

Name of Division	: Satkhira OEM Division-2, BWD, Satkhira.
Name of Circle	: Khulna OEM Circle, BWD, Khulna.
Name of Zone	: South-Western Zone, BWD, Khulna.

09/02/2022
SE-831.

Construction of 3-Vent (1.50m x 1.80m) Drainage Culm Flushing Regulator (DS-3A) On Khejurdangi Branch Khal at Km. 11.00 in Polder No. 6-8 in c/w "Drainage Improvement of Polder No. 1, 2, 6-8 & 6-8 (Ext) in Satkhira District Under Satkhira OEM Division-2, BWD, Satkhira.(Package No: W-Sat-2/10).

For

Design Data



BANGLADESH WATER DEVELOPMENT BOARD

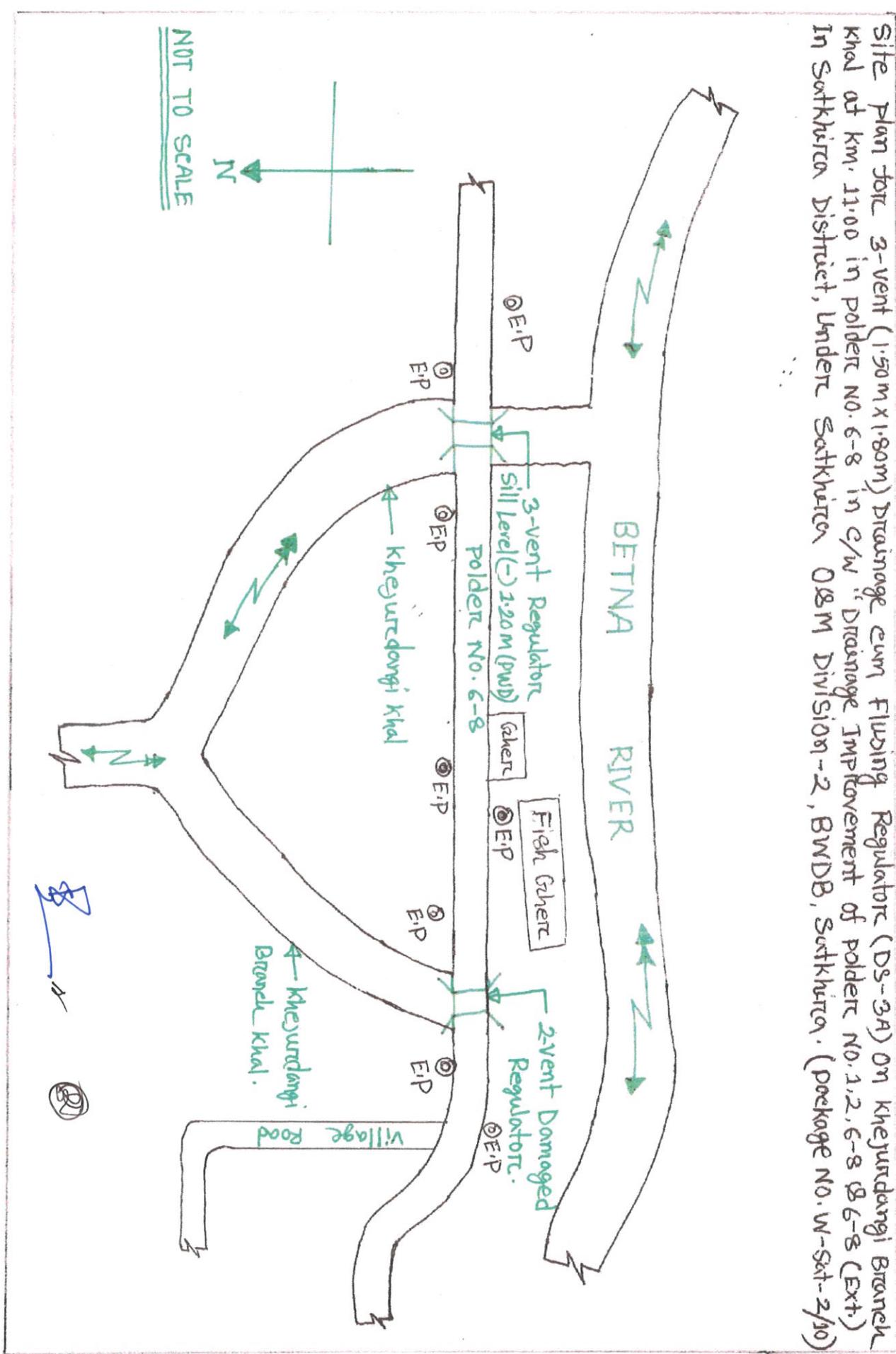
AA3

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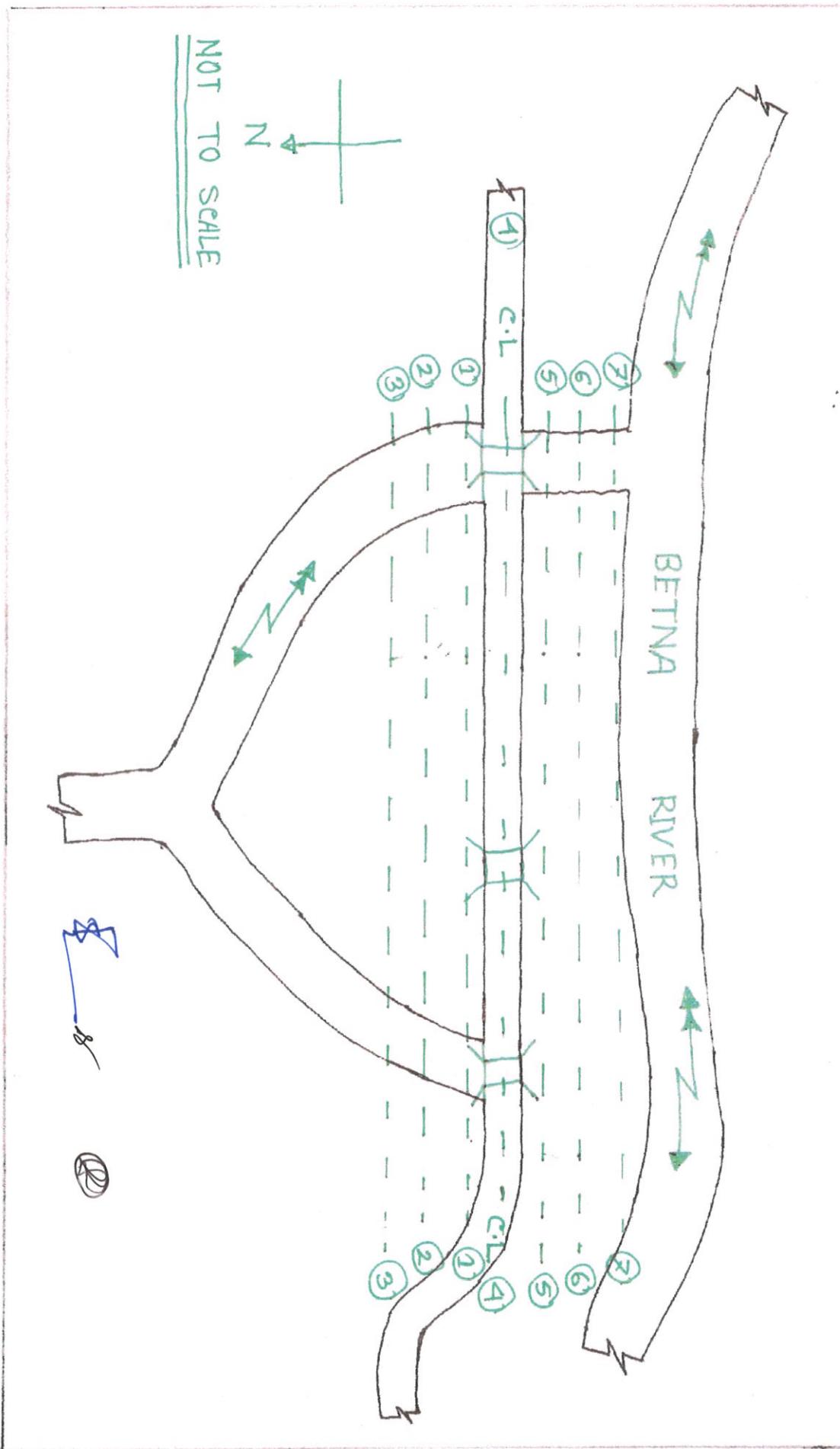
ଶ୍ରୀମଦ୍ଭଗବତ ପାତ୍ରଙ୍କଣକ

ଶାଖାକ୍ଷର ପ୍ରକାଶନ

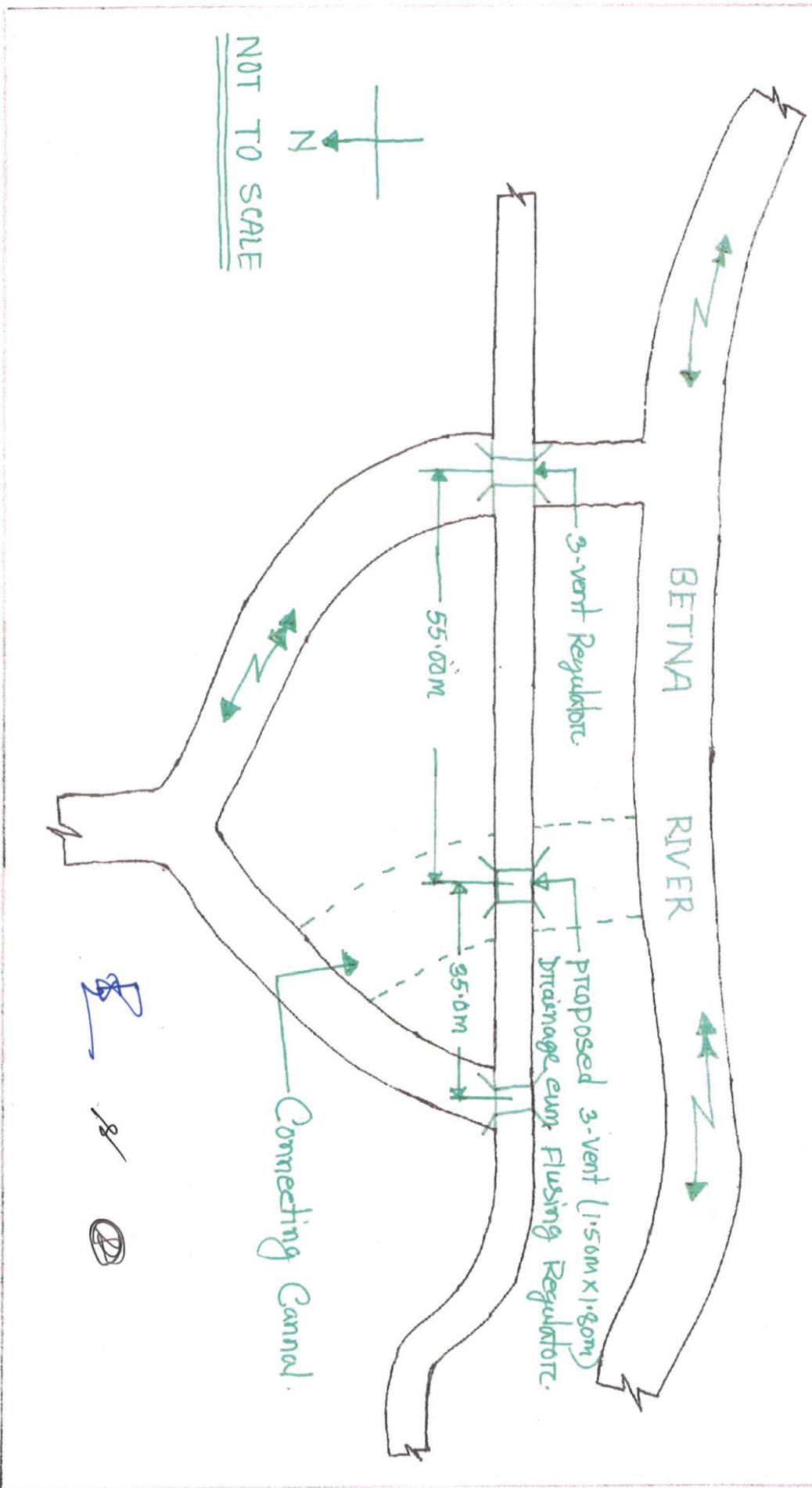
Site plan for 3-vent ($1.50\text{m} \times 1.80\text{m}$) drainage cum Flushing Regulator (DS-3A) on Khejurdangi Branch khal at km. 11.00 in Polder No. 6-8 in c/w Drainage Improvement of polders No. 1, 2, 6-8 (Ext.) In Satkhetra District, under Satkhetra O&M Division -2, BWDB, Satkhetra. (package No. W-Sat-2/10)



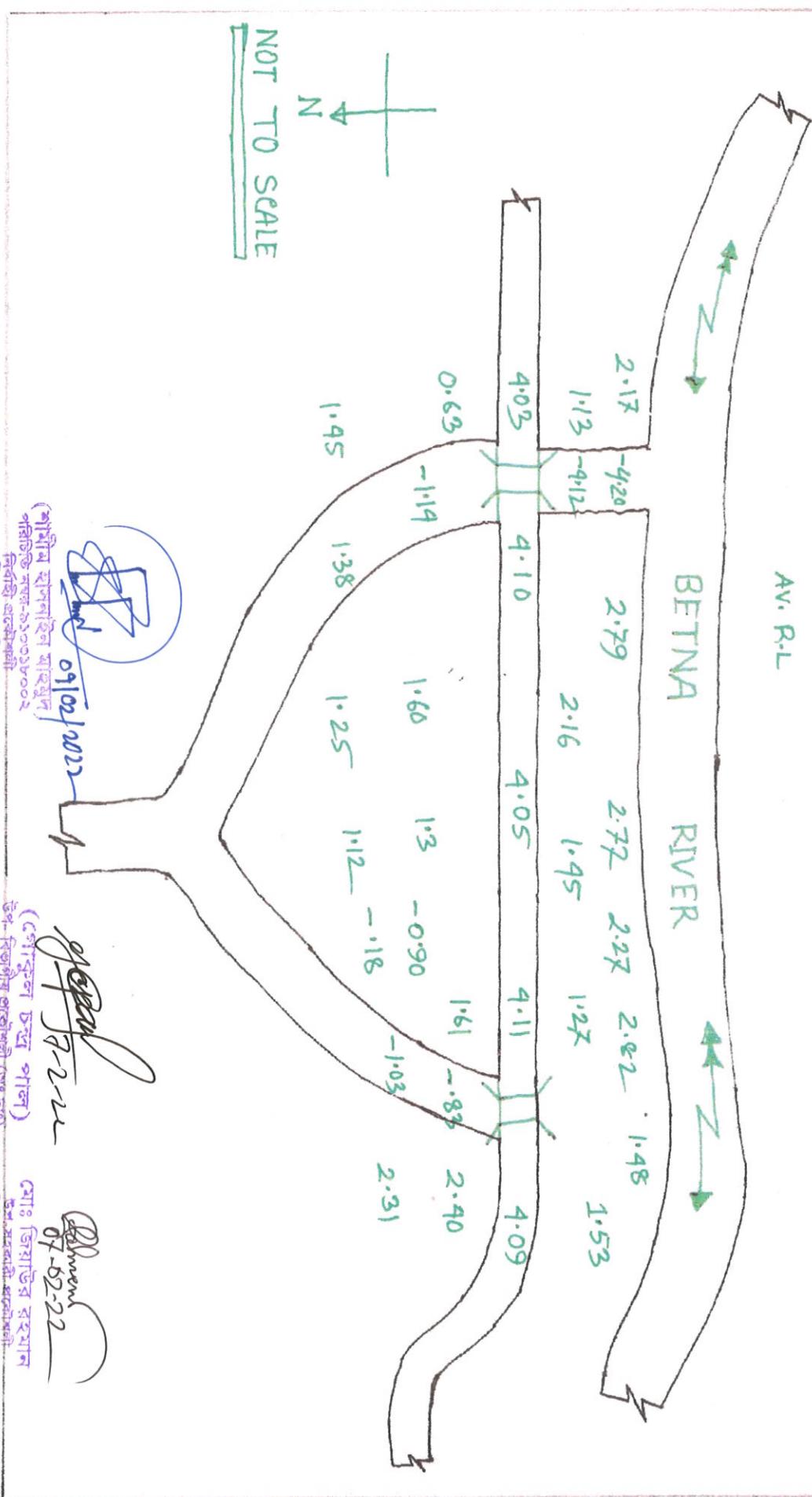
Site plan for 3-vent ($1.50\text{m} \times 1.80\text{m}$) drainage cum flowing Regulator (DS-3A) on Khejurdangi Branch khad at Km. 11.00 in Polder No. 6-8 in c/w Drainage Improvement of Polder No. 1, 2, 6-8 (Ext.) In Satkhira District, under Satkhira O&M Division-2, BWDB, Satkhira. (package No. W-Sat-2/10)



Site plan for 3-vent ($1.50 \text{m} \times 1.80 \text{m}$) drainage cum Flushing Regulator (DS-3A) on Khejurdangi Branch khad at km. 11.00 in polder No. 1, 2, 6-8 & 6-8 (Ext.) In Sotkhira District, under Sotkhira O&M Division -2, BWDB, Sotkhira. (package No. W-Sot-2/10)



Site plan for 3-vent ($1.50\text{m} \times 1.80\text{m}$) drainage cum flowing Regulator (DS-3A) on Kheyurdangi Branch khal at km. 11.00 in Polder No. 6-8 in C/W "Drainage Improvement of Polder No. 1,2,6-8 (Ext.) In Satkhira District, under Satkhira O&M Division-2, BWDB, Satkhira. (package No. W-Sat-2/10)



- DATA CHECK LIST FOR THE DESIGN CONSTRUCTION OF DRAINAGE SLUICE**
- 3.1 Rain fall data: Enclosed.
- 3.2 HYDROLOGICAL DATA:
- 2.4 Site Plan- Enclosed.
2.3 Basin Map- Enclosed.
2.2 Location Map- Enclosed.
A project index map showing the project boundary and all project feature such as embankment, improvement of drainage channel, irrigation canal, all drainage and Index Map enclosed.
- 2.1 Project Map: (See instruction in Annexure-A)

1.1	Drainage, Flood control and Irrigation.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1.2	Monsoon Drainage.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1.3	Post Monsoon Drainage	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1.4	Prevention of early Flood.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1.5	Prevention of Flood.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1.6	Flushing of irrigation/ Fish Culture water.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1.7	Retention of post monsoon water for irrigation.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- B. Name of Structure : (Extension) in Satkhira District.
- A. Name of Project/Scheme : Drainage Improvement of Polder No. 1, 2 6-8 and 6-8
- While submitting proposal for the design of the Constructing sluice this data check list shall be filled up and sent to the design office along with other requisites mentioned here in.
- C. Project Area : 7570 Hectar.
- D. Catchments Area : 560 Hectar. (Only for this structure)
- E. PURPOSE OF THE STRUCTURE
- I. Identify the purpose (s) that has to be saved by the structure and put tick-mark accordingly:
- 1.1 Drainage, Flood control and Irrigation.
- 1.2 Monsoon Drainage.
- 1.3 Post Monsoon Drainage
- 1.4 Prevention of early Flood.
- 1.5 Prevention of Flood.
- 1.6 Flushing of irrigation/ Fish Culture water.
- 1.7 Retention of post monsoon water for irrigation.

6. FOUNDATION DESIGN DATA: Will be Supplied by Ground Water Hydrology
Immediately.

- 5.2.5 (b) If not mentioned the drainage level require and distance of such level from the proposed structure site.
 From the field condition Proposed invert level of the structure which can allow design level of drainage (-) 1.25m (PWD).
 From the field condition proposed invert level of the structure which can allow design level of drainage highest level requirement SOB.
 Drainage from the structure site
 From the field condition Proposed invert level of the structure which can allow design level of drainage (-) 1.25m (PWD).
 From the field condition proposed invert level of the structure which can allow design level of drainage (-) 1.25m (PWD).
 Date related to irrigation aspects:
 Project cultivate area 75790 hectares.
 Principal crop share in the basin with present and future cropping past term: Fish Culture
 For irrigation by flushing water, specify the period of such irrigation: N/A

5.2.3 (a) Is the complete drainage of the basin necessary?
 Yes No

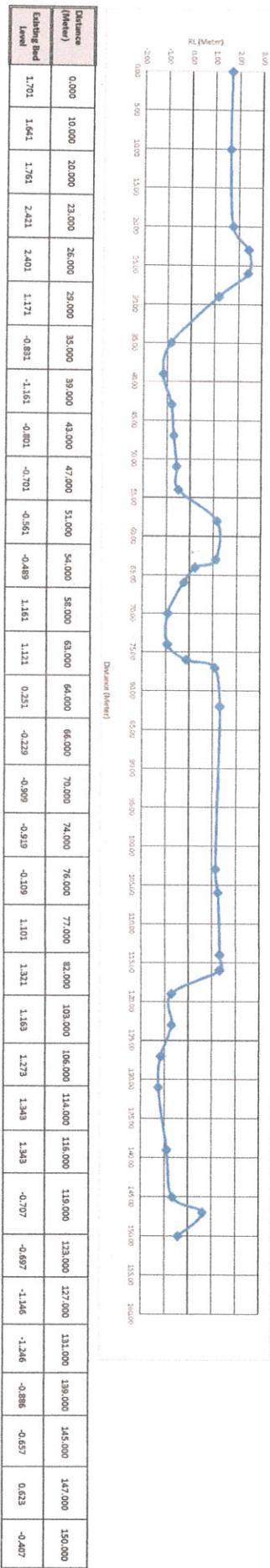
5.2.2 If not, does the scheme include re-excavation of drainage channel? If so, the design cross-section and long-section may be finished as requirement indicated in Para 4.2 and 4.3
 Yes No

5.2 (iii) BWD Embankment.
 Are the existing section and bed slope of the drainage channel adequate for complete or desire level of drainage?
 Data related to drainage aspects.
 (ii) Highway/Feeder road/Local road.
 (iii) BWD Embankment.

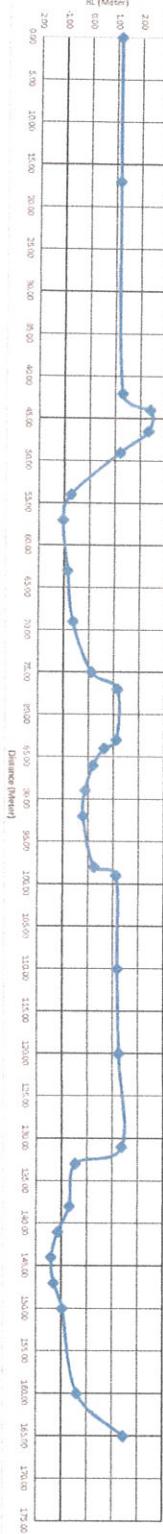
(Md. Ziaur Rahman) *07-02-22* *Shameem Hasnain Mahmud* *07-02-22* *Gokul Chandra Paul* *07-02-22* *Sub-Assistant Engineer* *Sub-Divisional Engineer* *Sakhibra OEM Sub-Division* *Sakhibra OEM Division-2* *BWDB, Sakhibra.*
(Md. Ziaur Rahman) *07-02-22* *Shameem Hasnain Mahmud* *07-02-22* *Gokul Chandra Paul* *07-02-22* *Sub-Assistant Engineer* *Sub-Divisional Engineer* *Sakhibra OEM Sub-Division* *Sakhibra OEM Division-2* *BWDB, Sakhibra.*

Cross Section For 3-Vent (1.50m x 1.80m) Drainage Cum Flushing Regulator (DS-3A) On Khejurdangi Branch Khal at Km. 11.00 in Polder 6-8 in c/w “ Drainage Improvement of Polder No. 1, 2, 6-8 & 6-8 (Ext) in Satkhira District Under Satkhira O&M Division-2, BWDB, Satkhira.(Package No: W-Sat/2/10).

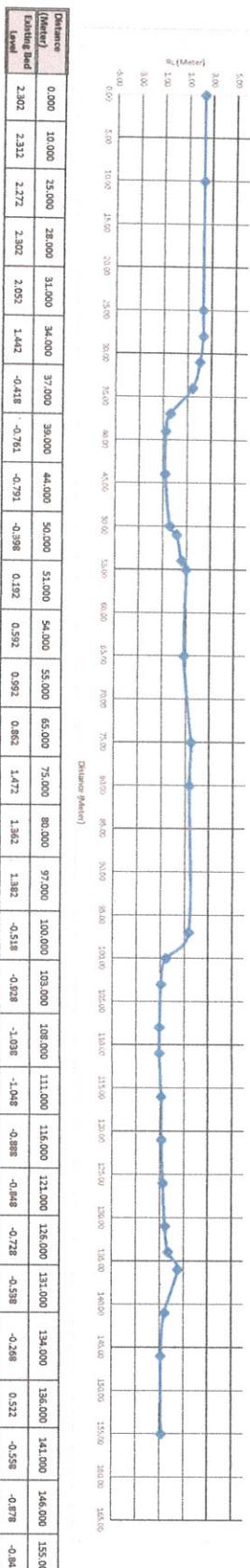
C/S No. 01 at 25.00 Meter U/S



C/S No. 02 at 50.00 Meter U/S



C/S No. 03 at 75.00 Meter U/S

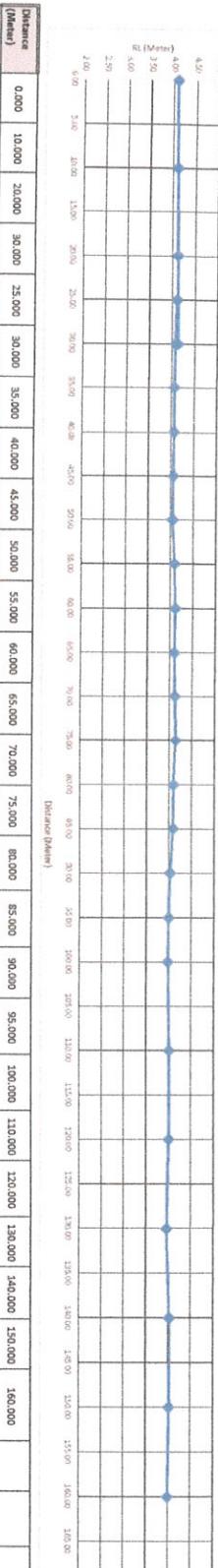


5

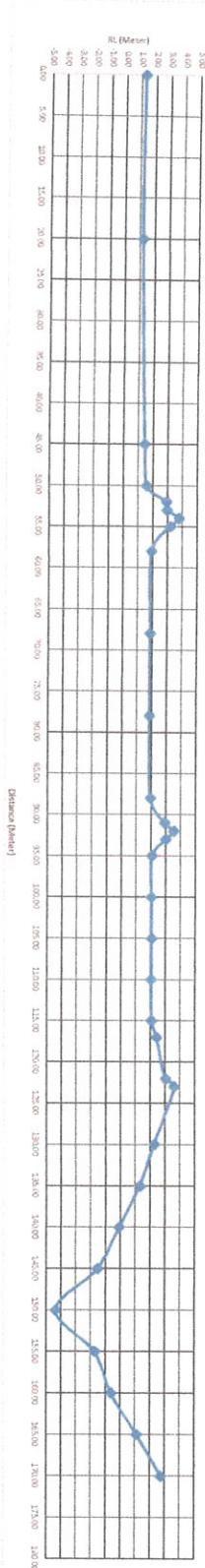
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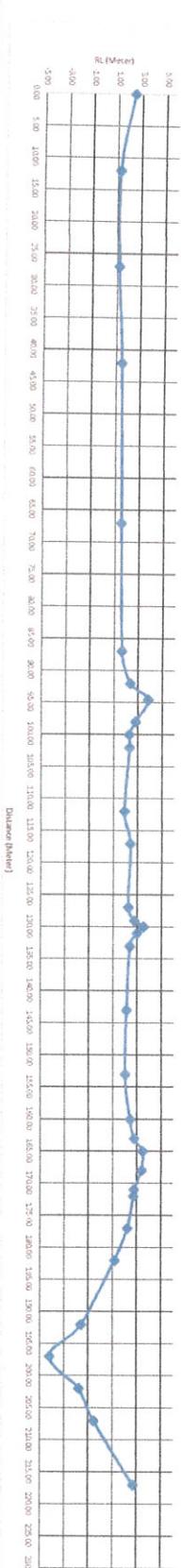
C/S No. 04 at (Centre Line)



C/S No. 05 at 25.00 Meter D/S



C/S No. 06 at 50.00 Meter D/S



Distance (Meter)	Existing Bed	Existing Level
0.000	12.000	27.000
2.408	1.268	1.208

S R B



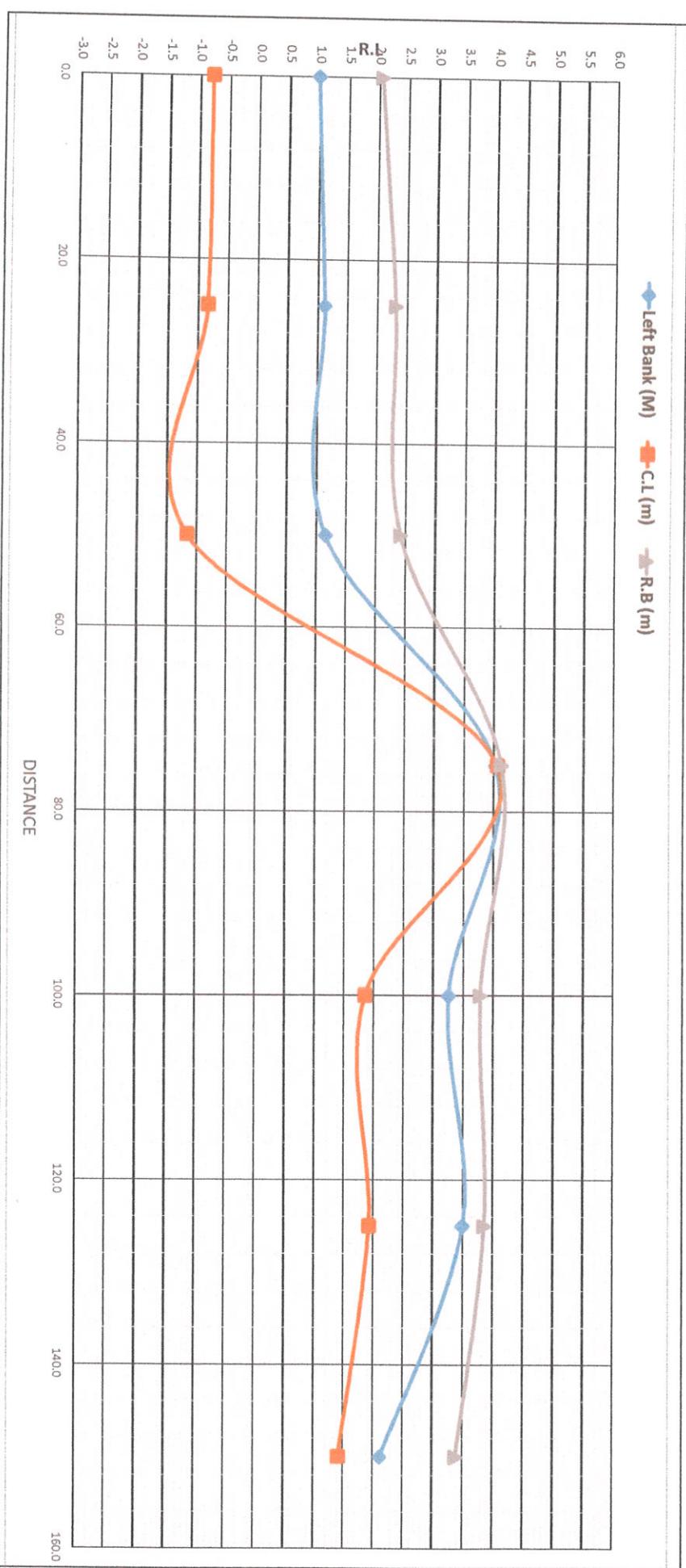
C/S No. 07 at 75.00 Meter D/S

ଶ୍ରୀମଦ୍ ହାତାନ୍ତିକ ପାଠ୍ୟାଳୋଡ଼ି
ଗରାଟିତ ଲାଖାନ୍ତିକ-୧୦୦୦୦୦୦୦୮୦୦୨୫
ଲିରାଣ୍ଡି ଏକୋଲିଂଗ୍
ସାତାମ୍ବିଳୀ ପାତର ବିଭାଗ-୨
ବାପାଟେବୋ, ସାତାମ୍ବିଳୀ ।

(ଚମ୍ପାକୁଳ ଚନ୍ଦ୍ର ପାଲ)
ତେବେ- ବିଭାଗୀୟ ପ୍ରାଚୋଶିତ୍ରୀ (୩୦ ମାତ୍ର)
ସାତକୀରୀ ପତର ଉପ-ବିଭାଗ-୨
ବାପାଙ୍ଗବୋ, ସାତକୀରୀ -

07-02-22

Long Section For 3-Vent (1.50m x 1.80m) Drainage Cum Flushing Regulator (DS-3A) On Khejurdangi Branch Khal at Km. 11.00 in Polder No. 6-8 in c/w " Drainage Improvement of Polder No. 1, 2, 6-8 & 6-8 (Ext) in Satkhira District Under Satkhira O&M Division-2, BWDB, Satkhira.(Package No: W-Sat-2/10).



Distance (m)	0.000	25.000	50.000	75.000	100.000	125.000	150.000
Left Bank (M)	0.990	1.120	1.160	4.030	3.260	3.500	2.120
C.I.(m)	-0.790	-0.840	-1.160	4.059	1.860	1.930	1.420
R.B.(m)	2.050	2.310	2.420	4.130	3.790	3.860	3.390
Design Bed Level							

INDEX MAP OF POLDER NO:- 6-8 & 6-8 (Extn)

BANGLADESH WATER DEVELOPMENT BOARD,
SATKHIRA O & M DIVISION - 2

(ପ୍ରେସ୍‌ର ଉତ୍ତର ପାଇଁ)
ଉପ-ବିଭାଗୀର୍ଥ ଅବୋଧିଲାଇ (ଅପଂ ଦାଃ)
ସାତକୀରୀ ପତେର ଉପ-ବିଭାଗ-୨
ବାପାଡ଼ିବୋ, ସାତକୀରୀ -

କ୍ଷେତ୍ର ପାଇଁ ଉପରେ ଦେଖିଲୁ
କିମ୍ବା କିମ୍ବା କିମ୍ବା କିମ୍ବା

4. Retired Embankments
5. Re-Sectioning
6. Proposed Re-Sectioning
7. Regulator/Stabilization
8. Protective Works
9. Repeat Sluice

A row of six decorative icons: 1. A red double-headed arrow pointing both up and down. 2. A red icon resembling a cluster of three small circles. 3. A black double-headed arrow pointing both up and down. 4. An orange vertical rectangle. 5. A red vertical rectangle. 6. A wavy black line.

COLOUR LEGEND :

- Proposed 3-vent
Regulator.

Untitled Map

Write a description for your map.

Legend

????? ????
?????????? ?? ?????

Khejurdangi
Toufig hardwar

Google Earth

Image © 2022 Mercer Technologies

Khejurdangi 3-vent Regulator

Proposed 3-Vent Regulator On Khejurdangi Br. Khal

Khejurdangi Br.Khal 2-Vent Regulator

पानी उत्तराधि खुट्टी

200 ft

N

मो: ७५४८०६५२२२
जियाउर राहमान
टॉप-सहकारी अन्नाली
परिवर्ति नं-९२-९१०६१०००१
दुड़गांव पट्टर शाखा
राष्ट्रीय, नाटकीय।

Rehman
02-22

Betma River

Kheyurdangi Khal

Kheyurdangi
Branch
Khal



GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

BANGLADESH WATER DEVELOPMENT BOARD

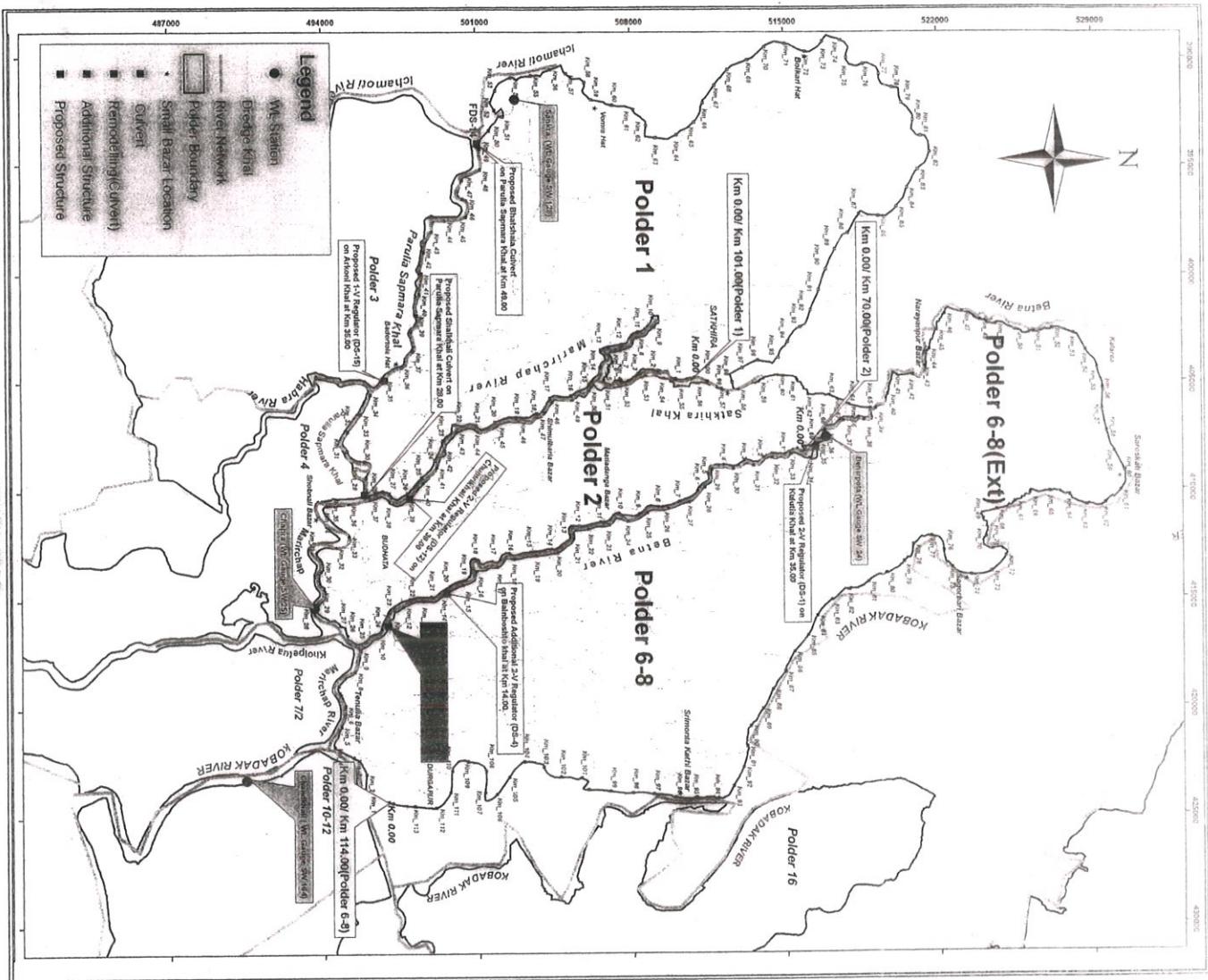


**DRAINAGE IMPROVEMENT OF POLDER 1, 2, 6-8, 6-8(Ext.) BY MATHEMATICAL MODELLING UNDER
SATKHIRA DISTRICT**

**DESIGN OF 3-VENT (1.50mX1.80m) DRAINAGE CUM FLUSHING REGULATOR
(DS-3) ON KHAJURDANGI KHAL AT Km11.00 IN POLDER 6-8**

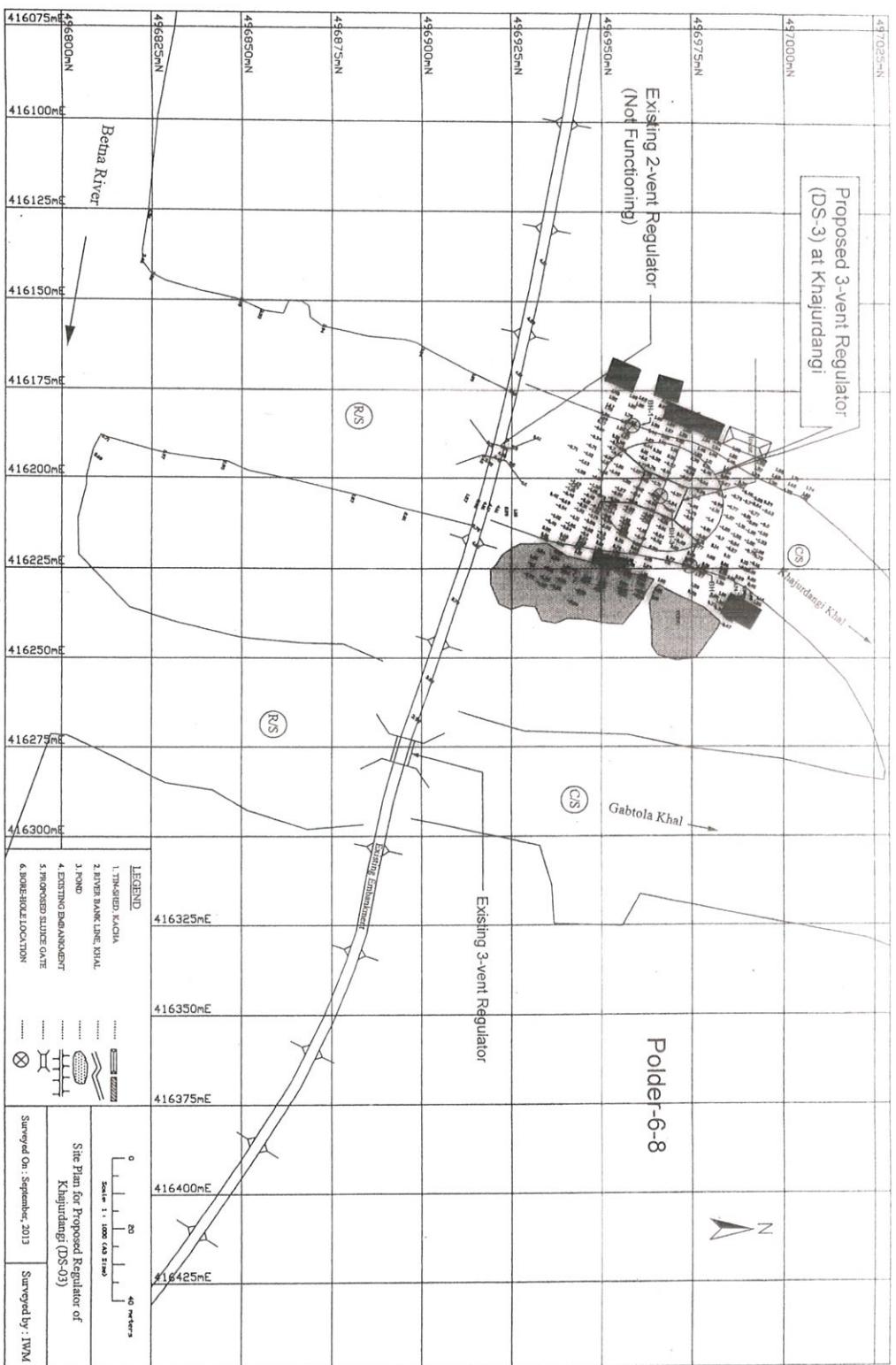
SATKHIRA O & M DIVISION-2, BWDB, SATKHIRA.

NOVEMBER, 2013



INDEX MAP

BANGLADESH WATER DEVELOPMENT BOARD			
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH		DESIGN CIRCLE - V	
CONSULTANT : INSTITUTE OF WATER MODELLING (IWM)		APPROVED BY:	
<p>DESIGNED BY:</p> <p>Md. Kamruzzaman Assistant Engineer</p> <p>ARZEL H. KHAN DESIGN ENGINEER</p> <p>DATED: NOVEMBER, 2013</p> <p>DWG NO.:IWM / (P-6-8) / SAT-2 / DS-03</p>		<p>CHECKED BY:</p> <p>Md. Mahfuzur Rahman Executive Engineer</p> <p>SATKHIRA O & M DIVISION-2, BWB, SATKHIRA.</p> <p>DESIGN OF 3-VENT (1.50m x 1.80m) DRAINAGE CUM FLUSHING REGULATOR (DS-3) ON KHAJURANGI KHAL AT KM11.00 IN POLDER 6-8</p>	
<p>INDEX MAP</p>		<p>RECOMMENDED & SUBMITTED BY:</p> <p>M.A.H. BHUIYAN DESIGN ENGINEER</p> <p>ZAHIRUL HAQUE KHAN TEAM LEADER</p> <p>PAGE: 01/16</p>	



SITE PLAN

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
CONSULTANT : INSTITUTE OF WATER MODELLING (IWM)
DRAINAGE IMPROVEMENT OF POLDERS-1, 2, 4 & 6 (4-peta) BY MATHEMATICAL MODELLING UNDER SATKHIRA DISTRICT
SATKHIRA, O & M DIVISION-2, BWDB, SATKHIRA,
DESIGN OF 3-VENT (1.50mX1.80m) DRAINAGE CUM FLUSHING REGULATOR
(DS-3) ON KHAJURDANGI KHAL AT Km11.00 IN POLDER 6-8

SITE PLAN					
DESIGNED BY:	CHECKED BY:	RECOMMENDED & SUBMITTED BY:			
			M.D. RAFIGUR RAHMAN	M.A.H. BHUJYAN	ZAHR-U-L HAQUE KHAN
Md. Md. Rafiqur Rahman Executive Engineer	Md. Kader Ali Supervising Engineer	Zahir-Ul Haque Khan TEAM LEADER	DESIGN ENGINEER	DESIGN ENGINEER	DESIGN ENGINEER

Expert Soil Engineers

Expert Soil Engineers

Expert Soil Engineers

BORE LOG (BH-01)
(Under R/S Apron)

BORE LOG (BH-01)
(Under R/S Apron)

BORE LOG (BH-02)
(Under C/S Apron)

BORE LOG (BH-02)
(Under C/S Apron)

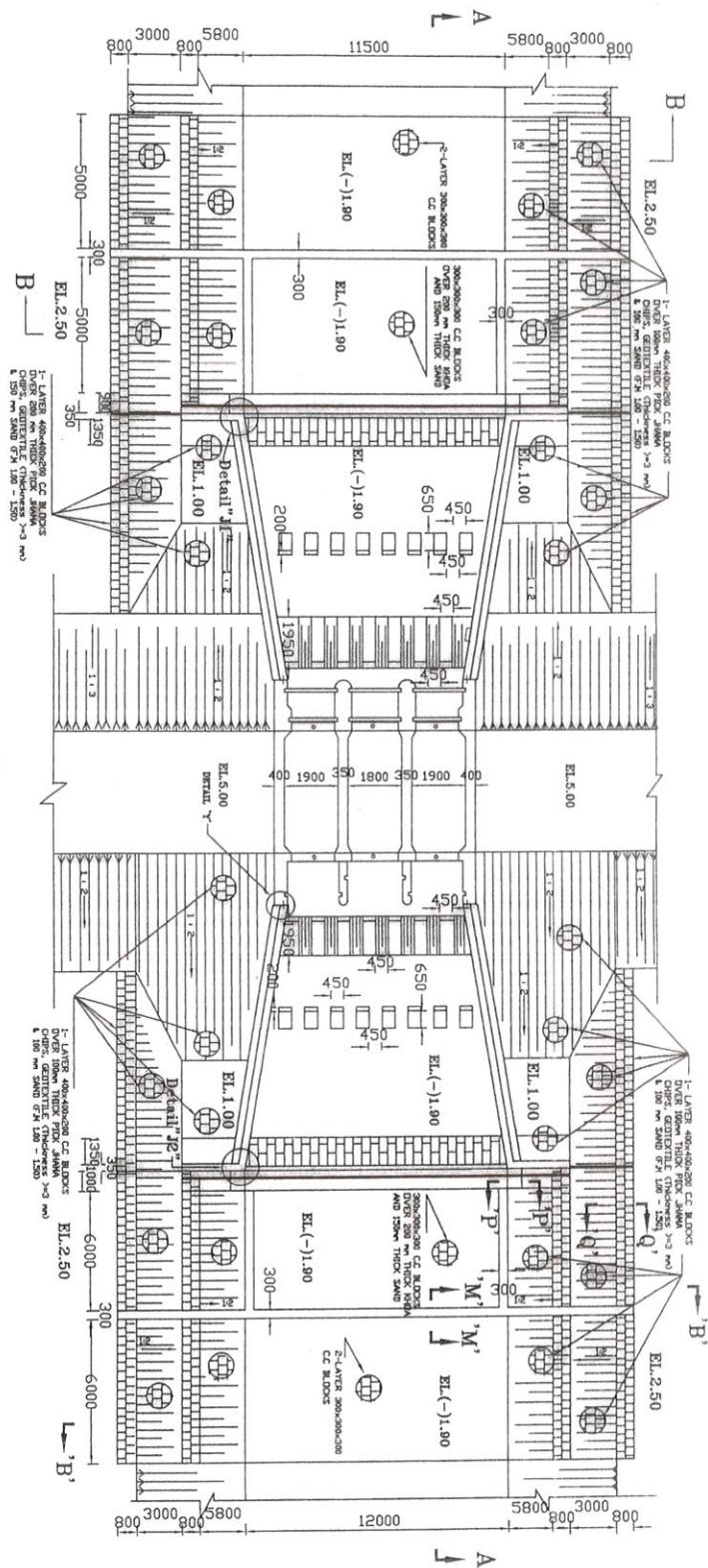
BORE LOG (BH-03)
(Under Barrel)

BORE LOG (BH-03)
(Under Barrel)

BANGLADESH WATER DEVELOPMENT BOARD			
DESIGN CIRCLE - V			
CHECKED BY:	REVIEWED BY:	APPROVED BY:	
Md. Kamruzzaman Assistant Engineer	Md. Md. Matinur Rahman Executive Engineer	Md. Kudrat Ali Supertending Engineer	ARZEL H. KHAN DESIGN ENGINEER
DATED: NOVEMBER, 2013		DWG NO.:WWM / P-6-8) SAT-2 / DS-03	
		RECOMMENDED & SUBMITTED BY: 	
		ZAHIR-Ull HAQUE KHAN TEAM LEADER	PAGE: 03/16

NOTES:-

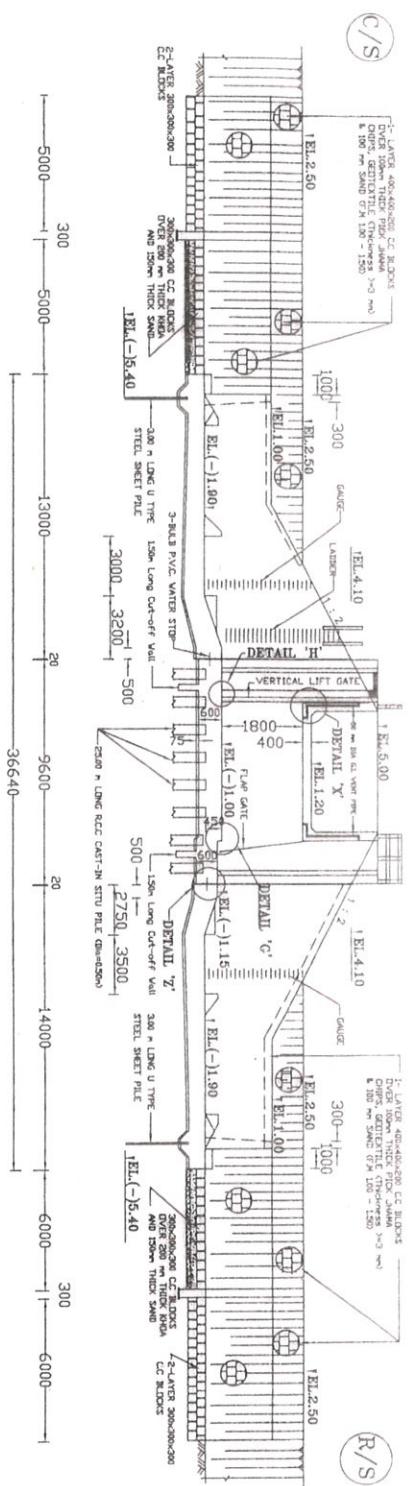
FOR DETAIL OF SECTIONS, SEE DWG NO.: IWM / (P-6-8) / SAT-2 / DS-03, PAGE 06 / 16, 07/16, 11/16 & 12/16



PLAN
(Not to Scale)

(Not to Scale)

BANGLADESH WATER DEVELOPMENT BOARD				PLAN
DESIGN CIRCLE - V				
CHECKED BY:	REVIEWED BY:	APPROVED BY:	DESIGNED BY:	CHECKED BY:
				
Md. Kamruzzaman Assistant Engineer	Md. Mafizur Rahman Executive Engineer	Md. Kufail Ali Superintending Engineer	ARZEL H. KHAN DESIGN ENGINEER	M.A.H. BHUIYAN DESIGN ENGINEER
DATED: NOVEMBER, 2013			DWG NO.:WWM / (P-6-8) / SAT-2 / DS-03	PAGE: 04/16
RECOMMENDED SUBMITTED BY:				
				
ZAHIR-UL-HAQE KHAN				
TEAM LEADER				



SECTION A-A (SEE PLAN)

(Cast-in Situ Pile Under C/S & R/S Apron are not Shown)

NOTES:

1. THE SPECIFICATION OF MATERIALS & WORKMANSHIP SHALL BE CONFORM TO THE "STANDARD TECHNICAL SPECIFICATION" OF BWDB IN GENERAL.

2. ALL DIMENSIONS ARE IN MILLIMETER BUT ALL ELEVATIONS ARE IN METER (PWD) UNLESS OTHERWISE MENTIONED IN THE DRAWING.

3. CONCRETE SHALL BE POURED IN DRY BED CONDITIONS.

4. THE SURFACE OF CONSTRUCTION JOINTS SHALL BE WASHED THOROUGHLY WITH WATER JET AND SHALL BE CLEAN ENOUGH AND SURFACE DRY PRIOR TO PLACEMENT OF ADJOINING CONCRETE.

5. CONCRETE SHALL DEVELOP A CRUSHING STRENGTH (CYLINDER STRENGTH) OF 20.00 N/mm² AT 28 DAYS AND SHALL BE CHECKED BY COLLECTING SAMPLES AND TESTING DURING CONSTRUCTION.

6. CONCRETE MIXTURE SHALL BE POURED AS QUICK AS POSSIBLE BUT NOT LATER THAN 45 MINUTES AFTER MIXING.

7. REINFORCEMENT SHALL BE DEFORMED MS BARS, fy = 414 N / Sqm (MADE FROM BILLET) IN RCC WORKS.

8. MINIMUM LAP LENGTH SHALL BE 40 TIMES THE BAR DIAMETERS.

9. ALL EXPANSION JOINTS SHALL HAVE A GAP OF 20 mm.

10. UNLESS OTHERWISE SPECIFIED, BACK FILLING SHALL BE DONE WITH SAND (FM=0.80) FREE FROM VEGETABLE ROOTS AND ORGANIC MATTER. BACK FILLING FOR U-SHAPED WALL SHALL BE DONE SIMULTANEOUSLY ON BOTH WALLS.

11. CONCRETE FOR C.C. BLOCKS SHALL DEVELOP A MINIMUM CRUSHING STRENGTH OF 9.00 N/mm² (CYLINDER STRENGTH) AT 28 DAYS CURING.

12. CURING OF C.C. BLOCKS SHALL BE CONTINUED FOR MINIMUM 21 DAYS.

13. DESIGN OF GATE AND HOISTING SYSTEM SHALL BE PREPARED BY THE CONSULTANT AND SHALL BE VATTED FROM DESIGN CIRCLE -III, BWDB, DHAKA.

14. CLEAR COVER

 - a) OPERATING DECK & RAILING : 25 mm
 - b) CONCRETE ADJACENT TO EARTH AT FOUNDATION : 75 mm
 - c) CONCRETE ADJACENT TO EARTH : 75 mm
 - d) CONCRETE EXPOSED TO WEATHER & WATER OR OTHERS : 60 mm
 - e) BEAM : 40 mm

15. THE WORK SHALL BE EXECUTED AFTER ADMINISTRATIVE AND FINANCIAL APPROVAL FROM

16. TRANSITION BETWEEN DIVERSION EMBANKMENT / CHANNEL AND EXISTING EMBANKMENT / KHAL / RIVER MUST BE GRADUAL, STEEP & FLATTER SLOPE.

17. A SMOOTH TRANSITION SHALL BE PROVIDED BETWEEN HIGHER & LOWER LEVEL AND BY CONSULTANT.

18. THIS DRAWING HAS BEEN PREPARED BY IWM AS PER DATA SURVEYED AND COLLECTED BY CONSULTANT.

19. THIS DRAWING HAS BEEN PREPARED FOR FEASIBILITY STUDY & FOR THE PREPARATION OF DPR ONLY.

20. FOR ANY ERROR / OMISSION PLEASE REFER TO THE DESIGN CIRCLE-5, BWDB, DHAKA FOR TAKING NECESSARY ACTION.

<p>GOVERNMENT OF BANGLADESH BANGLADESH WATER DEVELOPMENT BOARD DESIGN CIRCLE - V</p>	<p>GOVERNMENT OF BANGLADESH BANGLADESH WATER DEVELOPMENT BOARD DESIGN CIRCLE - V</p>
<p>CHECKED BY: _____</p>	<p>REVIEWED BY: _____</p>
<p>APPROVED BY: _____</p>	<p>APPROVED BY: _____</p>

DESIGNED BY: _____

DESIGN OF 3 DRAMS IMPROVEMENTS (DS-3)

BANGLADESH WATER DEVELOPMENT BOARD

DESIGN CIRCLE - V

GOVERNMENT OF BANGLADESH

BANGLADESH WATER DEVELOPMENT BOARD

DESIGN CIRCLE - V

DESIGNED BY: _____

DESIGN OF 3 DRAMS IMPROVEMENTS (DS-3)

BANGLADESH WATER DEVELOPMENT BOARD			
DESIGN CIRCLE - V			
CHECKED BY:	REVIEWED BY:	APPROVED BY:	DESIGNED BY:
			
Md. Kamruzzaman Assistant Engineer	Md. Md. Mofizur Rahman Executive Engineer	Md. Kudrat Ali Superintendent Engineer	ARZEL H. KH. DESIGN ENGINEER
DATED: NOVEMBER			

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
CONSULTANT : INSTITUTE OF WATER MODELING (IWM)
DRAINAGE IMPROVEMENT OF POLDER 6-3 (6x6 KM²) BY MATHEMATICAL MODELING UNDER SATKHIRA DISTRICT
SATKHIRA O & M DIVISION-2, BWDB, SATKHIRA.
DESIGN OF 3-VENT (1,500x1,80m) DRAINAGE CUM-FLUSHING REGULATOR TERRAIN
(DS-3) ON KHAJURANGA KHALI AT Km 11.00 IN POLDER 6-3

卷之三

THE PREPARATION
BWDB, DHAKA

6. TENSILE STRENGTH $\geq 490\text{N/mm}^2$,
YIELD STRENGTH $\geq 296\text{N/mm}^2$,
ELONGATION = 15% (MINIMUM).

G

SPECIFICATION FOR SHEET PILE

1. U-SHAPE HOT ROLLED STEEL SHEET PILE.
2. MINIMUM WIDTH = 400mm.
3. HEIGHT \geq 85mm, THICKNESS = 8mm.
4. WEIGHT \geq 88.0kg/m².
5. SECTION MODULUS PER ONE METER OF PILE
WIDTH \geq S29cm³/m.

6000

LAYER 2: 300x300x300
L.G. BLOCKS

卷之三

卷之三

300

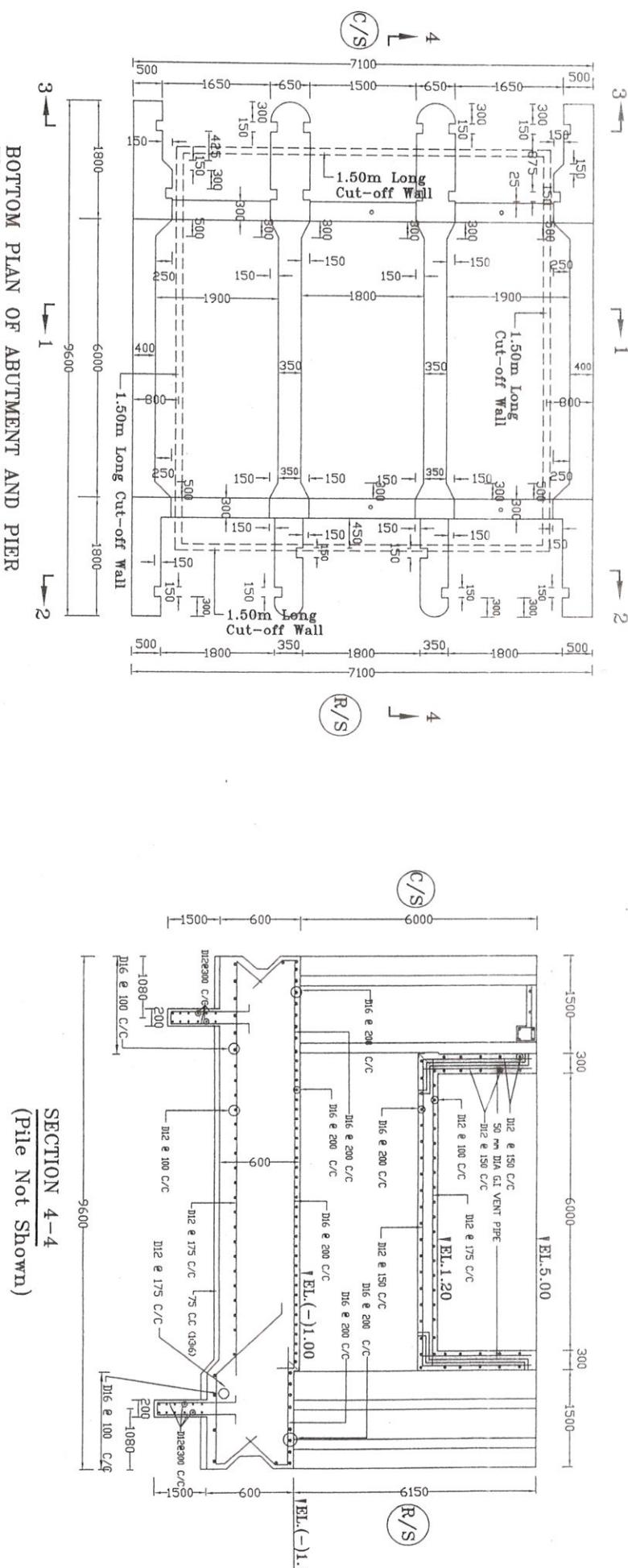
卷之三

TEL2.50

15/16

卷之三

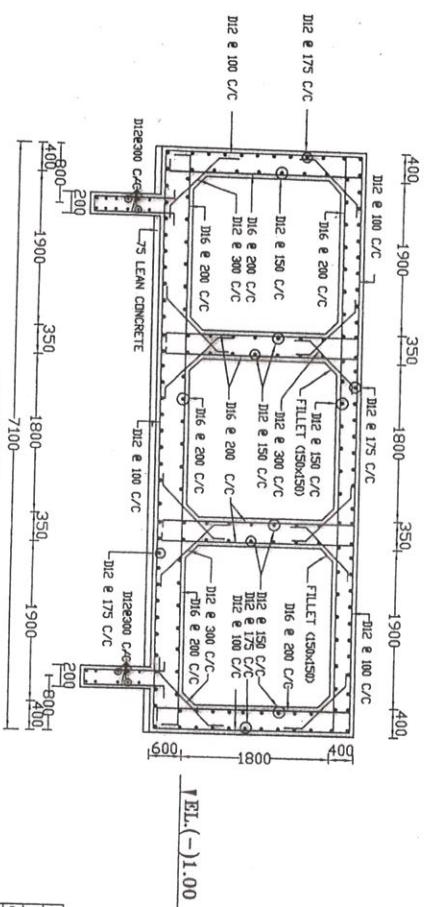
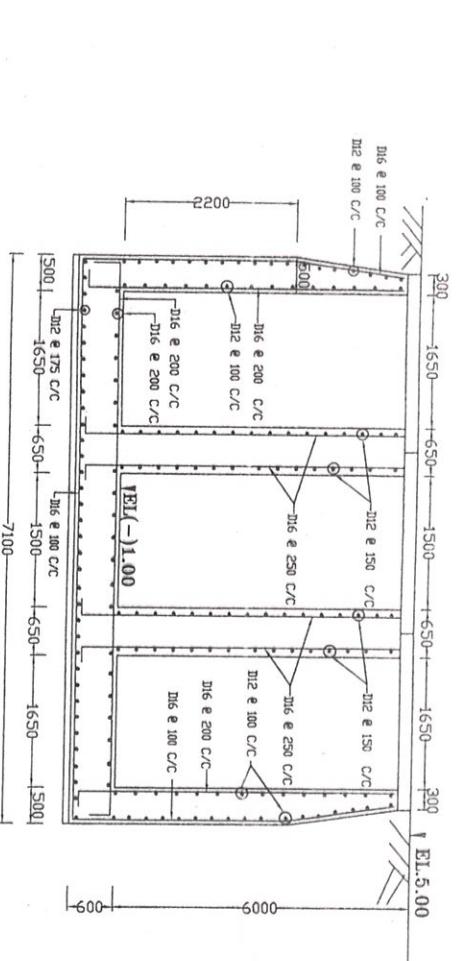
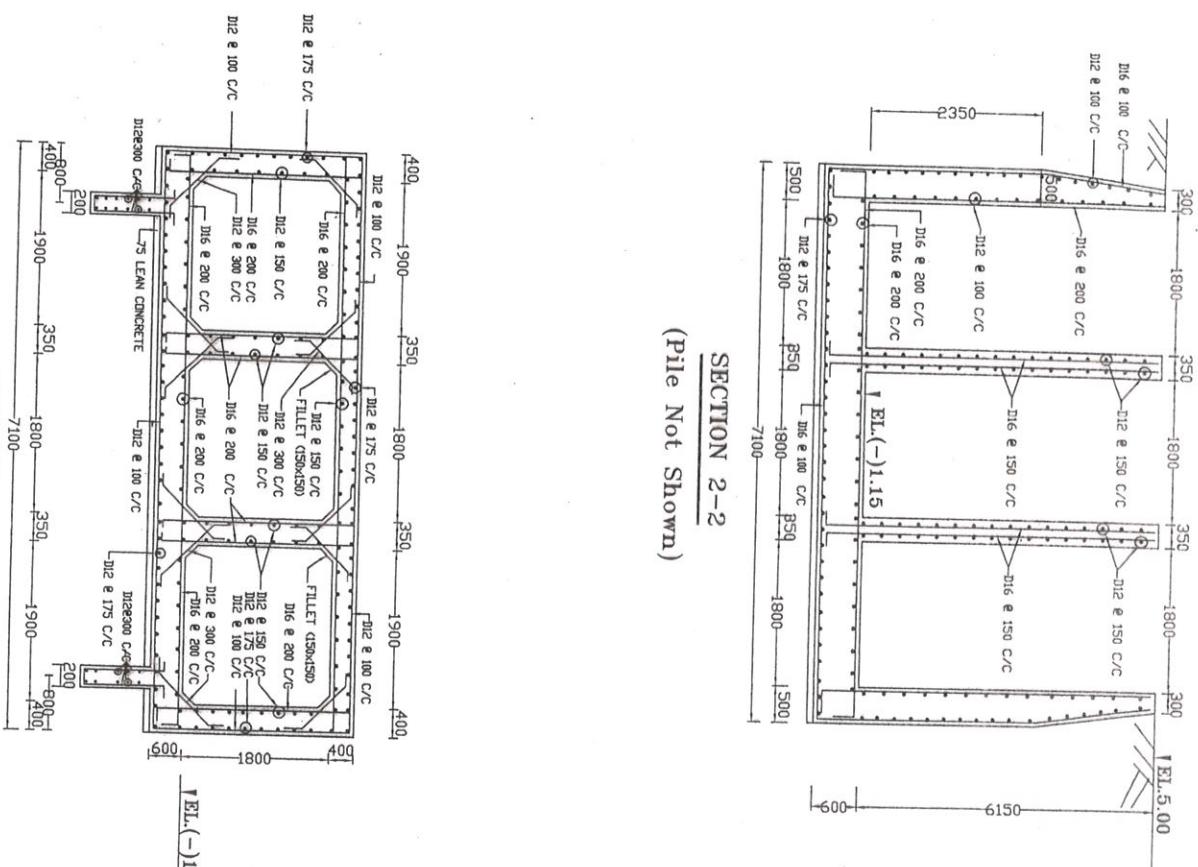
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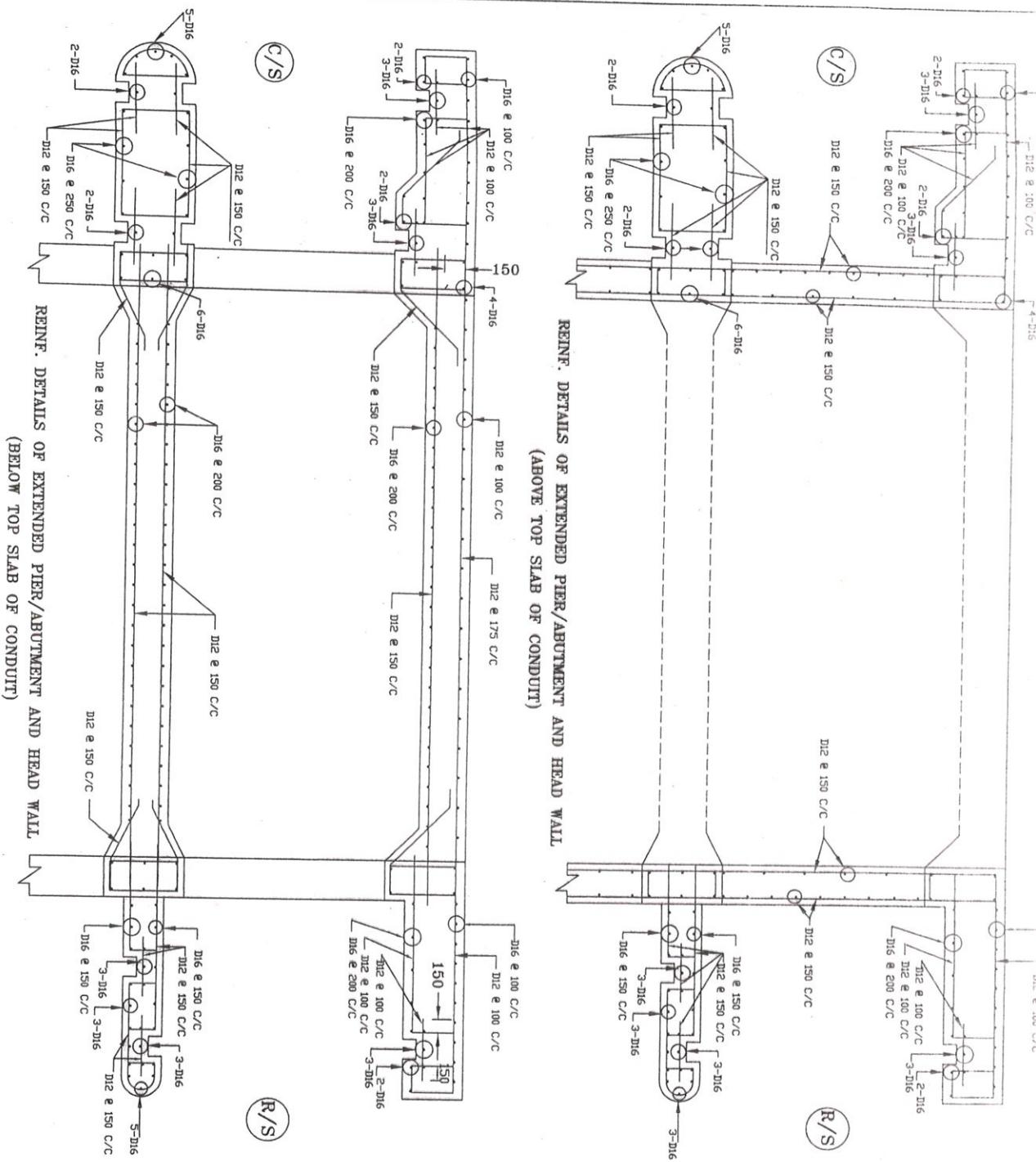
BOTTOM PLAN OF ABUTMENT AND PIER

SECTION 4-4
(Pile Not Shown)

BANGLADESH WATER DEVELOPMENT BOARD		REINF. DETAILS OF ABUTMENT & BARREL		
DESIGN CIRCLE - V				
CHECKED BY:	REVIEWED BY:	APPROVED BY:	DESIGNED BY:	CHECKED BY:
				
Md. Kamruzzaman Assistant Engineer	Md. Mafuzur Rahman Executive Engineer	Md. Kudrat Ali Superintendent Engineer	ARZEL H. KHAN DESIGN ENGINEER	M.A.H. BHUYAN DESIGN ENGINEER
		DATED: NOVEMBER, 2013	DSWG NO.: IWM / (P-5-8) / SAT-2 / DS-03	TEAM LEADER ZAHIR-Ul HAQUE KHAN
				PAGE: 06/16/2013



GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH					
CONSULTANT : INSTITUTE OF WATER MODELLING (IWM)					
DRAINAGE IMPROVEMENT OF POLDER-1, 2, 6&6 (REACT) BY MATHEMATICAL MODELING UNDER SATKHIRA DISTRICT					
DESIGN OF 3-VENT (1.50mX1.80m) DRAINAGE CUM FLUSHING REGULATOR (DS-3) ON KHAJURDANGI KHAL AT Km11.00 IN POLDER 6-8					
BANGLADESH WATER DEVELOPMENT BOARD					
DESIGN CIRCLE-V					
DESIGNED BY:	APPROVED BY:	REVIEWED BY:	CHECKED BY:	RECOMMENDED & SUBMITTED BY:	
				Md. Mafizur Rahman	ZAHIRUL HAQUE KHAN
Md. Kamruzzaman Assistant Engineer	Md. Mafizur Rahman Executive Engineer	Md. Kufrat Ali Supervising Engineer	Arzel H. Khan DESIGN ENGINEER	M.A.H. BHUJYAN DESIGN ENGINEER	ZAHIRUL HAQUE KHAN TEAM LEADER
DATED: NOVEMBER, 2013			DWG NO.:IWM / (P-6-3) / SAT-2 / DS-03		
			PAGE: 07/16		

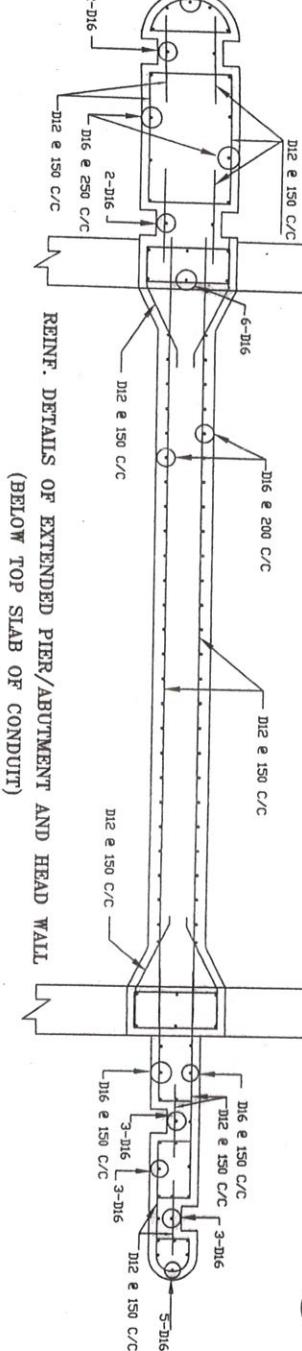


REINF. DETAILS OF EXTENDED PIER/ABUTMENT AND HEAD WALL
(BELOW TOP SLAB OF CONDUIT)

BANGLADESH WATER DEVELOPMENT BOARD

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
CONSULTANT : INSTITUTE OF WATER MODELLING (IWM)
DRAINAGE IMPROVEMENT OF POLDER 1, 4 & 5 (SATEEN) BY MATHEMATICAL MODELING UNDER SATKHIRA DISTRICT
SATKHIRA O & M DIVISION-2, BWDB, SATKHIRA.
DESIGN OF 3-VENT (1.50m x 1.80m) DRAINAGE CUM FLUSHING REGULATOR
(DS-3) ON KHAJURDANGI KHAL AT Km11.00 IN POLDER 6-8

REINF. DETAILS OF ABUTMENT



Scale : Not To Scale

CHECKED BY:	DESIGN CIRCLE - V	APPROVED BY:

Md. Karmizan

Assistant Engineer

Md. Md. Md. Md. Md.

Executive Engineer

Supervising Engineer

ARZEL H. KHAN

DESIGN ENGINEER

M.A.H. BHUMLAN

DESIGN ENGINEER

ZAHIR-U-L HAQUE KHAN

TEAM LEADER

DATED: NOVEMBER, 2013

DWG NO.: IWM (P-6-3) / SAT-2 / DS-03

PAGE: 08/16

C/S
300

EL.4.10
EL.2.50

1000 5800 6200 300

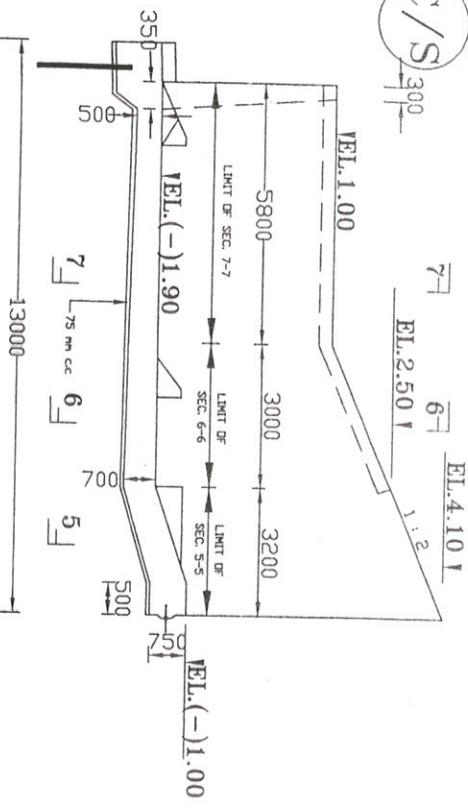
300 EL.4.10 To EL.2.50

300
OVER 100 MM THICK PICK JAWA
CHIPS, GEOTEXTILE (THICKNESS >3 mm)
& 100 MM SAND G/M 100 - 150
START FROM EL.2.50 & PWD

300
OVER 100 MM THICK PICK JAWA
CHIPS, GEOTEXTILE (THICKNESS >3 mm)
& 100 MM SAND G/M 100 - 150
START FROM EL.2.50 & PWD

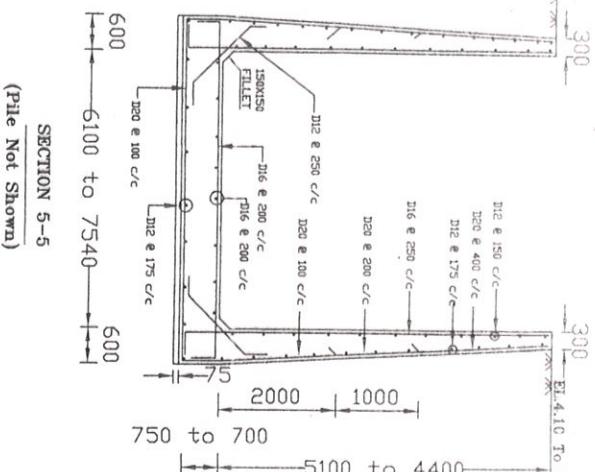
300
OVER 100 MM THICK PICK JAWA
CHIPS, GEOTEXTILE (THICKNESS >3 mm)
& 100 MM SAND G/M 100 - 150
START FROM EL.2.50 & PWD

Sheet No. 09 of 16



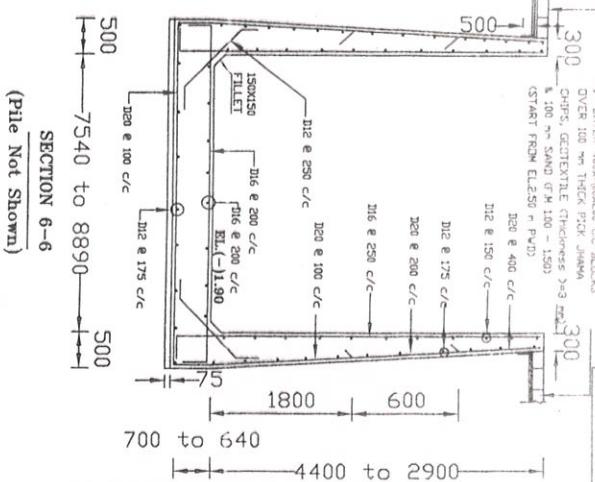
ELEVATION OF C/S WING WALL

(Pile Not Shown)



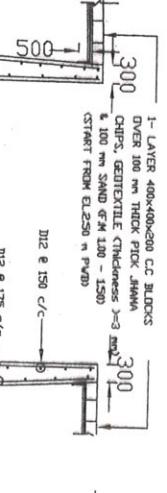
SECTION 5-5

(Pile Not Shown)

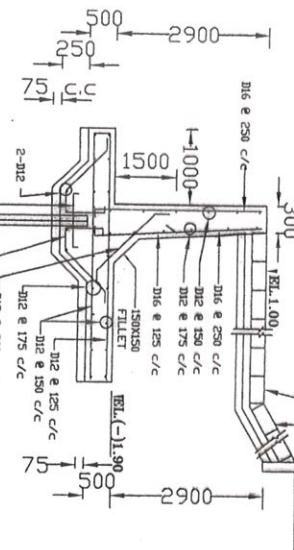


SECTION 6-6

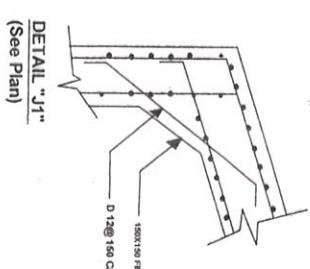
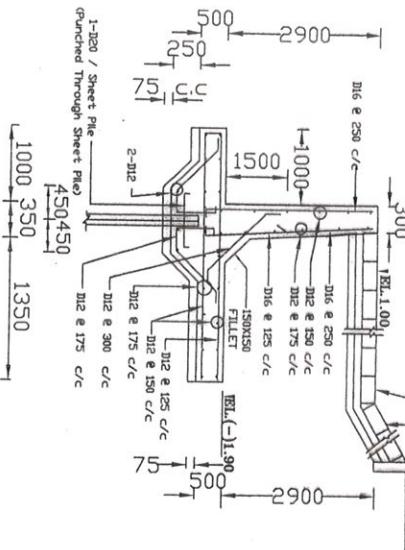
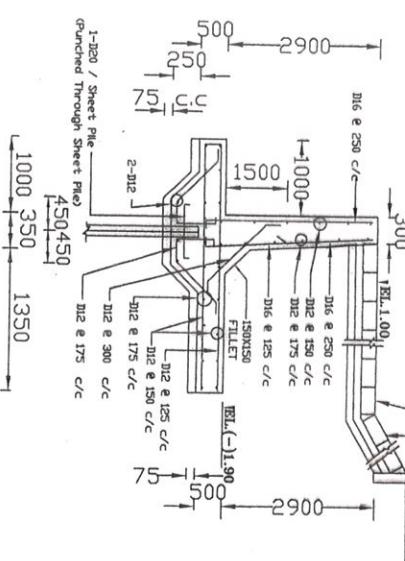
(Pile Not Shown)



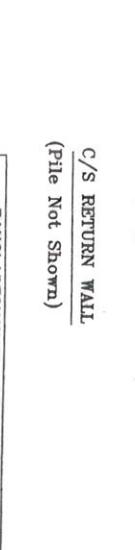
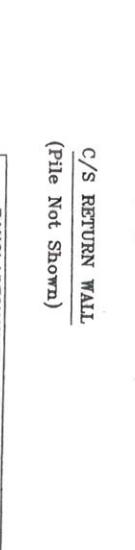
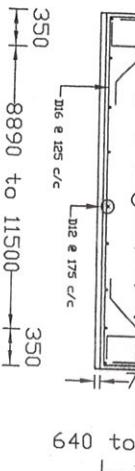
1-LAYER 400x400x200 C/C BLOCKS
OVER 100 MM THICK PICK JAWA
CHIPS, GEOTEXTILE (THICKNESS >3 mm)
& 100 MM SAND G/M 100 - 150
START FROM EL.2.50 & PWD



1-LAYER 400x400x200 C/C BLOCKS
OVER 100 MM THICK PICK JAWA
CHIPS, GEOTEXTILE (THICKNESS >3 mm)
& 100 MM SAND G/M 100 - 150
START FROM EL.2.50 & PWD



DETAIL "11"
(See Plan)



C/S RETURN WALL
(Pile Not Shown)

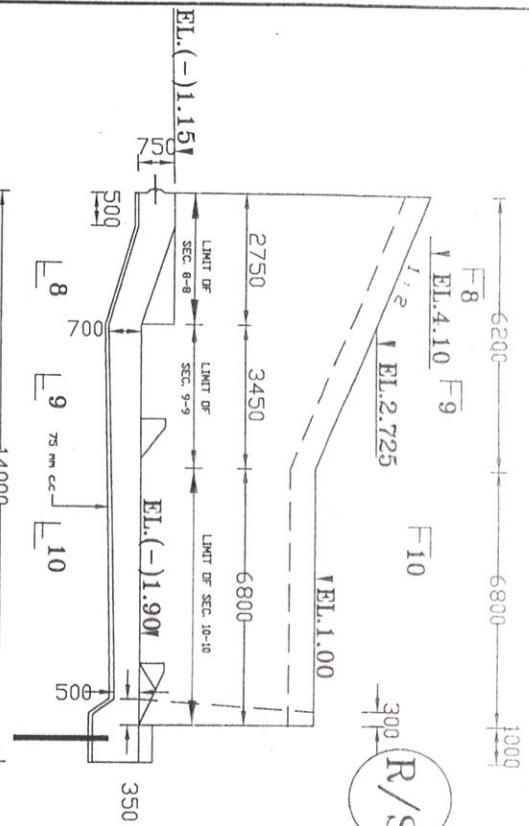
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
CONSULTANT : INSTITUTE OF WATER MODELLING (IWM)

DRAINAGE IMPROVEMENT OF POLDER 1, 2 & 6 (6-Year) BY MATHEMATICAL MODELLING UNDER SATKHIRA DISTRICT
SATKHIRA, O & M DIVISION-2, BWBDS, SATKHIRA,
DESIGN OF 3-VENT (1.50mx1.80m) DRAINAGE CUM FLUSHING REGULATOR
(BS-3) ON KHAJURDANGI KHAL AT Km11.00 IN POLDER 6-6

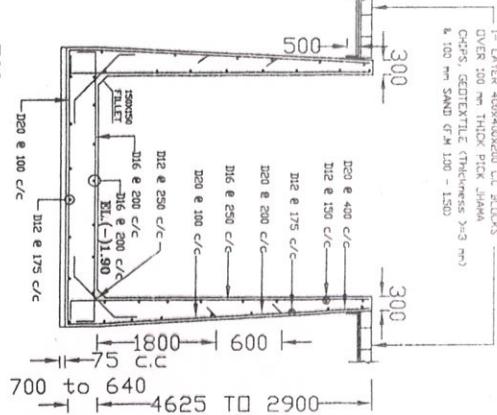
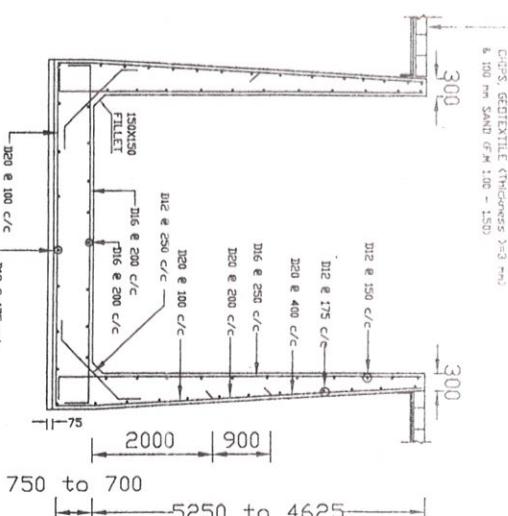
REINF. DETAILS OF C/S WING WALL & RETURN WALL

DESIGNED BY: CHECKED BY: RECOMMENDED & SUBMITTED BY:

[Signature]



99



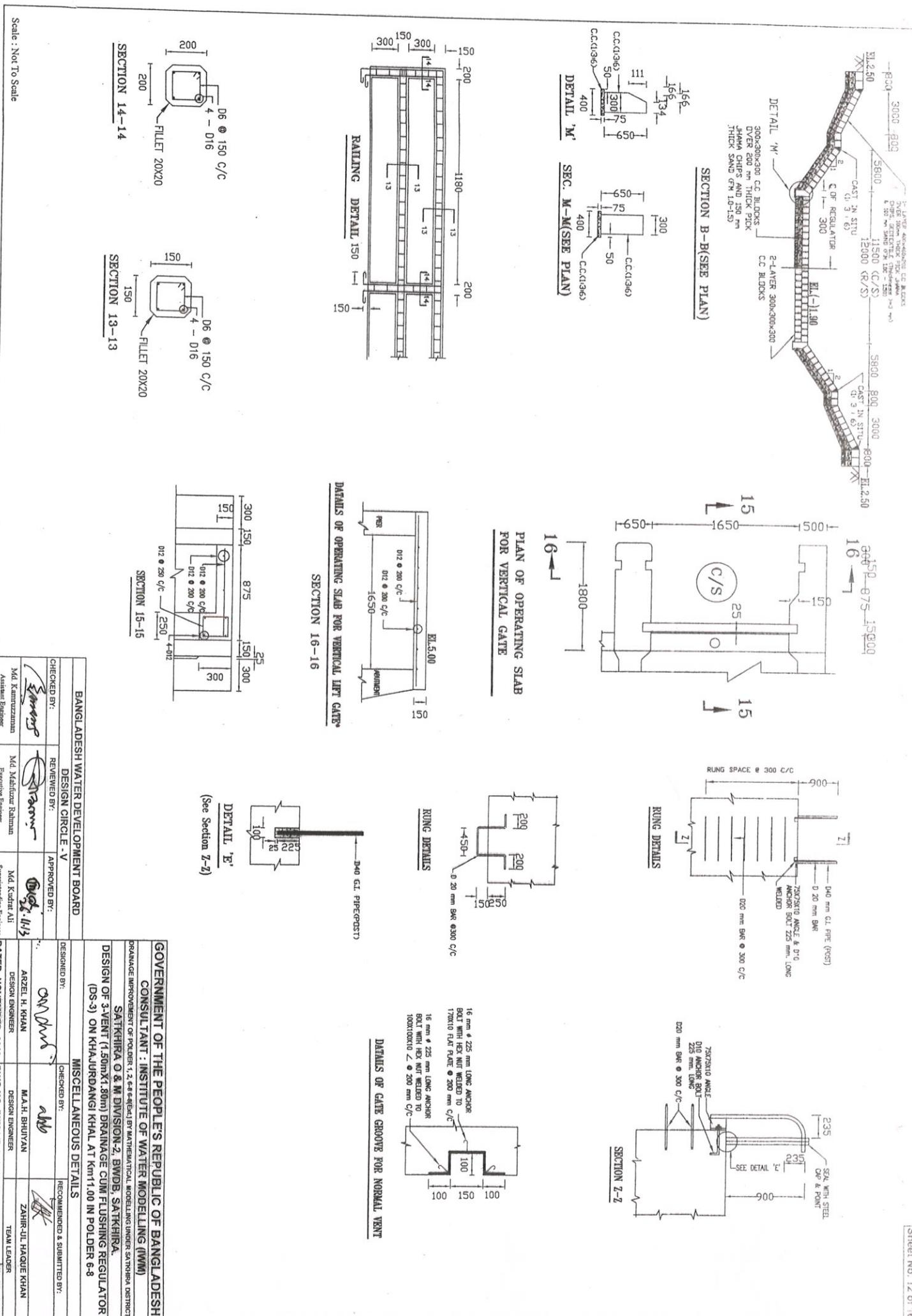
EL E V A T I O N O F R / S W I N G W A L L

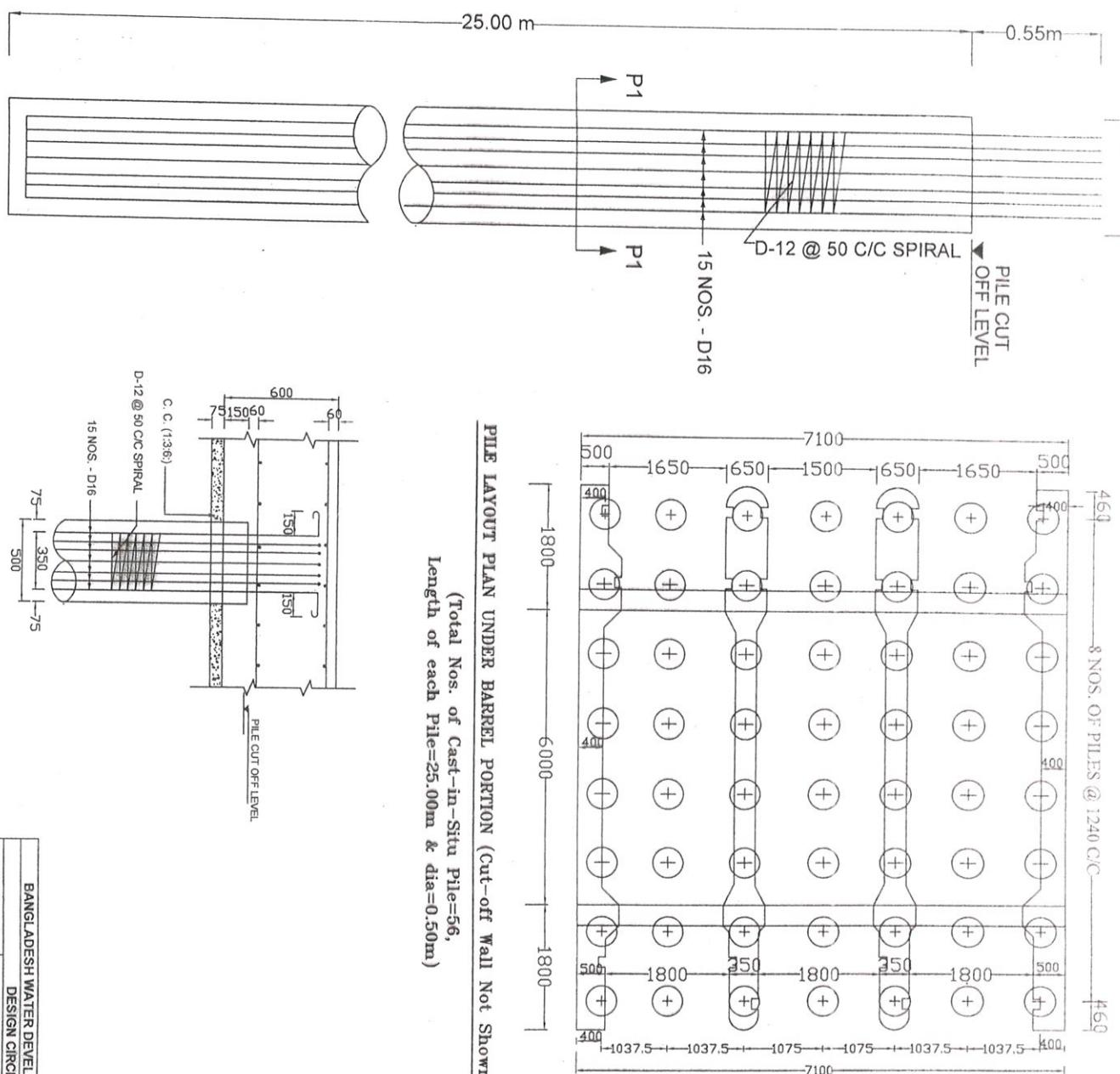
SECTION 8-8
(Pile Not Shown)

SECTION 9-9
(Pile Not Shown)

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
INSTITUTE OF WATER MODELLING (IWM)
CONSULTANT : DRRAIGE IMPROVEMENT OF POLDER 1, 2, 4 & 5 (EX-11) MATHEMATICAL MODELING UNDER SATKHIRA DISTRICT
SATKHIRA O & M DIVISION-2, BWDB, SATKHIRA,
**DESIGN OF 3-VENT (150MX1.80m) DRAINKAGE CUM FLUSHING REGULATOR
(DS-3) ON KHAJURDHAN KHAI AT Km 10 IN PDR 6, 9**

BANGLADESH WATER DEVELOPMENT BOARD		REINF. DETAILS OF RS WING WALL & RETURN WALL	
DESIGN CIRCLE - V			
CHECKED BY:	REVIEWED BY:	APPROVED BY:	DESIGNED BY:
			
Md. Kamruzzaman Assistant Engineer	Md. Mahmudur Rahman Executive Engineer	Md. Kader Ali Supervising Engineer	ARZEL H. KHAN DESIGN ENGINEER
DATED- NOVEMBER 2012	DESIGN NO- 14MM-A (B&S) SAT-2 DS-02	DESIGN ENGINEER	ZABIR-Ul HAQUE KHAN TEAM LEADER
			PAGE- 10/16



**NOTES FOR PILE :**

1. CONCRETE FOR PILE SHALL BE WITH 20 mm DOWN GRADED SHINGLES AND HAVE THE LEAST MIX OF 1:1.5; 3 HAVING MINIMUM CYLINDER STRENGTH OF 22.0 N/Sqmm AT 28 DAYS.
2. REINFORCING BARS SHALL BE DEFORMED M.S. BARS HAVING MINIMUM YIELD STRESS OF 414 N/Sqmm.
3. CLEAR COVER FOR PILE = 75 mm
4. CASTING OF PILE SHALL BE CARRIED ON AS A CONTINUOUS OPERATION UNTIL THE ENTIRE PILE CASTING IS COMPLETED BEGINNING FROM THE BOTTOM TO TOP.
5. ALL PILES SHALL BE CONSTRUCTED USING A TEMPORARY CASING UNLESS OTHERWISE APPROVED BY THE ENGINEER-IN-CHARGE.
6. ALL PILES SHALL BE CONSTRUCTED VERTICAL, UNLESS SPECIFIED OTHERWISE, A TOLERANCE OF 50 MM MAY BE ALLOWED IN THE FINAL LOCATION OF PILE.
7. THE SURFACE WATER SHALL NOT BE ALLOWED TO ENTER THE HOLE IF GROUND WATER IS BOTTOM OF THE HOLE TO DISCHARGE WATER, THE TRENTE DISCHARGE SHALL BE KEPT WELL INTO THE CONCRETE AND CAREFULLY WITHDRAWN AS THE CONCRETE IS PLACED.
8. THE CASING WILL BE WITHDRAWN SMOOTHLY AND THE BOTTOM SHALL BE MAINTAINED AT A MINIMUM OF 50mm BELOW THE TOP OF CONCRETE.
9. THE LOAD TEST SHALL BE CARRIED OUT 28 DAYS AFTER COMPLETION OF CONCRETE OPERATIONS.
10. NO PILE SHALL BE BORED WITHIN 300 mm DISTANCE BEFORE 24 HOURS OF CASTING OF A PARTICULAR PILE HAS ELAPSED.
11. STATIC LOAD TEST FOR 400 KN TEST LOAD FOR BARREL SHALL BE PERFORMED FOR 1(ONE) PILE AND TEST RESULT SHALL BE SENT TO CONSULTANT OFFICE AND CONSULTANT WILL SEND IT TO DESIGN OFFICE.
12. NO SERVICE PILE SHALL BE CONSTRUCTED UNTIL AND UNLESS LOAD TEST IS PERFORMED AND DESIRED RESULT IS OBTAINED.
13. CONCERNED EXECUTIVE ENGINEER, SUB-DIVISIONAL ENGINEER AND OTHER CONCERN OFFICERS SHALL STRICTLY SUPERVISE THE CAST-IN-SITU PILE CONSTRUCTION AND ENSURE THAT THE WORKS ARE CARRIED OUT AS PER SPECIFICATION INCLUDING DIAMETER AND LENGTH OF PILES.

CAST-IN-SITU PILE REINF. DETAIL

(Under Barrel)

REINF. DETAILS OF PILE CAP

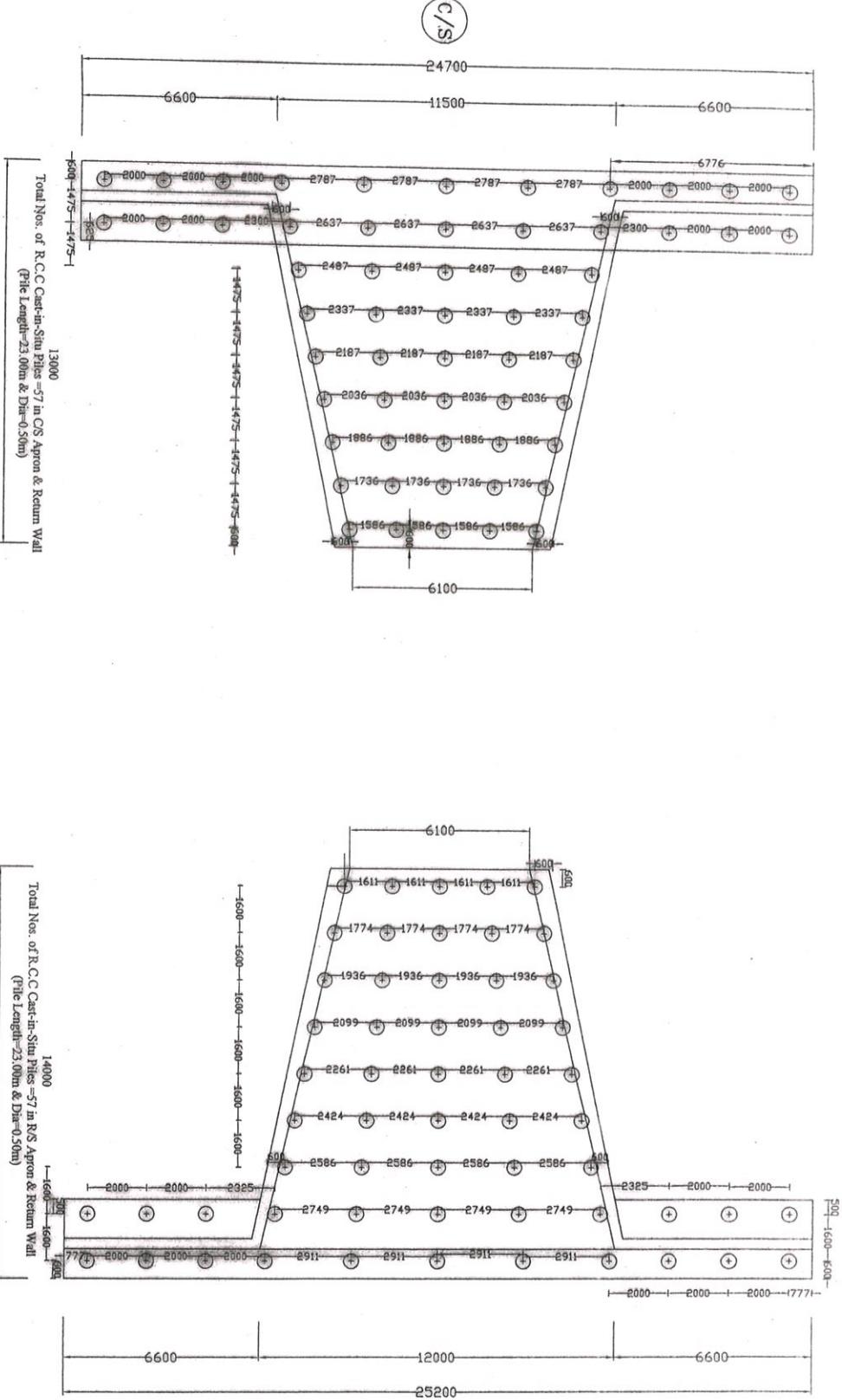
(Under Barrel)

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH	
CONSULTANT : INSTITUTE OF WATER MODELLING (IWM)	
DRAINAGE IMPROVEMENT OF R.O. D.E.P. 1, 2 & 4 (SATHKHIRA) BY MATHEMATICAL MODELING UNDER SATKHIRA DISTRICT	
SATKHIRA O & M DIVISION-1, BWDB, SATKHIRA.	
DESIGN OF 3-VENT (1.50mX1.80m) DRAINAGE CUM FLUSHING REGULATOR (DS-3) ON KHAJURDANGI KHAL AT Km1.00 IN POLDER 6-3	
BANGLADESH WATER DEVELOPMENT BOARD	
REINF. DETAILS OF R.C.C CAST-IN-SITU PILE UNDER BARREL	
DESIGNED BY:	CHECKED BY:
Md. Kamruzzaman	Md. Mafuzur Rahman
Assistant Engineer	Executive Engineer
REVIEWED BY:	APPROVED BY:
Md. Kudrat Ali	M.A.H. BHUIYAN
DESIGN ENGINEER	DESIGN ENGINEER
RECOMMENDED & SUBMITTED BY:	TEAM LEADER
	ZAHURUL HAQUE KHAN
ZAHURUL HAQUE KHAN	TEAM LEADER
DATED: NOVEMBER, 2013	DMG NO.: IWM / (P-6-8) / SAT-2 / DS-03
Scale: 1:50	PAGE: 13/16

LAYOUT PLAN OF R.C.C CAST-IN-SITU PILE UNDER C/S AND R/S APRON & RETURN WALL

Total Nos. of R.C.C Cast-in-Situ Piles = 57 in C/S Apron & Return Wall
(Pile Length=23.00m & Dia=0.50m)

Total Nos. of R.C.C Cast-in-Situ Piles = 57 in R/S Apron & Return Wall
(Pile Length=23.00m & Dia=0.50m)



GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
CONSULTANT : INSTITUTE OF WATER MODELLING (IWM)
DRAINAGE IMPROVEMENT OF POLDERS 1, 2, 6& 8 (OPEN) BY MATHEMATICAL MODELING UNDER SATKHERA DISTRICT
SATHKERA O & M DIVISION 2, BYNOB, SATKHERA.
DESIGN OF 3-VENT (1.5Mx1.80m) DRAINAGE CUM FLUSHING REGULATOR
(DS-3) ON KHAJURBANDI KHAL AT Km11.00 IN POLDER 6-8

BANGLADESH WATER DEVELOPMENT BOARD

DESIGN CIRCLE - V

CHECKED BY:	REVIEWED BY:	APPROVED BY:	RECOMMENDED & SUBMITTED BY:

Md. Kamruzzaman
Md. Malfuzzur Rahman
Md. Kader Ali
Executive Engineer
Supervising Engineer

DATED: NOVEMBER, 2013

DWG NO.: IWM/L (P-6-8) / SAT-2 / DS-03

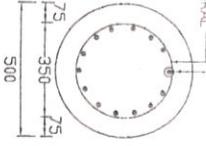
PAGE: 14/16

Scale : Not To Scale

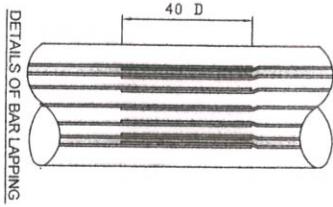
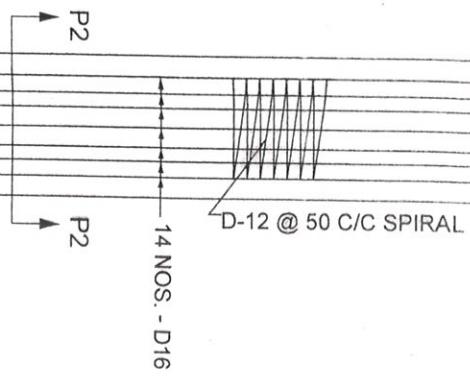
23.00 m
0.55m

**PILE CUT
OFF LEVEL**

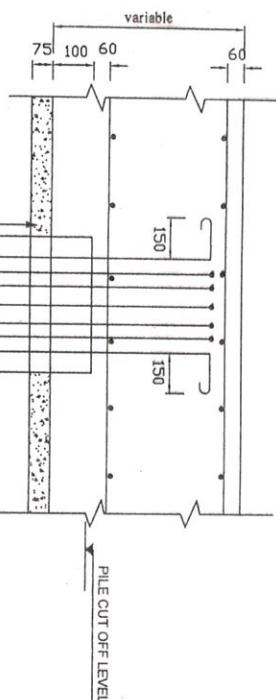
D-12 @ 50 C/C SPRAL



SECTION P2-P2



DETAILS OF BAR LAPPING



23.00 m

0.55m

NOTES FOR PILE:

- CONCRETE FOR PILE SHALL BE WITH 20 mm DOWN GRADED SHINGLES AND HAVE THE LEANEST MIX OF 1:1.5 : 3 HAVING MINIMUM CYL UNDER STRENGTH OF 22 N/mm² AT 28 DAYS.
- REINFORCING BARS SHALL BE DEFORMED M.S. BARS HAVING MINIMUM YIELD STRESS OF 444 N/mm².
- CLEAR COVER FOR PILE = 75 mm.
- CASTING OF PILE SHALL BE CARRIED ON AS A CONTINUOUS OPERATION UNTIL THE ENTIRE PILE CASTING IS COMPLETED BEGINNING FROM THE BOTTOM TO TOP.
- ALL PILES SHALL BE CONSTRUCTED USING A TEMPORARY CASING UNLESS OTHERWISE APPROVED BY THE ENGINEER-IN-CHARGE.
- ALL PILES SHALL BE CONSTRUCTED VERTICAL UNLESS SPECIFIED OTHERWISE. A TOLERANCE OF 50 MM MAY BE ALLOWED IN THE FINAL LOCATION OF PILE.
- THE SURFACE WATER SHALL NOT BE ALLOWED TO ENTER THE HOLE IF GROUND WATER IS BOTTOM OF THE HOLE TO DISPLACE WATER. THE TREMIE DISCHARGE SHALL BE KEPT WELL INTO THE CONCRETE AND CAREFULLY WITHDRAWN AS THE CONCRETE IS PLACED.
- THE CASING WILL BE WITHDRAWN SMOOTHLY AND THE BOTTOM SHALL BE MAINTAINED AT A MINIMUM OF 150mm BELOW THE TOP OF CONCRETE.
- THE LOAD TEST SHALL BE CARRIED OUT 28 DAYS AFTER COMPLETION OF CONCRETE OPERATIONS.
- NO PILE SHALL BE BORED WITHIN 3000 mm DISTANCE BEFORE 24 HOURS OF CASTING OF PARTICULAR PILE HAS ELAPSED.
- STATIC LOAD TEST FOR 360 KN FOR APRONS SHALL BE PERFORMED FOR 2 (TWO) PILE AND TEST RESULT SHALL BE SENT TO CONSULTANT OFFICE AND CONSULTANT WILL SEND IT TO DESIGN OFFICE.
- NO SERVICE PILE SHALL BE CONSTRUCTED UNTIL AND UNLESS LOAD TEST IS PERFORMED AND DESIRED RESULT IS OBTAINED.
- CONCERNED EXECUTIVE ENGINEER, SUB-DIVISIONAL ENGINEER AND OTHER CONCERN OFFICERS SHALL STRICTLY SUPERVISE THE CAST-IN-SITU PILE CONSTRUCTION AND ENSURE THAT THE WORKS ARE CARRIED OUT AS PER SPECIFICATION INCLUDING DIAMETER AND LENGTH OF PILES.

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
CONSULTANT : INSTITUTE OF WATER MODELLING (IWM)

DRAINAGE IMPROVEMENT OF POLDER 1, 2, 6 & 6(EXT.) BY MATHEMATICAL MODELING UNDER SATKHIRA DISTRICT

SATKHIRA Q & M DIVISION-1, BWDB, SATKHIRA.

DESIGN OF 3-VENT (1.50mX1.80m) DRAINAGE CUM FLUSHING REGULATOR

(DS-3) ON KHAJURDANGI KHAL AT Km11.00 IN POLDER 6-3

DETAILS OF R.C.C CAST-IN-SITU PILE UNDER APRONS & RETURN WALL

CAST-IN-SITU PILE REINF. DETAIL

(Under Aprons & Return Wall)

Scale : Not To Scale

REINF. DETAILS OF PILE CAP

(Under Aprons & Return Wall)

Scale : Not To Scale

BANGLADESH WATER DEVELOPMENT BOARD			
DESIGN CIRCLE - V			
DESIGNED BY:	CHECKED BY:	APPROVED BY:	RECOMMENDED & SUBMITTED BY:
Md. Kamruzzaman Assistant Engineer	Md. Mdakur Rahman Executive Engineer	ARZEL H. KHAN DESIGN ENGINEER	M.A.H. BHUJAN DESIGN ENGINEER
Md. Kader Ali Superintendent Engineer		ZAHIR-Ul HAQUE KHAN TEAM LEADER	
DATED: NOVEMBER, 2013 DWG NO.:IWM/I(P-6-8)/SAT-2/DS-03 PAGE: 15/16			

