

Government of Peoples Republic of Bangladesh
Chattogram Water Supply and Sewerage Authority



IDA Credit No. 7675-BD & 7674-BD

Request for Proposals
for

**Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and
DMA Formation of**

Lot 1: Mohara Water Supply System

Lot 2: Modunaghat and Kalurghat Water Supply System

Volume-1-Part 1+Part 3
Volume 2A & 2B - Employer's Requirements
Volume 3A & 3B - Conceptual Drawings
Volume 4 – Supplementary Information

RFP No: CWSIP/W1

DRAWING INDEX

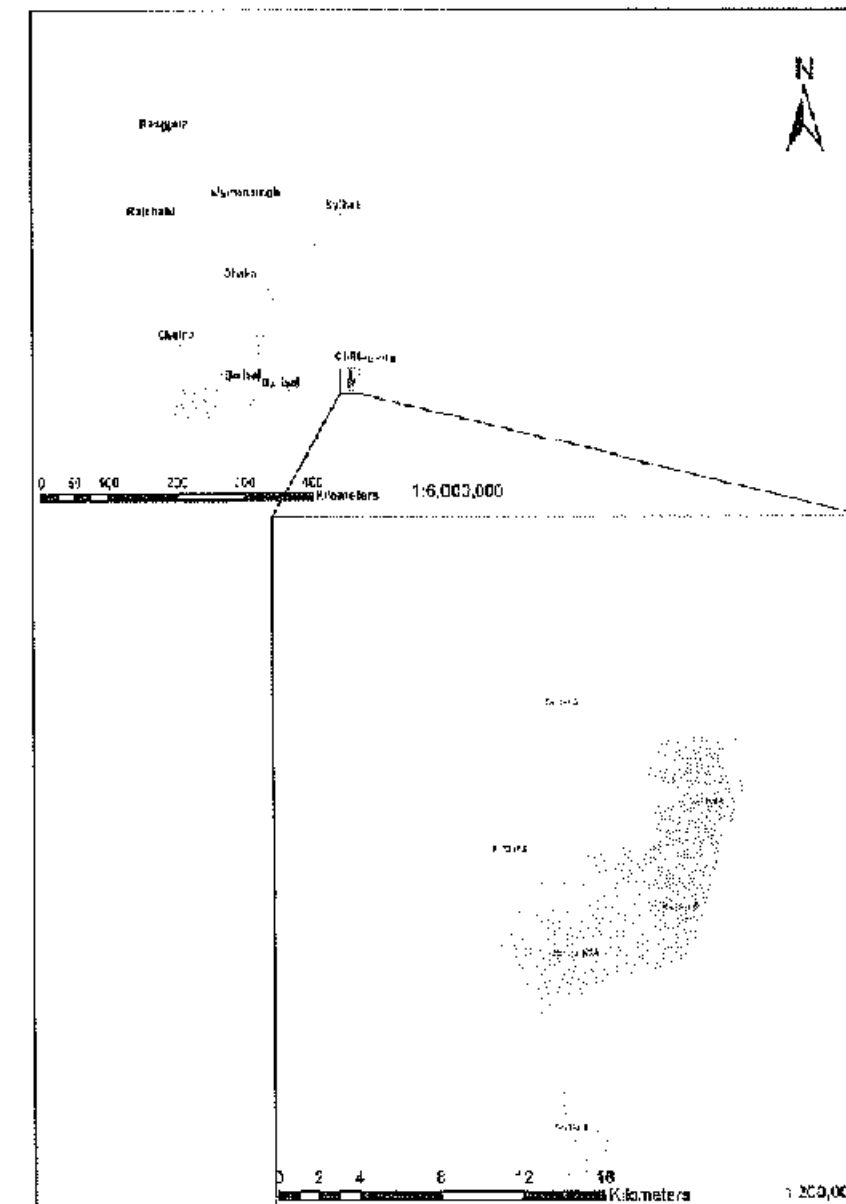
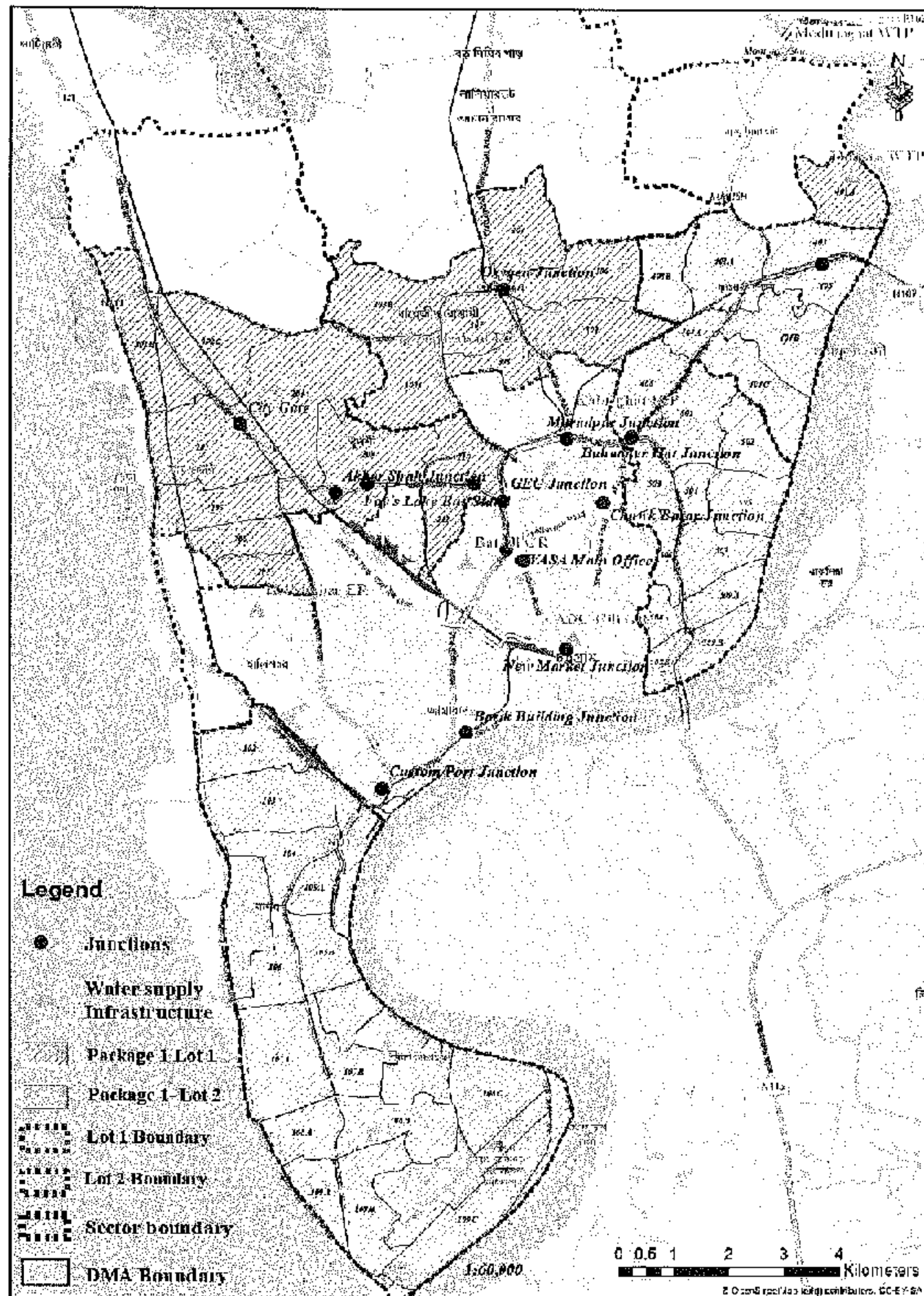
DRAWING No						DESCRIPTION	
S/No	PROJECT	PACKAGE NUMBER AND LOT NUMBER	STRUCTURE	DISCIPLINE	SHEET No	REVISION	
PACKAGE 1 (CWSIP-II/W-01) LOT 2							
1 - DRAWING INDEX							
001	CWSIP	W1L2		IND	001	RD	DRAWING INDEX
2 - PROJECT LOCATION MAP							
002	CWSIP	W1L2		GEN	001	RD	PROJECT LOCATION MAP
3 - PROJECT GENERAL							
003	CWSIP	W1L2		G	001	RD	SCHEMATIC DIAGRAM WATER SUPPLY SYSTEM - CONTRACT PACKAGING
004	CWSIP	W1L2		G	002	RD	SCHEMATIC DIAGRAM - WATER SUPPLY SYSTEM FOR YEAR 2032
4 - STANDARD							
005	CWSIP	W1L2		STD	001	RD	STANDARD DETAILS - PIPE BEDDING AND ROAD REINSTATEMENT FOR DI PIPE
006	CWSIP	W1L2		STD	002	RD	STANDARD DETAILS - PIPE BEDDING AND ROAD REINSTATEMENT FOR HDPE PIPE
007	CWSIP	W1L2		STD	003	RD	STANDARD DETAILS - AIR VALVES & CHAMBER FOR DI PIPES
008	CWSIP	W1L2		STD	004	RD	STANDARD DETAILS - AIR VALVES & CHAMBER FOR HDPE PIPES
009	CWSIP	W1L2		STD	005	RD	STANDARD DETAILS - WASHOUT VALVE CHAMBER FOR DI & HDPE PIPES
010	CWSIP	W1L2		STD	006	RD	STANDARD DETAILS - FIRE HYDRANTS CHAMBER FOR DI AND HDPE PIPES
011	CWSIP	W1L2		STD	007	RD	STANDARD DETAILS - GATE VALVE CHAMBER - DN 200 AND BELOW
012	CWSIP	W1L2		STD	008	RD	STANDARD DETAILS - BUTTERFLY VALVE CHAMBER - DN 350 AND ABOVE
013	CWSIP	W1L2		STD	009	RD	STANDARD DETAILS - CULVERT CROSSING FOR HDPE PIPES
014	CWSIP	W1L2		STD	010	RD	STANDARD DETAILS - CULVERT CROSSING FOR DI PIPES
015	CWSIP	W1L2		STD	011	RD	STANDARD DETAILS - CULVERT CROSSING TYPE E & G FOR DI & HDPE PIPES
016	CWSIP	W1L2		STD	012	RD	STANDARD DETAILS - THRUST BLOCK AND SCHEDULES
017	CWSIP	W1L2		STD	013	RD	STANDARD DETAILS - ABOVE GROUND PIPE SUPPORTS - (DN<800mm)
018	CWSIP	W1L2		STD	014	RD	STANDARD DETAILS - ABOVE GROUND PIPE SUPPORTS - (>= 800mm)
019	CWSIP	W1L2		STD	015	RD	STANDARD DETAILS - PROPOSED INLINE BOOSTER ARRANGEMENT
020	CWSIP	W1L2		STD	016	RD	STANDARD DETAILS - SERVICE CONNECTION DETAILS
021	CWSIP	W1L2		STD	017	RD	STANDARD DETAILS - DMA METER CHAMBER - FOR HDPE PIPES
5 - ADC HILL RESERVOIR							
022	CWSIP	W1L2	ADC	G	001	RD	ADC HILL GROUND RESERVOIR - SITE LAYOUT
023	CWSIP	W1L2	ADC	GA	001	RD	ADC HILL GROUND RESERVOIR - RESERVOIR IMPROVEMENT - PLAN
024	CWSIP	W1L2	ADC	GA	002	RD	ADC HILL GROUND RESERVOIR - RESERVOIR IMPROVEMENT - SECTION
6 - KALURGHAT PUMP STATION							
025	CWSIP	W1L2	KGT	G	001	RD	LAYOUT PLAN FOR PROPOSED IMPROVEMENT TO KALURGHAT RP
026	CWSIP	W1L2	KGT	G	002	RD	SCHEMATIC DIAGRAM FOR KALURGHAT RP
027	CWSIP	W1L2	KGT	G	003	RD	KALURGHAT WATER TREATMENT PLANT - PUMP STATION LAYOUT PLAN
028	CWSIP	W1L2	KGT	GA	001	RD	KALURGHAT PUMP STATION - GENERAL ARRANGEMENT
029	CWSIP	W1L2	KGT	PID	001	RD	KALURGHAT WATER TREATMENT PLANT - PROCESS ARRANGEMENT - (OVERVIEW)
030	CWSIP	W1L2	KGT	E	001	RD	KALURGHAT PUMP STATION - ELECTRICAL OVERVIEW
031	CWSIP	W1L2	KGT	E	002	RD	KALURGHAT PUMP STATION - MCC PANEL FACE WITH REMOTE VFD
032	CWSIP	W1L2	KGT	E	003	RD	KALURGHAT PUMP STATION - REMOTE ACTUATION AND MONITORING (RAM) PANEL DETAILS
033	CWSIP	W1L2	KGT	E	004	RD	KALURGHAT PUMP STATION - LOCAL OPERATION STATION AND LOCAL CONTROL PANEL FOR DRAIN PUMPS
034	CWSIP	W1L2	KGT	E	005	RD	KALURGHAT PUMP STATION - ANY SINGLE LINE DIAGRAM
035	CWSIP	W1L2	KGT	E	006	RD	KALURGHAT PUMP STATION - SCADA SYSTEM OVERVIEW

7- DISTRIBUTION SYSTEM							
036						YEAR 2032 COVERAGE & PACKAGE MAP	
037	CWSIP	W1L2		DM	001	RD	PIPE NETWORK - SECTOR 01
038	CWSIP	W1L2		DM	002	RD	PIPE NETWORK - SECTOR 04
039	CWSIP	W1L2		DM	003	RD	PIPE NETWORK - SECTOR 05
040	CWSIP	W1L2		DM	004	RD	PIPE NETWORK MAP YEAR 2032 - DMA 102
041	CWSIP	W1L2		DM	005	RD	PIPE NETWORK MAP YEAR 2032 - DMA 103
042	CWSIP	W1L2		DM	006	RD	PIPE NETWORK MAP YEAR 2032 - DMA 104
043	CWSIP	W1L2		DM	007	RD	PIPE NETWORK MAP YEAR 2032 - DMA 105A
044	CWSIP	W1L2		DM	008	RD	PIPE NETWORK MAP YEAR 2032 - DMA 105B
045	CWSIP	W1L2		DM	009	RD	PIPE NETWORK MAP YEAR 2032 - DMA 106
046	CWSIP	W1L2		DM	010	RD	PIPE NETWORK MAP YEAR 2032 - DMA 107A
047	CWSIP	W1L2		DM	011	RD	PIPE NETWORK MAP YEAR 2032 - DMA 107B
048	CWSIP	W1L2		DM	012	RD	PIPE NETWORK MAP YEAR 2032 - DMA 402
049	CWSIP	W1L2		DM	013	RD	PIPE NETWORK MAP YEAR 2032 - DMA 403A
050	CWSIP	W1L2		DM	014	RD	PIPE NETWORK MAP YEAR 2032 - DMA 403B
051	CWSIP	W1L2		DM	015	RD	PIPE NETWORK MAP YEAR 2032 - DMA 404A
052	CWSIP	W1L2		DM	016	RD	PIPE NETWORK MAP YEAR 2032 - DMA 404B
053	CWSIP	W1L2		DM	017	RD	PIPE NETWORK MAP YEAR 2032 - DMA 404C
054	CWSIP	W1L2		DM	018	RD	PIPE NETWORK MAP YEAR 2032 - DMA 405
055	CWSIP	W1L2		DM	019	RD	PIPE NETWORK MAP YEAR 2032 - DMA 406
056	CWSIP	W1L2		DM	020	RD	PIPE NETWORK MAP YEAR 2032 - DMA 501
057	CWSIP	W1L2		DM	021	RD	PIPE NETWORK MAP YEAR 2032 - DMA 502
058	CWSIP	W1L2		DM	022	RD	PIPE NETWORK MAP YEAR 2032 - DMA 503
059	CWSIP	W1L2		DM	023	RD	PIPE NETWORK MAP YEAR 2032 - DMA 504
060	CWSIP	W1L2		DM	024	RD	PIPE NETWORK MAP YEAR 2032 - DMA 505
061	CWSIP	W1L2		DM	025	RD	PIPE NETWORK MAP YEAR 2032 - DMA 506
062	CWSIP	W1L2		DM	026	RD	PIPE NETWORK MAP YEAR 2032 - DMA 507
063	CWSIP	W1L2		DM	027	RD	PIPE NETWORK MAP YEAR 2032 - DMA 508A
064	CWSIP	W1L2		DM	028	RD	PIPE NETWORK MAP YEAR 2032 - DMA 508B
065	CWSIP	W1L2		DM	029	RD	PIPE NETWORK MAP YEAR 2032 - DMA 509A
066	CWSIP	W1L2		DM	030	RD	PIPE NETWORK MAP YEAR 2032 - DMA 509B

CONCEPTUAL DRAWING

 CHATTOGRAM WATER SUPPLY & SEWERAGE AUTHORITY (WASA)	
PROJECT	CHATTOGRAM WATER SUPPLY IMPROVEMENT PROJECT (CWSIP)
PACKAGE	CWSIP/W1 - LOT 2 Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Moduraghat & Kalurghat Water Supply System
IDA CREDIT NO.	7675-BD & 7674-BD
TITLE	DRAWING INDEX
DRAWING No.	CWSIP/W1L2/IND/001

PROJECT LOCATION MAP



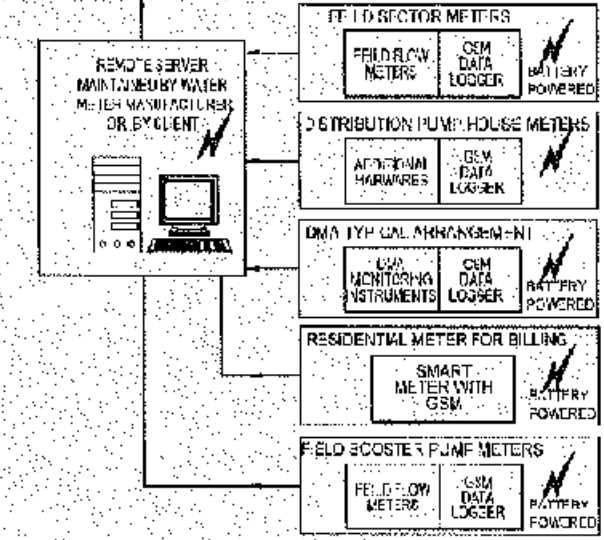
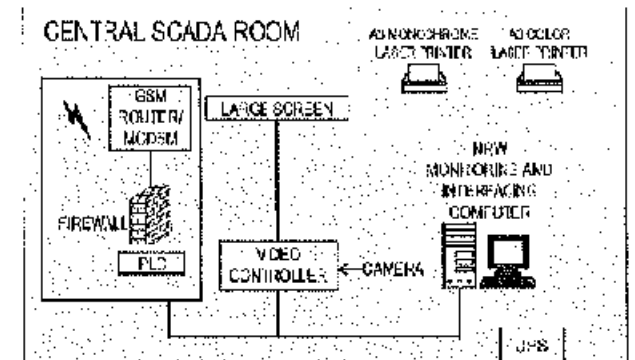
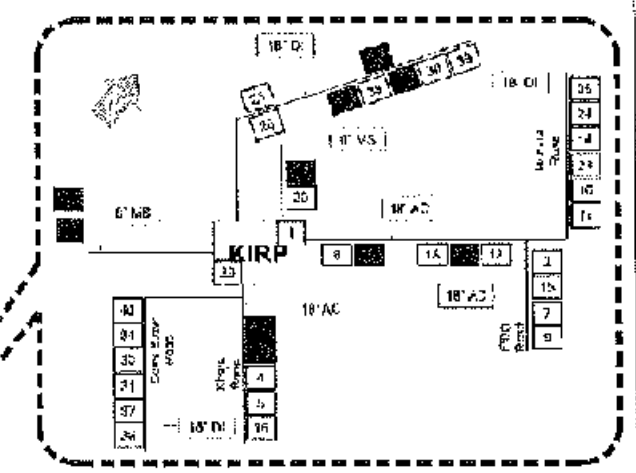
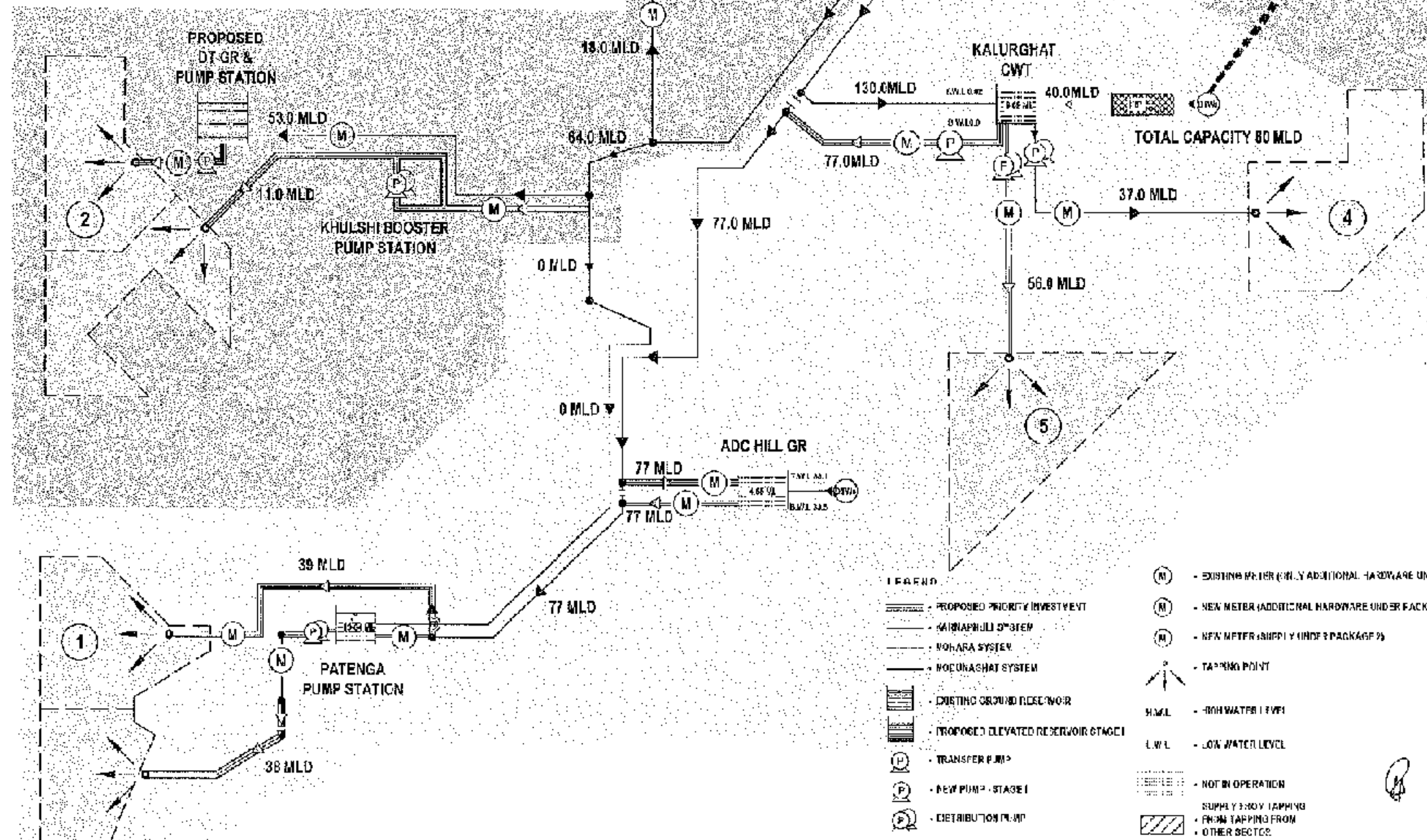
CONCEPTUAL DRAWING

	CHATTGRAM WATER SUPPLY & SEWERAGE AUTHORITY (WASA)
PROJECT	CHATTGRAM WATER SUPPLY IMPROVEMENT PROJECT (CWSIP)
PACKAGE	CWSIP/W1-LOT2
DESCRIPTION	Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formulation of Madhuchhet & Kharaghat Water Supply System
PROJECT NO.	7575-000 & 7574-000
TITLE	PROJECT LOCATION MAP
DRAWING NO.	CWSIP/W1/L2/GEN-001

PROJECT GENERAL DRAWINGS

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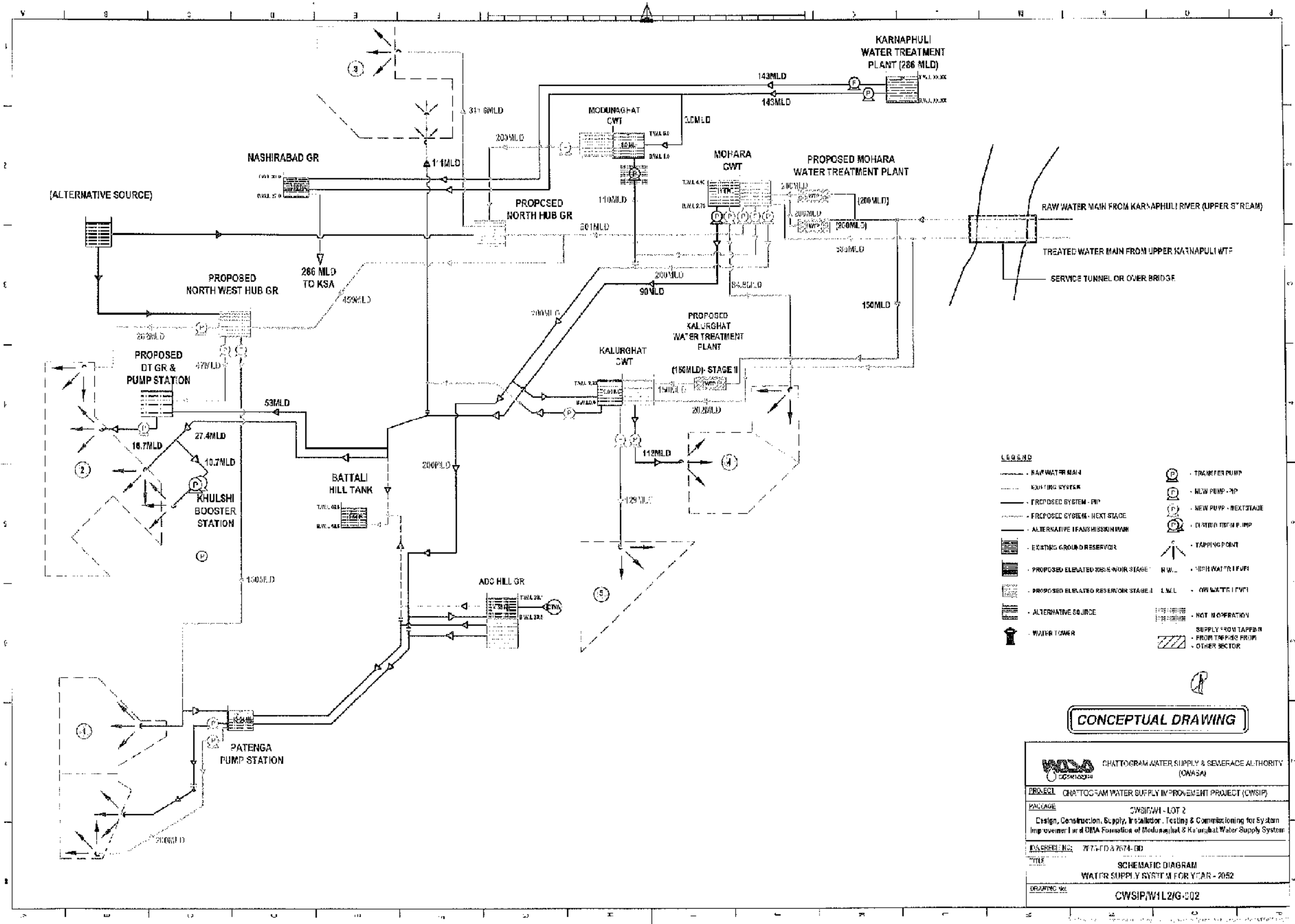
PACKAGE REFERENCE	PACKAGE DESCRIPTION
CWS/PW1	Lot 1: Construction, Design, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of MODUNAGHAT Water Supply System
CWS/PW2	Lot 2: Construction, Design, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of MODUNAGHAT & KALURGHAT Water Supply System
CWS/PW3	Design, Supply, Installation and Operating of CWASA SMART Metering System
CWSIP/W2	Construction of Deep Tube Wells (DTWs)



- LEGEND**
- PROPOSED PRIORITY INVESTMENT
 - KARNAPHULI SYSTEM
 - MODUNAGHAT SYSTEM
 - EXISTING GROUND RESERVOIR
 - PROPOSED ELEVATED RESERVOIR STAGE I
 - TRANSFER PUMP
 - NEW PUMP - STAGE I
 - DISTRIBUTION PUMP
 - EXISTING FILTER (ONLY ADDITIONAL HARDWARE UNDER PACKAGE 2)
 - NEW METER (ADDITIONAL HARDWARE UNDER PACKAGE 2)
 - NEW METER (SUPPLY UNDER PACKAGE 2)
 - TAPPING POINT
 - H.W.L. - HIGH WATER LEVEL
 - L.W.L. - LOW WATER LEVEL
 - NOT IN OPERATION
 - SUPPLY TAPING TAPPING
 - FROM TAPPING FROM OTHER SECTOR

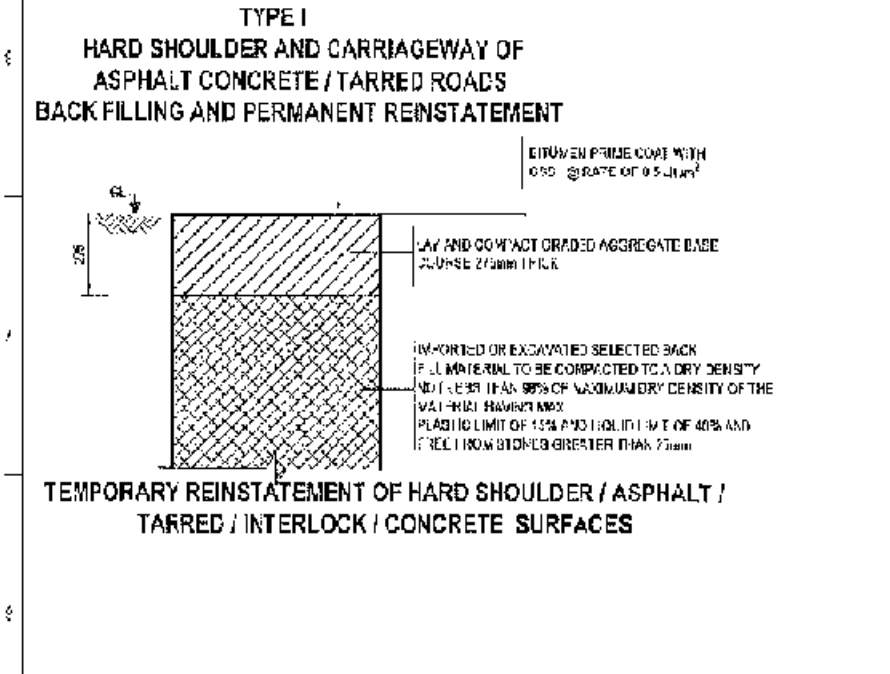
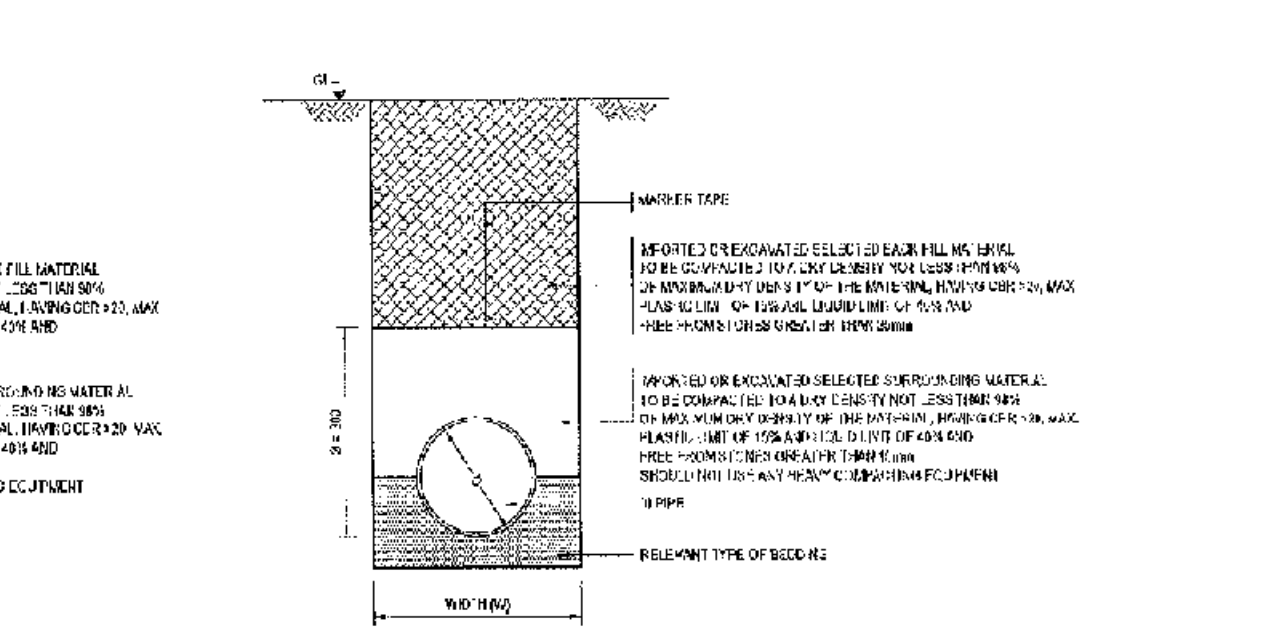
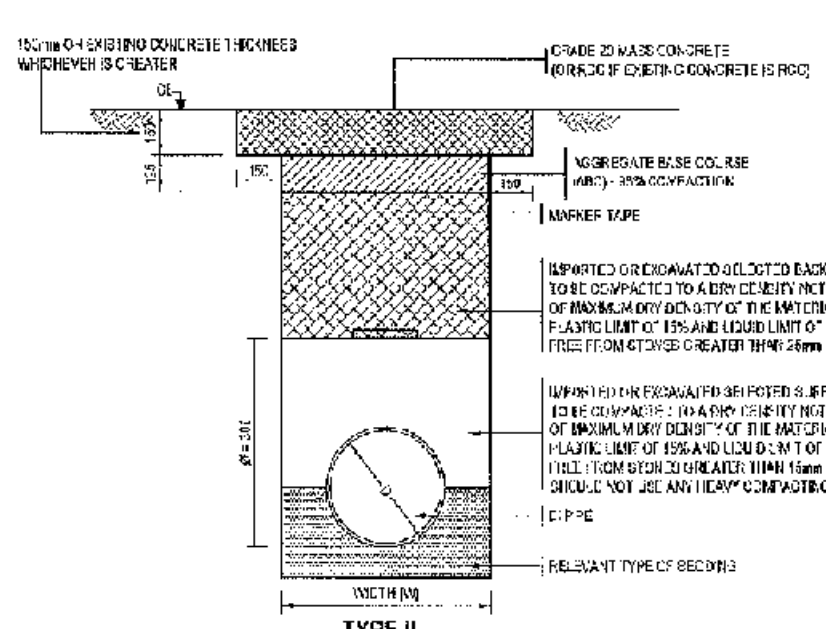
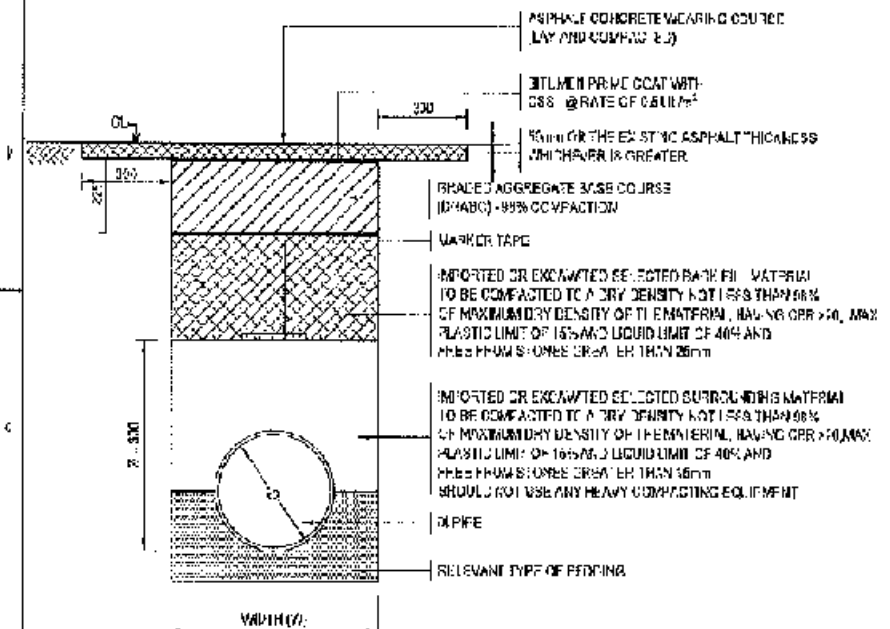
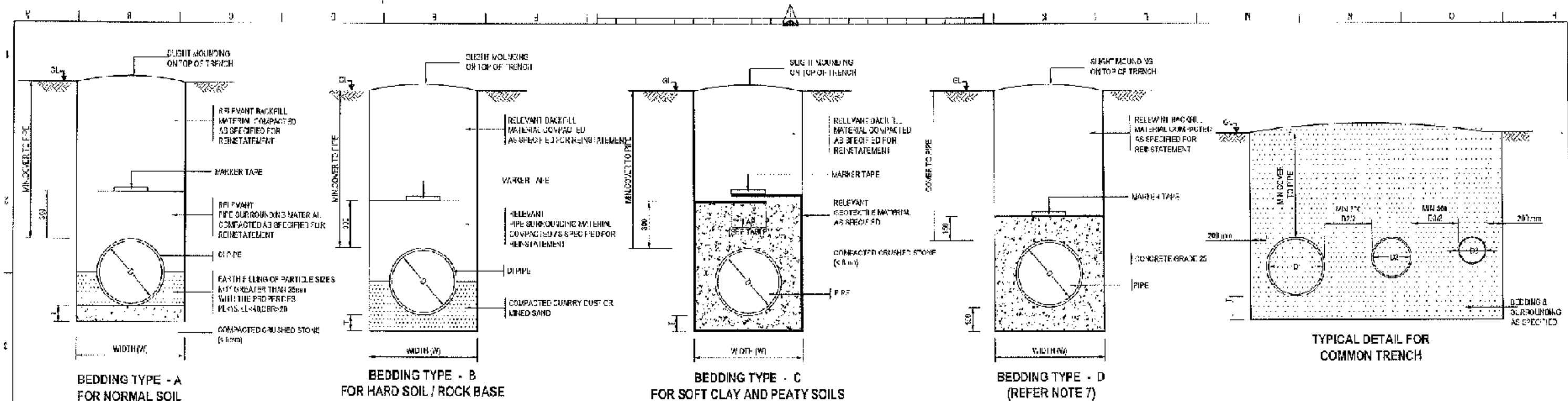
CONCEPTUAL DRAWING

WASA	CHATTOGRAM WATER SUPPLY & SEWERAGE AUTHORITY (CWASA)
PROJECT	CHATTOGRAM WATER SUPPLY IMPROVEMENT PROJECT (CWSIP)
PACKAGE	CWSIP/W1 - LOT 2 Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Modunaghat & Kalurghat Water Supply Systems
DIAGRAM NO.	W1G-001 & W1G-002
TITLE	SCHEMATIC DIAGRAM WATER SUPPLY SYSTEM FOR YEAR 2032
DRAWING NO.	CWSIP/W1G-001



STANDARD DRAWINGS

Q



DETAILS OF TRENCH				
PIPE DIA. (mm)	WIDTH (W) (mm)	MIN. COVER (mm)	BEDDING THICKNESS (mm)	DEPTH OF EXISTENCE (mm)
300	1000	1000	150	300
300	1150	1000	150	300
400	1200	1000	150	300
450	1400	1000	150	300
500	1500	1000	150	300
600	1700	1000	150	300
700	1800	1000	150	300
1000	2000	1000	150	300
1200	2200	1000	150	300

- NOTES**
- ALL DIMENSIONS ARE IN MILLIMETERS
 - USE CATIONIC SLOW SETTING
 - EXCAVATED SOIL CAN BE USED AS BACK FILLING MATERIAL IF THEY COMPLY TO THE REQUIRE SPECIFICATION
 - IN CASE OF INTERLOCK PAVED ROAD SURFACES, THE TYPE II BACK FILLING AND REINSTATEMENT DETAIL SHOULD APPLY AS APPROPRIATE
 - FOR PIPES IN SOFT OR PEATY GROUND, THE GRANULAR BEDDING SHALL BE COMPLETELY SURROUNDED BY A GEOTEXTILE FABRIC SHOWN IN THE DRAWING AND AS DIRECTED BY THE ENGINEER TO PREVENT THE INGRESS OF FINE GEOTEXTILE FABRIC SHALL BE WOVEN POLYPROPYLENE THRUWASH BOND AS PER THE SPECIFICATIONS.
 - HEAVY COMPACTION ON EACH SIDE ARE NOT ALLOWED ABOVE THE PIPES
 - BEDDING TYPE D SHALL BE APPLIED WHEN THE COVER IS LESSER THAN 70% OF THE MINIMUM COVER SPECIFIED

CONCEPTUAL DRAWING

CHATTISGARH WATER SUPPLY & SEWERAGE AUTHORITY (CWSA)

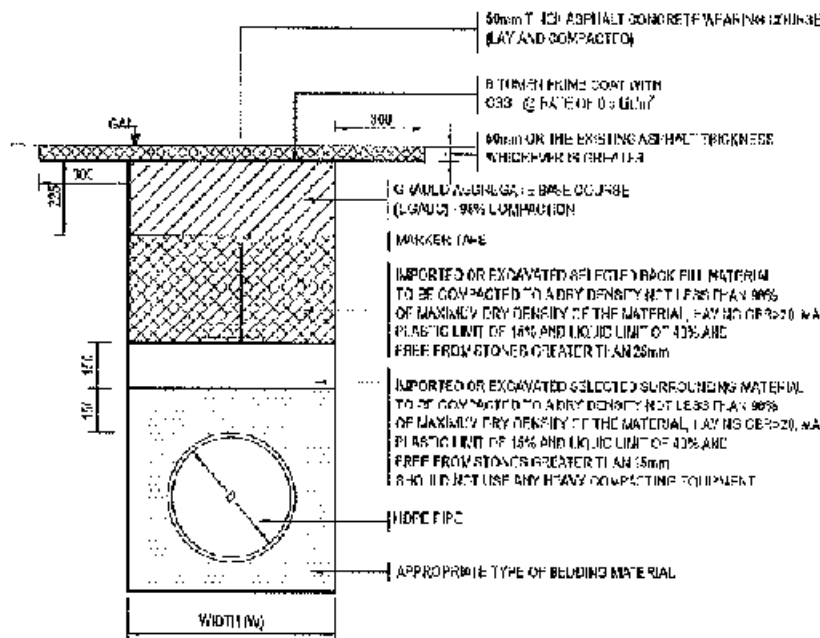
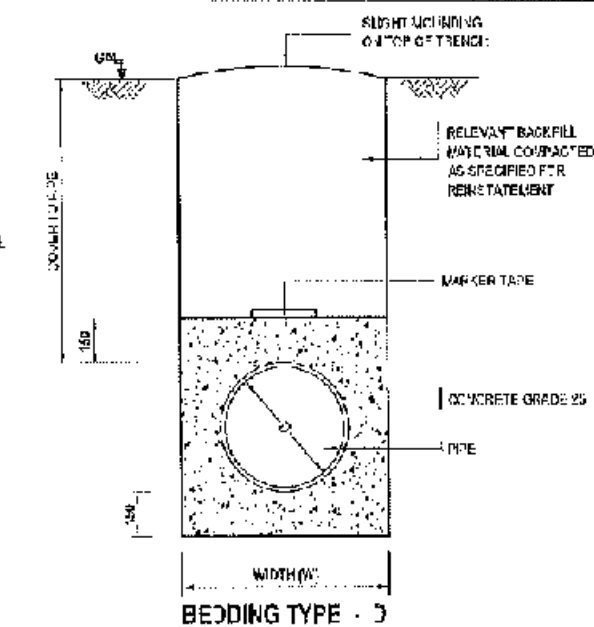
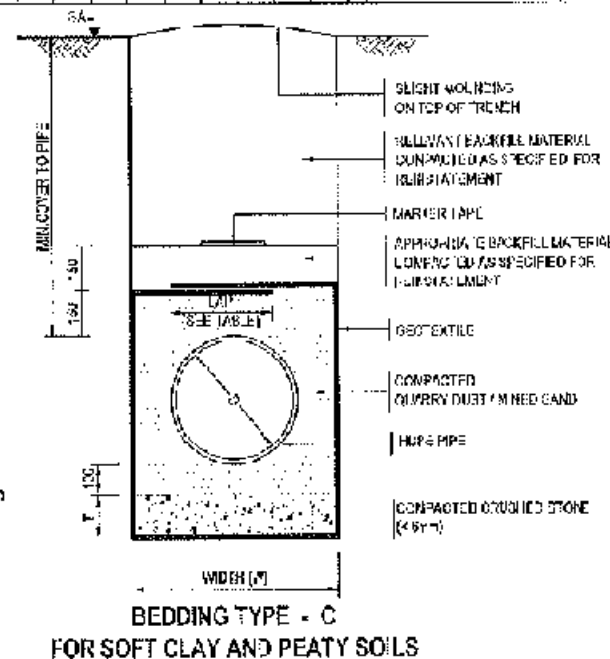
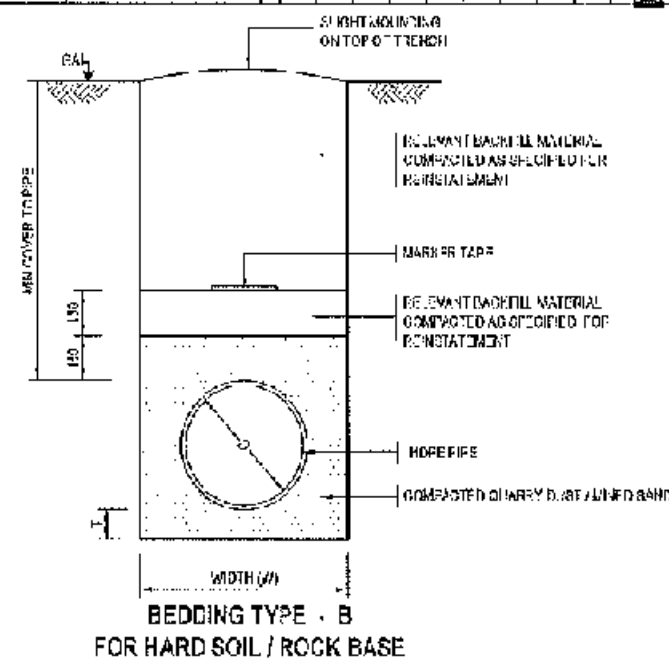
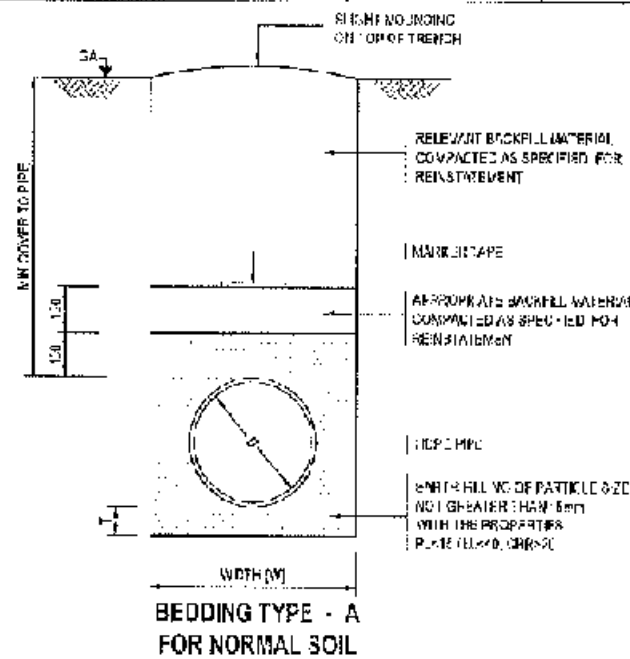
PROJECT CHATTISGARH WATER SUPPLY IMPROVEMENT PROJECT (CWSIP)

PACKAGE CWSIP/W1 - LOT 2
Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Madunaghat & Jagdihal Water Supply System

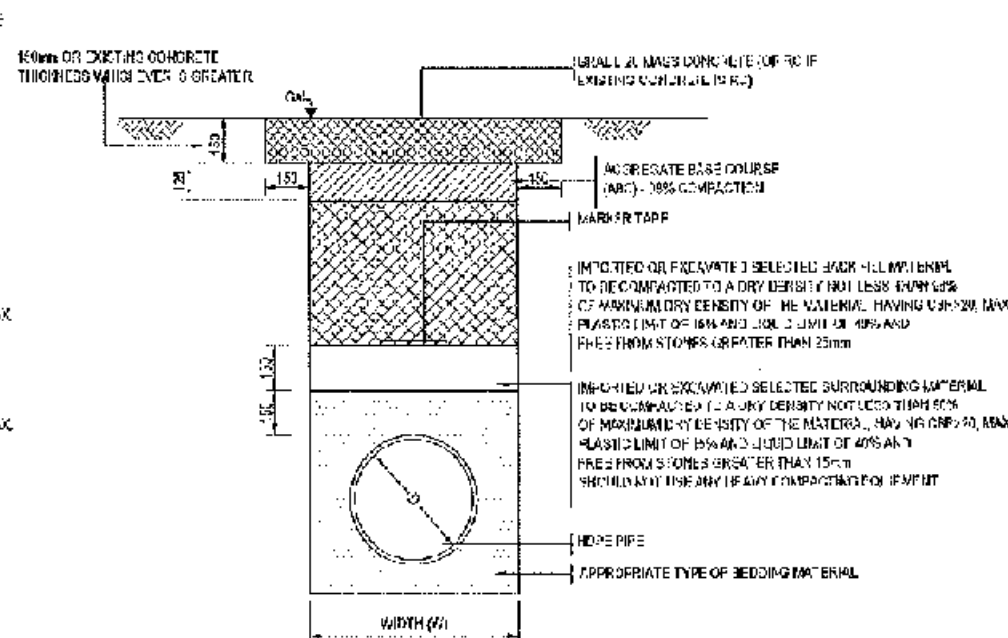
DRAWING NO. 7575-RD & 7574-RD

TITLE STANDARD DETAILS
PIPE BEDDING AND ROAD REINSTATEMENT - FOR DI PIPES

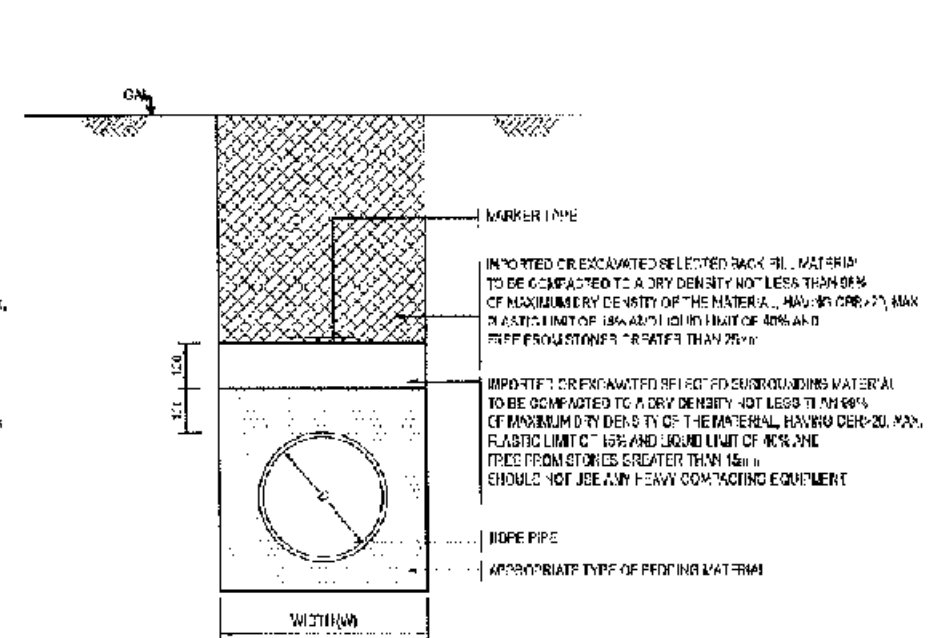
D-W/12/001



HARD SHOULDER AND CARRIAGEWAY OF ASPHALT CONCRETE / TARRED ROADS BACK FILLING AND PERMANENT REINSTATEMENT



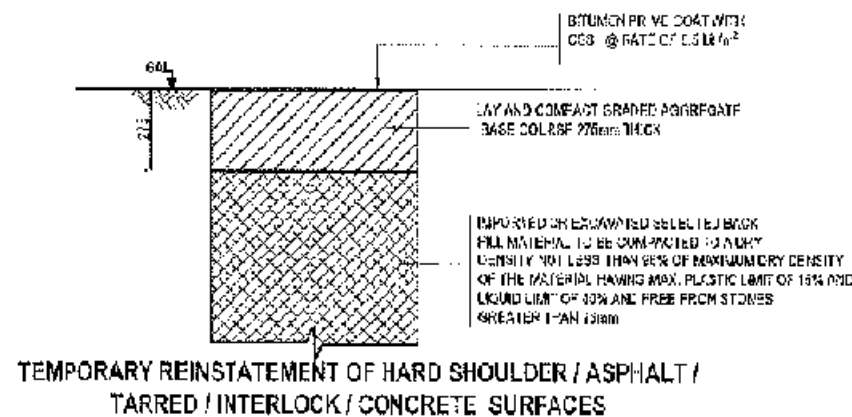
CONCRETE ROAD BACK FILLING AND PERMANENT REINSTATEMENT



BACK FILLING AND COMPACTION FOR EARTH ROADS / SOFT SHOULDERS

DETAIL OF TRENCH				
PIPE DIA. (mm)	WIDTH (W) (mm)	DEPTH (D) (mm)	BEDDING THICKNESS (mm)	LAP OF GEOTEXTILE (mm)
93	0.400	0.200	100	100
110	0.400	0.200	100	200
160	0.450	0.300	100	300
225	0.500	1.000	100	400
250	0.500	1.000	100	400
275	0.600	1.000	150	400
315	0.600	1.000	150	400
355	0.700	1.000	150	500
400	1.700	1.000	150	500

- NOTES:**
- ALL DIMENSIONS ARE IN MILLIMETERS.
 - CSO - CATCHED CLOW SETTING.
 - EXCAVATED SOIL CAN BE USED AS BACK FILLING MATERIAL IF THEY CONFORM TO THE REQUIREMENT OF REINSTATEMENT.
 - IN CASE OF INTERLOCK PAVED ROAD SURFACES, THE TYPE OF BACK FILLING AND REINSTATEMENT DETAILS HEREOF SHALL APPLY AS APPROPRIATE.
 - FOR PIPES IN SOFT OR PEATY GROUND, THE GRANULAR BEDDING SHALL BE COMPLETELY SURROUNDED BY A GEOTEXTILE AS SHOWN IN THE DRAWING AND AS DIRECTED BY THE CONTRACTOR TO PREVENT THE PASSAGE OF FINE GEOTEXTILE PARTICLES INTO THE TRENCH. THE GEOTEXTILE SHALL BE BONDABLE AS PER THE SPECIFICATIONS.
 - HEAVY COMPACTION MACHINES ARE NOT ALLOWED ABOVE THE PIPES.
 - BEDDING TYPE D SHALL BE APPLIED WHEN THE COVER IS LESSER THAN 15% OF THE MINIMUM COVER SPECIFIED.



CONCEPTUAL DRAWING



CHATTOGRAM WATER SUPPLY & SEWERAGE AUTHORITY (CWSA)

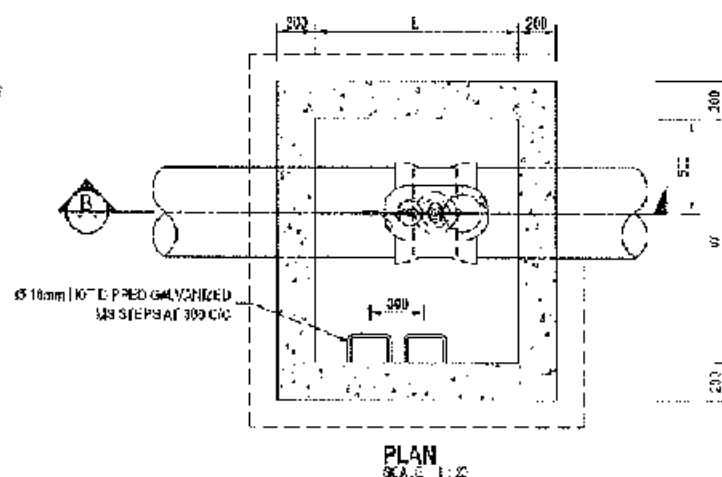
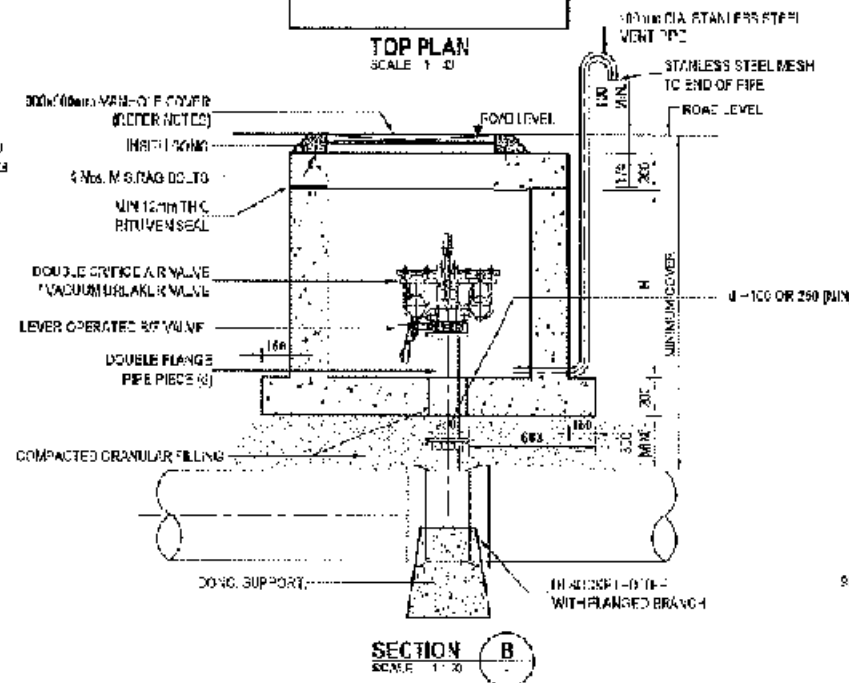
PROJECT: CHATTOGRAM WATER SUPPLY IMPROVEMENT PROJECT (CWSIP)

PACKAGE: CWSIP/WH/LOT 2
Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and O&M Formulation of Modunagar & Kalurghat Water Supply System

ICA CREDIT NO: 7075-BD & 7074-BD

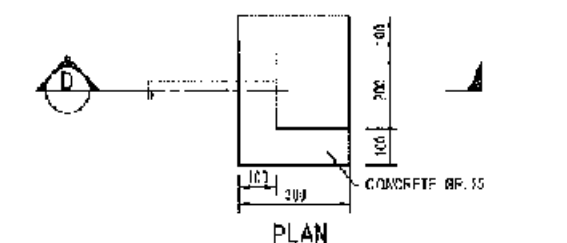
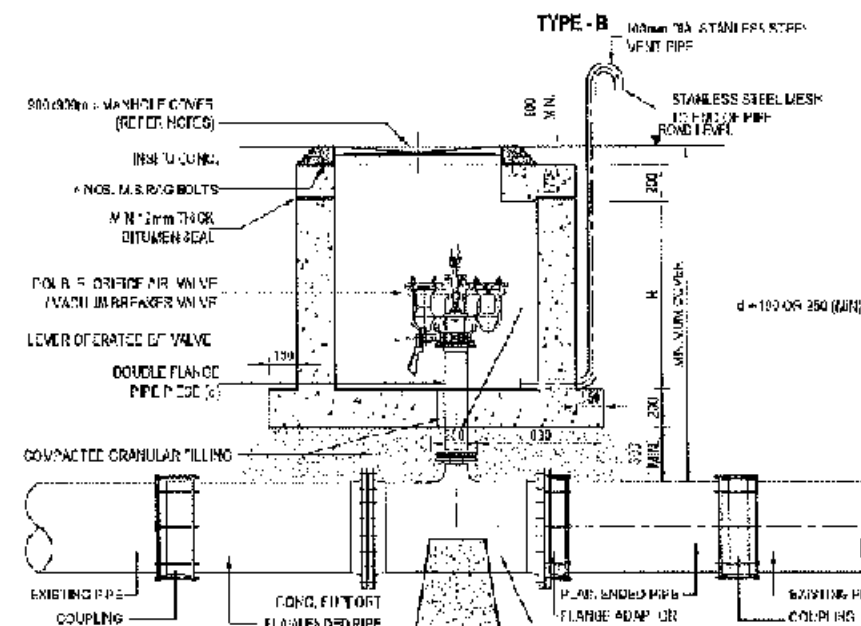
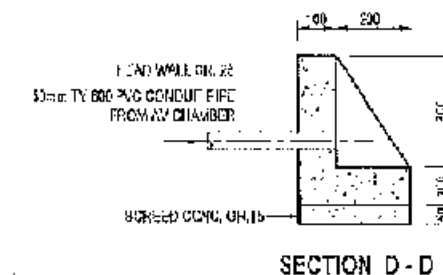
TITLE: STANDARD DETAILS
PIPE BEDDING AND ROAD REINSTATEMENT - FOR HDPE PIPES

DRAWING NO: CWSIP/WH/LOT2/STD/002



CHAMBER TYPE	INTERNAL DIMENSION (mm)			MIN COVER(mm)
	L	W	H	
I	1300	1360	1000	1800
II	1360	1360	1300	2630

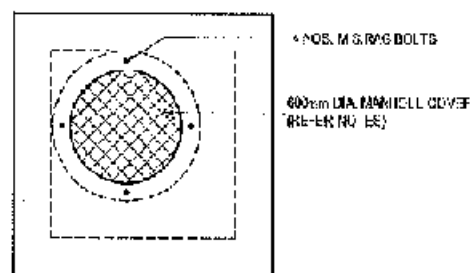
DIA. OF MAIN PIPE	DIA. (mm) OF AIR VALVE	DIA. (mm) OF ISOLATING CUTTERLY VALVE (TN16)	DIA. (mm) OF PLANGED BRANCH-6	CHAMBER TYPE
250-300 DI	60 DOUBLE ORIFICE AIR VALVE	600 DIFF. VALVE	60	
400 - 600 DI	100 DOUBLE ORIFICE AIR VALVE	1000 DIFF. VALVE	100	
800 DI	160 DOUBLE ORIFICE AIR VALVE	1600 DIFF. VALVE	160	B
1000 - 1200 DI	200 DOUBLE ORIFICE AIR VALVE	2000 DIFF. VALVE	200	B



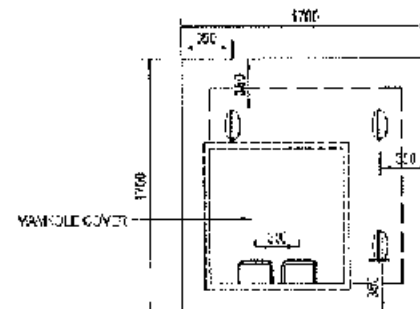
CONCRETE & REINFORCEMENT DETAIL FOR
DRAIN OUTLET FOR AIR VALVE CHAMBERS TYPE A & B
SCALE 1:20

CONCEPTUAL DRAWING

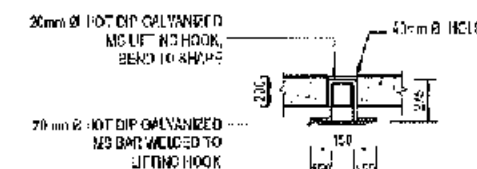
	CHATTOTGRAM WATER SUPPLY & SEWERAGE AUTHORITY (CHWSA)
PROJECT	CHATTOTGRAM WATER SUPPLY IMPROVEMENT PROJECT (CWSIP)
PACKAGE	CWSIP/W1 - LOT 2 Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Modunaghat & Kalurghat Water Supply System
NO. (SHEET NO)	7074-901 & 7074 - 902
TITLE	STANDARD DETAILS AIR VALVE CHAMBER FOR DI PIPE
DRAWING No:	CWSIP/W1/L2/STD/003



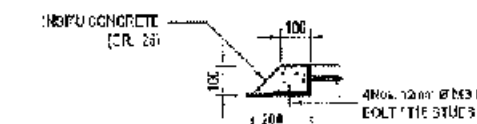
TOP PLAN
SCALE 1:25



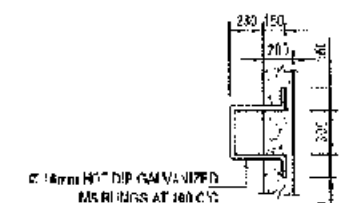
TOP PLAN
SCALE 1:25



DETAILS OF LIFTING HOOK
SCALE 1:50



FIXING DETAIL OF MANHOLE COVER
SCALE 1:25



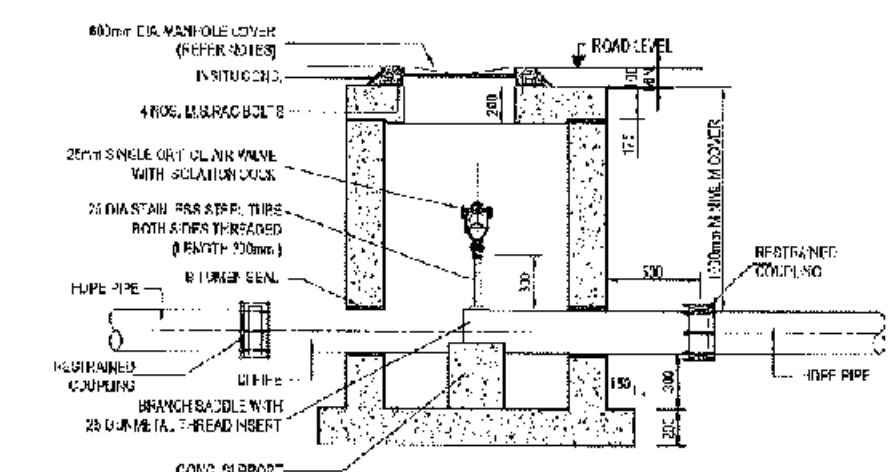
DETAILS OF MS STEPS
SCALE 1:50

NOTES

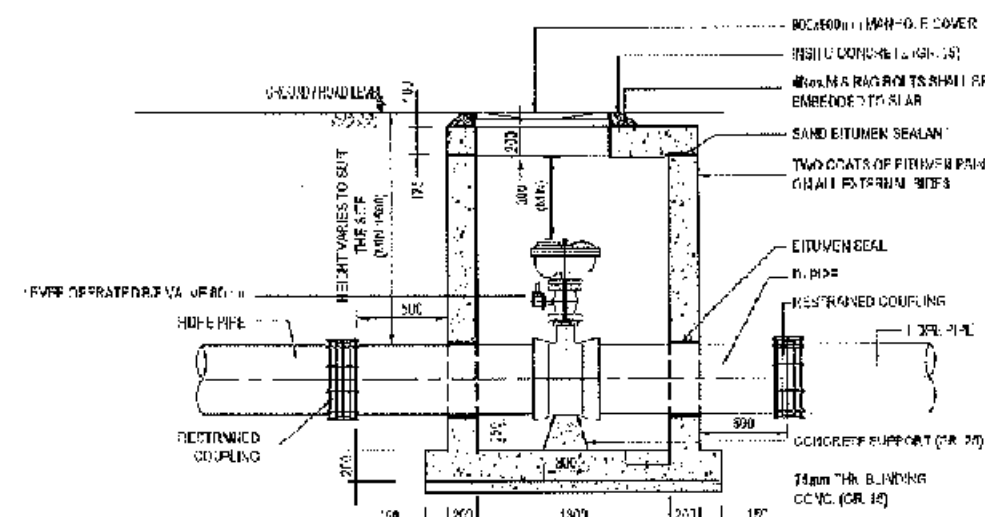
1. CHAMBER SIZES GIVEN IN THE DRAWING ARE THE MINIMUM.
2. CHAMBER PIPE AND THE MINIMUM MANHOLE COVER DETERMINED ACCORDING TO THE DIMENSIONS GIVEN IN A SPECIFIC CATALOGUE. THESE SIZES SHALL BE REVISED WHEN OTHER PRODUCTS ARE USED.
3. MANHOLE COVER SHALL BE OF RINCE, HEAVY DUTY (CLASS 400) VENTILATED TYPE.
4. MANHOLE FRAME SHALL BE FIRMLY FIXED TO THE CHAMBER WITH 4 nos. RING BOLTS OR SIMILAR WORKING.
5. ALL IN SITU CONCRETE, SUPPORTS AND THINGS: REINFORCEMENT SHALL BE AS PER STANDARD PRACTICE.
6. FOR PIPES IN CATCH TRENCH, AIR VALVE LOCATION SHALL BE STAGGERED TO ALLOW SPACE FOR THE VALVE CHAMBERS.
7. CHAMBER COVERS IN STREETS SHALL BE SCAFFOLD MANHOLE COVER WITH GASKET WATER TIGHT.

CONCEPTUAL DRAWING

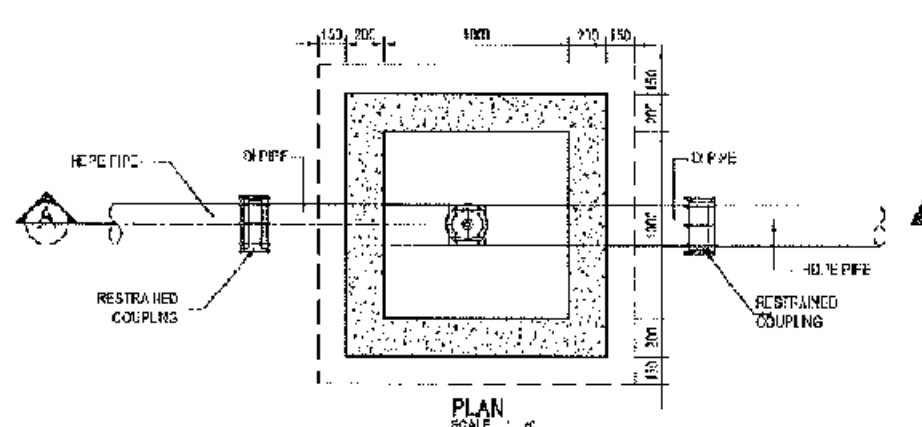
PROJECT	CHATTISGARH WATER SUPPLY IMPROVEMENT PROJECT (CWSSIP)
PACKAGE	CWSSIP/W1/L2/STD/004
DESCRIPTION	Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Modurapahat & Raipur Water Supply System
DATE	15/06/2024
TITLE	STANDARD DETAILS AIR VALVE CHAMBER FOR HDPE PIPES
DRAWN BY	CWSSIP/W1/L2/STD/004



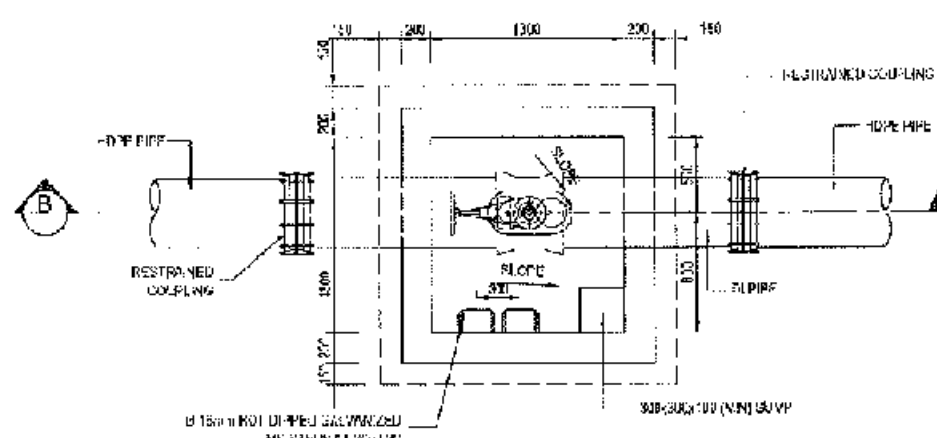
SECTION A
SCALE 1:25



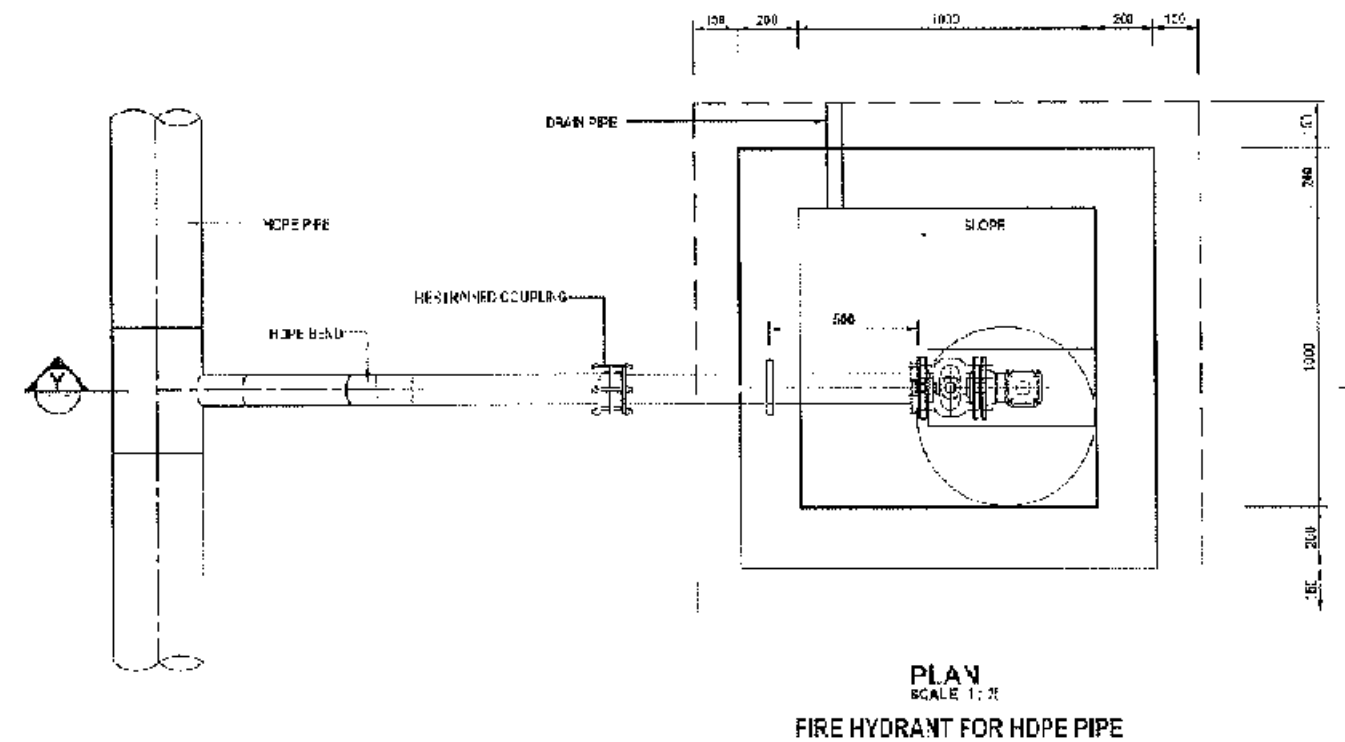
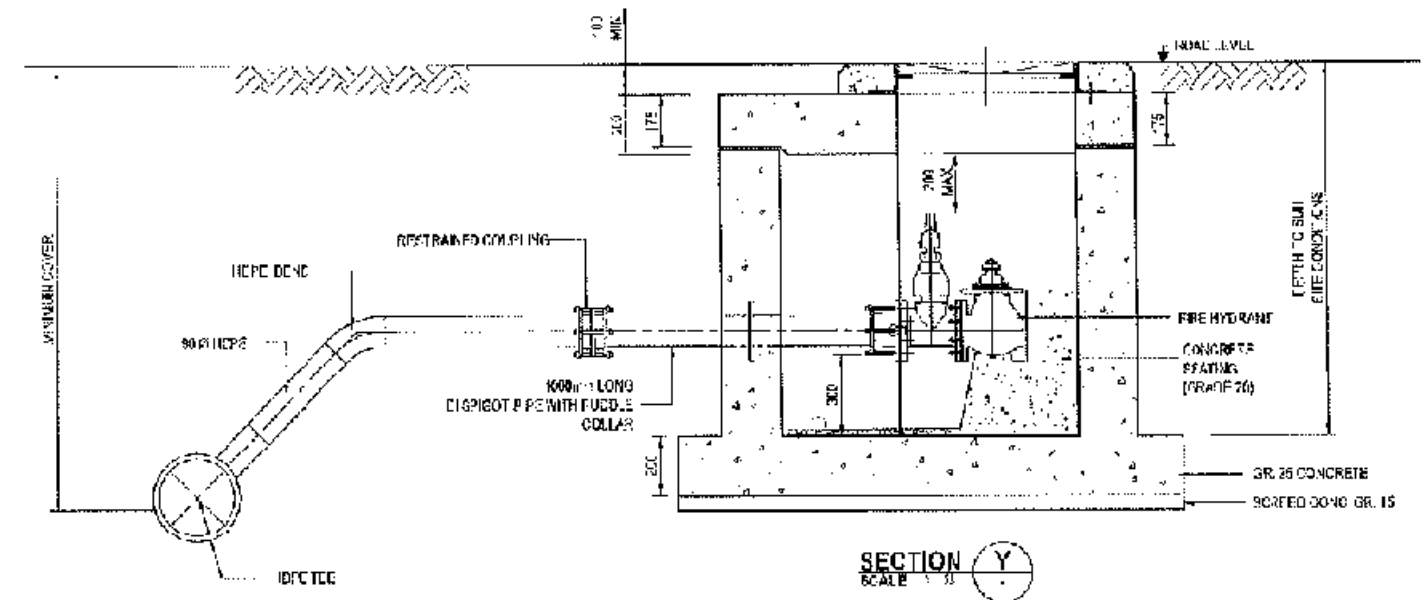
SECTION B
SCALE 1:25



SINGLE ORIFICE AIR VALVE CHAMBER
FOR HDPE PIPES (UP TO 225mm)

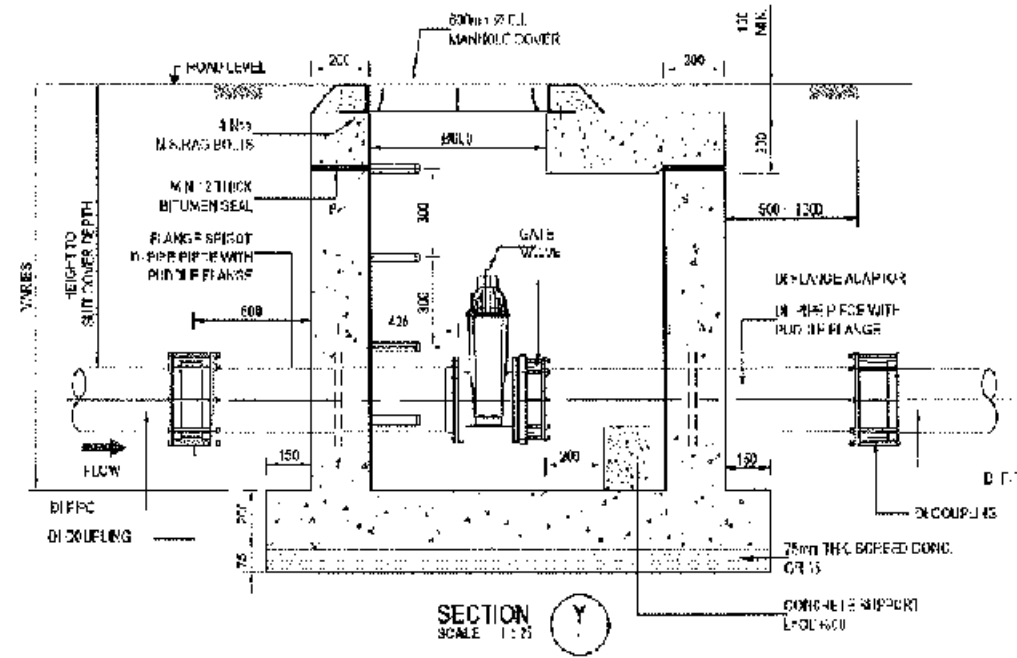


DETAILS OF 80mm DOUBLE ORIFICE AIR VALVE
CHAMBER FOR HDPE PIPES
(DIA. ABOVE 225mm AND UP TO 400mm)

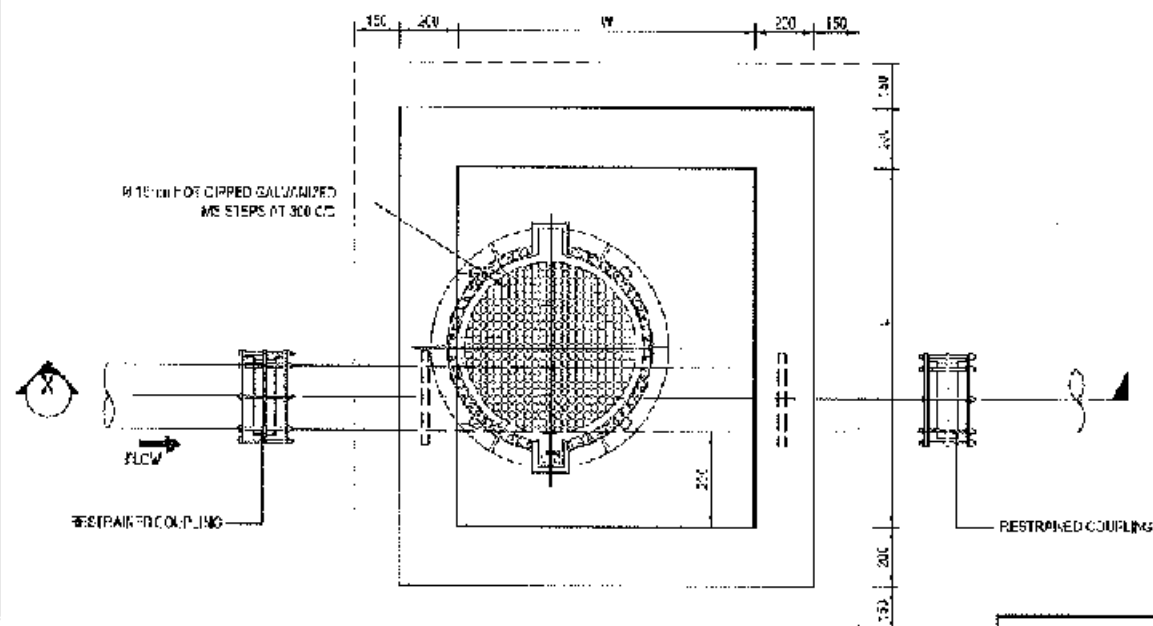


5. CHAMBER COVERS IN STEEL IS SHALL BE SECURED ON VARIOUS COVER WITH GASKET (WATER TIGHT)

DRAWING No: CWS/PW 1L2/STD/006

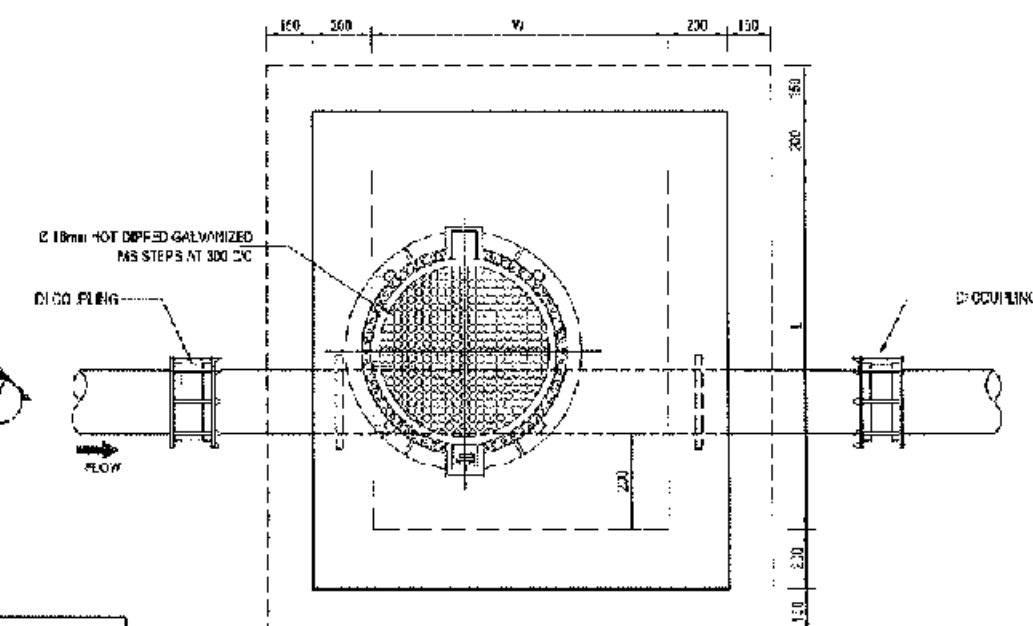


INSTALLATION OF SLUICE VALVE WITH A SURFACE BOX FOR HDPE PIPES UP TO 150mm Ø (REFER NOTE 7)

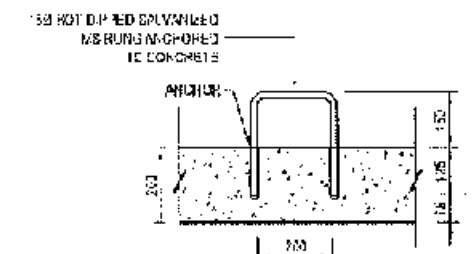


TOP PLAN
SCALE 1:25
GATE VALVE FOR HDPE PIPE

VALVE CHAMBER DETAILS		
VALVE DIA (mm)	W(mm)	L (mm)
UP- Ø 200	1000	1500
250 - 300	1300	1300



TOP PLAN
SCALE 1:2
GATE VALVE FOR DI PIPE



DETAILS OF MS RUNGS

- NOTES:**
1. DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED.
 2. CHAMFER SIZE GIVEN IN THE DRAWING IS THE MINIMUM.
 3. MANHOLE COVERS SHALL BE OPENED AND LATCHED BY HAND ONLY (CLASS 200) WITH 500 CM MINIMUM CLEAR OPENING.
 4. MANHOLE FRAME SHALL BE FIRMLY VIBED TO THE PROPOSED COVER.
 5. CONG. OF CHAMBER AND VALVE SUPPORT SHALL BE IN OR 25, EXCEPT OR 15.
 6. COVER TO BE SHALL BE 400mm.
 7. THE SURFACE DRAIN ARRANGEMENT IS PERMITTED ONLY AT PAVED HARD SHOULDERS OR PAVEMENTS. THE ROAD C-CHAMBER SHALL BE CONSTRUCTED FOR ALL OTHER PLACES.
 8. CHAMBER COVERS IN STREETS SHALL BE SCREENED BY MANHOLE COVER WITH BASKET (WATER TIGHT).

CONCEPTUAL DRAWING



CHATTOPADHYAY WATER SUPPLY & SEWERAGE AUTHORITY
(CWASA)

PROJECT CHITTORGARH WATER SUPPLY IMPROVEMENT PROJECT (CW81P)

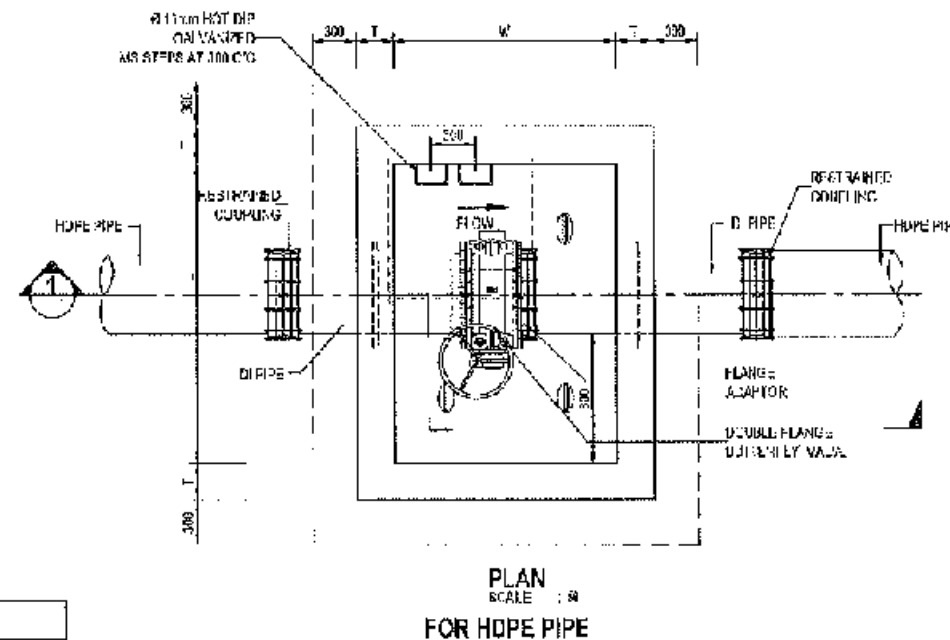
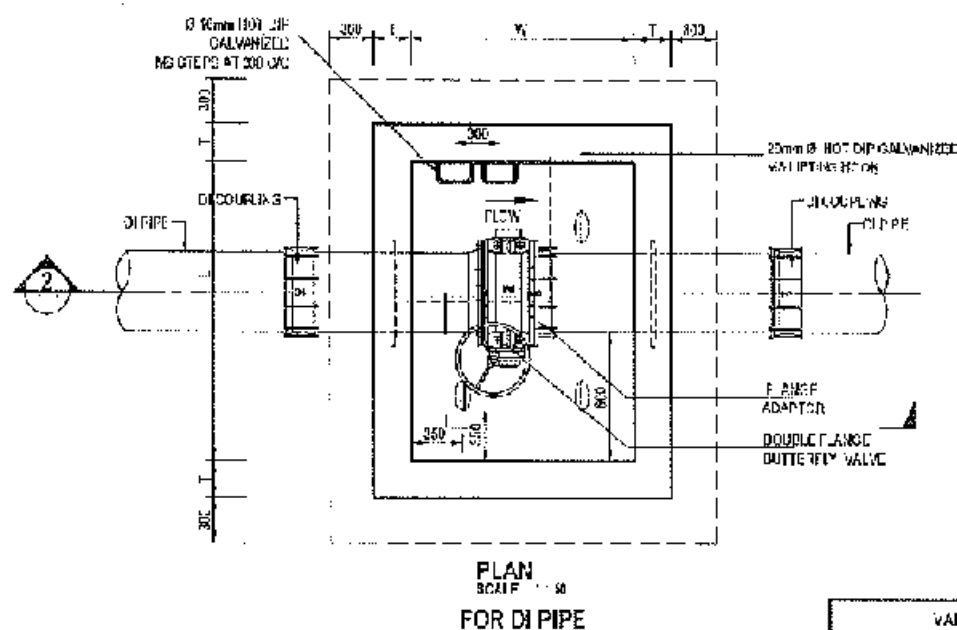
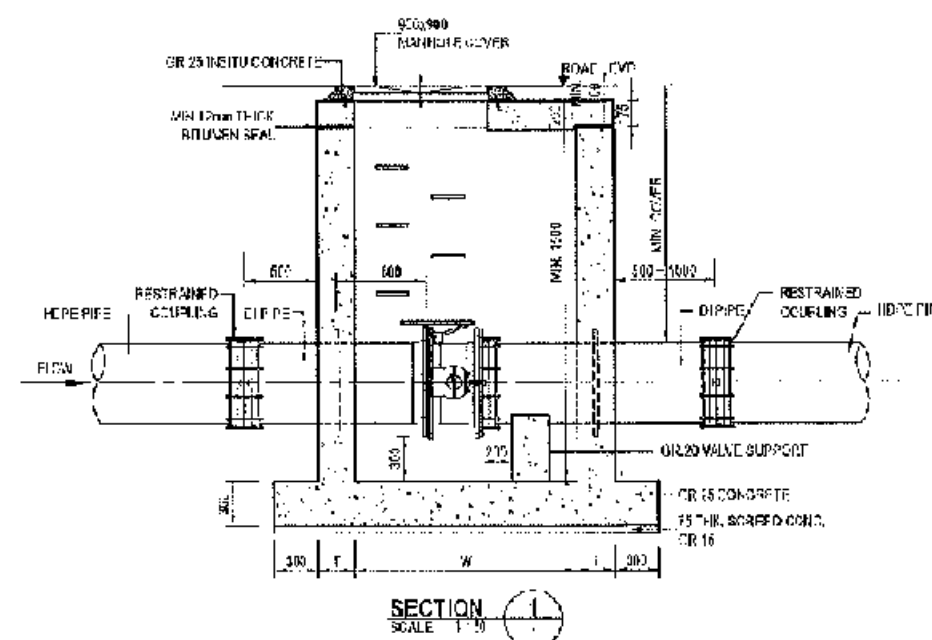
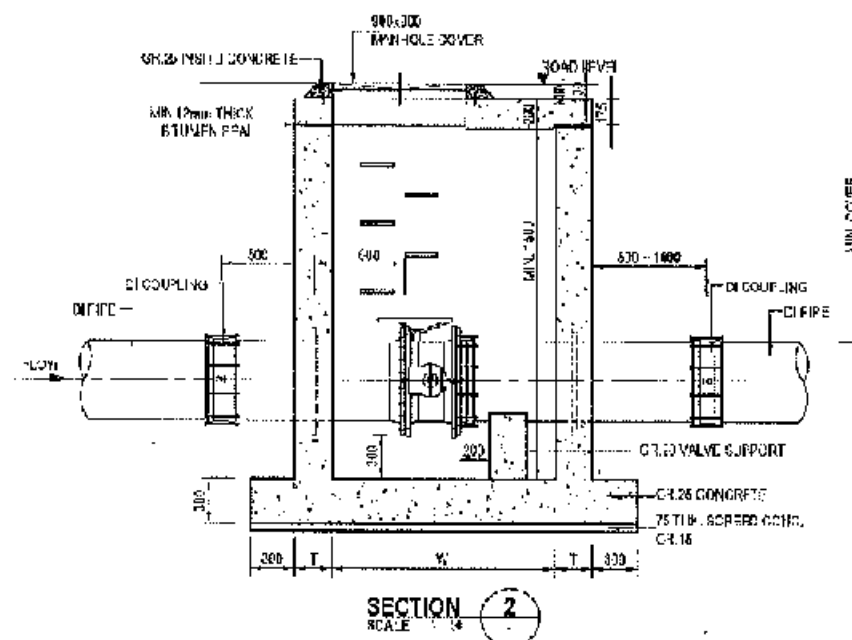
PACKAGE: CWSIP/W1 - LOT 2
Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Moolanaghal & Kalurghal Water Supply System

INDEPENDENT: 7675-RT-07674-EO

111E	STANDARD DETAILS GATE VALVE CHAMBER UN300 AND BELOW
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DISPATCH NO: **CWSIP/W1L2/STD/007**

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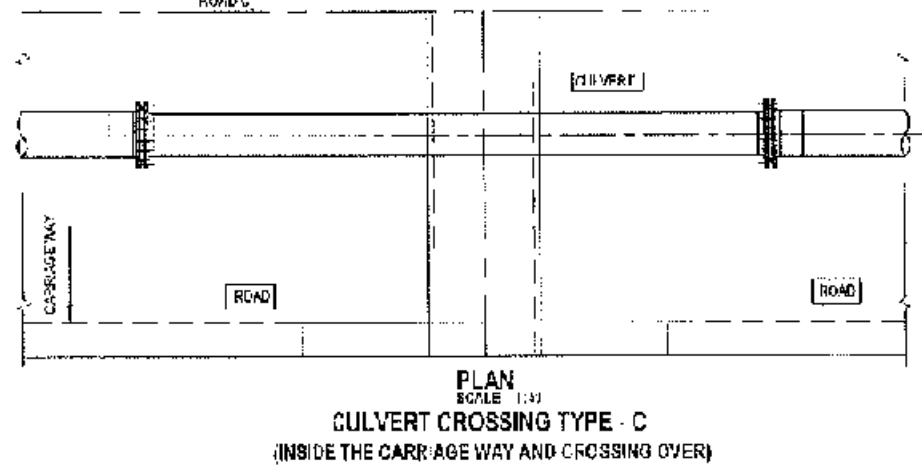
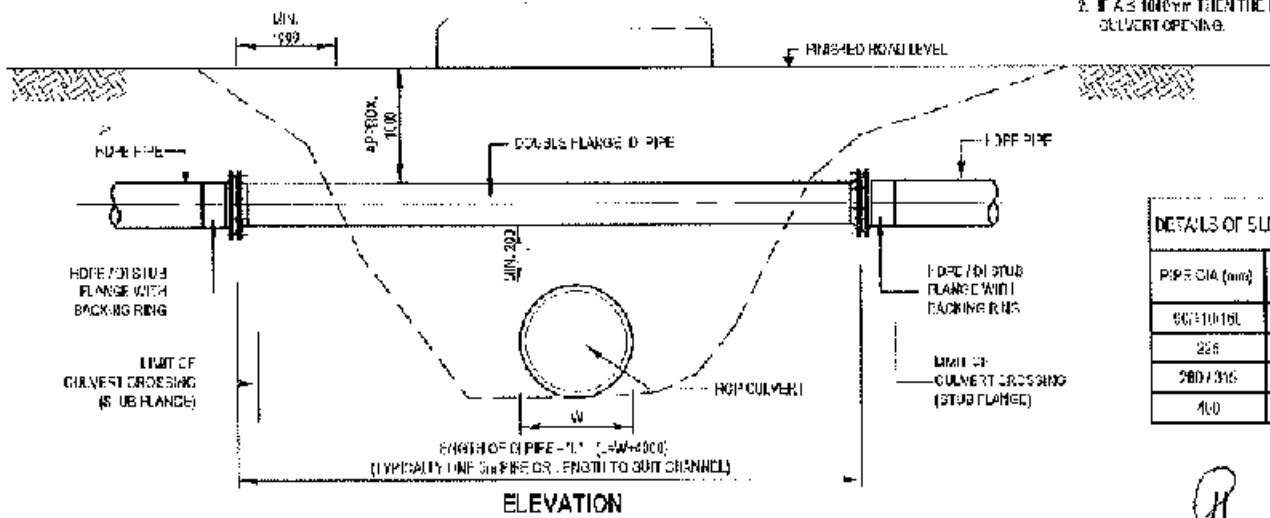
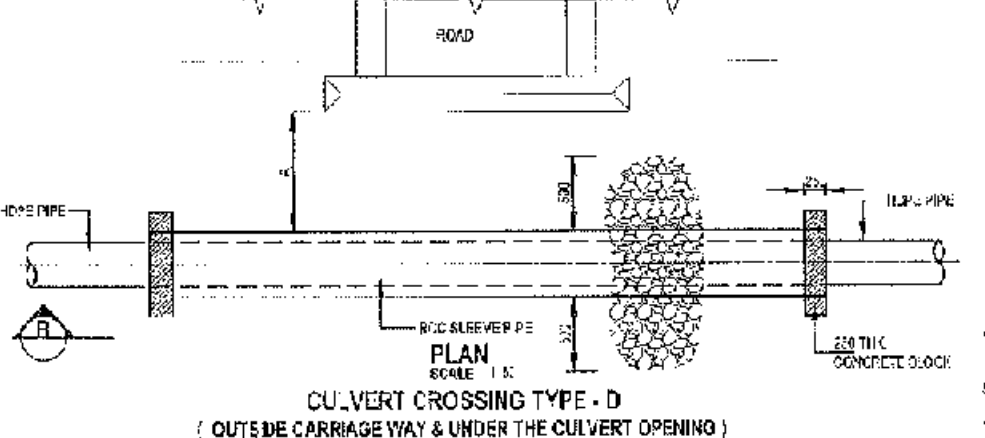
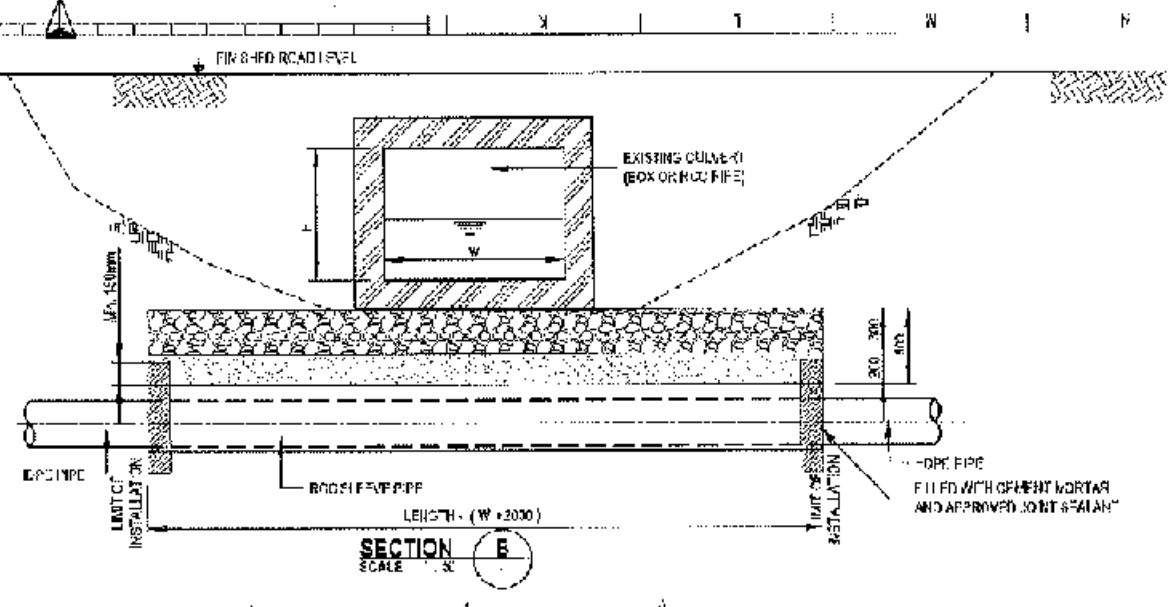
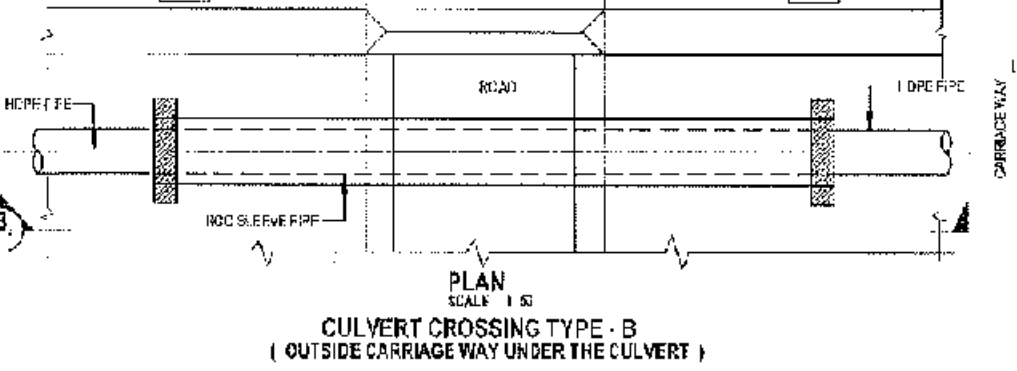
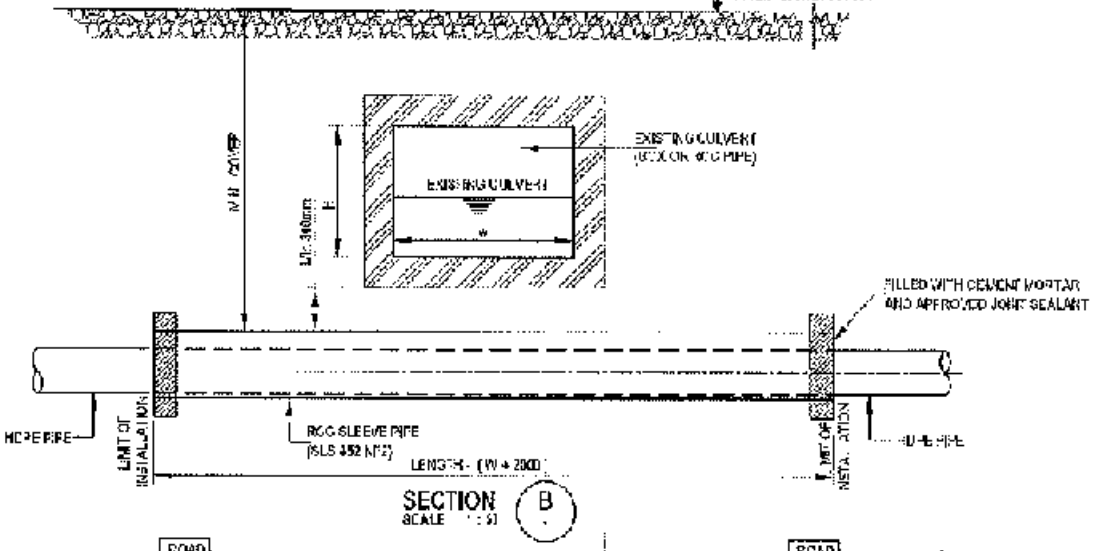
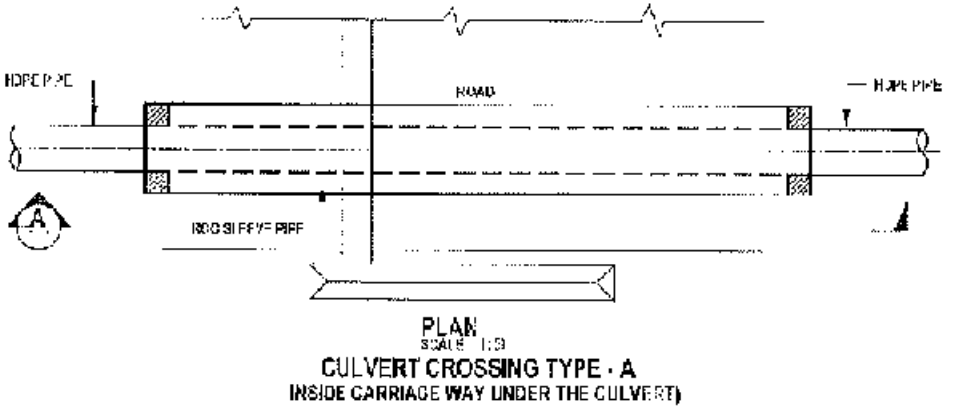
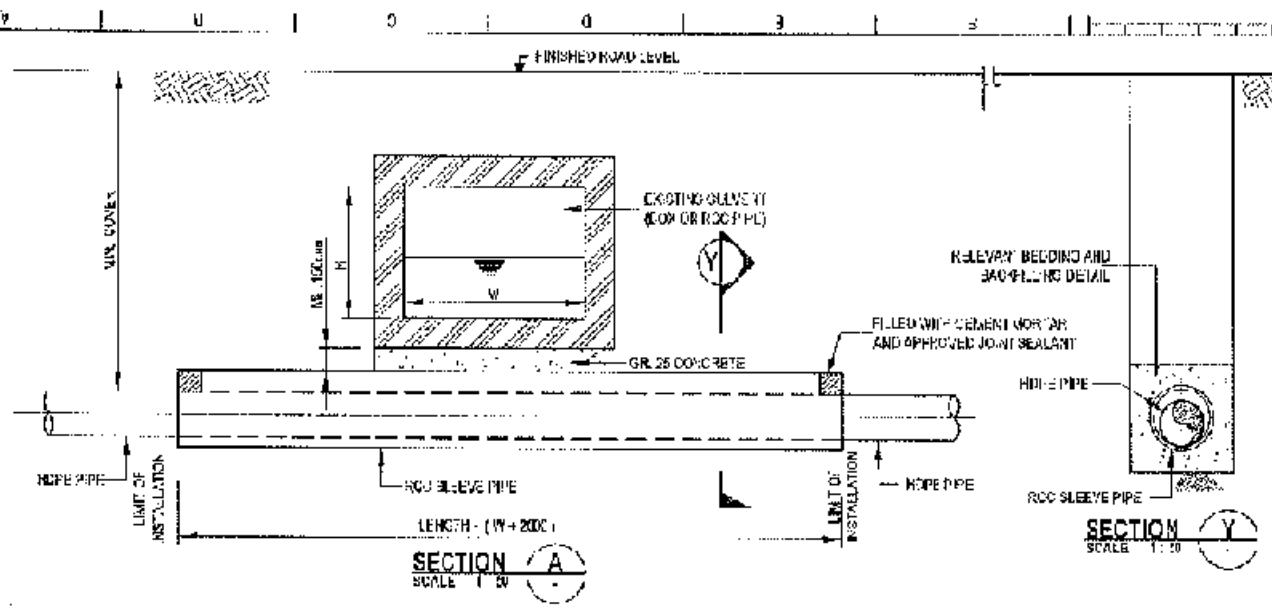


VALVE CHAMBER DETAIL			
PIPE DIA (mm)	W	L	T
300 - 500	1800	3000	250
600 - 1000	2500	3500	250
1200	2500	3500	300

- NOTES**
- EXACT DIMENSION SHOULD BE ACCORDING TO THE SITE CONDITION.
 - THE GRADE OF CONCRETE SHALL BE CR 25 AND SCREED CR 15.
 - THE COVER TO REINFORCEMENT SHALL BE 40mm.
 - ALL DIMENSIONS ARE IN MILLIMETERS.
 - PROVIDE EXTRA REINFORCEMENT FOR THE OPENINGS, AS PER THE STANDARD.
 - CHAMBER COVERS IN STREETS SHALL BE 900x900 mm HOLE COVER WITH GASKET (WATER TIGHT).

CONCEPTUAL DRAWING

 CHATTGRAM WATER SUPPLY & SEWERAGE AUTHORITY (WASA)	
PROJECT	CHATTGRAM WATER SUPPLY IMPROVEMENT PROJECT (CWSIP)
PACKAGE	CWSIP/1/1/CT2 Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Modaraghat & Katurigaha Water Supply System
DATE/REV	10/08/2023 & 10/08/2023
TITLE	STANDARD DETAILS - BUTTERFLY VALVE CHAMBER FOR DI AND HDPE PIPES - (DN 300mm AND ABOVE)
DRAWING No.	CWSIP/1/1/2/STD/008



- NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRE.
 2. IF $A \leq 1000$ mm THEN THE RFP - RCP SHALL BE PROVIDED UP TO THE CULVERT OPENING.

DETAILS OF SLEEVE PIPE AND GROUND R.F-RAP		
PIPE DIA (mm)	SLEEVE PIPE (INVERT DIA (mm))	RFP-RAP DIMENSIONS (mm)
500/1000	750	1100 x 300
750	1000	1400 x 300
1000	1250	1700 x 300

CONCEPTUAL DRAWING

CHATTOPADHYAY WATER SUPPLY & SEWERAGE AUTHORITY (CWSA)

CHATTOPADHYAY WATER SUPPLY IMPROVEMENT PROJECT (CWSIP)

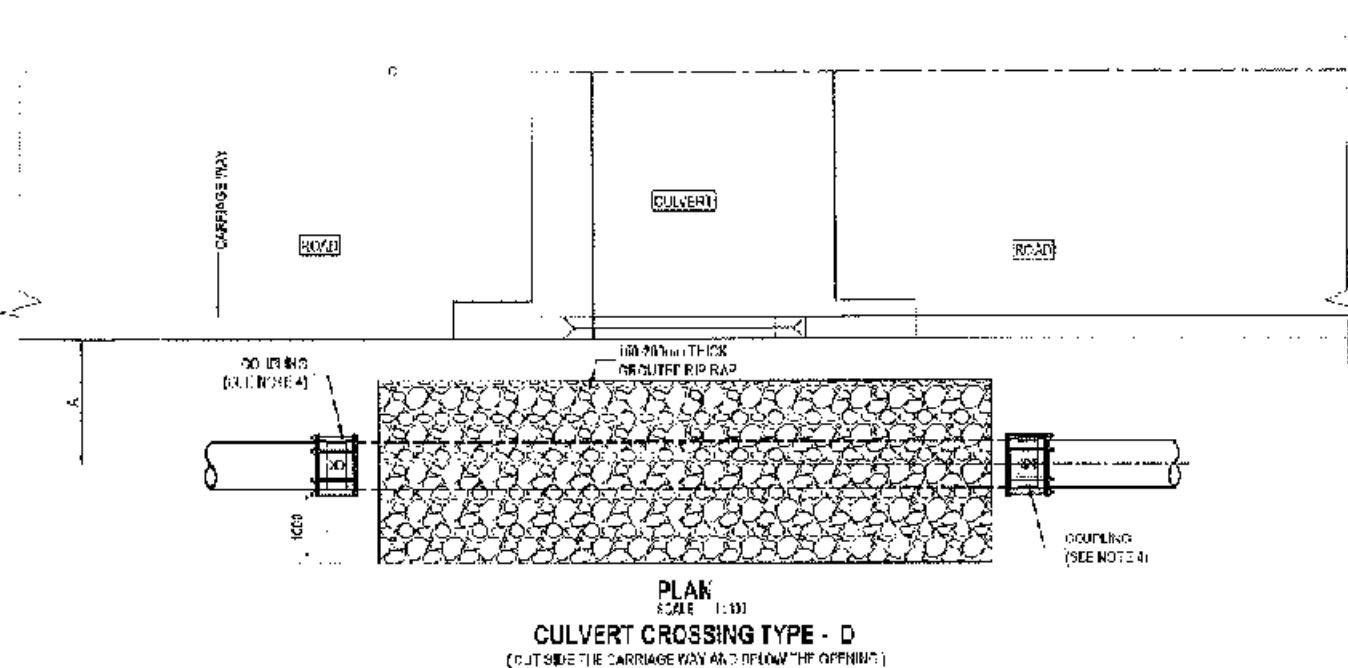
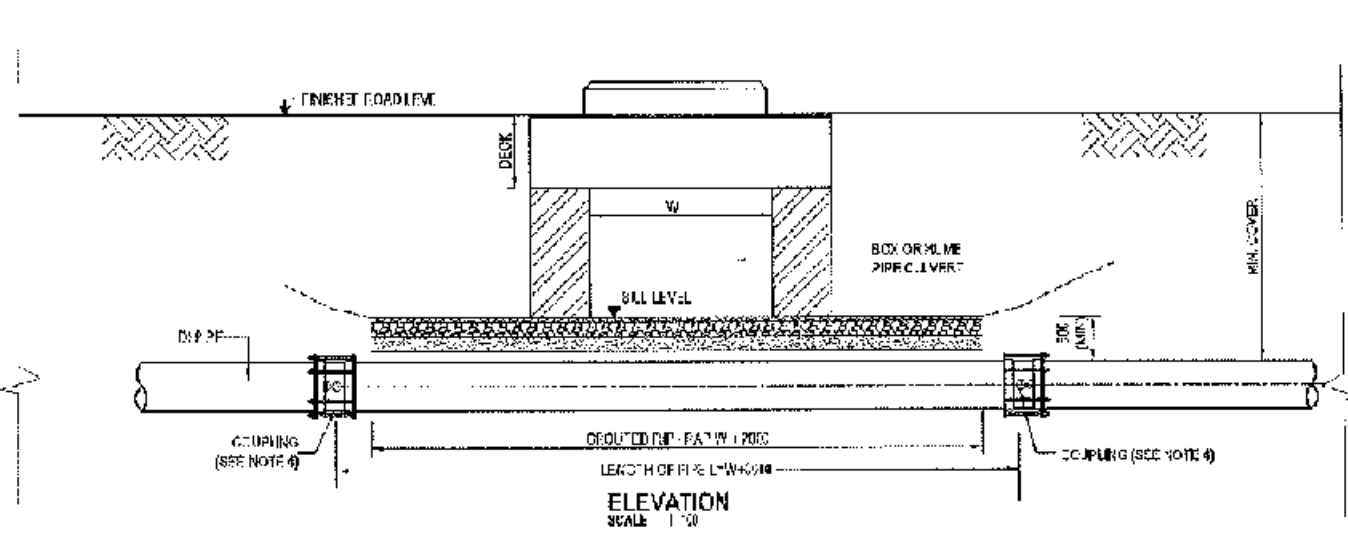
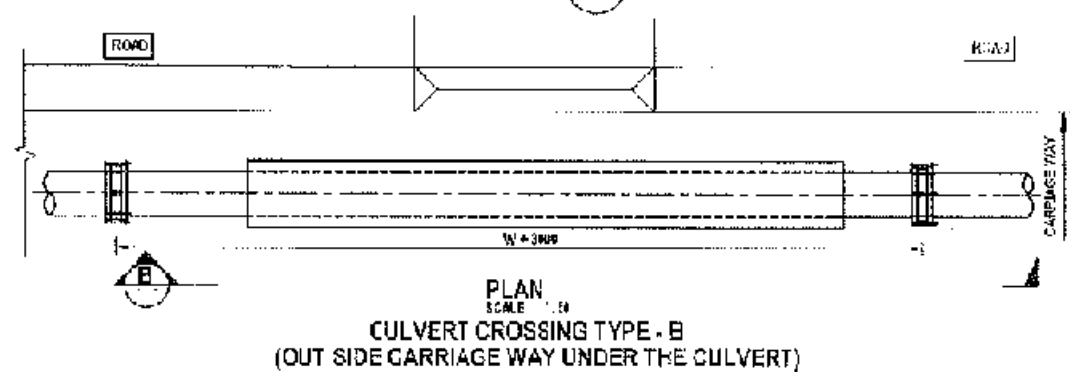
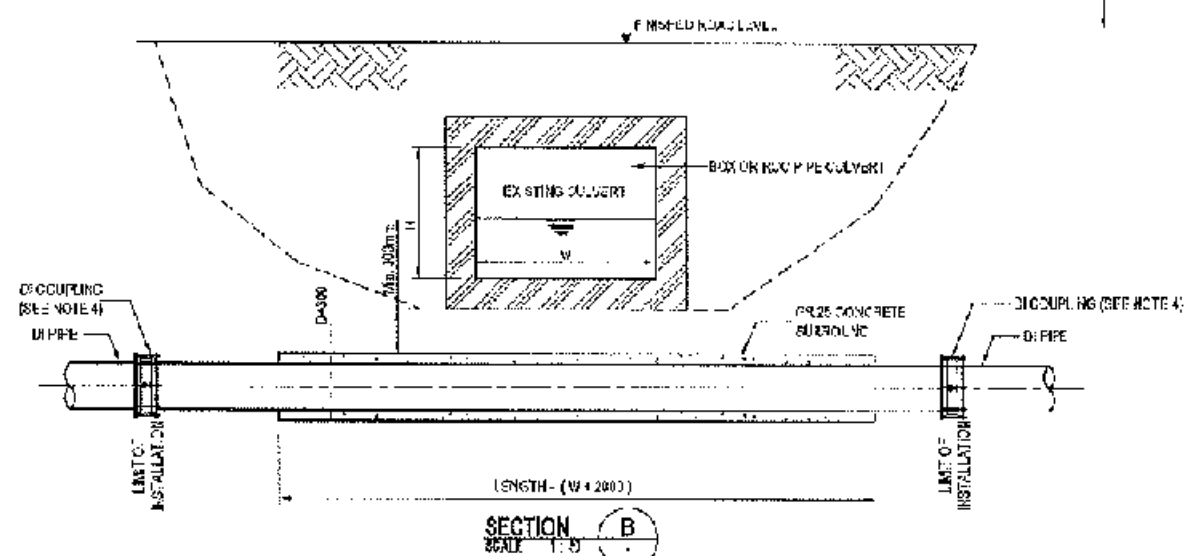
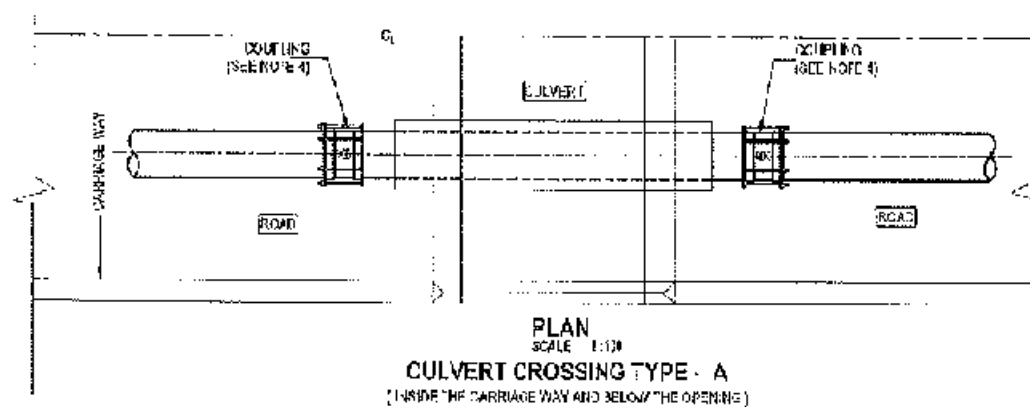
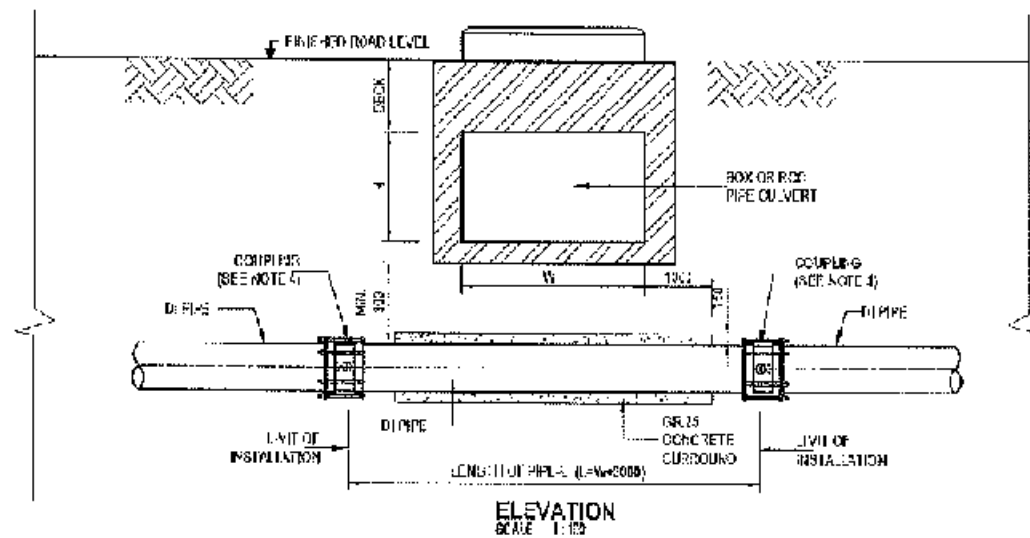
PACKAGE: CWSIP/VA - LOT 2

Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Modunaghat & Itanagarhat Water Supply System

PROJECT NO: 7575-HD & 7574-HD

TITLE: STANDARD DETAILS CULVERT CROSSING FOR HDPE PIPE

DRAWN BY: CWSIP/W1/L2/STD/009



NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS
2. WHERE APPLICABLE, THE WASHOUT TEE SHALL BE PROVIDED AT A MINIMUM DISTANCE OF 20 AWAY FROM THE COUPLING
3. IF $L \leq 1000$ mm THEN THE RIP-RAP SHALL BE PROVIDED UP TO THE CULVERT OPENING.
4. USE RELEVANT RESTRAINED COUPLING AT BOTH ENDS FOR CONNECTING WITH RESTRAINED DI PIPES.

CONCEPTUAL DRAWING



CHATTOGRAM WATER SUPPLY & SEWERAGE AUTHORITY
(CWSA)

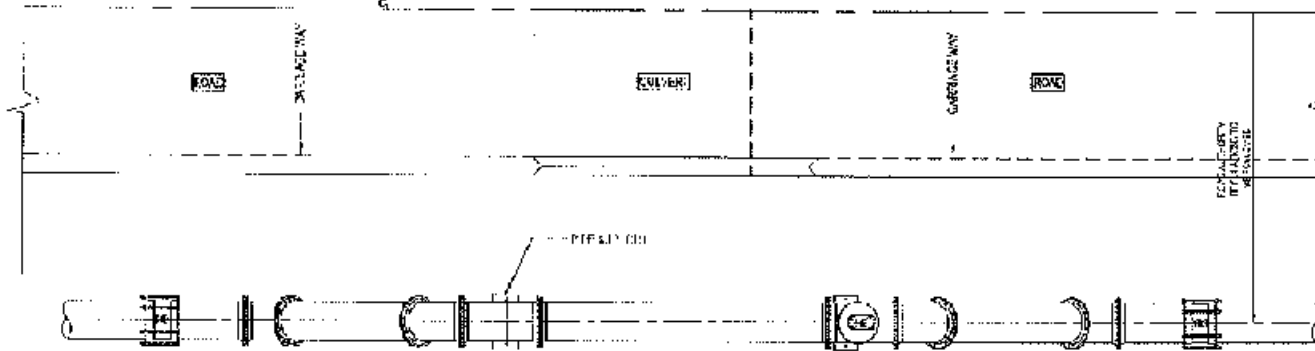
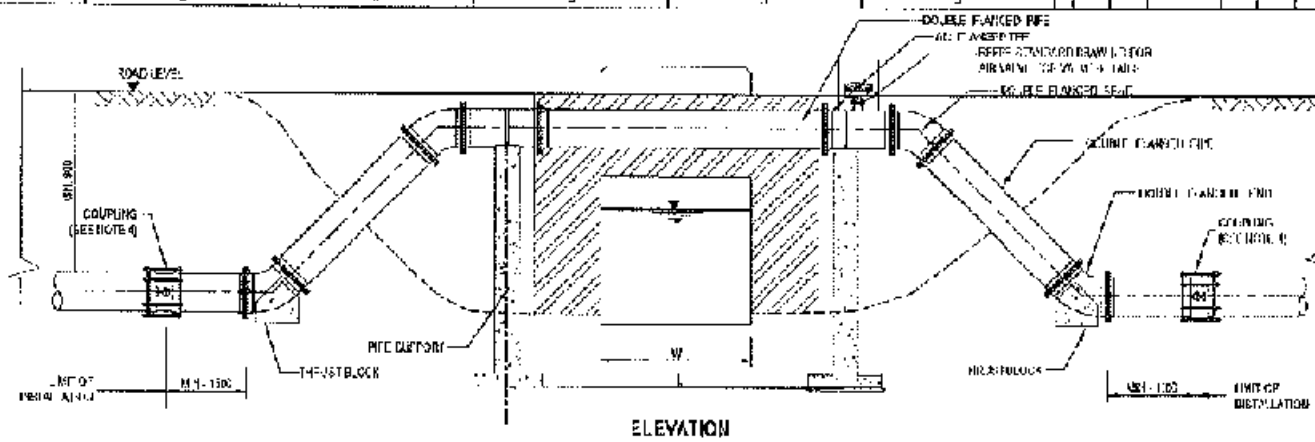
PROJECT CHATTOGRAM WATER SUPPLY IMPROVEMENT PROJECT (CWSIP)

PACKAGE CWSIP/W1 - LOT 2
Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Modunaghat & Kalurghat Water Supply System

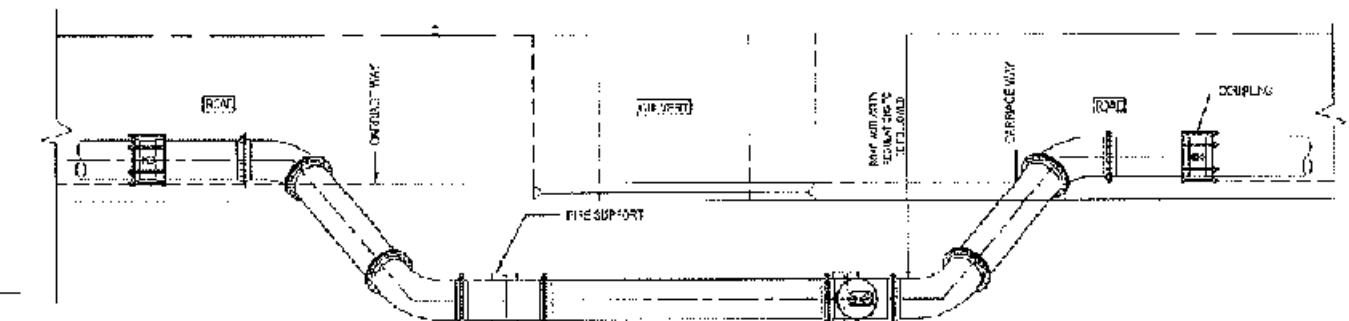
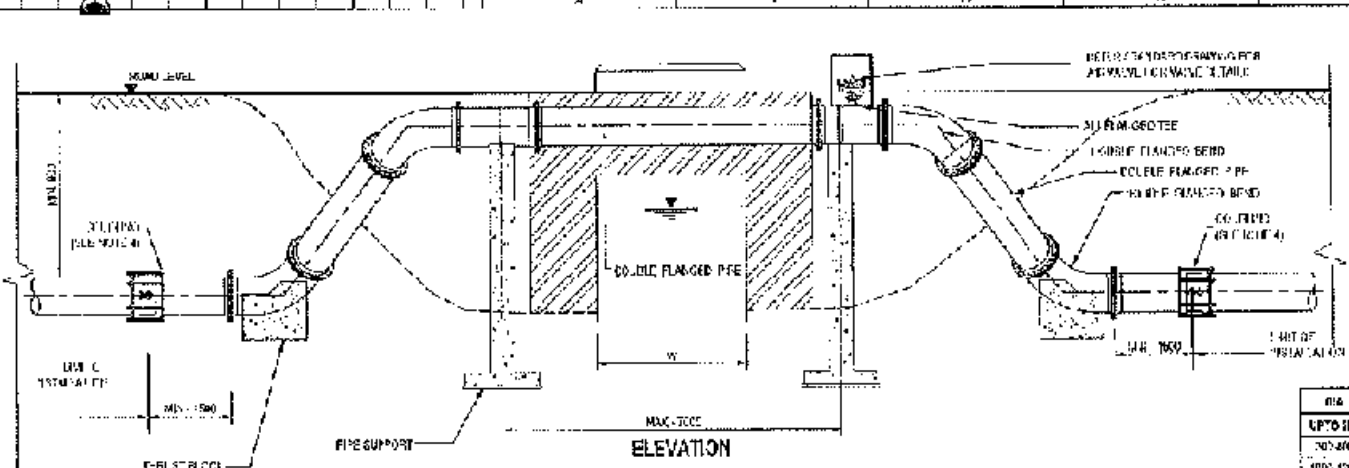
ISSUANCE NO. 7876-BD & 7874-DU

TITLE STANDARD TITLE: 5
CULVERT CROSSING FOR DI PIPES

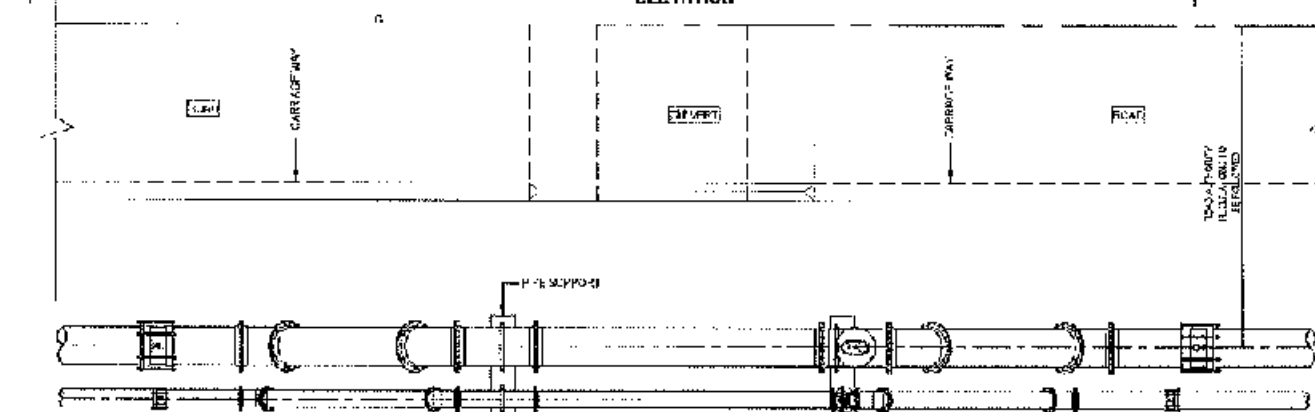
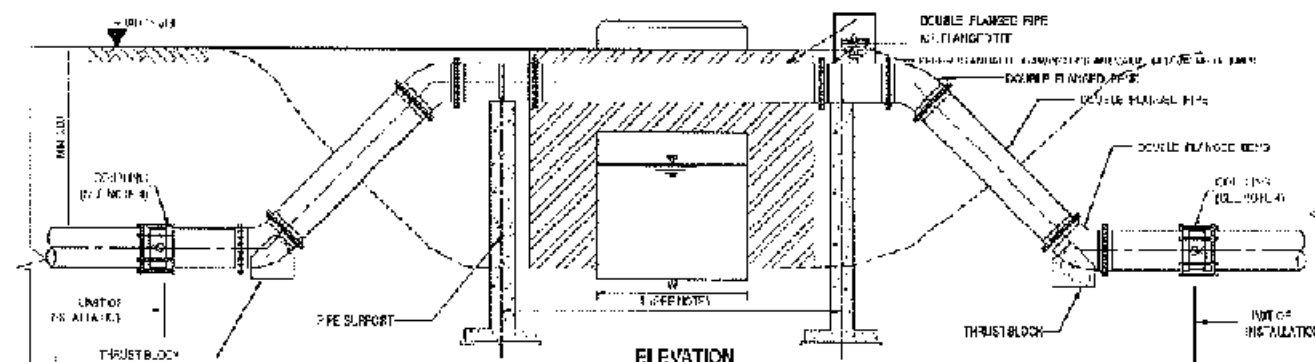
DRAWING No. CWSIP/W1/L2/STD/010



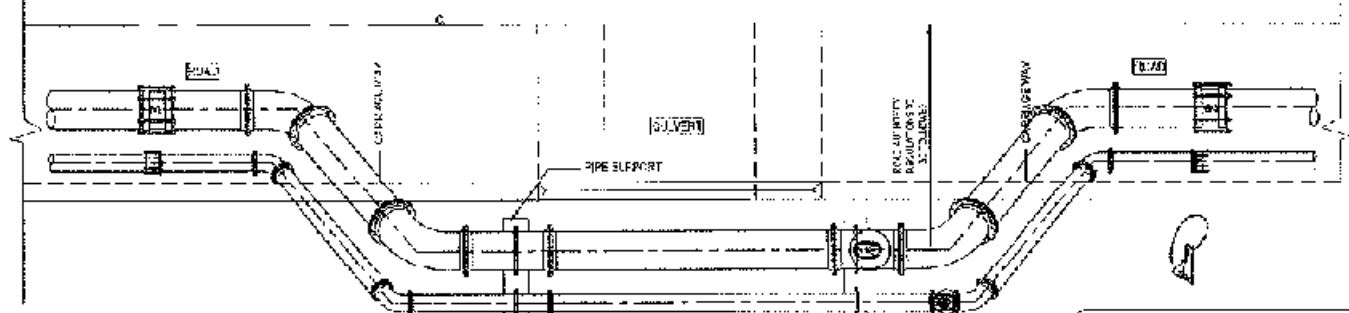
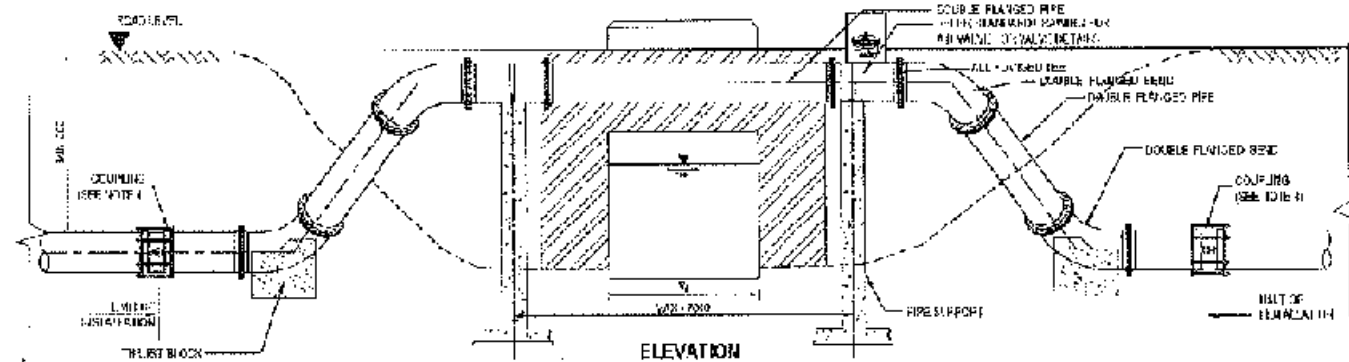
PLAN
CULVERT CROSSING TYPE-E (FOR SINGLE PIPE)



PLAN
CULVERT CROSSING TYPE-G (FOR SINGLE PIPE)



PLAN
CULVERT CROSSING TYPE-E (FOR TWO PIPES)



PLAN
CULVERT CROSSING TYPE-G (FOR TWO PIPES)

CONCEPTUAL DRAWING

NOTES

1. NO OBSTRUCTION TO THE FLOW THROUGH THE CULVERT SHALL OCCUR DUE TO THE PIPE CONNECTIONS.
2. WHERE APPLICABLE THE WAS JOIN THE SHALL BE PROVIDED AT A MINIMUM DISTANCE OF 50' AWAY FROM THE COUPLING.
3. SOME PLACES MAY NEED SPECIAL JOINTS FOR TYPE G CONNECTION.
4. USE REFR. STANDARD BENDS AT DOWN ENDS FOR CONNECTING WITH HOPE PIPES AND REFR. STANDARD BENDS.
5. ALL EXPOSED PIPES SHALL BE PAINTED WITH PROTECTIVE PAINT AS SPECIFIED.



CHATTAHOOCHEE WATER SUPPLY & SEWERAGE AUTHORITY (CWASA)

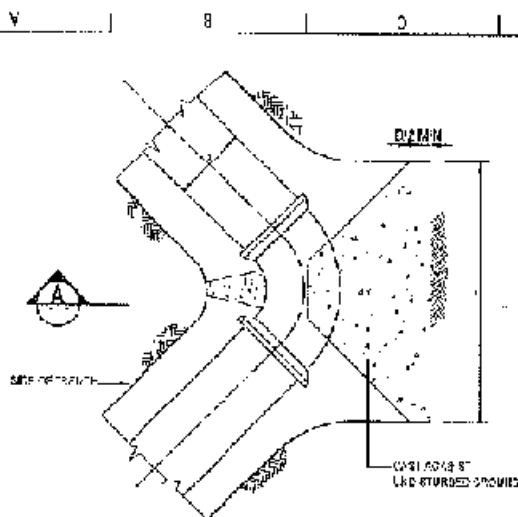
PROJECT CHATTAHOOCHEE WATER SUPPLY IMPROVEMENT PROJECT (CWSIP)

PACKAGE CWSIP/W11 - LOT 2
Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Moultrie & Kaurdgat Water Supply System

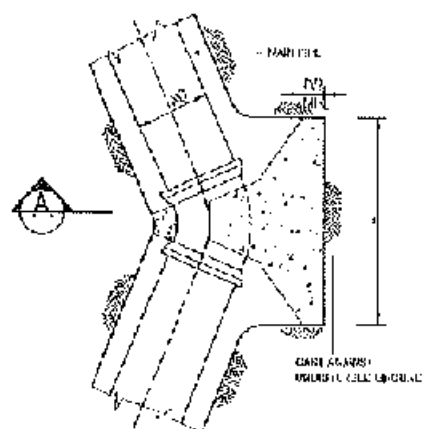
RECORDING NO. 7675-BD & 7674-BD

TITLE STANDARD DETAILS
CULVERT CROSSING TYPE E & G FOR DI & HOPE PIPES

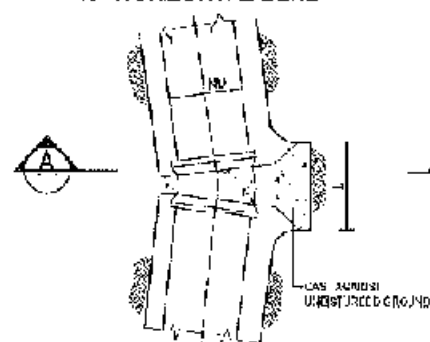
DRAWING NO. CWSIP/W11/2/STD/011



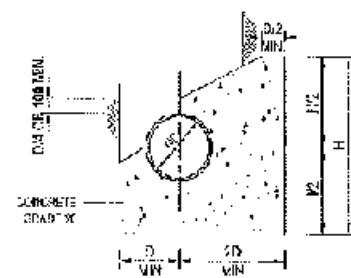
PLAN
90° HORIZONTAL BEND



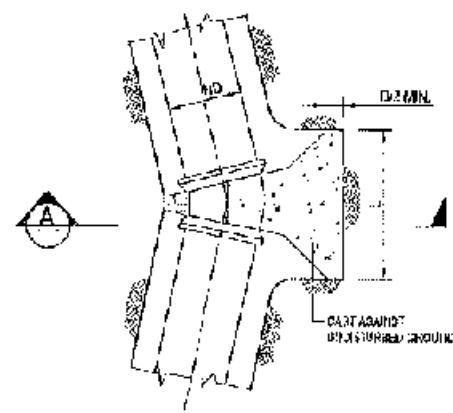
PLAN
45° HORIZONTAL BEND



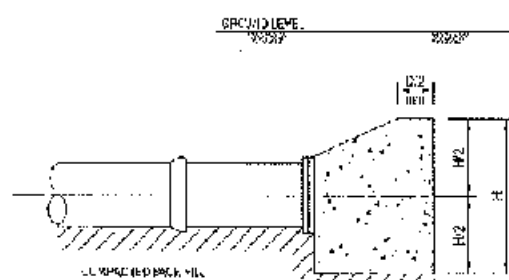
PLAN
11 1/4° HORIZONTAL BEND



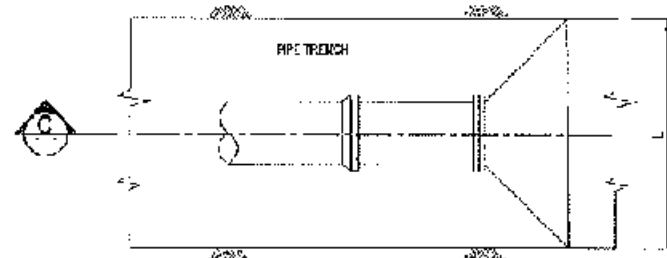
SECTION A-A



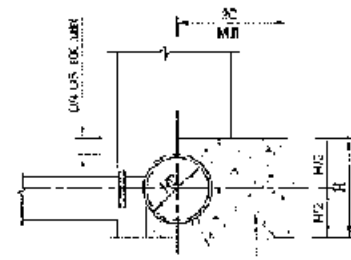
PLAN
22 1/2° HORIZONTAL BEND



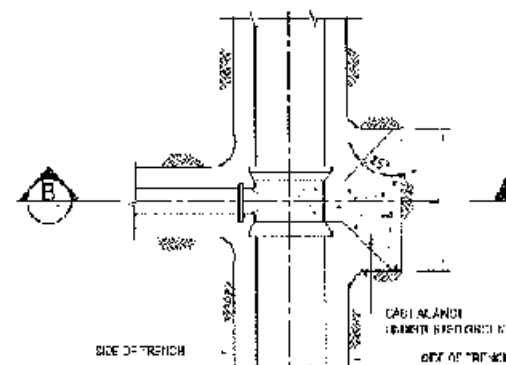
SECTION B-B
SCALE 1:20



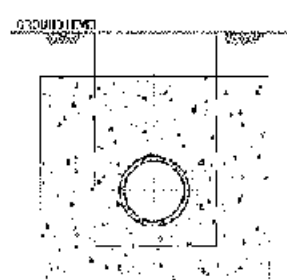
PLAN
THRUST BLOCK FOR END CAP / BLANK FLANGE



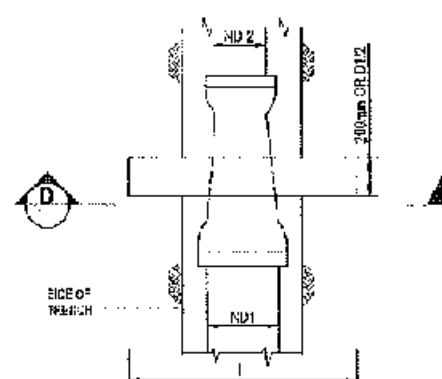
SECTION B-B



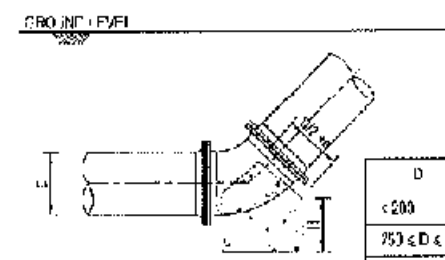
PLAN
THRUST BLOCK FOR TEE



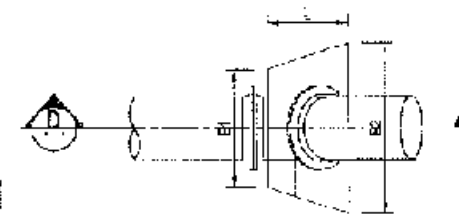
SECTION D-D
SCALE 1:20



PLAN
THRUST BLOCK FOR TAPER



SECTION D-D
SCALE 1:20



PLAN
THRUST BLOCK FOR 45° VERTICAL BEND

D	R
< 200	150
250 ≤ D ≤ 400	200
400 < D	300

DIMENSIONS OF THRUST BLOCKS FOR DIFFERENT TEST PRESSURES - 45° VERTICAL BEND						
DIA (mm)	L (mm)		H (mm)		R (mm)	
	100	150	200	250	300	350
50	100	150	200	250	300	350
75	150	200	250	300	350	400
100	200	250	300	350	400	450
125	250	300	350	400	450	500
150	300	350	400	450	500	550
175	350	400	450	500	550	600
200	400	450	500	550	600	650
225	450	500	550	600	650	700
250	500	550	600	650	700	750
275	550	600	650	700	750	800
300	600	650	700	750	800	850

DIA (mm)	L (mm)		H (mm)		R (mm)	
	100	150	200	250	300	350
50	100	150	200	250	300	350
75	150	200	250	300	350	400
100	200	250	300	350	400	450
125	250	300	350	400	450	500
150	300	350	400	450	500	550
175	350	400	450	500	550	600
200	400	450	500	550	600	650
225	450	500	550	600	650	700
250	500	550	600	650	700	750
275	550	600	650	700	750	800
300	600	650	700	750	800	850
325	650	700	750	800	850	900
350	700	750	800	850	900	950
375	750	800	850	900	950	1000
400	800	850	900	950	1000	1050
425	850	900	950	1000	1050	1100
450	900	950	1000	1050	1100	1150
475	950	1000	1050	1100	1150	1200
500	1000	1050	1100	1150	1200	1250

FOR END CAP / BLANK FLANGE / TEE					
DIA (mm)	L (mm)		H (mm)		R (mm)
	100	150	200	250	
50	100	150	200	250	300
75	150	200	250	300	350
100	200	250	300	350	400
125	250	300	350	400	450
150	300	350	400	450	500
175	350	400	450	500	550
200	400	450	500	550	600
225	450	500	550	600	650
250	500	550	600	650	700
275	550	600	650	700	750
300	600	650	700	750	800
325	650	700	750	800	850
350	700	750	800	850	900
375	750	800	850	900	950
400	800	850	900	950	1000
425	850	900	950	1000	1050
450	900	950	1000	1050	1100
475	950	1000	1050	1100	1150
500	1000	1050	1100	1150	1200

FOR TAPERS					
DIA (mm)	L (mm)		H (mm)		R (mm)
	100	150	200	250	
50	100	150	200	250	300
75	150	200	250	300	350
100	200	250	300	350	400
125	250	300	350	400	450
150	300	350	400	450	500
175	350	400	450	500	550
200	400	450	500	550	600
225	450	500	550	600	650
250	500	550	600	650	700
275	550	600	650	700	750
300	600	650	700	750	800
325	650	700	750	800	850
350	700	750	800	850	900
375	750	800	850	900	950
400	800	850	900	950	1000
425	850	900	950	1000	1050
450	900	950	1000	1050	1100
475	950	1000	1050	1100	1150
500	1000	1050	1100	1150	1200

- NOTES
1. WHEN TWO PIPELINES ARE LAID IN COMMON TRENCH, THE BENDS SHALL BE STAGGERED TO MAKE WAY FOR INDEPENDENT THRUST BLOCKS, WHEN STAGGERING OF BENDS IS NOT POSSIBLE, THE THRUST BLOCK SHALL HAVE THE COVERING AREA OF 1.1 H REQ. IREQ FOR BOTH BENDS.
 2. THE ABOVE DIMENSIONS OF THRUST BLOCKS ARE VALID FOR NON-SUBMERGED CONDITION ONLY. FOR SUBMERGED CONDITION, FOLLOW THE EFFECTIVE LATERAL AREA (A_{eff}).
 3. L AND H MAY BE ALTERED TO SUIT SITE, BUT THE LATERAL AREA (A_{eff}) SHALL REMAIN THE SAME OR GREATER.
 4. WHEN ANCHOR OR CAST IRON ARE USED, THE AREA (A_{eff}) MAY BE REDUCED BY 50%.
 5. THE THRUST BLOCKS SHALL EXTEND FROM THE FITTING UP TO THE UNDISTURBED FACE OF THE PIPE TRENCH.
 6. ALL THRUST BLOCKS SHALL BE OF GRADE 20 CONCRETE.

CONCEPTUAL DRAWING

WASA CHAI TOUWAI WATER SUPPLY & SEWERAGE AUTHORITY (WASAS)

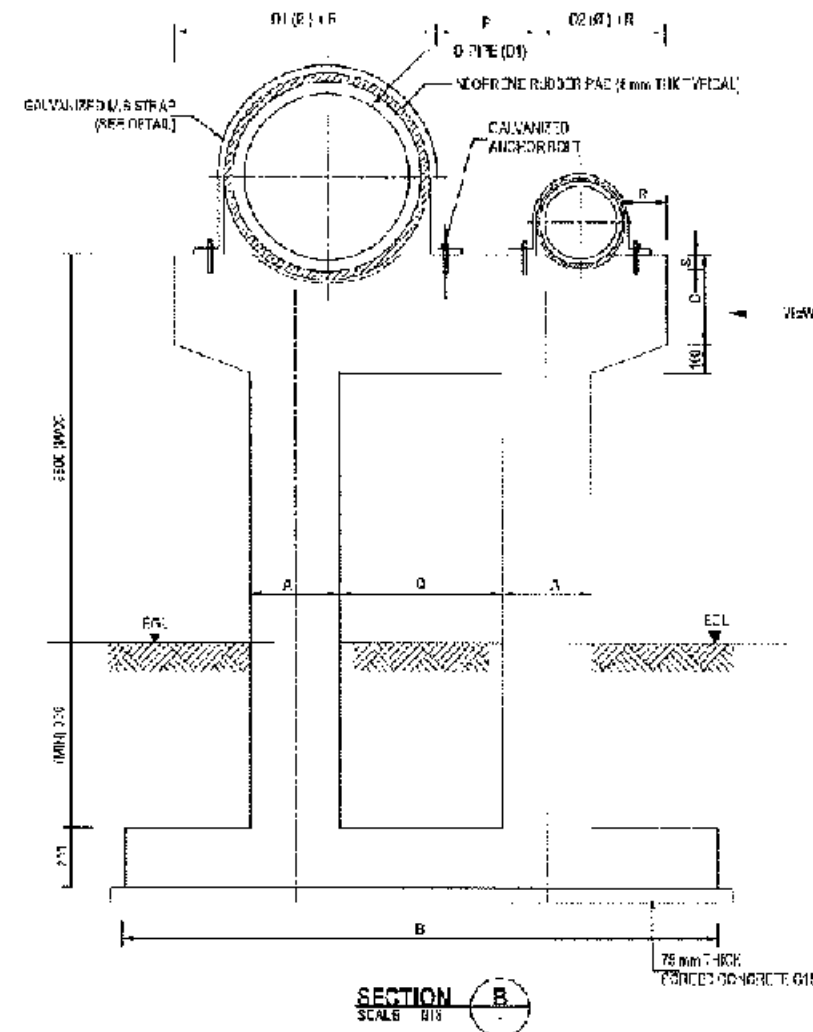
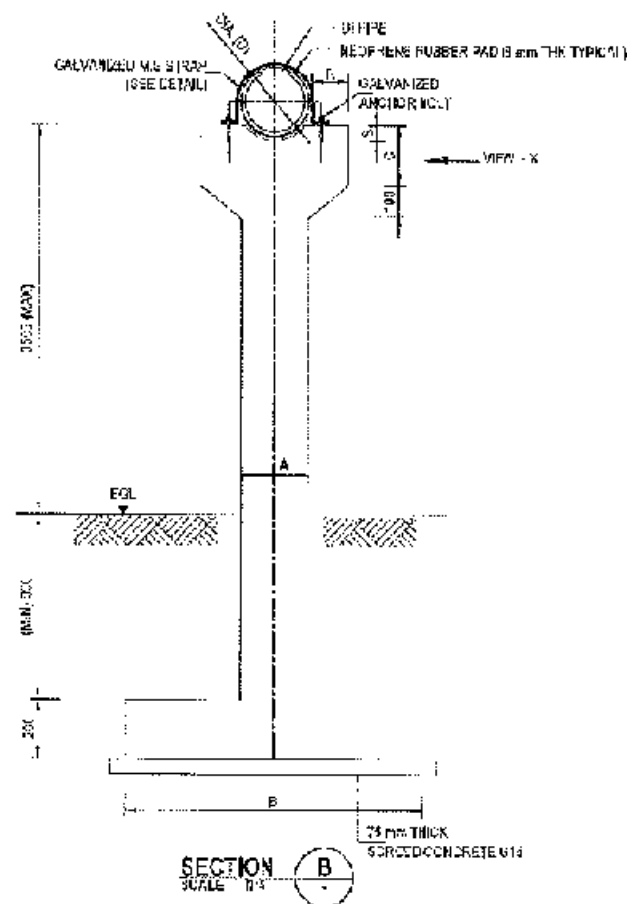
PROJECT CHAI TOUWAI WATER SUPPLY IMPROVEMENT PROJECT (WASIP)

PACKAGE CWSIP/W1 - LOT 2
Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Modunghat & Kaurghat Water Supply System.

REVISION NO: 7073-ED & 7074-BD

TITLE
STANDARD DETAILS
THRUST BLOCKS AND SCHEDULES

DRAWING NO:
CWSIP/W1/L2/STD/C12



PIPE SIZES (mm)	T (mm)	W (mm)	D1 (mm)	L (mm)	CL (mm)	SIZE OF SCUT	LENGTH OF BOLT	SIZE OF NEOPRENE RUBBER PAD
80-150	6	40	13	45	25	M12	200	3x80
200-300	6	50	18	70	30	M16	250	3x70
350-500	10	65	24	85	35	M20	300	3x90
700-1000	10	80	28	100	45	M24	350	3x110
1200	10	100	32	120	50	M30	400	3x120

PIPE (Ø)	COLUMN WIDTH (A)	COLUMN HEAD HEIGHT (C)	BETWEEN PIPE (P)	BETWEEN COLUMN (Q)	(R)	(S)
< 300	250	100	100	100	100	50
350 - 450	250	100	100	100	150	75
500 - 600	350	100	100	100	200	100
700 - 800	350	150	100	100	225	125

D1 (Ø) INDICATES THE LARGER DIA PIPE

PIPE (Ø)	COLUMN WIDTH (A)	COLUMN HEAD HEIGHT (C)	(R)	(S)	BASE (T)
DN < 300	250	100	100	50	100
350 - 450	300	150	150	75	150
500 - 600	350	100	200	100	150
700 - 800	400	150	275	125	175

NOTES:

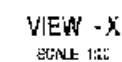
1. ALL DIMENSIONS ARE IN MILLI METERS.
2. DIMENSIONS AND LEVEL SHALL BE CHECK/VERIFIED AT SITE BEFORE STARTING CONSTRUCTION.
3. STRUCTURAL CONCRETE SHALL BE GRADE C25 UNLESS OTHERWISE SPECIFIED.
4. CONCRETE SHALL BE 150mm UNLESS OTHERWISE SPECIFIED.

CONCEPTUAL DRAWING

DETAIL OF BASE PLAN
COLUMN SUPPORT - SINGLE PIPES
TYPE - A
NORMAL GROUND

DETAIL OF BASE PLAN
COLUMN SUPPORT - DOUBLE PIPES
TYPE - B
NORMAL GROUND

WSSA	CHATTOGRAM WATER SUPPLY & SEWERAGE AUTHORITY (CWSA)
PROJECT	CHATTOGRAM WATER SUPPLY & SEWERAGE PROJECT (CWSIP)
PACKAGE	CWSIP/W1 - LOT 2
	Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Moulvibazar & Moulvibazar Water Supply System
PROJECT NO.	7675-BP & 7674-PO
TITLE	STANDARD DETAILS ABOVE GROUND PIPE SUPPORT - (DN < 800mm)
DRAWING NO.	CWSIP/W1/L2/STD/013



PIPE Ø1 (Ø)	WIDTH (B)	BETWEEN PIPE (P)	(R)	HEIGHT (C)
≤ 930	300	300	400	600
950 - 965	300	300	500	650
970 - 970	400	400	600	700

L1 (Ø) INDICATES THE LARGER DIAMETER



- NOTE :**

1. ALL DIMENSIONS ARE IN MILLIMETERS AND ALL LEVELS ARE IN METERS ABOVE MSL.
2. ALL DIMENSIONS AND LEVELS SHALL BE CONFIRMED, VERIFIED AT TIME OF STARTING CONSTRUCTION.
3. FOR OTHER GENERAL DETAILS REFER STANDARD DRAWINGS.
4. GRADE OF CONCRETE FOR SUPPORTS & BENCHES SHALL BE GR. 25. REBTD GR.19
5. FOR SUPPORTS IN ROCKY AREAS 216 mm DIAM. BARS TO BE PRO 300mm TO BE USED.
6. MAXIMUM SPAN BETWEEN PILE SUPPORT SHALL BE 600mm.

CONCEPTUAL DRAWING

CHATTUGRAM WATER SUPPLY & SEWERAGE AUTHORITY
(CWSA)

PROJECT CHATTOGRAM WATER SUPPLY IMPROVEMENT PROJECT (CW/SIP)

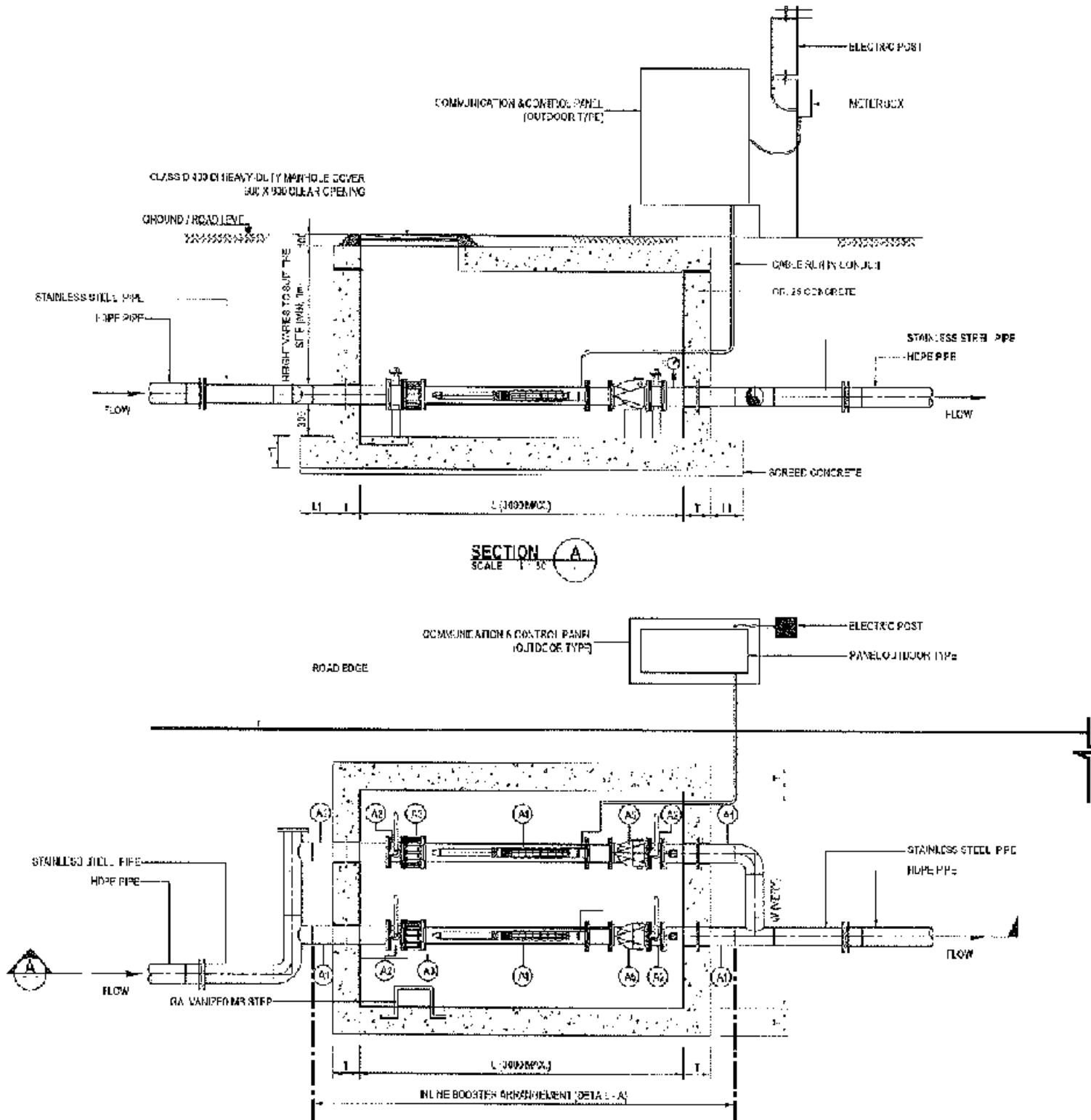
PACKAGE **ONEPIECE - LOT 2**
Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Renovation of Madunghal & Kalangut Water Supply System

INACREPOT NO 7575 3C & 7674 EO

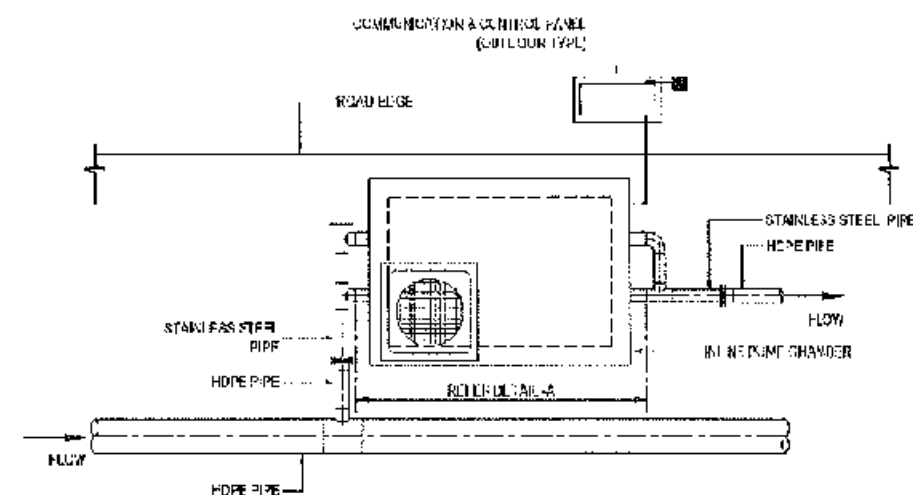
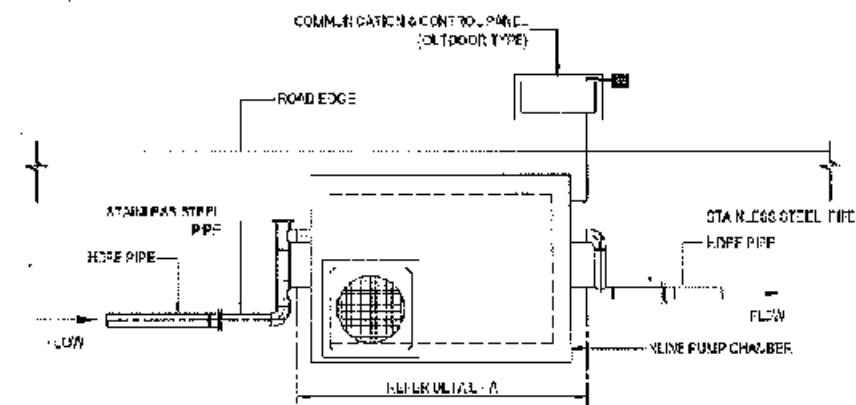
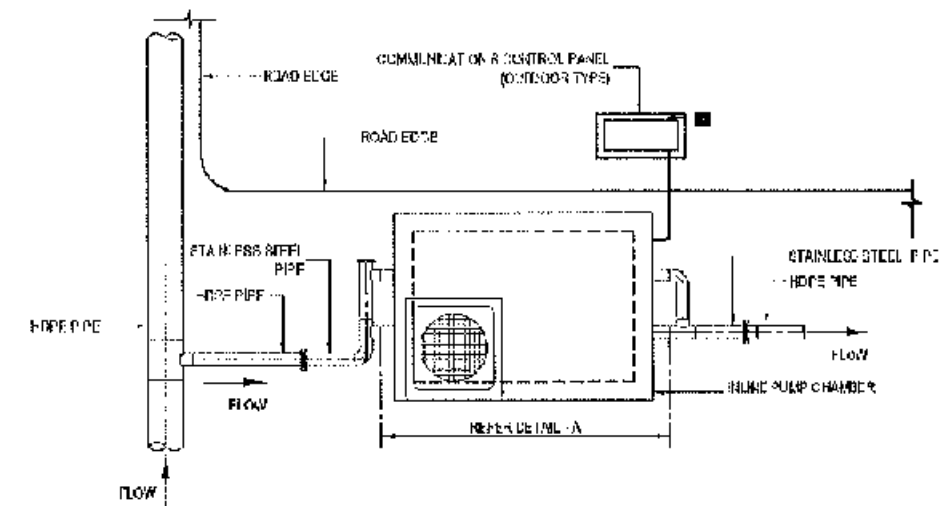
TITLE	STANDARD DETAILS ABOVE GROUND PIPE SUPPORTS (DN≤600mm)
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TRAINING	CWS/PW1/L2/STD/014
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ITEM NO.	DIMENSION		DESCRIPTION	MATERIAL	QTY
	RD (mm)	LENGTH (m)			
A1	30 - 100	SUIT TO SITE	FLANGE & SPIGOT PIPE WITH PUDDLE FLANGE	SS	01
A2	30 - 250	-	BUTTERFLY VALVE WITH LEVER	CI	01
A3	30 - 250	-	LIFTING LUG JOINT	CI	02
A4	30 - 250	-	HOPE-SOLE PUMP ASSEMBLY	-	02
A5	30 - 250	-	NON-RETURN VALVE	CI	02



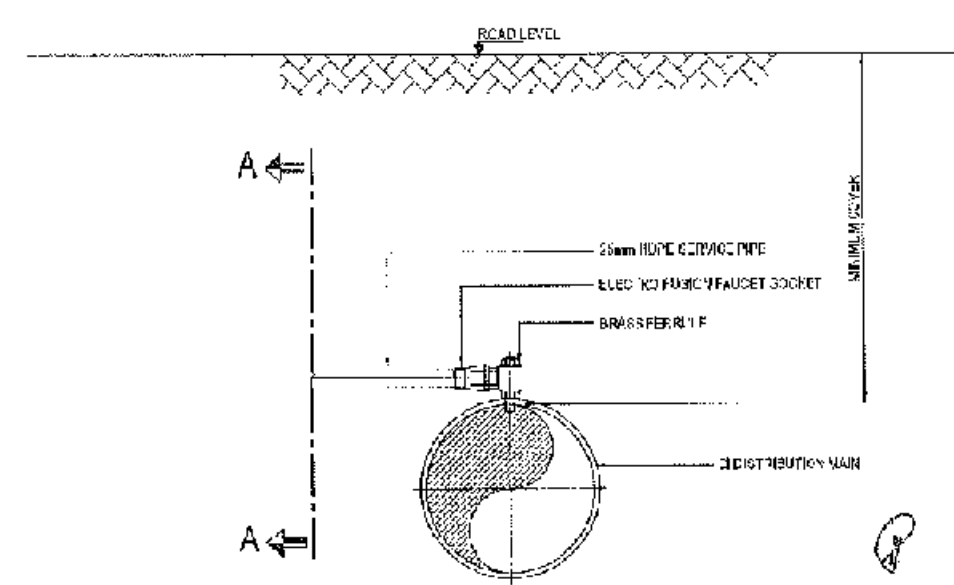
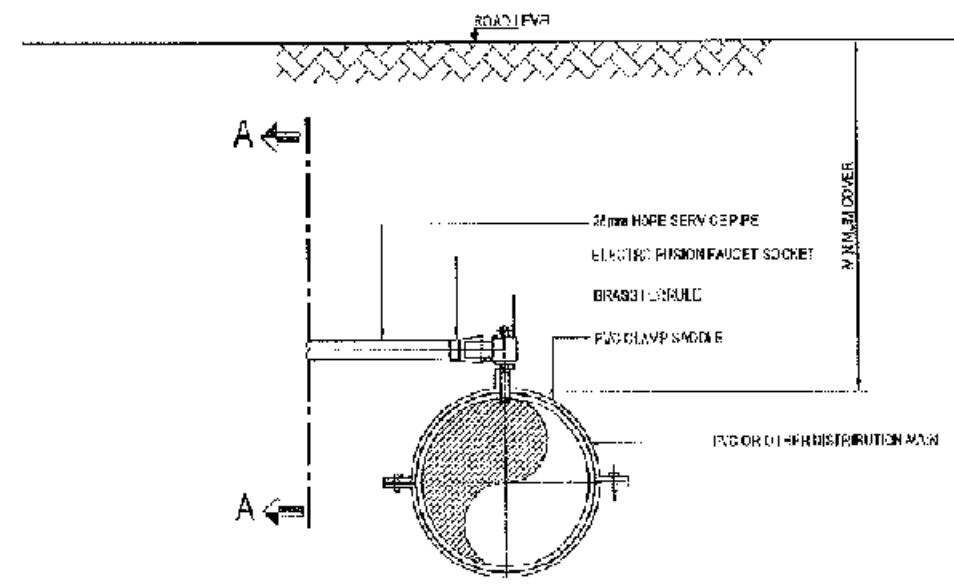
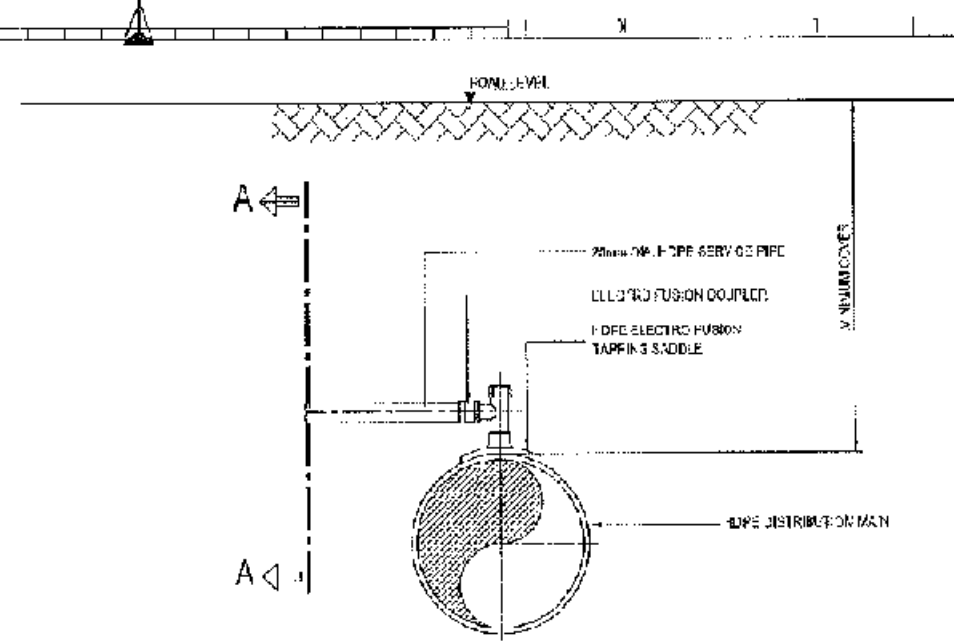
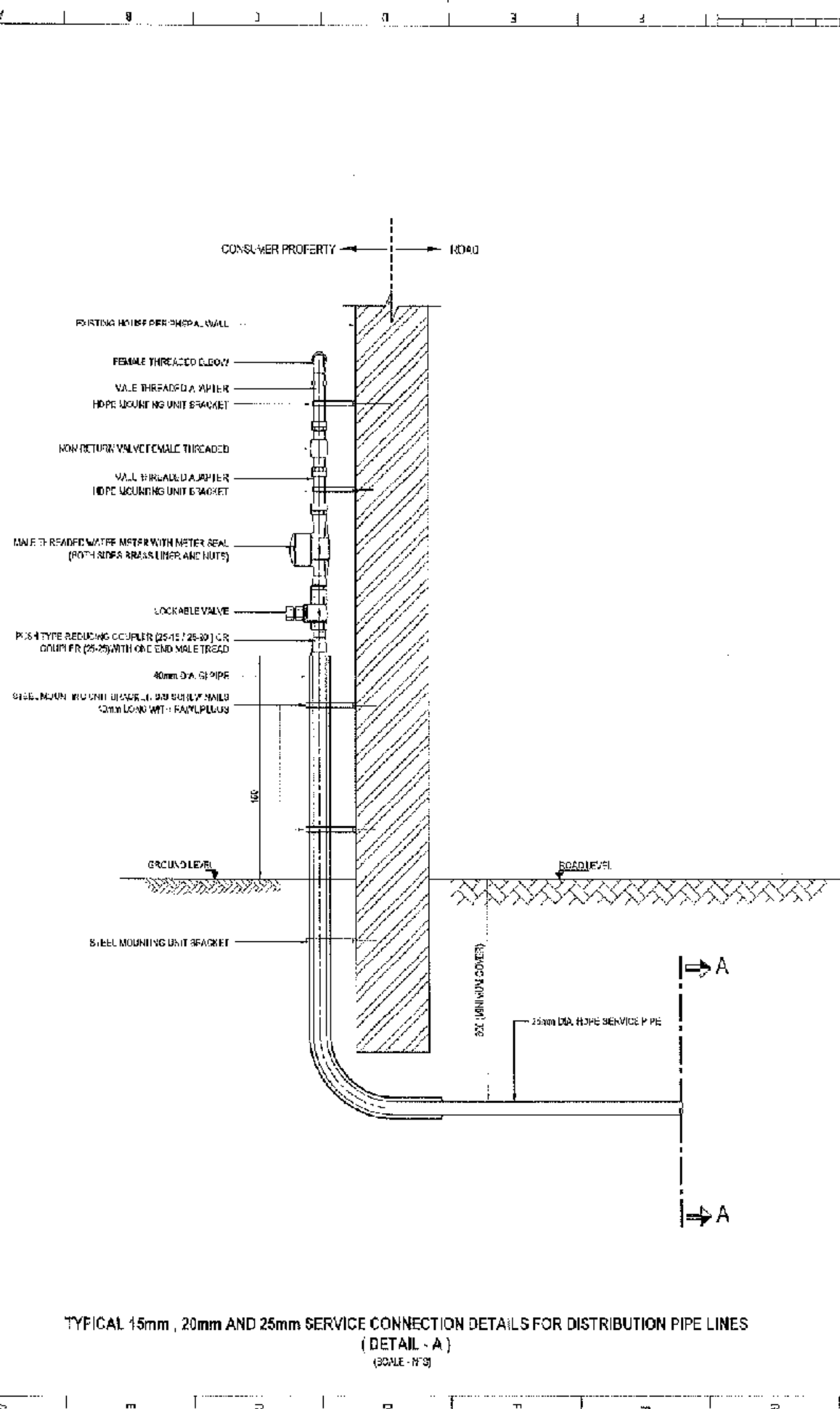
* THE PANEL SHALL BE OUTDOOR TYPE AND CONSIST OF INCOMING, VSD & INSTRUMENTATION UNIT ITSELF



NOTE
ON CHAMBER COVERS IN STEEL'S SHELLING SCREW ON WITH LOCK COVER WITH GASKET (WATER TIGHT)

CONCEPTUAL DRAWING

	CHATTIGHAM WATER SUPPLY & SEWERAGE AUTHORITY (WASA)
PROJECT	CHATTIGHAM WATER SUPPLY IMPROVEMENT PROJECT (CWSIP)
PACKAGE	CWSIP/W1 - LOT 2 Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Mounaghat & Kharaghat Water Supply System
DATE/REVISION	7875-B2 & 7874-B0
TITLE	STANDARD DETAILS PROPOSED IN LINE BOOSTER ARRANGEMENT
DRAWING No.	CWSIP/W1/L2/STD/015

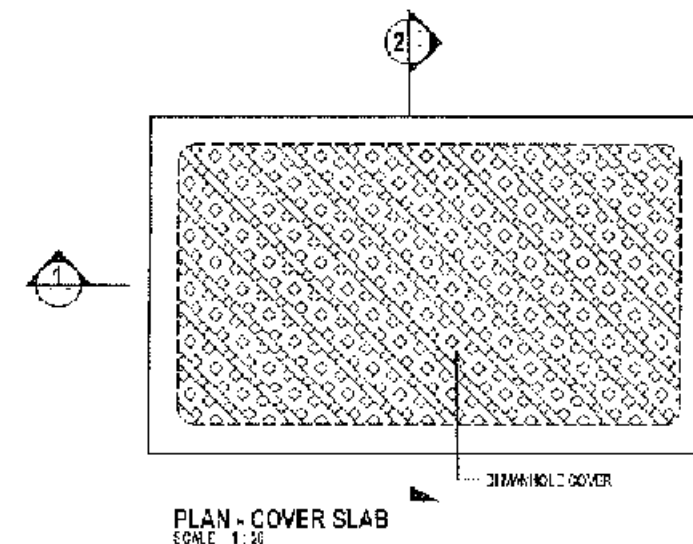
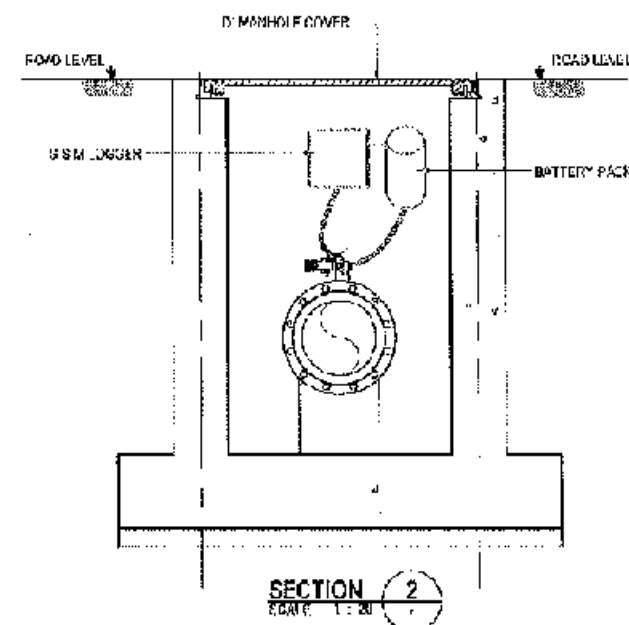


NOTES

DI MINIMUM COVER TO THE TAPPING SADDLE AND SERVICE CONNECTION SHALL BE 30mm.

CONCEPTUAL DRAWING

 CHATTOORAM WATER SUPPLY & SEWERAGE AUTHORITY (CWASA)	
PROJECT	CHATTOORAM WATER SUPPLY IMPROVEMENT PROJECT (CWSIP)
PACKAGE	CWSIPW1 - LOT 2
Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Medanahat & Katurghat Water Supply System	
NO. OF SHEETS	7675-010 & 7674-01
DATE	STANDARD DETAILS
SERVICE CONNECTION DETAILS	
DRAWING No.	CWSIPW1L2/STD/016



1. MINIMUM INTERVAL DIMENSIONS OF METER CHAMBER SHALL BE 600x1200mm FOR PIPE DIAMETERS UP TO 100mm AND THESE INTERVAL DIMENSIONS SHALL BE INCREASED ACCORDINGLY WITH INCREASING PIPE DIAMETERS GREATER THAN 100mm TO FOLLOW INTERNATIONAL STANDARD FOR HANDHOLD.
2. MINIMUM COVER OF PIPE SHALL BE 600mm TO THE ROAD SURFACE AT ALL PIPES WITH MIN. PRESSURE PIPE LINE USED.
3. THE CHAMBER COVER SHALL BE 600x1200mm
4. LAMINATED METERS SHALL BE USED MINIMUM AIR TRAP TO HAVE AN ACCURATE METER READING.
5. FURTHER CONTRACTOR SHALL PROVIDE AIR VALVES OR ANY OTHER SPECIALS TO UNBLOCK AIR TRAP NEAR TO WATER METER TO REPRESENT AN ACCURATE READING.
6. CHAMBER COVERS IN STREETS SHALL BE SCREW ON TYPE ONE COVER WITH GASKET (WATER TIGHT)

SUPPLY AND DEMAND - INFLATION PACKAGE 2

CONCEPTUAL DRAWING

CHATTOGRAM WATER SUPPLY & SEWERAGE AUTHORITY
(CWASA)

PROJECT CHATTOGUAHUA WATER SUPPLY IMPROVEMENT PROJECT (OWSI)

PACKAGE CWELI-WM1 - I.D. 2
Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Modunaghat & Kalunghat Water Supply System

WAGF DE NO: 7675 F02 & 7674 H0

TITLE
STANDARD DETAILS
DMA METER CHAMBER - FOR HDPE PIPES

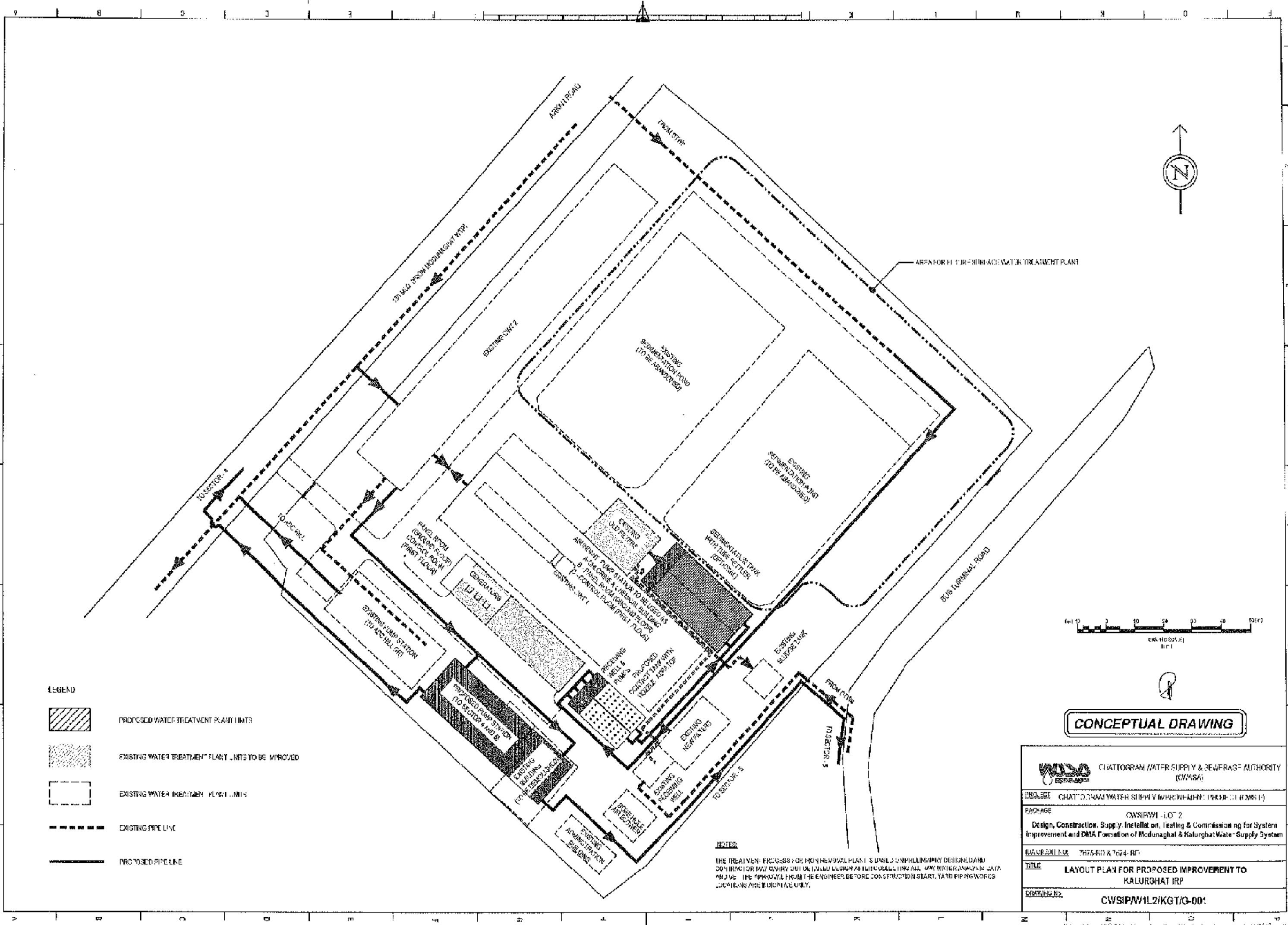
DRAINING No: **CWSIPW1L2/STD/617**

ADC HILL RESERVOIR

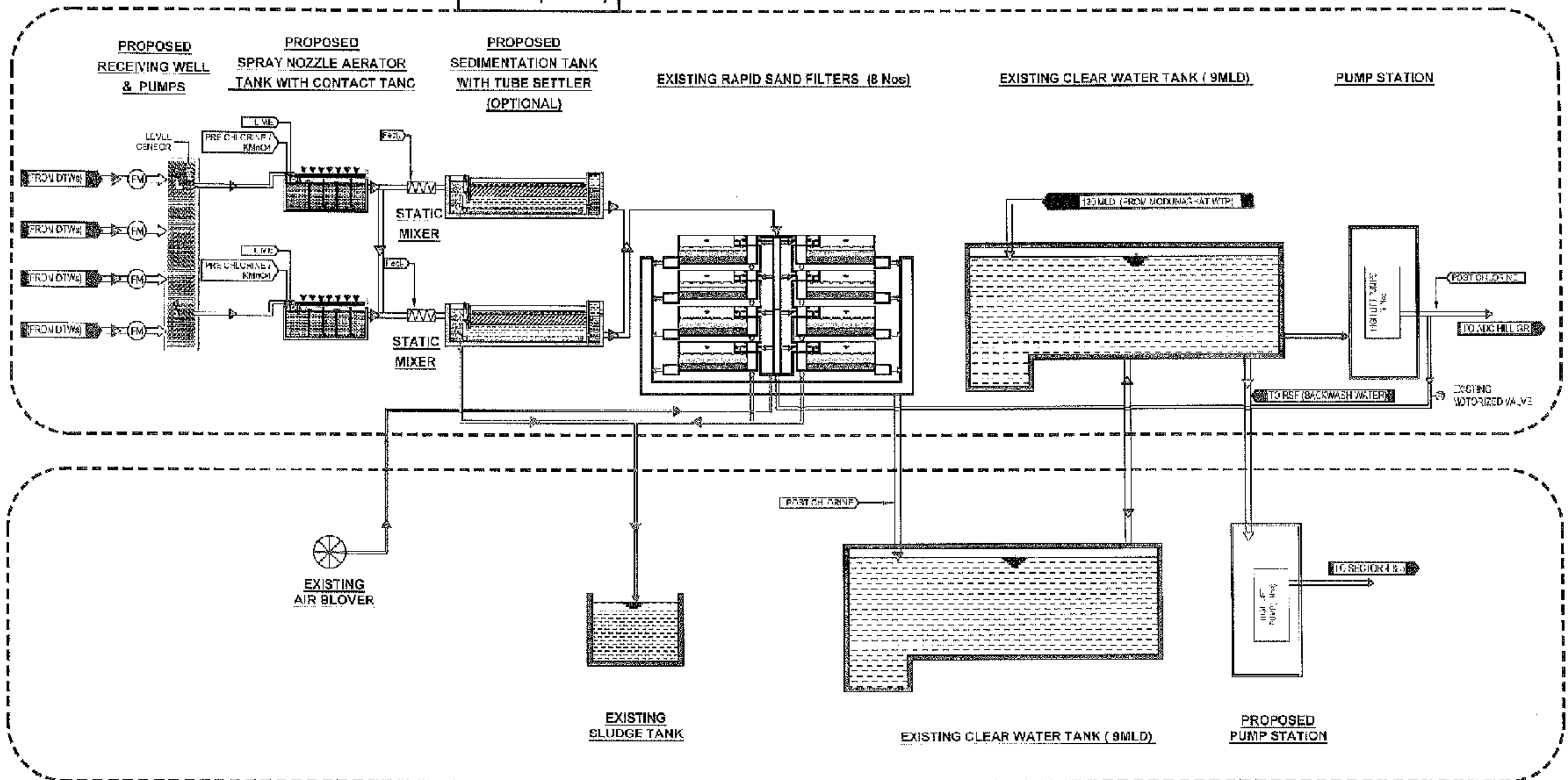
Q

KALURGHAT PUMP STATION

P



OLD IRP (10 MGD)



CONCEPTUAL DRAWING

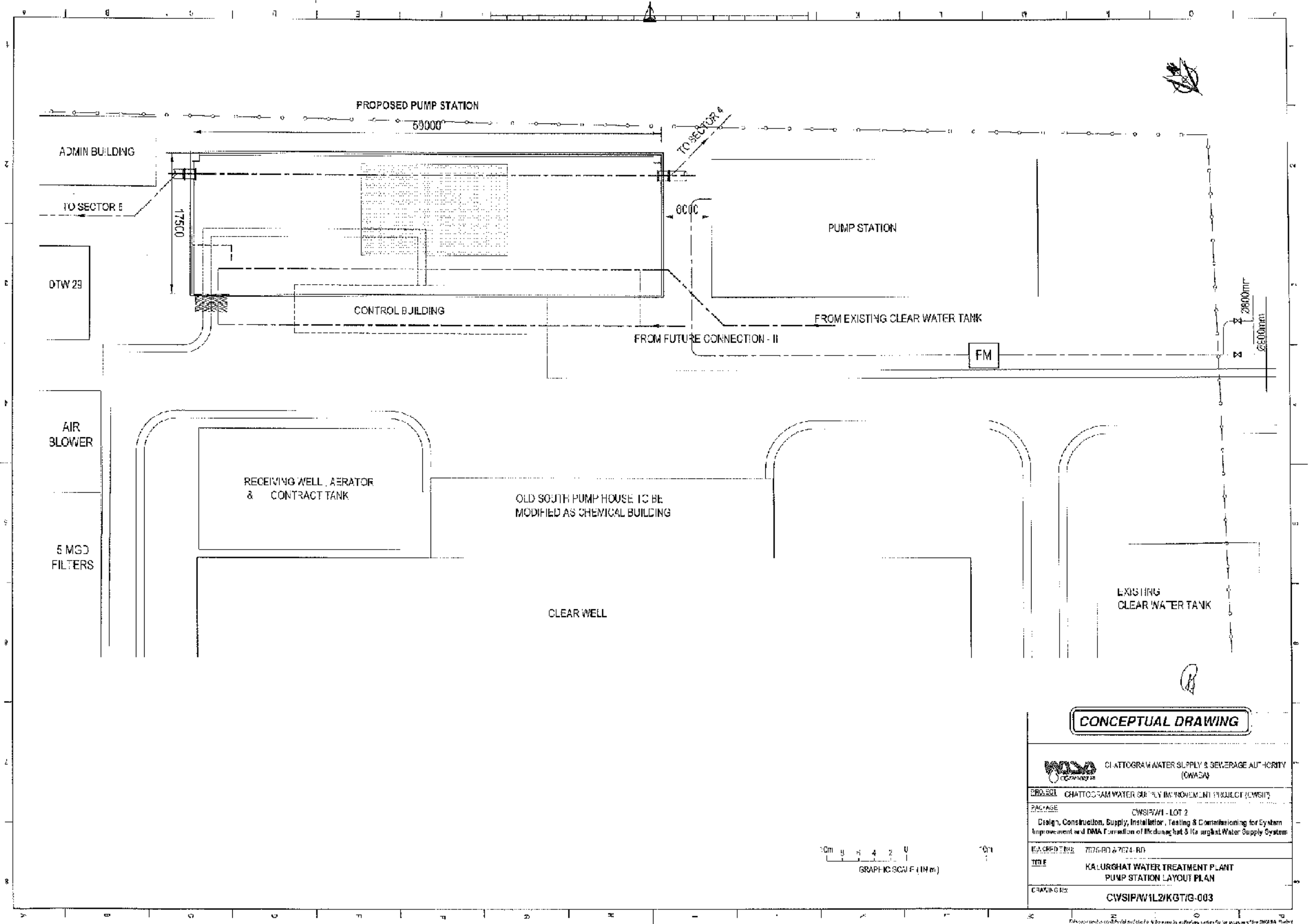
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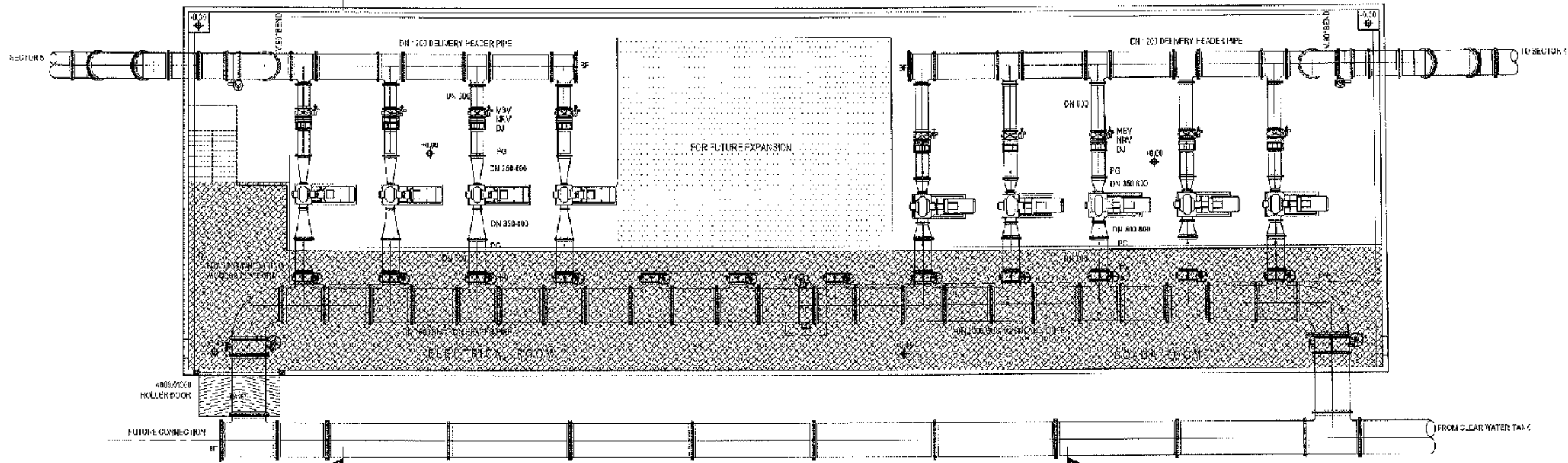
1. THE TREATMENT PROCESS FOR THE IRON REMOVAL PLANT IS BASED ON P-HILL THEORY DESCRIBED AND CONTRACTOR MAY CARRY OUT DETAILED DESIGN AFTER COLLECTING ALL SANITARY ANALYSIS DATA AND GET THE APPROVAL FROM THE ENGINEER BEFORE CONSTRUCTION SITE.



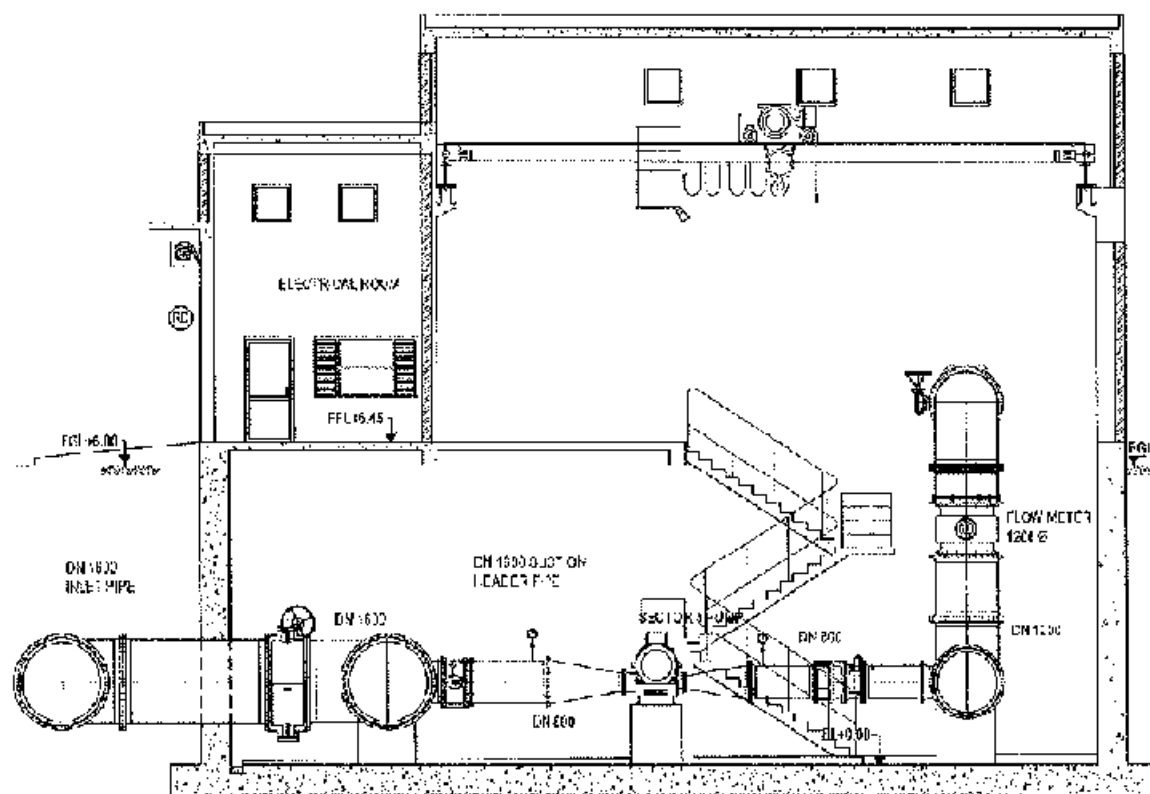
CHHATTOORAM WATER SUPPLY & SEWERAGE AUTHORITY
(CWASA)

PROJECT	CHHATTOORAM WATER SUPPLY & SEWERAGE IMPROVEMENT PROJECT (CWSSIP)
PACKAGE	CWSSIPW1 - LOT 2 Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and O&M Extension of Nidmarghat & Kalurghat Water Supply System
IMPLEMENT NO	7675-DDA-7674-DC
TITLE	SCHEMATIC DIAGRAM FOR KALURGHAT IRP
DRAWING No	CWSSIPW1L2/KGT/G-002

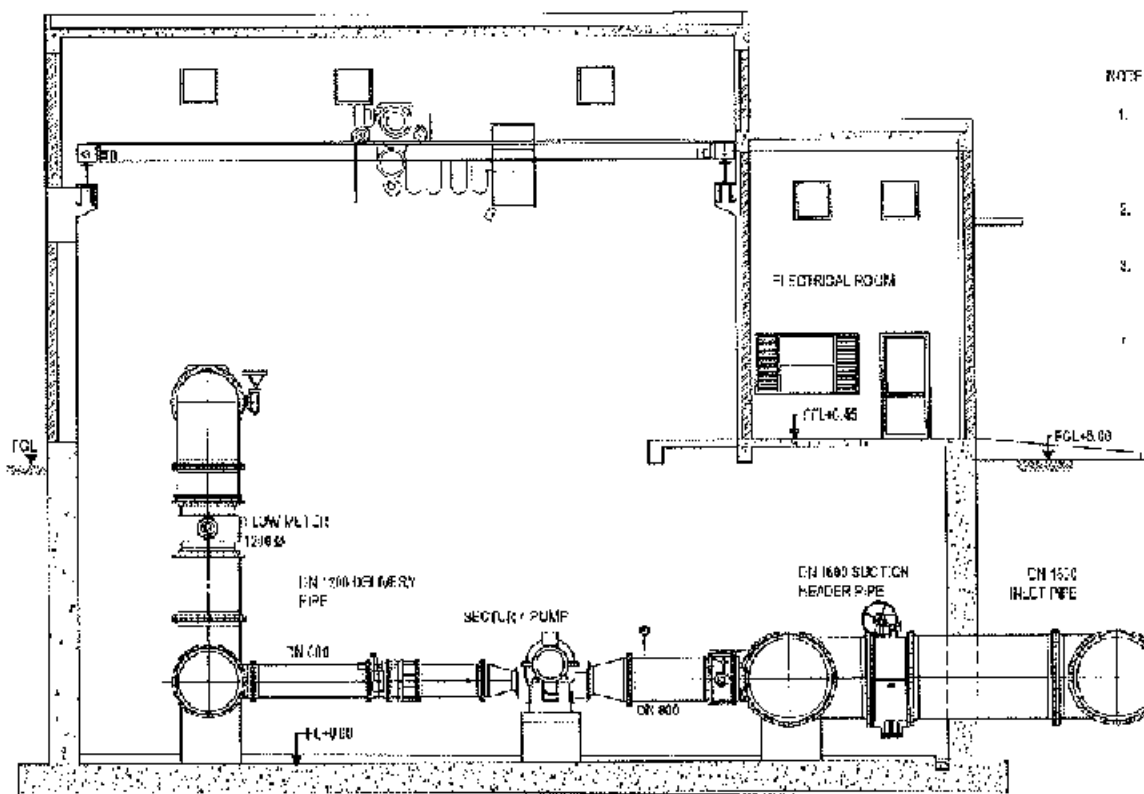




KALUGHAT PUMP STATION - PLAN
SCALE 1 : 200



SECTION 1
SCALE 1 : 50



SECTION 2
SCALE 1 : 50

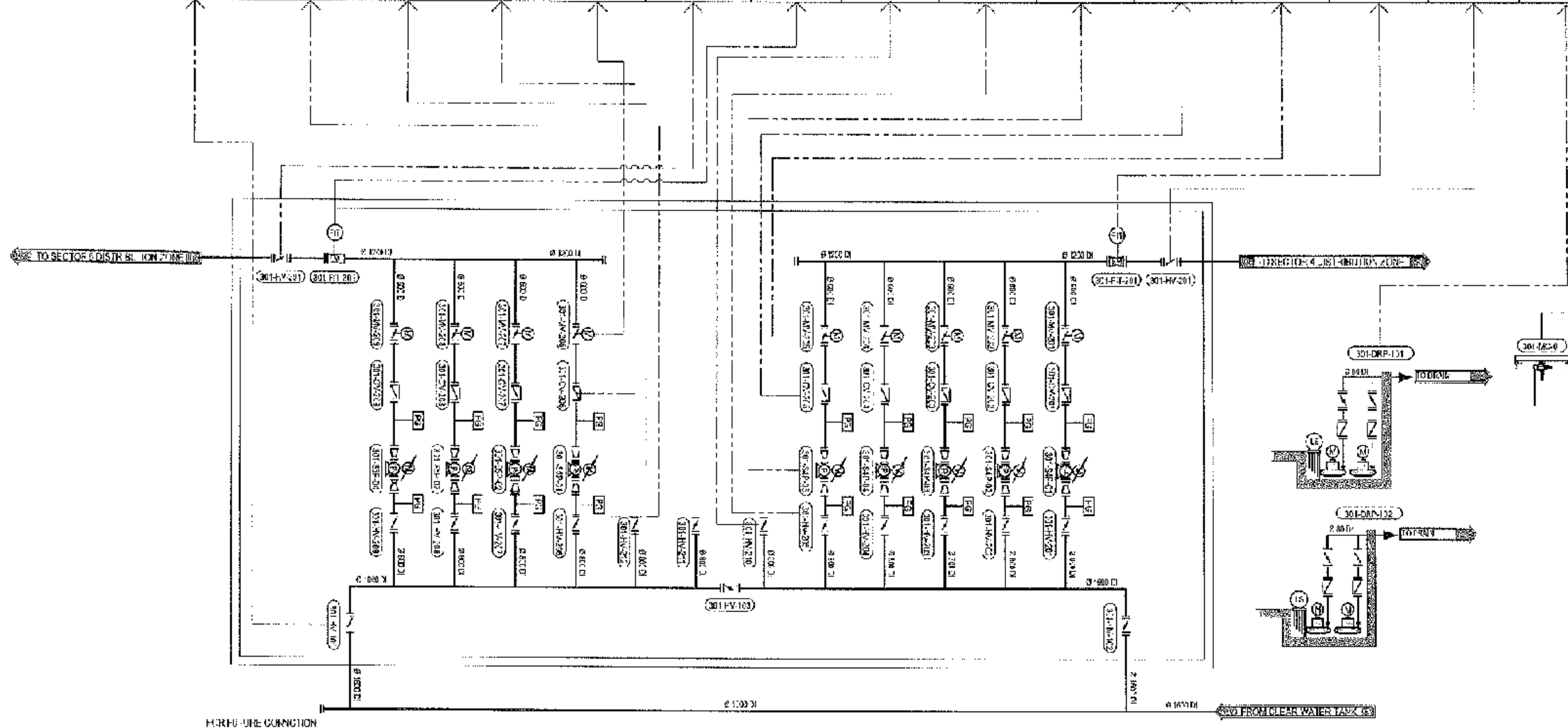
NOTE:

1. THE GIVEN SIZE OF THE PUMP HOUSE, PIPES, PUMPS AND ALL DETAILS ARE BASED ON PRELIMINARY DESIGN ONLY. CONTRACTOR MAY CARRY OUT DETAILED DESIGN CONSIDERING ALL THE SPECIFICATIONS AND DESIGN GUIDELINES HIGHLY GO TO THE EMPLOYER'S REQUIREMENT.
2. THIS DRAWING IS ONLY FOR THE GUIDANCE OF THE CONTRACTOR ON THE EXPECTED ARRANGEMENT OF THE PUMP HOUSE.
3. THE CONTRACTOR IS EXPECTED IN DESIGN THE PIPE WORK TO SUIT HIS SELECTED PUMPS WITH REQUIRED SUPPORT, 180° BEND AND WELD JOINTS FOR UNOBTAINED MAINTENANCE WORK.
4. INTERNAL DRAINS AND DRAIN FITS SHALL BE ACCURATELY SIZED FOR REMOVING SPILLING WASH WATER FROM THE PUMP HOUSE FLOOR.

CONCEPTUAL DRAWING

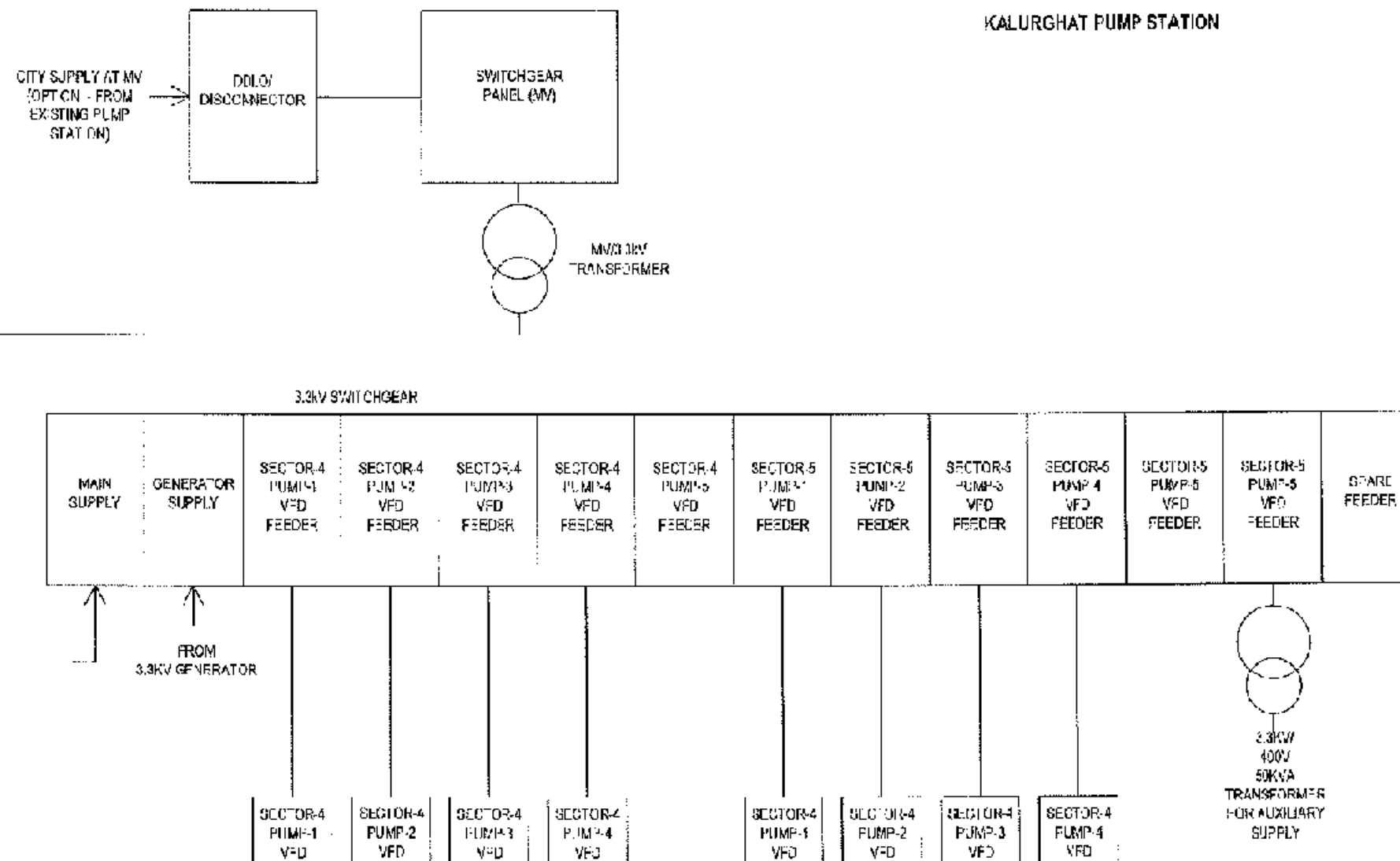
 CHHATOGRAM WATER SUPPLY & SEWERAGE AUTHORITY (CWSSA)	
PROJECT	CHHATOGRAM WATER SUPPLY IMPROVEMENT PROJECT (CW/SIP)
PACKAGE	CW/SIP/W1 - LOT 2 Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Medanaghat & Kalughat Water Supply System
IDA CREDIT NO.	7675-BD 87674-B2
TITLE	KALUGHAT PUMP STATION - GENERAL ARRANGEMENT
DRAWING NO.	CW/SIP/W1/L2/KGT/GA-001

ITEM NO.	301-HV-101 to 103	301-HV-208 to 209	301-SBP-01 to 04	301-CV-206 to 209	301-MV-206 to 209	301-FV-301	301-FIT-301	301-HV-210 to 212	301-HV-201 to 205	301-SBP-01 to 05	301-CV-204 to 205	301-MV-204 to 205	301-HV-203	301-FIT-301	301-DR-101 / 102	301-MC-01
ITEM NAME	1600 Ø BALL VALVE MANUAL OPERATED BUTTERFLY VALVE	100 Ø Suction MANUAL OPERATED BUTTERFLY VALVE	HORIZONTAL CENTRIFUGAL PUMP TO SECTOR 4	500 Ø DISCHARGE CHECK VALVE	800 Ø DISCHARGE MANUAL OPERATED BUTTERFLY VALVE	1200 Ø INLET VALVE MANUAL OPERATED BUTTERFLY VALVE	1200 Ø INLET ELECTROMAGNETIC FLOWMETER	800 Ø Suction MANUAL OPERATED BUTTERFLY VALVE	800 Ø Suction MANUAL OPERATED BUTTERFLY VALVE	HORIZONTAL CENTRIFUGAL PUMP TO SECTOR 4	500 Ø DISCHARGE CHECK VALVE	800 Ø DISCHARGE MANUAL OPERATED BUTTERFLY VALVE	1200 Ø Suction MANUAL OPERATED BUTTERFLY VALVE	1200 Ø INLET ELECTROMAGNETIC FLOWMETER	SUBMERSIBLE 600 Ø PUMP	VOTCHHEAD OVERHEAD GANTRY CRANE
QUANTITY	3	4	3 LTY / 1 STANDBY	4	4	1	1	3	5	1 DUTY / 1 STANDBY	5	5	1	1	2	1



CONCEPTUAL DRAWING

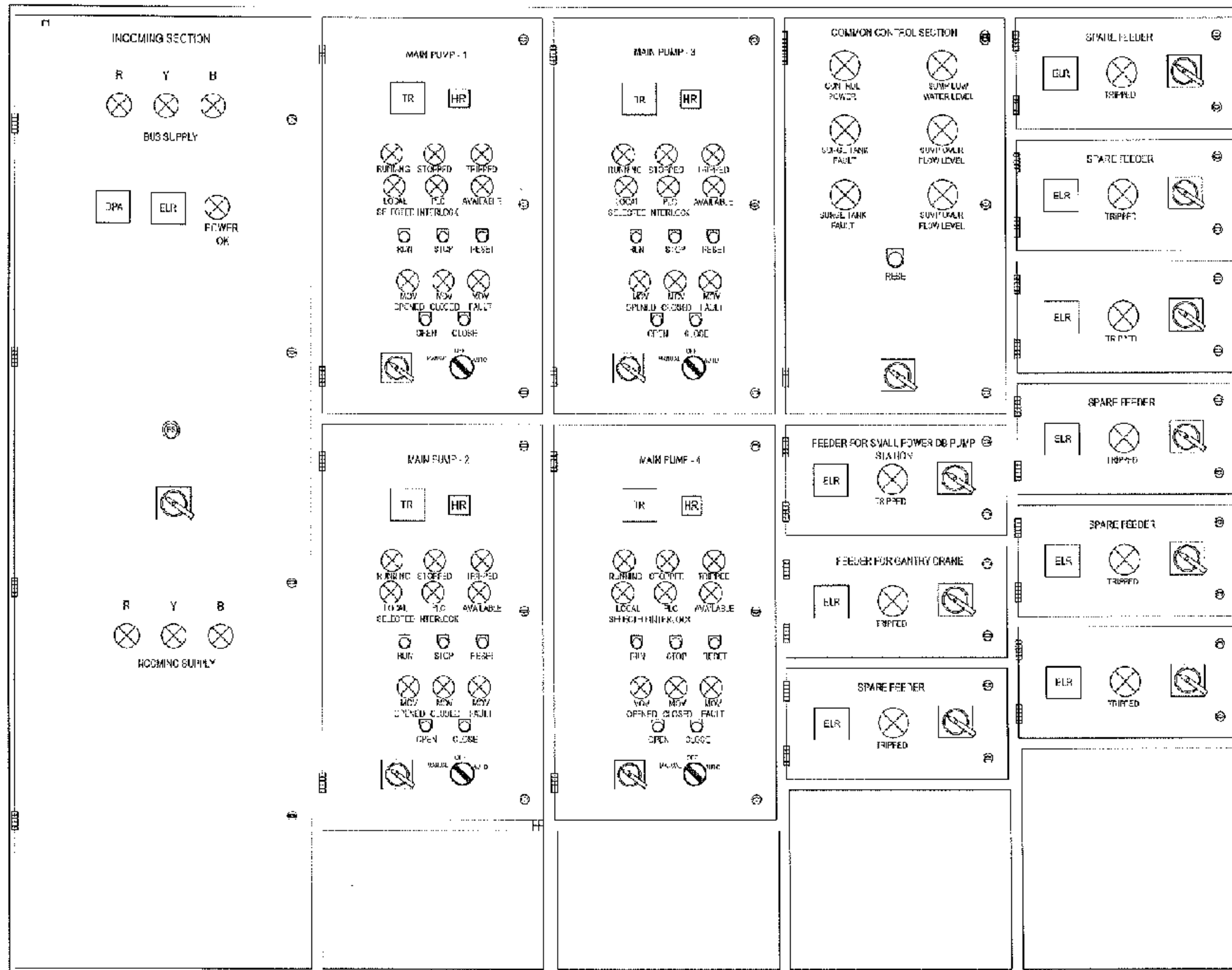
WASA	CHATTOGRAM WATER SUPPLY & SEWERAGE AUTHORITY (CWASA)
PROJECT	CHATTOGRAM WATER SUPPLY IMPROVEMENT PROJECT (CWSIP)
PACKAGE	CWSIP/PA1 - LOT 2 Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Moulvibazar & Kalurghat Water Supply System
IDA CREDIT NO.	1655-BU-R-1674-181
TITLE	KALURGHAT PUMP STATION PROCESS ARRANGEMENT - (OVERVIEW)
DRAWING NO.	CWSIP/W1/L2/KGT/PID-001



CONCEPTUAL DRAWING

 CHATTOGRAM WATER SUPPLY & SEWERAGE AUTHORITY (WASA)	
PROJECT	CHATTOGRAM WATER SUPPLY IMPROVEMENT PROJECT (CWSSIP)
PACAGE	CWSSIP/WT-LOT 2 Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Modumaghat & Kalurghat Water Supply System
IN A C T I O N	7675-BD & 7674-BD
TITLE	KALURGHAT PUMP STATION ELECTRICAL OVERVIEW
DRAWING No.	CWSSIP/WT12/KGT/E-001

MCC PANEL FACE - REMOTE VFD



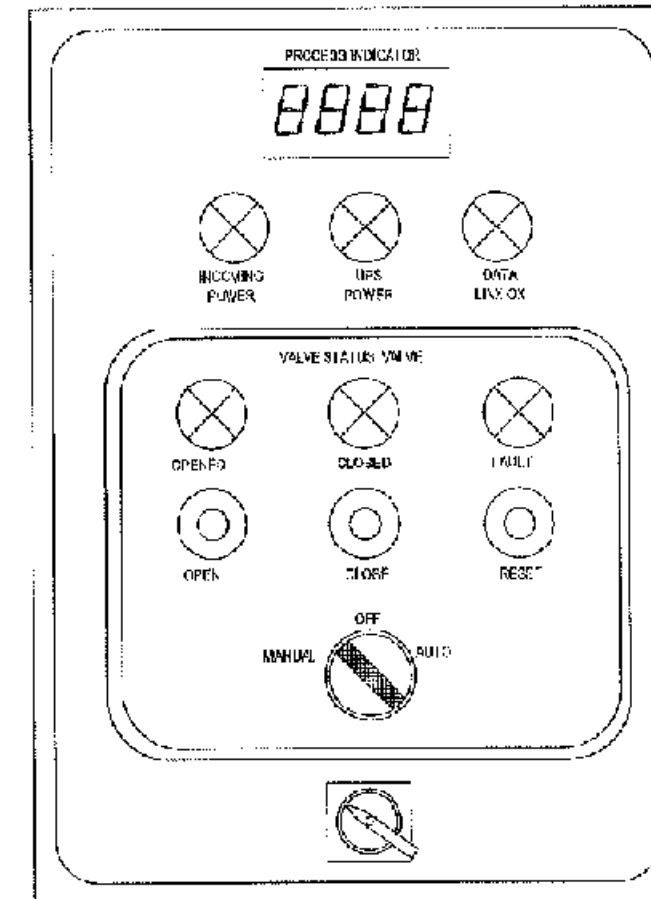
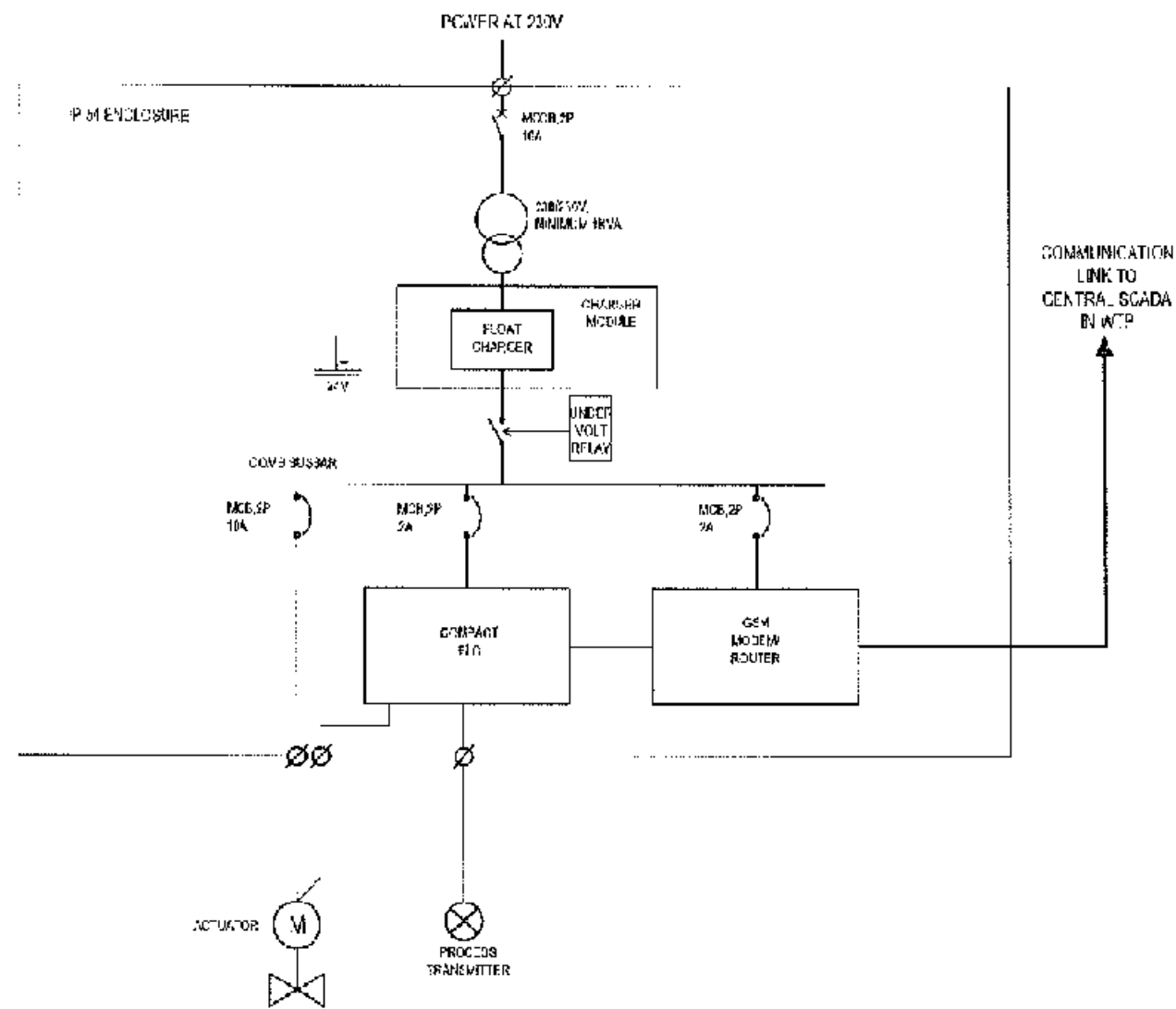
LEGEND	
	EARTH CURRENT RELAY
	HIGH PRESSURE RELAY
	DIGITAL POWER ANALYZER
	TEMPERATURE RELAY
	VIBRATION RELAY
	INDICATION LIGHT
	PUSH BUTTON

NOTES:

- THIS DRAWING IS FOR GUIDANCE. THE MANUFACTURER SHALL PREPARE DETAIL ELECTRICAL DRAWINGS AND SUBMIT FOR APPROVAL.
- NUMBER OF MAIN PUMPS ARE TO BE CHANGED ACCORDING TO THE ACTUAL NUMBERS INSTALLED.
- PANEL SHALL HAVE PROVISIONS FOR FUTURE PUMPS.
- EACH CIRCUIT SHALL BE WITH INDIVIDUAL EARTH LEAKAGE PROTECTION.
- EACH CIRCUIT SHALL HAVE 400/230V CONTROL TRANSFORMER.
- ENCLOSURE SHALL BE WITH IP-20 PROTECTION AFTER INSTALLATION OF ALL COMPONENTS.

CONCEPTUAL DRAWING

	CHATTOGRAM WATER SUPPLY & SEWERAGE AUTHORITY (CWASA)
PROJECT	CHATTOGRAM WATER SUPPLY IMPROVEMENT PROJECT (CWSIP)
PACKAGE	CWSIPW1 - LOT 2
	Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Modunaghat & Kalurghat Water Supply System
DRAWING NO:	7675-EO-S-7671-00
TITLE	KALURGHAT PUMP STATION MCC PANEL FACE WITH REMOTE VFD
DRAWING No:	CWSIPW1L2/KGT/E-002



FORM :					
	AMCS		AMMETER		PANEL MOUNTED KEY BOARD FOR THE DRIVE
	MCB		VOLTMETER		PE CAPACITOR
	CONTACTOR		EARTH CURRENT RELAY		POWER ENERGY AMMETER
	FUSE		HOUR RUN METER		
	CURRENT TRANSFORMER		SUPPLY MONITORING RELAY		
	SELECTOR SWITCH		MOTOR		
	SURGE ARRESTOR		TRANSFORMER 400/230V, 50VA		
	REMOTE WITH A.U. CONTACT		INDICATOR LIGHT		

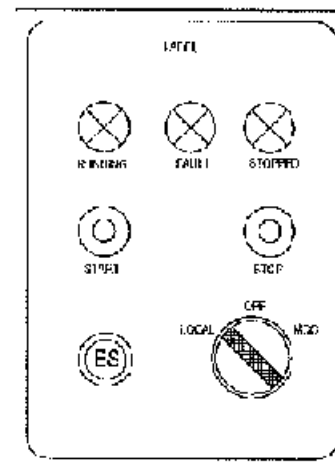
NOTES:

- 1) ENCLOSURE SHALL BE IP-54.
- 2) IF INSTALLED OUTDOOR ADDITIONAL SUN / RAIN COVER SHALL BE PROVIDED TO SUIT SITE CONDITIONS.
- 3) ENCLOSURE SHALL BE SUITABLE FOR POLE / PIPESITING / WALL MOUNTING TO SUIT SITE CONDITIONS.
- 4) FOR BATTERY CAPACITY SHOULD BE SUFFICIENT FOR 8 HRS IN NORMAL OPERATION.
- 5) UNDER VOLTAGE RELAY FOR THE UPS SHALL BE AUTO RESET TYPE.
- 6) BATTERIES SHALL BE SEALED LEAD ACID TYPE.
- 7) THIS TYPICAL DRAWING MAY BE ADAPTED TO SUIT SPECIFIC REQUIREMENT.

CONCEPTUAL DRAWING

CHATTOORAM WATER SUPPLY & SEWERAGE AUTHORITY (CWSSA)	
PROJECT: CHATTOORAM WATER SUPPLY IMPROVEMENT PROJECT (CWSP)	
PACKAGE: CWSIP/W12	
Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Madanaghat & Kalurghat Water Supply System	
DESIGN NO: 7075-BD & 7074-BD	
TITLE: KALURGHAT PUMP STATION REMOTE ACTUATION AND MONITORING PANEL (RAMP) DETAILS	
DRAWING No: CWSIP/W12/KGT/E-003	

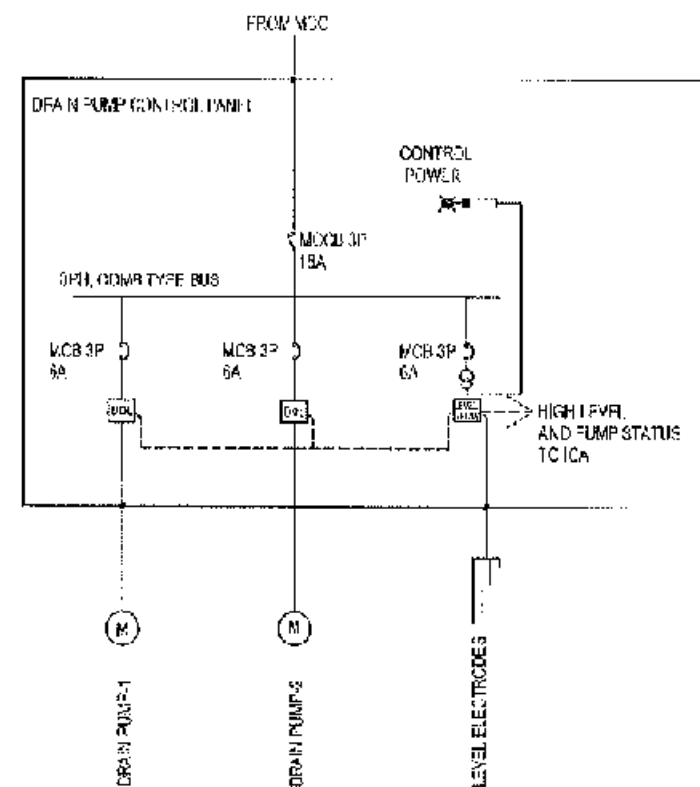
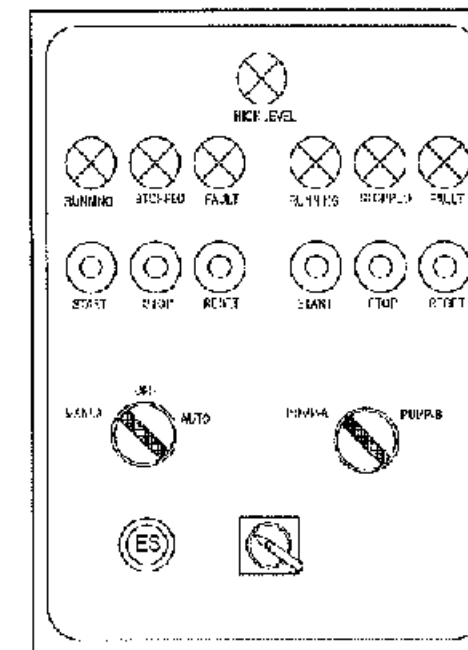
LOCAL OPERATION STATION (LOS)



NOTES:

- 1) LOS SHALL BE PEEDESTAL MOUNTED TYPE / WALL MOUNTED TYPE TO SUIT SITE CONDITIONS.
- 2) ENCLOSURE PROTECTION SHALL BE IP-54.
- 3) ADDITIONAL WEATHER PROTECTIVE COVERS SHALL BE PROVIDED WHERE REQUIRED CONSIDERING THE CLIMATE LOCATION.

DRAIN PUMP CONTROL PANEL



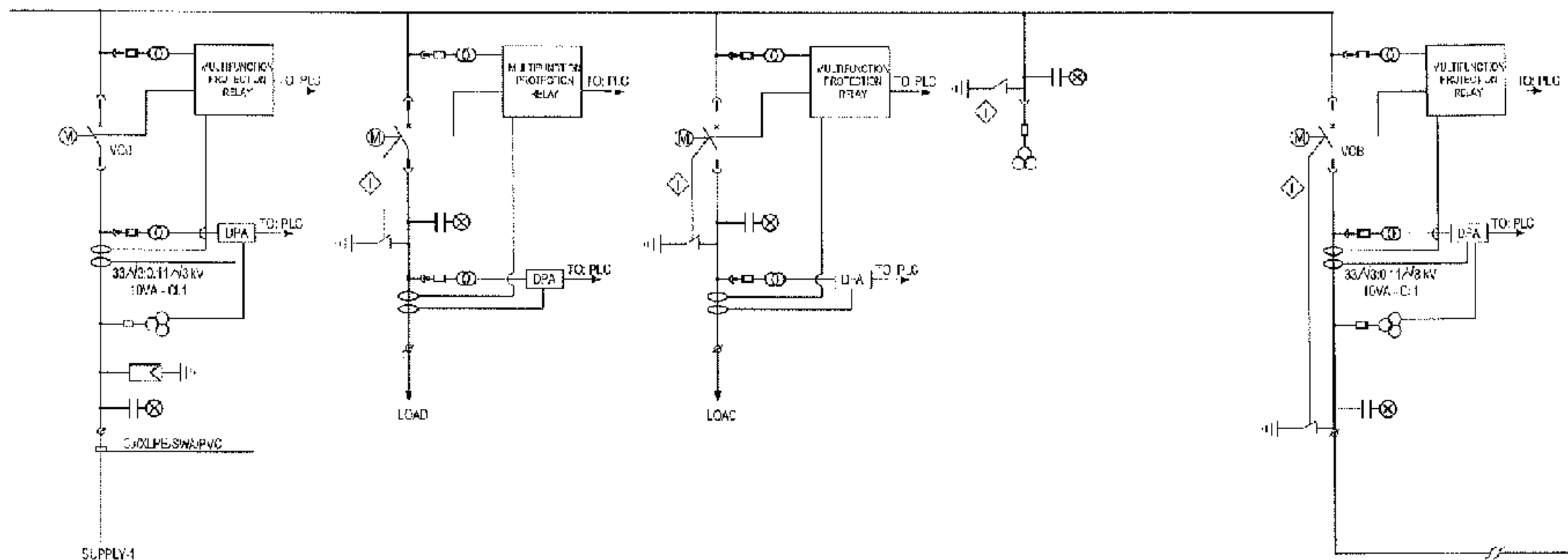
LEGEND					
	MCCB		AMMETER		PANEL MOUNTED KEY BOARD FOR THE DRIVE
	MCC		VOLT METER		IP CAPACITOR
	CONTACTOR		PARTIAL RELAY		POWER ENERGY ANALYZER
	FUSE		HOUR RUN METER		
	CURRENT TRANSFORMER		SUPPLY MONITORING RELAY		
	SELECTOR SWITCH		MOTOR		
	SURGE ARRESTOR		TRANSFORMER 400/30V, 500VA		
	RCCB WITH AUX CONTACT		INDICATION LIGHT		

NOTES:

- 1) THIS DRAWING IS TYPICAL FOR ALL DRAIN PUMPS PANELS.
- 2) DEGREE OF ENCLOSURE PROTECTION SHALL BE IP-54.
- 3) CONSTRUCTION SHALL BE SUITABLE FOR WALL MOUNTING.
- 4) IF MOTOR CAPACITY IS MORE THAN 37 KW, SOFT STARTER SHALL BE USED.

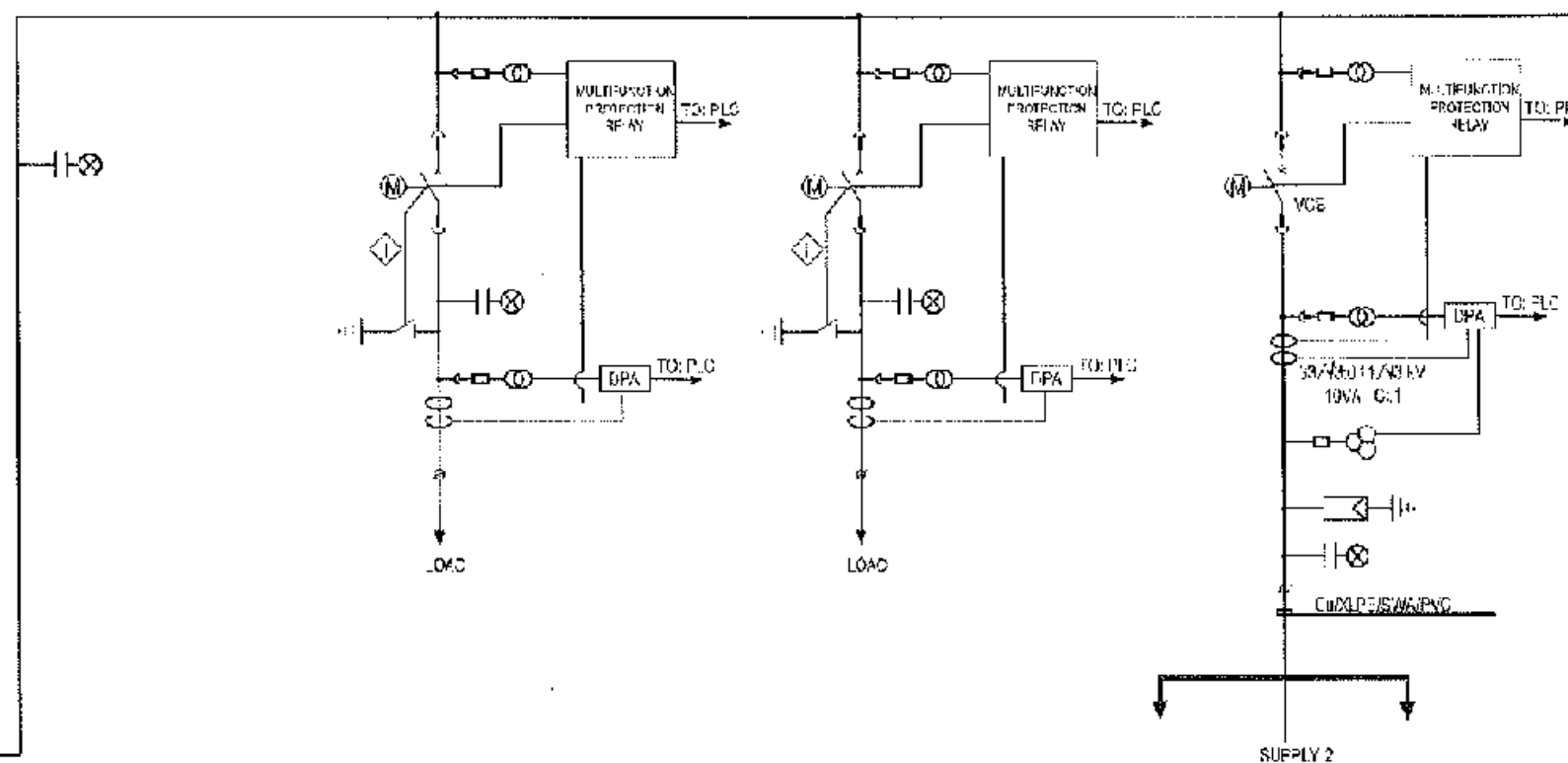
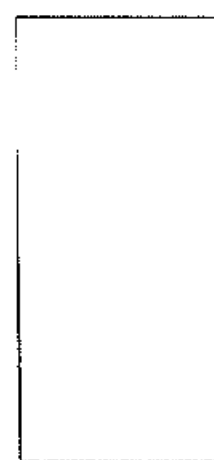
CONCEPTUAL DRAWING

		CHATTOGRAM WATER SUPPLY & GROUNDWATER MONITORING (CWASG)
PROJECT	CHATTOGRAM WATER SUPPLY IMPROVEMENT PROJECT (CWSIP)	
PACKAGE	CWSIP/W1-L2	
	Design, Construction, Supply, Installation, Test & Commissioning for System Improvement and DMA Formulation of Madanaghat & Kalurghat Water Supply System	
IDA CREDIT NO:	7575-30 & 7575-31	
TITLE	KALURGHAT PUMP STATION LOCAL OPERATION STATION AND LOCAL CONTROL PANEL FOR DRAIN PUMPS	
DRAWN BY	CWSIP/W1/L2/KGT/E-004	



NOTES:

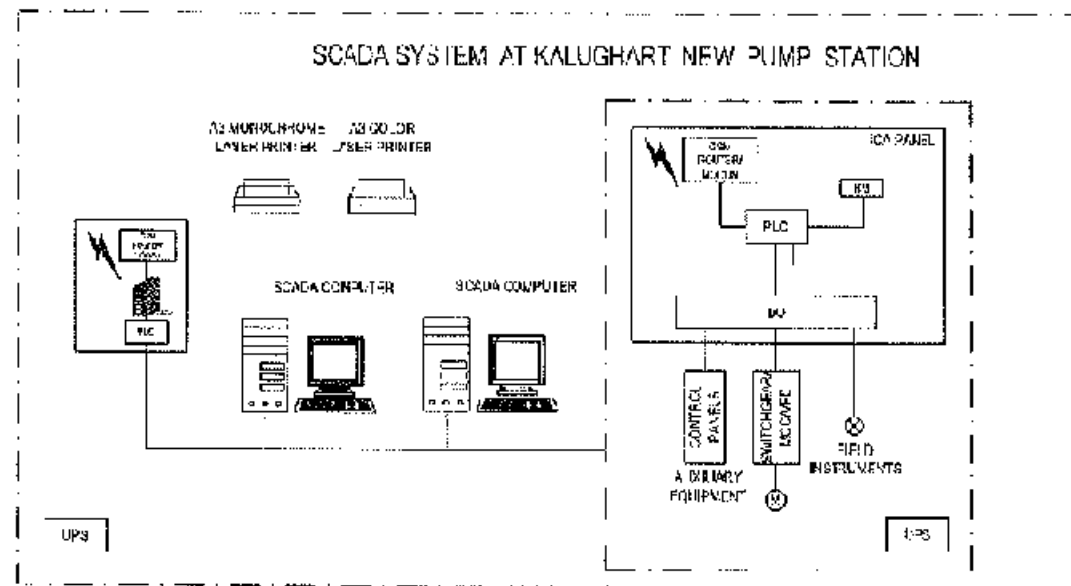
- 1) ELECTRICAL AND MECHANICAL INTERLOCKS SHALL BE PROVIDED TO ENSURE SAFE ACCESS FOR MAINTENANCE.
- 2) SPECIAL KEY INTERLOCK ARRANGEMENT SHALL BE IMPLEMENTED TO ENSURE SAFE ACCESS TO THE PUMP HOUSE.
- 3) SPECIAL KEY INTERLOCK ARRANGEMENT SHALL BE IMPLEMENTED TO RESTRICT ACCESS TO THE PUMP HOUSE TO ENSURE THE PUMP IS NOT OPERATED AND IS FURTHER CLOSED (IN COORDINATION WITH SUPPLY AUTHORITY).
- 4) PROTECTION RELAYS SHALL OPERATE AT 110V (110V DC SUPPLY SHALL BE PROVIDED IN THE SCOPE).
- 5) MULTIFUNCTION RELAYS AND POWER ANALYZERS SHALL BE CONNECTED TO PLC WITH COMMUNICATION.
- 6) ALL ACCESSORIES INCLUDING SPARE PARTS, MAINTENANCE TOOLS, DIAGNOSTIC TOOLS SHALL BE PROVIDED.
- 7) NUMBER OF ACCESSORIES SHALL BE CHANGED TO SUIT PROJECT REQUIREMENT.



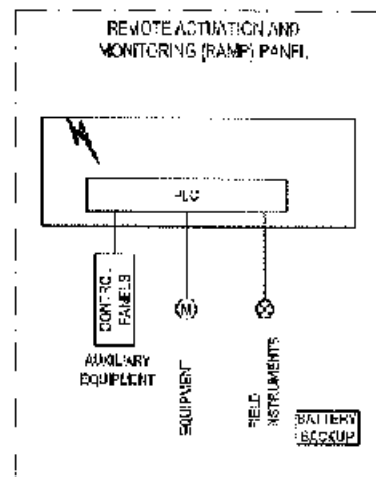
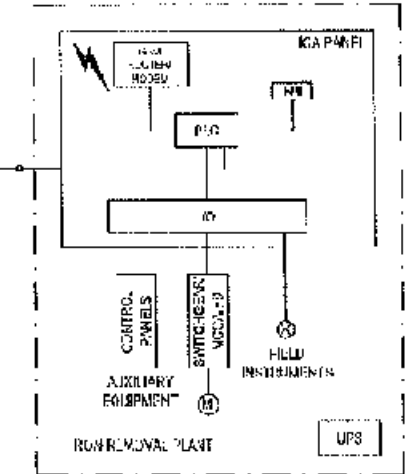
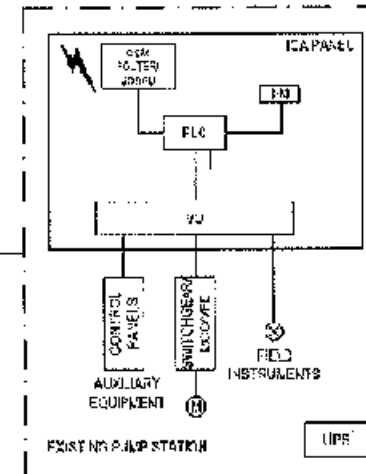
CONCEPTUAL DRAWING

	CHATTOGRAM WATER SUPPLY & SEWERAGE AUTHORITY (CWSA)
PROJECT	CHATTOGRAM WATER SUPPLY IMPROVEMENT PROJECT (CWSIP)
PACKAGE	CWSIP/W1 - LOT 2 Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Modunaghat & Kalurghat Water Supply System
DRAWING NO.	7876-BD & 7877-BD
TITLE	KALURGHAT PUMP STATION SWITCHGEAR SINGLE LINE DIAGRAM
DRAWING BY	CWSIP/W1L2/KGT/E-005

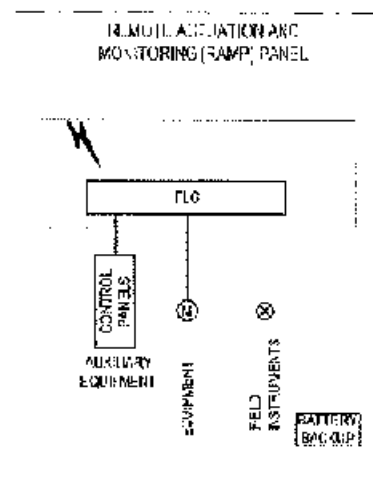
SCADA SYSTEM OVERVIEW- KALURGHAT



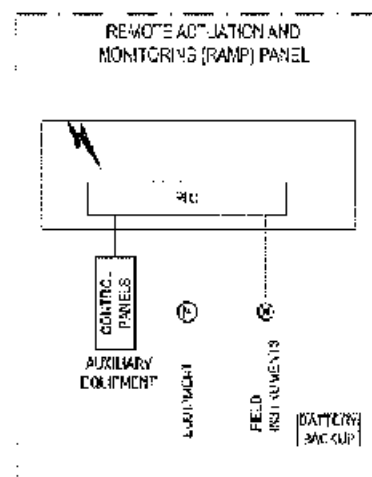
SCADA SYSTEM AT KALURGHAT EXISTING PUMP STATION



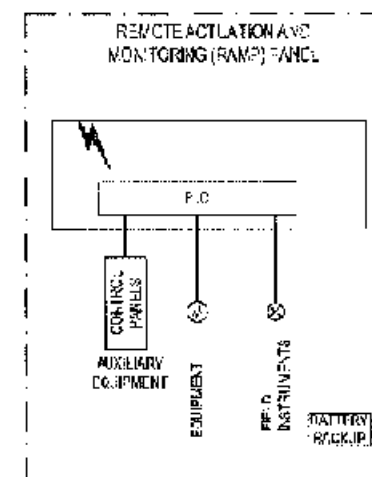
ROAD SIDE IN LINE BOOSTER PUMP
SITES QUANTITY AS
REQUIRED BY MODEL



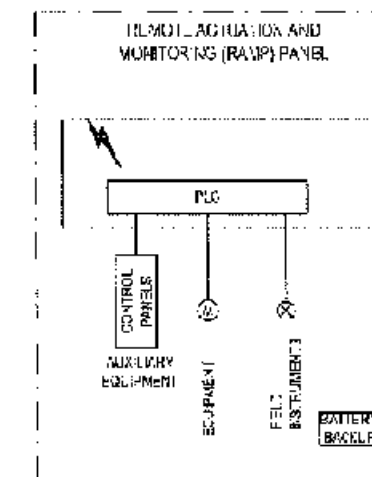
SHEIKH RUSSEL PUMP STATION



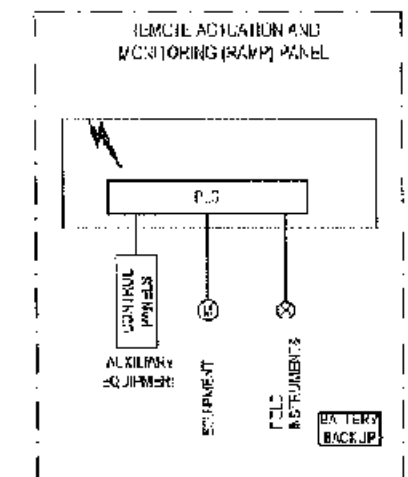
ADC HILL RESERVOIR



PATENGA PUMP STATION



SECTOR-4 CRITICAL PRESSURE
MONITORING



SECTOR-6 CRITICAL PRESSURE
MONITORING

ABBREVIATIONS	
ICA	INTEGRATED CONTROL & AUTOMATION PANEL
PLC	PROGRAMMABLE LOGIC CONTROLLER
CPIC	COMMERCIAL PLC
MC	MODULAR CONTROL MODULES
MCC	MOTOR CONTROL CENTER
PSP	PUMP STARTER PANEL
UPS	UNINTERRUPTIBLE POWER SUPPLY

LEGEND	
—	ETHERNET CABLE
—	FIBER OPTIC CABLE
⊗	FIELD INSTRUMENT

NOTES

- NUMBER OF ROAD SIDE BOOSTER PUMP STATIONS ARE TO BE DECIDED BASED ON THE HYDRAULIC CALCULATION.
- PROVISION FOR INTEGRATION WITH FUTURE EQUIPMENT / COMPUTERS SHALL BE AVAILABLE.
- ALL INFORMATION AVAILABLE IN THE SCADA SYSTEM SHALL BE MADE AVAILABLE FOR THIRD PARTY EQUIPMENT VIA INTERFET.
- STATUS / UNFAVOURABLE SITUATIONS INCLUDING ALARM CONDITIONS SHALL BE ANNOUNCED BY ASSIGNED EQUIPMENT INCLUDING SMART PHONES.
- WHERE PUMP OPERATING FLOW METER CAN BE USED AS SECTOR/DWA METER PROVISION FOR INTERFACING WITH EXTERNAL HARDWARE SHALL BE PROVIDED AS SPECIFIED.

CONCEPTUAL DRAWING

CHATTogram WATER SUPPLY & SEWERAGE AUTHORITY (CWSA)	
PROJECT: CHATTogram WATER SUPPLY IMPROVEMENT PROJECT (CWSIP)	
PACKAGE: CWSIP/PW - DT 2	
Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Modunagar & Kalurghat Water Supply System	
DRAWING NO: 7575-ED & 7674-ED	
TITLE: KALURGHAT PUMP STATION SCADA SYSTEM OVERVIEW	
DRAWING NO: CWSIP/PW1/L2/KGT/E-006	

DMA MAPS

Q

LOT 2



Legend

Pipe Diameter (mm)

— 110 (HDPE)

— 160 (HDPE)

— 180 (HDPE)

— 225 (HDPE)

— 280 (HDPE)

— 300 (HDPE)

— 315 (HDPE)

— 350 (HDPE)

— 400 (HDPE)

— 500 (HDPE)

— 600 (DI)

— 800 (DI)

— 1000 (DI)

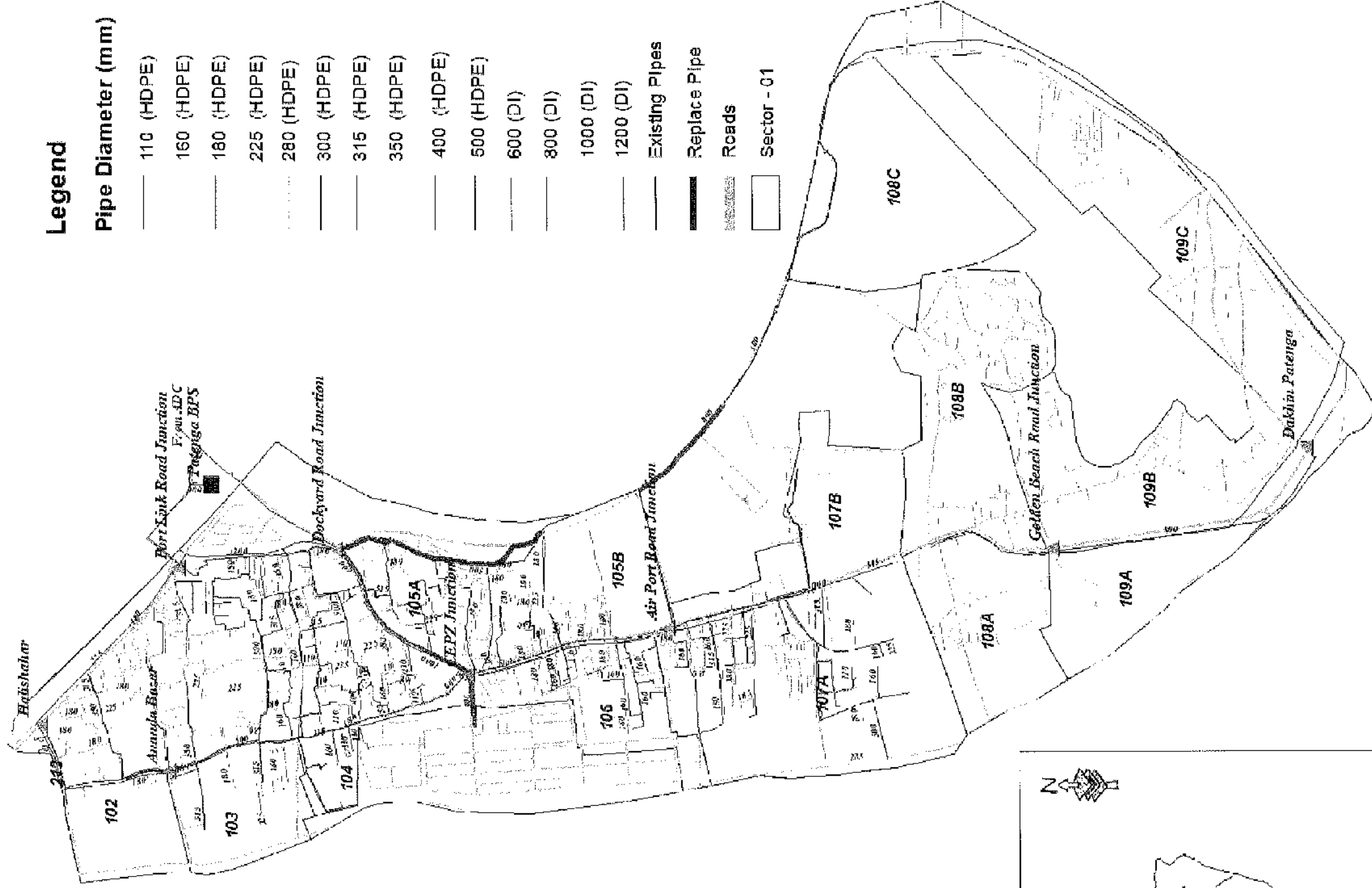
— 1200 (DI)

— Existing Pipes

— Replace Pipe

— Roads

— Sector - 01



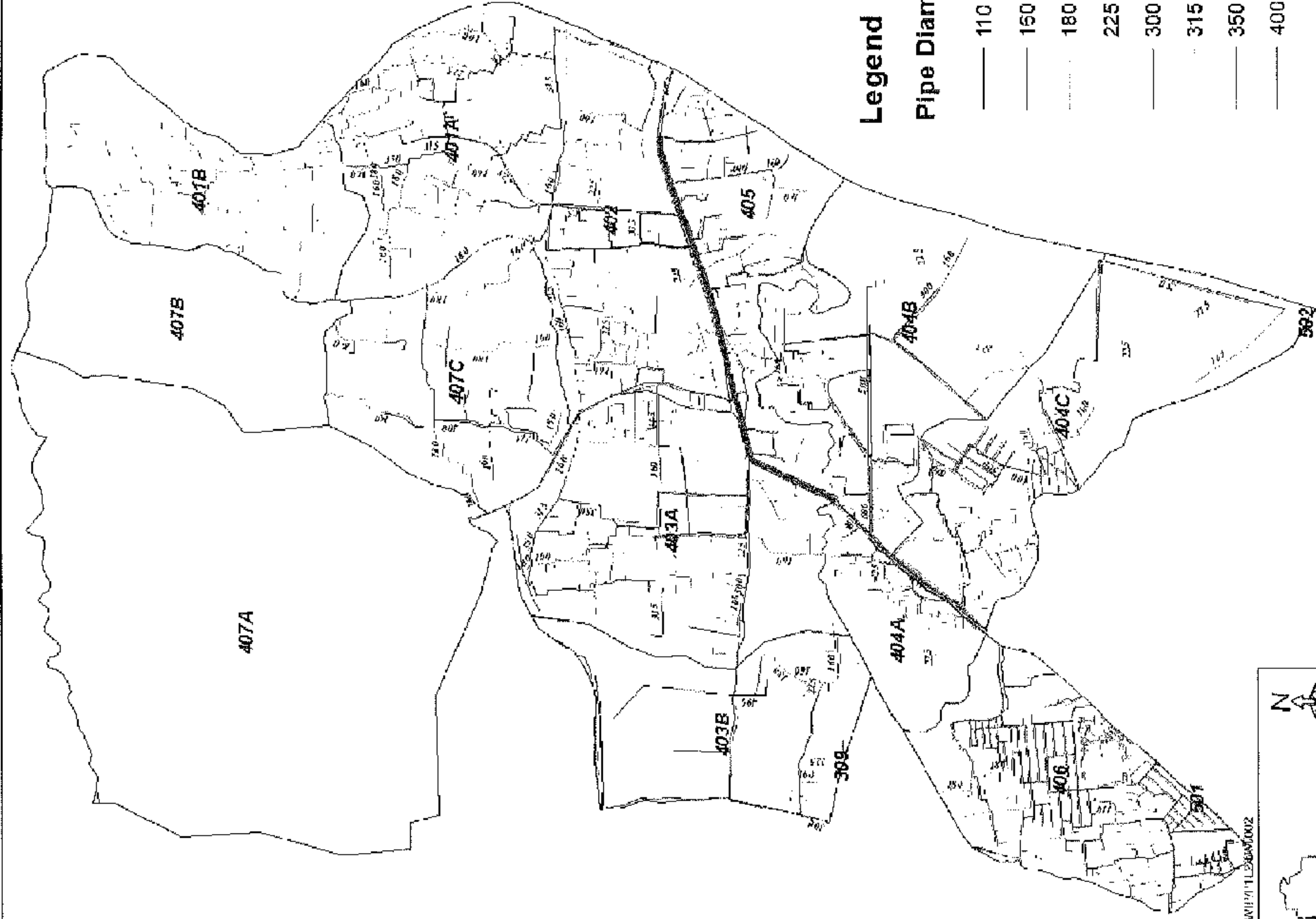
DRAWING NO. : CWP/PP/L2/DW/EC1



1:350,000

Kilometers
0 2.755.5 11 16.5 22

1:30,000



Legend

Pipe Diameter (mm)

- 110 (HDPE)
- 150 (HDPE)
- 180 (HDPE)
- 225 (HDPE)
- 300 (DI)
- 315 (HDPE)
- 350 (HDPE)
- 400 (HDPE)
- 450 (DI)
- 500 (HDPE)
- 600 (DI)

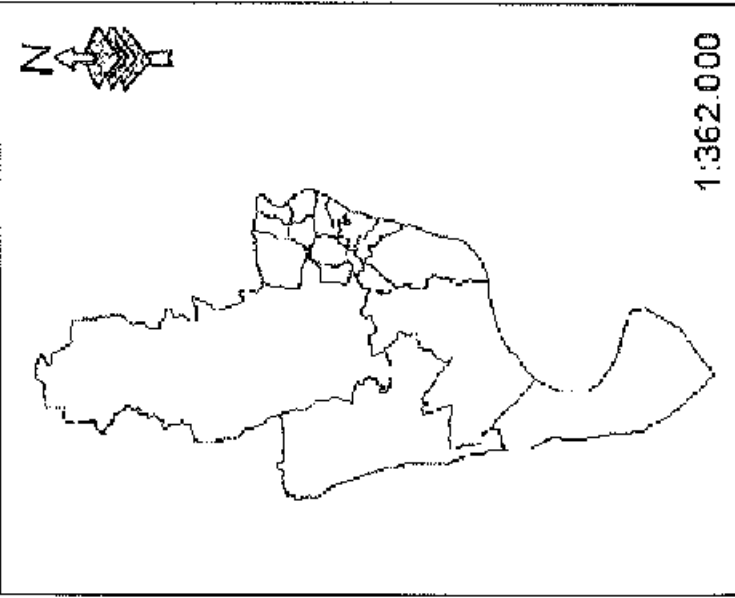
— Replace Pipe

— Existing Pipes

▨ Roads

□ Sector - 04

DRAWING No : CWM/11/2000/002

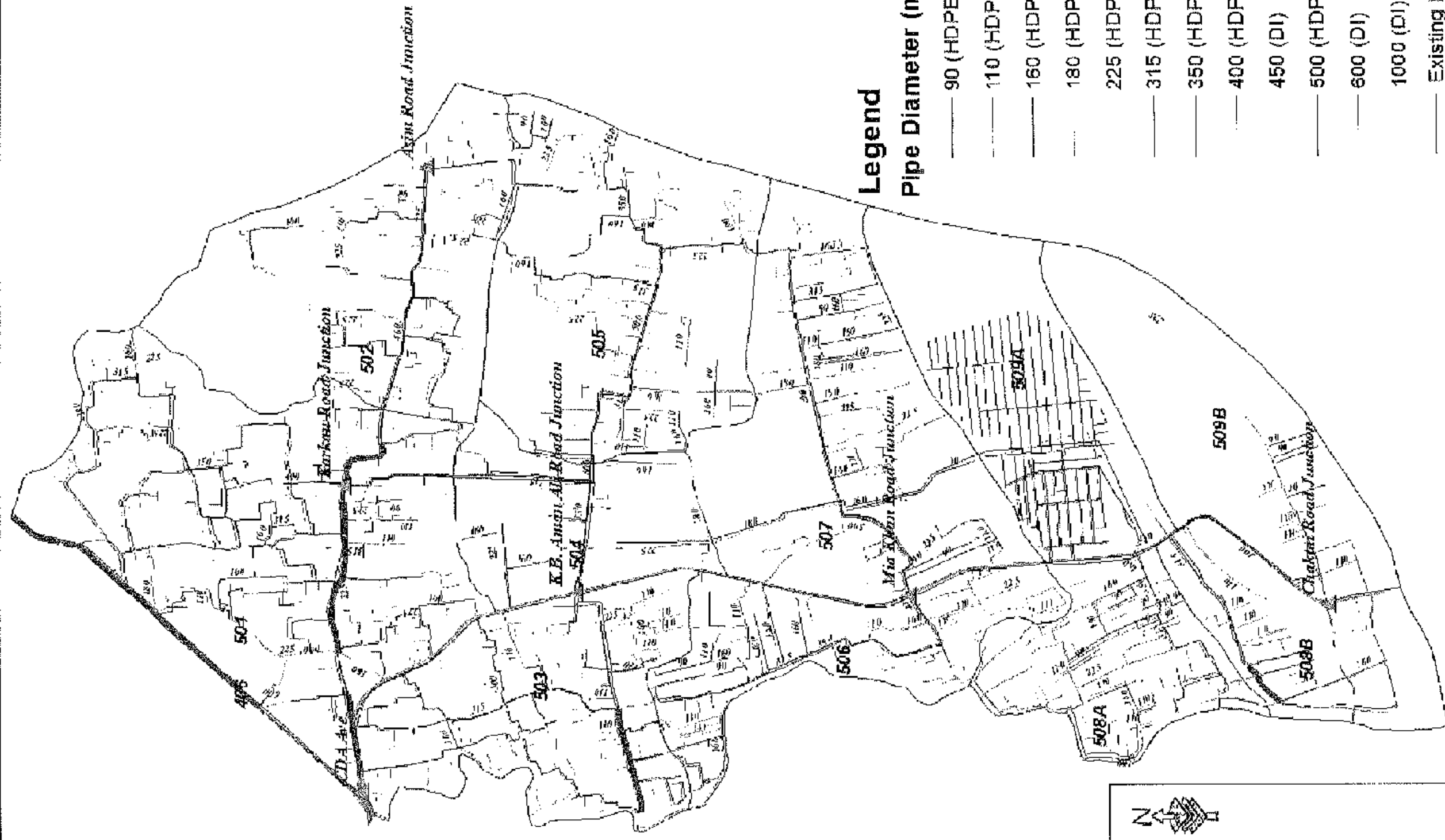
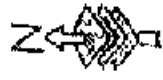


1:362,000

1:25,000

Kilometers





Legend

Pipe Diameter (mm)

- 90 (HDPE)
- 110 (HDPE)
- 160 (HDPE)
- 180 (HDPE)
- 225 (HDPE)
- 315 (HDPE)
- 350 (HDPE)
- 400 (HDPE)
- 450 (DI)
- 500 (HDPE)
- 600 (DI)
- 1000 (DI)
- Existing Pipes
- Replace Pipe
- Roads
- Sector - 05

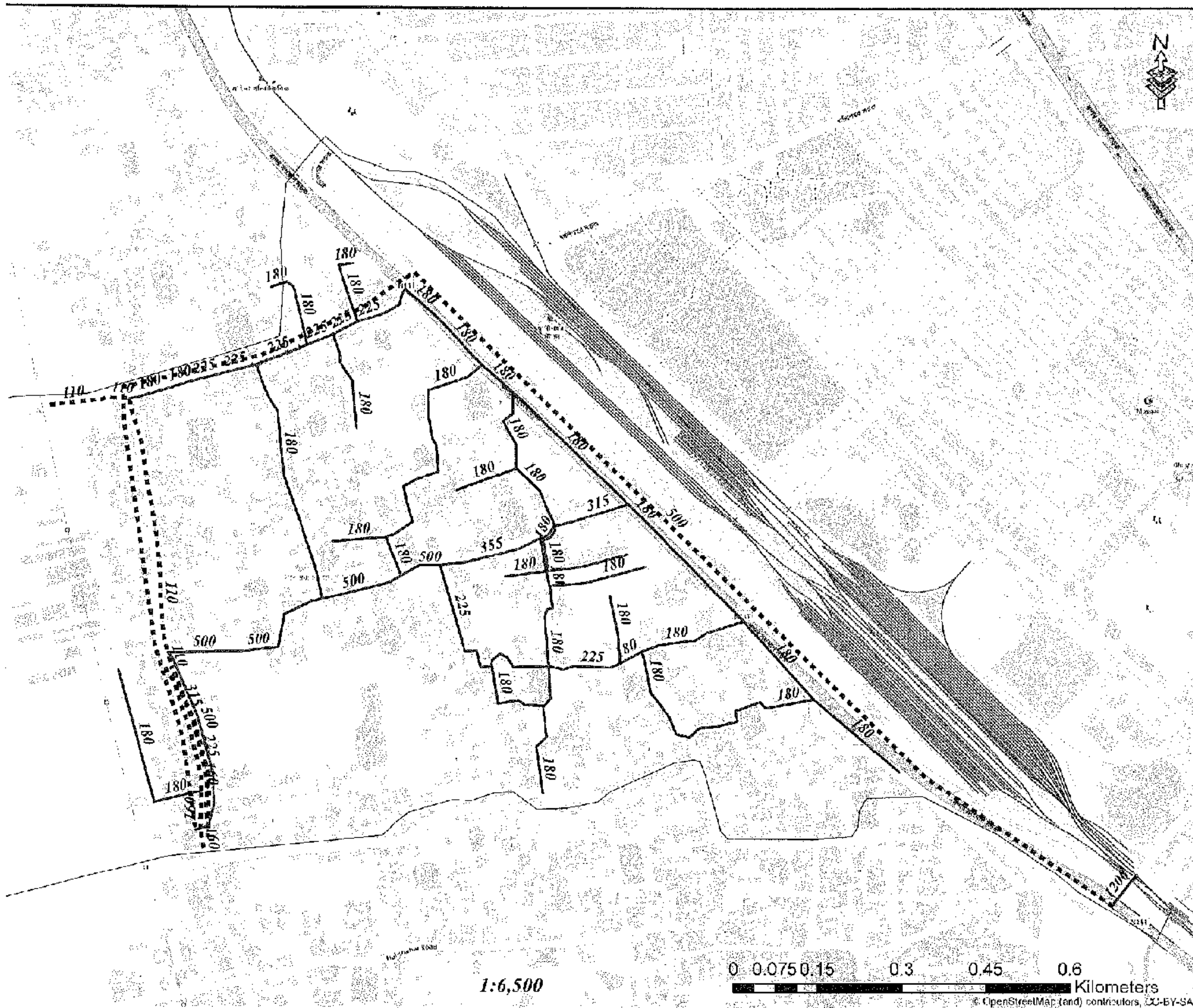
Kilometers
0 2.5 5 10 15 20

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DRAWING No. CW/P/P112/DV/003



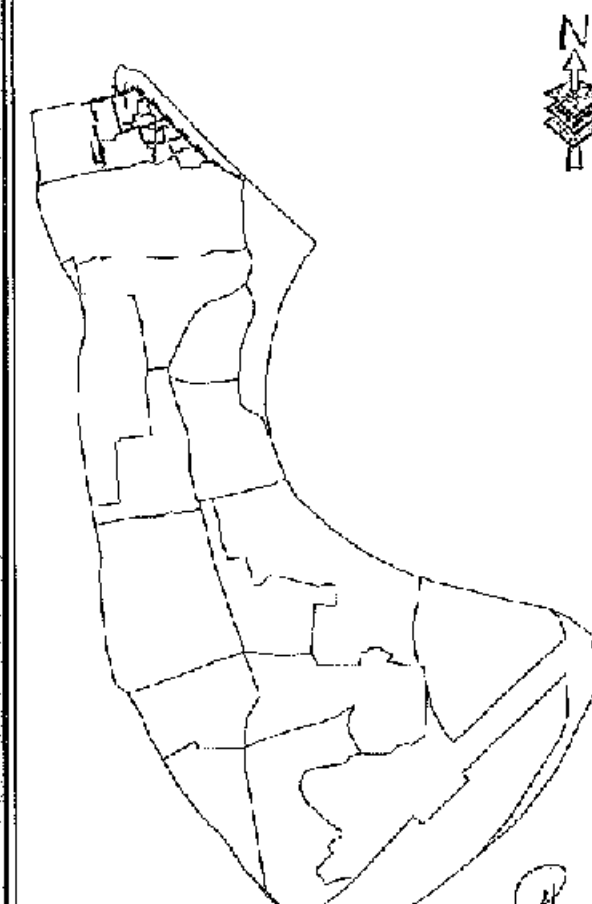
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Legend

- Existing Pipes (mm)
- New Pipes (mm)
- Replace Pipes (mm)
- DMA Boundary

DMA Location of Sector 01



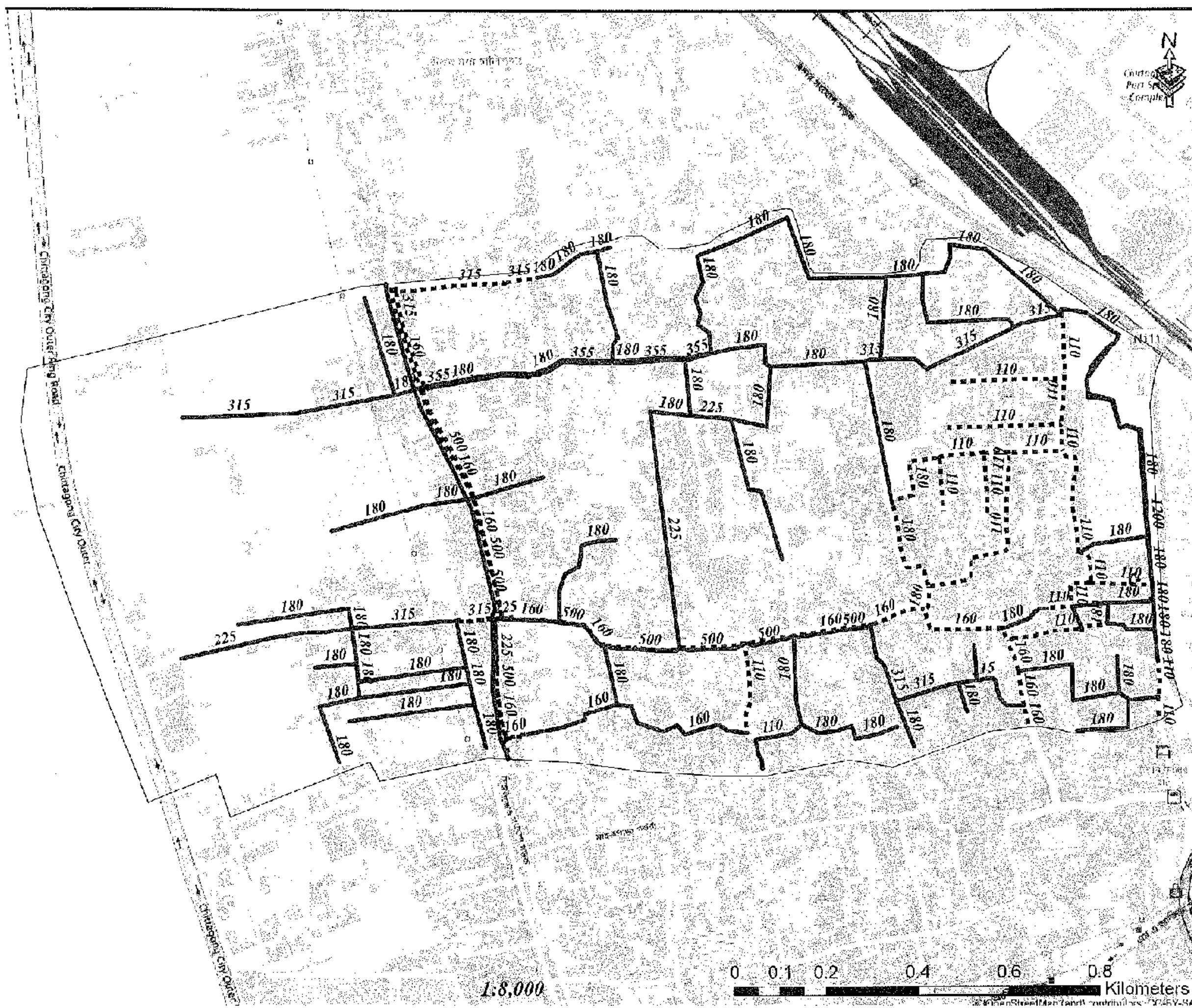
CONCEPTUAL DRAWING

 WUSA CHATTOGRAM WATER SUPPLY & SEWERAGE AUTHORITY (UTARAKH)	
PROJECT	CHATTOGRAM WATER SUPPLY IMPROVEMENT PROJECT (CWSSIP)
PACKAGE	CONSISTENCY LOT 2
Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Modanaghat & Katarhat Water Supply System	
DATA SHEET NO.	762F-RD & 762F-R3
TITLE	CWA PIPES - 102
DRAWING NO.	CWSSIP/W/102/01-004

1:6,500

0 0.075 0.15 0.3 0.45 0.6 Kilometers

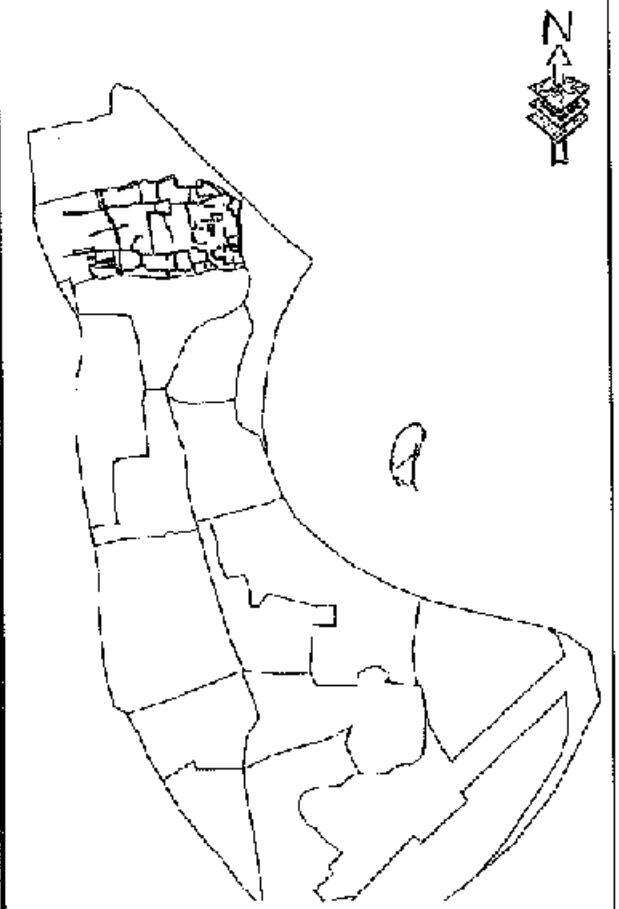
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Legend

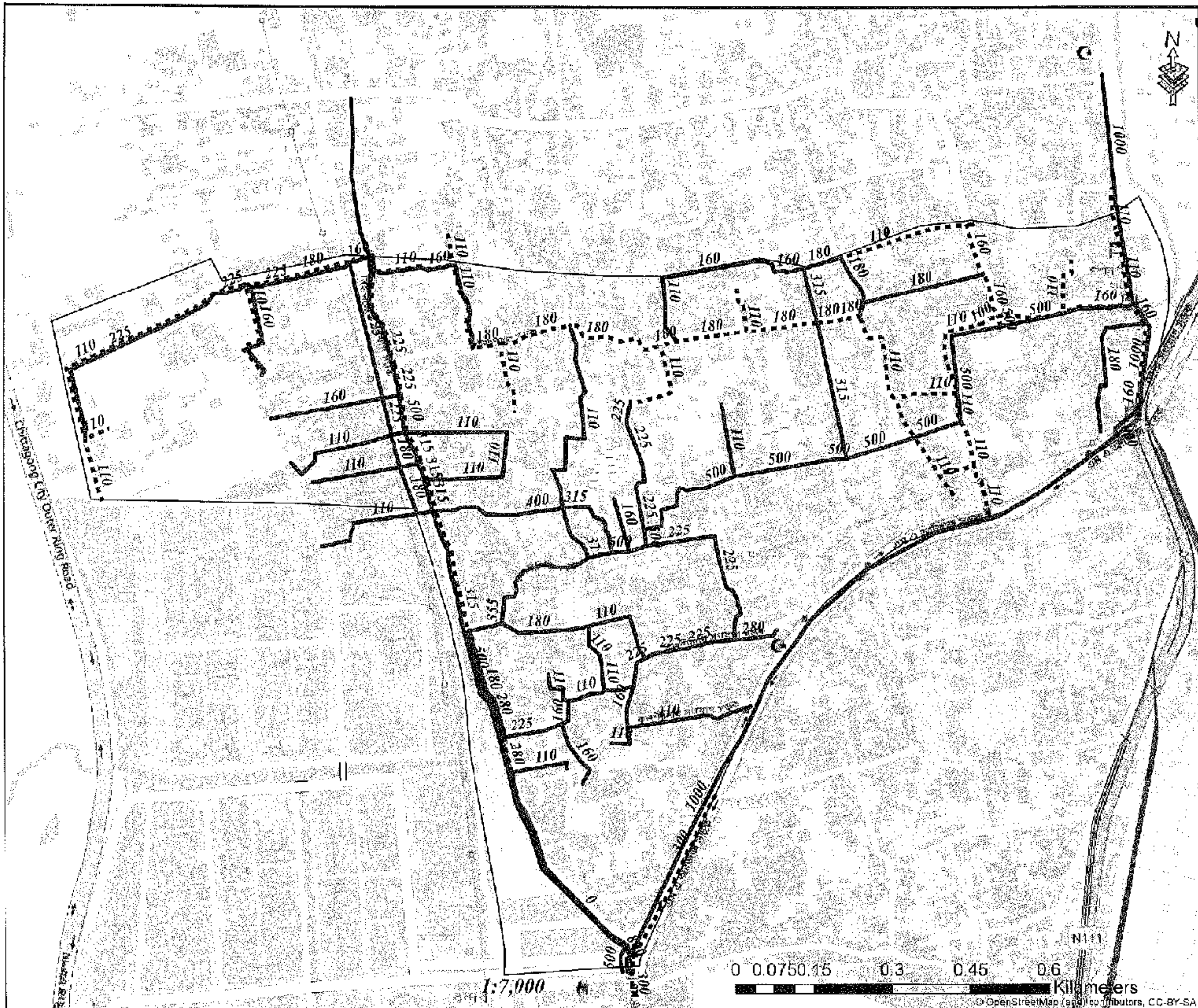
- Existing Pipes (mm)
- New Pipes (mm)
- Replace Pipes (mm)
- DMA Boundary

DMA Location of Sector 01



CONCEPTUAL DRAWING

 CHITTAGONG WATER SUPPLY & SEWERAGE AUTHORITY (WASA)	
PROJECT	CHITTAGONG WATER SUPPLY IMPROVEMENT PROJECT (CWISIP)
PACKAGE	DWAPV - LOT 2
Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Madanaga & Kalamati Water Supply System	
DRAWING NO.	7275-RD & 7674-RD
FILE	DWAPVPS - 103
REVISION	CWSEF / WILZ / DM - 0106



Legend

- Existing Pipes (mm)
- New Pipes (mm)
- Replace Pipes (mm)
- DMA Boundary

DMA Location of Sector 01



CONCEPTUAL DRAWING



CHATTOGRAM WATER SUPPLY & SEWERAGE AUTHORITY (CWSA)

PROJECT: CHATTOGRAM WATER SUPPLY IMPROVEMENT PROJECT (CWIP)

PACKAGE: CWIP/PAW1 - Lot 2

Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Chattoogram & Moulvibazar Water Supply Systems

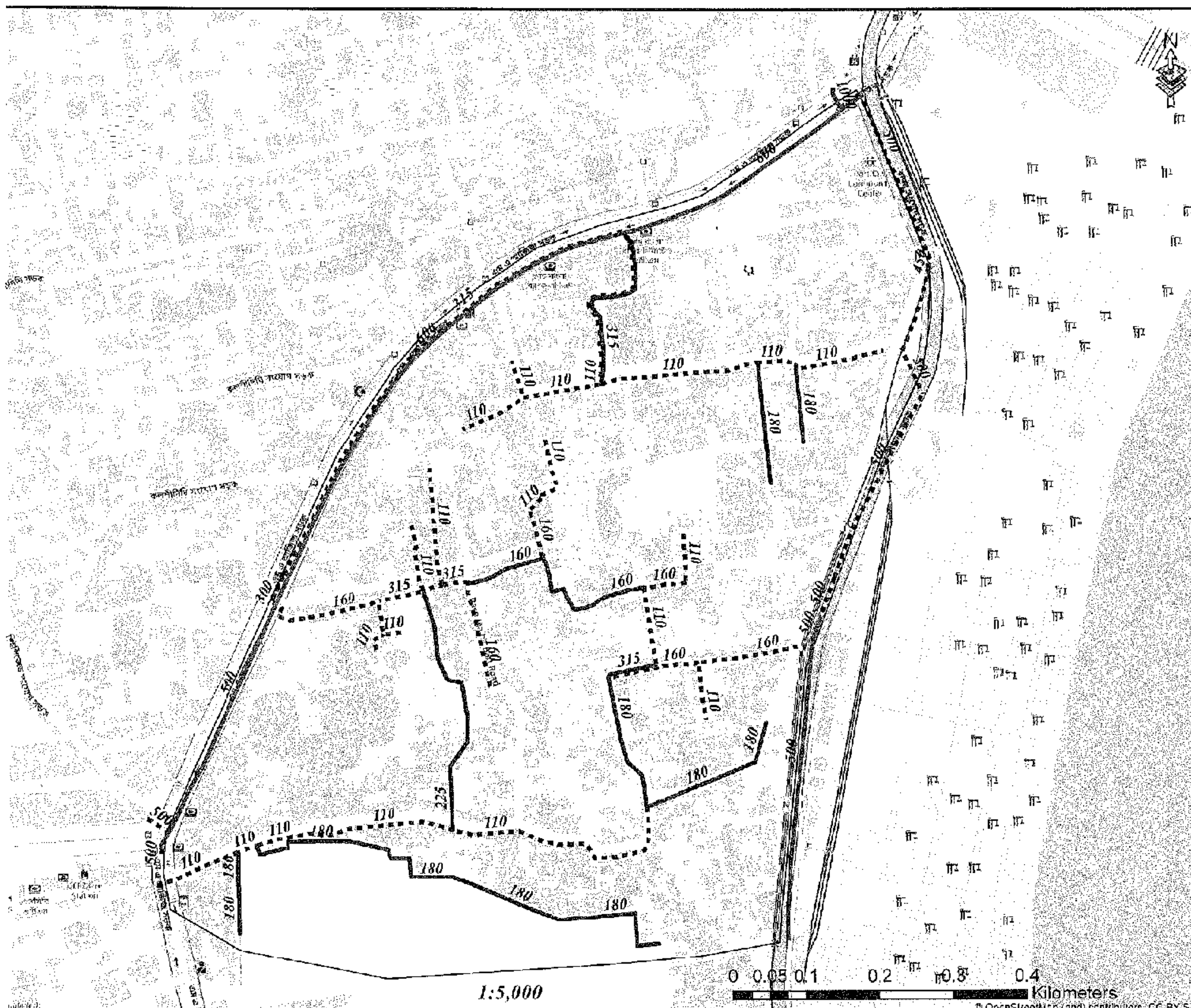
SCALE: 1:7,000

TITLE: DW: PIPES - 104

DRAWING: CWIP/PAW1/02-036

0 0.0750.15 0.3 0.45 0.6 Kilometers

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Legend

- Existing Pipes (mm)
- New Pipes (mm)
- Replace Pipes (mm)
- DMA Boundary

DMA Location of Sector 01



CONCEPTUAL DRAWING



CHATTOGRAM WATER SUPPLY & SEWERAGE AUTHORITY (CWSA)

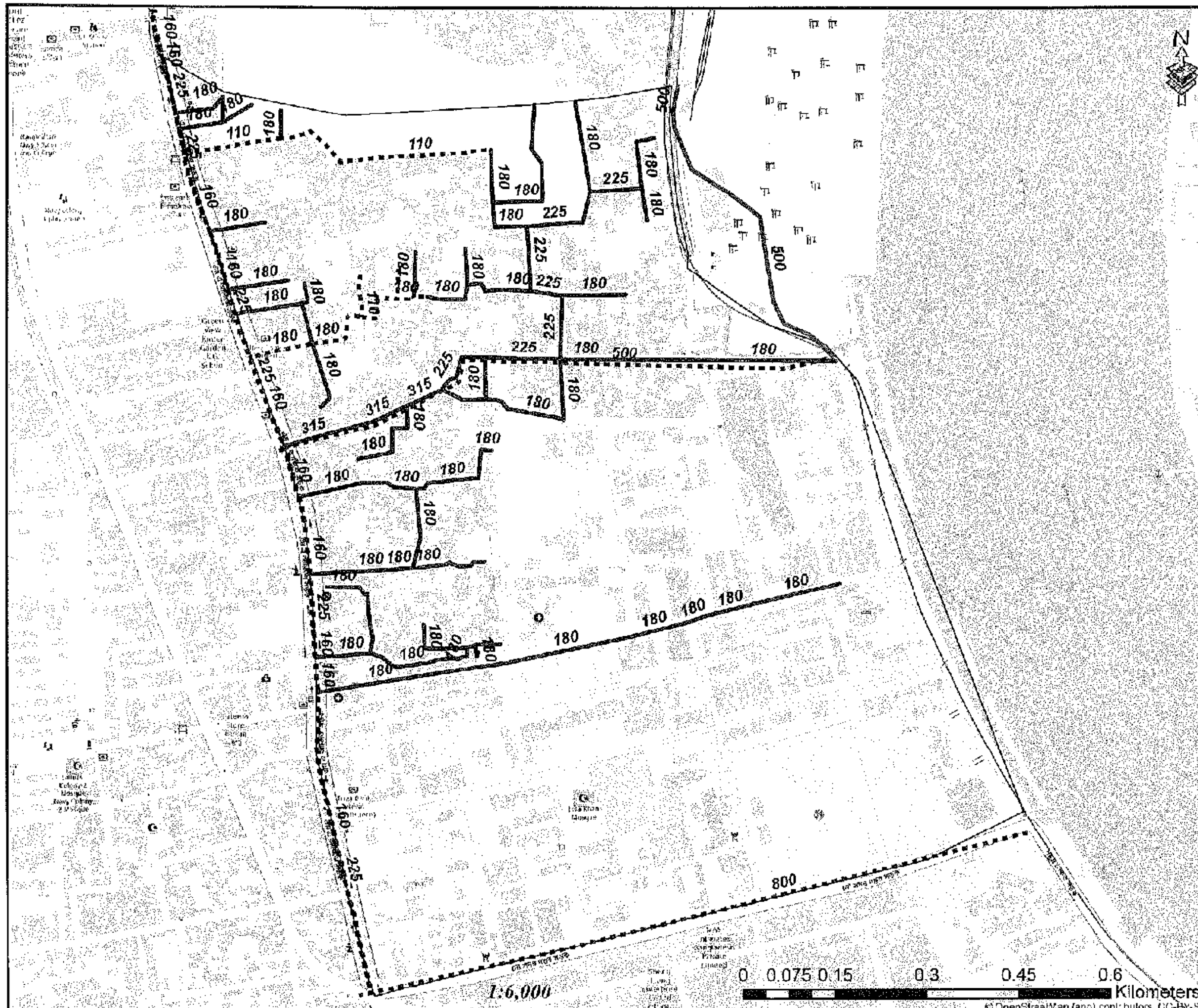
PROJECT CHATTOGRAM WATER SUPPLY IMPROVEMENT PROJECT (CWIP)

PACKAGE CWIP/PAV-1 OF 2
Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Modunagar & Khatirhat Water Supply System

DATE OF PREPARED: 16/5/2024 & 16/11/2024

TITLE DMA Pipes - 105A

DRAWN BY: CWIP/PAV-1/PAV-1-007



Legend

- Existing Pipes (mm)
- New Pipes (mm)
- Replace Pipes (mm)
- DMA Boundary

DMA Location of Sector 01



CONCEPTUAL DRAWING

WASA	CHATTOPRAM WATER SUPPLY & SEWERAGE AUTHORITY (CWASA)
PROJECT	CHATTOPRAM WATER SUPPLY IMPROVEMENT PROJECT (CWSP)
PACKAGE	CWSP/PA-1 LOT 2
DESIGNER	Design, Construction, Supply, Installation, Testing & Commissioning System Improvement and O&M Formulation of Madanaghat & Kahirghat Water Supply System
DESIGNER'S NO.	78/8-ED & 78/8-ED
TITLE	DMA/PA-1-1059
REVISIONS	CWSP/PA-1/2/01/001

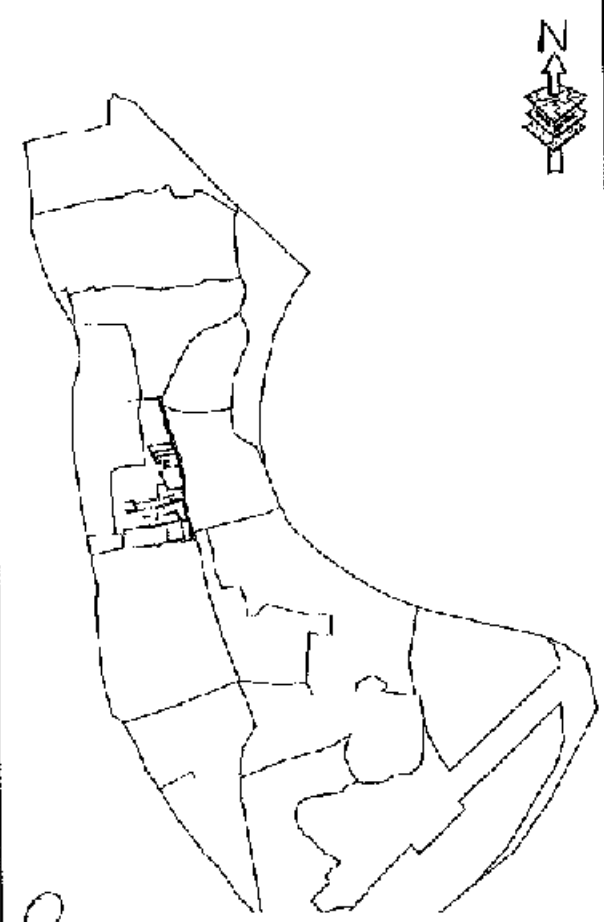
চট্টগ্রাম
নগর প্রকৌশল
অফিস



Legend

- Existing Pipes (mm)
- New Pipes (mm)
- Replace Pipes (mm)
- DMA Boundary

DMA Location of Sector 01



CONCEPTUAL DRAWING



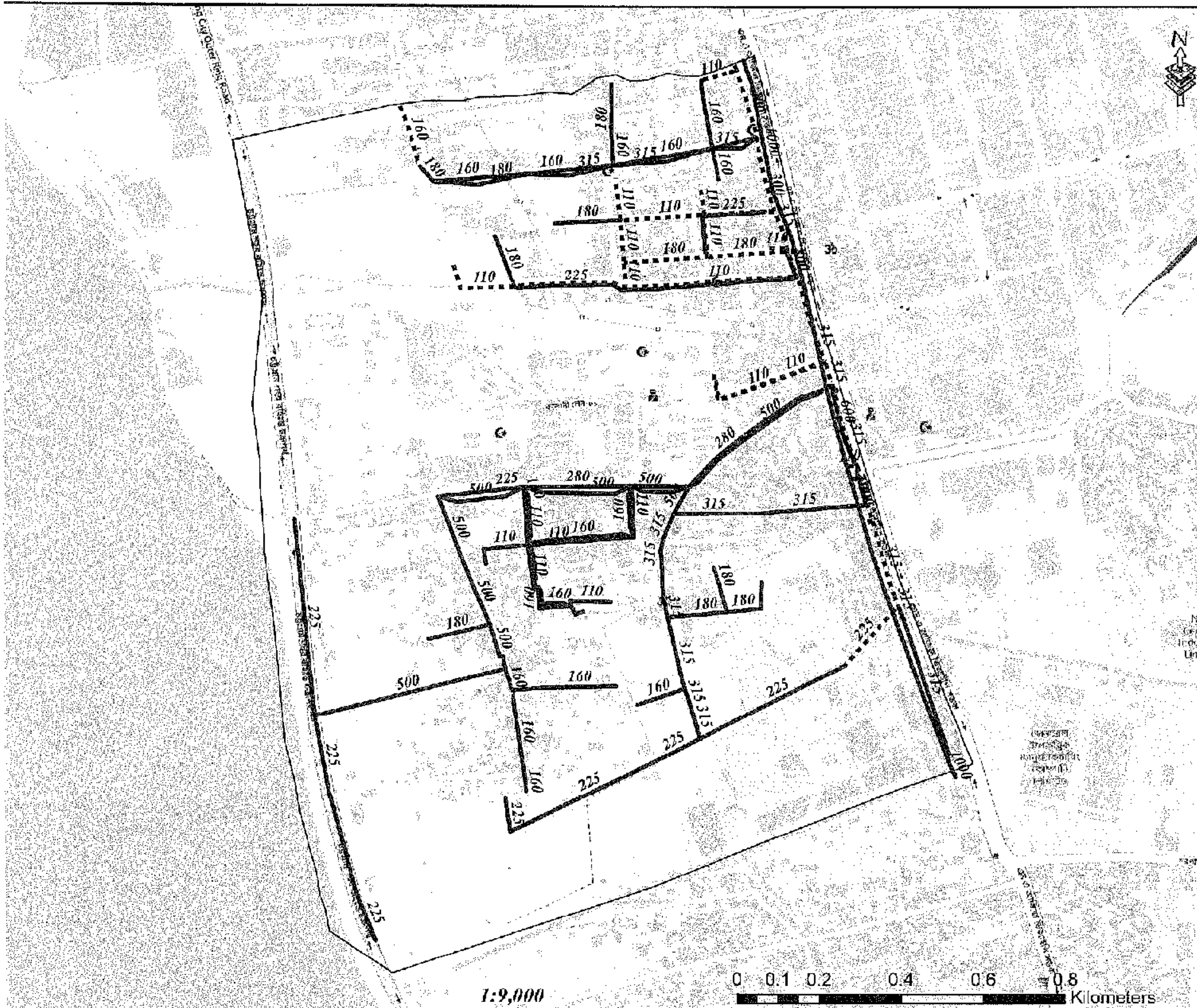
CHATTOGRAH WATER SUPPLY & SEWERAGE AUTHORITY (CWSA)

PROJECT	CHATTOGRAH WATER SUPPLY IMPROVEMENT PROJECT (CWIP)
PACKAGE	CWIP/PAK-1/DT-2
DESCRIPTION	Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Medium and Large Water Supply System
DATE	2015-07-17/18-08
TITLE	DMA PIPES - 105
DATE	CWIP/PAK-1/DT-2/EN-005



1:7,500

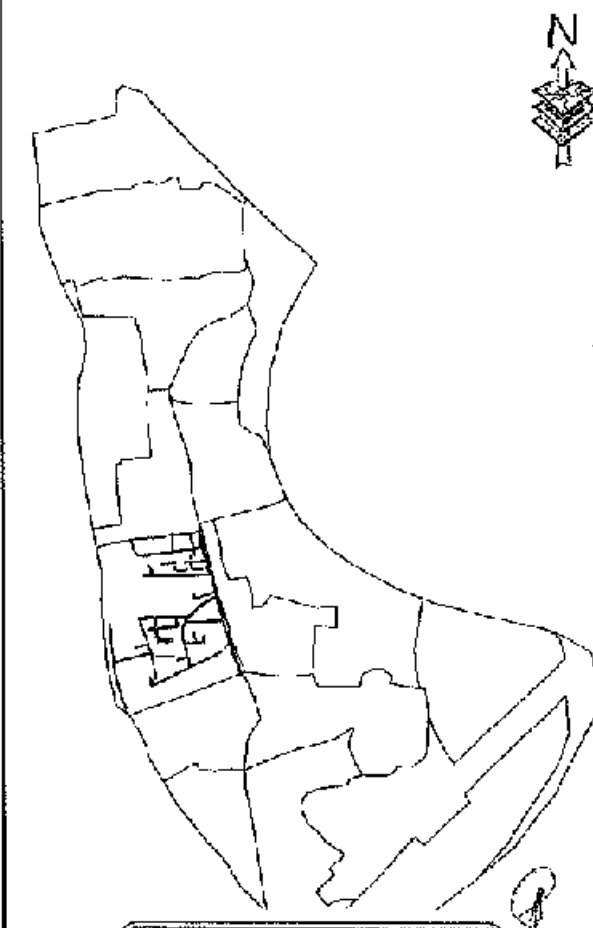
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Legend

- Existing Pipes (mm)
- New Pipes (mm)
- Replace Pipes (mm)
- DMA Boundary

DMA Location of Sector 01



CONCEPTUAL DRAWING



CHATTOGAM WATER SUPPLY & SEWERAGE AUTHORITY
(CWSSA)

PROJECT: CHATTOGAM WATER SUPPLY IMPROVEMENT PROJECT (CWSIP)

LOCATION: CWSIP/2A - LOT 2

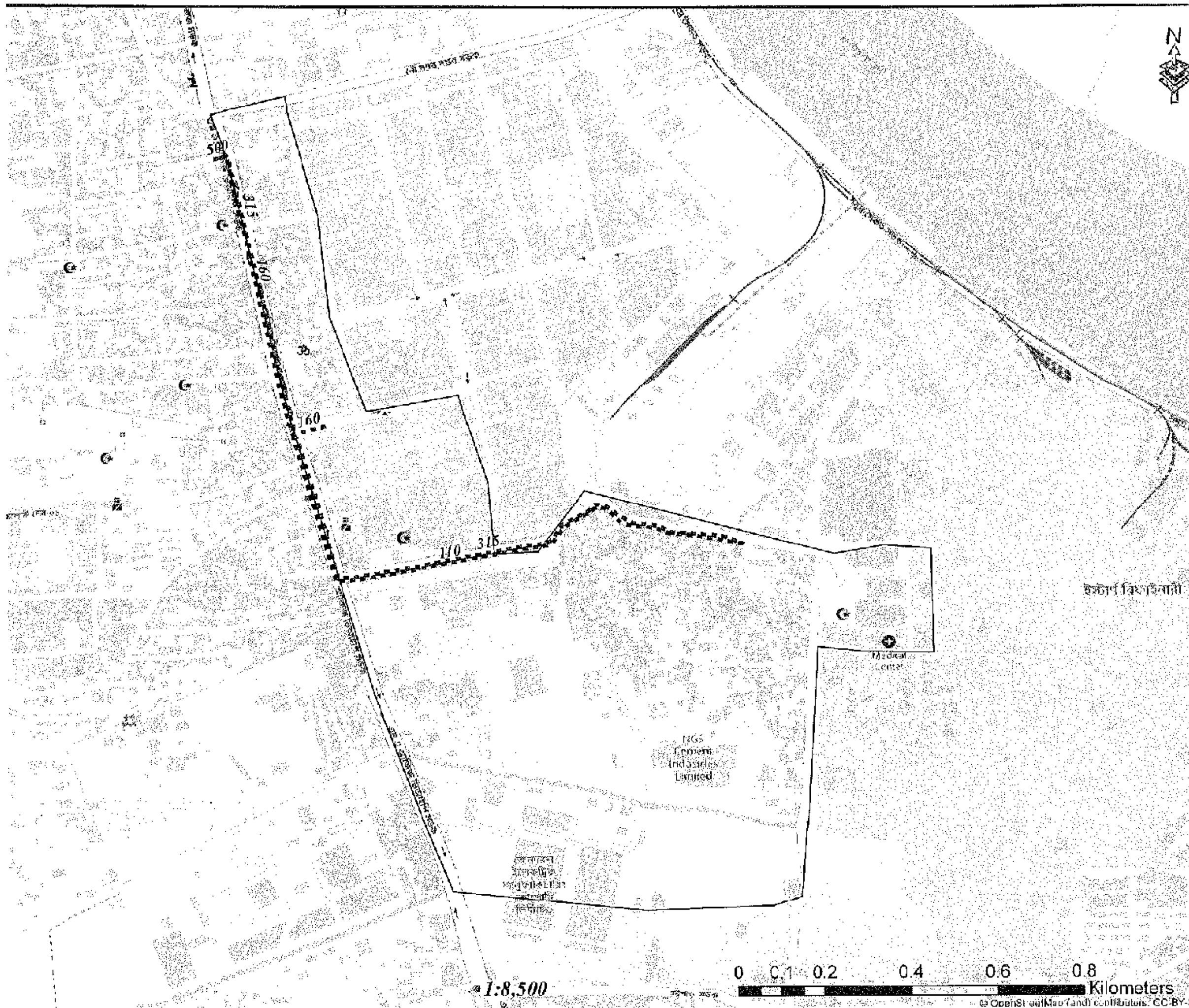
Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Modunghat & Kairahat Water Supply System

PROJECT NO: F375-BD-S-7374-BD

TITLE: DMA FIBER - 10/7A

DRAWING NO: CWSIP/W/12/3A-010

0 0.1 0.2 0.4 0.6 0.8 Kilometers



Legend

- Existing Pipes (mm)
- New Pipes (mm)
- Replace Pipes (mm)
- DMA Boundary

DMA Location of Sector 01



CONCEPTUAL DRAWING



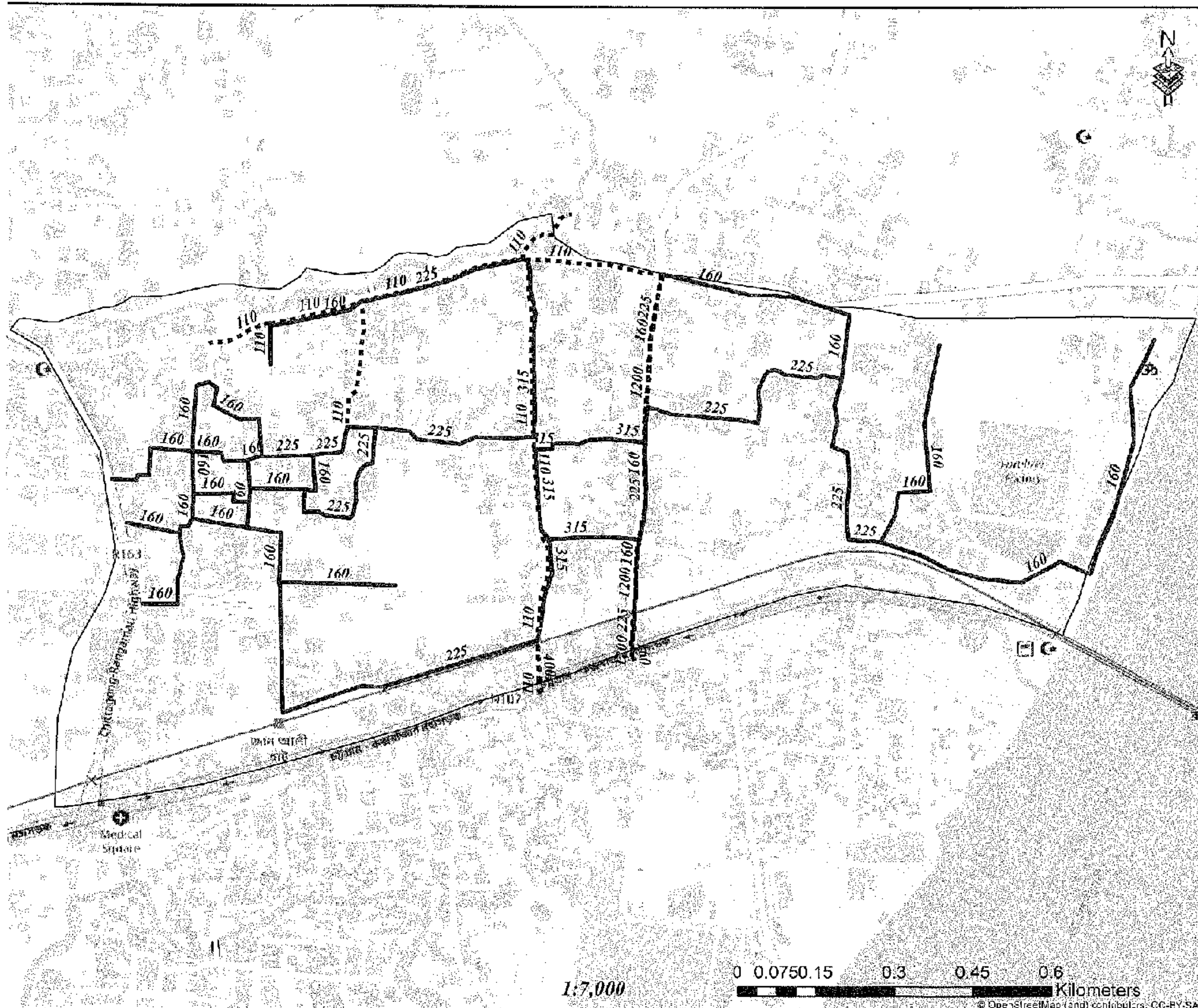
CHATTOPADHYAY WATER SUPPLY & SEWERAGE AUTHORITY (CHWSA)

PROJECT	CHWSA TUGLAH WATER SUPPLY IMPROVEMENT PROJECT (CWSP)
PACKAGE	CWSP/W1 - LOT 2
DESCRIPTION	Design, Construction, Supply, Installation, Testing & Commissioning of System Improvement and DMA Formulation of Madanagarh & Kashyap Water Supply System
DM/CHSD/NO.	1821-BD & 1874-BD
DATE	DM/FPC3-107E
DRAWN BY	LWS/P/W/L2/DM-011

1:8,500

0 0.1 0.2 0.4 0.6 0.8 Kilometers

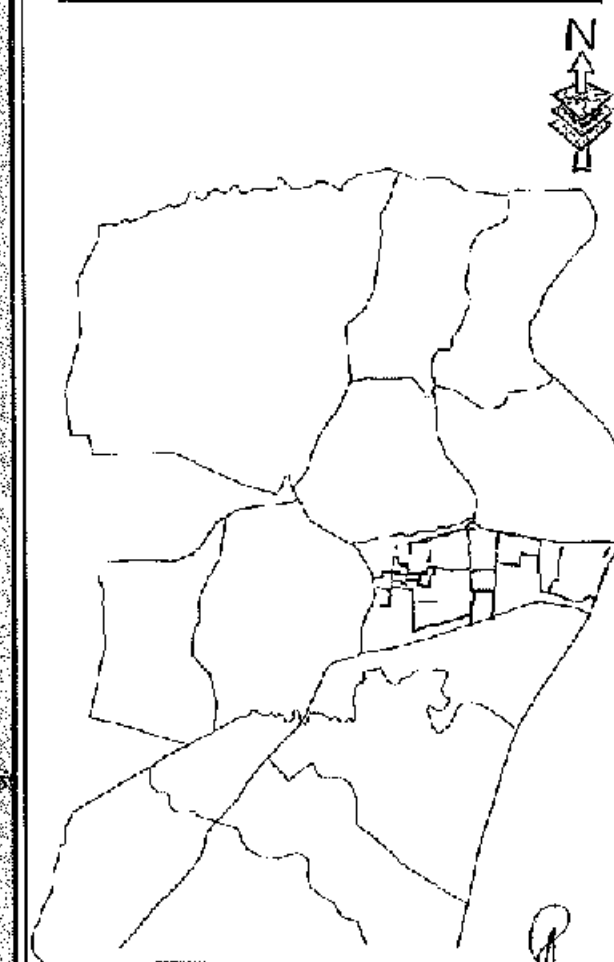
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Legend

- Existing Pipes (mm)
- New Pipes (mm)
- Replace Pipes (mm)
- DMA Boundary

DMA Location of Sector 04



CONCEPTUAL DRAWING



DHAKA WATER SUPPLY & SEWERAGE AUTHORITY
(DWSSA)

PROJECT: CHITTAGONG WATER SUPPLY IMPROVEMENT PROJECT (CWSIP)

PACKAGE: CWSIP/PA1 - LOT 2
Design, Construction, Supply, Installation, Testing & Commissioning for System Improvements and DMA Formulation of Tridishaat & Malukhat Water Supply System

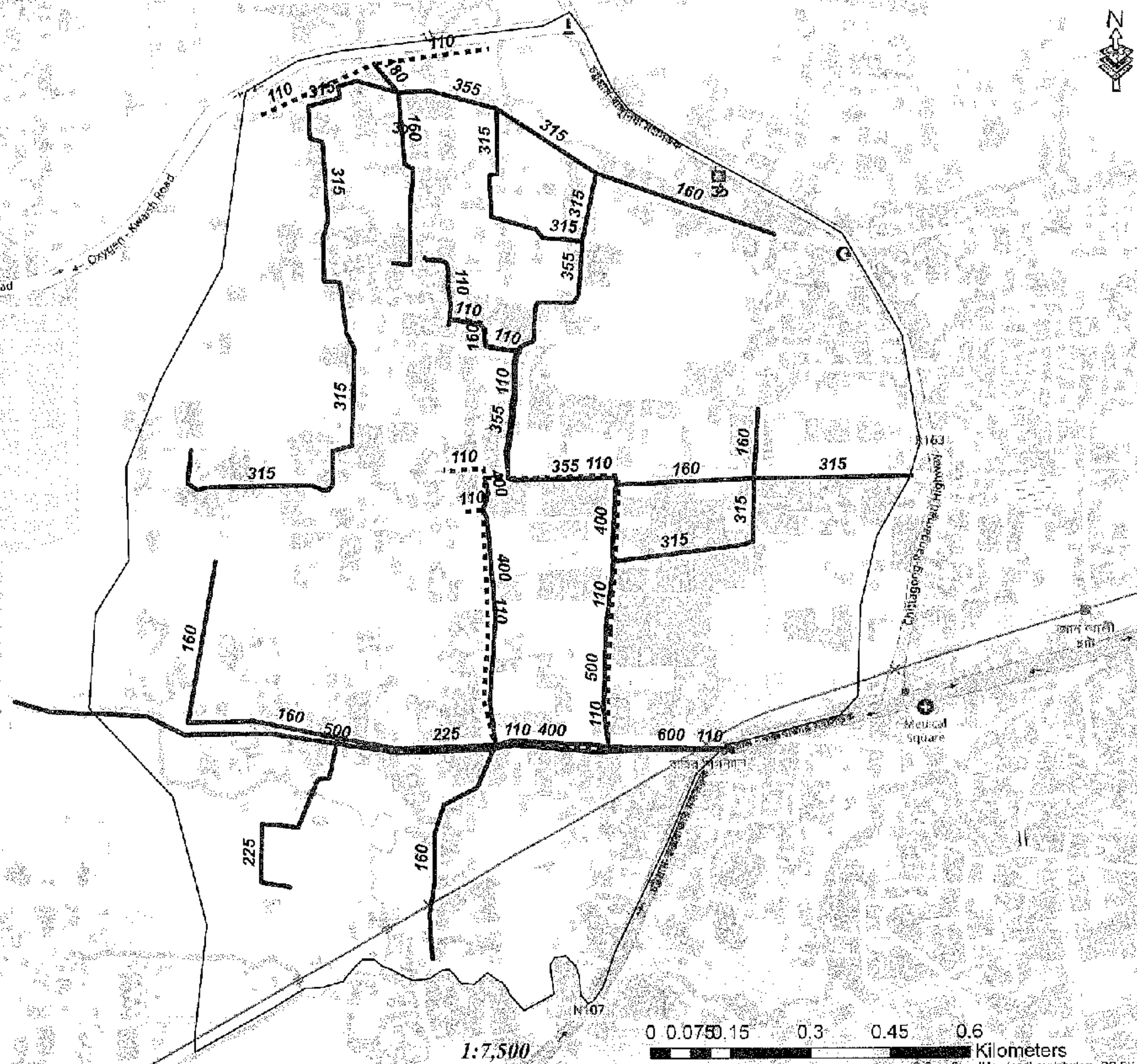
DATE OF ISSUE: 26/10/2014

TITLE: DMA PIPES - 4C2

SCALE: CWSIP/PA1/LOT 2 - D13

0 0.075 0.15 0.3 0.45 0.6 Kilometers

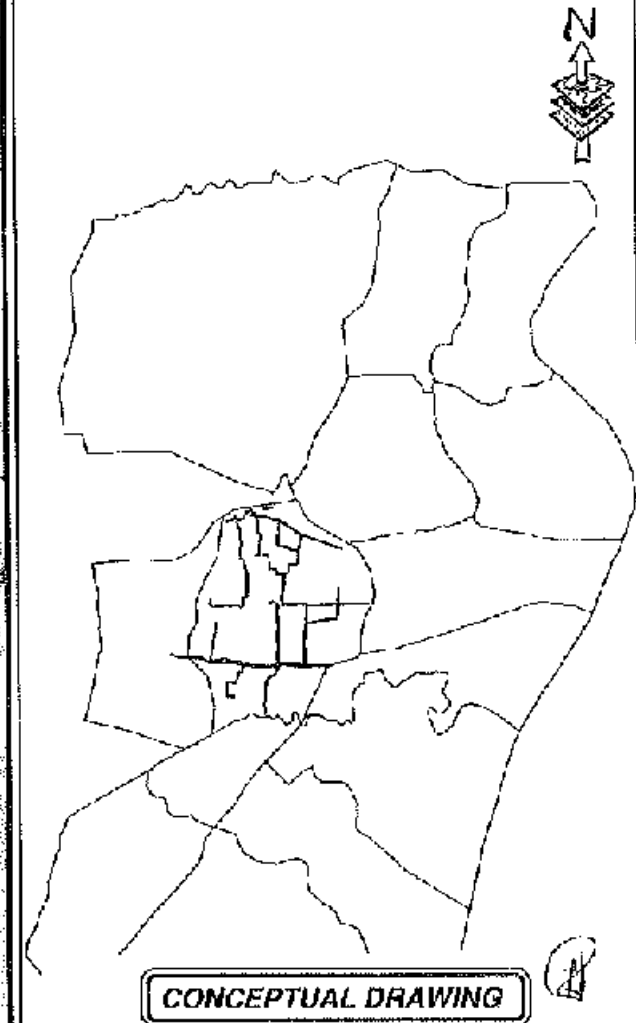
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Legend

- Existing Pipes (mm)
- New Pipes (mm)
- Replace Pipes (mm)
- DMA Boundary

DMA Location of Sector 04

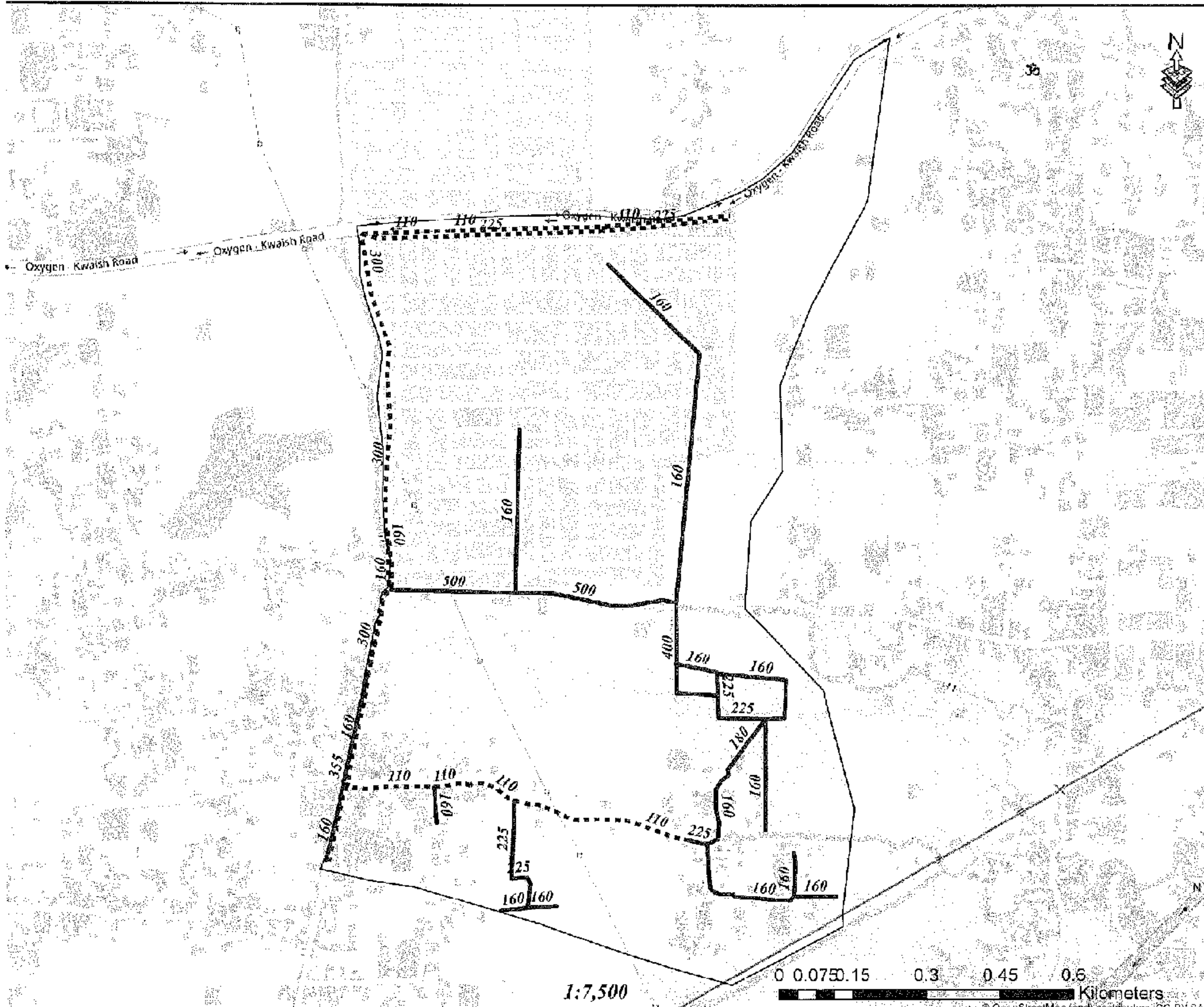


CHATTOGRAM WATER SUPPLY & SEWERAGE AUTHORITY (WASA)	
PROJECT: CHATTOGRAM WATER SUPPLY IMPROVEMENT PROJECT (CWSP)	
PACKAGE: CWSP/01 - LOT 2	
Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Potomoghat & Kollungal Water Supply System	
DRAWING NO.: 2675-BD & 7674-BD	
TITLE: DNAPIPES- 403A	
REVISION: QWSH /WTLZ/DM- 014	

0 0.0750.15 0.3 0.45 0.6 Kilometers

1:7,500

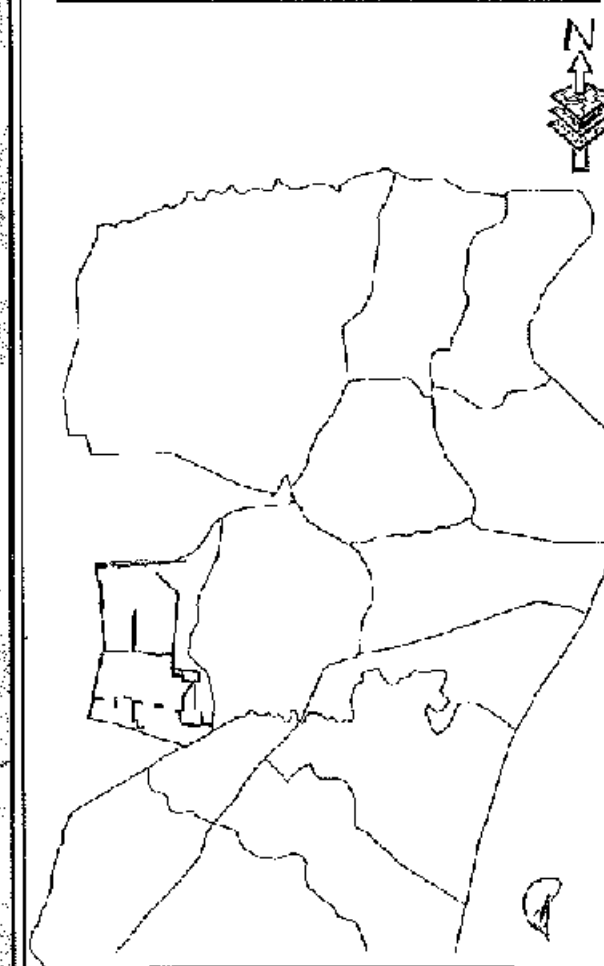
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Legend

- Existing Pipes (mm)
- New Pipes (mm)
- Replace Pipes (mm)
- DMA Boundary

DMA Location of Sector 04



CONCEPTUAL DRAWING



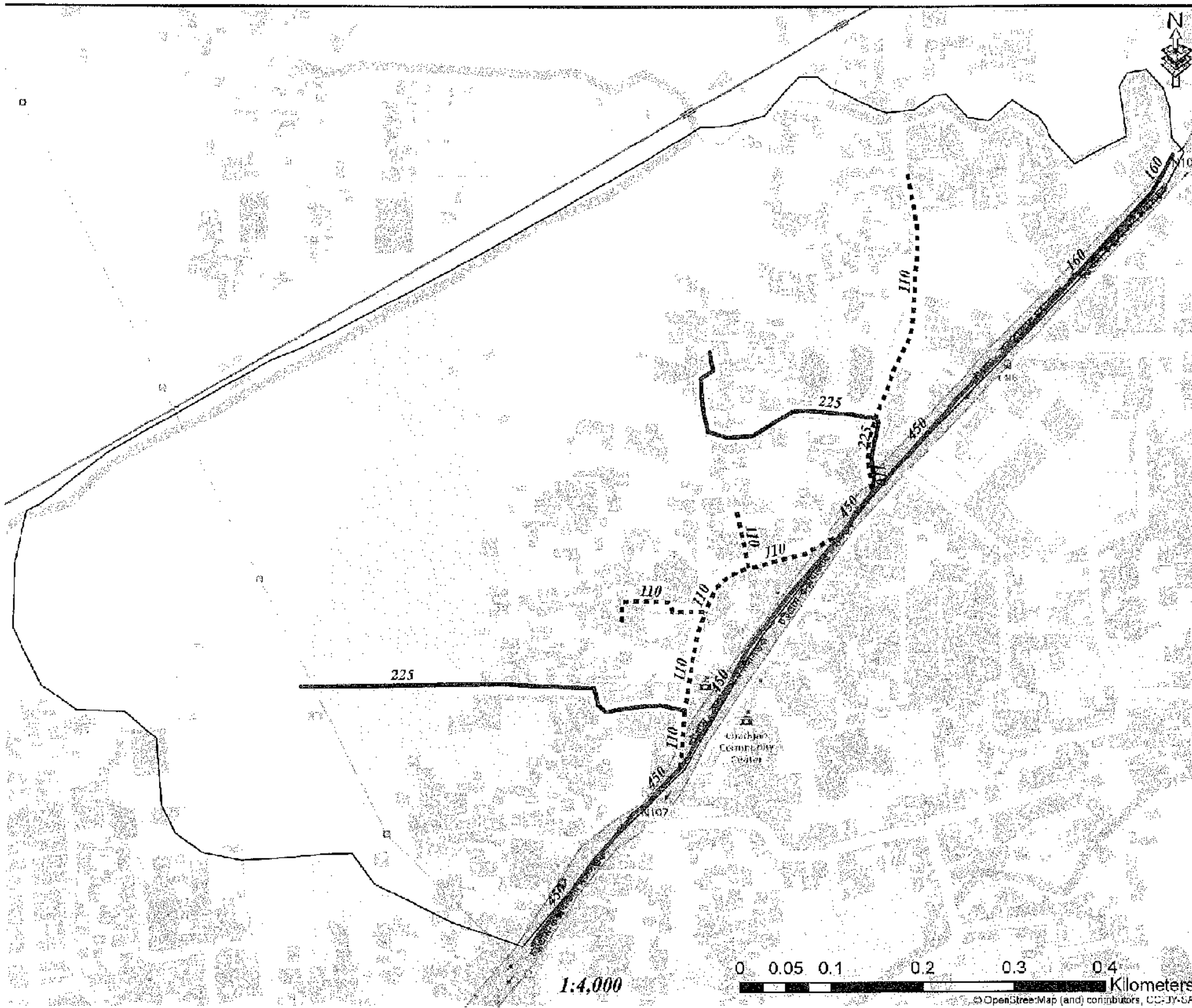
CHATTOORAM WATER SUPPLY & SEWERAGE AUTHORITY
(CWSSA)

PROJECT	CHATTOORAM WATER SUPPLY IMPROVEMENT PROJECT (CWSP)
PACKAGE	CWSP/W1 - LOT 2
DESCRIPTION	Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Madunigal & Kalurghat Water Supply System
DM CELL NO.	7873-RD & 7874-50
TITLE	DMA PIPES - 403B
PROJECT NO.	CWSP/W1/L2/DM-016

1:7,500

0 0.075 0.15 0.3 0.45 0.6 Kilometers

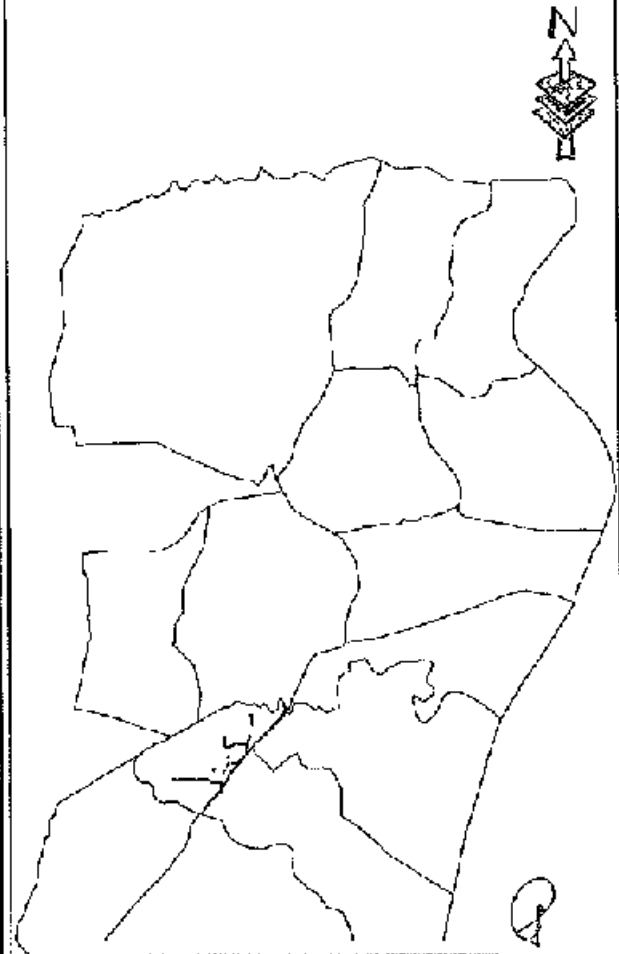
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Legend

- Existing Pipes (mm)
- New Pipes (mm)
- Replace Pipes (mm)
- DMA Boundary

DMA Location of Sector 04



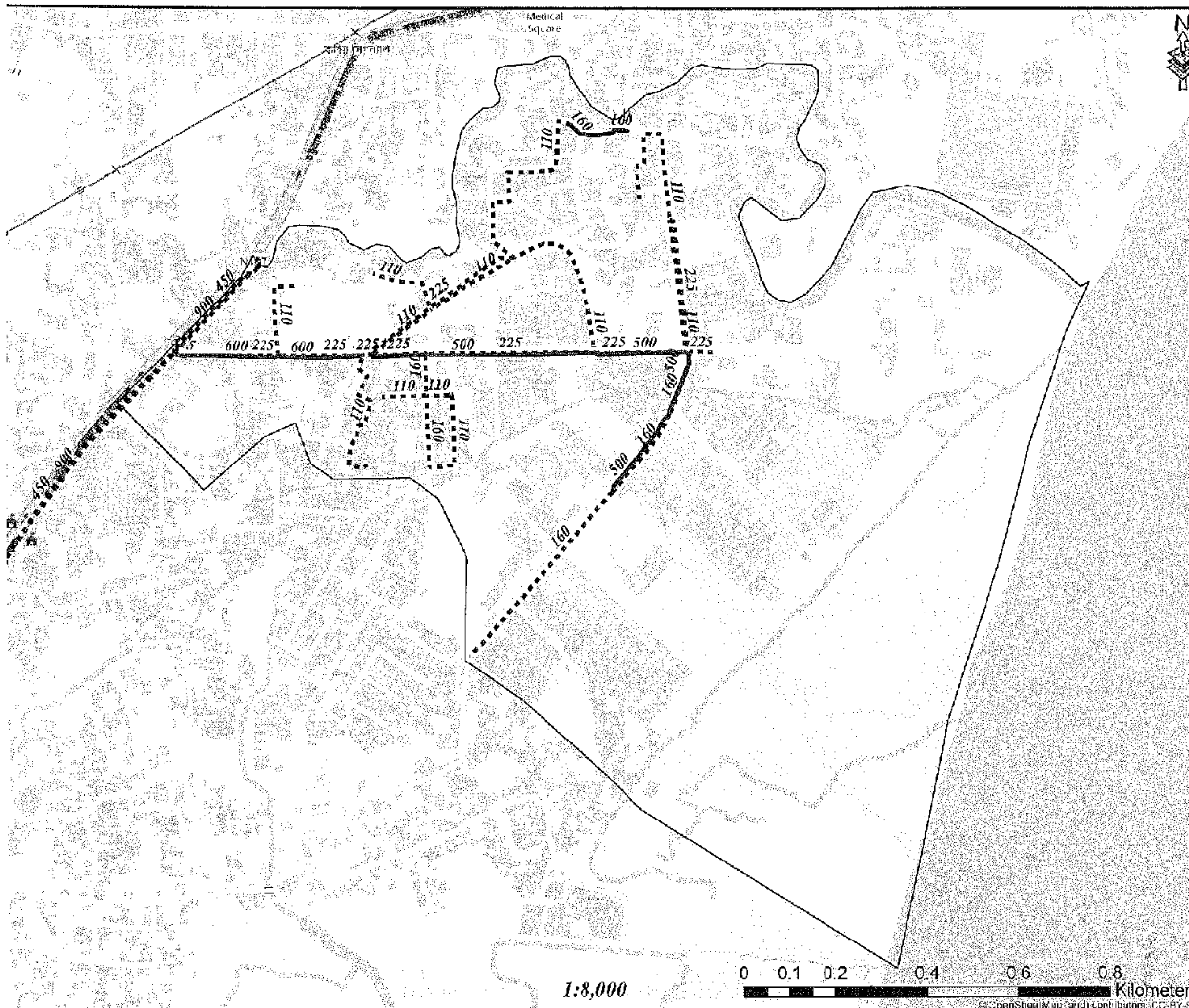
CONCEPTUAL DRAWING

CHATTOGRAM WATER SUPPLY & SEWERAGE AUTHORITY (KWASA)	
PROJECT	CHATTOGRAM WATER SUPPLY IMPROVEMENT PROJECT (CWSP)
PACKAGE	CWSP PART 1 LOT 2
Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formulation of Hoshangabad & Mahalingpur Water Supply Systems	
PROJECT NO.	2675 SD & 7671-ED
DATE	LMA/MP/25-04/24
DRAWING NO.	CWSP-1-WL21-DM-018

1:4,000



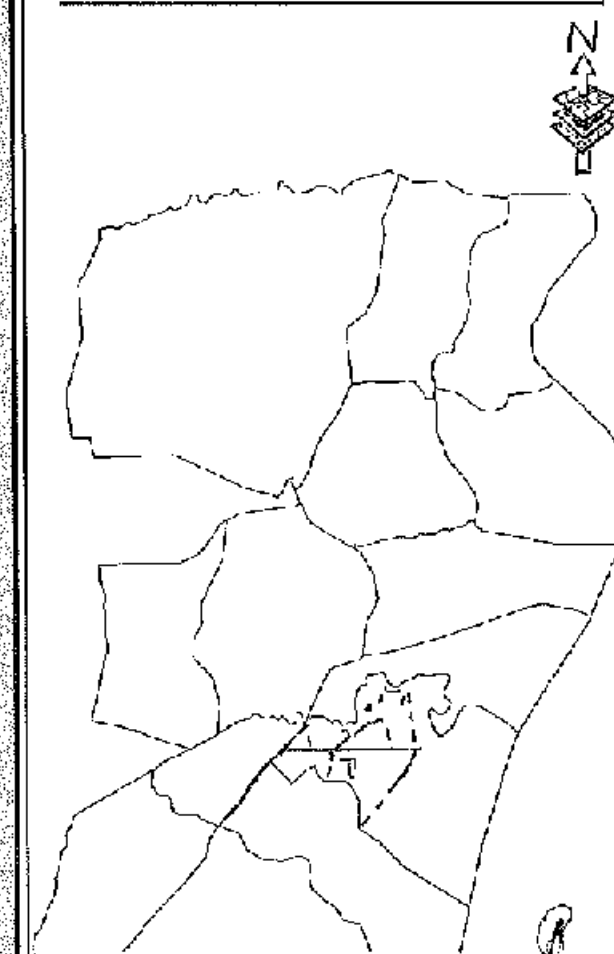
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Legend

- Existing Pipes (mm)
- New Pipes (mm)
- Replace Pipes (mm)
- DMA Boundary

DMA Location of Sector 04



CONCEPTUAL DRAWING



CHITTAGONG WATER SUPPLY & SEWERAGE AUTHORITY
(CWSA)

PROJECT CHITTAGONG WATER SUPPLY IMPROVEMENT PROJECT (CWSP)

PACKAGE CWSP/01-001/2
Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Madunochal & Kalurghat Water Supply System

DRAWING NO. 7675-63 & 7674-80

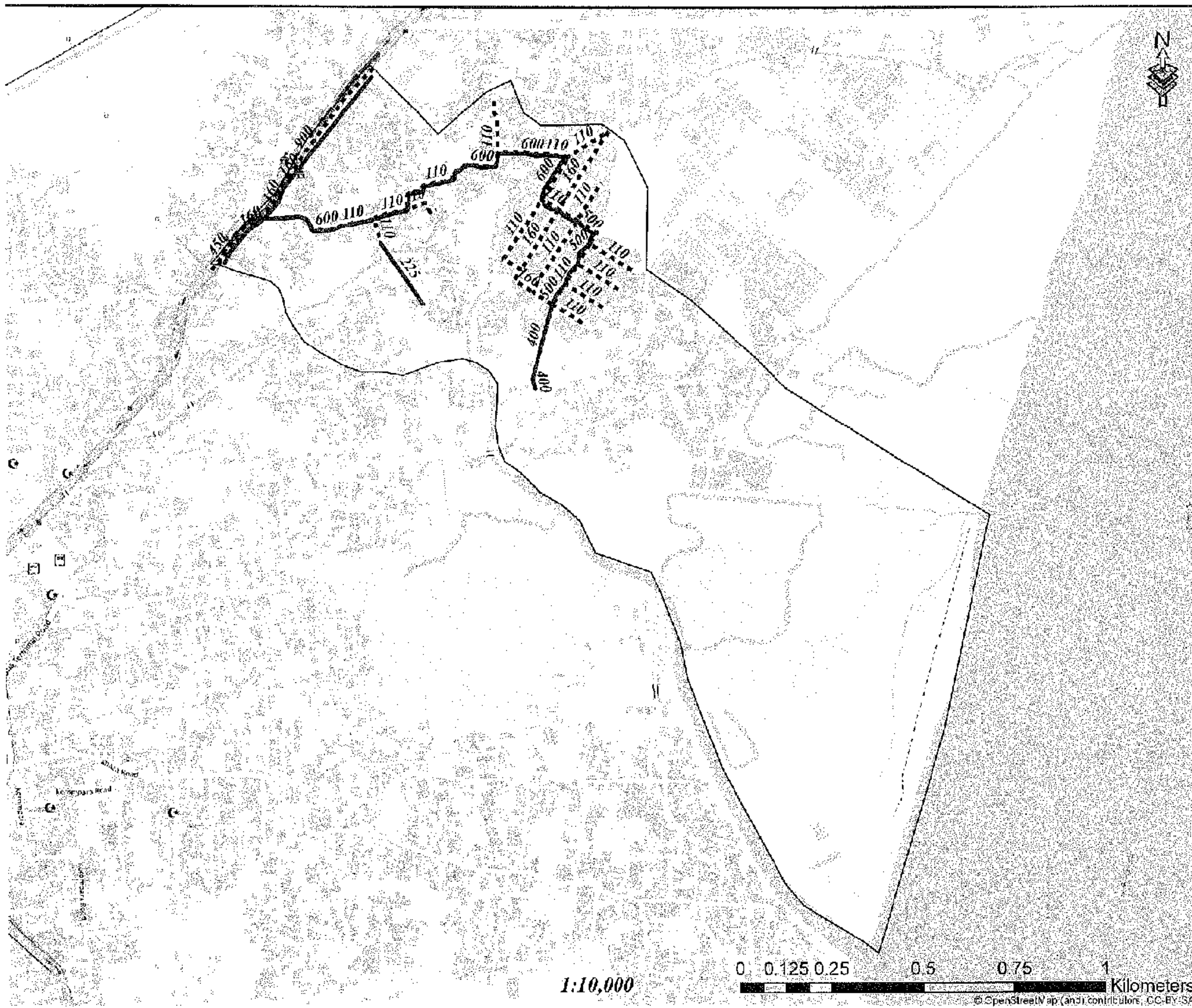
TITLE DMA PIPES - 444D

DRAWING No. CWSP/01/02/DMA-C-1

1:8,000

0 0.1 0.2 0.4 0.6 0.8 Kilometers

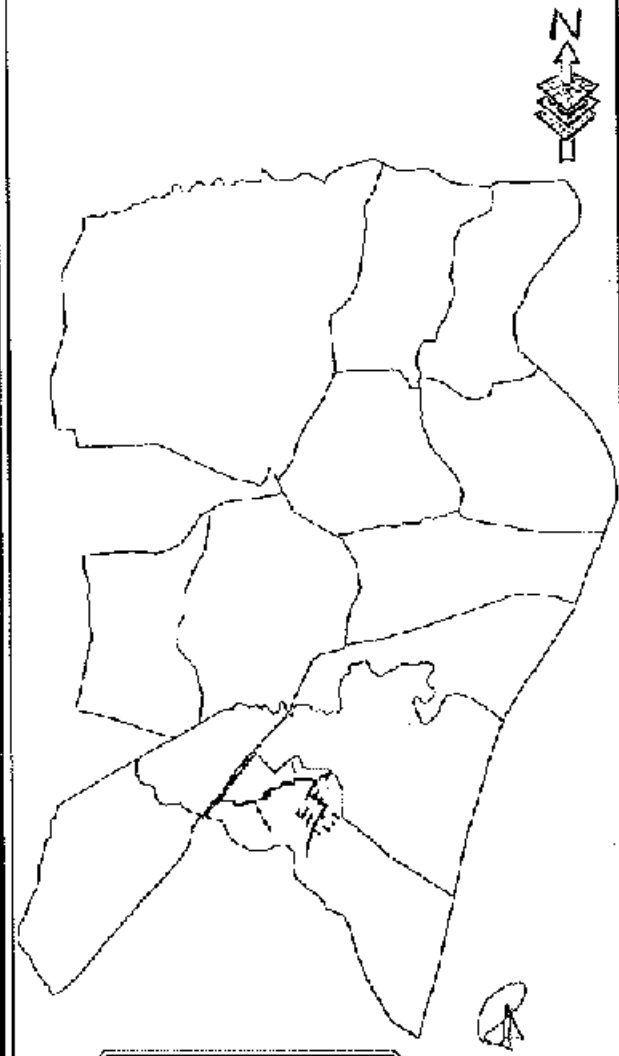
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Legend

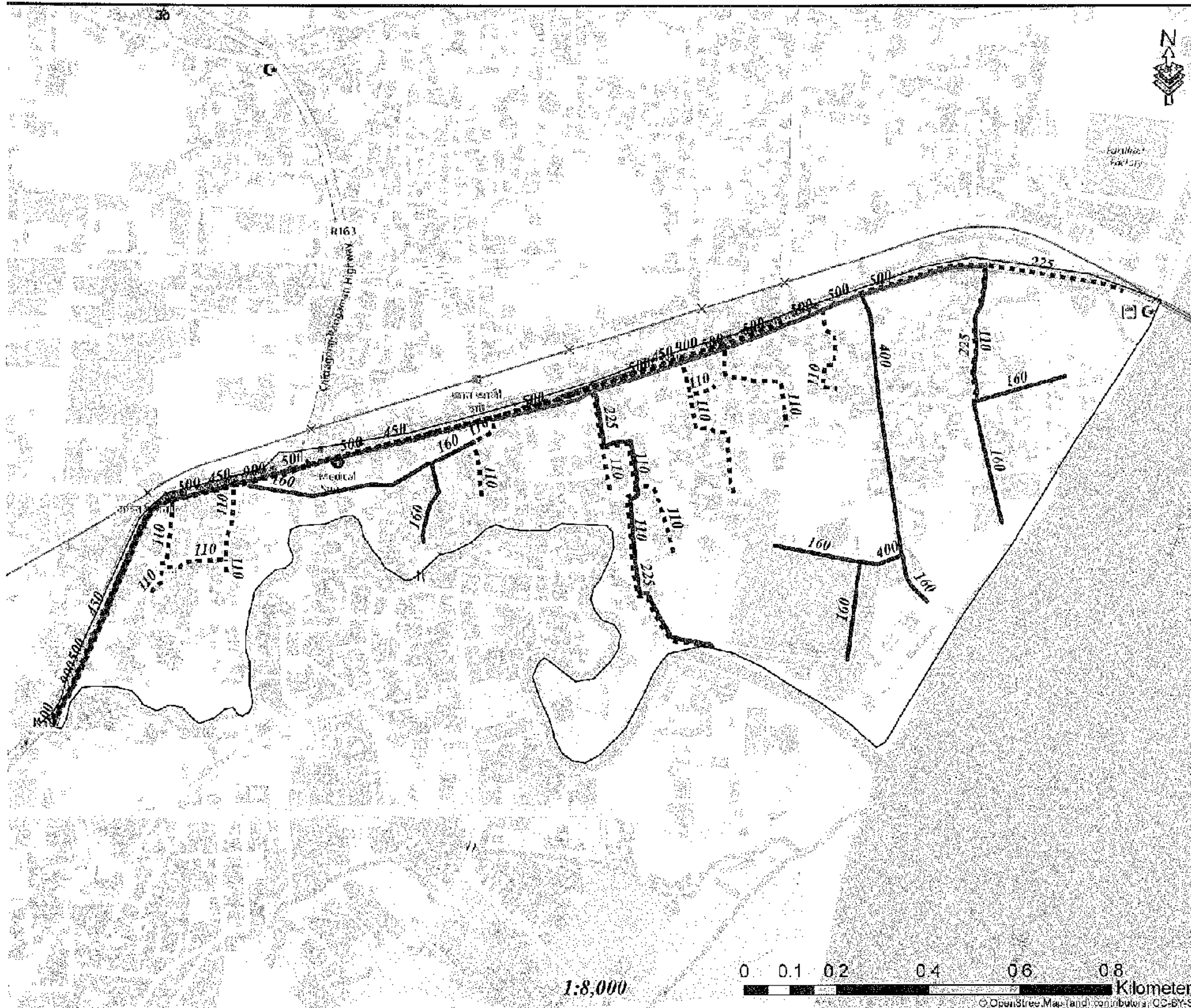
- Existing Pipes (mm)
- New Pipes (mm)
- Replace Pipes (mm)
- DMA Boundary

DMA Location of Sector 04



CONCEPTUAL DRAWING

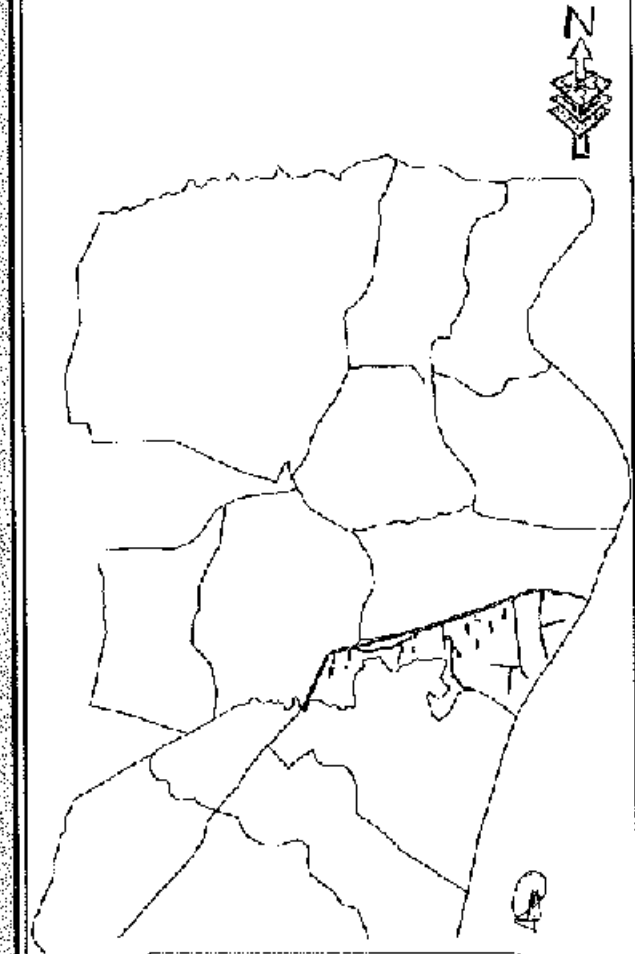
PROJECT DHA/TECHNICAL WATER SUPPLY IMPROVEMENT PROJECT (DWSP)	
DESIGNER DHA/TECHNICAL	
DATE 2010-02-10	
SCALE 1:10,000	
DATE 2010-02-10	
REVISION 01	



Legend

- Existing Pipes (mm)
- New Pipes (mm)
- Replace Pipes (mm)
- DMA Boundary

DMA Location of Sector 04

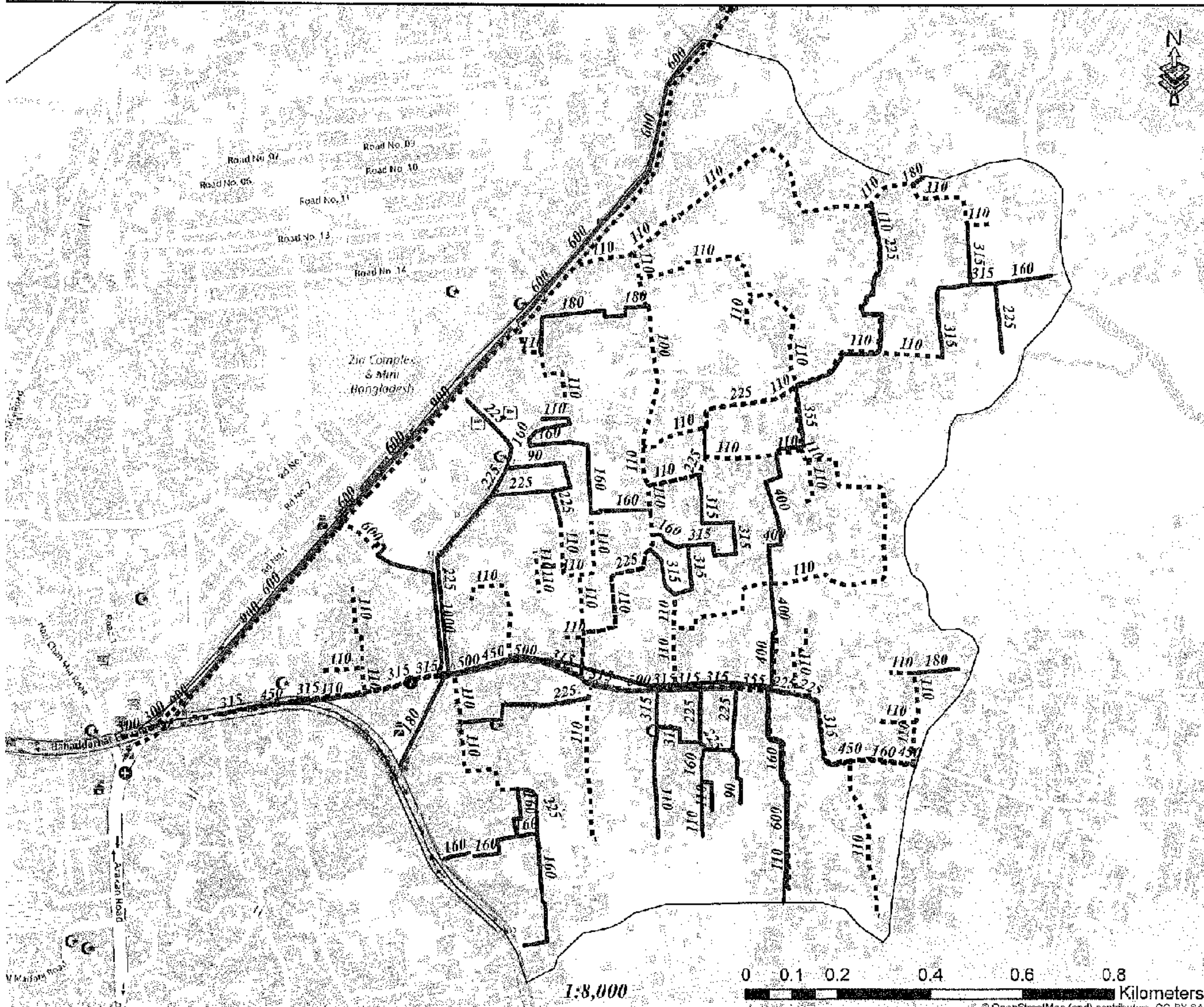


CONCEPTUAL DRAWING

 CHHATRAPATI SHIVAJI WATER SUPPLY & SEWERAGE AUTHORITY (KARNATAKA)	
PROJECT CHHATRAPATI SHIVAJI WATER SUPPLY IMPROVEMENT PROJECT (CWSIP)	
PACKAGE CWSIP/PAWS - LOT 2	
Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Modunaghat & Keshinagar Water Supply System	
ICA CREDIT NO. /615/80 & /614/10	
TITLE DMA PIPES - 405	
DRAWN BY C/ENR/WILS/DW-019	

1:8,000

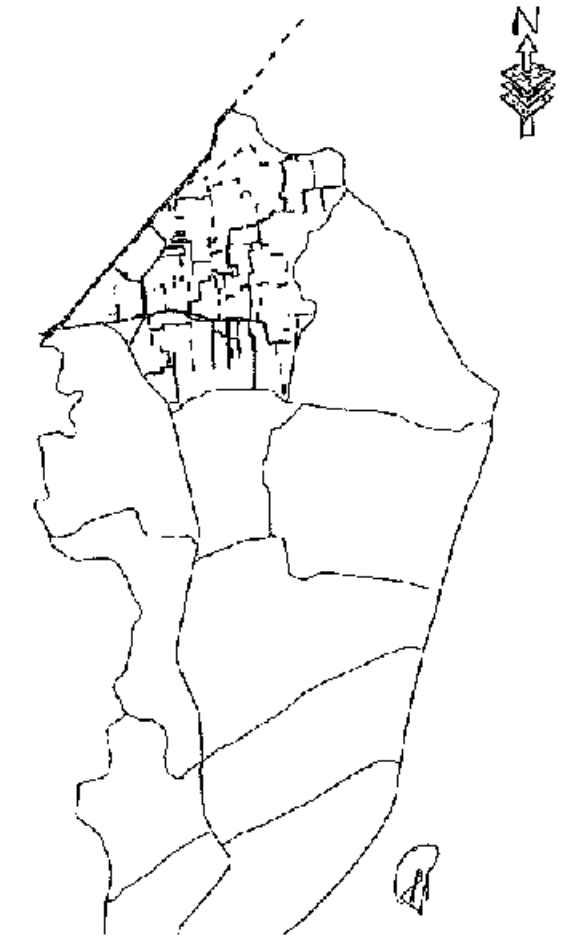




Legend

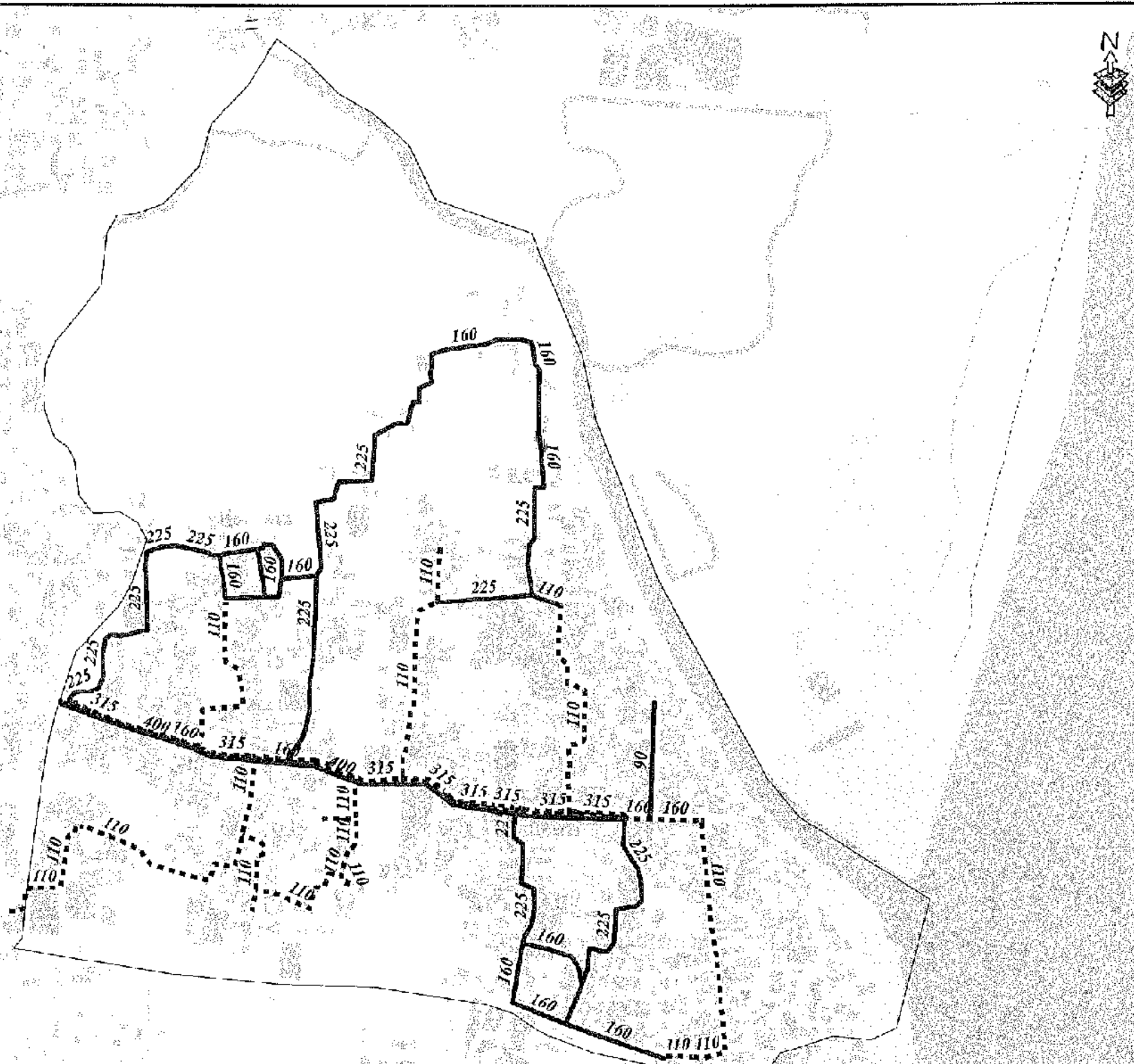
- Existing Pipes (mm)
- New Pipes (mm)
- Replace Pipes (mm)
- DMA Boundary

DMA Location of Sector 05



CONCEPTUAL DRAWING

 CHATTOGRAM WATER SUPPLY & SEWERAGE AUTHORITY (CWSSA)	
PROJECT	CHATTOGRAM WATER SUPPLY IMPROVEMENT PROJECT (CWSIP)
PACKAGE	CWSIP-1-101-2
Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Chattogram Water Supply System	
DATE/NO.	16/05/2024 & 16/05/2024
TITLE	DMA PIPES - 001
DRAWING NO.	CWSIP-1-101-2-001



Legend

- Existing Pipes (mm)
- New Pipes (mm)
- Replace Pipes (mm)
- DMA Boundary

DMA Location of Sector 05



CONCEPTUAL DRAWING



CHATTOORAM WATER SUPPLY & SEWERAGE AUTHORITY
(CWASA)

PROJECT: CHATTOORAM WATER SUPPLY IMPROVEMENT PROJECT (CWSP)

PACKAGE: DWS PWD-102
Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formulation of Moolanagar & Kallurghat Water Supply System

DATE: 19/12/2019

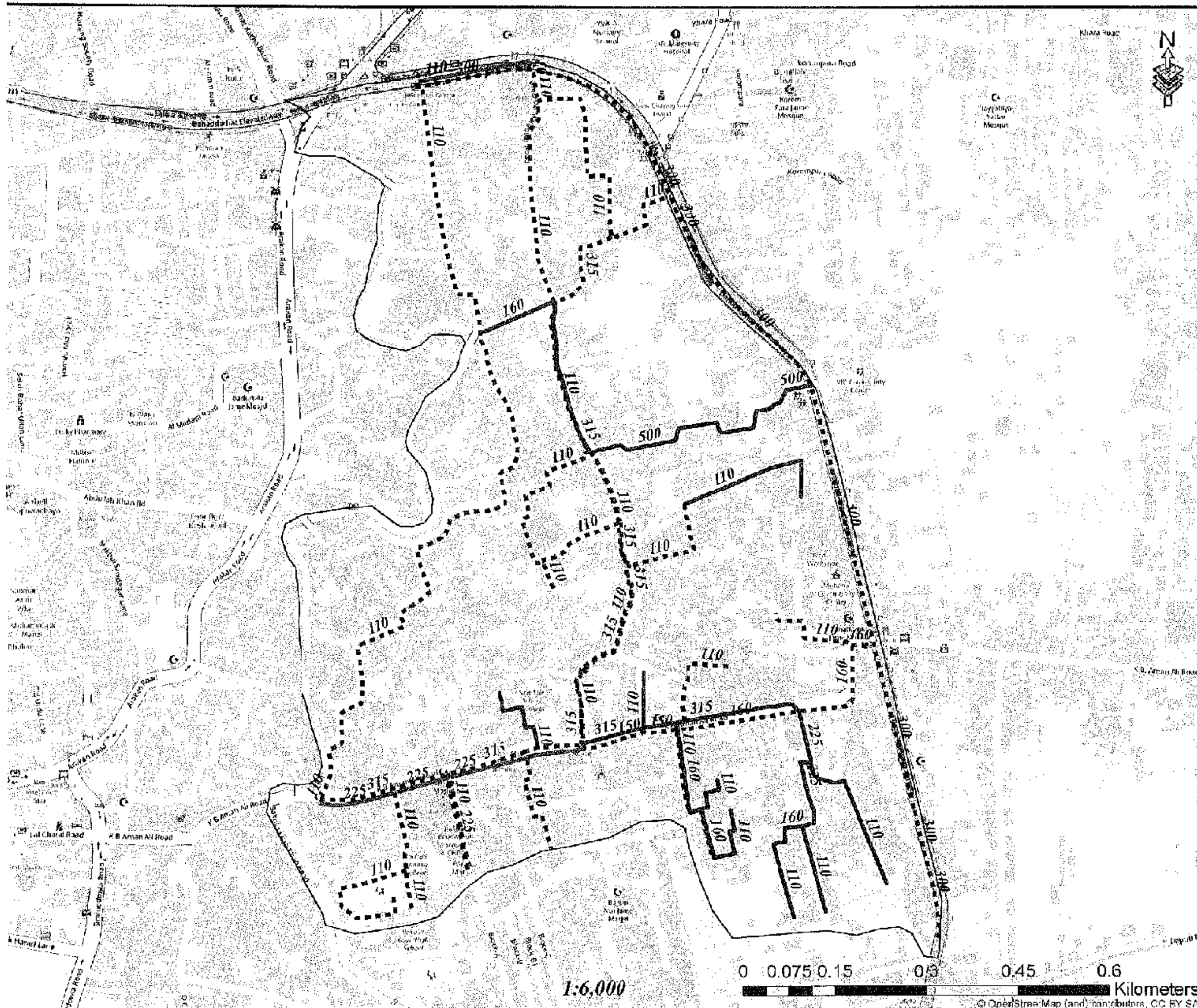
TITLE: DMA PWD-102

DRAWING: DWS PWD-102/102-002

1:6,500

0 0.0750.15 0.3 0.45 0.6 Kilometers

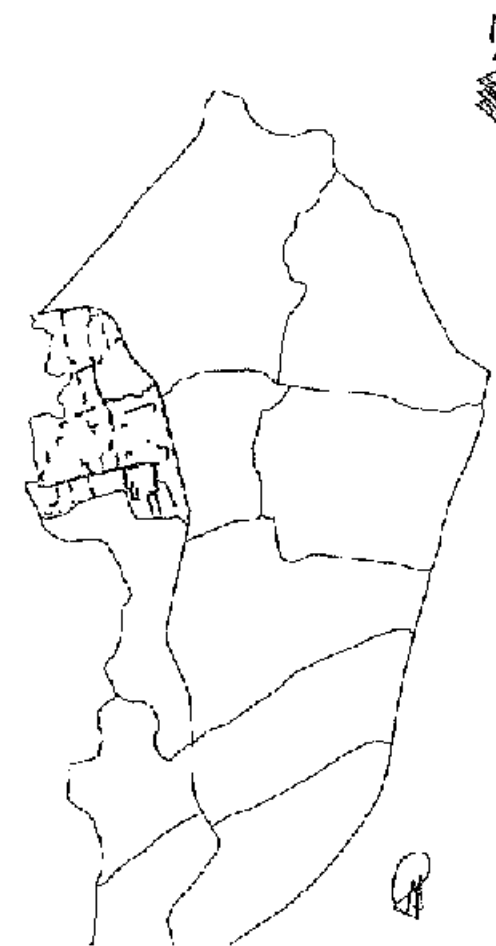
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Legend

- Existing Pipes (mm)
- New Pipes (mm)
- Replace Pipes (mm)
- DMA Boundary

DMA Location of Sector 05



CONCEPTUAL DRAWING



CHATTOGRAM WATER SUPPLY & SEWERAGE AUTHORITY (CWSSA)

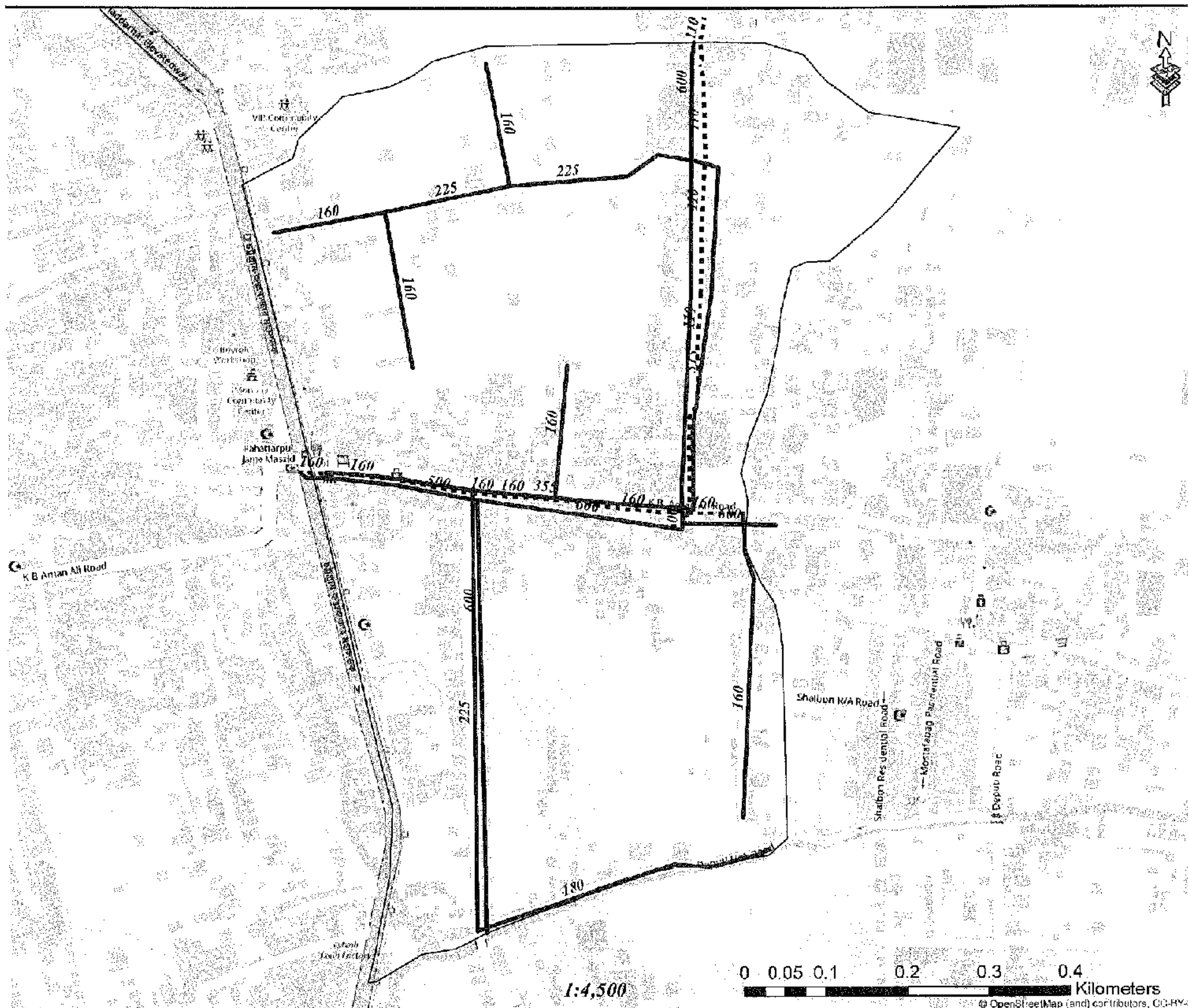
PROJECT: CHATTOGRAM WATER SUPPLY IMPROVEMENT PROJECT (CWSSP)

SCOPE: CWSSP/1 - LOT 2
Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formulation, Miscellaneous & Katarigat Water Supply System

PROJECT NO: 14/2-20/20-03

DATE: 14/02/2023

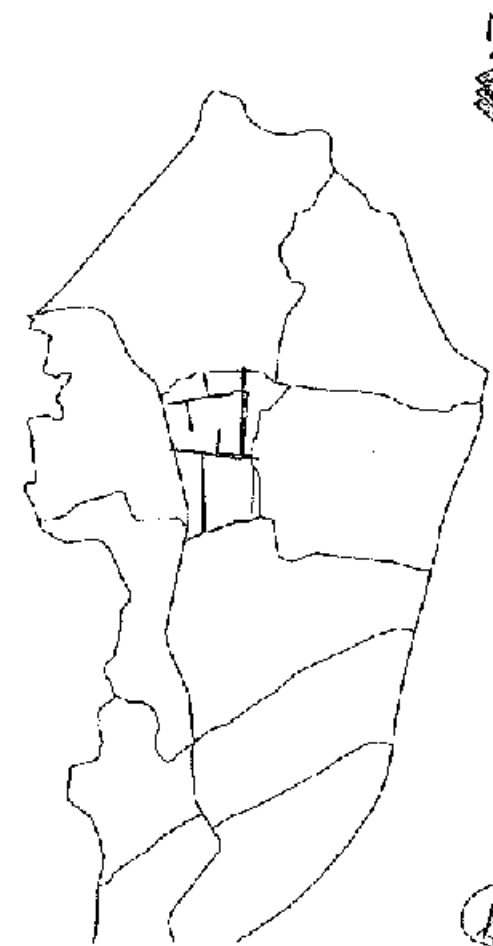
REVISION: CWSSP/1/14/2/20-03



Legend

- Existing Pipes (mm)
- New Pipes (mm)
- Replace Pipes (mm)
- DMA Boundary

DMA Location of Sector 05



CONCEPTUAL DRAWING



CHATTOGRAM WATER SUPPLY & SEWERAGE AUTHORITY (CWSSA)

PROJECT: CHATTOGRAM WATER SUPPLY IMPROVEMENT PROJECT (CWSSIP)

PACKAGE: CWSSIP-1/07-2
Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and M&A Formulation of Modunghat & Kalughat Water Supply System

DESIGNER: 1875-BD-2 / 1875-BD

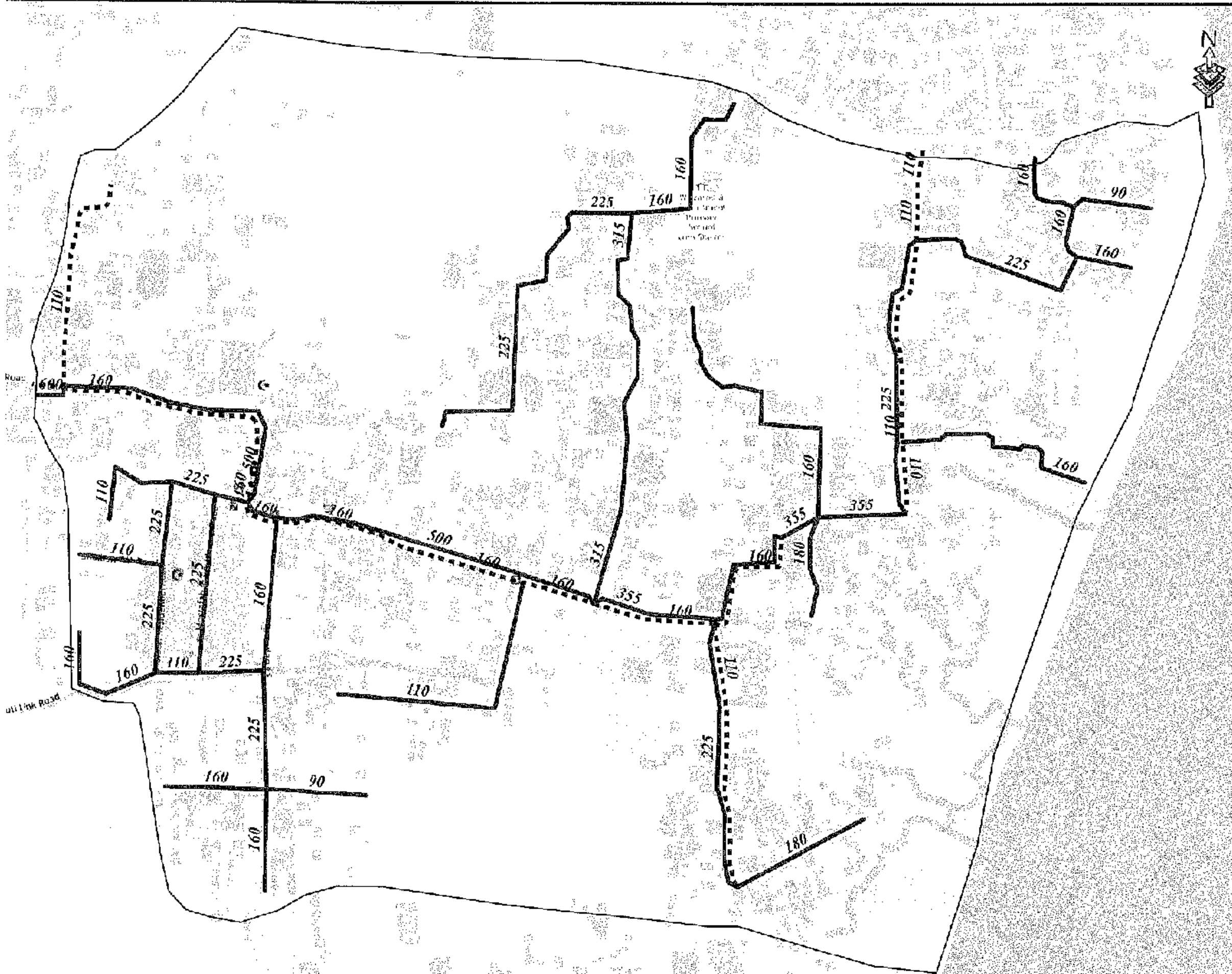
SCALE: DMA PIPES - 50:1

DRAWING NO: CWSSIP/11/2/01-024

0 0.05 0.1 0.2 0.3 0.4 Kilometers

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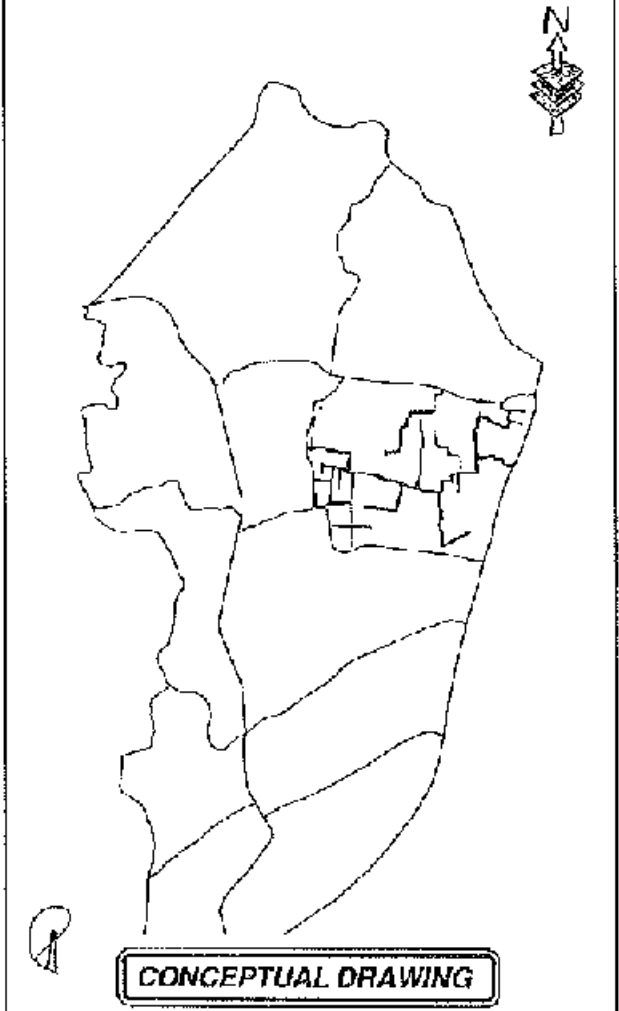
1:4,500



Legend

- Existing Pipes (mm)
- New Pipes (mm)
- Replace Pipes (mm)
- DMA Boundary

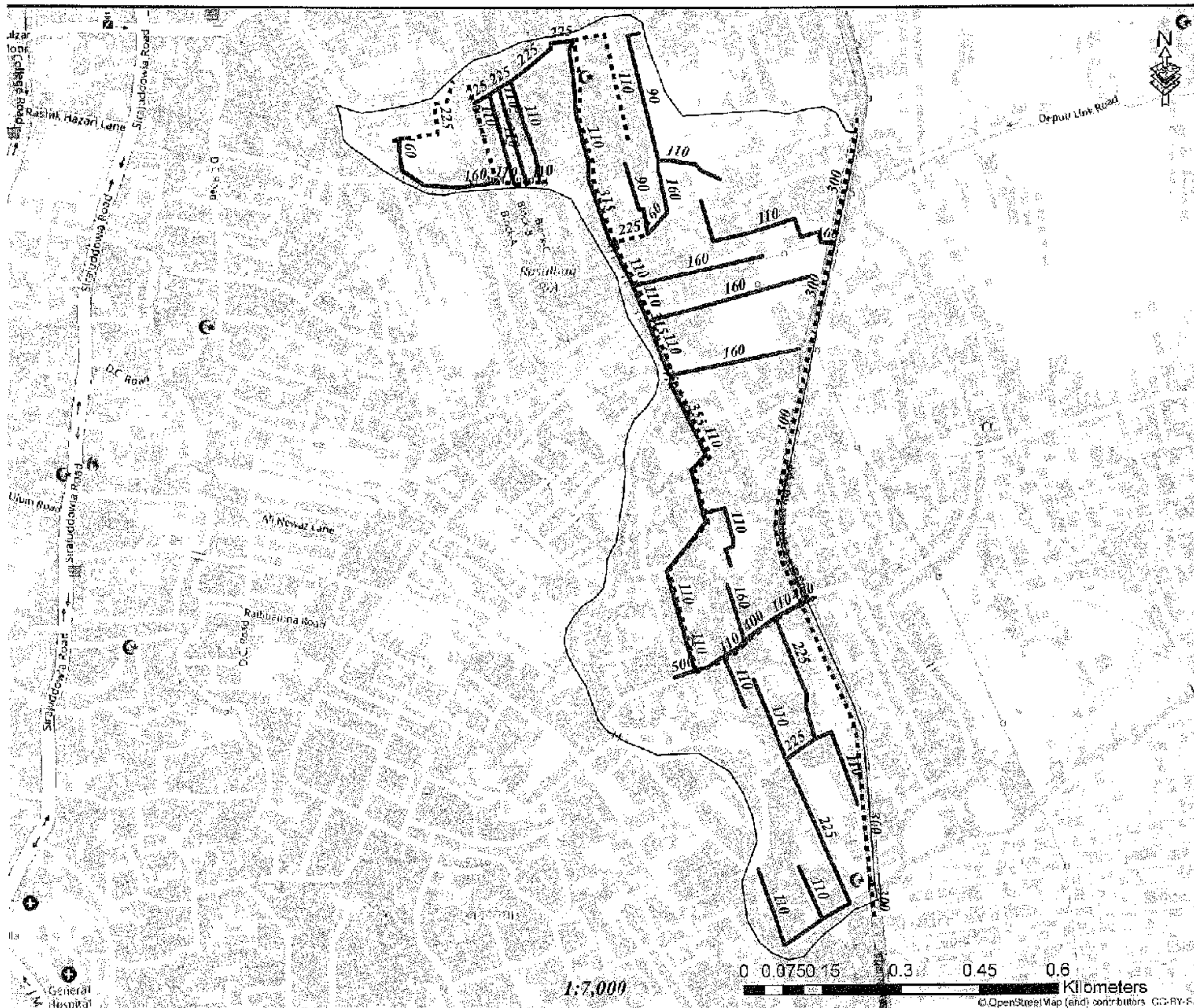
DMA Location of Sector 05



CHATTGRAM WATER SUPPLY & SEWERAGE AUTHORITY (WASA)	
PROJECT	CHATTGRAM WATER SUPPLY IMPROVEMENT PROJECT (CWSIP)
PACKAGE	CWSIP - I & II Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Residential & Commercial Water Supply System
DRAWING NO.	7875-SD & 7876-SD
TITLE	DMA PIPES - 505
DATE	04/01/2025



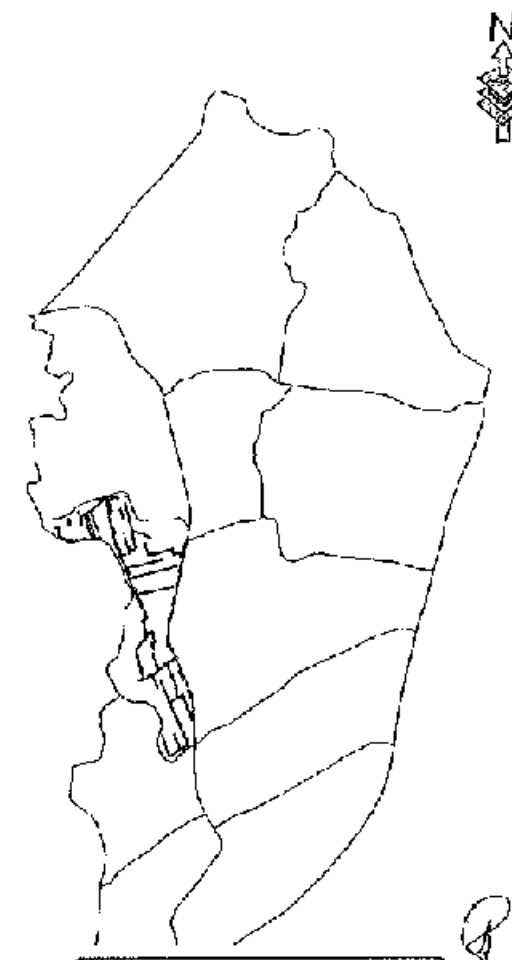
1:5,000



Legend

- Existing Pipes (mm)
- New Pipes (mm)
- Replace Pipes (mm)
- DMA Boundary

DMA Location of Sector 05



CONCEPTUAL DRAWING



CHITTAGONG WATER SUPPLY & SEWERAGE AUTHORITY
(CWSA)

PROJECT CHITTAGONG WATER SUPPLY IMPROVEMENT PROJECT (CWSP)

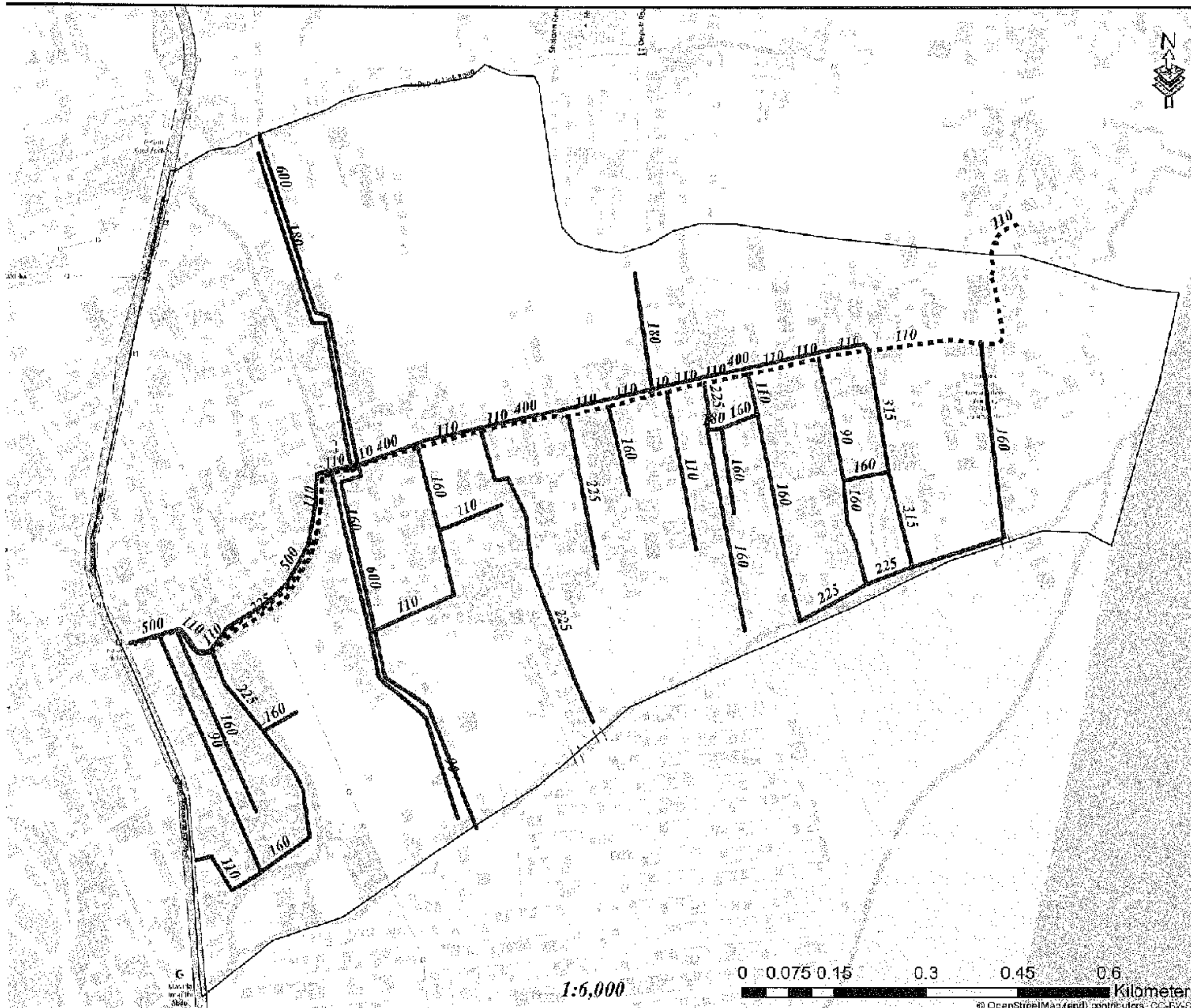
PACKAGE UWSMP - LOT 2

Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Madunghat & Madunghat Water Supply System

DRAWING NO. 7675-BD & 7674-BD

TITLE DMA PIPES - 500

DRAWING NO. CWSIP/WIL27/DN-008



Legend

- Existing Pipes (mm)
- New Pipes (mm)
- Replace Pipes (mm)
- DMA Boundary

DMA Location of Sector 05



CONCEPTUAL DRAWING



CHITTOGRAM WATER SUPPLY & SEWERAGE AUTHORITY
(CWSA)

PROJECT CHITTOGRAM WATER SUPPLY IMPROVEMENT PROJECT (CWSIP)

PACKAGE DIVISION - LOT 2
Design, Construction, supply, installation, testing & Commissioning for System Improvement and DMA Formation of Kacharipara & Kacharipara Water Supply System

DATE: 10/01/2024

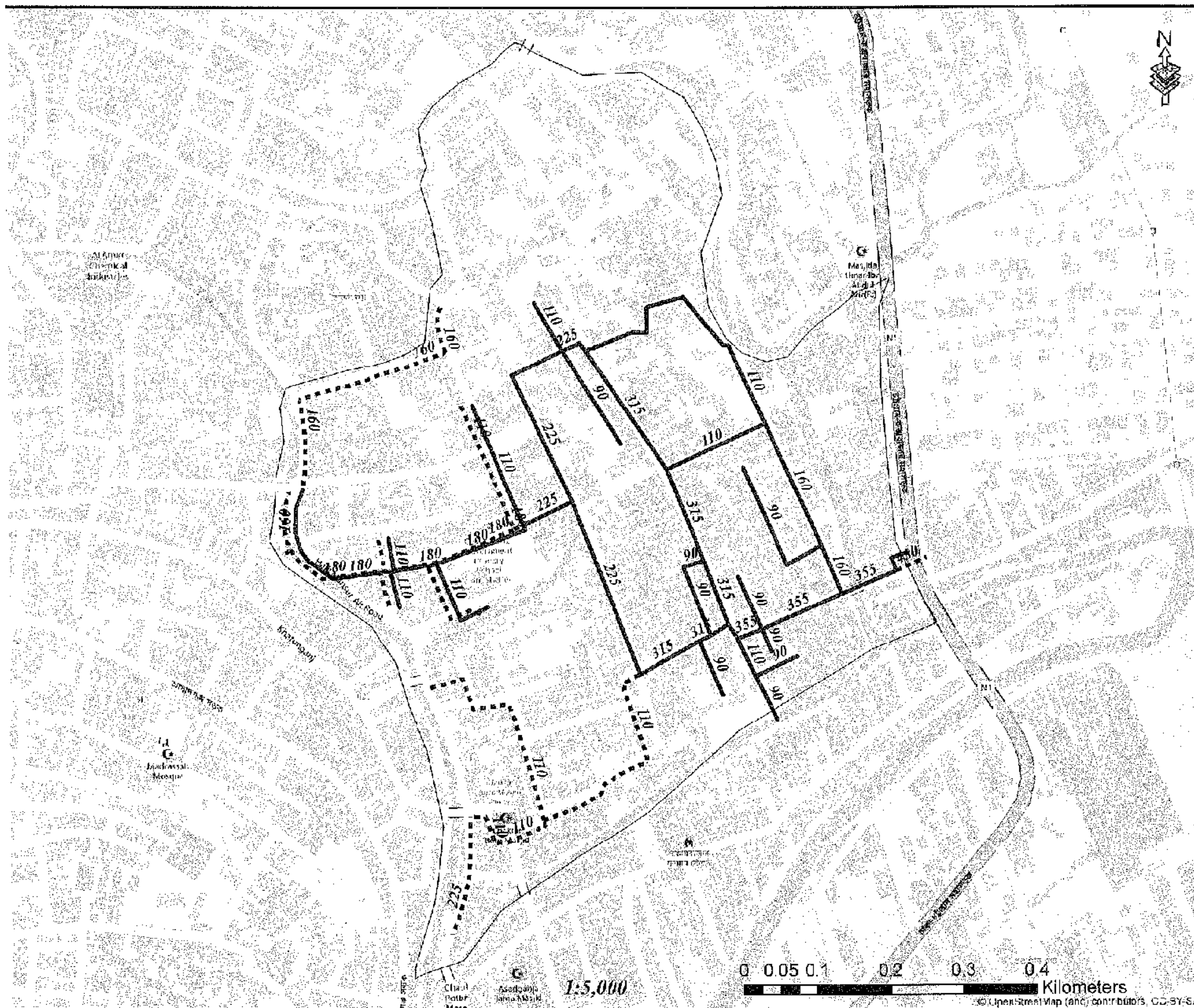
FILE: DNAPIPES - S07

DRAWN BY: CWSIP / WIL2 / DM - 027

1:6,000

0 0.075 0.15 0.3 0.45 0.6 Kilometers

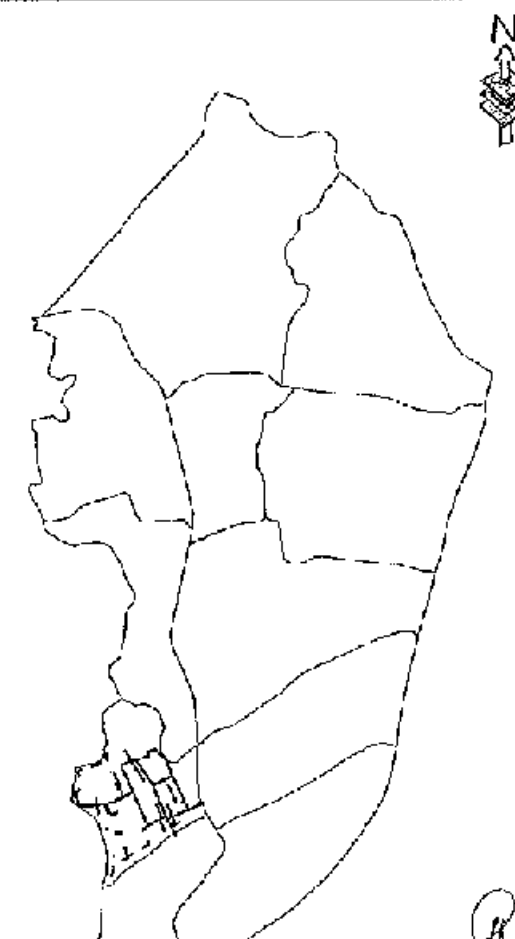
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Legend

- Existing Pipes (mm)
- New Pipes (mm)
- Replace Pipes (mm)
- DMA Boundary

DMA Location of Sector 05



CONCEPTUAL DRAWING



CHATTOORAM WATER SUPPLY & SEWERAGE AUTHORITY
(CWSA)

PROJECT: CHATTOORAM WATER SUPPLY IMPROVEMENT PROJECT (CWSIP)

PACKAGE: CWSIP/01 - LOT 2
Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Modurghat & Kailuhat Water Supply System

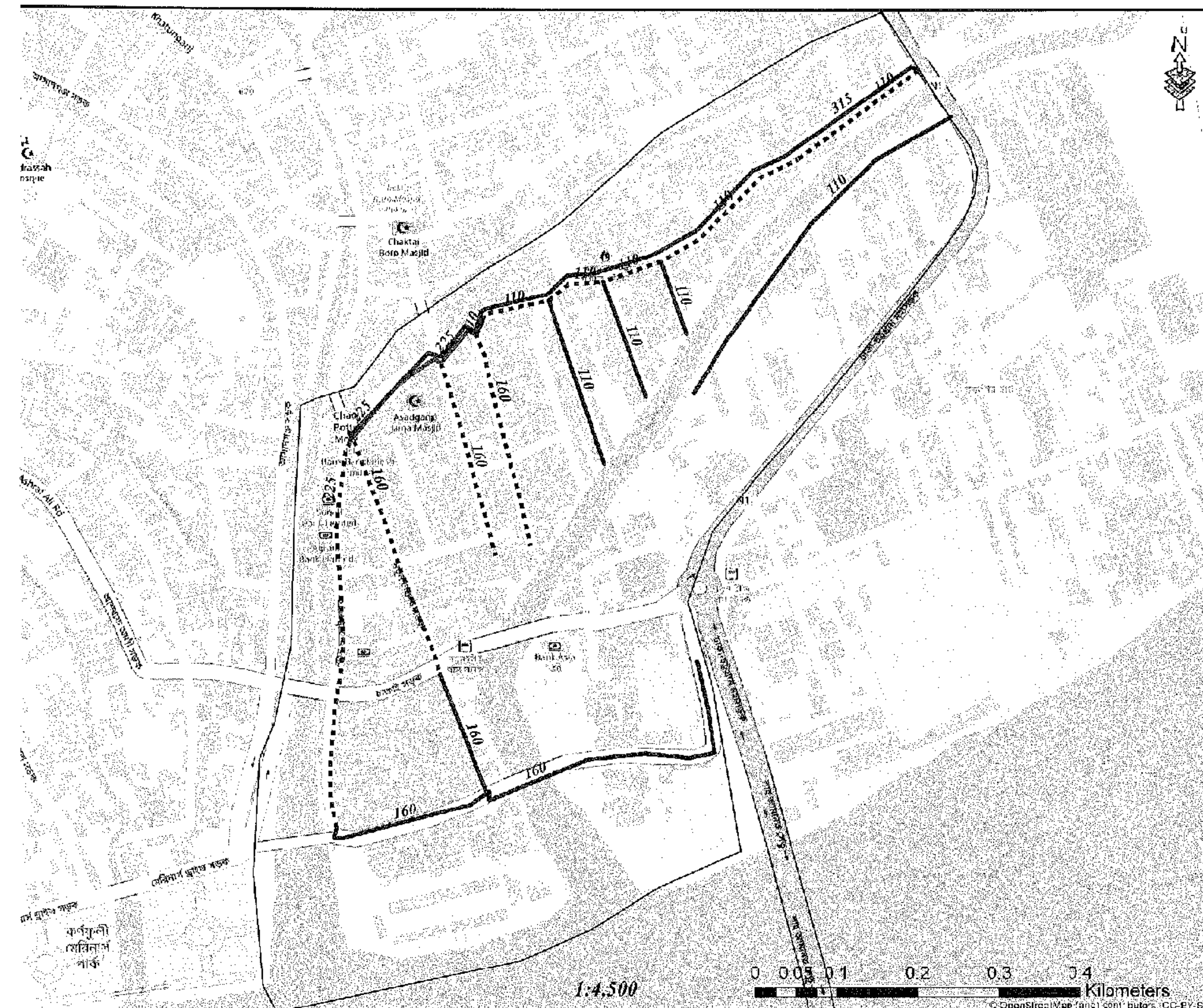
PROJECT NO: 2025-00 & 2027-00

DATE: DMA PIPES - 508A

DRAWING NO: CWSIP/01/2 PM-028

0 0.05 0.1 0.2 0.3 0.4
Kilometers

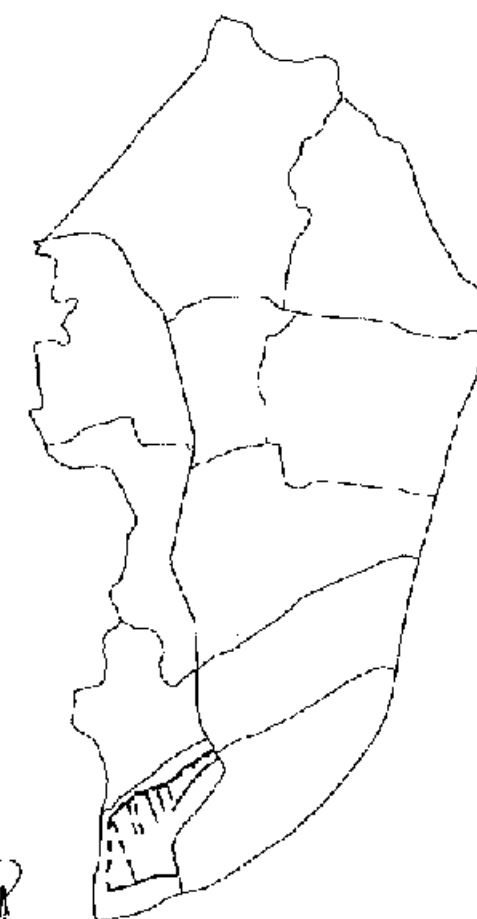
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Legend

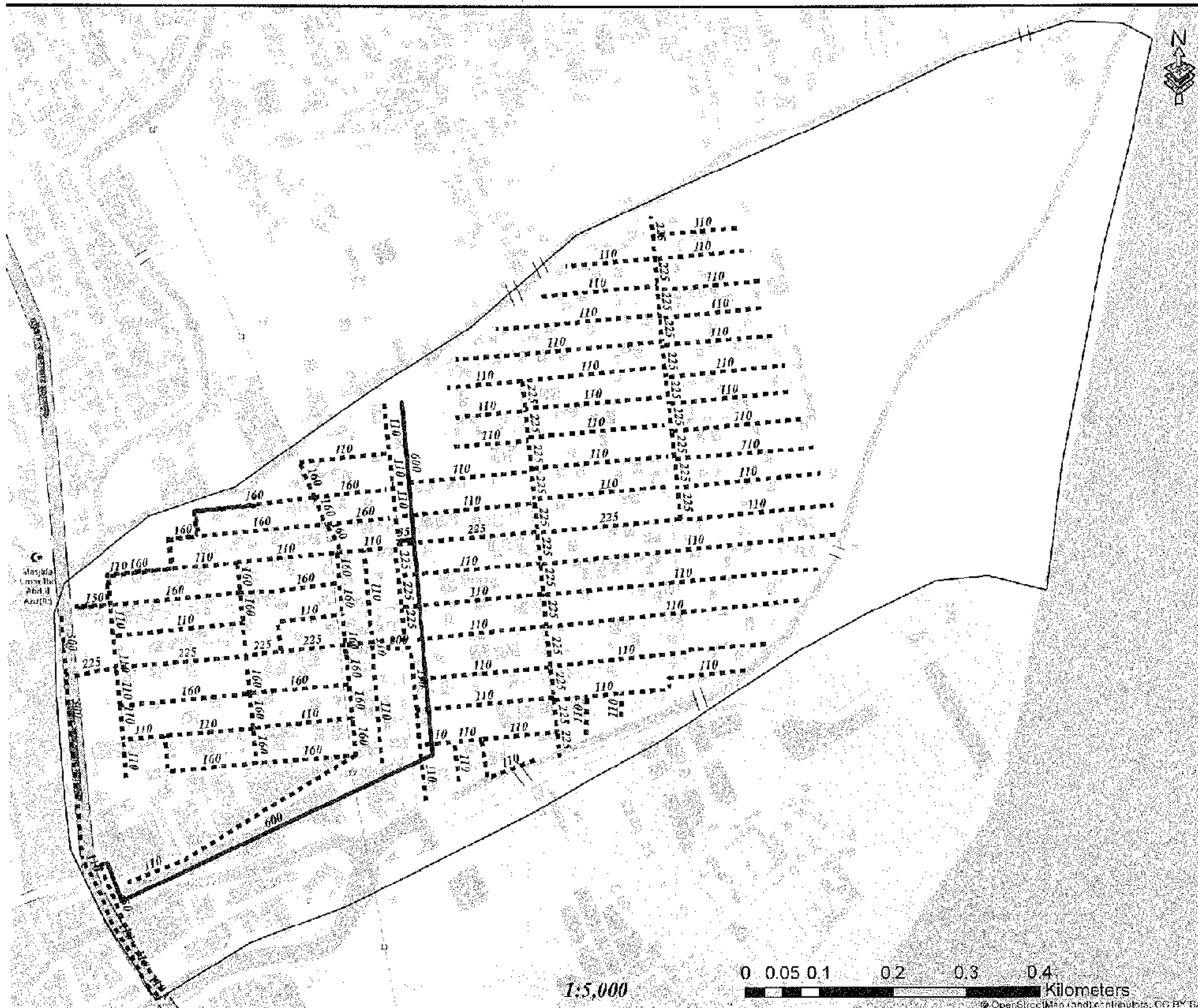
- Existing Pipes (mm)
- New Pipes (mm)
- Replace Pipes (mm)
- DMA Boundary

DMA Location of Sector 05



CONCEPTUAL DRAWING

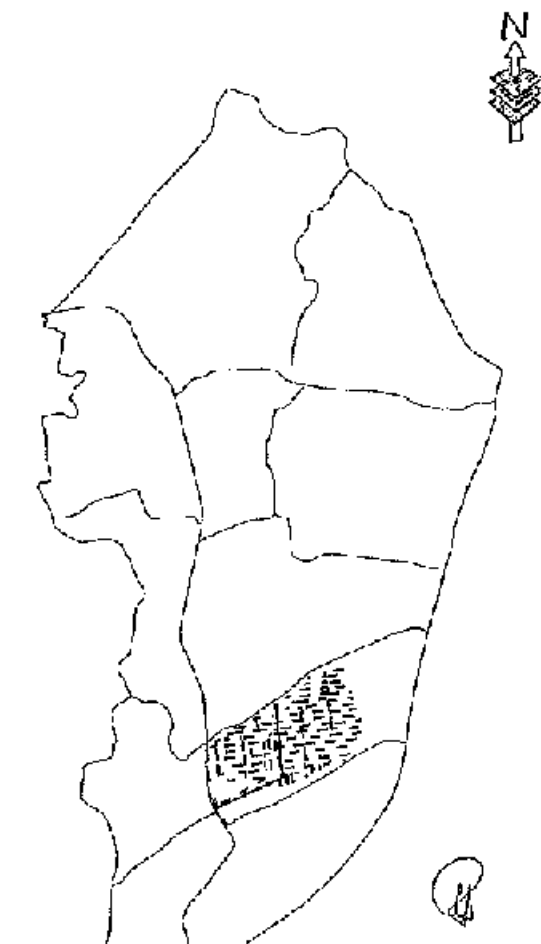
CHHATTGRAM WATER SUPPLY & SEWERAGE AUTHORITY (CWSSA)	
PROJECT	CHHATTGRAM WATER SUPPLY IMPROVEMENT PROJECT (CWSP)
PACKAGE	CWSP/PH-012
Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Madaraghat & Khatunghat Water Supply System	
NO. OF SHEETS	2022 PH-012-001
TITLE	NEW PIPES - SH-01
DESIGNED BY	CWSP/PH-012-001



Legend

- Existing Pipes (mm)
- New Pipes (mm)
- Replace Pipes (mm)
- DMA Boundary

DMA Location of Sector 05



CONCEPTUAL DRAWING

 CHATTOORAM WATER SUPPLY & SEWERAGE AUTHORITY (CWSSA)	
PROJECT	CHATTOORAM WATER SUPPLY IMPROVEMENT PROJECT (CWSSIP)
PACKAGE	CWSSIP-W1-LOT 2
Design, Construction, Supply, Installation, Testing & Commissioning for System Improvement and DMA Formation of Medinipur & Kankhal Water Supply System	
SCALE	7675:80 & 7674:30
TITLE	DMA PIPES - 539A
CWSSIP No.	CWSSIP/W1/LOT 2 - 030

1:5,000

