्ताव संख्या 06 (अन्यान्य) के VIII के द्वारा दिया गया है। दाहा नदी का डी0पी0आर0 तैयार करने हेतु निम्नवत कार्य किया जाना है :

Scope of Work Includes:-

1. Site Evaluation and analysis.
2. All Rejuvenation Works of River.
3. Preparation of Details Estimate and detail drawing of all Schedule and non scheduled item as per BSR 2018 or BSR CPWD 2019.

अतः आपको आदेश दिया जाता है कि जिला पदाधिकारी, सिवान के द्वारा दिये गए निदेश के अनुसार अप्रैल 2020 तक डी0पी0आर0 तैयार कर समर्पित करेंगें। साथ ही आपके द्वारा निविदित दर का 20 प्रतिशत की राशि कार्य प्रारंभ करने के पश्चात् कार्य प्रगति के समीक्षा के उपरान्त एवं 80 प्रतिशत की राशि तकनिकी/प्रशासनिक स्वीकृति के बाद विभाग से राशि आवंटित होने के उपरान्त ही भुगतान किया जायेगा।

25/03/2020
नगर कार्यपालक पदाधिकारी,
नगर परिषद, सिवान।

Office Municipal Council, Siwan

Letter No. 555/

Sender,
City Executive Officer, Municipal Council, Siwan.

Sent,
Apollo Infra Solutions
5th Floor Bindeshwari Plaza, Near Income Tax Golambar Kidwaipuri, Patna.

Siwan, Dated 21st March, 2020

Subject : Work order for preparing DPR for renovation of Daha river under Municipal Council, Siwan.

Sir,
In reference to the above-mentioned matter, it is to be said that in EOI No. 04, the rate quoted by successful bidder being Apollo Infra Solution was found to be 0.80 % as the lowest bidding tender rate, the approval of which was given by the Standing Committee in its meeting dated 17.02.2020 in the Proposal No. 06 (Miscellaneous), Clause VIII. The following work is to be done for preparing the DPR of Daha River:

Scope of Work Includes:-

1. Site Evaluation and analysis.
2. All Rejuvenation Works of River.
3. Preparation of Details Estimate and detail drawing of all Schedule and non scheduled item as per BSR 2018 or BSR CPWD 2019.

Therefore, you are hereby directed and ordered to prepare and submit the DPR by April, 2020, as per the direction given by District Officer, Siwan. Also, 20 percent of the rate quoted by you will be paid after starting the work and after reviewing the progress of the work and 80 percent of the amount will be paid after getting the technical/administrative approval and after the allocation of funds from the department.

Sd/- 25/03/2020
City Executive Officer, Municipal Council, Siwan.

Project cost Rs.33.20Cr.

SUBMITTED TO

NAGAR PARISHAD SIWAN

PREPARED BY APPOLO INFRA SOLUTIONS

TABLE OF CONTENTS

Chapter-4 Concept of Design

समाहरणालय, सिवान

(जिला विकास शाखा)

पत्रांक. 2891...../विकास, सिवान, दिनांक...09, वीं जुलाई 2020 ई0

प्रेषक,

प्रभारी पदाधिकारी,
जिला विकास शाखा,
सिवान।

सेवा में,

उप विकास आयुक्त, सिवान।
प्रखण्ड विकास पदाधिकारी, सिवान सदर।
अंचलाधिकारी, सिवान सदर।
कार्यपालक अभियंता, बुडको, सिवान।
सहायक अभियंता, बुडको, सिवान।

विषय :– दाहा नदी के जीर्णोद्धार/सौन्दर्यीकरण हेतु Presentation में भाग लेने के संबंध में।

महाशय,

उपर्युक्त विषयक सूचित करना है कि दाहा नदी के जीर्णोद्धार/सौन्दर्यीकरण हेतु अपोलो इन्फ्रा साल्युशन द्वारा दिनांक 10.07.2020 को 11:00 बजे पूर्वाहन में जिला पदाधिकारी, सिवान के कार्यालय प्रकोष्ठ में Final Presentation दिया जायेगा, जिसमें आपकी उपस्थिति हेतु जिला पदाधिकारी महोदय द्वारा निदेशित किया गया है।

अतः अनुरोध है कि निर्धारित तिथि को दाहा नदी के जीर्णोद्धार/सौन्दर्यीकरण हेतु अपोलो इन्फ्रा साल्युशन द्वारा दिए जाने वाले Final Presentation में सपरिवार भाग लेने की कृपा की जाय।

विश्वासभाजन,

09/07/2020

प्रभारी पदाधिकारी,
जिला विकास शाखा
सिवान.

d:\jawed ji\daha nadi final presentation.docx

Collectorate, Siwan
(District Development Branch)

Letter No. 201/Vikas, Siwan, Dated 9th July 2020

Sender,
Chief Officer, District Development Department, Siwan.

To,
Deputy Development Commissioner, Siwan,
Block Development Officer, Siwan Sadar,
Circle/Operating Officer, Siwan Sadar,
Executive Engineer, BUIDCO, Siwan.
Asst. Engineer, BUIDCO, Siwan.

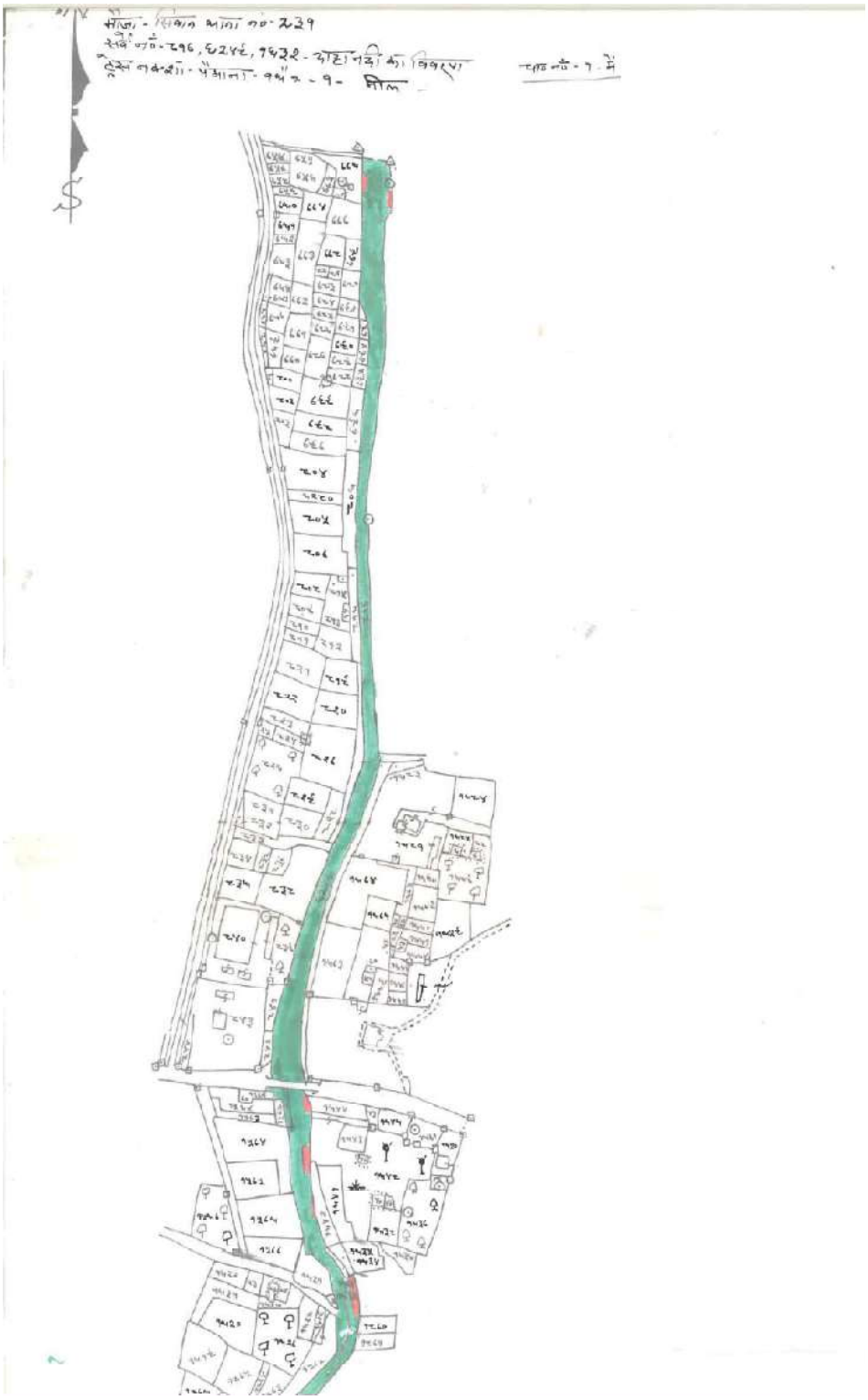
Subject: Regarding participating in the presentation for restoration / beautification of the Daha river.

Respected Sir,

This is in reference to the above-mentioned matter, it is to be informed that for the Restoration and Beautification of Daha river, Apollo Infa Solutions will give the final presentation on 10.07.2020 at 11:00 am in the office chamber of District Officer, Siwan, in which your presence has been directed by the District Officer.

Hence it is requested that you kindly participate in the Final Presentation to be given by Apollo Infra Solution for the renovation/beautification of Daha River on the scheduled date.

Sd/- 09/07/2020
In Charge Officer, District Development Section, Siwan



<u>जिला स्तरीय मिनट्स आफ मीटिंग</u>

जिला अधिकारी सिवान के अध्यक्षता में दिनांक 10-07-20 को 12 बजे आवास कार्यालय में दाहा नदी के जीर्णोधार एवं सौन्दर्यीकरण परियोजना का फायनल प्रेजेंटेशन किया गया / जिसमे परियोजना के सभी घटकों पर बिस्तृत चर्चा की गयी / सर्वसम्मति से उपस्थित सभी अधिकारी गण इस परियोजना की स्वीकृती हेतु सहमति दिए / आदरणीय जिला अधिकारी द्वारा उप विकाश आयुक्त को अनुमोदन प्रपत्र तैयार कर इसकी प्रशासनिक स्वीकृति हेतु शासन को भेजने का प्रस्ताव तैयार करने को कहा गया /

आज के इस मीटिंग/ प्रेजेंटेशन में निम्नलिखित पदाधिकारी उपस्थित रहे ;

1) जिला पदाधिकारी, सिवान
2) उप विकाश आयुक्त, सिवान
3) प्रभारी पदाधिकारी, जिला विकाश शाखा सिवान
4) प्रखंड विकाश पदाधिकारी, सिवान सदर
5) अंचलाधिकारी , सिवान सदर
6) कार्यपालक अभियंता , बुड्को सिवान
7) सहायक अभियंता , बुड्को सिवान
8) सिटी मेनेजर, नगर परिषद सिवान
9) आर.आई. , सिवान सदर
10) अमीन, जिला परिषद सिवान
11) अपोलो इन्फ्रा सोलूसन (इंजी. अमरेन्द्र तिवारी) पटना द्वारा फायनल प्रेजेंटेशन किया गया/

District Level Minutes of Meeting

The final presentation of the Daha River Restoration and Beautification Project was made in the Housing Office on 10-07-20 at 12 noon under the chairmanship of District Magistrate Siwan / In which all the components of the project were discussed in detail / All the officers present unanimously agreed to approve this project / The Honorable District Magistrate asked the Deputy Development Commissioner to prepare the approval form and prepare a proposal to send it to the government for administrative approval.

The following officials were present in today's meeting/presentation.

1) District Magistrate, Siwan
2) Deputy Development Commissioner, Siwan
3) In Charge Officer, District Development Section, Siwan
4) Block Development Officer, Siwan Sadar
5) Circle Officer, Siwan Sadar
6) Executive Engineer, Budko Siwan
7) Assistant Engineer, BUDCO Siwan
8) City Manager, Nagar Parishad, Siwan
9) R. I., Siwan Sadar
10) Amin, District Council, Siwan
11) Final presentation was done by Apollo Infra Solution (Eng. Amarendra Tiwari) Patna.

परामर्शी द्वारा परियोजना का अनुमोदन

(अनुमानित लागत 33.20 Cr.)

दहा नदी का जीर्णोधार एवं सौदर्यीकरण की इस परियोजना में किसी भी स्थिति में नदी के वर्तमान धारा को बाधित नहीं किया गया है / इसमें वर्तमान नदी की धारा जो गर्मी के मौसम में प्रायः सुख जाती है उसी एरिया में डी –सिल्टिंग का प्रावधान किया गया है ,जिसे नदी की चौड़ाई प्रभावित न हो बल्कि नदी के पानी भराव की क्षमता में वृधी हो जाय / वर्तमान में जो घाट बना है उसी को सुंदर और सुदृढ़ बनाने का प्रावधान इस परियोजना में किया गया है , जिसे कार्य करने के दौरान किसी भी तरह की विवाद की स्थिति न बने / परियोजना के अन्य घटकों का भी प्रावघान इस तरह किया गया है जहा वर्तमान नदी के एरिया को प्रभावित न कर सके अपितु जहा जगह नहीं है वहा कुछ भी प्रस्तावित नहीं है / बरसात के मौसम में वर्तमान घाट कुछ समय के लिए डूब जाते है परन्तु डी सिल्टिंग करने के बाद ऐसी समस्या बहुत कम हो जायेगी /

परियोजना के मुख्य घटक एवं इसकी अनिवार्यता का विवरण निम्न है /

1. **De Silting and River Front Protection work**:

सिवान शहर के सभी वेस्ट वाटर ड्रेनेज इसी नदी में सात नालो द्वारा गिरता है / जिसे मुनिसिपल एरिया में सोलिड वेस्ट ,प्लास्टिक ,सीवर का गाद इस नदी में गिरता है और नदी का पानी सीवर के पानी जैसा हानिकारक है / जिसे नदी का स्वतः स्रोत बंद हो चूका है , नदी के जलीय जीव पर भी इसका बुरा असर पद है , नदी की प्राकृतिक सुंदरता अन्य शहरो के जैसा नहीं दिखती है /नदी का पानी प्रत्यक्ष या अप्रत्यक्ष रूप से घाघरा नदी होते हुए गंगा नदी को प्रदूषित करता है जो NGT के मार्गदर्शिका के पूर्ण विपरीत है /

इसके अलावा सिल्टिंग होने से बरसात के समय नदी से सटे भागो में जल जमाव की स्थिति निर्मित हो जाती है साथ ही नदी की तेज धारा से नदी का कटाव भी होता है जो कालांतर में स्थित घरों को भी क्षतिग्रस्त कर सकता है / इस घटक से नदी की भराव क्षमता में निम्न वृद्धि होगी

RIVER HOLDING CAPACITY BEFORE AND AFTER DE - SILTING								
River water Status			**Length of River in Municipal area**	**Av. Depth**	**Av. Width**	**cum**	**Liter**	**Million Lit.**
Present water storage capacity			4800	0.45	19.76	42,681.60	42,681,600.00	42.68
Increased Storage Capacity			4800	2.45	19.76	232,377.60	232,377,600.00	232.38
Increased by								**189.70**

अतः इस परियोजना का यह घटक – डिसिल्टिंग ,बोल्डर पिचिंग एवं एमबैक्मेंट का कार्य अति महत्वपूर्ण है

2. **Peripheral Drain:**

सिवान शहर के लगभग बीच से दहा नदी गुजरती है / सिवान का टोपोग्राफी भी नदी की तरफ ढलान है जिसे वर्तमान में शहर का लगभग 16 MLD वेस्ट वाटर नालो के द्वारा प्रतिदिन इसी नदी में गिरता है जिसे यह नदी सिवान शहर का सेप्टिक टेंक बन कर रह गया है / इसलिए इस परियोजना में नदी के दोनों बैंक के सामानांतर हयूम पाइप ड्रेनेज मेनहोल सहित प्रस्तावित किया गया है / जो शहर के दक्षिण में प्रस्तवित ट्रीटमेंट प्लांट से जोड़ दिया जायेगा / जिसे इस शहर का लगभग सत्तर प्रतिशत वेस्ट वाटर ट्रीटमेंट प्लांट में चला जायेगा साथ ही शहरी क्षेत्र में नदी का पानी स्वक्ष और सुन्दर हो जायेगा जो पर्यावरण दृष्टी से नदी का पानी अनुकूल हो जायेगा/
अतः इस परियोजना का यह घटक स्वीकार्य योग्य होगा /

3. **Walkway- Jogging Track ,Park, Yoga Park open Gym, Plantation and Landscaping and Street Light Signage:**

इस शहर में कही भी टहलने ,घूमने अथवा मनोरंजन के लिए कोई स्थान सुरक्षित नहीं है , जिसे बच्चे , महिलाये एवं बुजुर्ग खली समय में घूम सके / सर्वे के दौरान कुछ स्थान चिन्हित किया गया है जहाँ बिना विवाद के पार्क , योग पार्क , बच्चो का झूला, ओपन जीम आदि का प्रस्ताव किया गया है / इसके बनने से नदी के किनारे बाम्बे का मरीन ड्राइव जैसा वातावरण निर्मित होगा / हरे पेड़ पौधे लगाने से नदी के किनारे प्राकृतिक सुंदरता की अनुभूति शहर वाशियों को होगी / नदी के किनारे ग्रीन जोने विकसित किया जा सकता है /
अतः यह घटक इस परियोजना में शामिल करने योग्य है /

4. **New Ghat Development, Old Ghat Development & Vending Zone**:

छठ पूजा बिहार का सबसे महत्वपूर्ण त्यौहार है ,जो नदी या तालाब के किनारे डूबते एवं उगते सूर्य भगवान की पूजा की जाती है / इस पूजा के दौरान लाखों लोग नदी के किनारे इकठ्ठा होते है / नदी के किनारे घाटों का निर्माण हुआ है परन्तु यह सुरक्षित एवं सुन्दर नहीं है / अतः इस परियोजना में पुराने घाट को मजबूत एवं रेड स्टोन का फ्लोरिंग एवं मंदिरनुमा गजिबो का प्रावधान किया गया है / जिसे अन्य शहर जैसे वनारस या हरिद्वार में घाट के किनारे आरती होती है वैसे ही सिवान शहर वाशियो को इसका लाभ मिलेगा / कुछ चिन्हित स्थानों पर अनियंत्रित वेंडर के लिए वेंडिंग जोने का भी प्रावधान किया गया है/

अतः इस परियोजन के इस घटक को शामिल करना आवश्यक एवं महत्वपूर्ण है /

5. **Dhobi Ghat, Public Toilet, Change Room, and Crematoria** :

सिवान शहर में स्वक्ष्ता का अभाव है , सर्वे के दौरान पाया गया की नदी के किनारे बसने वाले लोग खुले में सोच करते है जो नदी के आसपास के इलाके को गंदा कर देते है / साथ ही शहर का कपड़ा धोने केलिए धोबी द्वारा इसी नदी का प्रयोग होता है जो नदी के पानी को प्रदूषित करता है/ शहर में अंतिम संस्कार के लिए लकड़ी का प्रयोग कर नदी में विसर्जित किया जाता है जिसे भी नदी का पानी प्रदूषित होता है /
इन सभी समस्याओ से निजात पाने के लिए एवं पर्यावरण को सुदृढ़ करने हेतु घोबी घाट, पब्लिक शौचालय , इलेक्ट्रिक शवदाह गृह एवं घाटो पर चेंज रूम का प्रावधान करना आवश्यक है /

सुझाव :

- माननीय **जिला अधिकारी सिवान** द्वारा प्रस्तावित सीवर लाइन को साफ करने हेतु दो हाई स्पीड सक्सन मशीन का सुझाव दिया गया है / जिसे सीवर लाइन की सफाई मेकेनिकल तरीके से की जा सके (मेनहोल में मजदूर का उपयोग न् किया जा सके)
- साथ ही माननीय **उप विकाश आयुक्त सिवान** द्वारा महदेवा में श्मशानघाट की जमीन जो नदी के किनारे है उस पर बिद्युत शवदाह गृह का प्रस्ताव करना श्रेयस्कर एवं उचित बताया गया है /
- उक्त सुझाव इस परियोजना में शामिल कर लिया गया है /

परामर्शी

अपोलो इन्फ्रा सोलूसन
(अमरेन्द्र तिवारी.इंजी)

Approval of the project by the consultant

(Estimated cost 33.20 Cr.)

In this project of renovation and beautification of Daha river, the current flow of the river has not been obstructed in any case. In this, provision has been made for de-silting in the same area of the current river stream which often dries up in the summer season, so that the width of the river is not affected but the water filling capacity of the river increases. In this project, provision has been made to make the ghats that are currently built beautiful and strong, so that no dispute situation arises during the work. Provision of other components of the project has also been made in such a way that it does not affect the current river area, but nothing is proposed where there is no space. In the rainy season, the current ghats get submerged for some time, but after de-silting, such problems will be reduced to a great extent.

The details of the main components of the project and its essentiality are clear.

1. De Silting and River Front Protection work:

All the waste water drainage of Siwan city falls in this river through seven drains. Solid waste, plastic, sewer sludge of the municipal area falls in this river and the water of the river is as harmful as sewer water. Due to which the automatic source of the river has been blocked, it has also had a bad effect on the aquatic life of the river, the natural beauty of the river does not look like other cities. The water of the river directly or indirectly pollutes the Ganga river through the Ghaghra river which is completely against the guidelines of NGT.

Apart from this, due to silting, waterlogging is created in the areas adjacent to the river during rainy season. Also, the river erosion is caused by the strong current of the river which can damage the houses in the long run. This factor will lead to the following increase in the filling capacity of the river.

RIVER HOLDING CAPACITY BEFORE AND AFTER DE-SILTING								
River Water Status		**Length of river in Municipal Area**		**Av. Depth**	**Av. Width**	**Cum**	**Liter**	**Million Ltr.**
Present Water Storage Capacity			4800	0.45	19.76	42,681.60	42,681,600.00	42.68

Increased Storage Capacity			4800	2.45	19.76	232,377.60	232,377,600.00	232.38
Increased by								**189.70**

Hence this component of the project, desilting, boulder pitching and vacancy work is very important

2. Peripheral Drain:

Daha river passes through almost the middle of Siwan city. The topography of Siwan also slopes towards the river, due to which currently about 16 MLD of the city's waste water falls into this river daily through drains, due to which this river has become the septic tank of Siwan city. Therefore, in this project, Hume pipe drainage has been proposed along with manholes parallel to both banks of the river. Which will be connected to the proposed treatment plant in the south of the city / through which about seventy percent of the city's waste water will go to the treatment plant, as well as urban

Hence this component of the project would be acceptable.

The river water in the area will become clean and beautiful which will make the river water environmentally friendly.

3. Walkway- Jogging Track, Park, Yoga Park open Gym, Plantation and Landscaping and Street Light Signage:

There is no safe place in this city for walking, roaming or entertainment, where children, women and elderly can roam in their free time. During the survey, some places have been identified where parks, yoga parks, children's swings, open gyms etc. have been proposed without any controversy. By building these, an environment like Bombay's Marine Drive will be created on the river bank. By planting green trees, the city dwellers will experience the natural beauty on the river bank. Green zones can be developed on the river bank.

Therefore, this component is worth including in this project.

4. New Ghat Development, Old Ghat Development & Vending Zone:

Chhath Puja is the most important festival of Bihar, in which the setting and rising Sun God is worshipped on the banks of a river or pond. During this

puja, lakhs of people gather on the banks of the river. Ghats have been constructed on the banks of the river but they are not safe and beautiful. Hence, in this project, the old ghats have been strengthened and provision has been made for red stone flooring and temple-like gazebos. Just as aarti is performed on the banks of the ghats in other cities like Banaras or Haridwar, the residents of Siwan city will also get the benefit of this. At some identified places

Provision of vending zones has also been made for unregulated vendors.

Hence, it is necessary and important to include this component in this project.

5. Dhobi Ghat, Public Toilet, Change Room, and Crematoria:

There is lack of cleanliness in Siwan city, during the survey it was found that the people living on the banks of the river defecate in the open which makes the area around the river dirty. Also, the washermen of the city use this river to wash clothes which pollutes the river water. In the city, wood is used for cremation and the bodies are immersed in the river which also pollutes the river water.

To get rid of all these problems and to strengthen the environment, Ghobi Ghat, public toilets,

It is necessary to make provision for change rooms at electric crematoriums and ghats.

Suggestion:

- Two high speed suction machines have been suggested by the Hon'ble District Officer Siwan for cleaning the proposed sewer line. So that the sewer line can be cleaned mechanically (labourers cannot be used in the manhole)

- Besides, it has been said by the Hon'ble Deputy Development Commissioner, Siwan that it is advisable and appropriate to propose an electric crematorium on the cremation ground land situated on the river bank in Mahdeva.

- The above suggestion has been incorporated in this project.

Consultant

Apollo Infra Solution(Amarendra Tiwari. Engg)

परियोजना के विभिन् घटको की स्थिति निम्न टेबल के अनुसार है

DETAILS OF DAHA RIVER REJUVENATION WORK					
CHAINAGE (M)			PROPOSED COMPONENDS	RIVER BANK	REMARKS
FROM	TO		**Wooden Pul Start Point**		
0	500	1	Proposed Desilting		
		2	Proposed Peripheral Drainage	Both Side	
		3	Proposed Old Ghat at 325 m but no redevelopment due to remote area	East side	
500	1000	1	Proposed Desilting		
		2	Proposed Peripheral Drainage	Both Side	
		3	Proposed Mahadeva Ghat at 775m already developed	east side	
		4	Proposed City park , Open Gym	east side	
		5	Proposed Yoga park	east side	
		6	Proposed walk way	east side	
		7	Proposed Pitching (ch.800- 1000)	Both side	
		8	Proposed Public toilet	east side	
		9	Proposed streat lights, landscaping, Dust bin, Plantation etc	East side	
1000	1500		**DM Banglow Ch. 1550**	East side	
		1	Proposed Desilting		
		2	Proposed Peripheral Drainage	Both Side	
		3	Proposed Pitching	Both side	
		4	Proposed Walkway	East side	
		5	Proposed Old Ghat Redevelopment	at ch. 1350 east side	
		6	Proposed streat lights, landscaping, Dust bin, Plantation etc		
1500	2000		**Daha Bridge at ch 1875**		
		1	Propesd Desilting		
		2	Proposed Peripheral Drainage		
		3	Proposed Pitching	Both side	
		5	Proposed Walkway	East side	
		6	Proposed walkway 1725-2000	west side	
		7	Proposed old Ghat Redevelopment at ch.1850	east side	
		8	Proposed New Ghat west side	East side	
		9	Proposed Gazebo	Both Side	
		10	Proposed Arch type Decorative wall (90m west+25m East)	Both Side	
		11	Proposed Streat lights, Landscaping, Dust bin, Plantation		
2000	2500				

		1	Proposed Desilting		
		2	Proposed Peripheral Drainage		
		3	Proposed Pitching	Both side	
		4	Proposed walkway 2000-2275	Both side	
		5	Proposed old Ghat Redevelopment	East side	
		6	Proposed New Ghat	East side	
		7	Proposed Gazebo	Both Side	
		8	Proposed Arch type Decorative wall (90m west+25m East)	Both Side	
		9	Proposed vending zone development	East side	
		10	Proposed City park at Shivvrat shah Mandir open Gym	East side	at Ch. 2200
		11	Proposed Streat lights, Landscaping, Dust bin, Plantation	East side	
		12	Proposed Parking	East side	
2500	3000				
		1	Proposed De silting		
		2	Proposed Pitching	Both side	
		3	proposed Peripheral drainage		
		4	Proposed Old Ghat Redevelopment at ch. 2775		
3000	3500		**Siwan Kachahri Bridge at ch.3100** **Sri Nagar Bridge at Ch. 3500**		
		1	Proposed Desilting		
		2	Proposed Pitching	Both side	
		3	Proposed peripheral drain		
		4	Proposed Dhobi ghat at 2 set ch 3150		
		5	Proposed plantation		
3500	4000	1	Proposed Desilting		
		2	Proposed Pitching	Both side	
		3	Proposed peripheral drain		
		4	Proposed New Ghat at ch. 3525	west side	
4000	4500				
		1	Proposed Desilting		
		2	Proposed Peripheral drain		
		3	Proposed pitching upto ch. 4075	Both side	
4500	4800	1	Proposed Desilting		
		2	Prposed Peripheral drain		
		3	Propsed Crematoria at ch 4600	east side	

CHAPTER - 1

HISTORY & BACKGROUND

1.1 HISTORICAL BACKGROUND OF SIWAN

Siwan, situated in the western part of the State, was originally a sub-division of Saran District, which in ancient days formed a part of Kosala Kingdom. The present district limits came into existence only in 1972, which is geographically situated at 25º35 North and 84º1 to 84º47 east. The total area of the Siwan district is about 2219.00 Sq. Km. The district is bounded on the east by the Saran district, on the north by Gopalganj district and on the west and south by two districts of U.P.viz.DeoriaandBaliarespectively.

Siwan derived its name from "Shiva Man", a Bandh Raja whose heirs ruled this area till Babar's arrival. Maharajganj, which is another subdivision of Siwan district, may have found its name from the seat of the Maharaja there. A recently excavated marvelous statue of Lord Vishnu at Village Bherbania from underneath a tree indicates that there were large numbers of followers of Lord Vishnu in the area. As the legend goes, Dronacharya of Mahabharat belonged to village 'DON' in Darauli Block. Siwan was a part of Banaras Kingdom during 8th century. Muslims came here in the 13th century. Sikandar Lodi brought this area in his kingdom in 15th century. Babar crossed Ghaghrariver near Siswan in his return journey. In the end of the 17th century, the Dutch came first followed by the English. After the battle of Buxar in 1765 it became a part of Bengal. Siwan played an important role in 1857 independence movement. It is famous for the stalwart and sturdy 'Bhoj-puries', who have always been noted for their martial spirit and physical endurance and from whom the army and police personnel were largely drawn. A good number of them rebelled and rendered their services to BabuKunwar Singh. The anti pardah movement in Bihar was started by Sri Braj Kishore Prasad who also belonged to Siwan in response to the Non Co-Operative movement in 1920. A big meeting was organised at Darauli in Siwan District on the eve of the KartikPurnimaMela under the leadership of Dr. Rajendra Prasad who had thrown away his lucrative practice as an advocate in the Patna High Court at the call of Gandhiji. In the wake of this movement MaulanaMazharulHaque, who came to stay with his maternal uncle Dr. SaiyyadMahmood in Siwan, had constructed an ashram on the Patna-Danapur road which subsequently became Sadaquat Ashram.

Dr. Rajendra Prasad (December 3,1884– February 28, 1963) was the first President of India

He was born in Zeradei, in the Siwan district of Bihar. Rajendra Prasad was an independence activist and, as a leader of the Congress Party, played a prominent role in the Indian Independence Movement.

He served as President of the Constituent assembly that drafted the constitution of the Republic from 1948 to 1950. He had also served as a Cabinet Minister briefly in the first Government of Independent India. Deshratna Dr. Rajendra Prasad as long as he remained in Patna to lead the Freedom Movement. He lived and worked here since the establishment of Bihar Vidyapeeth on 6th February 1921.

Mulana MazharulHaque(Urdu مولانامظہرالحق، Hindi मौलानामजहरुलहक; 1866-1930) was born to a rich landlord, Sheikh Ahmedullah, in Bihar in December 1866. He passed his matriculation from the Patna Collegiate in 1886. He then traveled to Lucknow for higher studies, where he was admitted to Cannig College. In 1906, he moved to Patna to continue to practice law. It was also in 1906 that MaulanaMazharulHaque was elected Vice Chairman of Bihar Congress Committee.MaulanaMazharulHaque is known to have stayed with his maternal uncle Dr. SaiyyadMahmood in Siwan during the anti-purdah movement launched in Bihar in response to the Non Cooperation Movement of 1920. The purdah system espoused by Muslim and many Hindu families, especially in Bihar, meant that women remained behind men in all spheres of life. Around this time, he was approached by students of the Patna University desiring to support Gandhi's call to boycott Government run institutions. The Bihar Vidyapeeth, then headquartered at an ashram he constructed on the Patna-Danapur road thus came into being. The ashram became well known as the Sadaquat Ashram, it now serves as the headquarters of the Congress party in Patna, the capital of the state of Bihar

1.2 दाहा नदी की पौराणिक कहानी यह है

" जब भगवान श्री राम , लक्ष्मण एवं सीता अयोध्या से वन गमन कर रहे थे, तब गोपालगंज के सासामुसा के पास माता सीता को प्याश लगी और लक्ष्मण ने बाण से धरती में धनुष से प्रहार किया और वहा जल की धारा निकली और माता सीता की प्याश बुझी /जल धारा नदी का रूप लेने लगी तब भगवान ने लोमड़ी के पीछे धारा के प्रवाह को कर दिया / वो जानते थे की लोमड़ी कभी भी गांव के अंदर नहीं घुसती है / लोमड़ी भागती गयी भागती गयी जैसे जैसे लोमड़ी भागी दहा नदी उसके पीछे पीछे गमन करने लगी जो सिवान होते हुआ अंततः ताजपुर में घाघरा नदी में जा मिली / यह आज भी देखा जा सकता है की नदी कही भी गांव या शहर के बीच से नहीं गुजरी है / अतः सभी जीवों के लिए जल का प्रवाह भगवान द्वारा इस शेत्र के वाशियो के लिए किया गया "

Fig. 1 Google map Daha River from Originate location to End point (Meeting point in Ghaghara River): approx 122 km length.

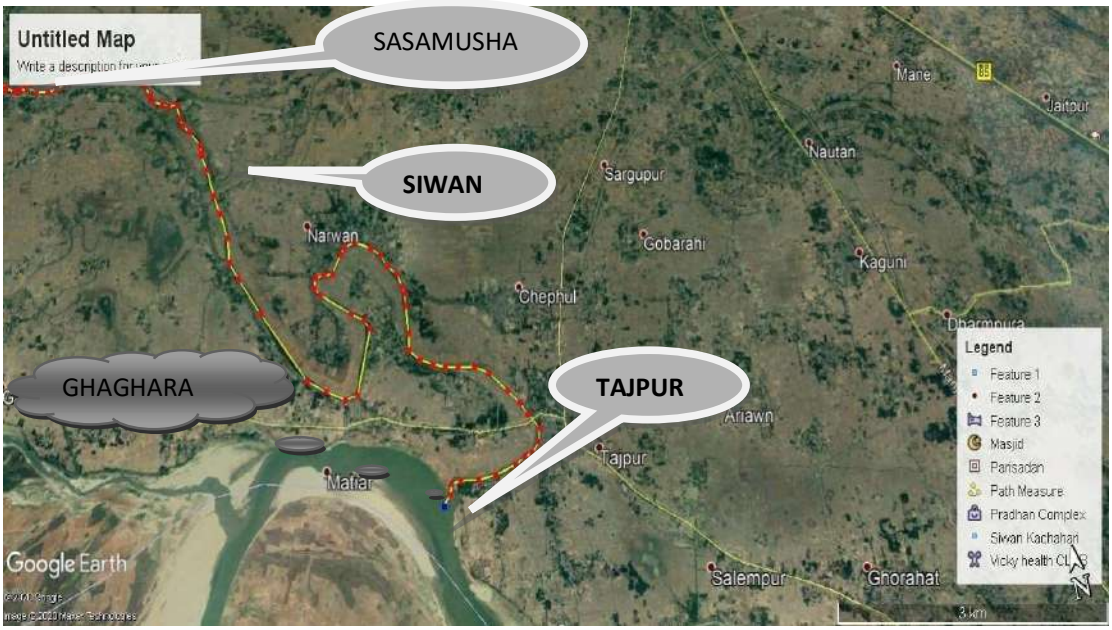


Fig .2 Map of rivers system of Bihar

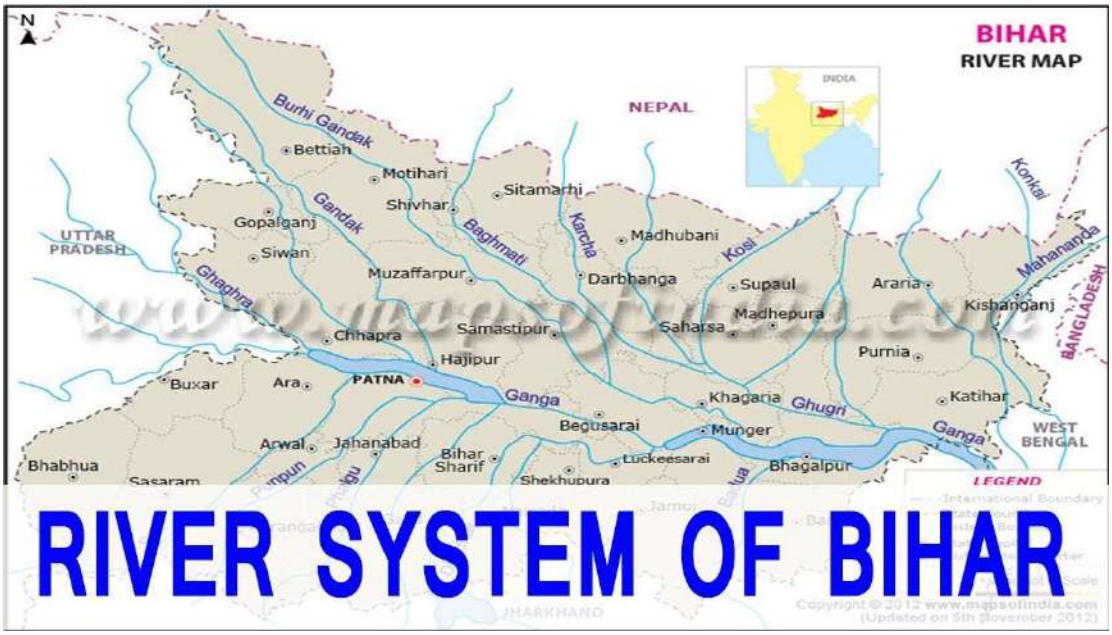
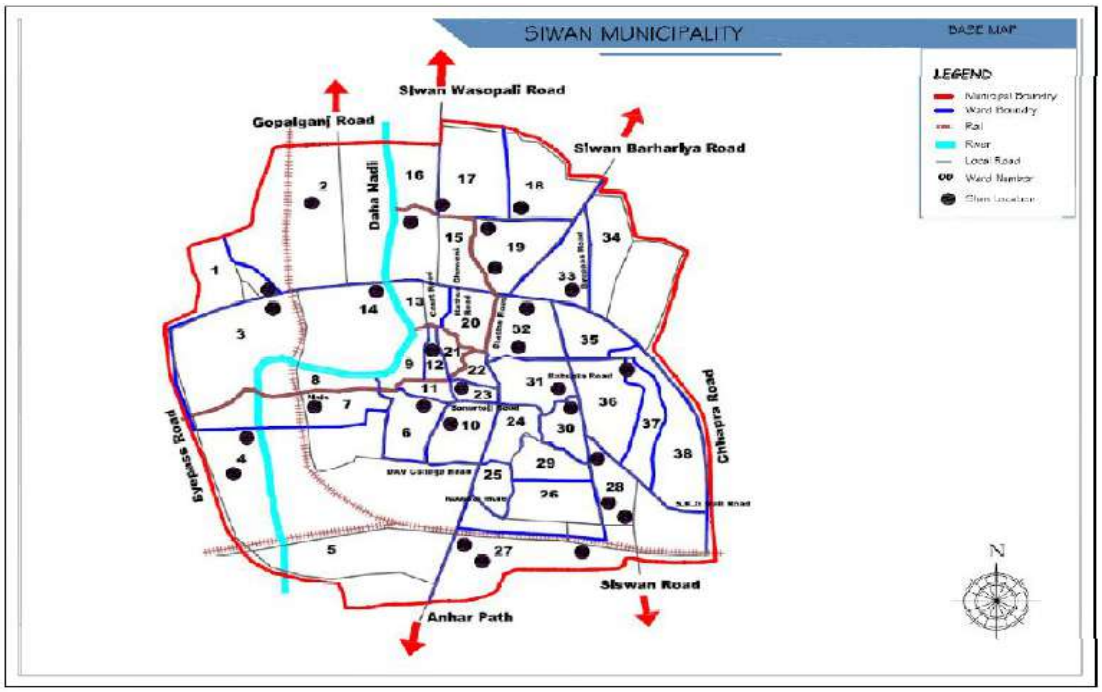


Fig. 3 Alignment of river in Municipal Area

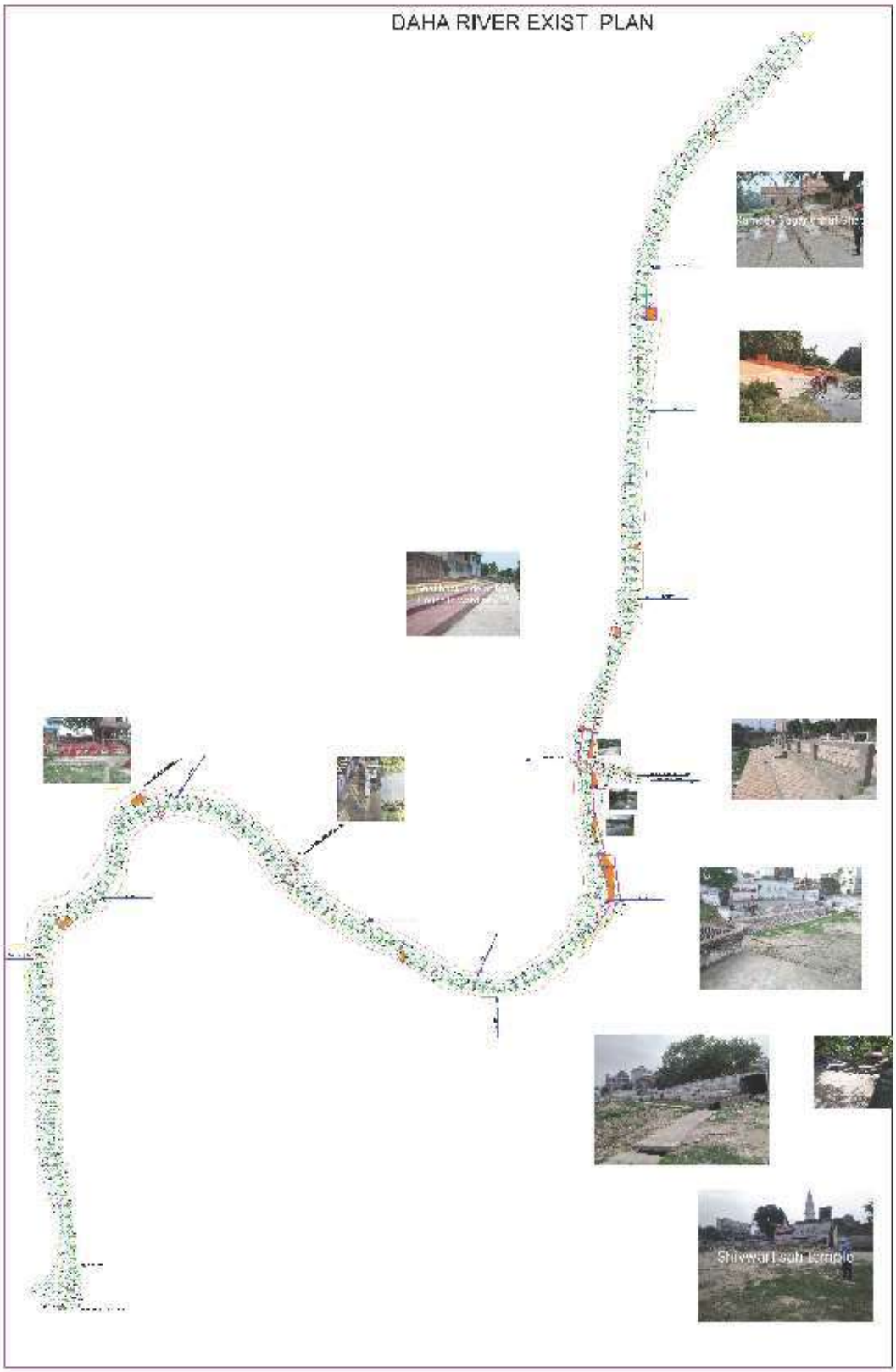


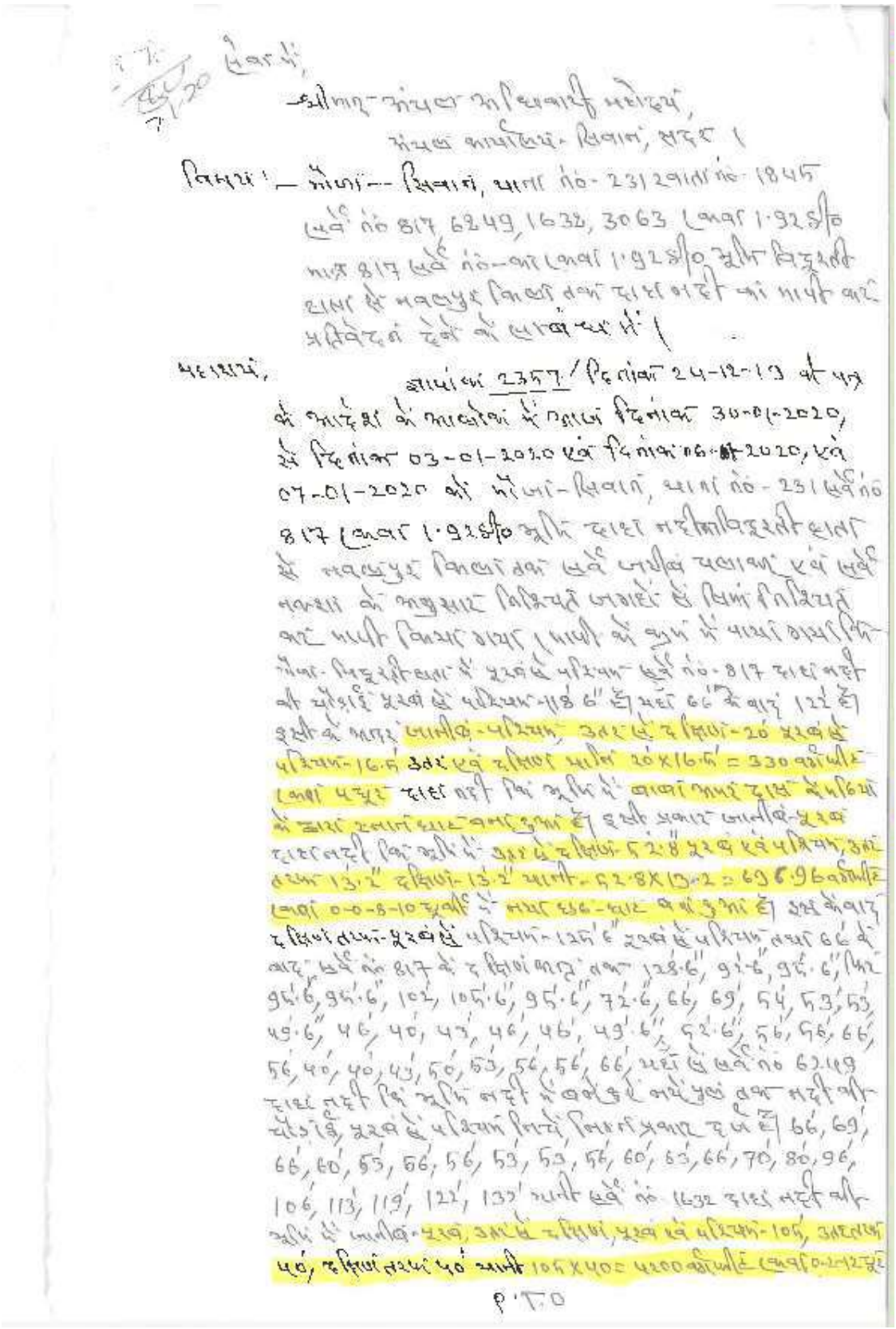
1.3 Cadastral Map Details

As per the records from Town Survey Department, the Siwan area is 13.5sqkm. All morphometric details for Daha river are hence collected through a detailed Topographic and Bathymetric survey whose details are explained below.

4800 .00 m length of river comes under municipal area which is surveyed. Survey started from Siwan Kachahari river bridge, from there levels taken . Maximum flood Level at the bridge is 65.20m whereas current water level from start point to end point (ch4800.00) is 60.00 to 61.00m

Amin of the area is given report is attached, cadastral map superimposed into the surveyed map.


DAHA RIVER EXIST PLAN



પ્રતિ,
શ્રીમાન્-મંત્રશ્રી-ગ્રામવિકાસ મહોદય,
મંત્રશ્રી કાર્યાલયે-વિકાસ, સદન ।

વિષય:- મૌજા--વિકાસ, પરગ નં૦-231 સર્વે નં૦ 1845 સર્વે નં૦ 817, 6249, 1632, 3063 કુલ ક્ષેત્ર 1.92 હે૦ માત્ર 817 સર્વે નં૦-વાર ક્ષેત્ર 1.92 હે૦ ભૂમિ વિકૃતકર્તી દ્વારા જે મલ્યુત વિલ્ડ દ્વારા દાદા બાદી ખો માર્ગ વાટે પ્રતિવેદન દેવું જે ધોરણ પર છે ।

મહાશય,

આપનો પત્ર 2357/ દિનાંક 24-12-19 જે પત્ર જે આદેશ જે આધારો જે નાગા દિનાંક 30-01-2020, જે દિનાંક 03-01-2020 એવં દિનાંક 06-01-2020, એવં 07-01-2020 જે મૌજા-વિકાસ, પરગ નં૦-231 સર્વે નં૦ 817 ક્ષેત્રફળ 1.92 હે૦ ભૂમિ દાદા બાદીવિકૃતકર્તી દ્વારા જે મલ્યુત વિલ્ડ દ્વારા સર્વે જાણીજી ચલાવું એવં સર્વે મલ્યુત જે અનુસાર વિકિરણે જાણાદેવું જે વિષય ની વિકિરણ વાટે મારી વિષય બોધ । મારી જે ભૂમિ જે પરગ બોધ વિકિરણ મૌજા-વિકૃતકર્તી દ્વારા જે પ્રકાર પરિમાણ- સર્વે નં૦-817 દ્વારા બાદી જે પૌરાણે પ્રકાર જે પરિમાણ-નાર્ક 6" ફૂટ મહાં 66' કે બાદું 122' ફૂટ ફૂટી જે આધાર જાણીજી-પરિમાણ, 360' પૂર્વ દક્ષિણ-20' પ્રકાર જે પરિમાણ-16.5' 360' એવં દક્ષિણ મારી 20×16.5' = 330 વર્ગફીટ ક્ષેત્રફળ પ્રકાર દાદા બાદી વિકૃતકર્તી જે ભૂમિ જે બાદી બાદી દ્વારા જે પરિમાણ જે પ્રકાર જાણીજી-પ્રકાર દાદા બાદી વિકૃતકર્તી જે ભૂમિ જે 360' દક્ષિણ-52.8" પ્રકાર એવં પરિમાણ, 360' દક્ષિણ 13.2" દક્ષિણ-13.2" મારી- 52.8×13.2 = 696.96 વર્ગફીટ ક્ષેત્રફળ 0-0-8-10 ક્ષેત્રફળ જે બાદી દક્ષિણ-દાદા જે વર્ગ જે ભૂમિ જે પ્રકાર જે બાદી દક્ષિણ દક્ષિણ-પ્રકાર જે પરિમાણ-125'6" પ્રકાર જે પરિમાણ બાદી 66' જે બાદું સર્વે નં૦ 817 જે દક્ષિણ બાદી દ્વારા 128.6", 91.6", 91.6", ફિર 95.6, 95.6", 102, 105.6", 95.6", 72.6", 66, 69, 54, 53, 53, 49.6", 46, 40, 43, 46, 46, 43.6", 52.6", 56, 56, 66, 56, 40, 40, 43, 50, 53, 56, 56, 66, બાદી જે સર્વે નં૦ 6249 જે દાદા બાદી વિકૃતકર્તી જે ભૂમિ બાદી જે વર્ગ જે બાદું ફૂલ દ્વારા બાદી વિકૃતકર્તી જે પ્રકાર જે પરિમાણ વિસ્તાર, વિસ્તાર પ્રકાર દક્ષિણ જે 66, 69, 66, 60, 53, 56, 56, 53, 53, 56, 60, 63, 66, 70, 80, 96, 106, 113, 119, 122, 132' બાદી સર્વે નં૦ 1632 દાદા બાદી વિકૃતકર્તી જે ભૂમિ જાણીજી-પ્રકાર, 360' જે દક્ષિણ, પ્રકાર એવં પરિમાણ-105', 360' બાદી 40', દક્ષિણ બાદી 40' બાદી 105×40 = 4200 વર્ગફીટ ક્ષેત્રફળ 0-1-12 ફૂટ

P.T.O

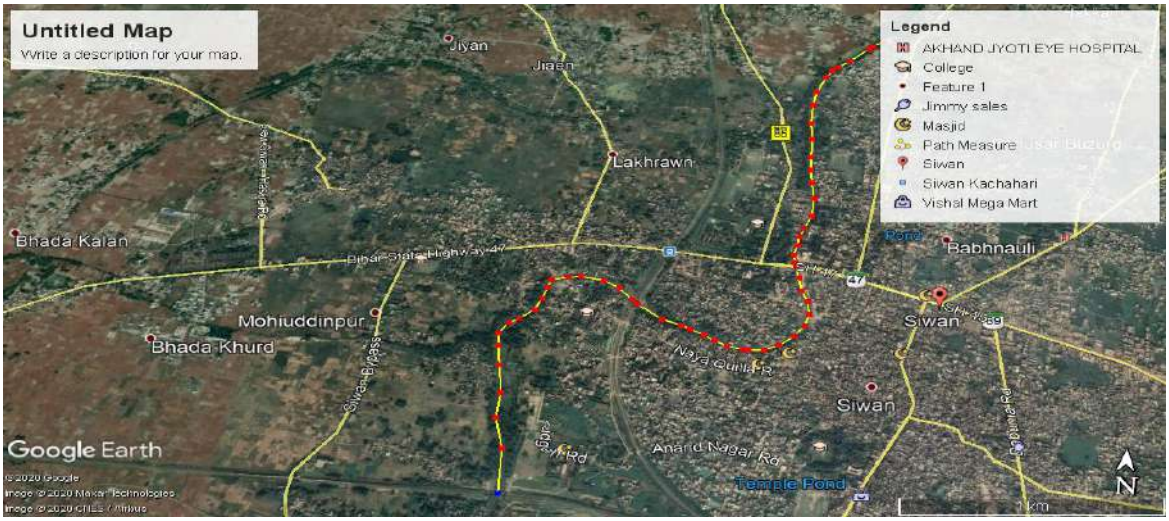
Cadastral Map Superimposed on Surveyed Map. (4800 m length of river)

1.4 Basic Data of Daha river (122km Length of river)

Daha River originates from Sasamusha of Gopalganj District of Bihar state, travels 52 km up to siwan and fall in Ghaghra river 70 km away at Tajpur. Due to all wastewater of main nala falls in this river hence water of nala is more polluted . During rainy season floods comes in city through inlets of river . Thus the river has deposit more silt.

1.5 Daha river City Development Plan

As per the City Development Plan for Siwan (2010-30) Daha river with its location in the centre of the town has tremendous potential for being developed as a recreational and tourist hub at regional level. The development of this zone will provide open space in the town and improve its environment significantly. The CDP recommends systematic development of the Siwan zone including a landscaped promenade; categorization and development of appropriate parts of the Siwan for recreation and rehabilitation; and rehabilitation/reorganization of encroachments along the Siwan. Future growth direction of Daha river Siwan is shown in Google map.



CHAPTER – 2

PROJECT INTRODUCTION

2.0 INTRODUCTION

Bihar is ranked among the least urbanized States in India with less than 11.3% of the State population residing in urban areas. Urban Centers in Bihar present a myriad development challenges. Some of the key challenges include lack of basic urban services, issues in local governance and high incidence of urban poverty. A recent study by the National Sample Survey Organization reports a lower decrease in poverty ratios in urban Bihar in comparison to rural areas. States across the country have witnessed urban development as an important anchor to accelerate the pace of development. The scenario in Bihar suggests that urban development is critical for the State to achieve overall development goals. The current status of urban Bihar, presents a significant opportunity to develop urban centers as engines of economic growth and enable a pivotal role in the overall development of the state.

Siwan is the district headquarter of the siwan district of Bihar. It is the 18th most populated town of Bihar and in terms of total area, it ranks 53rd in the list of the 130 town of Bihar. The Siwan Municipal council (SMC) was established in 1924. At present the town run by A Chairman, Vice Chairman and 36 Councilors on the legislative front and one Executive Officer to oversee the executive works. It is the only Class –I town of the district having population approx. 135,066 as per the census 2011. The Municipal area of the Siwan is about 13.50 Sq. Km.

Siwan is well connected with other parts of the State and country as well as by road. The distance of Siwan from Capital of Bihar Patna is 146 KM by road and 115 km via rail.Siwan is an important railway junction of the North Eastern railway. Number of express train has a stoppage at the Siwan Railway Station. So daily footfall on this town is too much.

As a part of involvement of current District Magistrate, the rejuvenation and beautification of Daha River is highly initiated to provide a good Eco Restoration Plan and basic amenities for the citizen of Siwan.

Siwan Municipal Council has come up with the initiations of Renovation, Conservation , River front Development and Beautification of Daha River.

In this regards, SMC has appointed **Appolo Infra Solutions** as a consultant for preparing Eco Restoration Plan and a Detailed Project Report (DPR) for Daha River.

2.1 AIM & OBJECTIVES OF THE PROJECT:-

The Municipal Infrastructure Component aims to address the lack of development of infrastructure and provision of basic services in urban Bihar. The Buidco has received a request by EO Municipal Council Siwan for technical assistance to prepare a DPR for design and development of the area surrounding Daha River of Siwan.

As part of the Technical Assistance activities it is decided to prepare projects for municipal infrastructure services in Siwan Municipal Council (SMC**)**, one of the towns of tourism and historic importance in Bihar.

The proposed projects are likely to be funded under NMCG (National Mission Clean for Ganga) of Govt. of India therefore the projects are to be prepared in compliance to the Guidelines for NMCG issued by National River Conservation Directorate, Ministry of Environment & forest, Govt. of India. The objective NMCG/NLCP is to restore and conserve the urban and semi-urban rivers of the country degraded due to wastewater discharge into the river and other unique freshwater eco systems, through an integrated ecosystem approach. The activities covered under the guidelines are prevention of pollution from point sources by intercepting, diverting and treating the pollution loads entering the river. The interception and diversion works may include sewerage & sewage treatment for the entire river catchment area.

(i) In situ measures of river cleaning such as de-silting, de-weeding, bioremediation, aeration, bio-manipulation, nutrient reduction, withdrawal of anoxic hypolimnion, constructed wetland approach or any other successfully tested eco-technologies etc. depending upon the site conditions.
(ii) Catchment area treatment which may include afforestation, storm water drainage, silt traps etc.
(iii) Strengthening of **bund,** bank fencing, **shoreline development** etc.
(iv) River front eco-development including public interface.
(v) Solid waste management & provision of dhobi-ghats is generally not covered under NLCP.
(vi) Prevention of pollution from non-point sources by providing low cost sanitation.
(vii) Public awareness and public participation.
(viii) Capacity building, training and research in the area of River Conservation.
(ix) Any other activity depending upon location specific requirements.

2.2 SCOPE OF WORK:-

The scope of work for Renovation, Rehabilitation, Conservation and River front Development of Daha River in Siwan given in Terms of Reference is listed as below:

- ❖ Undertake physical and environmental status survey of the Siwan and adjacent areas to determine the development potentials of the river and identify the main risks that could be mitigated through environmental improvement, renovation and development of Daha river and surrounding area.
- ❖ Estimate the river areas that could be developed and demarcate lands for development along the river bank considering the prevailing land ownership issues constraining a comprehensive redevelopment of the Siwan and its immediate environs.
- ❖ Conduct Feasibility Studies towards and prepare (i) drainage and transportation plans, (ii) daha river restoration/renovation plan, (iii) Daha riverfront development plan and (iv) economic and recreational development plans.
- ❖ Determine the institutional and management viability of the various development projects identified based on the above listed development plans.
- ❖ Prepare a pipeline of sub-projects including basic technical, engineering, architectural designs and preliminary cost estimates.
- ❖ Prepare an operational plan including financing and management strategies for implementing the proposed River front development plan.
- ❖ Prepare Detailed Project Report (DPR) and tender documents for the sub-projects agreed upon with the GOB/ULB/Buidco after in depth consultations with the relevant stakeholders.
- ❖ Conduct feasibility studies toward traffic congestion of city by providing low cost bridges at several suitable locations
- ❖ Propose Sewer line in both side of river bank.
- ❖ Propose De silting, River training, Pitching of river bank
- ❖ Propose New Ghat Development, Old Ghat redevelopment, Walkway, City park, Yoga Park, Vending zone Public toilets and Gazebo for beautification

2.3 NEED FOR THE ASSIGNMENT:-

I. To restore the degraded river from various factors like encroachments, dumping of solid waste, discharge of untreated sewage, siltation in water spread area.
II. To develop the river as a recreational spot in the town of Siwan.
III. To increase the water level & water holding capacity of the river, to improve the water quality of Siwan.
IV. To develop a Sustainable Development Plan for Daha river Siwan with proper treatment of catchment area and natural drainage systems.

V. To clean the Ganga river: As per present scenario approx. 23.00 MLD sewage are generating per day in Siwan town and all sewage going through mainly 7 drains into the Daha River. Which is finally disposed to the Ganga River through Ghaghara River.

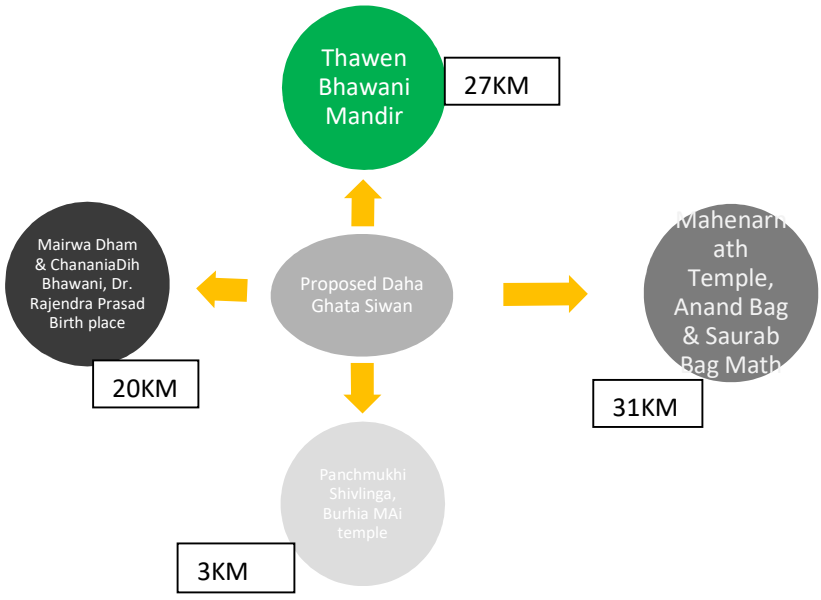
VI. To provide Civic facilities to inhabitants under municipal area assignment is needed.

VII. ENVIRONMENTAL COMPLIANCE COST The River are being developed and rejuvenated for improving the environment, ecology & biodiversity in and around the Siwan town. Therefore, the improvement and development works of this river from the present polluted condition to fully rejuvenated condition not only improves the surroundings but also the socio-economic conditions of the local villages. As such, there is no separate environmental compliance cost involved as the costs involved for development and incorporation of amenities automatically and indirectly cover these costs.

VIII. **TOURISM POTENTIAL, STRATEGY & DEVELOPMENT**

Daha river with recreational facilities would certainly attract the local residents for social gatherings and for refreshment purposes other than for jogging and walking. In order to maintain the proposed facilities and to enable the assets created to sustain, it is utmost necessary to formulate certain strategies for tourists and visitors to follow which are explained as below:

2.4 Tourist location Centre



CHAPTER – 3

PRESENT STATUS OF DAHA RIVER

3.1 DESCRIPTION OF PROJECT AREA

The Siwan is headquarter of district situated at border of U.P. It is very crowded town, and deprived by all public amenities. There is no place of walkway, park, garden, vending zone, proper Chhat Ghats, Dhobi Ghat, Crematoria and Sewerage system. A holy river Daha passing through the city, which makes very natural feeling of the dwellars. There has no sewerage system. The sewage from households and other commercial establishments existing within the vicinity of Siwan are intermixed and flow through storm water drains into various nallahs and accumulate in the Daha river. This has led to silting and mass formation in the River. Municipality of Siwan passed the resolution to prepare the DPR for renovation and beautification of Daha river.

Figure 3-1: Daha river Siwan during Raini Season

Figure 3-2: Daha River at Collector ate

3.2 The existing environmental conditions of the Daha river are listed as below:

- Water holding capacity of the river is reduced due to siltation.
- Open defecation at river premises causing pollution
- Inlet channels are carrying domestic wastewater thereby degrading the river eco system.
- Solid waste is being dumped in the inlet channels and in the banks of the river causing inlet blockage and environmental problems
- Burning of solid waste at the banks causing air pollution.
- Total area of the river is reduced due to encroachments on the both side of river bank
- Continuous disposal of construction debris in the river resulting in the reduction of water holding capacity of the river

From the above it is observed that, there is immense possibility of health hazards due to mosquitoes or insect infection in addition to omission of gases loading to bad odour.

Status of Daha river Siwan during different months is shown in **Figure 3.1 to 3.3.** The environment status of Daha river Siwan presently with various encroachments, sewage disposal channels, municipal solid waste dumps around the Siwan boundaries, washing of clothes at different dhobi ghats are shown in **Figure 3.4.**

Figure 3.3: Environmental Status of Daha River

Fig. 3.4 : Dhobi Ghat near Siwan Kachahari Station and Rly. Bridge over river

FLOOD IN TOWN

3.3 At a glance present Profile of Siwan

TABLE OF ABSTRACT	
COMPONENTS	**DATA**
BASIC STATISTICS	
District	**Siwan**
City Sanitation Ranking	**288 out of 423 (Falls in red category)**
BRIEF PROFIE OF TOWN	
Population	
2001	1,09,919
2011	1,34,458
2020	Approx. 2,00,000
Male	53%
Female	47%
Growth rate	22%
Total Household	22,816 as per census 2011
Area	15.68 sq.km
Ward	38
Population density	86 pHa.
Slum	29
Slum population	15,824
Slum house Holds	3002
Average Rainfalls	1029.03
Temperature	46°C to 4°C
Topography	Flat ./ Daha river prone
Sex ratio	903
Literacy	84.65%
Male	91.71%
Female	76.89%
Work force participation rate	26%
Migrant population as per census 2001	23.54%
SERVICE PROFILE OF THE TOWN	
Water Supply	
Source of water supply	Ground water
Source of water supply	Daha River
Authorities of water supply	Siwan Municipal Council, Buidco and PHED
Total water supply	8.85 MLD
Per capita water supply	66 lpcd
Total no. of tube wells	8
Total No. of OHT	8
Combined Capacity of Storage Tank	2.95 MLD
Service connection No.	5,238
Percentage of Non revenue water	84%
Total no. of Stand Post	100
Total no. of Hand Pump	125
Quality of water supply	As per attachment
Sewerage	
STP	Not available

Total Sewerage generated	10.56 MLD (as per current population approx. 2.00 lac)
Access to toilet	79% of total hous hold
Practice open defication	18%
Use Community Toilets	3%
Total no. of community Toilets	11
Dhobi Ghat	2
Crematoria	One wooden based
Storm Water Drainage	
Total No. of Major Drain	**7**
Total drainage Network	**26 (primary katcha and open)**
Coverage	**37%**
Final outfall of drains	**Daha River**
Solid Waste Management	
Total solid waste generation	44MT/day
Total solid waste generation	328 grm.
Total Amount of waste collected	21MT
Collection efficiency	48%
Total no. of staff for SWM service	1+70
Agency involved for collection transportation	By Municipal workers
Final disposal point of solid waste	3 open site
Treatment of waste material at dumping yard	No

3.4 SERVISE LEVEL BENCH MARK (As per CDP Report)

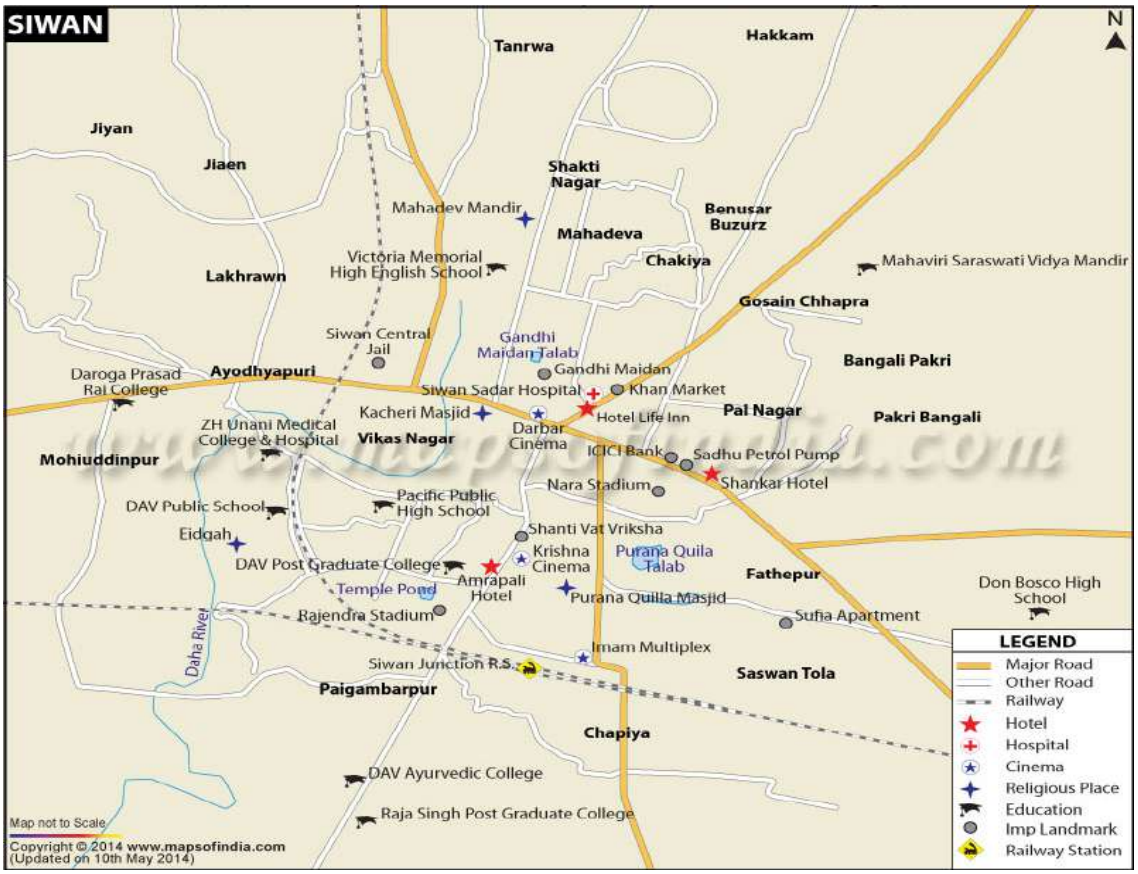
Components	**Units**	**Normative Standard**	**Existing (2010)**	**Short Tem Gap**		**Medium Term**		**Long Term**	
				Demand	Gap	Demand	Gap	Demand	Gap
Sewerage Collection	MLD	100% generation	.7	6.7	6	32	31.9	46.2	41.5
Collection System	%	100% of the HHs	-	80	80	100	100	100	100
Treatment and disposal	MLD	% of collected waste	-	100	100	100	100	100	100
Public Toilets	No.	No. of Toilets Blocks	10	23	13	35	25	54	44
Total Drain Length	KM	130% of the major road length	6	21.6	15.6	27.1	21.6	36	26
Closed Drain Length	KM	60% of total drain	1	4.3	3.3	5.4	4.4	8.5	7.5

3.5 Road & Rail Connectivity

Siwan is very well connected around the side by Bitumen road. Two station Siwan Jn. and Siwan Kachahri comes under municipal area of Siwan. The following are the road and rail connectivity.

1) Siwan to Gorkhpur Delhi, Bombay west side both road and rail facilities
2) Siwan to Gopalganj North side both rail and road facilities
3) Siwan to Chapra East side both rail and road facilities .
4) Siwan to Siswan Mehdar temple road facilities
5) 146 km away from nearest Airport Patna.
6) Ram - Janki Marg passing through Siwan town.

Fig. 3.: Siwan Road and Rail Map



3.6 Storm water Drainage System in the project Area

Following s are the main drainage network which meet in Daha river.

1. Babuniya road, Lal kothi, Shabji Mandi drain fall on Daha River.(East To West)
2. Back of House of Dr. Shyama Sharma , Mahadeva road via Darbar Pokhara drain fall on Daha River. (East To West)
3. Gipsy café , DAV High School, Police Adda , Naya Kila drain fall on Daha River(East To West)
4. Lakharaw, DAV Public School drain fall on Daha River (From North)
5. Bal Sudhaar Grih via Chandwara drain fall on Daha River (East to West)
6. South Boundary of Municipality near DAV Ayurvedic Medical College drain fall on Daha River(East to West South side of town)
7. Gandak Office via Shrinagar drain fall on Daha River (West to East)

(**Note: all drains are in shabby condition with inadequate sizes**)

As per present scenario approx. 16.00 MLD sewage are generating per day in Siwan town and all sewage going through mainly 7 drains (which is mentioned above) into the Daha River. Which is finally disposed to the Ganga River through Ghaghara River. In Rainy season, when heavy rainfall occurs, back water of river enter into the nearby colonies through connected drains. That creates very pathetic situation of the city.

As per topography observation of Siwan all drains inclined towards Daha river

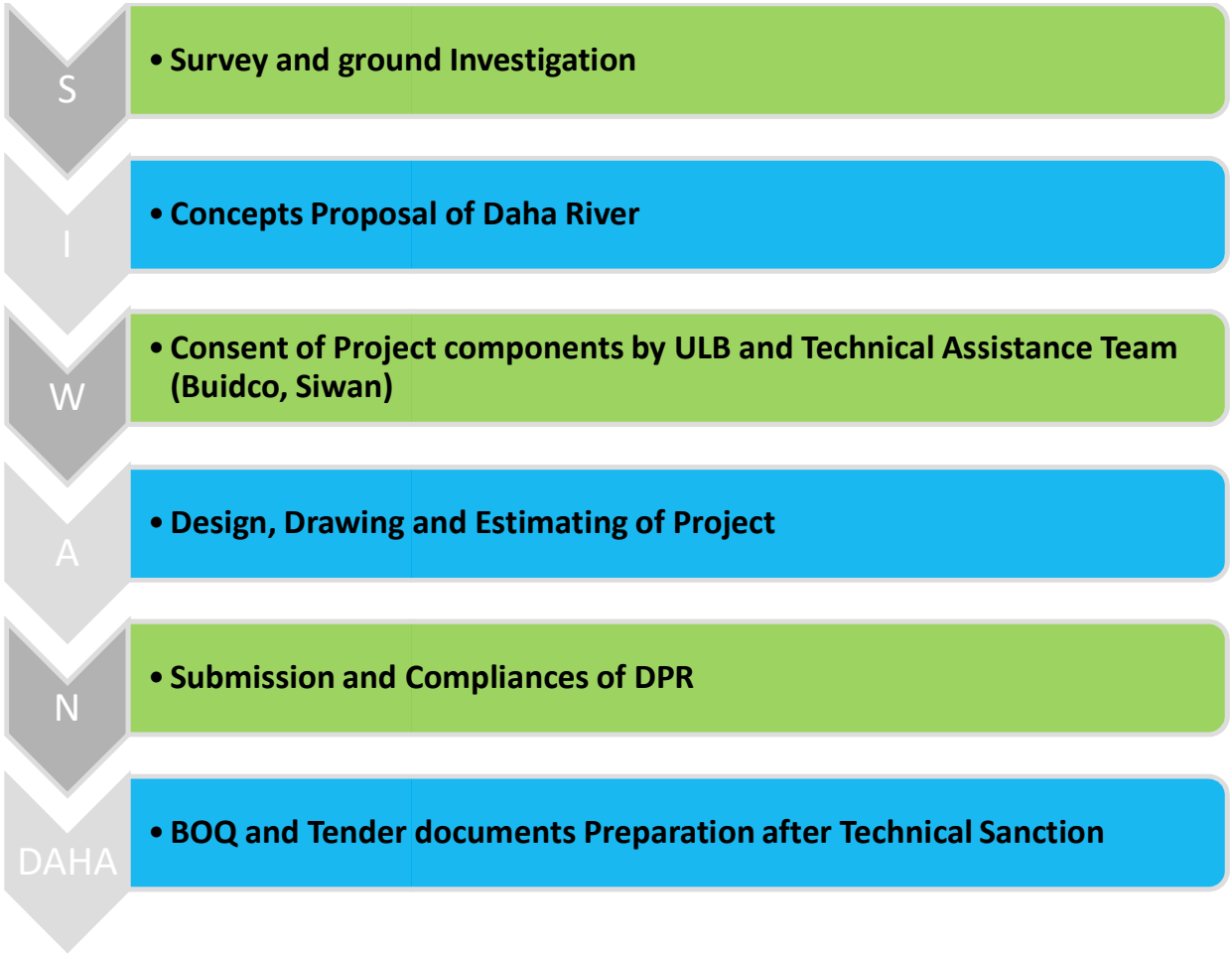
So, to provide Civic facilities to inhabitants under municipal area of Siwan, an integrated wastewater drainage system included STP is most essential.

Adequate drainage system, Main Pumping Station (MPS), Intermediate Pumping station (IPS), Rising main, Structure of Allied works, out falls and STP for 42 MLD included SCADA system Should be proposed for healthy and hygienic environment for the inhabitants, animals and nature.

CHAPTER - 4

CONCEPT OF DESIGN

COMPONENTS OF DPR PREPARATION



4.1 SURVEY & INVESTIGATIONS

4.1.1 Topographical Survey

Topographic survey of the Daha river was conducted in detail covering all ground features. Revenue maps of Daha river Siwan are collected from Revenue department. These maps were used as a base for the Topographical survey for obtaining the river boundary. Topographic Survey was done using the sophisticated Survey Equipments such as GPS, FOIF Total Station and AutoCAD drawing was prepared showing the following details of the river.

- Plan of river
- L-Section and X-section of the river
- Contouring of river area
- Maximum water spread area of the river
- Shore line length
- Average depth and maximum depth.
- Maximum water level
- Both side Bank level
- Volume of the river at FTL
- Indicate Silt level and after de silting level
- No. of Outlets of Drains and bed levels both side of bank
- Marking of building line along both side of river bank
- Identify the area for public amenities
- Ascertain the land use of river area.

4.1.2 Methodology adopted for Topographical Survey

Surveying of the river is carried out using electronic total station system. AutoCAD drawings are prepared to bring out the following information:-

(i) Boundary survey of the river demarcating the overall river boundary outside the river bunds and also the water spread area as on the date of survey.

(ii) Drawings are prepared to show the following morphometric details of the river.
Total length of shoreline along Maximum flood Level (MFL) with reference to the top level of ground.

(iii) The L Section and Cross Section of the river at every 25 m and 50 m showing the gradient of river bed, top width, bottom width all along the length of main bank, Inlet level of drains available space for proposed amenities i.e. Ghat, bank protection location, pitching, parks , Dhobi ghat Walk way etc.

(iv) Surveying and mapping all existing water inlet and outlet drains of the river indicating the width of channels as existing to a distance of 100 m from the river along the upstream and downstream of the inlet and outlet channels. Cross sections of these channels (both inlet and outlet channels) are surveyed at every 25 m interval indicating levels at every 1 m up to the total width of the channel extending up to 5 m on either side of the channel. Cross section drawings bringing out details are prepared and submitted.

(v) Contour lines are marked 0.3 m above the level of the exit ground levels with 0 .25 interval.

(vi) The full storage capacity of the Siwan is computed taking into consideration the survey data.

(vii) All buildings and structures located adjacent to the river up to a distance of 30 m from the outer edge of river bunds indicating ground levels at every 10 m interval and plinth of each building/structure falling in the area is shown in the plan of the river. Any light pole, transformer, trees or other land marks etc., located within 30 m distance are recorded and shown in the plan.

(viii) Existing bridge and its cross section details such as top width, bottom width, top level, bottom level, length, condition and cross section at every 5 m distance with levels at 1.0 m intervals up to 10 m on either side along the alignment of the bridge is shown in a drawing.

(ix) Detailing of new proposed bridges on the river alignment where shorter span is exist.

(x) Bathymetric map of the river bed, for base line data:

(xi) The bathymetric map of the river is prepared showing the depth of the river at different points by means of contour lines drawn for every 0.3 m difference in elevation. The map is prepared based on bed levels taken at several points of the river and not extrapolated from a few spot levels. The spot levels at intersections of 100 m grids are factually read and marked on the plan of the river.

(xii) The bathymetric map is prepared by taking the bed levels of river in the manner suggested above. The bathymetric map thus prepared and issued to provide the silt levels.

(xiii) Bench marks are marked on important permanent structures.

(xiv) The level be tied to MSL

(xv) A river plan drawing was prepared showing all the above details at appropriate size.

(xvi) The benchmarks were established on some locations and they were marked in Drawings. The details of the bench marks and the photos of topographical survey are shown in

Figure 3-8 :Topographical Survey in Field

4.1.3 Survey Equipments

1. Electronic Digital Total Station "LEICA" model T C - 405

With one second precision, calibrated to specification was presented to the Engineer-in-charge for verification.

Angle measurement, standard deviation 5"

Laser plummet accuracy: maximum rotation diameter of laser spot $\pm$ 0.8mm/1.5m

Compensator 1.5 seconds.

2. Sokkia Auto Level C41 (No: - 10356)

Accuracy: Automatic compensation for horizontal bubble centering.

3. Leveling Staff

Accuracy to read 5mm least count.

The photos of the Survey Equipments used are shown

Figure 3-9: Photos During Survey


Shivwart sah temple

4.1.4 Salient features of the Topographical Survey Findings:

Table 3-4: Salient Features of the Daha river during survey

S. No	Description	Details
1	Total Siwan area	13.5sq. km
2	Water Spread Area (Acres)	
3	Water Level	60-61 m
4	Shoreline Length (Siwan Perimeter) (km)	4.8
5	Full Tank Level (m)	65.2
6	Mean Water Level (m)	60.5m
7	Average water depth (m)	0.45m
8	Average Water width Present	19.76m
9	Maximum water depth (m)	1.1
10	Present water Storage in the Siwan (m3)	42.68Milian lit
11	Proposed Increased water capacity	232.38Milian lit.

4.1.5 The method of calculation of existing water holding volume of Daha river are given in Table

RIVER HOLDING CAPACITY BEFORE AND AFTER DE - SILTING								
River water Status			**Length of River in Municipal area**	**Av. Depth**	**Av. Width**	**cum**	**Liter**	**Million Lit.**
Present water storage capacity			4800	0.45	19.76	42,681.60	42,681,600.00	42.68
Increased Storage Capacity			4800	2.45	19.76	232,377.60	232,377,600.00	232.38
Increased by								**189.70**

4.2 CONCEPTS PROPOSAL ON RIVER

Various developmental activities are proposed on Daha river is given illustrated:

1 De - Silting & Embankment
2. Boulder Pitching
3 .Gabian Wall

4. Peripheral Drainage
5. Walk way - Jogging Track
6 .Dhobi Ghat

7. Public Toilets
8. Choupaati -Vending zone
9. Plantation and Landscaping

10. New Ghat
11. Redevlopment of old Ghat
12.Change Room

13. Park , Playing equipments ,Open Gym and Gazebo
14. Street light and Signage
15. Meditation Park
16. Minor Bridge

4.2.1 DE – SILTING AND EMBANKMENT

Holy Daha river is gradually missing there existence due to entire wastewater of city is being deposited solid waste material through several drains. All main drains of city are ending to the river. Now it looks like a big Katcha Nala. It looks river during rainy season only.

Silt removed from water body is classified as waste by the Environment Agency, and as such is subject to the waste regulations. This means that the silt disposal process is controlled by legislation. The first stage of the de-silting process is to carry out a survey to establish the depth, and to analyze the chemical composition of the silt to characterize it for disposal, the silt may contain heavy metal contamination or hydrocarbons from road runoff that make it hazardous and so cannot be spread to land without remediation. Out of several de-silting methods Floating dredgers which will work on the surface of the water and either pump the silt ashore using underwater dredge pumps. can be transported off site it must be dried, this requires additional equipment and storage space.

In order to estimate the quantity of silt a detailed bathymetric survey has been conducted within the daha River portion under municipal area Siwan. The average thickness of accumulated silt is about 0.8m. Based on the survey it is calculated about 96,000 cum of silt is present within the surveyed area of River. During de-silting temporary linear shaped silt drying beds are proposed near the outer side of river. The dried silt from the drying beds should be further disposed in a suitable open dump yard within 5km radius of the river.

Desilting is becoming a major component of any river Conservation Project now a days. The basic reasons given for necessity of desilting are – increasing the storage capacity and checking eutrophic conditions. Desilting is proposed at a depth of 0.8m in Daha river. Detailed methodology for desilting is given below**.**

4.2.2 Detailed Methodology for Desilting

Dredging is the removal of accumulated river bottom sediments ("Muck"). Sediments are commonly removed to improve navigation, restore recreational access for leisure boating, swimming, and fishing, or regain lost storage capacity in water supply reservoirs. Dredging also is done to remove nutrient-rich sediments, remove toxic substances, reduce rooted aquatic plant growth, lessen sediment re-suspension by winds and waves, and improve fish habit.

Dredging sometimes can improve water quality by reducing the amount of nutrients available from the sediments, thereby reducing nuisance algae blooms. This can occur through direct removal of nutrient-rich sediments, or by deepening the river enough to allow thermal stratification to develop and thereby limit nutrient movement from deep-water areas to the upper waters. Dredging in areas of rooted aquatic plants controls their growth through direct removal, and also can limit future re-growth if the new water depths are deeper than sunlight can reach. For River that freeze over in the winter, fish survival can be enhanced by removing oxygen-demanding sediments and creating deeper water areas. Sometimes, however, sediment removal can dig up the unexpected. Dredging too shallow may uncover fertile sediments and provide a perfect place for aquatic plants to grow if

the bottom gets enough sunlight. Dredging too deep may expose old arsenic treatments or nutrient-rich wastes from a forgotten sewage treatment plant.

The decision to dredge shall be based on sufficient study that shows accumulated sediment is having an adverse impact on water quality, recreation, or navigation.

The Environmental management plan for water body Dredging is an action plan aiming to control pollution at the source level to the possible extent with the available and affordable technology followed by treatment measures before they are discharged. It encompasses the mitigation measures that are proposed in order to synchronize the economic development of the study area with the environmental protection of the region. The Environmental Management plan should consider addressing the operational management of issues such as Turbidity, Noise, Odour, Water quality and contaminated sediments. The EMP should also address the collection and storage of sewage and garbage on board all vessels as well as contingencies for oil spills. Issues that shall be addressed in an Environmental Management Plan are detailed below:

a) Minimize Effects on water quality

- Increase monitoring for turbidity (This will identify but not minimize turbidity);
- Incorporate or re-orientate silt screen
- Reduce overflow of barges or bunds
- Increase travel path of fluid within bunds to increase sedimentation
- Decrease rate of dredging
- Select appropriate dredge for material being dredged
- Relocate dredge to an alternative location
- Use silt screens where practical and sediments are fine
- If necessary, monitor water quality including turbidity, as well as sea-grass and for other sensitive species.

b) Minimize Effects of Contaminated Sediments

Monitor water quality near dredging operations removing highly contaminated sediments. Dredge contaminated sediments first and dispose to land or place on spoil grounds first and cover with clean sediments.

Use Silt screens to contain contaminated sediment

c) Sensitive Biological Communities

Map location of sensitive communities

Detail measures to protect sensitive communities when dredging.

d) Land Disposal

Site bounded area to minimize impacts

Control water quality of discharge

Monitor discharge to ensure excessive sediment is not discharged

e) Prevent Noise Nuisance in Residential Areas

Liaise with the local community to identify areas and times sensitive to noise

Alter or enclose equipment to reduce noise at the source

Use sound-absorbing materials to prevent the spread of noise by isolating the source.

Monitor noise levels

f) Ensure that Small Odor problems do not Alarm Nearby residents.

Inform residents of temporary nature of any odors and grey sediment

4.2.3 De silting details

DAHA RIVER EARTH WORK EXCAVATION DETAIL SHEET								
LENGTH - 4800.00M								
Important Location	**Chanage**	**Water Levels**	**IL of river bed**	**Depth of water**	**Width of water way(M)**	**Average width of water way(M)**	**Av. Depth (M)**	**Qty. of De-silting(Cum)**
Start point Chachari pul Mahadeva Ghat	0	61.131	60.52	0.61	40.51			
	100	61.013	60.517	0.50	33.51	37.01	2	7402
	200	61.033	60.514	0.52	26.73	30.12	2	6024
	300	61.067	60.510	0.56	21.44	24.09	2	4817
	400	61.007	60.507	0.50	22.35	21.90	2	4379
	500	61.018	60.504	0.51	22.08	22.22	2	4443
	600	61.023	60.501	0.52	23.49	22.79	2	4557
	700	60.978	60.501	0.48	22.92	23.21	2	4641
	800	60.967	60.4987	0.47	19.02	20.97	2	4194
	900	60.887	60.4964	0.39	19.65	19.34	2	3867
	1000	60.942	60.4941	0.45	21.14	20.40	2	4079
	1100	60.883	60.4918	0.39	21.85	21.50	2	4299
	1200	60.96	60.4895	0.47	22.21	22.03	2	4406
	1300	60.914	60.4872	0.43	22.55	22.38	2	4476
	1400	60.91	60.4849	0.43	22.73	22.64	2	4528
	1500	60.915	60.4826	0.43	22.48	22.61	2	4521
	1600	60.992	60.4803	0.51	15.23	18.86	2	3771
	1700	60.818	60.478	0.34	12.67	13.95	2	2790
	1800	60.891	60.4757	0.42	22.21	17.44	2	3488

Daha Bridge collectorita	1900	60.868	60.4734	0.39	14.66	18.44	2	3687
	2000	60.838	60.4711	0.37	13.75	14.21	2	2841
	2100	60.925	60.4688	0.46	22.38	18.07	2	3613
shiv vratshah Mandir	2200	60.877	60.536	0.34	18.71	20.55	2	4109
	2300	60.816	60.444	0.37	11.21	14.96	2	2992
	2400	60.857	60.352	0.50	15.66	13.44	2	2687
	2500	60.599	60.26	0.34	13.93	14.80	2	2959
	2600	60.509	60.168	0.34	11.74	12.84	2	2567
	2700	60.505	60.076	0.43	17.35	14.55	2	2909
	2800	60.45	59.982	0.47	17.6	17.48	2	3495
	2900	60.424	59.970	0.45	13.23	15.42	2	3083
	3000	60.418	59.957	0.46	15.35	14.29	2	2858
siwan kachahri Bridge	3100	60.428	59.945	0.48	18.56	16.96	2	3391
	3200	60.92	59.932	0.99	20.03	19.30	2	3859
	3300	60.381	59.920	0.46	21.07	20.55	2	4110
	3400	60.347	59.907	0.44	10.75	15.91	2	3182
Shrinagar Bridge	3500	60.314	59.895	0.42	22.21	16.48	2	3296
	3600	60.221	59.882	0.34	18.34	20.28	2	4055
	3700	60.187	59.870	0.32	20.28	19.31	2	3862
	3800	60.177	59.857	0.32	18.91	19.60	2	3919
	3900	60.253	59.845	0.41	20.23	19.57	2	3914
	4000	60.285	59.832	0.45	15.41	17.82	2	3564
	4100	60.192	59.820	0.37	15	15.21	2	3041
	4200	60.234	59.807	0.43	15.88	15.44	2	3088
	4300	60.207	59.795	0.41	21.28	18.58	2	3716
	4400	60.183	59.782	0.40	23.6	22.44	2	4488
	4500	60.217	59.770	0.45	21.31	22.46	2	4491
	4600	60.269	59.757	0.51	22.55	21.93	2	4386
	4700	60.238	59.744	0.49	16.27	19.41	2	3882
	4800	60.159	59.732	0.43	29.74	23.01	2	4601
Gorkhpur Rail Track	4900	60.14	59.732	0.41	16.38	23.06	2	4612
				Total Qty.				**191,939.00**
			33% material used as manure					**63,339.87**
			67% material used for bank formation					**128,599.13**

4.2.4 Calculation of Water holding capacity of River

RIVER HOLDING CAPACITY BEFORE AND AFTER DE SILTING								
River water Status			Length of River in Municipal area	Av. Depth	Av. Width	cum	Litre	Milion
Present water storage capacity			4800	0.45	19.76	42,681.60	42,681,600.00	42.68
Increased Storage Capacity			4800	2.45	19.76	232,377.60	232,377,600.00	232.38
Increased by								**189.70**

4.2.5 BOULDER PITCHING & GABIAN WALL

If we see the shape of river, it looks like in serpentine shape in municipal area. Flow of river water damage the shape of river during rainy season. That's why Boulder Pitching is the important components for the river protection. It is proposed from ch. 800 to ch. 4000 where excessive chance of damage occurrence. Along with, Gabian wall is proposed along pitching so that sudden fall in river may eliminated . Followings are the reasons given below

- To strengthen the newly earthen bank of river
- To control erosion of bank by rainy water and river water
- To define the permanent shape of bank
- To enable the walkway on top of bank permanently
- To control flood entering into the town during rainy season
- To give a good appearance like Marin Drive .
- To prevent direct fall (accident) into the river
- To control the further encroachment.

4.2.6 PERIPHERAL WASTEWATER DRAINAGE

It is observed that seven main drains of the town fall in Daha River and it covers 70% wastewater of the town. Under municipal area, peripheral drain is proposed from Ch.00 to 4800.00 in both side of river bank. Total length of drain is about 4.8Km one side of the river. RCC pipes are proposed to carry wastewater. Manholes are also proposed at an interval of 30m. There is 1000 mm dia. Pipe proposed in east side of river where most of the wastewater fall whereas 600 mm dia. Pipe proposed west side of river where lower crowd area. As per topography and keeping 2m bed level difference in 4800 m length the discharge of sewage comes under given below calculation. It shows approx. 24MLD per day sewage may pass through this proposed sewer line.

Dia. Of Pipe		Mannig's Formula		Discharge of Proposed Sewage						
mm	B	D^2	BXD Area	R	R 2/3	S 1/2	1/n	Velocity by mannigs formula m/sec	Q discharge Cumecs	Lit. per hour
West side 600	0.785	0.36	0.2826	0.15	0.281	0.020	35.714	0.205	0.058	208061.00
East side 1000	0.785	1.00	0.785	0.25	0.395	0.020	35.714	0.288	0.226	813820.00

So follows are the main reasons to adopt the components:

- To reduce the contamination of the river Daha and finally to river Ganga.
- To use the river water for bathing or irrigation purpose, and survival of aquatic animals.
- Most economical sewer system because 70% of wastewater of city fall in river by self gravity and by trapping of all drains with proposed peripheral drain, it enable the smooth transition of sewage up to treatment plant.

Threatening:

The proposed sewer line must be ended in STP of Siwan in down stream of river. So STP should be must approve with this project. Otherwise only municipal area of river will be clean**.**

4.2.7 WALKWAY –JOGGING TRACK (1550m both side of river bank)

As per topographical Survey of river, only 1550 m length is suitable for proposing walkway. From Mahadeva Ghat to Shiv Vrat Shah mandir is focused for walkway.

These pathways are having 600 width of green belt area, 1.5m width of walkway, 0.6m width of jogging and cycling area and 0.6m width of utility development area such as sitting benches, electrical poles, safety railing and signage boards etc., all put together it is occupying a width of 4.3m covering a total area of approx. 4650 sq.m. 60mm thick interlocking pavor block is proposed for walking way and jogging way.

4.2.8 DHOBI GHAT

Dhobi means a Washer man, while Ghat in Hindi means a river bank, or a place at the river bank where one can sit and take a bath or wash clothes. Thus, Dhobi Ghat or Dhobi Ghat simply means a place where a washer man can wash clothes, and in running usage of the word, it may not even be at a river bank. In order to facilitate the washer men, systematically arranged dhobi Ghats are proposed around the Daha river.

Ghats are preferred at 2 suitable locations apart from the existing dhobi Ghats. 14 Washer-men can use one dhobi ghat at a time. The Wastewater discharge from Dhobi Ghats is given below:

Total Number of Proposed Dhobi Ghats = 2 Nos.

Each Dhobi Ghat can accommodate = 14 Washer-men

Each Washing Area is facilitated with = 1 Soap Water Tank (0.9m x 0.9m x 1.2m i.e. 0.972 m3)

And

1 Fresh Water Tank (0.9m x 0.9m x 1.2m i.e. 0.972 m3)

Expected number of fillings into the tanks during washing = 1 time in Soap water tank and 1 time in Fresh water tank.

Volume of Waste water generated from Dhobi Ghats:

(i) from Soap water tank: 14 nos x 2 Ghats x 1 filling x 0.972 m3 = 27**.21 m3**

(ii) from Fresh water tank: 14 nos x 2 Ghats x 1 filling x 0.972 m3 = 27**.21 m3**

Total Waste water Generated = 55 m3/day i.e = 0.055 MLD

These new Ghats are associated with water sump, washing stone, a UG water storage sump and area for drying of cloths. Entire wastewater will be collected peripheral drainage. The dimensions of Dhobi Ghats are 15m x 8m occupying120sq.m the rest of the area (i.e. 305sq.m is allocated for drying of cloths). The distance between bathing Ghats is about 1500m to 1800m. The detailed drawing of dhobi Ghats is given in annexure.

4.2.9 PUBLICK TOILET

It is proposed to have 2 toilet blocks one each near Bathing Ghats and one near park along the periphery of the river. The dimensions of toilet blocks are 6.4m x 6.4m. Each block occupies an area of 41.00 Sqmts. The distance between two toilets blocks are 500m. The detailed drawing of toilet blocks is presented in corresponding annexure.

4.2.10 VENDING ZONE

Siwan is one of the most crowded city of Bihar. There is no systemic place/space for footpathi venders under municipal area. They do their business among crowds on both side of all road. So create a space for the vending zone or Choupati on the bank of river will be very auspicious for Siwan. There is good location of vending zone near Shiv vrat shah temple. A big issue of venders will be resolved. The locations of the vending zone will be more approachable so that public reached their easily. A 50x20 m premises at suitable different locations will ensured the smooth the crowds. It includes kiosks and open covered space for venders. By the help of Municipality, List of Present venders will be prepared and shift to this new place.

4.2.11 PLANTATION AND LANDSCAPING

The plants which produce more oxygen and which roots does not damaged the adjacent structure, are proposed along bank of river . And proper landscaping between trees has been planned in DPR. Excavated material of silt will use as manure for the plants.

4.2.12 NEW GHAT, OLD GHAT REDEVELOPMENT & CHANGING ROOM

The Chhat Puja is a famous festival of Bihar, in which thousands of pilgrims take holy dip in the river. Keeping this in view about 2312 sqm area proposed for new Ghat at different suitable location. It is proposed between two old ghats to connect continuity for public or walkers. It is observed that approx 5000 sqm of 6 nos. old Ghats to be redeveloped. The main focus of ghat beautification is from Bina Studio lab to Shivrat shah Temple. Red Stone flooring on both New and Old Ghats are proposed to appear historical and aesthetic looks. And provision of temple shaped Gazebo on selected area of Ghat appeared like Ghat of Varansi and Haridwar.

The detailed drawing of bathing Ghats is presented in corresponding annexure. Pitching of both side of Ghat is proposed for safety of water thrust.

4.2.13 PARK PLAYING EQUIPMENT,OPEN GYM

The proposed park is basically oriented towards the development of recreation opportunities. Park design is influenced by the intended purpose and audience, as well as by the available land features. The proposed parks are intended to provide recreation for children which includes a playground similarly for adults it is proposed to have pathways and decorative landscaping. Apart from those Specific features, such as excursion, walking, food stalls and bird watching will be included to support specific activities.

A park is proposed on left bank , the area allocated is 490.15Sq.m . The detailed drawing of parks is presented in corresponding annexure. Tree plantation is a part of river Beautification. A 0.5m width strip all around the park boundary is allocated for the development of tree plantation. It is estimated that this plantation occupies an area of about 1000sq.m

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4.2.14 STREET LIGHT AND SIGNAG(10'X8' LED MOVING DISPLAY SCREEN)

Signage Boards: The purpose of providing signage in the project area is

a. To help and protect the safety of visitors
b. To provide direction and guidance for the use of project and facilities
c. Inform and educate the public about the project.

The following types of signs are proposed in river area

a) Identification Signs: These signs help to orient the visitor and identify important areas and facilities. These signs indicate the administrative setups like Ticket counters, features like inlets, outlet, overflow weir, boating jetty, restaurant; children play area, toilet block etc. Size of the sign board shall not be larger than 0.5m X 0.2m.

b) Information Signs: These are signs located in key areas throughout the site that provide important information for the visitor. The message shall be conveyed in a brief, clear manner and be located to provide information to the visitor as it is needed. This type of signs include Bulletin Board Sign, shall be large enough to post rules, regulations, and other information pertinent to a particular site; Instructional Signs, shall provide instructions for the use or operation of specific facilities such as boating jetty, Ghats etc, shall be used in association with other signs, facilities to provide supplemental information like park opening and closing time etc. Size of sign board should not be larger than 1m X 0.3m.

c) Directional Signs: These are signs that show the location of specific project features or facilities. Directional signs shall be located to provide the visitor adequate time to make a decision. Size of the boards shall not be larger than the size 0.3 m X 0.15 m.

d) Regulatory/Warning/Security Signs: These signs shall be provided for the protection of visitors and the environment. This type of signs include Vehicular signs, will be placed at entrances and exits to project areas and features, and along the travel routes within a project, to regulate motor vehicle traffic; Pedestrian signs regulate foot traffic within the recreation areas and adjacent to areas where the public is restricted and warn of latent

hazards. Care shall be taken to ensure that the signs are placed in the best location to be seen by the public. Size of sign board shall not be larger than 1m X 0.3m.

e) Advertisement Signboard: To increase revenue for maintain the developed area advertisement signboard is necessary.

4.2.15 YOGA PARK & MAIN GATE

An aspiration of Yoga Park creates a natural healthy atmosphere in the city where citizen can perform Yog, Dhyan and Exercise by sitting on the bank of river i.e. called Yoga Park. A premises of 50 x20 m with red stone jali on boundary wall and spread green carpet grass on floor creates a psychic feelings. No other peaceful space is there, where it can proposed. A grand main entrance gate proposed to attract the holy river beautification.

4.3.1 APPROVALS AND CLEARANCE REQUIRED

List of approvals required with their time frame for Daha river restoration Project have been given **Table 5-3.**

Table 5-3: Approvals and Clearances

Activity	Obligation	Departments Responsible	Estimated time Taken
Construction	Permission for land use and construction activity	Department of Town and Country Planning	2 months
Electricity	Sanction of power connection	Electricity board, Siwan	2 months

4.3.2Details of public consultation and the requirement of various components.

S. No	Name of the organization / department	Components
1	Water Resources Department	De silting and Pitching and Bund formation
2	Bihar Urban Infra Structure Development Corporation Ltd	Water Supply line, Sewerage, Silt Traps construction, Peripheral Drain, Complete Civil Structures
3	Siwan Nagar Parishad	Food Courts, Bathing Ghats, Dhobhi Ghats, Pathways, Parking
4	Forest Department	Tree Plantation
5	State /Central Ground Water Department	Wells & Intake wells
6	Disaster management authority	Necessary Approvals for Development of Siwan

4.3.3 Key issues

- Management of solid wastes is a major concern as there is illegal dumping of solid wastes into the River.
- Inappropriate disposal of wastes and litter results in aesthetic, water quality and public health issues.
- Due to garbage dumping yard, there is possibility of solid and liquid wastes, leaching into the river during the rainy season and further deteriorating the water quality.
- Lack of adequate toilet facilities and people trespassing into the river and resorting to open defecation, urinating and dumping of garbage.
- Lack of awareness and understanding about the impacts due to the dumping of wastes in the river and its surrounding is causing more damage and danger to their own health.
- Deficiency of education and health awareness programs in the area
- Poor road development and street lighting.
- Needs improvement in storm water drainage facilities.
- Sewage and industrial effluent discharges from houses, shops, hospitals and commercial institutional building are the major sources of pollution entering into the River. The wastewater management is a major concern.
- Traffic congestion is a big issue of Siwan town.
- Approach to cross the river is limited.
- Absent of STP

CHAPTER - 5

BILL OF QUANTITIES AND COST ESTIMATES

5.1 INTRODUCTION

Daha River development can be categorized into two major items, viz., river area improvement and development of recreational facilities. Measures such as strengthening the river Bund, inlets, providing vegetation around the river, etc., can be included as river area improvement. The recreational works includes facilities such as pergola, parks, food works etc. However, for comprehensive development of river, all the above said components are must. This leads to river improvement and providing facilities are associated with environmental, ecological and biodiversity improvement as well as for the recreational purposes for the local communities.

5.2 LAND ACQUISITION /SITE DEVELOPMENT

There is no land acquisition required. The site development is a part and parcel of improvement of river area and development of recreational facilities. Hence there is no cost involved for this item. All components are proposed on undisputed area and not affect the river waterway..

5.3 ESTIMATED TOTAL PROJECT COST

Detailed BOQs are provided below considering all the costs which amounts to 33.20 Cr.

NAGAR PARISHAD SIWAN			
COST OF SUMMARY FOR DAHA RIVER FRONT DEVELOPMENT WORK			
S.N.	**Components of Item**	**Cost**	**Fund Convergence**
1	Riverfront Protection work (De silting, Pitching Gabian wall)	93,972,224.68	JAL JEEVAN HARIYALI or NMCG
2	Peripheral Drainage (2x4800m)	58,560,000.00	NMCG
3	Ghats New @6900/sqm	16,024,764.50	NMCG
4	Arch Type Ghat Beautification work	4,523,333.33	JAL JEEVAN HARIYALI or NMCG
5	Redevelopment of Exist ghats	8,315,004.12	NMCG
6	Walking way (Jogging track) 3.1m wide for Total 1550 m length	7,207,500.00	AMRUT
7	Parks with children playing equipments (At Mahadeva Ghat+ at Shiv vrat Shah Temple) @Rs. 2800per sqm	11,884,250.77	AMRUT
8	Dhobi Ghat	1,083,400.00	SWM
9	Change Room	736,664.68	SWM
10	Delux Public Toilets	6,704,448.15	SWM
11	LED Multi color Moving display Screen 10'x8'	3,200,000.00	NAGAR PARISHAD
12	Vending zone OR Choupati 1100sqm+ Parking	10,000,000.00	NULM
13	Meditation Centre	2,254,850.81	NAGAR PARISHAD
14	Street light for 2025 m length @5m c to c	3,442,500.00	
15	Gazebo redstone rate@ 8.5 lac each total =15nos	12,750,000.00	NAGAR PARISHAD
16	Open Gym 2 Locations (4 items)	506,204.16	NAGAR PARISHAD
17	Land Scaping	500,000.00	JAL JEEVAN HARIYALI
18	Plantation 12000m	250,000.00	JAL JEEVAN HARIYALI
19	Cost Electric Crematoria	17,000,000.00	NMCG

20	Dust bin FRP	180,000.00	SWM
21	Truck Mounted De Silting (Super Sucker Machine (2Nos.)	20,000,000.00	SWM
	Total Cost	**279,095,145.22**	
	Add 2.5% for Royalty for BCD on estimated cost	**6,977,378.63**	
	Estimated Amount (SoR Rates+ Royalty+Carriage +OH+CP)	**286,072,523.85**	
	Add labour Cess 1%	2,860,725.24	
	Add GST 12%	34,328,702.86	
	DPR and Suprevision fee @2%	5,721,450.48	
	Contingency1% up to 100Cr.	2,860,725.24	
	Project Cost	**331,844,127.66**	
		33.20	**Cr.**

DETAILED MEASURMENTS AND COST ABSTRACT OF DAHA RIVER REJUVENATION WORK

S.N	SoR	DESCRIPTION OF ITEM	UNIT	NO.	L	B	D	QTY	RATE	COST
		RIVER TRAINING AND PROTECTION WORKS								
1	BCD 2.29.1	Surface dressing of the ground including removing vegetation and inequalities not exceeding 15 cm deep and disposal of rubbish, lead upto 50 m and lift upto 1.5 m								
	2.29.1	All kinds of soil	100Sqm.	2	3000	5		300	1126.90	338,070.00
2	RCD 3.10 (II) (2018)	**Excavation in Marshy Soil** (Excavation for roadway in marshy soil with hydraulic excavator 0.9 cum bucket capacity including cutting and loading in tippers and disposal with in all lifts and lead upto 1000 metres, trimming of bottom and side slopes in accordance with requirements of lines, grades and cross sections.) Including cost of watering, rolling & compaction	CUM	as per earth work sheet	4800			191,939.00	128.00	24,568,192.00
	RCD 3.17	Construction of Embankment with Material Deposited from Roadway Cutting (Construction of embankment with approved materials deposited at site from roadway cutting and excavation from drain and foundation of other structures graded and compacted to meet requirement of table 300-2.)								
	(II)	Rolling with smooth wheeled roller	CUM	1	6500	5	2	65,000.00	159.00	10,335,000.00

3	RCD 15.5	Providing and laying Filter material underneath pitching in slopes complete as per drawing and Technical specification Includes (Mazdoor required for trimming of slope to properprofile and preparation of bed.)	CUM	1	6500	5	0.15	4,875.00	1064	5,187,000.00
4	RCD 15.4	Providing and laying Pitching on slopes laid overprepared filter media including boulder apron laid dry infront of toe of embankment complete as per drawing and Technical specifications .	CUM							
		East side of river bank	CUM	1	3250	5	0.3	4,875.00		
		west side of river bank	CUM	1	3250	5	0.3	4,875.00		
		Total qty						9,750.00	768	7,488,000.00
5	RCD 15.12	Providing and construction of a gabian structure for retainingearth with segments of wire crates of size 7 m x 3 m x 0.6 meach divided into 1.5 m compartments by cross netting,made from 4 mm galvanised steel wire @ 32 kg per 10 sqmhaving minimum tensile strength of 300 Mpa conforming toIS:280 and galvanizing coating conforming to IS:4826,woven into mesh with double twist, mesh size not exceeding100 x 100 mm, filled with boulders with least dimension of200 mm, all loose ends to be tied with 4 mm galvanised steelwire	CUM	1	6500	1	0.6	3,900.00	1152	4,492,800.00
6	BCD 2.25	Pumping out water caused by springs, tidal or river seepage, broken water mains or draons and the like	kl	####				24000	92.20	2,212,800.00

		(assume 5000000 litper km)								
		Carriage of Material	Qty					Qty	Rate	
		Carriage of Unserviceable soil (Item 2-Item no .3) Lead up to 3 km except 1km lead included in iten no.1						126,939.00	45.12	5,727,487.68
		Carriage of Boulder						18,525.00	1815	33,622,875.00
		Total Cost								**93,972,224.68**

DETAILED MEASURMENTS AND COST ABSTRACT OF DAHA RIVER REJUVENATION WORK

Cost of Peripheral Sewer Line length 2x4800m

Sl. No		Description of Item	Units	Nos	L	B	D	Qty	Rate	Amount
		Providing & Laying Sewer line with bedding works							**in INR**	**in INR**
1	2.8.1	Earth work in excavation over areas (exceeding 30 cm in depth. 1.5 m in width as well es 10 sqm on plan) including disposal of excavated earth , lead upto 50 m and lift upto 1.5 m; disposed earth to be levelled and neatly dressed.								
		All kinds of soil	cum	2	4800	1.2	1	11,520.00	319.6	3,681,792.00
2	15.3	Demolishing RCC work including stacking of steel bars and disposal of unserviseable material within 50 metres lead; (Exist Ghat Demolishing)	cum	1	849	1.5	0.5	636.75	1172.7	746,716.73

3 (A)	19.6.7	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement: 2 fine sand) including testing of joints etc. complete : 6**00 mm dia. R.C.C. pipe**	metre					4,710.00	1446.2	6,811,602.00
3 (B)	19.6 .11	**1000 mm dia. R.C.C. pipe**	metre					4,710.00	2,550	12,008,616.00
4		Providing and laying S&S Centrigugally cast (spun)/Ductile Iron Pipes conforming to: IS : 8329 (Providing at Ghat area, Under Bridge and at sharp cut area of river bank)								
a	18.72.10	600 mm dia. Ductile iron Class K-7 pipes	metre	3	30			90.00	9,442.40	849,816.00
b	18.72.14	1000 mm dia. Ductile iron Class K-7 pipes	metre	3	30			90.00	21,747.60	1,957,284.00
5	11.7	Providing designation 100 A one brick on flat soling joints filled withlocal sand including cost of watering, taxes, royalty all complete as per building specification and direction of E/l,	sqm	320	2	2		1,280.00	277.50	355,200.00

		Under Pipe	sqm	2	4800	1.2		11,520.00	277.50	3,196,800.00
6	16.7 8.3	Construction granular sub base (GSB) by providing close graded material confirming of specifications,mixing in a mechanical mix plant at OMC ,carriage of mixed material by tippers to work site, for all leads and lifts, spreading in uniform layers of specified thickness with motor grader on prepared surface and compacting with vibratory power roller ro achieve the desired density, complet as per specifications and directions of Engineer in charge with material conforming to grade III(size range 26.5 to0.075mm) having CBR value 20	Cum	2	4800	1.2	0.45	5,184.00	1,126.40	5,839,257.60
7	4.1. 3	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering - all work up to plinth level. (Below 1000 mm dial pipe)	cum	1	4800	1.2	0.15	864.00	4,151.40	3,586,809.60

		Below 600 mm dia pipe)	cum	1	4800	0.8	0.15	576.00	4,151.40	2,391,206.40
8	4.2.2	PCC pillar at Bridge portion to pass CI sewer line (4 i.e. each bank 2) Pillar at each location)	cum	18	1.5	1.5	3	121.50	5,655.60	687,155.40
9	19.11.1.2	Constructing brick masonry circular manhole 1.22 m internal dia at bottom and 0.56 m dia at top in cement mortar 1:4 (1 cement :4 coarse sand) inside cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neatcement foundation concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floatingcoat of neat cement, all complete as per standard design : 1.68 m deep with	each					160	13,906	2,224,976.00

		SFRC Cover and frame (heavy duty HD-20 grade designation) 560 mm internal diameter conforming to I.S. 12592, total weight of cover and frame to be not less than 182 kg. fixed in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centering, shuttering all complete. (Excavation, foot rests and 12 mm thick cement plaster at the external surface shall be paid for separately) : With Sewer bricks conforming IS : 4885								

10	19.13.1.2	Constructing brick masonry circular manhole 1.52 m internal dia at bottom and 0.56 m dia at top in cement mortar 1:4 (1 cement : 4 coarse sand) inside cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neatcement, foundation concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) and making necessary channel in cement concrete 1:2:4 (1 cem ent : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement, all complete as per standard design : 2.30 m deep with SFRC Cover and frame (heavy duty HD- 20 grade designation) 560 mm internal diameter conforming to I.S. 12592, total weight of cover and frame to be not less than 182 kg. fixed in	each					160	31,068.40	4,970,944.00

		cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centering, shuttering all complete. (Excavation, foot rests and 12 mm thick cement plaster at the external surface shall be paid for separately) : With Sewer bricks conforming IS : 4885								
11	2.81	Earthwork excavation for the above Manhole 1.52m dia and 2.3m depth	cum					1280	319.6	409,088.00
12	19.2	Plastic encapsulated M.S. foot rest 30x20x15 cm	Nos.					1600	240.9	385,440.00
13	13.11.1	12 mm cement plaster 1:3 for external surface of manhole	sqm					893	128.2	114,482.60
14	BCD 2.25	Pumping out water caused by springs, tidal or river seepage, broken water mains or draons and the like (dewatering : assume 10000 lit at each pillar)	kl	12	####			120	92.2	11064
		Total Amount								**50,228,250.33**
		Cost of Carriage @15%								**7,534,237.55**
									Total Amount :	**57,762,487.87**

			Total Length :	**9,600.00**
			Cost per metre :	**6,016.93**
			Say Cost per metre:	**6,100.00**

DETAILED MEASURMENTS AND COST ABSTRACT OF DAHA RIVER REJUVENATION WORK										
		NEW GHAT								
S.N	SoR	DESCRIPTION OF ITEM	UNIT	NO.	L	B	D	QTY	RATE	COST
1	3.16 RCD	Construction of embankment with approved materials obtained from borrow pits with all lifts and leads transporting to site, spreading, grading to required slope and compacting to meet requirement table 300.1 and 300.2 with a lead upto 1000m as per technical Specifications clause 301.5 as per technical Specifications and direction of E/I.							230.00	0
2	20.2.1 BCD	Boring, providing and installing bored cast-in-situ single under reamed piles of specified diameter and length below the pile cap in cement concrete piles with mix 1:1½:3 (1 cement : 1½ coarse sand : 3 graded stone aggregate 20mm nominal size) to carry a safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of boring with, bentonite solution and the length of the pile to be embedded in the pile cap etc. all complete (Length of pile for payment shall be measured upto bottom of pile cap). 300mm dia piles etc. All complete job as per specification and direction E/I.	M	477	4	477X0.784X.3X.3X4=134.62cum		1908	1926.1	3,674,998.80

3	RCD 15.5	Providing and laying Filter material underneath pitching in slopes complete as per drawing and Technical specification Includes (Mazdoor required for trimming of slope to properprofile and preparation of bed.)	CUM	1	156	21.17	0.3	990.756	#####	1,054,164.38
4	BCD 5.3	Reinforced cement conrete work in beams,suspended floors, roofs having slope upto 15, andings,balconiec, shelves, chajjas, lintels,bands, plain window sills, staircases and spiral stair cases uptofloor five level excludingthe cost of centring, shuttering, finishingand reinforement with 1:2:4(1 cement: 2 coarse sand:4 gradedstone aggregate 20 mm nominal size).	CUM							
		BEAMS VERTICAL	CUM	53	21.17	0.3	0.3	100.98		
		BEAM HORIZONTAL	CUM	9	156	0.3	0.3	126.36		
		SLAB	CUM	1	156	21.17	0.15	495.38		
		STEPS	CUM	18	155	0.3	0.1	83.70		
								806.42	#####	4,240,311.86
5	BCD 5.22.7 B	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete.	KG	Steel qty 1% of RCC work				73871.55	76.70	5,665,948.16
6	BCD 5.9.5	Centring and shuttering including strutting,propping etc. and removal of form for. Lintels, beams, plinth bams, griders, bressumers and contilevers.								
		Slab	Sqm	53	21	0.9		1009.8		

					.17			1		
		Beam	Sqm	9	156	0.9		1263.6		
		slab	Sqm	2	177.17	0.15		53.151		
			Sqm					2326.56	261.70	608,860.75
7	BCD6.1.12/1 + 6.3A	Brick work with bricks of class designation 100A in foundations and plinth in :Cement mortar 1 .:4 (1 cement: 4 coarse sand)	cum	2	19.9	0.5	1	19.90	5739.20	114,210.08
8	BCD 13.11.1	Cement plaster in course sand: 12 mm cement plaster of mix:								
		1:3 (1 cement:3 coarse sand)	Sqm	4	19.9	1		79.60		
		Top of wall	Sqm	2	20.9	0.5		20.90		
			Sqm					100.50	128.20	12,884.10
9	BCD 11.30.1	40 mm thick fine dressed stone flooring over 20 mm (average) thick base with joint finished flush:base 1:5 (1 cement: 5 coarse sand)								
		Steps slab & Tread	Sqm	1	19.9	155		3084.5		
		Rise		19	155	0.2		589		
		Red sand stone	Sqm	2	20.6	2.5		103		
		Total						3776.5	733.10	2,768,552.15
10	BCD 7.38.1	Providing and fixing stone jaii 40 mm thick throghout(without sunking or moulding in jali slab) in cement mortar 1:3(1 cement: 3 coarse sand) including pointing in white cement mortar 1:2 (1 white cement: 2 stone dust) with an admixture of pigment, matching the stone shade, jali slab without any chamfers etc.	sqm	2	19.9	0.6		23.88	8522.50	203,517.30

		Red sand stone	sqm							
11	BCD 2.25	Pumping out water caused by springs, tidal or river seepage, broken water mains or draons and the like	kl	5000				5000	92.20	461,000.00
										18,804,447.59
		Add 15% for Carriage								**2,820,667.14**
		Total Cost								**21,625,114.73**
								Area - 56mx20m		**3120**
						Cost per sqm				**6,931.13**
		Proposed Area								**2312**
		Cost for proposed 2312 sqm of new ghats								**16,024,764.50**

DETAILED MEASURMENTS AND COST ABSTRACT OF DAHA RIVER REJUVENATION WORK										
RCC Arch type gate along Both side of River length										
Sl. No		**Description of Item**	**Units**	**No.**	**L**	**B**	**D**	**Qty**	**Rate**	**Amount**
									in INR	**in INR**
1	2.8.1	Earth work in excavation in foundation trenches or drains(not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift up to 1.5 m . including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.	Cum							
		length of wall 15m Horizontal 8 m vertical	Cum	1	90	0.75	0.9	60.75	319.6	19,415.70
2	11.7	Providing designation 100 A one brick on flat soling joints filled withlocal sand including cost of watering, taxes, royalty all complete as perbuilding specification and direction of E/l,	sqm	1	90	0.75		67.5	277.5	18,731.25
		Under 14.5x7.5 m Floor								
3	4.1.6	1.3.6 (1 Cement :3 coarse sand :6 graded stone aggregate 40mm nominal size)	Cum	2	90	0.75	0.15	20.25	3,307	66,966.75
4	16.78.3	Construction granular sub base (GSB) by providing close graded material confirming of specifications,mixing in a mechanical mix plant at OMC ,carriage of								

		mixed material by tippers to work site, for all leads and lifts, spreading in uniform layers of specified thickness with motor grader on prepared surface and compacting with vibratory power roller ro achieve the desired density, complet as per specifications and directions of Engineer in charge								
		with material conforming to grade III(size range 26.5 to0.075mm) having CBR value 20	cum	1	90	0.75	0.15	10.13	1126.4	11,404.80
5	2.28	Supply and filling in plinth of local sand and under floors including watering ramming consolidating and dressing complete	Cum	1	90	0.75	0.25	16.88	238.6	4,026.38
6	BCD 5.3	Reinforced cement conrete work in beams,suspended floors, roofs having slope upto 15, andings,balconiec, shelves, chajjas, lintels,bands, plain window sills, staircases and spiral stair cases uptofloor five level excludingthe cost of centring, shuttering, finishingand reinforement with 1:2:4(1 cement: 2 coarse sand:4 gradedstone aggregate 20 mm nominal size).	CUM							

		Base	Cum	1	90	0.75	0.3	20.25		
		Arch Pillar	cum	10	0.6	0.6	3.85	13.86		
		Arch portion	cum	9	2.4	0.6	0.45	5.832		
		Coping		1	90	0.75	0.15	10.125		
								50.067	5258.2	263262.2994
7	BCD 5.22.7 B	Reinforcement for R.C.C. work including straightening, cutting,bending, placing in position and binding all complete.	kg	Steel taken 1% of RCC qty				3930.3	76.7	301450.9037
8	6.1.14 A+ 6.3 A	Brick work with bricks of class designation 100A in foundations and plinth in :Cement mortar 1:6 (1 cement: 6 coarse sand)	cum	5	2.4	0.25	3	9	5501.4	49512.6
9	13.12.1	15 mm cement plaster 1:3 (1 cement: 3 coarse sand)finished with a floating coat of neat cement	Sqm	2	90	4.5		810	178.3	144423
10	BCD 5.9.5	Centring and shuttering including strutting, propping etc. and removal of form for. Lintels, beams, plinth bams, griders, bressumers and contilevers.	sqm							
		base	sqm	2	90.8	0.3		54.45		
		Pillar	sqm	10	3.6	3.85		138.6		
		Arch Portion	sqm	9	1.5	2.4		32.4		
		Coping	sqm	2	90.8	0.15		27.225		
			sqm					252.68	261.7	66125.0475

11	BCD 11.30.1	40 mm thick fine dressed stone flooring over 20 mm (average) thick base with joint finished flush:base 1:5 (1 cement: 5 coarse sand)	sqm	as per plaster area				810	733.1	593811
		Total Amount :								**1,539,129.73**
		Carriage @15%								230,869.46
		Total Cost								1,769,999.18
		Say Total cost								1,770,000.00
		Per Metre cost								19,666.67
		Cost of 230 m Arch area							230	**4,523,333.33**

DETAILED MEASURMENTS AND COST ABSTRACT OF DAHA RIVER REJUVENATION WORK										
		REDEVELOPMENT OF OLD GHATS								
S.N	**SoR**	**DESCRIPTION OF ITEM**	**UNIT**	**NO.**	**L**	**B**	**D**	**QTY**	**RATE**	**COST**
1	**15.2.1**	Demolishing cement concrete including disposal of material within 50 m lead: 1:3:6 or richer mix	**cum**					**564.02**	**807.2**	455,275.94
2	4.1.2	Providing and laying in position cement concrete cement concrete of specified grade excluding the cost of centering and shuttering all work upto plinth level **1:1.5:3 20 mm** aggregate nominal size	CUM		5,640.19		0.1	564.02	4681.30	2,640,340.97
3	BCD 11.30.1	40 mm thick fine dressed stone flooring over 20 mm (average) thick base with joint finished flush:base 1:5 (1 cement: 5 coarse sand)	SQM		5,640.19			5,640.19	733.10	4,134,821.46
		Total Cost								7,230,438.37
		Add 15% for Carriage								**1,084,565.75**
		Total Grand Cost								**8,315,004.12**
		Area proposed	**sqm**							**5,640.19**
		Cost per sqm								**1,474.24**

DETAILED MEASURMENTS AND COST ABSTRACT OF DAHA RIVER REJUVENATION WORK										
Walk Way or Jogging Track										
Sl. No	**SoR**	**Description of Item**	**Units**	**No.**	**L**	**B**	**D**	**Qty**	**Rate**	**Amount**
									in INR	**in INR**
1	2.8.1	Earth work in excavation in foundation trenches or drains(not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift up to 1.5 m . including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.	Cum	1	1000	3.1	0.3	930	319.6	297,228.00
2	BCD 16.1	Preparation and consolidation of sub grade with power road roller of 8 to 12 tonne capacity after excavating earth to an average of 22.5 cm depth, dressing to camber and consolidating with road roller including making good the undilations etc. and re- rolling the sub grade and disposal of surplus earth with lead upto 50 metres	sqm	1	1000	3.1		3100	75.1	**232,810.00**

3	16.7 8.3	Construction granular sub base (GSB) by providing close graded material confirming of specifications,mixing in a mechanical mix plant at OMC ,carriage of mixed material by tippers to work site, for all leads and lifts, spreading in uniform layers of specified thickness with motor grader on prepared surface and compacting with vibratory power roller ro achieve the desired density, complet as per specifications and directions of Engineer in charge	Cu m							
4		with material conforming to grade III(size range 26.5 to0.075mm) having CBR value 20	Cu m	1	1000	3.1	0.23	697.5	1126.4	**785,664.00**
5	16.6 8	Providing and laying 60 mm thick factory made cement concreteinterlocking paver block of M -30 grade made by block making machinewith strong vibratory compaction, of approved size, design & shape, laidin required colour and pattern over and including 50 mm thickcompacted bed of coarse sand, filling the joints with fine sand etc. allcomplete as per the direction of Engineer-in-charge.	sqm	1	1000	2.7		2700	541.5	**1,462,050.00**

6	16.69	Providing and laying at or near ground levell factory made kerb stone of M-25 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3, including making jointa withor without grooves(thickness of joints except at sharp curveshall no be more than 5mm), E-I	cum	2	1000	0.2	0.45	180	5180.8	**932,544.00**
7	11.72	Providing designation 100 A one brick on flat soling joints filled withlocal sand including cost of watering, taxes, royalty all complete as perbuilding specification and direction of E/l,	sqm	2	1000	0.23		450	277.5	**124,875.00**
			Sqm				Cost			**3,835,171.00**
						Add 15% for Carriage of material				**575,275.65**
									Grand Total Amount:	**4,410,446.65**
									Total Area :	**3,100.00**
									Cost per Sqm :	**1,500.00**

DEVELOPMENT AND BEAUTIFICATION OF PARK

S.N.	SoR	DESCRIPTION OF ITEMS	UNIT	L(M)	W(M)	D(M)	QUANTITY	RATE	AMOUNT
A		**HORTICULTURE AND LAND SCAPING INCLUDED EARTWORK**							
1	2.29.1	Surface dressing of the ground including removing vegetation andinequalities not exceeding 15 cm deep and disposal of rubbish, lead upto 50 m and lift upto 1.5 m All kinds of soil.							
	2.29.1		100 SQM	39.5	53.5		21.13	1,126.90	23,814.21
2		Supplying and stacking of good earth at site including royalty but excluding carriage (earth measusred in stacks will be reduced by 20% for payment).							
	23.2		CUM	39.5	53.5	0.15	316.99	119.40	37,848.31
3		Supplying and Filling in plinth with local sand and under floors including, watering, ramming consolidating and dressing complete							
	2.28		CUM	39.5	53.5	0.9	1901.93	238.60	453,799.31
4		Supplying and stacking a' site dump manure from approved source, excluding carriage (manure measured in stacks will be reduced by 8% for payment)							
	23.4.3	Screened through sieve of l.S. designation 4.75 mm							
		1400 SQM AREA	CUM	1400		0.1	140.00	64.30	9,002.00
5		Spreading of sludge, dump manure or/and good earth in required thickness (Cost of sludge, dump manure or/and good earth to be paid separately).							
	23.8	same as item no. 5	cum				140	25.00	3,500.00
		Mixing earth and sjudge or manure in porportion specified or directed.							
	23.9	same as item no. 5	cum				140	17.40	2,436.00
6	23.10.3	Grassing with 'Doob' grass including watering and maintenance of the lawn for 30 days or more tili the grass forms a thick lawn free form weeds and fit for mowing including supplying good earth if needed.In rows 5 cm apart in either direction.							
			sqm				14	855.40	11,975.60

7		Preparation of beds for hedging and shrubbery by excavating 60 cm deep and trenching the excavated base to a further depth of 30 cm, refilling the excavated earth after breaking clods and mixing with sludge or manure in the ratio of 8:1 (8 parts of stacked volume of earth after reduction by 20% : one part of stacked volume of sludge or manure after reduction by 8%). flooding with water, filling with earth if necessary, watering and finally fine dressing, levelling etc. including stacking and disposal of materials declared nserviceable and surplus earth by spreading and levelling as drected, within a lead of 50 m lift upto 1.5 m complete (cost of sludge, manure or extra earth to be paid for separately).							
	23.13	along walkway both side	sqm	2	217	0.6	260.4	105.50	27,472.20
8		Digging holes in ordinary soil and refilling the same with the excavated earth mixed with manure or sludge in the ratio of 2;1 byvolume (2 parts of stacked volume of earth after reduction by 20% : 1 part of stacked volume of manure after reduction by 8%) flooding with water, dressing including removal of rubbish and surplus earth, if any with all leads and lifts (cost of manure, sludge or extra good earth if needed to be paid for separately):							
	23.14.1	Holes 1.2 m dia, And 1.2 m deep.							
			No.				63	447.20	28,173.60
9		Bomboo / other plantaion with land scaping at out side of South and East Boundary wall with back lighting							
	MR		No.				100	500.00	50,000.00
10		Providing and planting of medicinal plants and Flower plants							
	MR		No.				50	1,500.00	75,000.00
		Cost of Herticulture and Landscaping							**723,021.23**
		Civil Work							
11	11.72	Providing designation 100 A one brick flat soling joints filled with local sand including cost of watering, taxes, royalty all complete as per building specification and direction of E/l,							
		2.4 m For walkway and + 0.25 m wide kerb both side and 182 m boundary length							
		walkway	sqm.	217	2.45		531.65		

		Boundary	sqm.	182	0.25		45.5		
		Below kerb	sqm	434	0.25		108.5		
		Total	sqm.	833			685.65	277.5	190,267.88
12	4.1.5	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering-all work up to plinth level. 1:3:6 (1 Cement: 3 coarse sand : 6 graded stone aggregate 20 (mm nominal size)							
		below chequrred tiles	cum.	111	2.40	0.1	26.64	3,461.40	92,211.70
13	11.19.1	Chequered terrazo tiles 22 mm thick with marble chips of sizes upto 6 mm in floors jointed with neat cement slurry mixed with pigement to match the shade of the tiles, including rubbing and polshing complete on 20 nm thick bed of cement mortar 1:4 (1 ement:4 coarse sand)Light shade using white cement							
		Branch approach way to centre fountain		68	2.4		163.2		
		Around Fountain 6m wide		18	2.4		43.2		
		Parking Area	sqm.	25	2.4		60		
		Total	sqm.	111	Total		266.4	908.50	242,024.40
14		Brick work with bricks of class designation 100A in foundations and plinth in :							
	6.1.12/1	Cement mortar 1 :4 (1 cement: 4 coarse sand)(Kerb along walk way + out side of boundary)							
		Boundary	cum	182	0.25	2.1	95.55		
		Total	cum				95.55	5122	489,407.10
15	13.11.2	12 mm Cement Plaster 1:4							
		Boundary 2 side	sqm.	364	2.1		764.4		
		Total	sqm.				764.4	139.90	106,939.56
16	5.1.2	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering-all work up to plinth level.							

		1:1.5:3(1 Cement: 1.5 coarse sand:3 graded stone aggregate 20 mm nominal size) (Coping on Kerb wall)							
		62 pillar 3m below GL	cum	3	0.78	0.09	13.06		
		Gate Pillar	4	0.23	0.23	3	0.63		
		beam 182 m long	cum	182	0.23	0.23	9.63		
			cum				23.32	4,902.30	114,320.66
17	20.3 A.1	Making 25 cm (10") dia bore up to 4 mtr depth below ground with hand auger of approved quality in ordinary soi! (vide classification of soil item A) true to plumb and without eccentri city in any stage of operation and disposal of the excavated earth up to 50 mtr , Lead in eluding all lifts , all complete as per approved disign and direction of E/I							
		62	each				62	148.6	9,213.20
18	5.9. 5	Centring and shuttering including strutting, propping etc. and removal of form for.							
			sqm.	182	0.69		125.58	335.30	42,106.97
19	5.22 .7B	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete (1% steel of RCC)							
		kg					1830.60	76.70	140,407.35
20	4.6. 1	Providing and fixing at or near ground level precast cementconcrete in kerbs, edgings etc. as per approved pattern andsetting in position with cement mortar 1:3 (1 cement : 3 coarsesand), including the cost of required centering, shutteringcomplete.1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) (KERB BLOCK 200x300x450mm)							
		Both side of walkway sqm.	2	217	0.2	0.45	39.06	3,724.00	145,459.44
21	RCD /16. 10	Making bajari path including preparation of subgrade, supplying and laying brick aggregate of 50 mm nominal size 7.5 cm deep with blinding material consisting of 12 mm moorum and 12 mm red Bajari consolidated with road roller							
		sqm	106	2.4			254.4	204	51,897.60

22	10.32.2	Steel od approved steel primer using structral steel etc as required in position, and applying a priming coat welded in built up sections/ framed work including cutting hoisting,							
		In grating frames, guard bar, ladder , railing, brackets, gates & similar works							
			kg				2000	88.80	177,600.00
									1,801,855.85
		Carriage of Material							
		Metal\ Gitti	cum				137.33	2,151.78	295,508.00
		Sand	cum				126.44	1,933.00	244,400.79
		Cement & Steel	T				75.97	290.27	22,053.12
		Bricks	Nos				114188.06	0.75	85,367.22
		Local Sand	cum				2405.18	262.05	630,278.19
		Cost of Carriage							**1,277,607.33**
		Diff. of Cement	T				75.97	156.00	11,852.02
									3,091,315.20
		Cost Of Civil Work							**3,814,336.43**
		Park lamp, Architect wall text, Gajebo							1,632,000.00
		Bchildren Playing Equipments							495,788.96
		Total Cost of Park	40x53m						5,942,125.39
		Area	40x53m						2120
		Cost per sqm							**2,802.89**

DETAILED MEASURMENTS AND COST ABSTRACT OF DAHA RIVER REJUVENATION WORK										
Dhobi Ghat (15x8m size) A unit of 14 no. Washerman)										
Sl. No		**Description of Item**	**Units**	**No.**	**L**	**B**	**D**	**Qty**	**Rate**	**Amount**
									in INR	**in INR**
1	2.8.1	Earth work in excavation in foundation trenches or drains(not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift up to 1.5 m . including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.	Cum							
		length of wall 15m Horizontal 8 m vertical	Cum	2	23	0.75	0.9	31.05	319.6	9,923.58
2	11.7	Providing designation 100 A one brick on flat soling joints filled withlocal sand including cost of watering, taxes, royalty all complete as perbuilding specification and direction of E/l,	sqm	2	23	0.75		34.5	277.5	9,573.75
		Under 14.5x7.5 m Floor	sqm	1	14.5	7.5		108.75	277.5	30,178.13
3	4.1.6	1.3.6 (1 Cement :3 coarse sand :6 graded stone aggregate 40mm nominal size)	Cum	2	23	0.75	0.15	5.175	3,307	17,113.73

4	16.78.3	Construction granular sub base (GSB) by providing close graded material confirming of specifications,mixing in a mechanical mix plant at OMC ,carriage of mixed material by tippers to work site, for all leads and lifts, spreading in uniform layers of specified thickness with motor grader on prepared surface and compacting with vibratory power roller ro achieve the desired density, complet as per specifications and directions of Engineer in charge								
		with material conforming to grade III(size range 26.5 to0.075mm) having CBR value 20	cum	1	14.5	7.5	0.15	16.31	1126	18,374.40
5	2.28	Supply and filling in plinth of local sand and under floors including watering ramming consolidating and dressing complete	Cum	1	14.5	7.5	0.25	27.19	238.6	6,486.94
6	4.1.4	1:2:4(1 Cement: 2 coarse sand:4 graded stone aggregate 20 mm nominal size)	cum	1	15	8	0.1	12	4,033	48,396.00
7	6.1.14A	Brick work with bricks of class designation 100A in foundations and	Cum	2	23	0.6	0.6	16.56		

		plinth in :Cement mortar 1:6 (1 cement: 6 coarse sand) 1st Step								
		2nd Step	Cum	2	23	0.5	0.6	13.8		
		Total Qty.	Cum					30.36	4,799	79,474.75
8	6.1.14A+ 6.3A	Brick work with bricks of class designation 100A in foundations and plinth in :Cement mortar 1:6 (1 cement: 6 coarse sand)	cum	2	21.2	0.25	1.5	15.9	5,501	87,472.26
9	6.18.4A+ 6.19A	Half brick masonry with bricks of class designation 100A in foundations and plinth in :Cement mortar 1:4 (1 cement: 4 coarse send)	sqm	12	3.1	1.5		55.8		
				14	1.88	1.2		31.584		
				14	1	0.9		12.6		
		Total qty						99.984	671.5	67,139.26
10	13.12.1	15 mm cement plaster 1:3 (1 cement: 3 coarse sand)finished with a floating coat of neat cement	Sqm	4	21.2	1.5		127.2		
			sqm					199.97		
		Total Qty.	sqm					327.17	178.3	58,334.05

11	5.1.2	Providing and laying in position specified grade of reinforced cement excluded the cost of centring shuttering finishing and inforcement all work upto plinth level 1:1:5:3(1 cement: 1.5 coarse sand:3 graded stone aggregate 20mm nominal size) Cloth Stone	cum	14	0.5	1.22	0.6	5.124	4902	25,119.39
12	13.73.1	Colour washing such as green, blue or buff to give an even shade for New work (two or more coats) with a base coat of white washing	Sqm					327.17	21.7	7,099.55
13	7189	U PVC Pipe 110 mm dia	m					50	125.7	6,282.50
		Total Amount :								**470,968.27**
		Carriage @15%								70,645.24
		Total Cost								541,613.51
		Say Total cost								**541,700.00**

DETAILED MEASURMENTS AND COST ABSTRACT OF DAHA RIVER REJUVENATION WORK										
Change Rooms (8.00 x 3.00 m)										
Sl. No		**Description of Item**	**Units**	**No.**	**L**	**B**	**D**	**Qty**	**Rate**	**Amount**
									in INR	**in INR**
1	2.8.1	Earth work in excavation in foundation trenches or drains(not exceeding 1.5 m in width or 10 sqm on plan) including dressing of	Cum					33.11	319.6	10,581.96
		sides and ramming of bottoms, lift up to 1.5 m . including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.								
2	4.1.6	1.4.8 (1 Cement :4 coarse sand :8 graded stone aggregate 40mm nominal size)	Cum					7.44	3,307	24,604.08
3	4.1.4	1:2:4(1 Cement: 2 coarse sand:4 graded stone aggregate 20 mm nominal size)	cum					1.3	4,033	5,242.90
4	5.1.2	Providing and laying in position machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for reinforced cement concrete structural elements, excluding the cost of centering, shuttering finishing and reinforcement, M-20 grade reinforced cement concrete	Cum					14.25	4,902	69,857.78

5	5.22.7B	Reinforcement for R.C.C. work including straightening,cutting, bending, placing in position and binding all complete.	Kg					1,139.67	76.70	87,412.69
6	5.9.6	Shuttering	Sqm					106.15	335.3	35,592.10
7	7.1.1	Random rubble masonry with hard stone in foundation and plinth including leveling up with cement concrete 1:6:12 (1 cement: 6 coarse sand : 12 graded stone aggregate 20 mm nominal size) at plinth level with .Cement mortar 1:6 (1 cement: 6 coarse sand)	Cum					8.11	3,198	25,936.59
8	6.1.14A+6.3A	Brick work with bricks of class designation 100A in foundations and plinth in :Cement mortar 1:6 (1 cement: 6 coarse sand)	cum					12.89	5,501.40	70,913.05
9	6.18.4A+6.19A	Half brick masonry with bricks of class designation 100A in foundations and plinth in :Cement mortar 1:4 (1 cement: 4 coarse send)	sqm					45.81	671.5	30,761.42
10		Plastering With CM (1:6)								
a)	13.11.1	12 mm cement plaster 1:3	Sqm					28.34	153.60	4,353.02
b)	13.12.1	15 mm cement plaster 1:3 (1 cement: 3 coarse sand)finished with a floating coat of neat cement	Sqm					216.99	178.30	38,689.32

11	11.41.2	Providing and laying vitrified floor tiles in different sizes {thickness to be specified by the manufacturer) with water absorption's less than 0.08 % and conforming to IS : 15622 of approved make in all colours and shades, laid on 20 mm thick cement mortar 1:4 (1 cement: 4 coarse sand) including grouting the joint with white cement and matching pigments etc., complete.Size of Tile 60x60 cm	Sqm					129.34	1,520.90	196,713.21
12	21.3.3	Supplying, and fixing Aluminium Doors including aluminium frame, glass panel, hinges, etc., complete item	Sqm					19.95	1,450.60	28,939.47
13	21.3.3	Supplying, and fixing Aluminium Windows and Ventilators including aluminium frame, glass panel, hinges, etc., complete item	Sqm					1.89	1,450.60	2,741.63
14	2.26	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth: consolidating each deposited layer by ramming and watering lead	Cum					28.22	103.30	2,915.13
15	13.73.1	Colour washing such as green, blue or buff to give an even shade for New work (two or more coats) with a base coat of white washing	Sqm					245.33	21.70	5,323.66
									Total Amount :	**640,577.99**

			Add 15% for Carriage	**96,086.70**
			Total Amount	**736,664.68**
			Total Area :	**24**
			Cost per Sqm :	**30,694.36**
			Say Cost per Sqm :	**30,700.00**

DETAILED MEASURMENTS AND COST ABSTRACT OF DAHA RIVER REJUVENATION WORK

Abstract Cost of Delux Public Toilet with Solar pump and Care taker Room (8.0 x7.30m)

Based on Building S.O.R. w.e.f. 27-09-2018 and market rate

Sl.No	Particulars	Unit	Qty.	Rate	Cost	Remarks
1	Earth work in excavation in foundation trenches or drain including dressing of sides and ramming of sides and ramming of bottoms lift upto 1.5 Mtrs. Including taking out the excavated soil and depositing and refiling of jhiri with watering & ramming and disposal of surplus excavated soil as directed with in a lead off 50 meter. All kinds of soil.	Cum	23.52	319.6	7,517.76	Ref. 2.8.1
2	Supplying and filling in plinth with local sand & under floor including watering,ramming, consolidation & dressing all complete as per direction of E/I	Cum	83.44	238.6	19,907.65	2.28
3	Providing designation 100A one brick flat soling under joints filled with local sand including cost of watering, taxes, royalty complete as per building specification and direction of E/I	sqm	69.61	277.5	19,316.04	11.72
4	Providing and laying in position cement concrete cement concrete of specified grade excluding the cost of centering and shuttering all work upto plinth level (**1:3:6** 20 mm aggregate nominal size)	Cum	4.36	3461.4	15078.67	4.1.5
5	Brick work with bricks of class designation 100A in foundation and plinth in: cement mortar 1:6	Cum	17.26	4799.2	82,835.33	6.1.14a
6	Providing and laying in position cement concrete cement concrete of specified grade excluding the cost of centering and shuttering all work upto plinth level **1:2:4 20 mm** aggregate nominal size	Cum	5.27	4151.4	21,872.07	4.1.3

7	Brick work with bricks of class designation 100A in foundation and plinth in: cement mortar 1:6 plus Extra for brick work in superstructure above plinth level upto floor v	Cum	16.62	5501.4	91,443.58	6.1.14a+6.3a
8	Half Brick masonry with bricks of class designation 100A in foundation and plinth in : Cement mortar 1:4 plus Extra for half brick masonry in superstructure above plinth level upto floor V level	sqm	55.13	697.8	38,466.23	6.18.3a+6.19a
9	Supplying all materials, labours and doing 12 mm thick cement **mortar (1:6)plaster** with curing etc.	Sqm	418.06	126.2	52,758.54	13.11.4
10	Supplying all materials, labours and doing 12 mm thick cement plaster (1:3) with a **floating coat of neat cement** .	Sqm	8.75	190.8	1669.50	13.17.1
11	Providing and laying vitrifed floor tiles in different sizes (thickness to be specified by manufacturer) with water absorption's less than 0.08% and conforming to IS 15622 of approved make in all colours and shades,laid on 20 mm thick mortar cement 1:4 including grouting the joint with white cement and matching pigments erc ,complete.	sqm	39.74	1377.1	54,725.95	11.41.1
12	Providing and fixing 1st quality ceramic glazed tiles conforming to IS 15622 (thickness to be specified by the manufacture) in approved make in all colours,shades except burgundy.bottle green, black of any size as approved by E/I in skirting, riser of steps and dados over 12 mm thick bed of cement mortar 1:3 and jointing with grey cement slurry @3.3 kg/sqm including pointing in white cement mixed with pigment of matching shade complete.	sqm	88.20	739.8	65,250.36	11.36/

13	Reinforced cement concrete work in beams,suspended floors, roofs having slope upto 15, landing ,balconiec, shelves ,chajjas, lintels, bands,plain window sills,staircase and spiral staircas upto floor five level excluding the cost of centering,shuttering,finishing and reinforcement with 1:2:4 grade concrete 20 mm nominal size.	Cum	7.98	5258.2	41984.62	5.3
14	Extra cost for **centering, shuttering** etc. Roof	Sqm	60.78	362.6	22037.23	5.9.3
15	Supplying **Mild steel** reinforcement including cutting, bending, binding etc.90 Kg./cum.	Kg.	626.79	76.1	47698.80	5.22.7B/
16	wall painting with plastic emulsion paint of approved brand manufacturer to give an even shade9two or more coat on new work)	sqm	329.86	161.9	53403.52	13.92.1
17	Painting with synthetic enamel paint of approved brand and manufacture of given an even shade(two or more coats on new work over an under suitable shades. (On front and as per direction of E/I)	sqm	41.42	96.10	3979.98	13.94.1

18	Providing and fixing steel glazed doors, windows and ventilators of standard rolled steel sections, joints mitered and welded with 15x3 mm lugs 10 cm long with steel lugs embedded in cement concrete blocks 15x10x10 cm of 1:3:6(1 cement: 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) or with wooden plugs and screws or rawl plugs and screws or with fixing clips or with bolts and nuts as required, including providing and fixing of glass panes with glazing clips and specialmetal-sash putty of approved make complete including applying a primingcoat of approved steel primer; excluding the cost of metal beading and other fitting except necessary hinges or pivots as required.	sqm	22.33	2973.3	66386.36	10.12.1
	SANITARY WORK					
1	Providing and fixing of 750 mmx450mm Urinal partition wall of Udaypur green marble as per engineer incharge .	sqm	5.18	2570.1	13300.27	8.1.1.1
2 i	Orissa pattern W.C. pan of size 580x440 mm MAKE HINDWARE,INDUSTAN	nos	8.00	3390.90	27127.20	17.1.1
ii	Providing and fixing white vitreous china flat back half stall urinal of size 580x380x350 mm with white PVC automatic flushing cistern,with fittings, standard size C.P. brass lush pipe, spreaders with unions and clamps (all in C.P. brass) with waste fitting as per IS :2556, C.I. trap with outlet grating and other couplings in C.P. brass, including painting of fittings and cutting and making good the walls and floors wherever required :					
a	gents	nos	4.00	12973.5	51894.00	17.5.4
b	ladies (Squatting Pan)	nos	3.00	4551.30	13653.90	17.6.1
iii	Flat back Wash basin 630 x 450 mm MAKE HINDWARE,INDUSTAN	nos	4.00	2307.10	9228.40	17.7.1

iv	bib cock	nos	12.00	401.40	4816.80	18.49
v	HDPE pipe for water supply RELIANCE,JAIN					
	15mm dia	m	50.30	128.60	6468.58	18.7.1
	25mm dia	m	15.00	204.70	3070.50	18.7.3
vi	HDPE pipe 150 mm for sewer line RELIANCE, JAIN	nos	30.00	310.00	9300.00	MR
vii	Water Tank 2x1000 lit SYNTAX,WELL	nos	2.00	10000.00	20000.00	MR
viii	FLUSH VALVE					
a	15mm heavy duty	nos	10.00	780.00	7800.00	MR
ix	Granite platform for basin	Sqm	2.70	1401.00	3782.70	MR
x	Mirror 1500x450	each	4.00	1295.20	5180.80	17.32.4
xi	Constructing soak pit 1.20x1.20x1.20 m filled with brickbats including S.W. drain pipe 100 mm diameter and 1.20 m long complete as per standard design.	each	1.00	3519.00	3519.00	19.33
1	Wiring for light point /fan point/exhaust fan point /call bell point with 1.5 sq.m FR PVC insulated copper conductor single core cable in surface/recessed PVC conduit ,with piano type switch,phenolic laminated sheet,suitable size PVC /G.I.box etc as required (group A) included CFL	points	16	774	12384.00	MR
2	Providing and installation of Solar Power for supply water from tube well bore of 50 m depth of 1.0 HP motor	1 set	300000/KW		300000.00	rate as per BREDA
3	Tube well boring upto 100 m depth detail attached				175000.00	as per local estimate
4	Cost of Saptic Tank detail attached	1.00			80010.95	attached sheet
5	Providing and installation of Exhaust fan of make philips/ Bajaj/ Havells/ Crompton Greaves	nos	2	2800.00	5600	MR
					1,458,469.31	
	Add 15% Transportation				217,642.73	
					1,676,112.04	
				Say Rs.	**16.76**	**Lacks**

LED DISPLAY SCREEN

Providing, supply and erection of LED multicolor moving display screen size 10'x8'included Steel frame work but excluded power connection civil work included @20000/ per sqft

LED SCREEN / MOVING DISPLAY

Widely used in the outdoor environment

1.high brightness and stability
2.adapt bad outdoor environment
3.excellent protective fuction(no-load protection,short circuit protection,overcurrent protection,overheat protection)

Parameters	Value
Model	S10
Pixel Pitch	10mm
Module Size	320×160mm
Cabinet Size	960x960mm
Pixel Density	10000dots/m2
Pixel Configuration	SMD 3IN1
Module Resolution	32×16
Module Power Consumption	31.5W
Optimum Viewing Distance	8.0m
Optimum Viewing Angle	120°(H)/120°(V)
Max. Power Consumption	>567W/m2
Driving Mode	1/2 Scan,Constant current
Brightness of white balance	>6500Nits
Grey Scale/Color	Displaying colors >=16.7M
Refresh Rate	>480Hz
Operating Environment	Temperature,-20?~+50?; Humidity, 10%~90%RH
Working Voltage	AC110V/220V ±10%

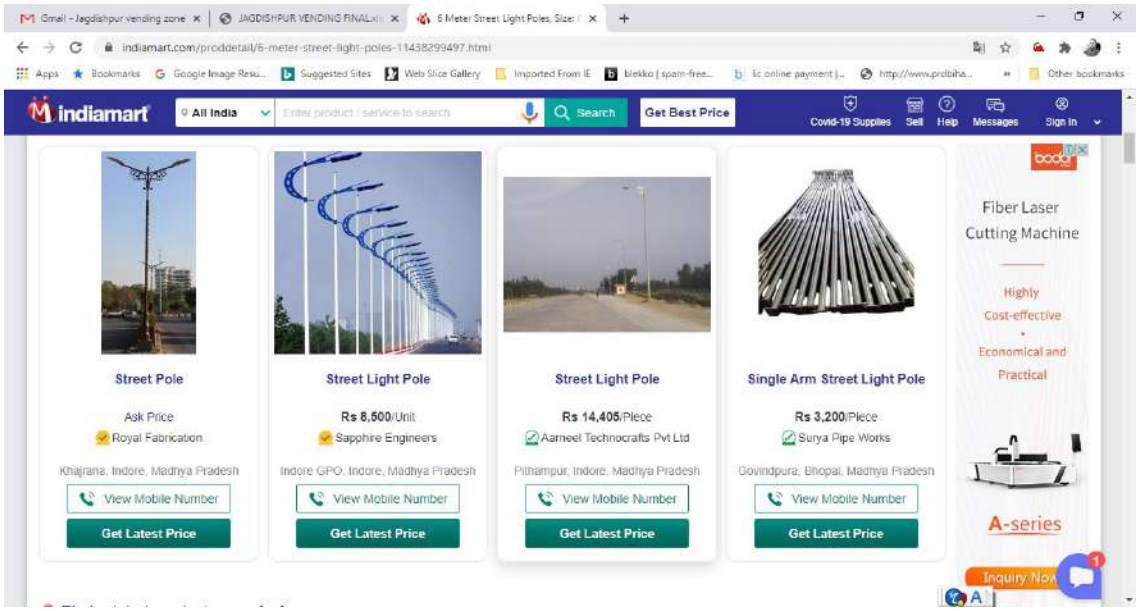
Cabinets

DETAILED MEASURMENTS AND COST ABSTRACT OF DAHA RIVER REJUVENATION WORK										
MEDITATION CENTRE										
S.N	**SoR**	**DESCRIPTION OF ITEM**	**UNIT**	**NO.**	**L**	**B**	**D**	**QTY**	**RATE**	**COST**
1	2.8.1	Earth work in excavation in foundation trenches or drains(not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift up to 1.5 m . including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.	Cum	1	46	12	0.3	165.6	319.6	52,925.76
2	16.7 8.3	Construction granular sub base (GSB) by providing close graded material confirming of specifications,mixing in a mechanical mix plant at OMC ,carriage of mixed material by tippers to work site, for all leads and lifts, spreading in uniform layers of specified thickness with motor grader on prepared surface and compacting with vibratory power roller ro achieve the desired density, complet as per specifications and directions of Engineer	CUM	1	46	12	0.3	165.6	1126.4	186,531.84

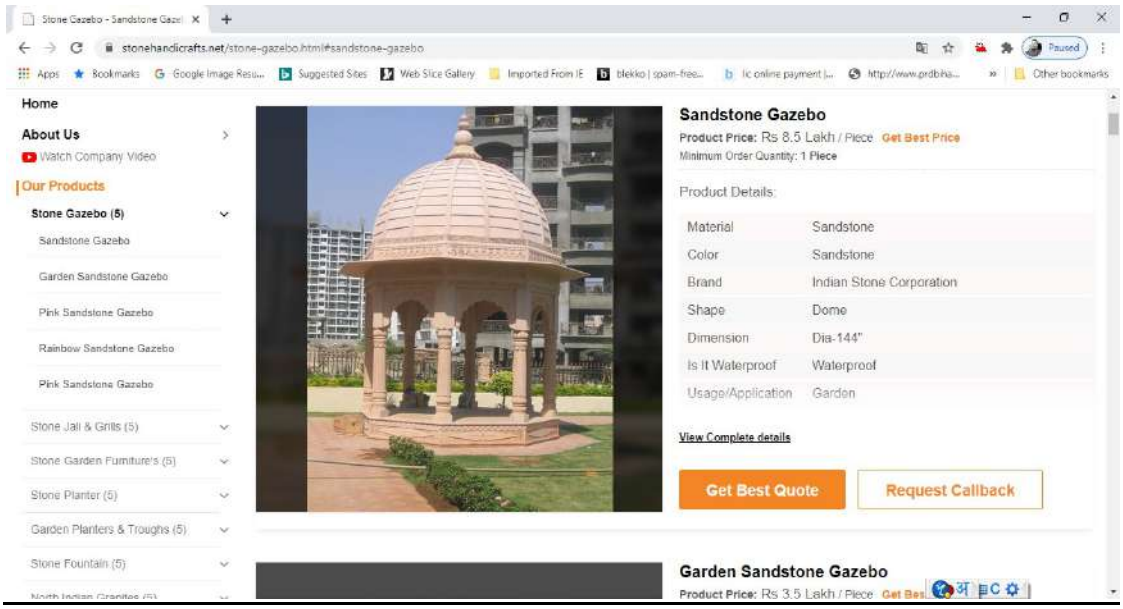
		in charge								
		with material conforming to grade III(size range 26.5 to0.075mm) having CBR value 20								
3	11.73	Providing designation 100 A one brick on edge soling joints filled withlocal sand including cost of watering, taxes, royalty all complete as perbuilding specification and direction of E/l,	sqm	1	46	12		552.00	439.80	242,769.60
4	4.1.6	1.3.6 (1 Cement :3 coarse sand :6 graded stone aggregate 40mm nominal size)	Cum	1	46	12	0.1	55.2	3,307	182,546.40
5	BCD 6.1.12/1+ 6.3A	Brick work with bricks of class designation 100A in foundations and plinth in :Cement mortar 1 .:4 (1 cement: 4 coarse sand)	cum	1	116	0.2	1	26.68	5739.20	153,121.86
6	BCD 11.30.1	40 mm thick fine dressed stone flooring over 20 mm (average) thick base with joint finished flush:base 1:5 (1 cement: 5 coarse sand)								
		SLAB	Sqm	1	46	12		552		
		WALL	Sqm	2	46	2.2		197.8		
		Total						749.8	733.10	549,678.38

7	BCD 7.38.1	Providing and fixing stone jaii 40 mm thick throghout(without sunking or moulding in jali slab) in cement mortar 1:3(1 cement: 3 coarse sand) including pointing in white cement mortar 1:2 (1 white cement: 2 stone dust) with an admixture of pigment, matching the stone shade, jali slab without any chamfers etc.	sqm	1	116	0.6		69.6	8522.50	593,166.00
		Red sand stone	sqm							
										1,960,739.84
		Add 15% for Carriage								294,110.98
		Total Cost								**2,254,850.81**
								Area - 21.5mx10m		552
								Cost per sqm		4,084.87

LED STREET LIGHT ONLINE RATE



STONE GAZEBO ONLINE RATE

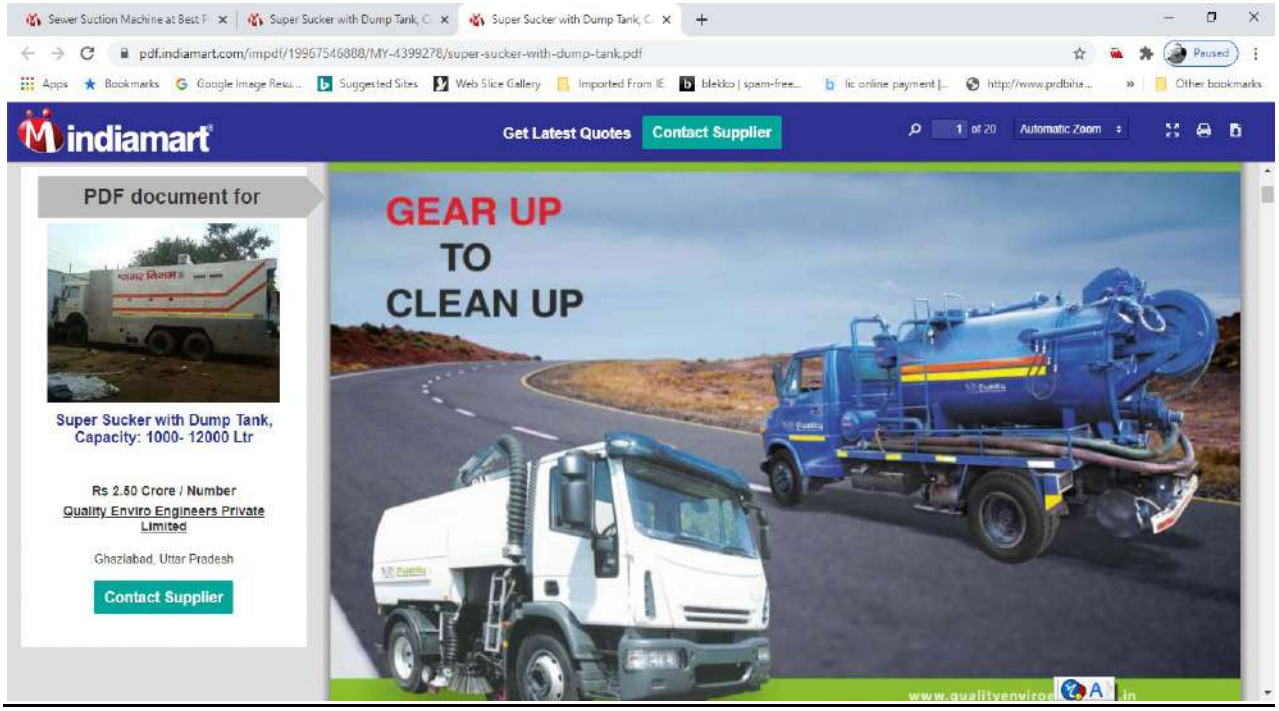


RATE OF OPEN OUTDOOR GYM

BY: ROYAL PLAYING EQUIPMENTS MUMBAI

Open Gym			
Step Trainer 4.11'x1.1' (GE01)	1	61,746.24	61,746.24
Leg Press Cum twister 6'x1.9' (GE 04)	1	46,244.16	46,244.16
Shoulder cum chest press 6.8'x2.9' (GE08)	1	90,333.76	90,333.76
Fun Rower 4.4'x2.6'(GE 12)	1	54,777.92	54,777.92
AT ONE LOCATION	**C**		**253,102.08**
FRP DUST BIN	**1**	9,000.00	9,000.00

DE-SILTING SUPER SUCKER MACHINE

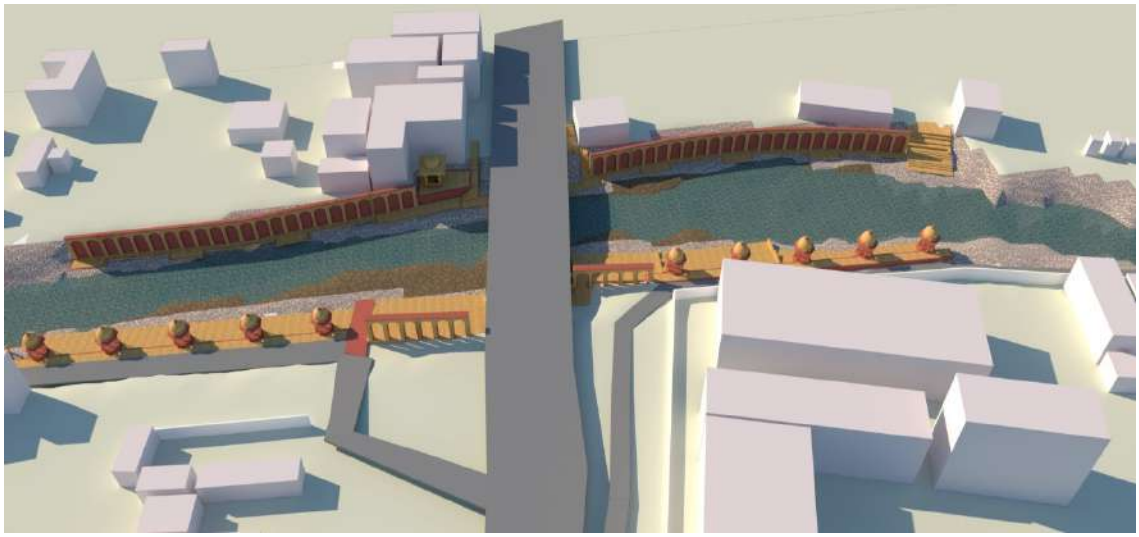


CHAPTER – 6

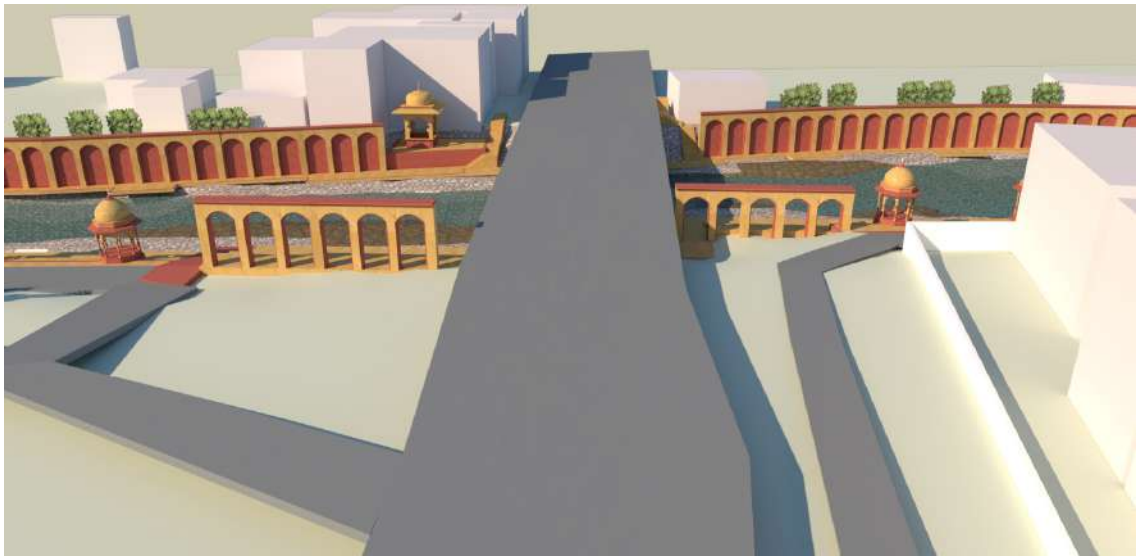
DRAWINGS DETAILS

3-D VIEW OF PROPOSED NEW GHAT AND REDEVELOPMENT OF OLD GHATS

AREAL VIEW FROM DAHA BRIDGE

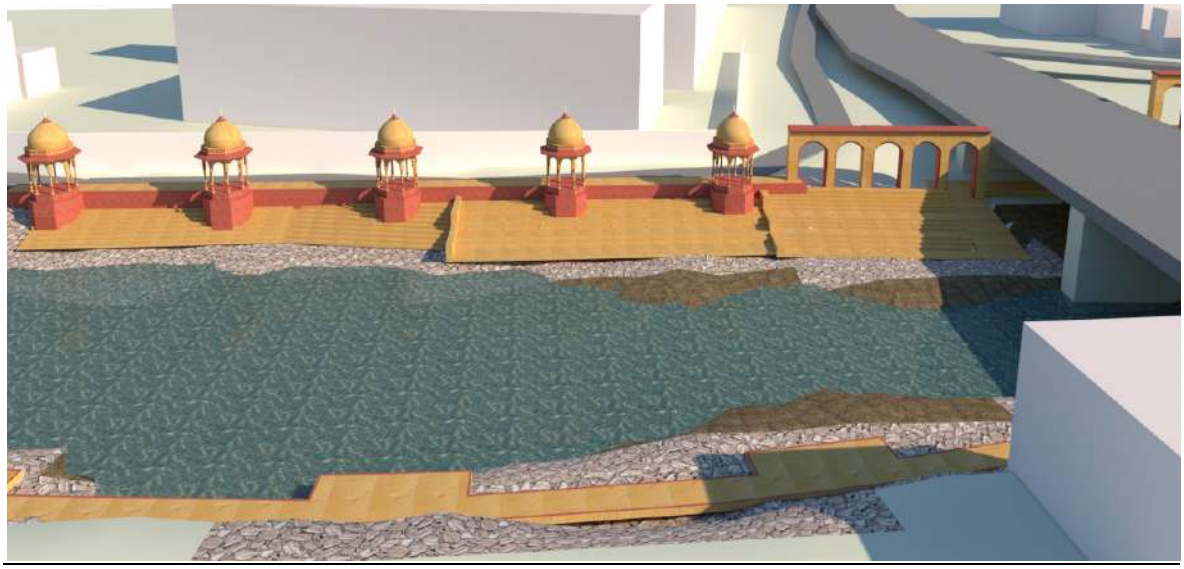


CLOSE VIEW OF AREAL TOWARD WEST SIDE OF BANK

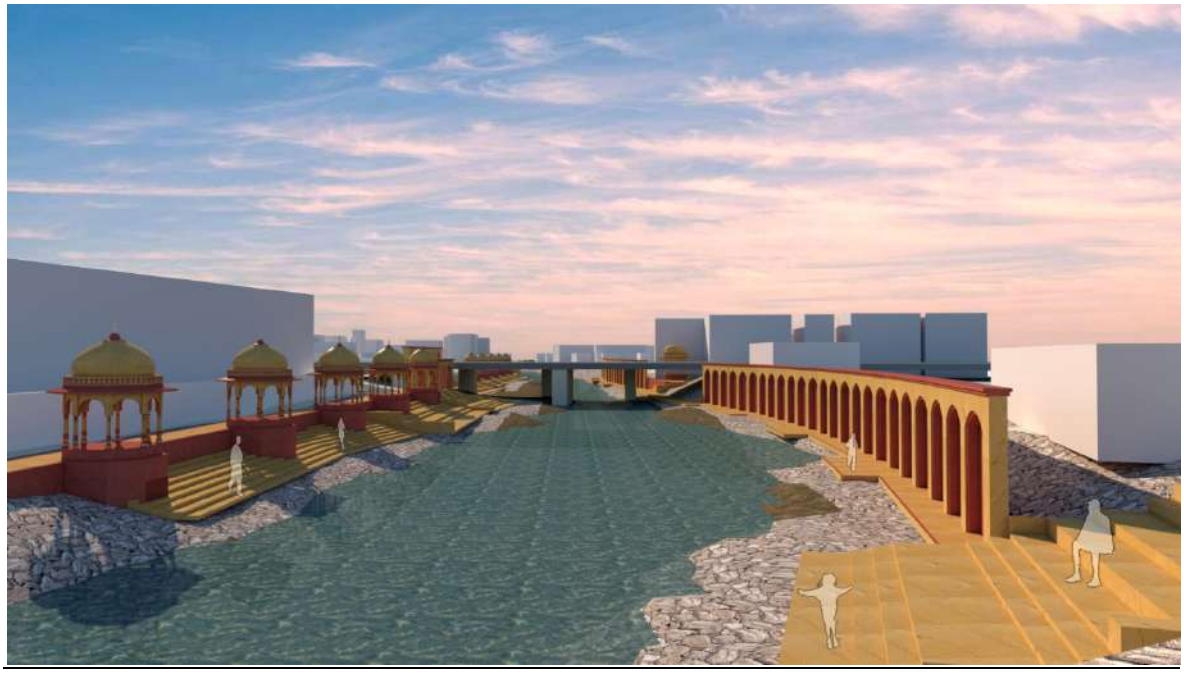


LEFT SID EOR SOUTH SIDE OF FROM DAHA BRIDGE

EAST SIDE OF BANK OR JUST NORTH OF DAHA BRIDGE TOWARDS BINA ART LAB



TOWARDS NORTH FROM DAHA BRIDGE



SOUTH SIDE FROM DAHA BRIDGE AND WEST SIDE OF RIVER BANK

NARROW WALKWAY UPTO SIVVRAT SHAH TEMPLE

CLOSE VIEW OF CHOUPATI AREA

CLOSE VIEW OF CHOUPATI AREA

AREAL VIEW OF SHIV VRAT SHAH TEMPLE AREA PARK, CHOUPATI, VENDING ZONE

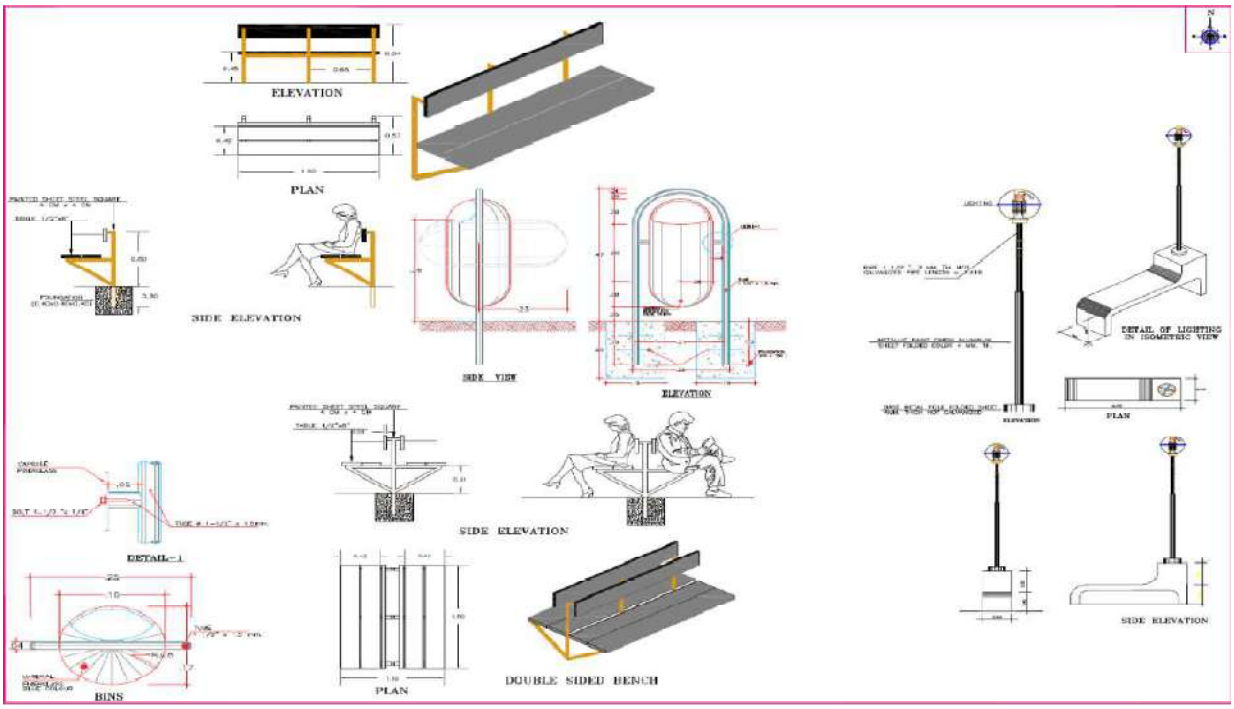
CLOSE AREAL VIEW OF PARK AT SHIVVRAT SHAH TEMPLE

JOGGING TRACK GABIAN WALL

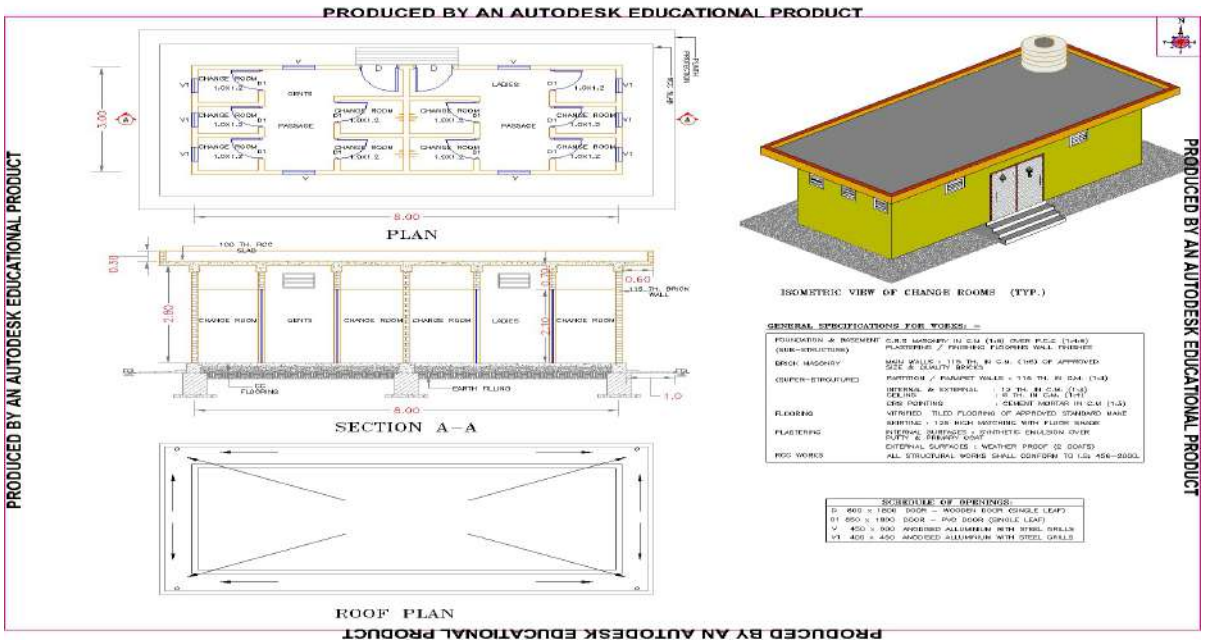
YOGA PARK

OPEN OUTDOOR GYM

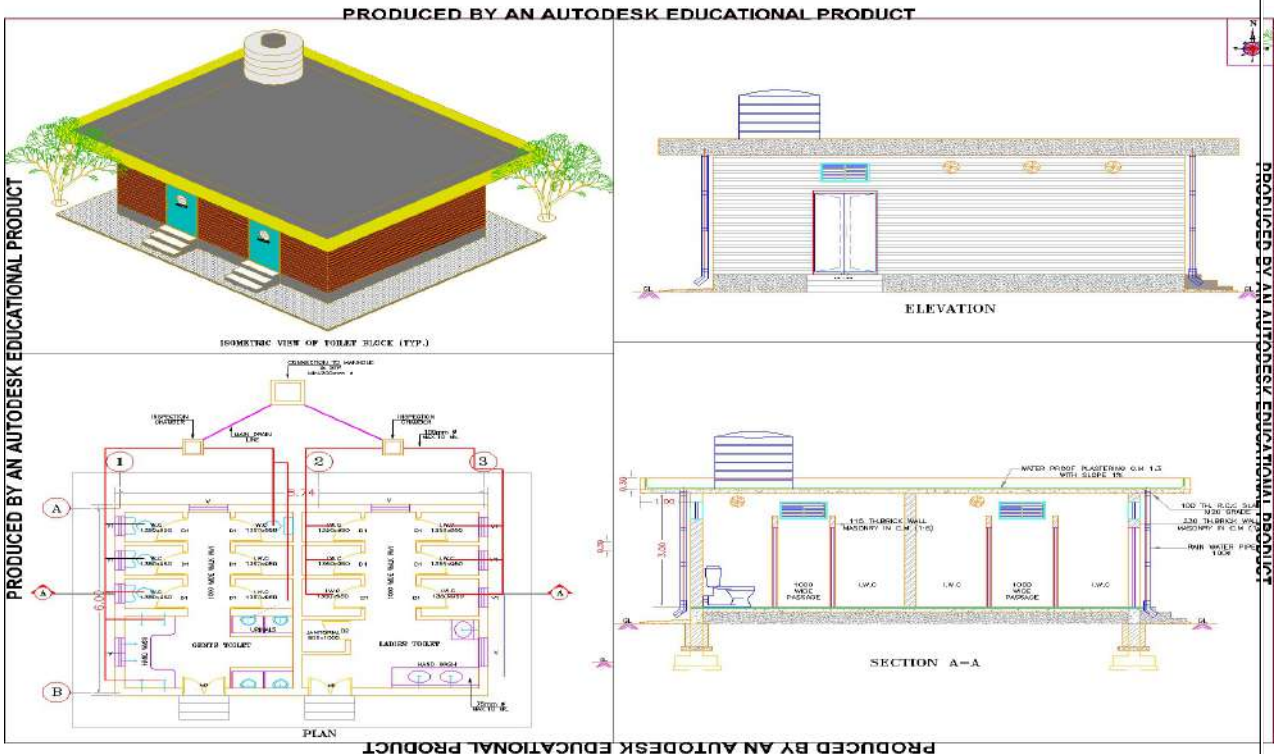
CHILDREN PARK EQUIPMENT



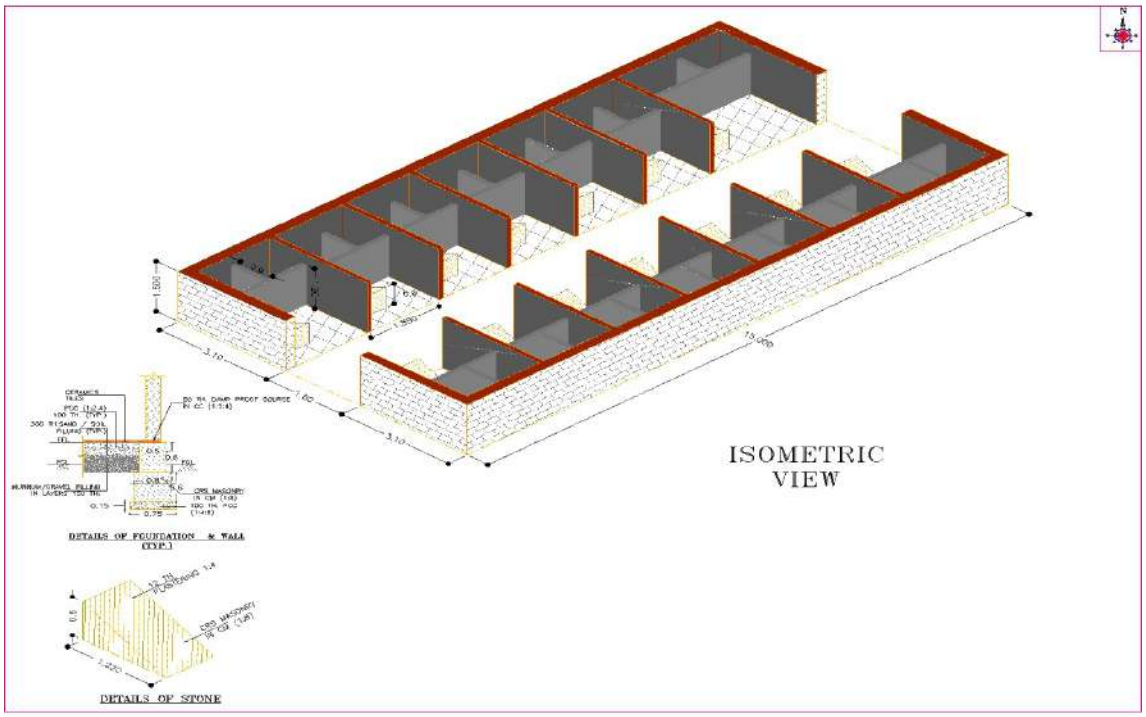
CHANGE ROOM



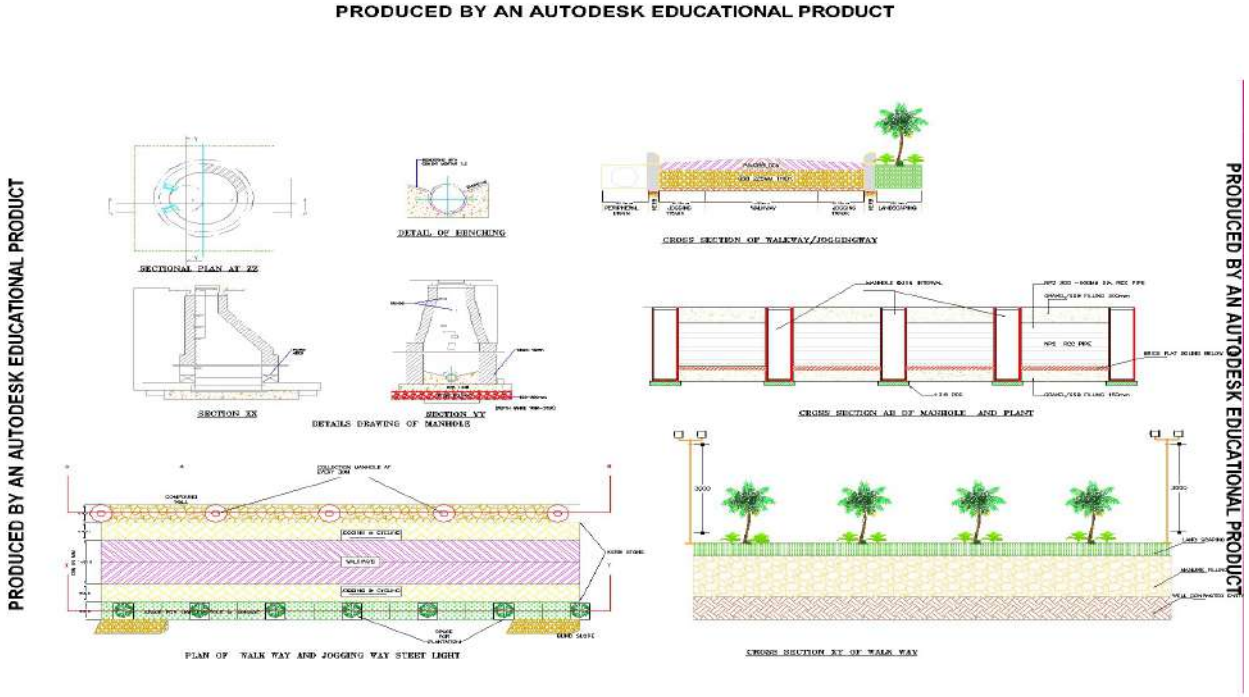
DELUX PUBLIC TOILET



DHOBI GHAT

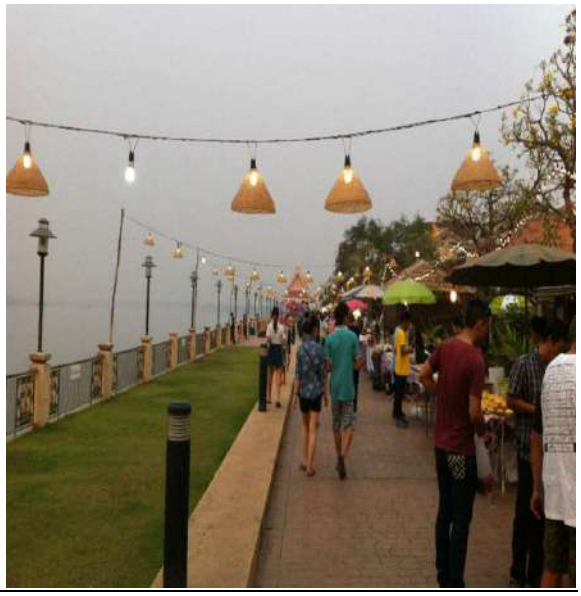


CROSS SECTION OF PERIPHERAL DRAIANAGE

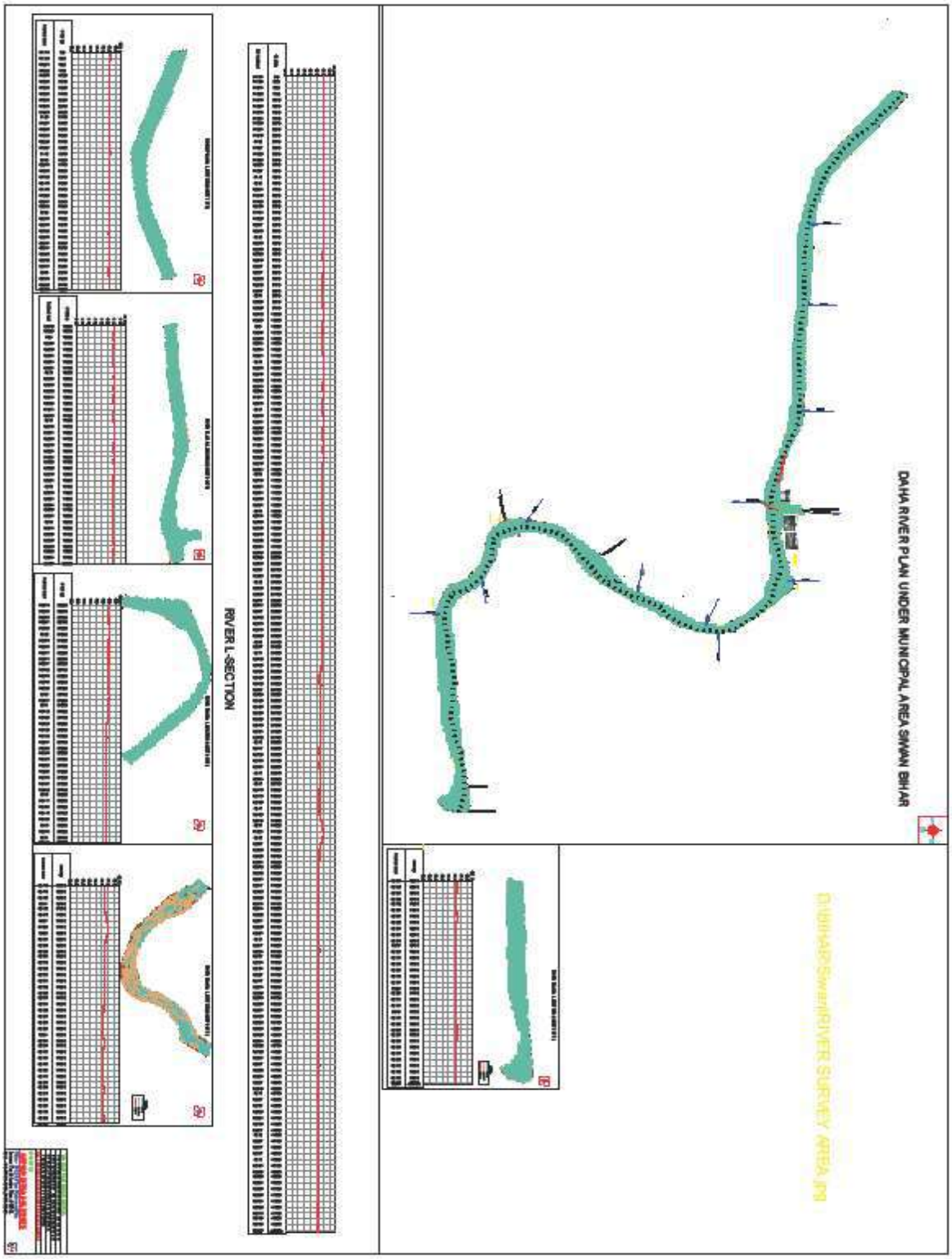


PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

CHOUPATTI VENDING ZONE



L SECTION OF DAHA RIVER



CROSS SECTION OF DAHA RIVER

THANKS.....

APPOLO INFRA SOLUTION

कार्यालय नगर परिषद,सिवान

पत्रांक.....12...../03/01/23

प्रेषक,

नगर कार्यपालक पदाधिकारी,
नगर परिषद,सिवान।

सेवा में,

उप विकास आयुक्त,
सिवान।

सिवान, दिनांक 03वीं जनवरी 2022 ई0।

विषय :– **नगर परिषद् सिवान क्षेत्रान्तर्गत अवस्थित दाहा नदी के सौन्दर्यीकरण/जिर्णोद्वार के लिए बने डी0पी0आर0 के संबंध में।**

महाशय,

उपर्युक्त विषयक के संबंध में कहना है कि माननीय मुख्यमंत्री श्री नितिश कुमार के भ्रमण कार्यक्रम संभावित है जिसके लिए नगर परिषद् सिवान क्षेत्रान्तर्गत अवस्थित दाहा नदी के सौन्दर्यीकरण/जिर्णोद्वार कार्य का डी0पी0आर0 तैयार कराकर जिला पदाधिकारी, सिवान द्वारा नगर विकास एवं आवास विभाग को स्वीकृति एवं प्रशासनिक स्वीकृति हेतु भेजा गया है। तैयार डी0पी0आर0 की कॉपी आवश्यक कार्रवाई हेतु भेजी जा रही है।

कृपया प्राप्ति स्वीकार की जाय।

अनुलग्नक :– यथोपरि।

विश्वासभाजन

3/1/2023

नगर कार्यपालक पदाधिकारी,
नगर परिषद्, सिवान।

139

Office Municipal Council, Siwan

Letter No. 12/ 03/01/23

Sender,
City Executive Officer, Municipal Council, Siwan.

To,
Deputy Development Commissioner, Siwan.

Siwan, dated 03rd January 2022.

Subject : Regarding the DPR prepared for the beautification/renovation of Daha river situated in Siwan Nagar Parishad area.

Sir,

This is to bring to your kind notice that in the above mentioned subject matter, it is hereby informed that the tour program of Honorable Chief Minister Shri Nitish Kumar is expected, for which the DPR of the beautification/renovation work of Daha river situated under Nagar Parishad Siwan area has been prepared and sent by the District Officer, Siwan to the Urban Development and Housing Department for approval and administrative sanction. A copy of the prepared DPR is being sent for necessary action.

Please acknowledge receipt.

Annexure as above.

Sd/- 3/1/2023
City Executive Officer, Municipal Council, Siwan.

"VAKALATNAMA"

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL, EASTERN ZONE BENCH AT KOLKATA

O.A. No. 180 OF 2024/EZ

In the Matter of:

Prayag Kumar

...Applicant

-Versus-

Bihar State Housing Board & Ors.

...Respondents

KNOW ALL MEN by these presents that I, Shri. Arvind Kumar Singh the Executive Officer, Nagar Parishad, Siwan, Bihar working for gain at the Office of Municipal Commissioner, Nagar Parishad, Siwan, Bihar, Pin-841226, do hereby in my/our name and my/our behalf constitute and appoint Mr. Ghanshyam Pandey, Advocate, High Court, Calcutta & Hon'ble NGT, EZ, as our true and lawful Pleader / Advocate & Attorneys to appear and act for me/us in the matter noted above to file suit, written statement, conduct suit, appeal from original suit, order etc. And for that purpose to do all acts and things, whatsoever in that connection including compromise of the above matter depositing in or withdrawing money from, filing or taking out of appear, document and payment order from Court referring matters in dispute between the parties here to arbitration, withdrawing the above matters with liberty to file fresh suit, sending properties released from attachment, filing execution or miscellaneous cases and other petitions, bidding at execution sale, obtaining payment from us out of Court withdrawing custody and other fees and doing on my/our behalf other acts, in the above matter as are necessary and proper.

I/We hereby agreeing to ratify and confirm all acts so done by the said advocate or attorneys as my/our own acts and as if done by me/us to all intents and purposes.

Arvind Kumar Singh
(Executive Officer, Nagar Parishad Siwan)

Received, Satisfied, and Accepted by me.

Ghanshyam Pandey
Advocate

Ghanshyam Pandey
Advocate

Mr. Ghanshyam Pandey,
Advocate,
High Court at Calcutta,
"Hastings Chamber", 7C, Kiran Shankar Roy Road,
2nd Floor, Room no. 206, Kolkata- 700001
M: +91-9686750386, E: ghanshyamlegal@gmail.com.