Guwahati Water Supply Project
(JICA Loan No. ID P-201)

ISSUED FOR TENDERING
[Local Competitive Bidding (LCB)]

CONTRACT PACKAGE NO:C-7A

Procurement of Works (Item Rate)

Procurement of works (Item Rate) for Supply, Installation & Commissioning of MS & HDPE Pipes and Installation & Commissioning of the Employer Furnished DI Pipes for Balance Works Under the Distribution Network in Narkasur Area of South Central Zone

Government of Assam, Guwahati, Assam India. Project Director Project Implementation Unit, JICA assisted GWSP 2nd Floor, Saikia Commercial Complex, Christian Basti, G.S. Road, Guwahati - 781005
IFB NO: GWSP/LCB/7A/2019-20/465 Dated : 01.02.2020
Issued to:

Part-2 :
Works Requirment
(Section VI B)
Drawings

GWSP /C-07A
LIST OF DRAWINGS

SL. NO.	DRAWING TITLE	DRAWING NO.	SHEET NO.	REMARKS
1	LOCATION MAP FOR DISTRIBUTION NETWORK OF SONAIGHULI & NARKASUR ZONE		01 OF 01	ENCLOSED
2	WATER DISTRIBUTION NETWORK OF NARKASUR SOUTH CENTRAL ZONE	GWSP/C-07A/NETWORK/NARKASUR	01 OF 01	ENCLOSED
3	STANDARD DRAWING - SLUICE VALVE CHAMBER (TYPE-S), WASH OUT CHAMBER (TYPE-W1), WASH OUT CHAMBER AT DEAD END (TYPE-W2), BUTTERFLY VALVE CHAMBER (TYPE-B), AIR VALVE CHAMBER (TYPE-A), FIRE HYDRANT CHAMBER (TYPE-F), VALVE CHAMBER FOR PRESSURE REDUCING VALVE / FLOW METER WITH SLUICE VALVE (TYPE-P1), VALVE CHAMBER FOR PRESSURE REDUCING VALVE / FLOW METER WITH SLUICE VALVE (TYPE-P2), VALVE CHAMBER FOR PRESSURE REDUCING VALVE / FLOW METER WITH SLUICE VALVE (TYPE-P3), VALVE CHAMBER FOR PRESSURE REDUCING VALVE WITH FLOW METER & SLUICE VALVE (TYPE-P4), VALVE CHAMBER FOR PRESSURE REDUCING VALVE WITH FLOW METER & SLUICE VALVE (TYPE-P5), VALVE CHAMBER FOR PRESSURE REDUCING VALVE WITH FLOW METER &SLUICE VALVE (TYPE-P6), THRUST BLOCK FOR VERTICAL BEND, THRUST BLOCK FOR HORIZONTAL BEND, THRUST BLOCK FOR HORIZONTAL TEE AND DEAD END, PIPE BEDDING & TRENCH DETAIL, ROAD RESTORATION, MISCELLANEOUS DETAILS-I, RIVER CROSSING (TYPE-II), RIVER CROSSING (TYPE-III), NATIONAL HIGHWAY CROSSING BY DISTRIBUTION PIPE LINE, DETAIL OF VALVE CHAMBER AT NATIONAL HIGHWAY CROSSING FOR 300 MM DIA DISTRIBUTION MAIN	GWSP/C-07A/SD-01, GWSP/C-07A/SD-02, GWSP/C-07A/SD-03, GWSP/C-07A/SD-04, GWSP/C-07A/SD-05, GWSP/C-07A/SD-06, GWSP/C-07A/SD-07, GWSP/C-07A/SD-08, GWSP/C-07A/SD-09, GWSP/C-07A/SD-10, GWSP/C-07A/SD-11,GWSP/C-07A/SD-12, GWSP/C-07A/SD-13, GWSP/C-07A/SD-14, GWSP/C-07A/SD-15, GWSP/C-07A/SD-16, GWSP/C-07A/SD-17, GWSP/C-07A/SD-18, GWSP/C-07A/SD-19, GWSP/C-07A/SD-20, GWSP/C-07A/NHCR-01, GWSP/C-07A/NHCR-02	01 OF 20 TO 20 OF 20	NOT ENCLOSED
5	DRAWING FOR BOOSTER PUMP STATIONS AT SONAIGHULI & NARKASUR	GWSP/C-07A/GA/BPS	01 OF 03	ENCLOSED
	DRAWING FOR BOOSTER PUMP STATIONS AT SONAIGHULI & NARKASUR	GWSP/C-07A/GA/BPS	02 OF 03	ENCLOSED
	DRAWING FOR BOOSTER PUMP STATIONS AT SONAIGHULI & NARKASUR	GWSP/C-07A/GA/BPS	03 OF 03	ENCLOSED
6	GENERAL ARRANGEMENT DRAWING OF BOOSTER PUMPING STATION	GWSP/C#07A/BPS/01	01 OF 01	ENCLOSED

D:\HK.Saikia\New Staff Folder\Adivappa Sir\C #07\Original Design\Drawings\1-22.Standard Drawings\00 Index.dwg

JICA ASSISTED GUWAHATI WATER SUPPLY PROJECT
LOCATION MAP FOR NARAKASUR & SONAIGHULI SOUTH CENTRAL ZONE (C#07A & C#07B)

N
W
E
S

Ramsa Hill- I GLR
Ramsa Hill-II GLR
Amiya Nagar GLR
WTP JICA (Kharghuli)
WTP JICA (North Guwahati)
Geetanagar-II GLR
Geetanagar-I GLR
Lechubagan GLR
Narakasur GLR
Sonaighuli OHT
Sonaighuli GLR

Naraksur Zone (C#07A)

Sonaighuli Zone (C#07B)

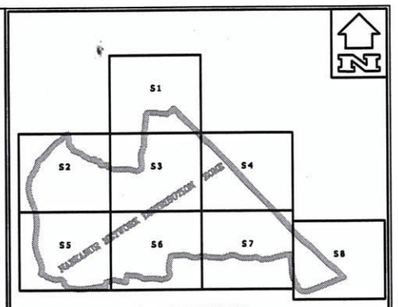
STEEL PLANT
MADHYAMKHANDA
NORTH GUWAHATI
IIT GUWAHATI CAMPUS
STADIUM
IIT
AMINGAON INDUSTRIAL AREA
MAHENDRA MOHAN CHOUDHURY HOSPITAL
NEHRU PARK
DIGHALI PUKHURI
BARGI CHILDREN HOSPITAL
PAN BAZAR
GOVT EDUCATIONAL ANBARI INSTITUTE HOSTEL HOSPITAL
GUWAHATI CLUB
KHARGHULI HILL
KHARGHULI P.O
CHANDMARI
GNB ROAD
Chandmari Railway Crossing
RAILWAY POLY CLINIC
NOONMATI HILL
GOPAL NAGAR
MILAN NAGAR
NEHRU STADIUM
ULUBARI KABARSTHAN
SARUMA HILL
Rajgarh Link Road
NABAGRAHA HILL
DIRECTOR OF VETERINARY CHENIKUTHI
Red Cross Hospital
CHANSHYAM SHEKLATA EYE RELIEF
ASSAM STATE EMPLOYEES DISPENSARY
R.E.I. DISPENSARY
HOUSING SCHEME DISPENSARY
ARMY RAILWAY RAILWAY STATION
Fruit Market
GUWAHATI HAT
PANTAN BAZAR
IDGAH FEEDER BUS STOP
ISBT BUS STAND
MACHKHOWA
SANKARDEV UDDYAN TARUN RAM PHUKA PARK
BHARALUMUKH
FISH MARKET(WHOLESALE)
AATHGAON
KATHGAON GOSHALA
BORASLA BILL
AATHGAON KABARSTHAN
GARBHOOL KABARSTHAN
SANTIPUR
KUMARPARA
ULUBARI
BHARALU
ULUBARI CREMATORIUM
INDUSTRIAL TRAINING INSTITUTE (ITI)
DR. BARUAH CANCER INSTITUTE
NEER BHAWAN FISHERY
DURGA SAROBAR
Maligaon
700
ROOPNAGAR HILL
NARAKASHUR HILL
GS ROAD
ZOO NARENGI ROAD
ROB ROAD
ZOO TINALI
Zoo Tinali
GEETA NAGAR
NARIKALBARI HILL
JAPORIGOG HILL
STATE ZOO
JONAKI NAGAR
BHARALU
GANESHGURI
RUPNAGAR
PUBLIC GROUND, DISPUR
ASSAM SECRETARIATE
SANATA BHAWAN
DISPUR
BHARALUMUKH
GANESHARA
MORABHARALU RIVER
KATHLEARA
KALAPAHAR HILL
SONAIGHULI
GG ROAD
HATIGAON
SILPUKHURI
SILPUKHURI KABARASTHAN
Petrol Pump
Rohini Public School
A.K Dev Road
BASISHTHA
Ganchuk Chowk
ISBT GUWAHATI
LAKHARA
NH-37
BHEMPARA
1000
800
600
500
400
300
200
100

JICA Assisted Guwahati Water Supply Project
Project Management Consultants

SCALE
1:26,000

NJS Consultants Co., Limited, Japan
in association with
NJS Engineers India P Limited

WATER DISTRIBUTION NETWORK OF NARKASUR ZONE, PKG#07A



LOCATION KEY MAP

LEGEND

SL.NO.	DESCRIPTION	SYMBOL
1	DISTRIBUTION ZONE BOUNDARY	
2	SUB-ZONE BOUNDARY	
3	ROAD	
4	BRIDGE	
5	RAILWAY TRACK	
6	CULVERT	
7	CROSS-DRAIN	
8	COVERED-DRAIN	
9	RIVER/CANAL/DRAIN	
10	PARK/PLAY GROUND	
11	WATER BODY	
12	FLY-OVER	
13	WATER DISTRIBUTION PIPE LINE WITH DIA.	LINK ID: NODE, LINK DIAMETER, NODE ID
14	DISTRIBUTION LINE COLOR CODE	
	110 MM OD PE-80, 6KG/CM²	
	160 D DI KD	
	200 D DI KD	
	250 MM OD	
	250 D DI KD	
	250 D DI KD	
	300 D DI KD	
	350 D DI KD	
	350 D DI KD	
	700 D 6MM THICK MS PIPE	
15	LAND MARK	
16	SLUICE VALVE	
17	BUTTERFLY VALVE	
18	PRESSURE REDUCING VALVE	
19	WASHOUT VALVE	
20	FIRE HYDRANT	
21	FLOW METER	
22	AIR VALVE	
23	AIR VENT	
24	FLOW DIRECTION	
25	DMA NO	NS1

NOTES:

01. PIPE DIAMETERS ARE IN MM UNLESS OTHERWISE STATED
02. THIS DRAWING TO BE READ IN CONJUNCTION TO STANDARD DETAIL DRAWING.
03. ALL THE VALVES IN THE DISTRIBUTION NETWORK INCLUDING SLUICE VALVES, WASHOUT VALVES, BUTTERFLY VALVES, PRESSURE REDUCING VALVES, AIR VALVES, FIRE HYDRANTS ETC. SHALL BE OF PRESSURE RATINGS PN-1.0(1.0mpa or 10kg/cm²)

Consultants:
PROJECT MANAGEMENT CONSULTANT (PMC)
NJS Consultants Co.,Limited
Saikia Commercial Complex,
3rd Floor,
Christian Basti,
G.S.Road
Guwahati - 781005

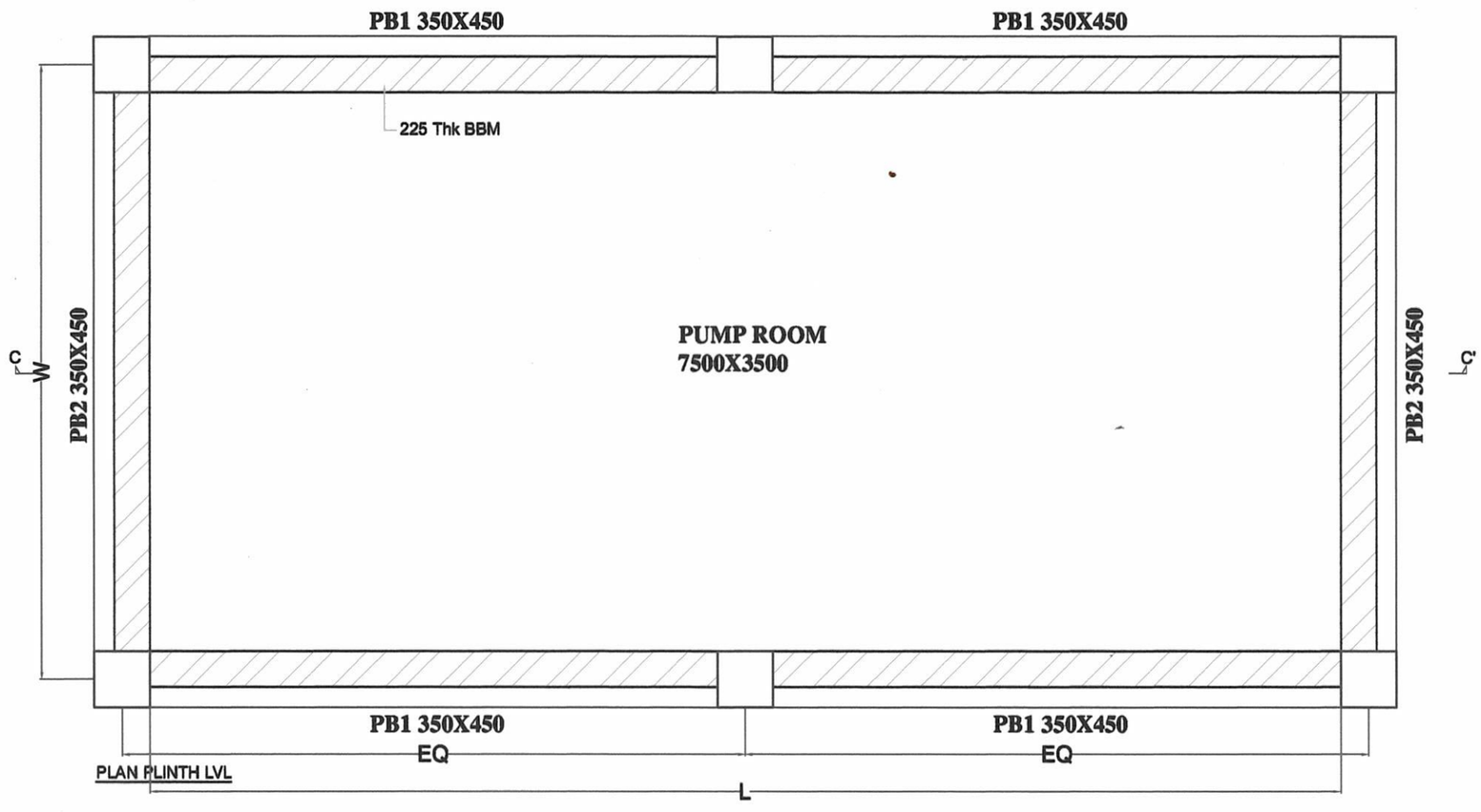
Project:
GUWAHATI WATER SUPPLY PROJECT (GWSP)
(JICA ODA LOAN PROJECT : ID P-201)

Client:
PROJECT DIRECTOR PROJECT IMPLEMENTATION UNIT JICA ASSISTED GWSP
2nd floor Saikia Commercial Complex,Christian Basti,G.S.Road Guwahati -5 , Assam

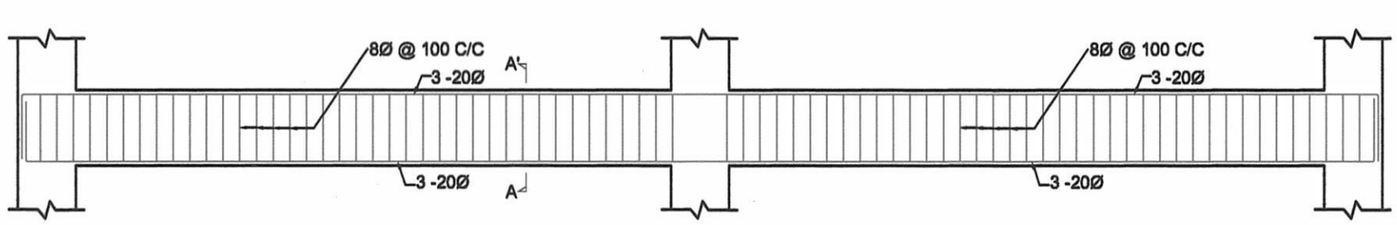
Approved by :	R.Radhakrishnan	3		
Checked by :	Adivappa	2		
Drawn by :	HKS/DK	1		
Design by :	Patra (LBG)	0	02.01.2019	Final for Tendering Purpose
Scale :	Rev: 0	Rev. No.	DATE	REMARKS

Title :
WATER DISTRIBUTION NETWORK OF NARKASUR ZONE GRID PLAN

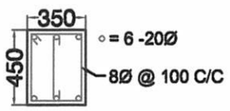
Drawing No. **GWSP/C-07A/NETWORK/NARKASUR** Sheet No. 1 of 1



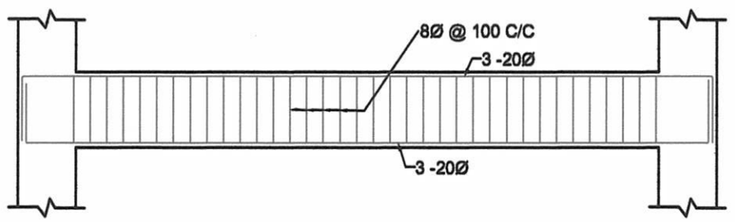
PLAN PLINTH LVL



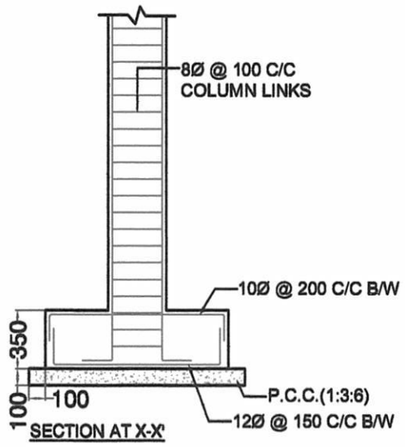
PLINTH BEAM 1 DETAILS



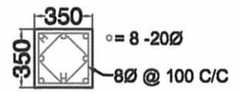
SECTION DETAILS AT A-A'



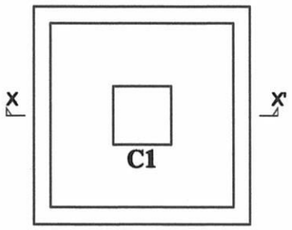
PLINTH BEAM 2 DETAILS



SECTION AT X-X'



C1 COLUMN DETAILS



PLAN

ZONE	PUMP ID	ROOM SIZE	LENGTH (L)	WIDTH (W)	HEIGHT (H)
NARENGI (C#07A)	P-1	6 X 3 X 3.5	6	3	3.5
	P-2	4 X 2.5 X 3.5	4	2.5	3.5
	P-3	4 X 2.5 X 3.5	4	2.5	3.5

1. ALL DIMENSIONS ARE IN MILLIMETRES. LEVELS & CO-ORDINATES ARE IN METRES.
2. CO-ORDINATES MARKED IN THE DRAWING SHALL BE CHECKED & VERIFIED AT SITE BEFORE CONSTRUCTION.
3. GRADE OF CONCRETE SHALL BE M30 WITH MINIMUM CEMENT CONTENT OF 375 KG/CUM (OPC)
4. T INDICATES TMT BARS OF GRADE FE500
5. LAPS SHALL BE STAGGERED AND LAP LENGTH SHALL BE 45 TIMES THE DIAMETER OF BAR.
6. CLEAR COVER TO MAIN REINFORCEMENT SHALL BE.

FOOTINGS AND RAFTS	: 50 MM
COLUMNS	: 40 MM
COLUMNS CONTACT WITH WATER	: 50 MM
FLOOR SLABS & FLOOR BEAMS	: 50 MM
ROOF SLAB & ROOF BEAMS TOP	: 30 MM
ROOF SLAB & ROOF BEAMS BOTTOM	: 40 MM
TIE BEAMS	: 30 MM
PEDESTAL	: 25 MM
THRUST BLOCK	: 30 MM

7. REINFORCEMENT BARS SHALL BE SUITABLY CUT AND TRIMMED AT OPENINGS AND CUTOUT LOCATIONS.
8. AT ALL STAGE OF CONCRETING PROPER CARE SHALL BE TAKEN TO ENSURE COMPACTION.
9. CONSTRUCTION JOINT NOTE:
   A. THE TREATMENT OF CONSTRUCTION JOINTS SHALL COMMENCE IMMEDIATELY AFTER THE CONCRETE HAS PARTIALLY SET WITHIN 3 TO 4 HOURS OF CONCRETING. THE LAITANCE SHALL BE REMOVED BY BRUSHING, CHIPPING & WATE JETTING WHERE APPROPRIATE COARSE AGGREGATES EXPOSED OVER THE ENTIRE AREA OF THE JOINTS & THE SURFACE MAINTAINED IN A CLEAN CONDITION.
   B. ATLEAST 24 HRS PRIOR TO PLACEMENT OF FRESH CONCRETE AGAINST THE EXPOSED SURFACE OF THE CONSTRUCTION JOINT, THE EXPOSED SURFACE SHALL BE THOROUGHLY WETTED & WETNESS MAINTAINED UNTIL ATLEAST 24 HRS PRIOR TO COMMENCEMENT OF CONCRETE.
   C. AT THE TIME OF ACTUAL PLACEMENT OF CONCRETE AGAINST THE TREATED SURFACE OF THE CONSTRUCTION JOINT, THE SURFACE SHOULD BE IN A SATURATED DRY CONDITION, THE ROUGHENED SURFACE SHOULD BE THOROUGHLY CLEANED OF ALL LOOSE MATTERS BEFORE PLACING FRESH CONCRETE.
11. ALL EMBEDMENTS/INSERTS SHALL BE PLACED TO CORRECT LINE LEVELS AS INDICATED IN THE MECH & ELEC GA DRAWINGS BY TACK WELDING TO THE NEAREST REINFORCEMENT.
12. SBC ASSUMED SHALL BE 200 KN/SQM AT A DEPTH OF 1.5M BELOW NGL

Consultants:
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NJS Consultants Co.,Limited
Saikia Commercial Complex,
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Project:
GUWAHATI WATER SUPPLY PROJECT (GWSP)
(JICA ODA LOAN PROJECT: ID P-201)

Client:
PROJECT DIRECTOR PROJECT IMPLEMENTATION UNIT JICA ASSISTED GWSP
2nd floor Saikia Commercial Complex,Christian Basti,G.S.Road Guwahati -5 , Assam

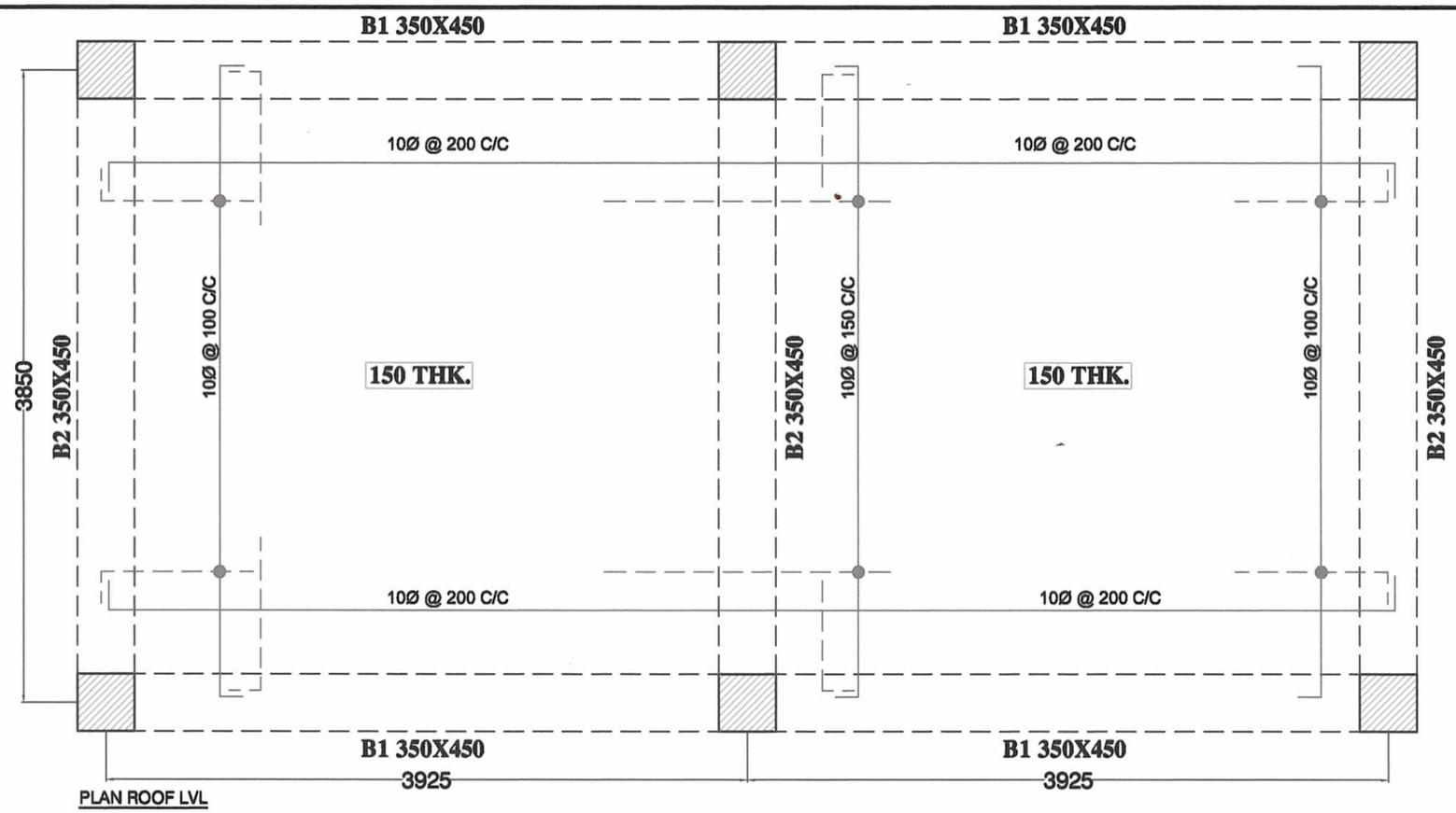
REV NO.	DATE	REMARKS
3		
2		
1		
0	02.01.2019	Final for tendering purpose

Approved by:	R.Radhakrishnan
Checked by:	Adivappa
Drawn by:	HKS/DK
Design by:	Patra (LBG)
Scale:	

Title:
STRUCTURAL DETAILS OF BOOSTER STATION FOR PACKAGE - C#07A

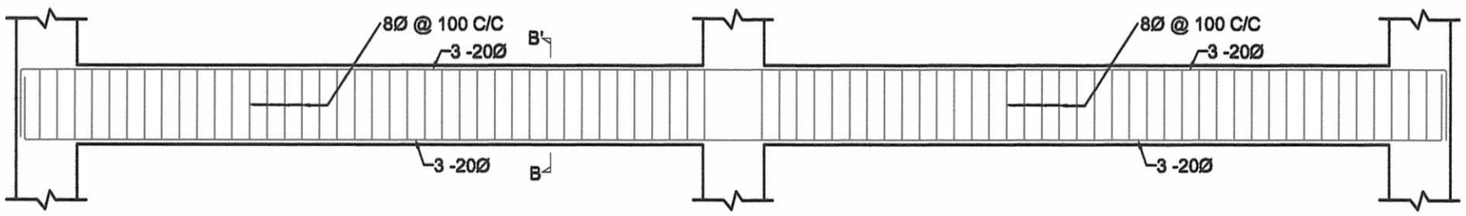
Drawing No:- GWSP/C-07A/GA/BPS

Sheet No:- 01 OF 03

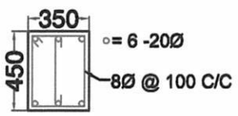


PLAN ROOF LVL

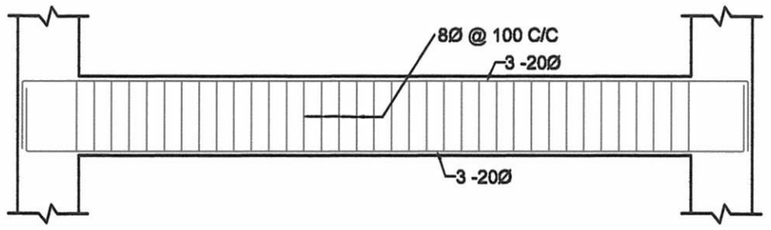
ZONE	PUMP ID	ROOM SIZE	LENGTH (L)	WIDTH (W)	HEIGHT (H)
NARKASUR (C#07A)	P-1	6 X 3 X 3.5	6	3	3.5
	P-2	4 X 2.5 X 3.5	4	2.5	3.5
	P-3	4 X 2.5 X 3.5	4	2.5	3.5



BEAM 1 DETAILS



SECTION DETAILS AT B-B'



BEAM 2 DETAILS

1. ALL DIMENSIONS ARE IN MILLIMETRES. LEVELS & CO-ORDINATES ARE IN METRES.
2. CO-ORDINATES MARKED IN THE DRAWING SHALL BE CHECKED & VERIFIED AT SITE BEFORE CONSTRUCTION.
3. GRADE OF CONCRETE SHALL BE M30 WITH MINIMUM CEMENT CONTENT OF 375 KG/CUM (OPC)
4. T INDICATES TMT BARS OF GRADE FE500
5. LAPS SHALL BE STAGGERED AND LAP LENGTH SHALL BE 45 TIMES THE DIAMETER OF BAR.
6. CLEAR COVER TO MAIN REINFORCEMENT SHALL BE.
   - FOOTINGS AND RAFTS : 50 MM
   - COLUMNS : 40 MM
   - COLUMNS CONTACT WITH WATER : 50 MM
   - FLOOR SLABS & FLOOR BEAMS : 50 MM
   - ROOF SLAB & ROOF BEAMS TOP : 30 MM
   - ROOF SLAB & ROOF BEAMS BOTTOM : 40 MM
   - TIE BEAMS : 30 MM
   - PEDESTAL : 25 MM
   - THRUST BLOCK : 30 MM
7. REINFORCEMENT BARS SHALL BE SUITABLY CUT AND TRIMMED AT OPENINGS AND CUTOUT LOCATIONS.
8. AT ALL STAGE OF CONCRETING PROPER CARE SHALL BE TAKEN TO ENSURE COMPACTION.
9. CONSTRUCTION JOINT NOTE:
   - A. THE TREATMENT OF CONSTRUCTION JOINTS SHALL COMMENCE IMMEDIATELY AFTER THE CONCRETE HAS PARTIALLY SET WITHIN 3 TO 4 HOURS OF CONCRETING. THE LAITANCE SHALL BE REMOVED BY BRUSHING, CHIPPING & WATE JETTING WHERE APPROPRIATE COARSE AGGREGATES EXPOSED OVER THE ENTIRE AREA OF THE JOINTS & THE SURFACE MAINTAINED IN A CLEAN CONDITION.
   - B. ATLEAST 24 HRS PRIOR TO PLACEMENT OF FRESH CONCRETE AGAINST THE EXPOSED SURFACE OF THE CONSTRUCTION JOINT, THE EXPOSED SURFACE SHALL BE THOROUGHLY WETTED & WETNESS MAINTAINED UNTIL ATLEAST 24 HRS PRIOR TO COMMENCEMENT OF CONCRETE.
   - C. AT THE TIME OF ACTUAL PLACEMENT OF CONCRETE AGAINST THE TREATED SURFACE OF THE CONSTRUCTION JOINT, THE SURFACE SHOULD BE IN A SATURATED DRY CONDITION, THE ROUGHENED SURFACE SHOULD BE THOROUGHLY CLEANED OF ALL LOOSE MATTERS BEFORE PLACING FRESH CONCRETE.
11. ALL EMBEDMENTS/INSERTS SHALL BE PLACED TO CORRECT LINE LEVELS AS INDICATED IN THE MECH & ELEC GA DRAWINGS BY TACK WELDING TO THE NEAREST REINFORCEMENT.
12. SBC ASSUMED SHALL BE 200 KN/SQM AT A DEPTH OF 1.5M BELOW NGL

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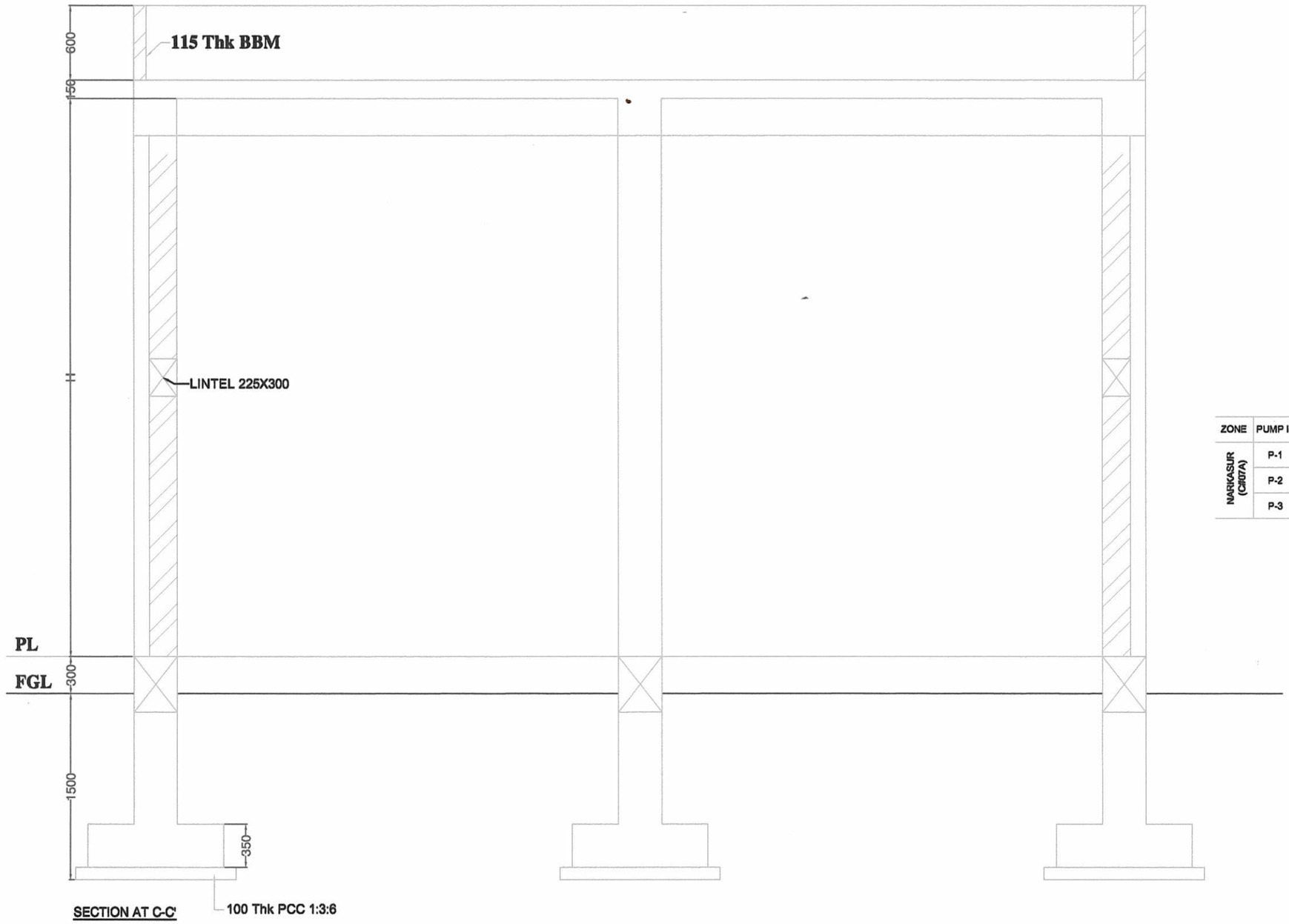
REV NO.	DATE	REMARKS
3		
2		
1		
0	02.01.2019	Final for tendering purpose

Approved by:	R.Radhakrishnan
Checked by:	Adivappa
Drawn by:	HKS/DK
Design by:	Patra (LBG)
Scale:	

Title:
STRUCTURAL DETAILS OF BOOSTER STATION FOR PACKAGE - C#07A

Drawing No:- GWSP/C-07A/GA/BPS

Sheet No:- 02 OF 03



ZONE	PUMP ID	ROOM SIZE	LENGTH (L)	WIDTH (W)	HEIGHT (H)
NARIKASUR (C#07A)	P-1	6 X 3 X 3.5	6	3	3.5
	P-2	4 X 2.5 X 3.5	4	2.5	3.5
	P-3	4 X 2.5 X 3.5	4	2.5	3.5

Consultants:
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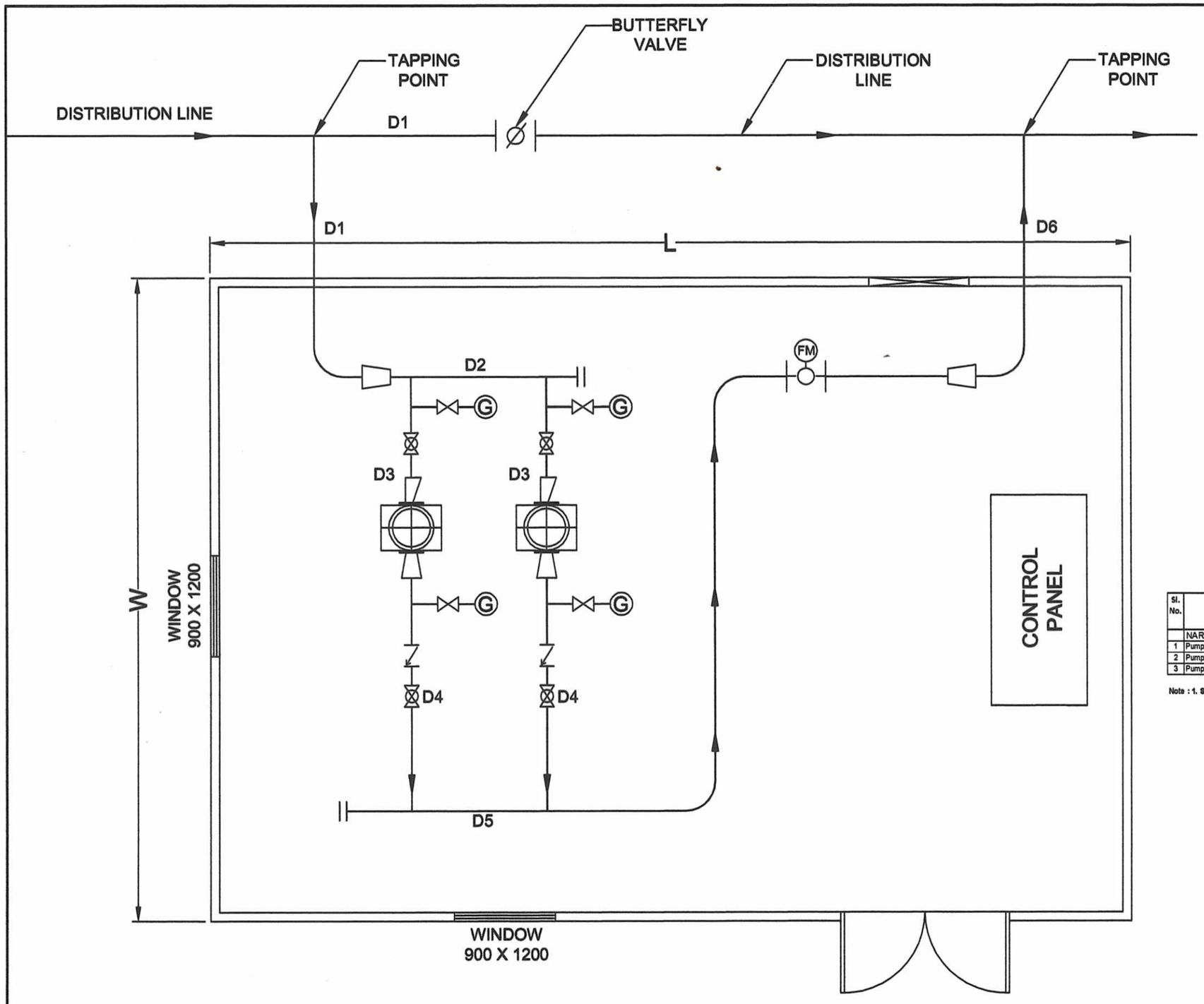
Scale:	

Title:
STRUCTURAL DETAILS OF BOOSTER STATION FOR PACKAGE - C#07A

Drawing No:- GWSP/C-07A/GA/BPS

Sheet No:- 03 OF 03



LEGEND

- PUMP
- BUTTERFLY VALVE
- BALL VALVE
- NRV
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- FLOW METER
- PRESSURE GAUGE

GUWAHATI WATER SUPPLY PROJECT- BOOSTER PUMPING STATIONS
PUMP DETAILS, ROOM SIZES AND PIPING DETAILS FOR PACKAGE - 7A

Sl. No.	ZONE	PUMP DETAILS					PROPOSED ROOM SIZE		
		LOCATION	NEAR	FLOW (LPS)	HEAD (M)	Qty	Length (L)	Width (W)	Height (H)
	NARKASUR								
1	Pump no.- P3	Near Narkasur Reservoir	Shiv Mandir	13	21	2 nos.(1w+1s)	4 M	2.5 M	3.5 M
2	Pump no.- P2	Near Tin Jandha Temple	Sani Mandir	3	40	2 nos.(1w+1s)	4 M	2.5 M	3.5 M
3	Pump no.- P1	Jatiya B/L	Director Of Elementary Education Complex	18	75	2 nos.(1w+1s)	6 M	3 M	3.5 M

Note : 1. Size of Pump room size proposed is subject to availability of land, incase sufficient land is not available size may be modified accordingly.

NOTES

1. All Dimensions are in Millimeters and Elevations in Meters unless otherwise noted .
2. The Drawing is indicative only, detailed Drawings shall be prepared as per availability of Size and Shape of Land.
3. Do not Scale the Drawing.
4. Where Land is not available Pumps may be install in open foundation and above storm water drain channel along Road Side by Constructing suitable slab over drain channel.

Consultants:
PROJECT MANAGEMENT CONSULTANT (PMC)
NJS Consultants Co.,Limited
Saikia Commercial Complex,
3rd Floor,
Christian Basti,
G.S.Road
Guwahati - 781005

Project:
GUWAHATI WATER SUPPLY PROJECT (GWSP)
(JICA ODA LOAN PROJECT: ID P-201)

Client:
PROJECT DIRECTOR PROJECT IMPLEMENTATION UNIT
JICA ASSISTED GWSP
2nd floor Saikia Commercial Complex,Christian Basti,G.S.Road
Guwahati -5 , Assam

REV NO.	DATE	REMARKS
3		
2		
1		
0	02.01.2019	Final for tendering purpose

Approved by:	R.Radhakrishnan
Checked by:	Adivappa
Drawn by:	HKS/DK
Design by:	Patra (LBG)
Scale: NTS	Rev: 0

Title:
GENERAL ARRANGEMENT DRAWING OF BOOSTER PUMPING STATION FOR PACKEGE - C#07A

Drawing No.: GWSP/C#07A/BPS/01

Sheet No: **01 of 01**