

Request for Proposals Works and Operation Service

(Design, build and operation)
of Design, Build and Operation of 10MLD
Sewage Treatment Plant in Hulhumale Phase 1
(Single—stage (Two Envelop RFP)

Volume 1 – RFP (Part1 +Part 2+Part3)

Volume 2 – RFP (Preliminary Drawing

Note: The Preliminary Drawings provided in this document is only for guidance and the Employers Requirement Part 2 of Volume 1 will take precedence over this document.

Employer: *Ministry of National Planning, Housing and Infrastructure*

Project: *Maldives Urban development and Resilience Project*

Contract title: *Design, Build and Operation of 10MLD Sewage Treatment Plant in Hulhumalé Phase 1*

Country: *Republic of Maldives*

Credit No. / Grant No.: *No-6537-MV/No-D554-MV*

RFP No: *MV-MONPI-223416-CW-RFP*

Issued on: *[insert date when RFP is issued to the market]*



MALDIVES URBAN DEVELOPMENT AND RESILIENCE PROJECT

10 MLD SEWAGE TREATMENT PLANT
AT HULHUMALE REPUBLIC OF MALDIVES

PRELIMINARY DESIGN DRAWINGS

MALDIVES URBAN DEVELOPMENT AND RESILIENCE PROJECT


10 MLD SEWAGE TREATMENT PLANT

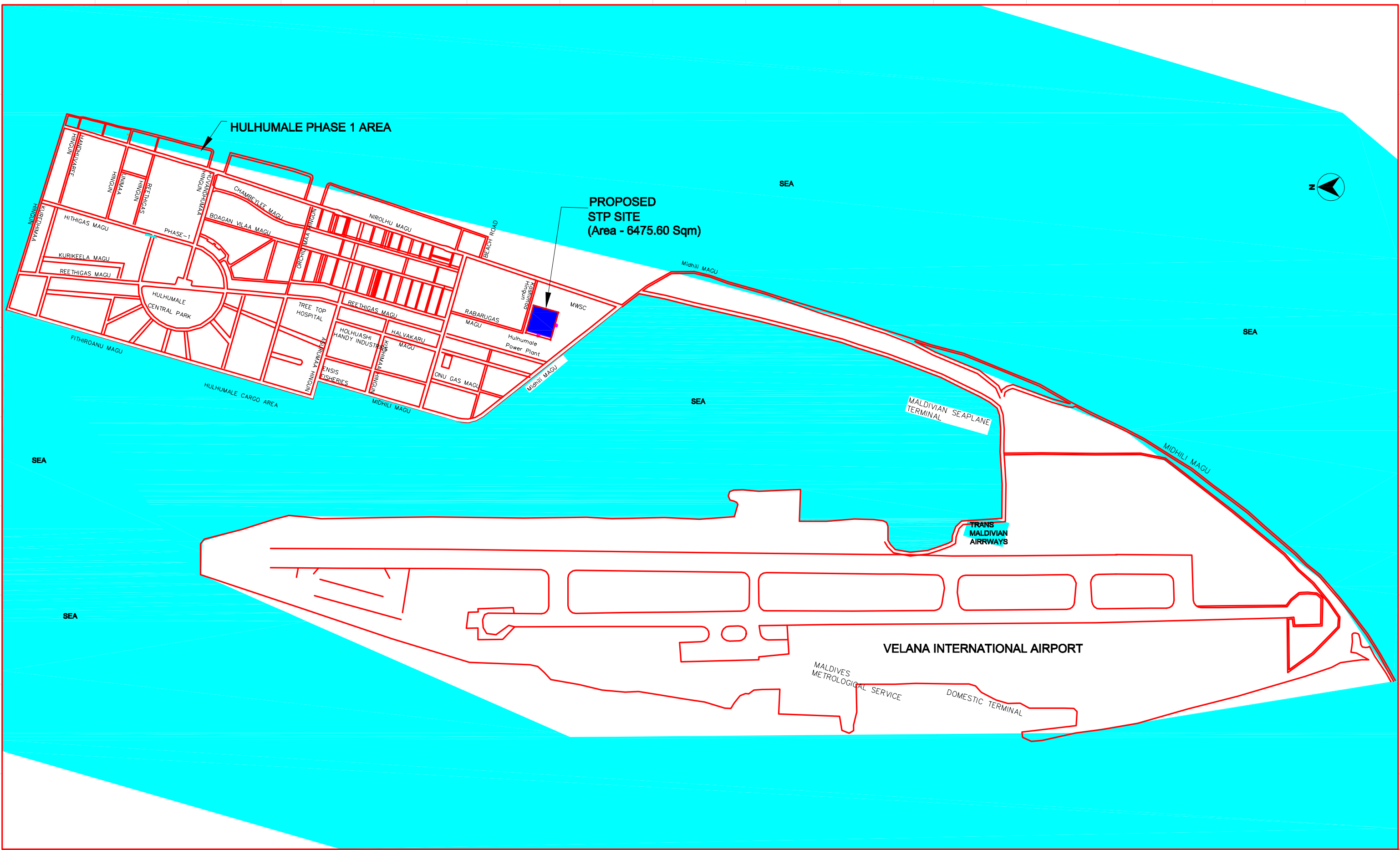
AT HULHUMALE REPUBLIC OF MALDIVES

PRELIMINARY DESIGN DRAWINGS

LIST OF DRAWINGS

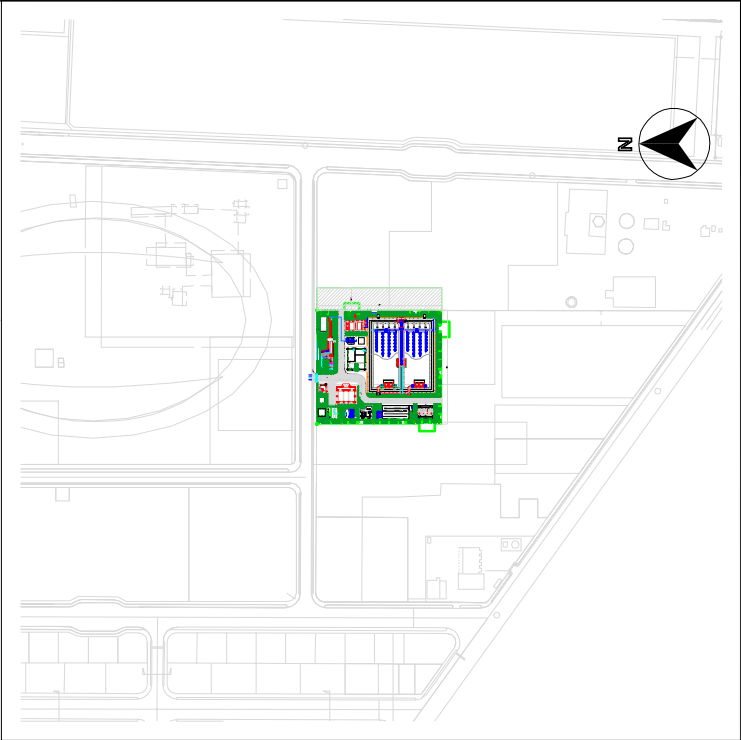
S.No	TITLE	DRAWING NO
GENERAL ARRANGEMENT DRAWINGS		
1.	PROPOSED GENERAL LAYOUT PLAN	TTI/MUD/MAL/GA/STP/001
2.	LOCATION PLAN	TTI/MUD/MAL/LP/001A
3.	EXISTING SEWER NETWORK	TTI/MUD/MAL/PL/ESN/001B
4.	HYDRAULIC FLOW DIAGRAM	TTI/MUD/MAL/GA/HFD/002
5.	PROCESS & INSTRUMENTATION DIAGRAM	TTI/MUD/MAL/GA/P&ID/003
6.	GA DRAWING OF PRELIMINARY TREATMENT UNITS	TTI/MUD/MAL/GA/PTU/004
7.	GA DRAWING OF OIL AND GREASE TANK	TTI/MUD/MAL/GA/OGT/005
8.	GA DRAWING SEQUENTIAL BATCH REACTOR (SBR)	TTI/MUD/MAL/GA/SBR/006
9.	GA DRAWING OF DISC FILTER (1 OF 2)	TTI/MUD/MAL/GA/DF/007A
10.	GA DRAWING OF DISC FILTER (2 OF 2)	TTI/MUD/MAL/GA/DF/007B
11.	GA DRAWING OF FILTRATE SUMP	TTI/MUD/MAL/GA/FS/008
12.	GA DRAWING OF CHLORINE CONTACT TANK	TTI/MUD/MAL/GA/CCT/009
13.	GA DRAWING OF SLUDGE HOLDING TANK	TTI/MUD/MAL/GA/SDT/010
14.	GA DRAWING OF EMERGENCY SLUDGE HOLDING TANK	TTI/MUD/MAL/GA/ESDT/011
15.	GA DRAWING OF CENTREFUGE BUILDING	TTI/MUD/MAL/GA/CBD/012
16.	GA DRAWING OF ADMINISTRATION BUILDING (1 OF 2)	TTI/MUD/MAL/GA/ABD/013A
17.	GA DRAWING OF ADMINISTRATION BUILDING (2 OF 2)	TTI/MUD/MAL/GA/ABD/013B
18.	GA DRAWING OF HT PANEL AND MCC ROOM	TTI/MUD/MAL/GA/MCC/014
19.	GA DRAWINGS OF CHEMICAL HOUSE	TTI/MUD/MAL/GA/CHD/015
20.	GA DRAWINGS OF SECURITY HOUSE	TTI/MUD/MAL/GA/SH/016
21.	GA DRAWINGS OF COMPOUND WALL	TTI/MUD/MAL/GA/CBD/017
22.	CATCHMENTS DRAWINGS	TTI/MUD/MAL/CD/018

CLIENT: MALDIVES URBAN DEVELOPMENT AND RESILIENCE PROJECT				
CONSULTANT:  TTI Consulting Engineers Pty Ltd 32 Newington Technology Park, 8 Avenue of the Americas Newington NSW 2127, Sydney, Australia Tel: +61 2 96483044, 96483644				
PROJECT TITLE: 10 MLD SEWAGE TREATMENT PLANT BASED ON SBR TECHNOLOGY AT MALDIVES				
DRAWING TITLE: LIST OF DRAWINGS				
DWS No:				
APPROVED BY: K.P	CHECKED BY: S.P	DESIGNED: K.P	DRAWN: R.K	
SCALE: N.T.S	DATE: 01.02.2020	SHEETS: 01 OF 01	REV: 0P01	



FOR INFORMATION


CLIENT:	MALDIVES URBAN DEVELOPMENT AND RESILIENCE PROJECT						
CONSULTANT:	TTI Consulting Engineers Pty Ltd 32 Newington Technology Park, 8 Avenue of the Americas Newington NSW 2127, Sydney, Australia Tel: +61 2 96483044, 96483644						
PROJECT TITLE:	10 MLD SEWAGE TREATMENT PLANT BASED ON SBR TECHNOLOGY AT MALDIVES						
DRAWING TITLE:	SEWAGE TREATMENT PLANT LOCATION PLAN						
DWG No:	TTI/MUD/MAL/LP/001A						
APPROVED BY:	K.P	CHECKED BY:	S.P	DESIGNED:	K.P	DRAWN:	R.K
SCALE:	NTS	DATE:	01.03.2020	SHEETS:	01 OF 01	REV:	P01



SCALE: 1:2500

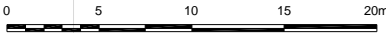
An adjoining area of size 85m long and 20m wide in the east of STP area is available for installing In-Vessel Composting Plant. The plant includes Feed bunkers, Feed hoppers, In-vessel units Discharge bunkers and Maturation bunkers. Refer typical layout drawing of the In-vessel composting plant for details.

SCALE: 1:200

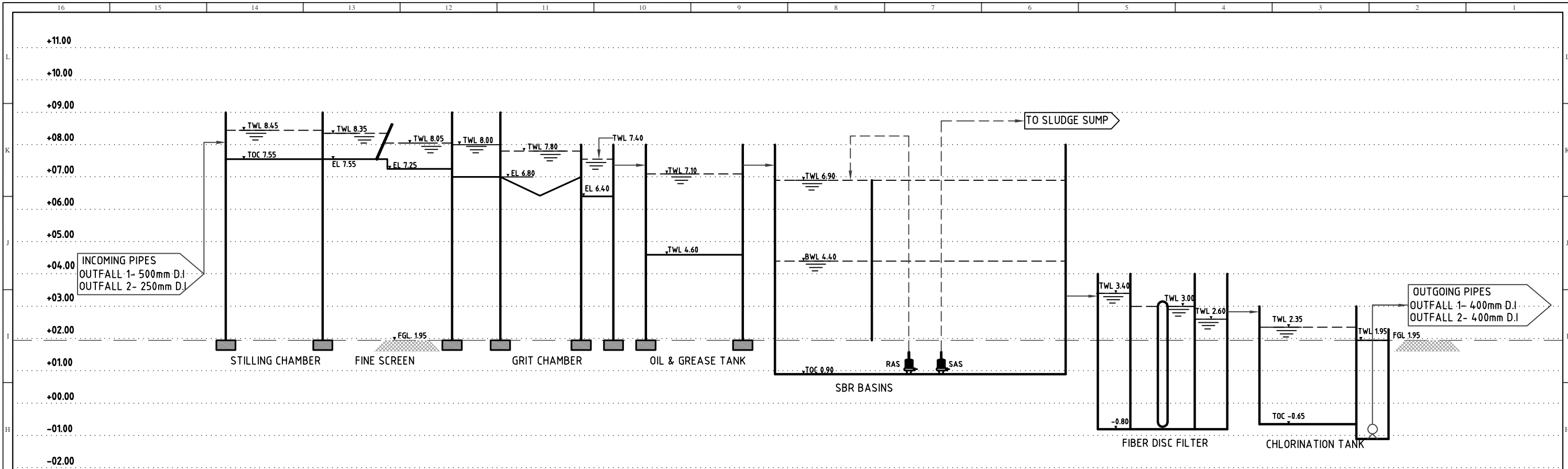
 PROCESS LINE
 SLUDGE LINE
 ODOUR CONTROL LINE

APPROVED BY:	K.P	CHECKED BY:	S.P	DESIGNED :	K.P	DRAWN :	R
SCALE:	1 : 200	DATE :	01.02.2020	SHEETS :	01 OF 01	REV:	P0

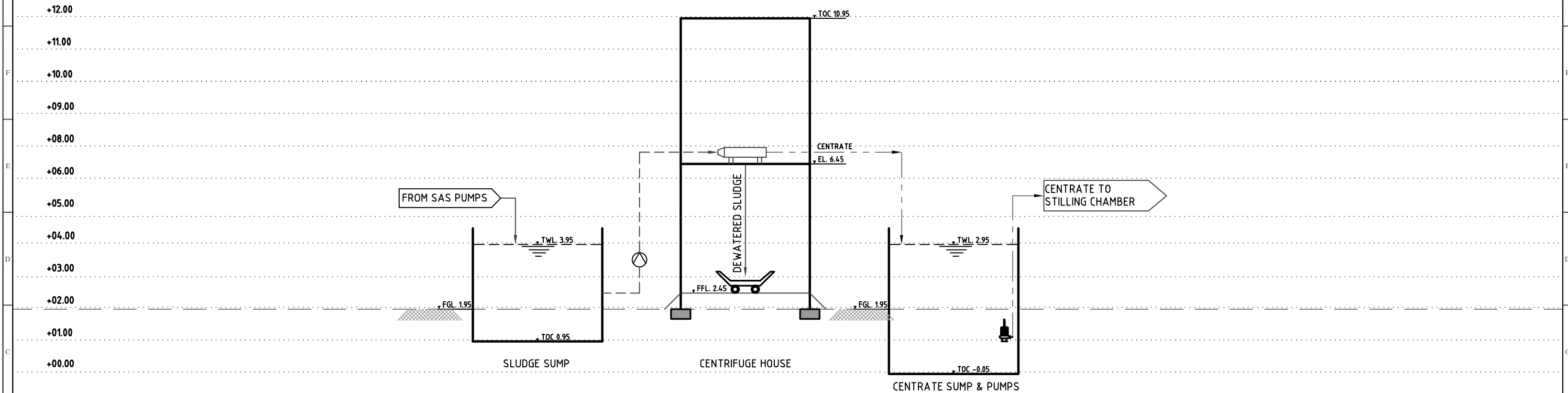
FOR INFORMATION



1 : 200



HYDRAULIC FLOW DIAGRAM (LIQUID PART)



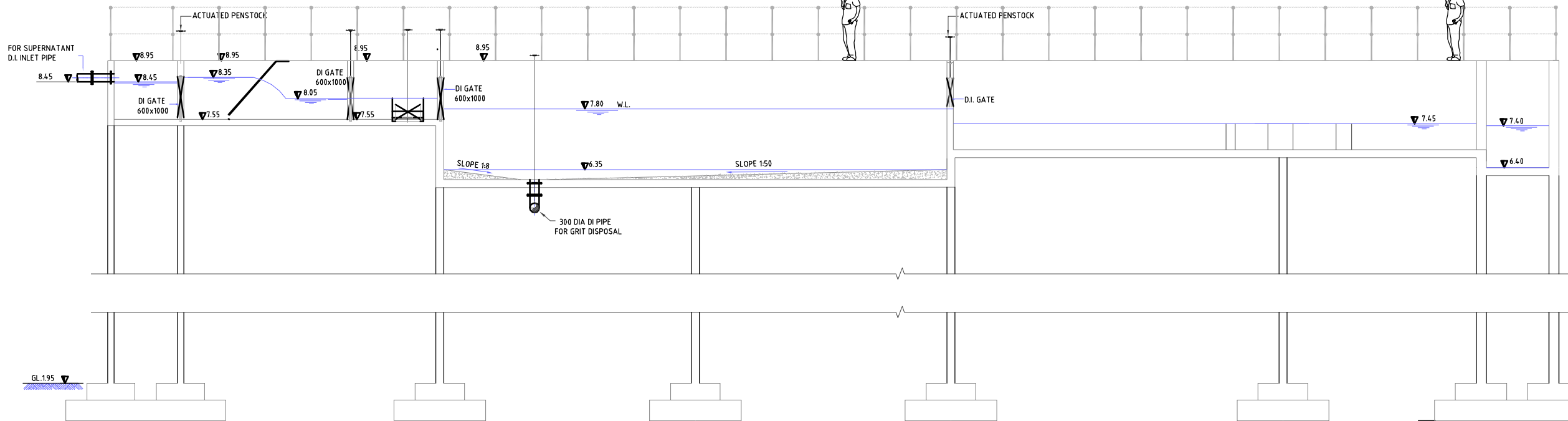
HYDRAULIC FLOW DIAGRAM (SOLID PART)

LEGEND		
1	PROCESS LINE	
2	SLUDGE LINE	
3	CENTRATE LINE	
4	TWL	TOP WATER LEVEL
5	BWL	BOTTOM WATER LEVEL
6	FGL	FINISH GROUND LEVEL
7	FFL	FINISH FLOOR LEVEL
8	TOC	TOP OF CONCRETE

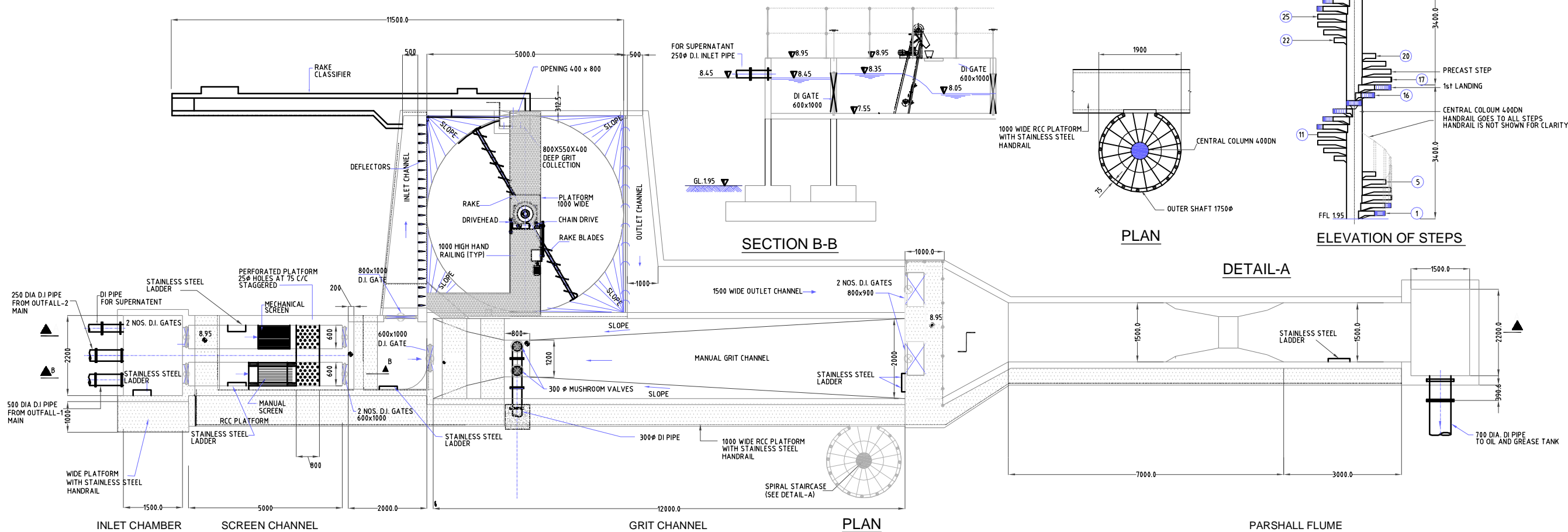
NOTES:-
1. ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS

FOR INFORMATION

CLIENT:		MALDIVES URBAN DEVELOPMENT AND RESILIENCE PROJECT	
CONSULTANT:		TTI Consulting Engineers Pty Ltd 32 Newington Technology Park, 8 Avenue of the Americas Newington NSW 2127, Sydney, Australia Tel: +61 2 96483044, 96483644	
PROJECT TITLE:		10 MLD SEWAGE TREATMENT PLANT BASED ON SBR TECHNOLOGY AT MALDIVES	
DRAWING TITLE:		HYDRAULIC FLOW DIAGRAM	
DWS No:		TTI/MUD/MAL/GA/HFD/002	
APPROVED BY:	K.P	CHECKED BY:	S.P
SCALE:	N.T.S	DATE:	01.02.2020
SHEETS:	01 OF 01	REV:	0P01



SECTION A-A

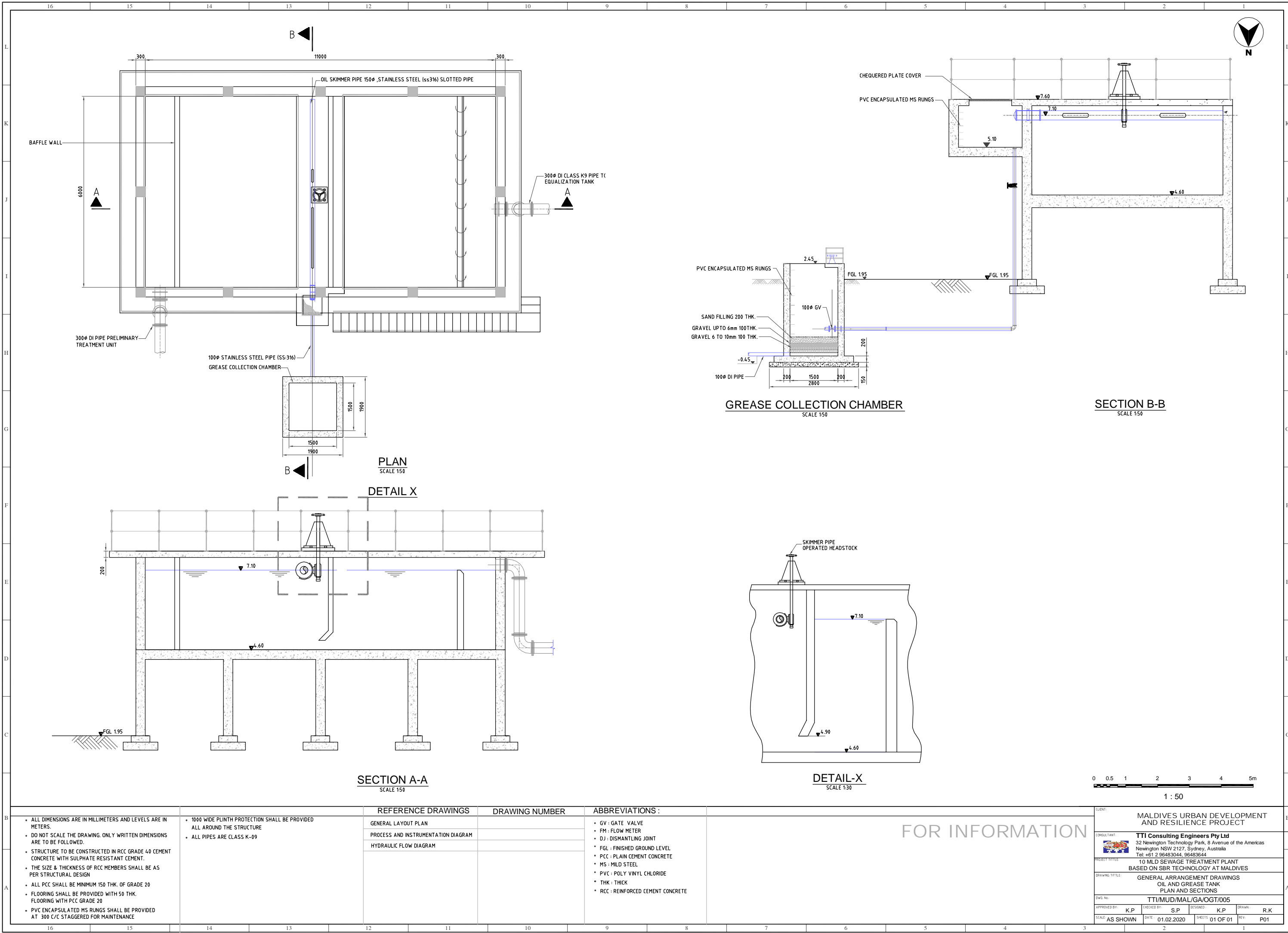



NOTES:

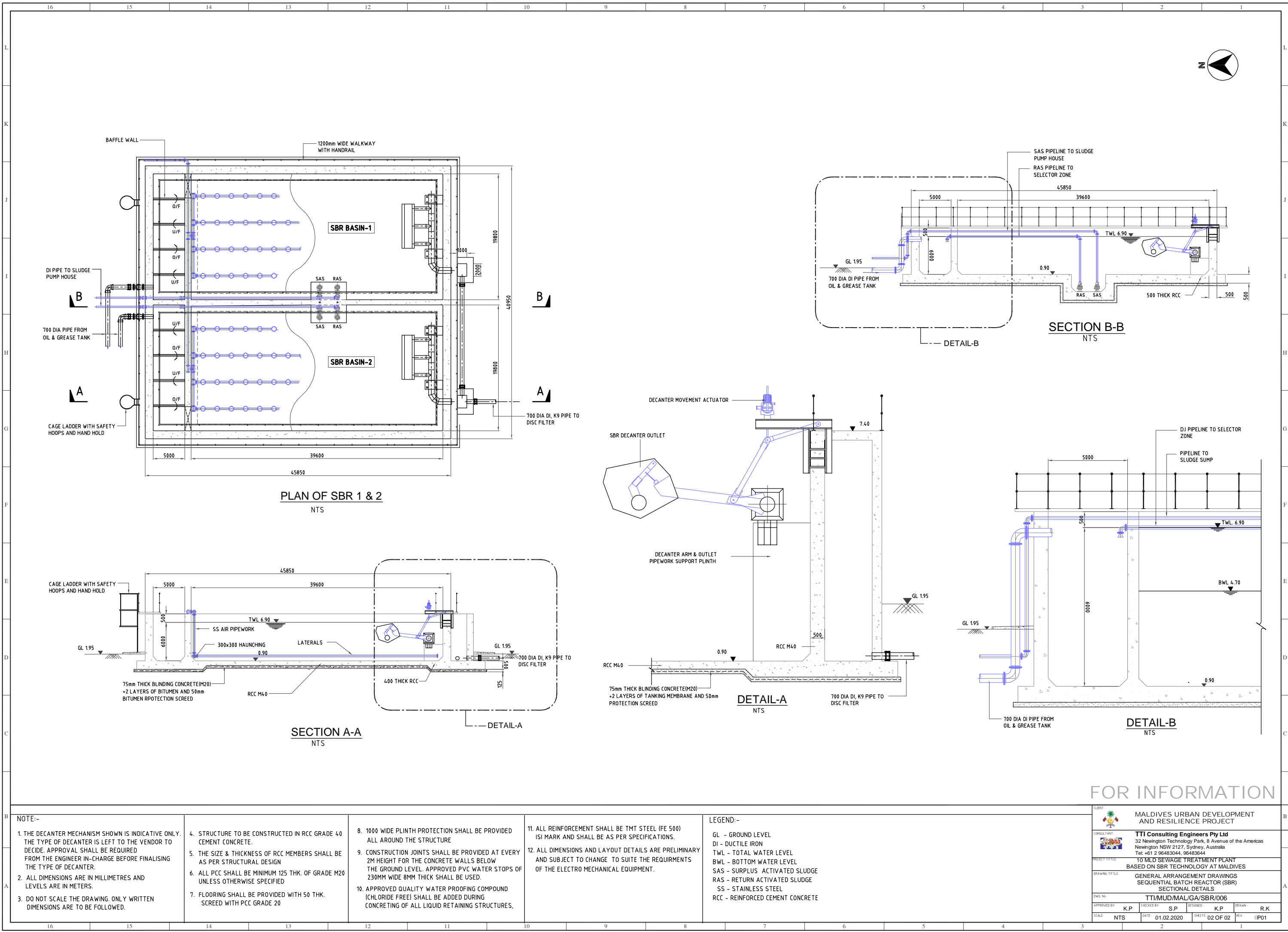
1. ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS.
2. DO NOT SCALE THE DRAWING. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
3. BRIDGE ORIENTATION TO SUIT AT SITE.
4. MECHANICAL CONSTRUCTION DETAILS & DIMENSIONS TO SUIT THE REQUIREMENTS OF EQUIPMENTS.
5. STRUCTURE TO BE CONSTRUCTED IN M-40 GRADE CEMENT CONCRETE WITH SULPHATE RESISTANT CEMENT.
6. ALL PCC SHALL BE 125 THK. IN M20 MIX.
7. WHEREVER THE STRUCTURE IS COMING BELOW FORMATION GROUND LEVEL, 1M WIDE PLINTH PROJECTION SHALL BE PROVIDED AS PER SPECIFICATION.
8. ALL PENSTOCKS, VALVES GREATER THAN 300mm SIZE SHALL BE ACTUATED.

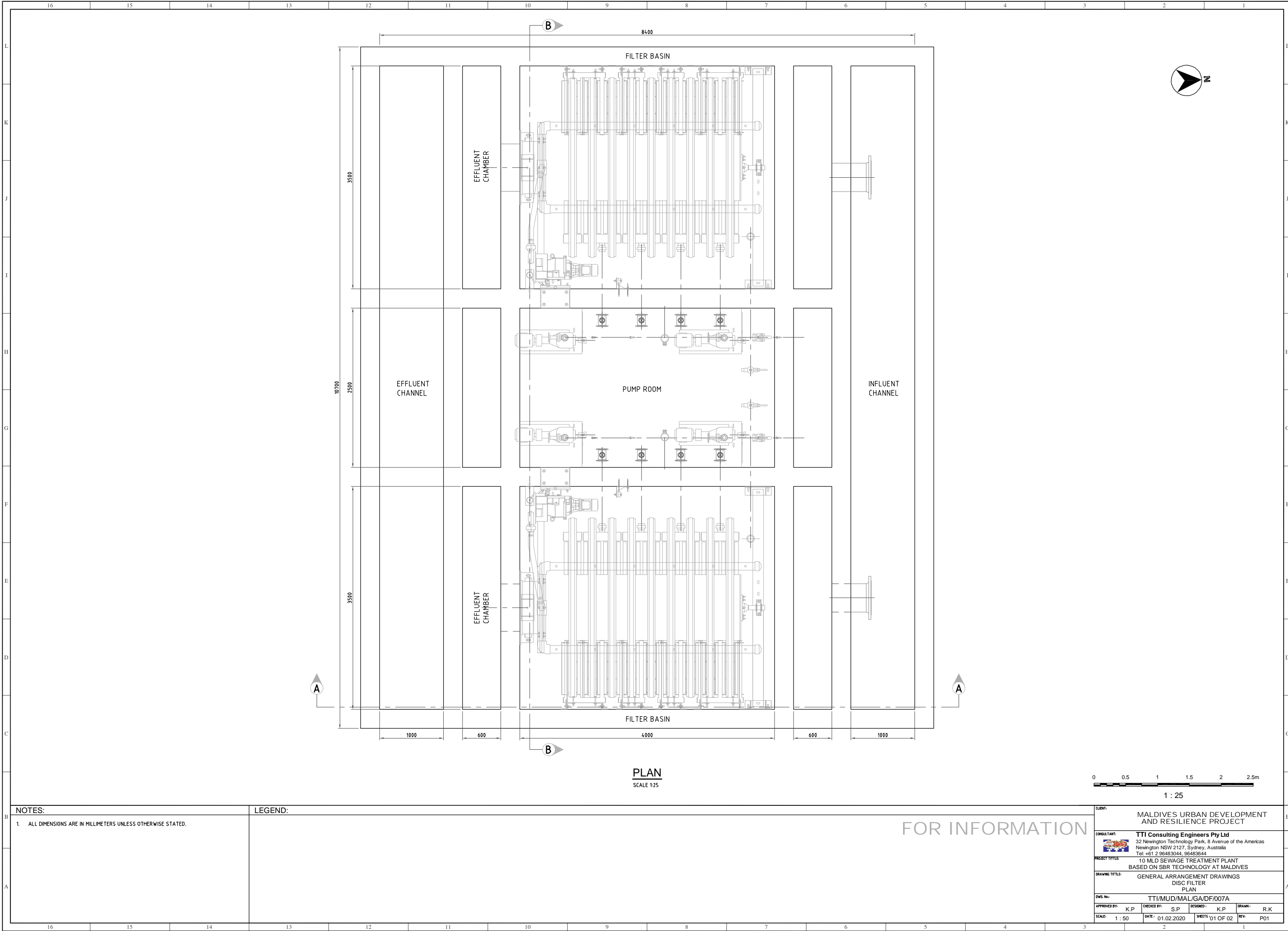
FOR INFORMATION

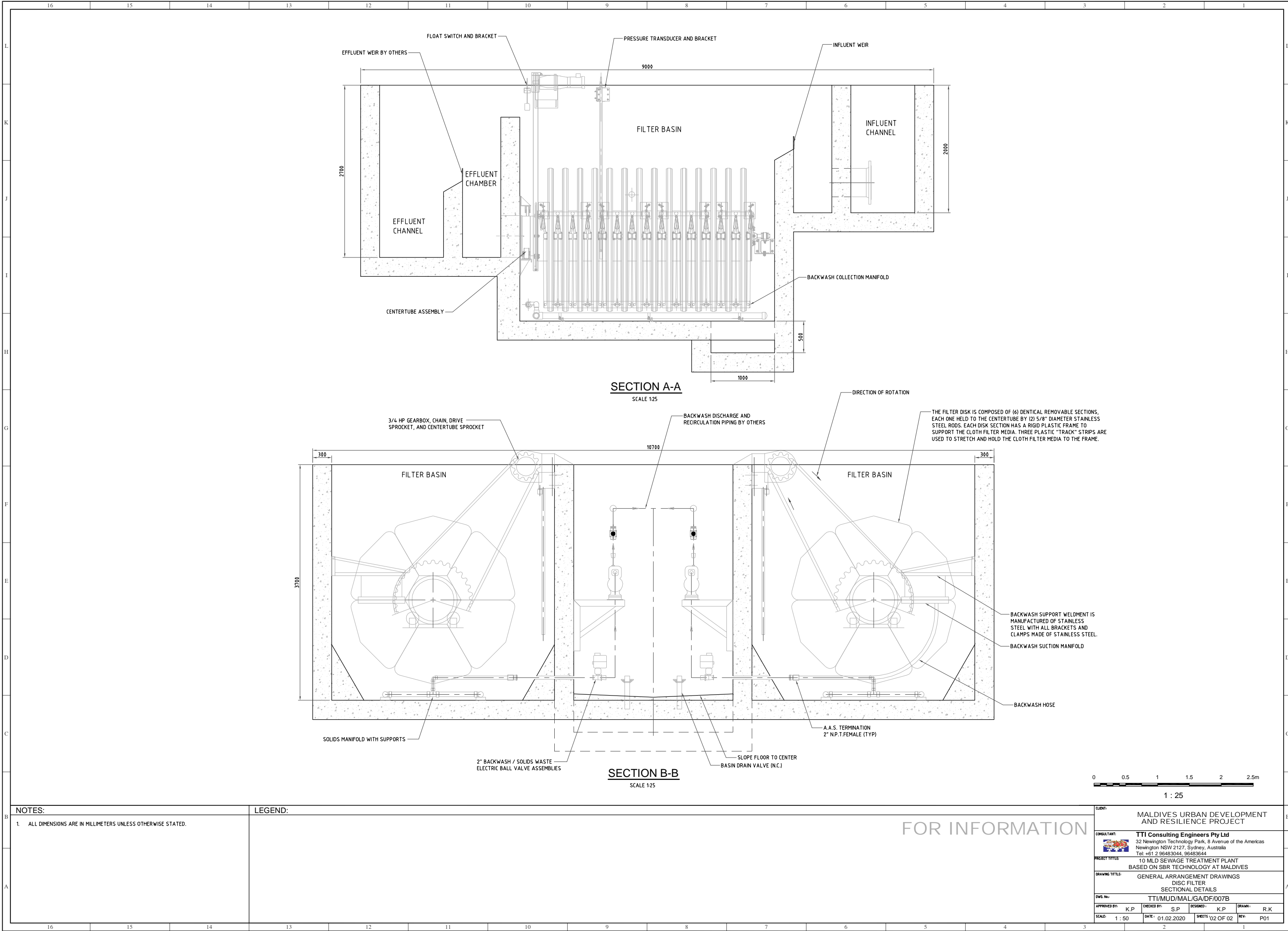
CLIENT	MALDIVES URBAN DEVELOPMENT AND RESILIENCE PROJECT			
CONSULTANT	TTI Consulting Engineers Pty Ltd 32 Newington Technology Park, 8 Avenue of the Americas Newington NSW 2127, Sydney, Australia Tel: +61 2 96483044, 96483644			
PROJECT TITLE	10 MLD SEWAGE TREATMENT PLANT BASED ON SBR TECHNOLOGY AT MALDIVES			
DRAWING TITLE	GENERAL ARRANGEMENT DRAWINGS PRELIMINARY TREATMENT UNITS PLAN AND SECTIONS - PTU			
DWG. No.	TTI/MUD/MAL/GA/PTU/004			
APPROVED BY:	K.P.	CHECKED BY:	S.P.	SIGNED:
SCALE:	1 : 50	DATE:	01.02.2020	SHEETS: 02 OF 02 REV: (IP01)



B	A	<div><div><div>• ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS.</div><div>• DO NOT SCALE THE DRAWING. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.</div><div>• STRUCTURE TO BE CONSTRUCTED IN RCC GRADE 40 CEMENT CONCRETE WITH SULPHATE RESISTANT CEMENT.</div><div>• THE SIZE & THICKNESS OF RCC MEMBERS SHALL BE AS PER STRUCTURAL DESIGN</div><div>• ALL PCC SHALL BE MINIMUM 150 THK. OF GRADE 20</div><div>• FLOORING SHALL BE PROVIDED WITH 50 THK. FLOORING WITH PCC GRADE 20</div><div>• PVC ENCAPSULATED MS RUNGS SHALL BE PROVIDED AT 300 C/C STAGGERED FOR MAINTENANCE</div></div><div><div>• 1000 WIDE PLINTH PROTECTION SHALL BE PROVIDED ALL AROUND THE STRUCTURE</div><div>• ALL PIPES ARE CLASS K-09</div></div></div>	REFERENCE DRAWINGS	DRAWING NUMBER	ABBREVIATIONS :	FOR INFORMATION	CLIENT	MALDIVES URBAN DEVELOPMENT AND RESILIENCE PROJECT					
			GENERAL LAYOUT PLAN		<div><div>• GV : GATE VALVE</div><div>• FM : FLOW METER</div><div>• DJ : DISMANTLING JOINT</div><div>• FGL : FINISHED GROUND LEVEL</div><div>• PCC : PLAIN CEMENT CONCRETE</div><div>• MS : MILD STEEL</div><div>• PVC : POLY VINYL CHLORIDE</div><div>• THK : THICK</div><div>• RCC : REINFORCED CEMENT CONCRETE</div></div>		CONSULTANT	<div><div></div><div>TTI Consulting Engineers Pty Ltd</div><div>32 Newington Technology Park, 8 Avenue of the Americas</div><div>Newington NSW 2127, Sydney, Australia</div><div>Tel: +61 2 96483044, 96483644</div></div>					
			PROCESS AND INSTRUMENTATION DIAGRAM				PROJECT TITLE	<div>10 MLD SEWAGE TREATMENT PLANT</div> <div>BASED ON SBR TECHNOLOGY AT MALDIVES</div>					
			HYDRAULIC FLOW DIAGRAM				DRAWING TITLE	<div>GENERAL ARRANGEMENT DRAWINGS</div> <div>OIL AND GREASE TANK</div> <div>PLAN AND SECTIONS</div>					
						DWG. NO.	TTI/MUD/MAL/GA/OGT/005						
						APPROVED BY:	K.P	CHECKED BY:	S.P	DESIGNED:	K.P	DRAWN:	R.K
						SCALE	AS SHOWN	DATE	01.02.2020	SHEETS	01 OF 01	REV:	P01







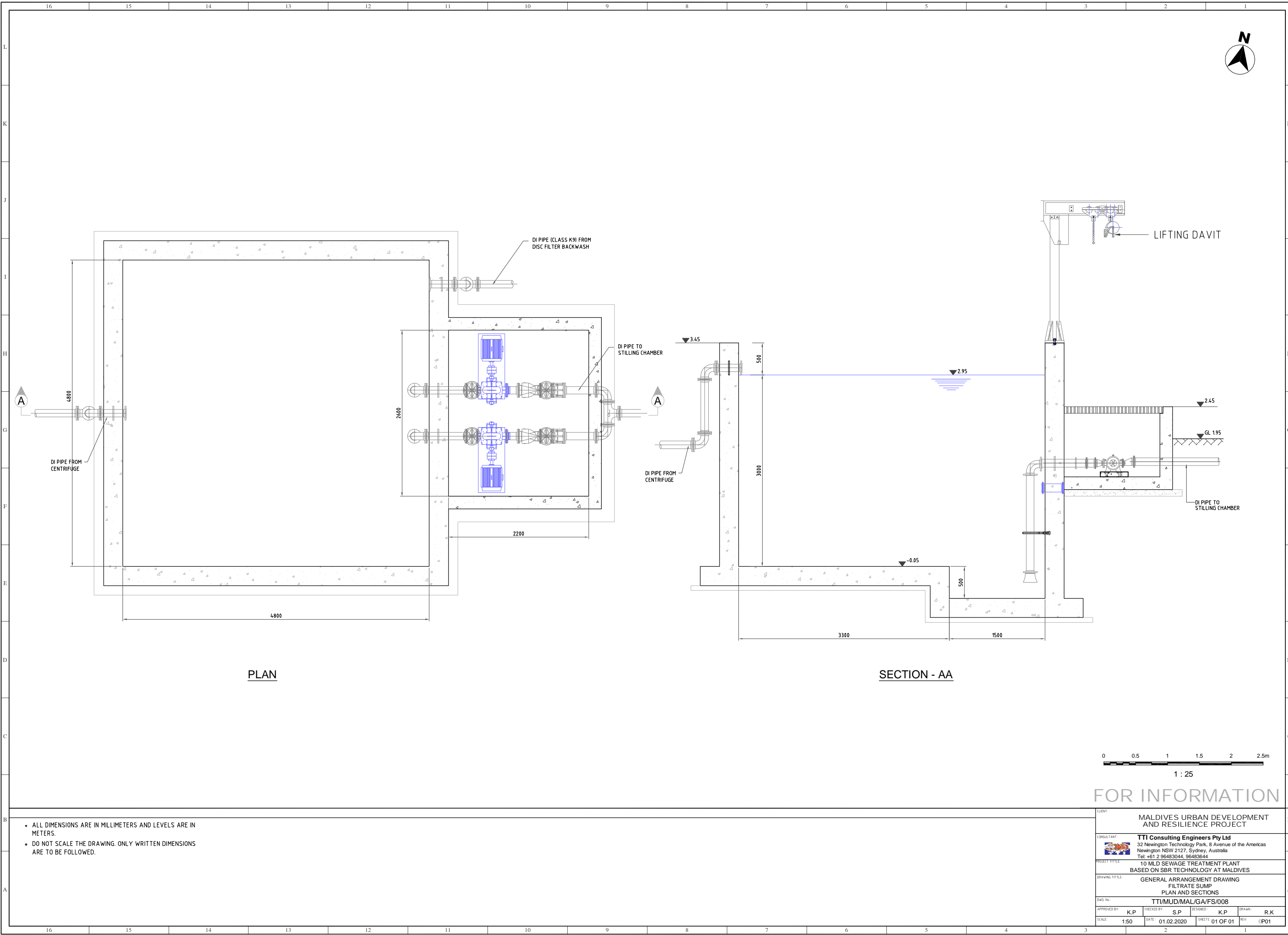
NOTES:

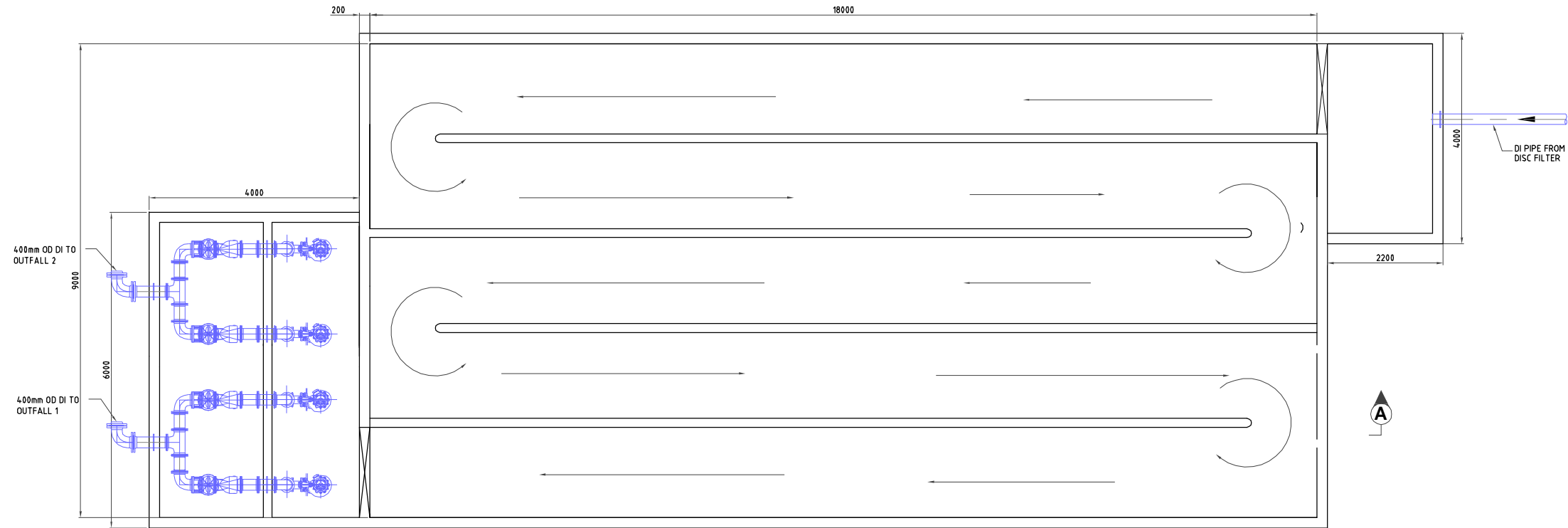
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED.

LEGEND:

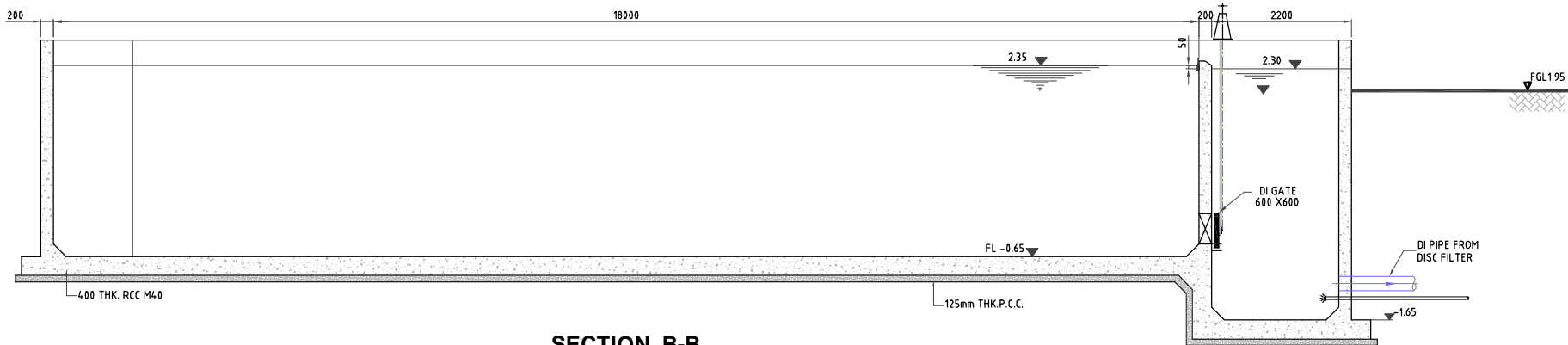
FOR INFORMATION

CLIENT:	MALDIVES URBAN DEVELOPMENT AND RESILIENCE PROJECT				
CONSULTANT:	TTI Consulting Engineers Pty Ltd 32 Newington Technology Park, 8 Avenue of the Americas Newington NSW 2127, Sydney, Australia Tel: +61 2 96483044, 96483644				
PROJECT TITLE:	10 MLD SEWAGE TREATMENT PLANT BASED ON SBR TECHNOLOGY AT MALDIVES				
DRAWING TITLE:	GENERAL ARRANGEMENT DRAWINGS DISC FILTER SECTIONAL DETAILS				
DWG. No:	TTI/MUD/MAL/GA/DF/007B				
APPROVED BY:	K.P	CHECKED BY:	S.P	DESIGNED:	K.P
SCALE:	1 : 50	DATE:	01.02.2020	SHEETS	02 OF 02
				REV:	P01

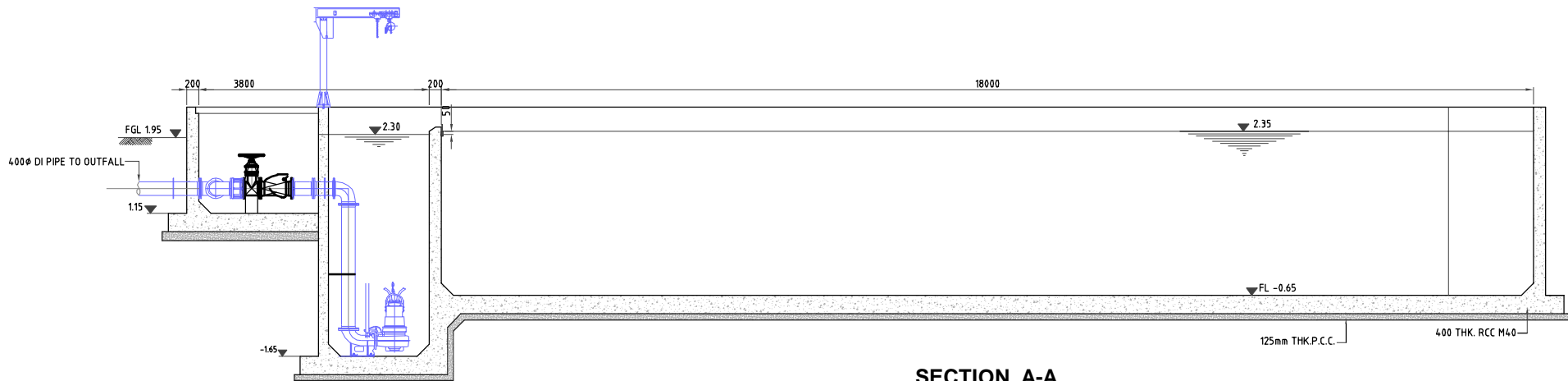




PLAN
CHLORINE CONTACT TANK



SECTION B-B

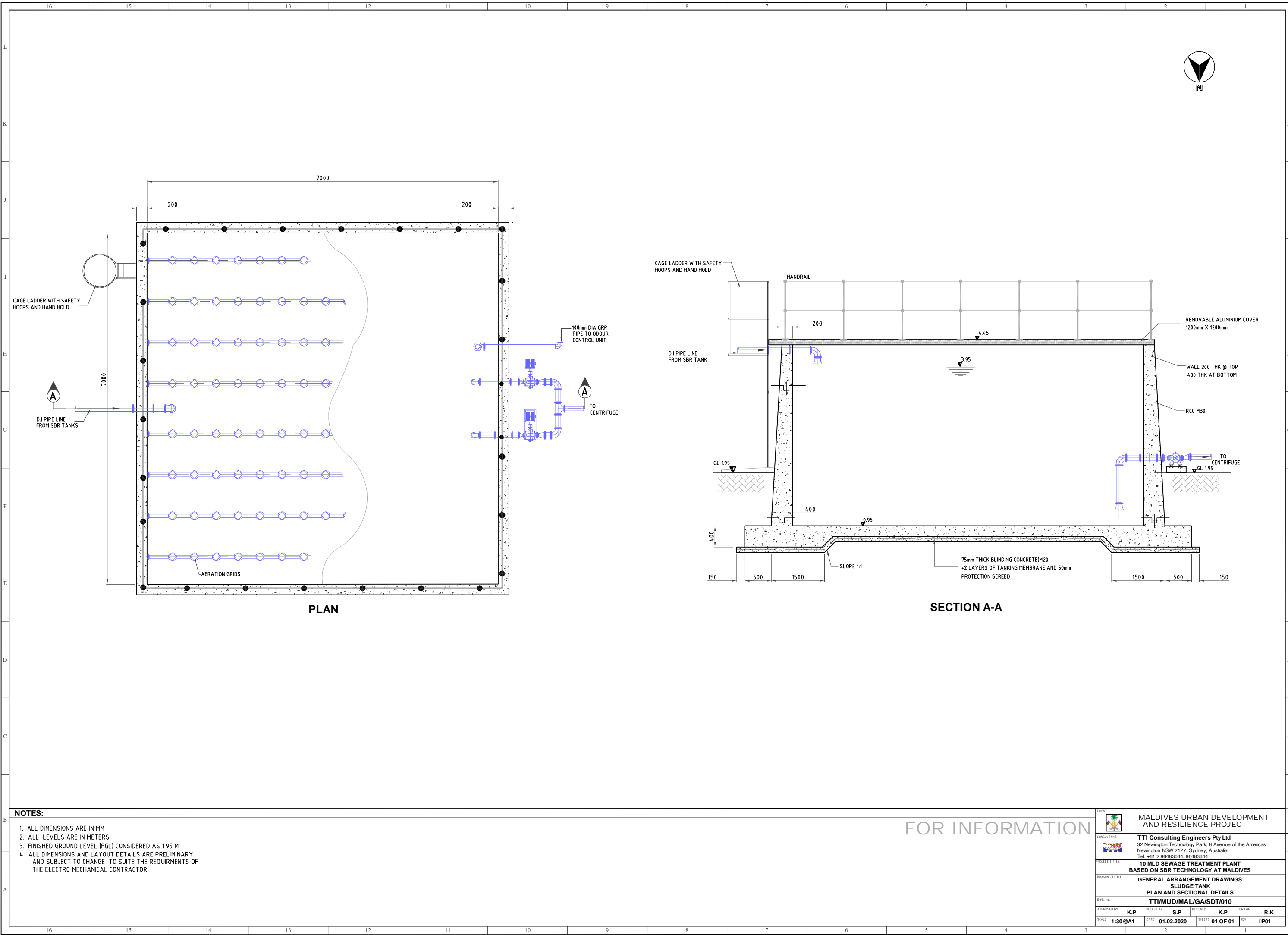


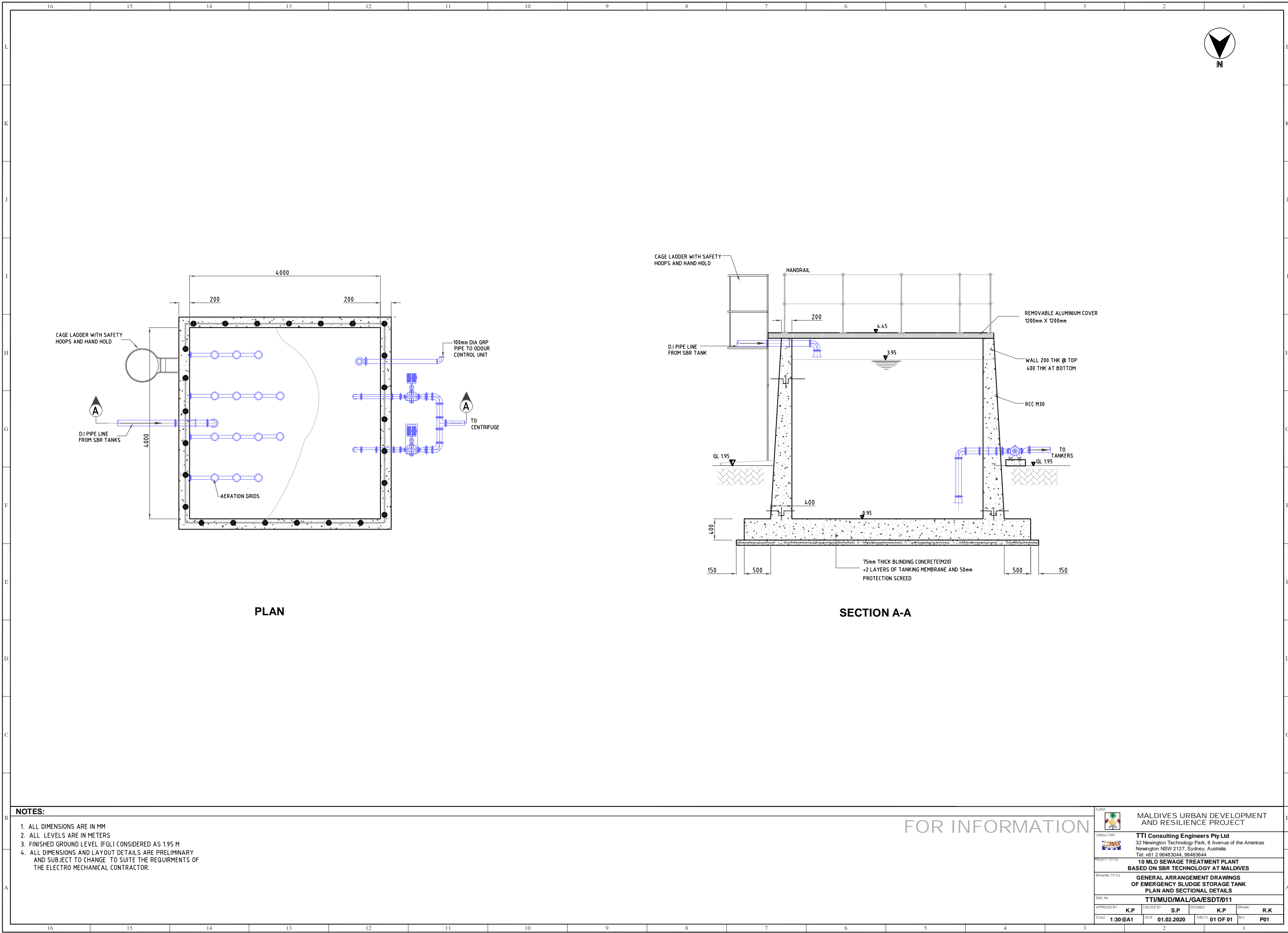
SECTION A-A

- NOTES:**
1. ALL DIMENSIONS ARE IN MM
 2. ALL LEVELS ARE IN METERS
 3. FINISHED GROUND LEVEL (FGL) CONSIDERED AS 1.95
 4. ALL DIMENSIONS AND LAYOUT DETAILS ARE PRELIMINARY AND SUBJECT TO CHANGE TO SUITE THE REQUIREMENTS OF THE ELECTRO MECHANICAL CONTRACTOR.

FOR INFORMATION

CLIENT		MALDIVES URBAN DEVELOPMENT AND RESILIENCE PROJECT	
CONSULTANT		TTI Consulting Engineers Pty Ltd 32 Newington Technology Park, 8 Avenue of the Americas Newington NSW 2127, Sydney, Australia Tel: +61 2 96483044, 96483644	
PROJECT TITLE		10 MLD SEWAGE TREATMENT PLANT BASED ON SBR TECHNOLOGY AT MALDIVES	
DRAWING TITLE		GENERAL ARRANGEMENT DRAWINGS CHLORINE CONTACT TANK SECTIONAL DETAILS	
DWS No.		TTI/MUD/MAL/GA/CCT/009	
APPROVED BY:	K.P	CHECKED BY:	S.P
SCALE:	1:30 @A1	DATE:	01.02.2020
SHEETS:	01 OF 01	REV:	(P01)





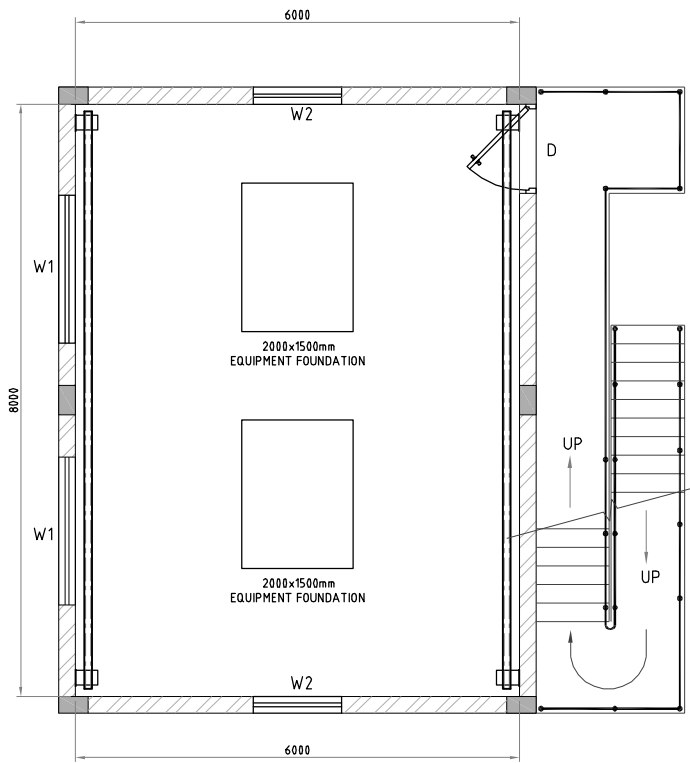
PLAN

SECTION A-A

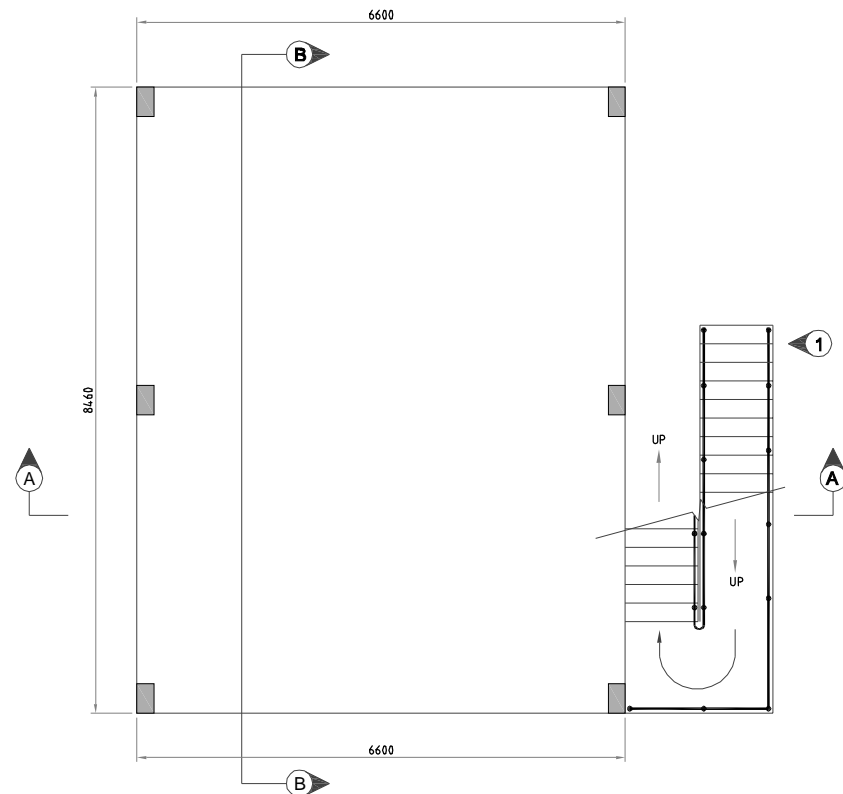
- NOTES:**
1. ALL DIMENSIONS ARE IN MM
 2. ALL LEVELS ARE IN METERS
 3. FINISHED GROUND LEVEL (FGL) CONSIDERED AS 1.95 M
 4. ALL DIMENSIONS AND LAYOUT DETAILS ARE PRELIMINARY AND SUBJECT TO CHANGE TO SUITE THE REQUIREMENTS OF THE ELECTRO MECHANICAL CONTRACTOR.

FOR INFORMATION

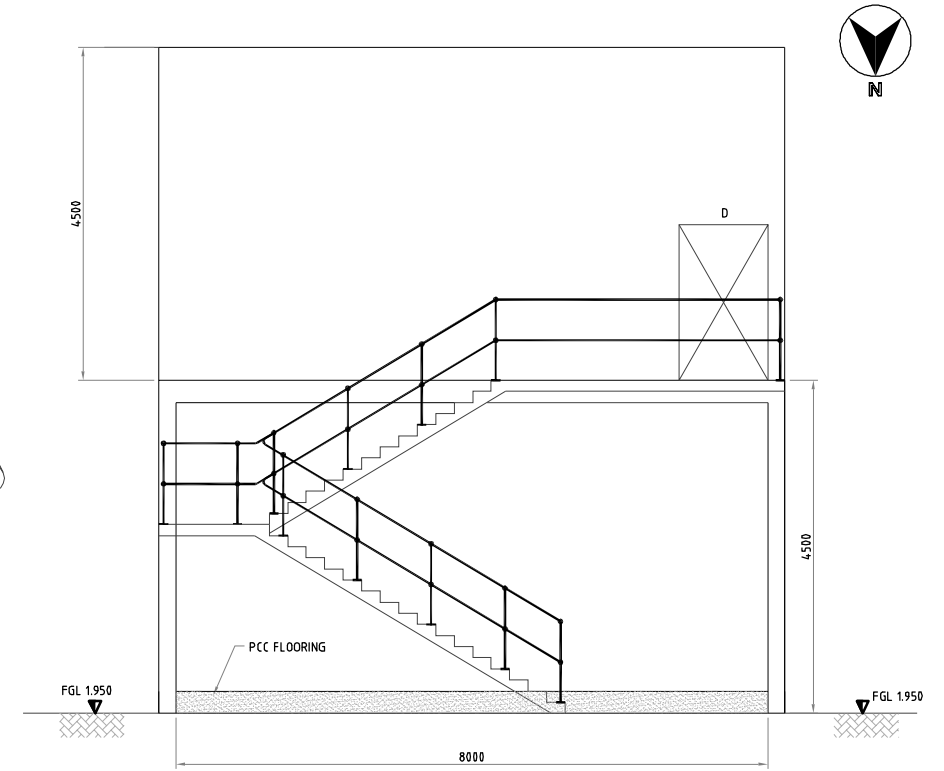
CLIENT		MALDIVES URBAN DEVELOPMENT AND RESILIENCE PROJECT	
CONSULTANT		TTI Consulting Engineers Pty Ltd 32 Newington Technology Park, 8 Avenue of the Americas Newington NSW 2127, Sydney, Australia Tel: +61 2 96483044, 96483644	
PROJECT TITLE		10 MLD SEWAGE TREATMENT PLANT BASED ON SBR TECHNOLOGY AT MALDIVES	
DRAWING TITLE		GENERAL ARRANGEMENT DRAWINGS OF EMERGENCY SLUDGE STORAGE TANK PLAN AND SECTIONAL DETAILS	
DWS No.		TTI/MUD/MAL/GA/ESDT/011	
APPROVED BY:	K.P	CHECKED BY:	S.P
SCALE:	1:30 @A1	DATE:	01.02.2020
SHEETS	01 OF 01	REV:	P01



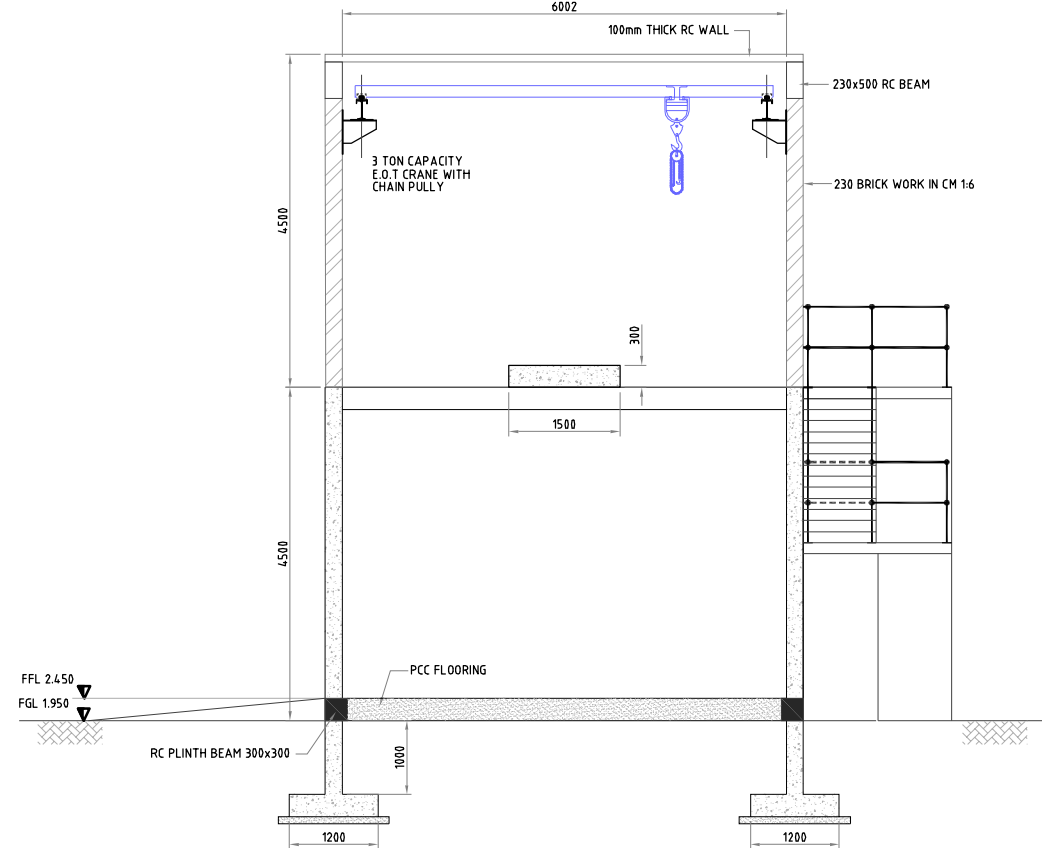
FIRST FLOOR PLAN
SCALE 1:50
6002



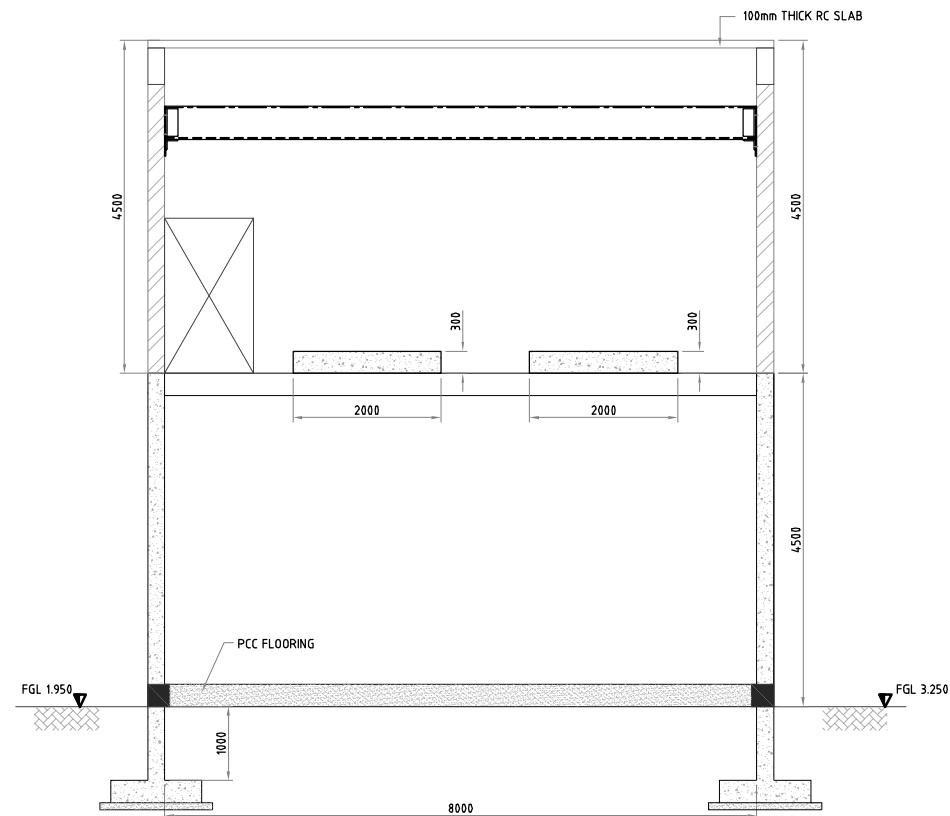
GROUND FLOOR PLAN
SCALE 1:50



ELEVATION-1-1
SCALE 1:50



SECTION AA
SCALE 1:50



SECTION BB
SCALE 1:50

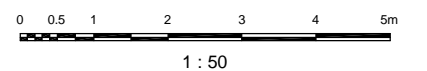
SCHEDULING DOORS AND WINDOWS

SL. No.	DESCRIPTION	SIZE	QTY.
1	DOOR-D1	1200X2100	1
2	WINDOW-W1	1400X2000	1
3	WINDOW-W2	1200X1400	2

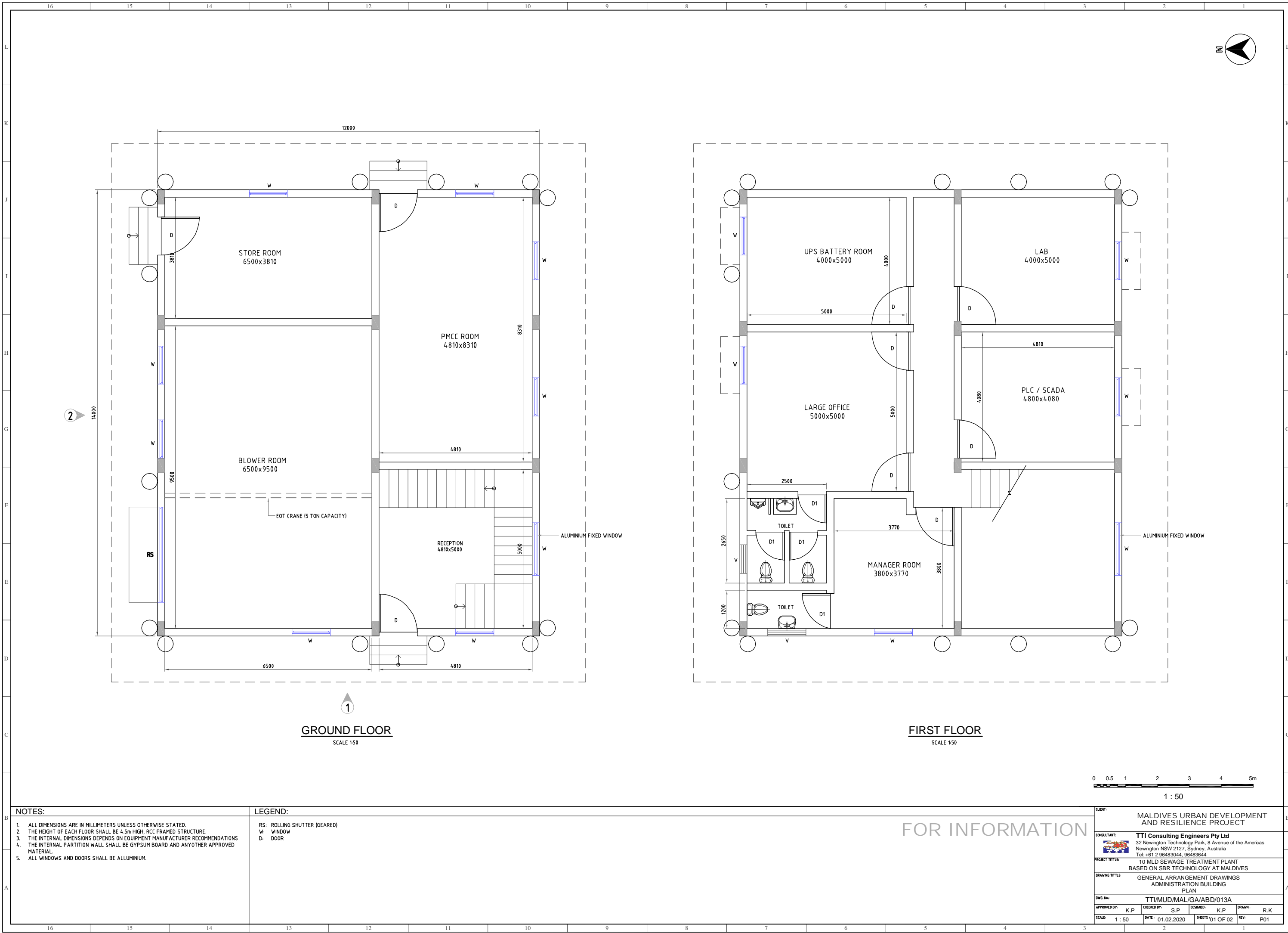
- NOTES:**
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED.
 - THE HEIGHT OF EACH FLOOR SHALL BE 4.5m HIGH, RCC FRAMED STRUCTURE.
 - THE INTERNAL DIMENSIONS DEPENDS ON EQUIPMENT MANUFACTURER RECOMMENDATIONS
 - THE INTERNAL PARTITION WALL SHALL BE GYPSUM BOARD AND ANYOTHER APPROVED MATERIAL.
 - ALL WINDOWS AND DOORS SHALL BE ALLUMINIUM.

- LEGEND:**
- RS: ROLLING SHUTTER (GEARED)
W: WINDOW
D: DOOR

FOR INFORMATION

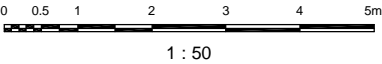


CLIENT:	MALDIVES URBAN DEVELOPMENT AND RESILIENCE PROJECT
CONSULTANT:	TTI Consulting Engineers Pty Ltd 32 Newington Technology Park, 8 Avenue of the Americas Newington NSW 2127, Sydney, Australia Tel: +61 2 96483044, 96483644
PROJECT TITLE:	10 MLD SEWAGE TREATMENT PLANT BASED ON SBR TECHNOLOGY AT MALDIVES
DRAWING TITLE:	GENERAL ARRANGEMENT DRAWINGS CENTRIFUGE BUILDING PLAN
DWG. No:	TTI/MUD/MAL/GA/CBD/012
APPROVED BY:	K.P.
CHECKED BY:	S.P.
DESIGNED BY:	K.P.
DRAWN BY:	R.K.
SCALE:	1 : 50
DATE:	01.02.2020
SHEETS:	01 OF 01
REV:	P01



GROUND FLOOR
SCALE 1:50

FIRST FLOOR
SCALE 1:50

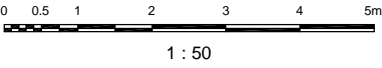


- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED.
 2. THE HEIGHT OF EACH FLOOR SHALL BE 4.5m HIGH, RCC FRAMED STRUCTURE.
 3. THE INTERNAL DIMENSIONS DEPENDS ON EQUIPMENT MANUFACTURER RECOMMENDATIONS
 4. THE INTERNAL PARTITION WALL SHALL BE GYPSUM BOARD AND ANYOTHER APPROVED MATERIAL.
 5. ALL WINDOWS AND DOORS SHALL BE ALLUMINIUM.

- LEGEND:
- RS: ROLLING SHUTTER (GEARED)
 - W: WINDOW
 - D: DOOR

FOR INFORMATION

CLIENT:	MALDIVES URBAN DEVELOPMENT AND RESILIENCE PROJECT			
CONSULTANT:	TTI Consulting Engineers Pty Ltd 32 Newington Technology Park, 8 Avenue of the Americas Newington NSW 2127, Sydney, Australia Tel: +61 2 96483044, 96483644			
PROJECT TITLE:	10 MLD SEWAGE TREATMENT PLANT BASED ON SBR TECHNOLOGY AT MALDIVES			
DRAWING TITLE:	GENERAL ARRANGEMENT DRAWINGS ADMINISTRATION BUILDING PLAN			
DWG. No:	TTI/MUD/MAL/GA/ABD/013A			
APPROVED BY:	K.P	CHECKED BY:	S.P	SIGNED:
SCALE:	1 : 50	DATE:	01.02.2020	SHEETS
				01 OF 02
				REV: P01



NOTES:

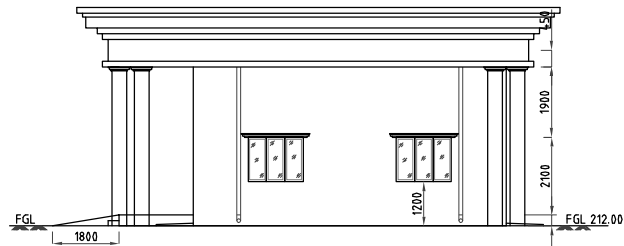
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED.
2. THE HEIGHT OF EACH FLOOR SHALL BE 4.5m HIGH, RCC FRAMED STRUCTURE.
3. THE INTERNAL DIMENSIONS DEPENDS ON EQUIPMENT MANUFACTURER RECOMMENDATIONS
4. THE INTERNAL PARTITION WALL SHALL BE GYPSUM BOARD AND ANYOTHER APPROVED MATERIAL.
5. ALL WINDOWS AND DOORS SHALL BE ALLUMINIUM.

LEGEND:

RS: ROLLING SHUTTER (GEARED)
W: WINDOW
D: DOOR

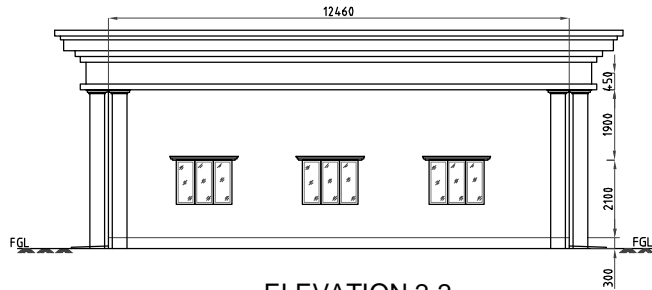
FOR INFORMATION

CLIENT:	MALDIVES URBAN DEVELOPMENT AND RESILIENCE PROJECT				
CONSULTANT:	TTI Consulting Engineers Pty Ltd 32 Newington Technology Park, 8 Avenue of the Americas Newington NSW 2127, Sydney, Australia Tel: +61 2 96483044, 96483644				
PROJECT TITLE:	10 MLD SEWAGE TREATMENT PLANT BASED ON SBR TECHNOLOGY AT MALDIVES				
DRAWING TITLE:	GENERAL ARRANGEMENT DRAWINGS ADMINISTRATION BUILDING ELEVATIONS				
DWG. No.:	TTI/MUD/MAL/GA/ABD/013B				
APPROVED BY:	K.P	CHECKED BY:	S.P	DESIGNED:	K.P
SCALE:	1 : 50	DATE:	01.02.2020	SHEETS	02 OF 02
				REV:	P01
				DRAWN:	R.K



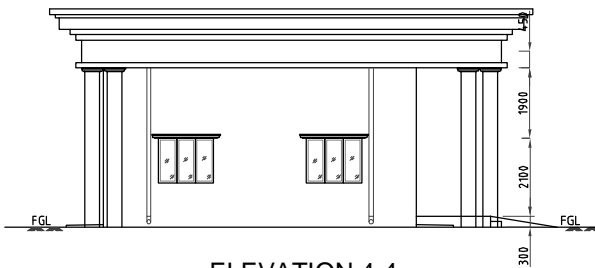
ELEVATION 3-3

(SCALE: 1:100)



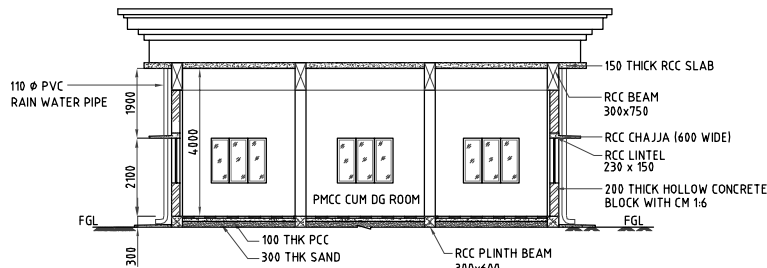
ELEVATION 2-2

(SCALE: 1:100)



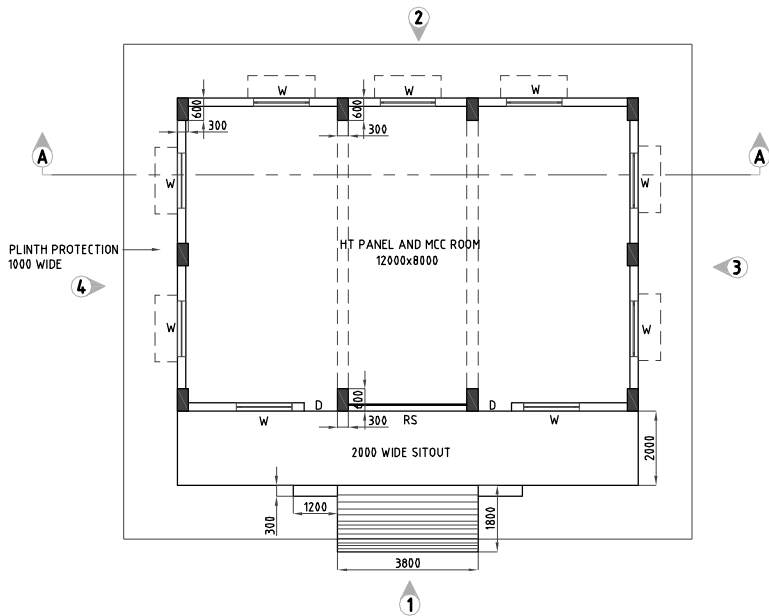
ELEVATION 4-4

(SCALE: 1:100)



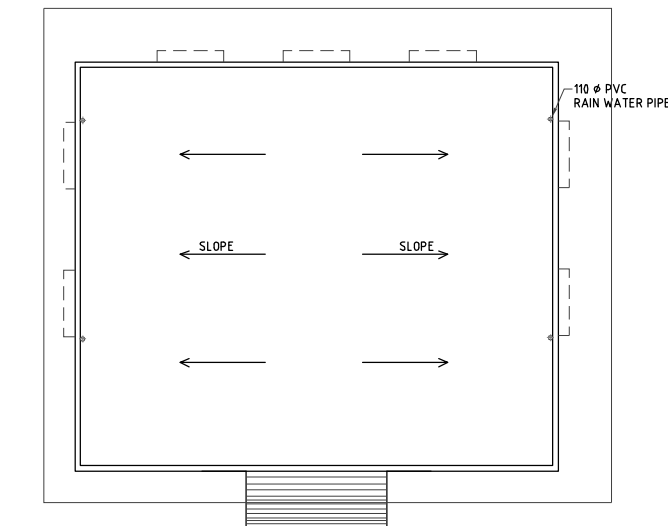
SECTION - AA

(SCALE: 1:100)



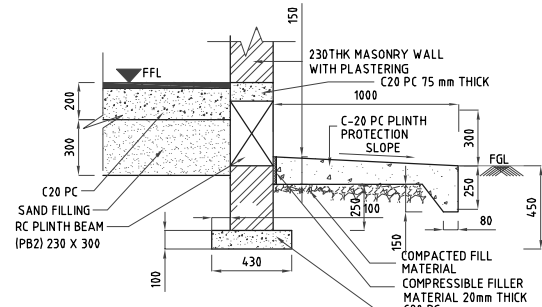
PLAN

(SCALE: 1:100)



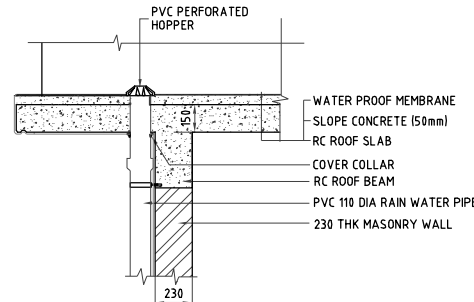
TERRACE PLAN

(SCALE: 1:100)



PLINTH PROTECTION DETAILS & FOUNDATION DETAILS FOR WALLS

(SCALE: 1:20)



ROOF DETAIL

(SCALE: 1:20)

INTERNAL FINISHING SCHEDULE

S.No.	DESCRIPTION	FLOOR	BASE SKIRTING	INTERNAL WALLS	CEILING
1	HT PANEL AND MCC ROOM	300x300x30 mm THICK FLOOR TERRAZZO	100x12 mm THICK TERRAZZO STRIKING	PAINTED ALL PURPOSE OIL BASED PAINT	PAINTED FAIRFACED CONCRETE FINISH

SCHEDULE OF OPENINGS

SCHEDULE	STRUCTURAL OPENING (WxH)	VIEW	REMARK
RS	3000x3000		ROLLING SHUTTER -GEARED TYPE FRAME: STEEL PROFILES LEAVES: COLDBENT STEEL PROFILES AND STEEL SHEET - HOT DVP GALVANIZED - PAINTED - LOUVERS STEEL
D	900x2100		DOUBLE LEAF ANODIZED ALUMINUM DOOR
W	1500x1200		- ANODIZED ALUMINUM WINDOW, UPPER PART FIXED, TWO WINGS VERTICAL HINGED - 4 mm THICK CLEAR GLASS - ALUMINUM ROLLER SHUTTERS

0 0.5 1 1.5 2m

1 : 20

0 1 2 4 6 8 10m

1 : 100

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED.
- THE HEIGHT OF EACH FLOOR SHALL BE 4.5m HIGH, RCC FRAMED STRUCTURE.
- THE INTERNAL DIMENSIONS DEPENDS ON EQUIPMENT MANUFACTURER RECOMMENDATIONS
- THE INTERNAL PARTITION WALL SHALL BE GYPSUM BOARD AND ANYOTHER APPROVED MATERIAL.
- ALL WINDOWS AND DOORS SHALL BE ALLUMINIUM.

LEGEND:

- RS: ROLLING SHUTTER (GEARED)
W: WINDOW
D: DOOR

FOR INFORMATION

CLIENT:

MALDIVES URBAN DEVELOPMENT
AND RESILIENCE PROJECT

CONSULTANT:

TTI Consulting Engineers Pty Ltd
32 Newington Technology Park, 8 Avenue of the Americas
Newington NSW 2127, Sydney, Australia
Tel: +61 2 96483044, 96483644

PROJECT TITLE:

10 MLD SEWAGE TREATMENT PLANT
BASED ON SBR TECHNOLOGY AT MALDIVES

DRAWING TITLE:

GENERAL ARRANGEMENT DRAWINGS
HT PANEL AND MCC ROOM
ARCHITECTURAL PLAN AND ELEVATION

DWG. No:

TTI/MUD/MAL/GA/MCC/014

APPROVED BY:

K.P

CHECKED BY:

S.P

DESIGNED BY:

K.P

DRAWN BY:

R.K

SCALE:

AS SHOWN

DATE:

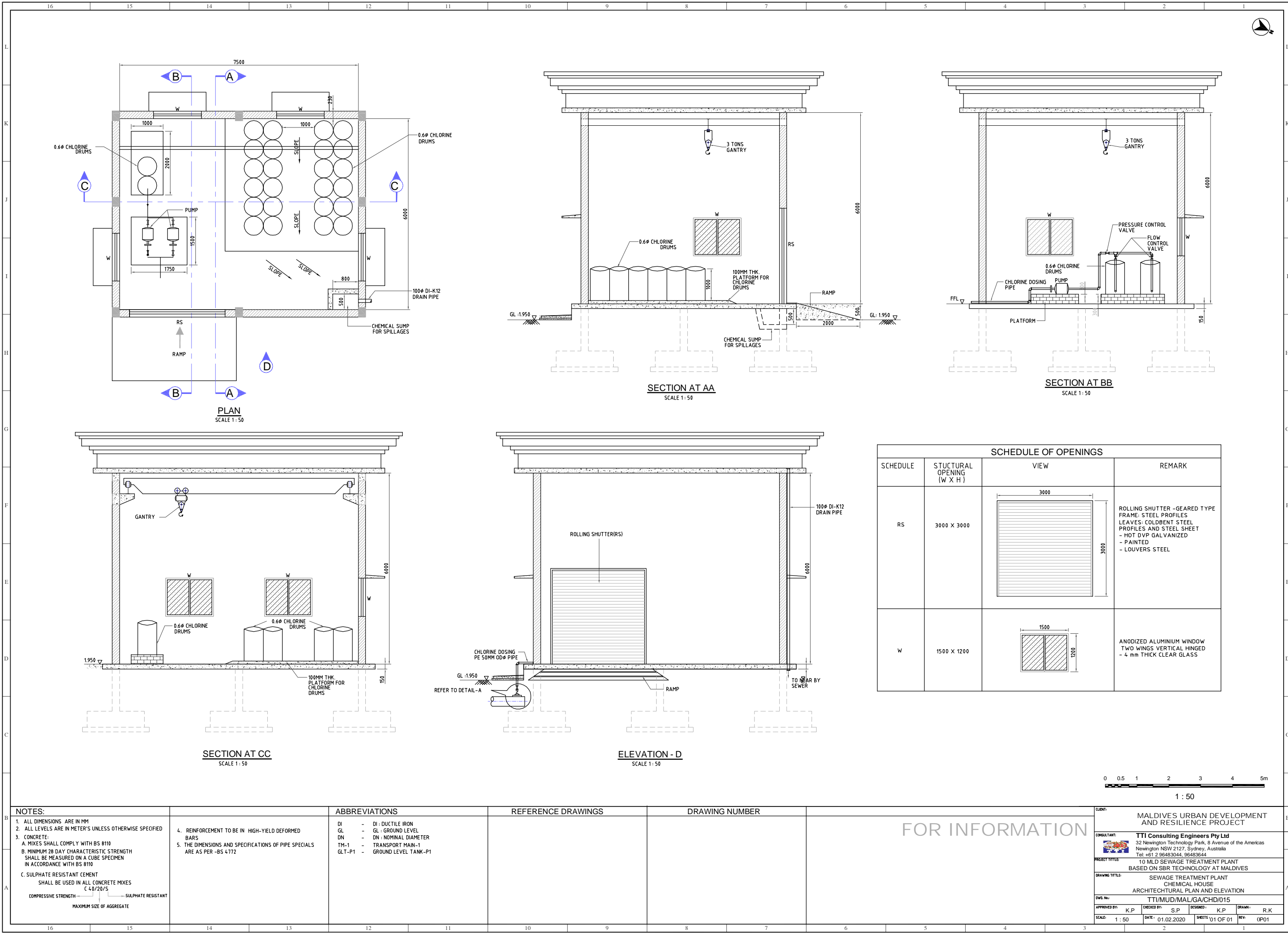
01.02.2020

SHEETS

01 OF 01

REV:

0P01



NOTES:

1. ALL DIMENSIONS ARE IN MM

2. ALL LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED

3. CONCRETE:

A. MIXES SHALL COMPLY WITH BS 8110

B. MINIMUM 28 DAY CHARACTERISTIC STRENGTH SHALL BE MEASURED ON A CUBE SPECIMEN IN ACCORDANCE WITH BS 8110

C. SULPHATE RESISTANT CEMENT SHALL BE USED IN ALL CONCRETE MIXES

C 40/20/S

COMPRESSIVE STRENGTH

SULPHATE RESISTANT

MAXIMUM SIZE OF AGGREGATE

4. REINFORCEMENT TO BE IN HIGH-YIELD DEFORMED BARS

5. THE DIMENSIONS AND SPECIFICATIONS OF PIPE SPECIALS ARE AS PER -BS 4772

ABBREVIATIONS

DI - DI: DUCTILE IRON

GL - GL: GROUND LEVEL

DN - DN: NOMINAL DIAMETER

TM-1 - TRANSPORT MAIN-1

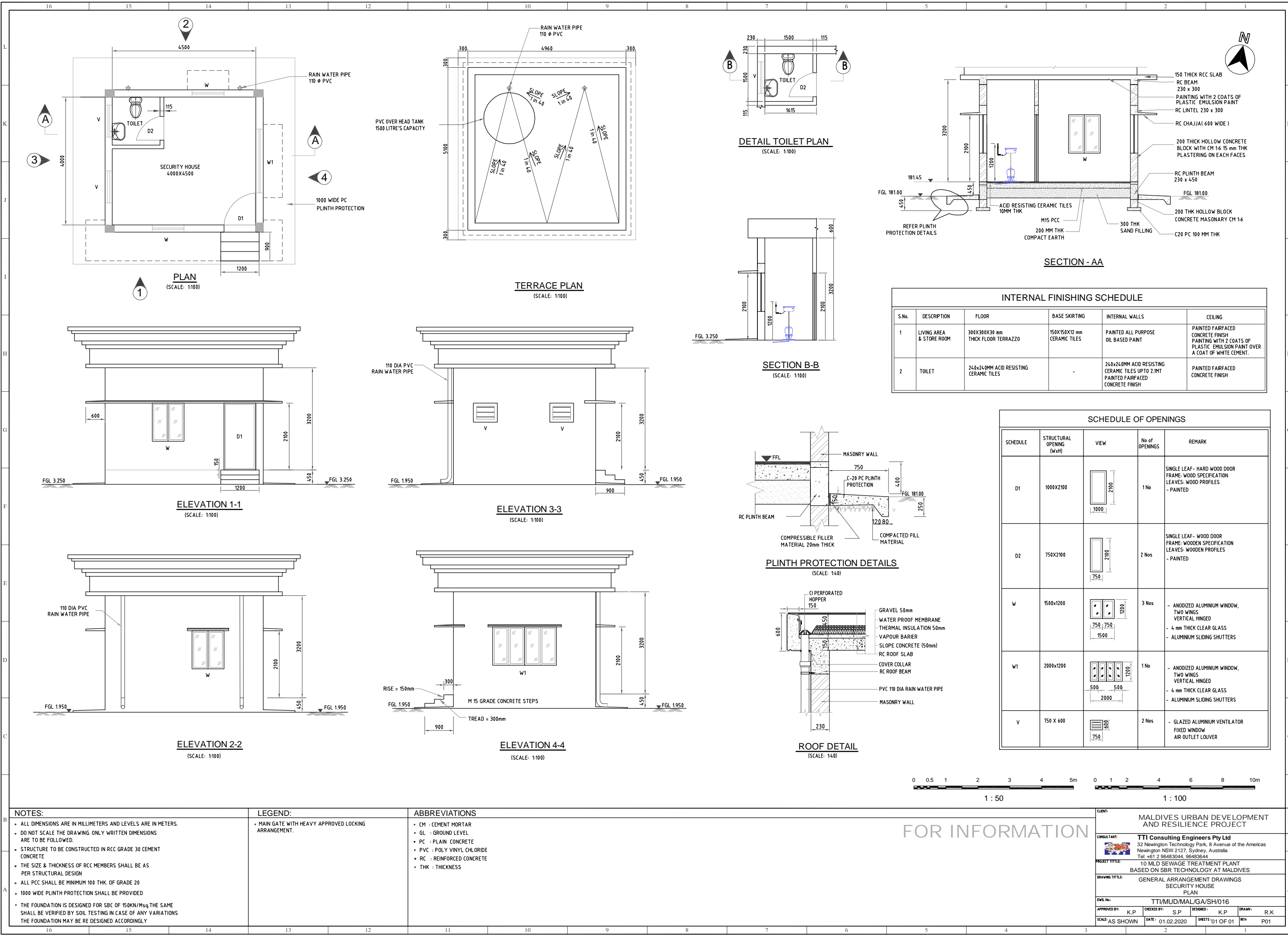
GLT-P1 - GROUND LEVEL TANK-P1

REFERENCE DRAWINGS

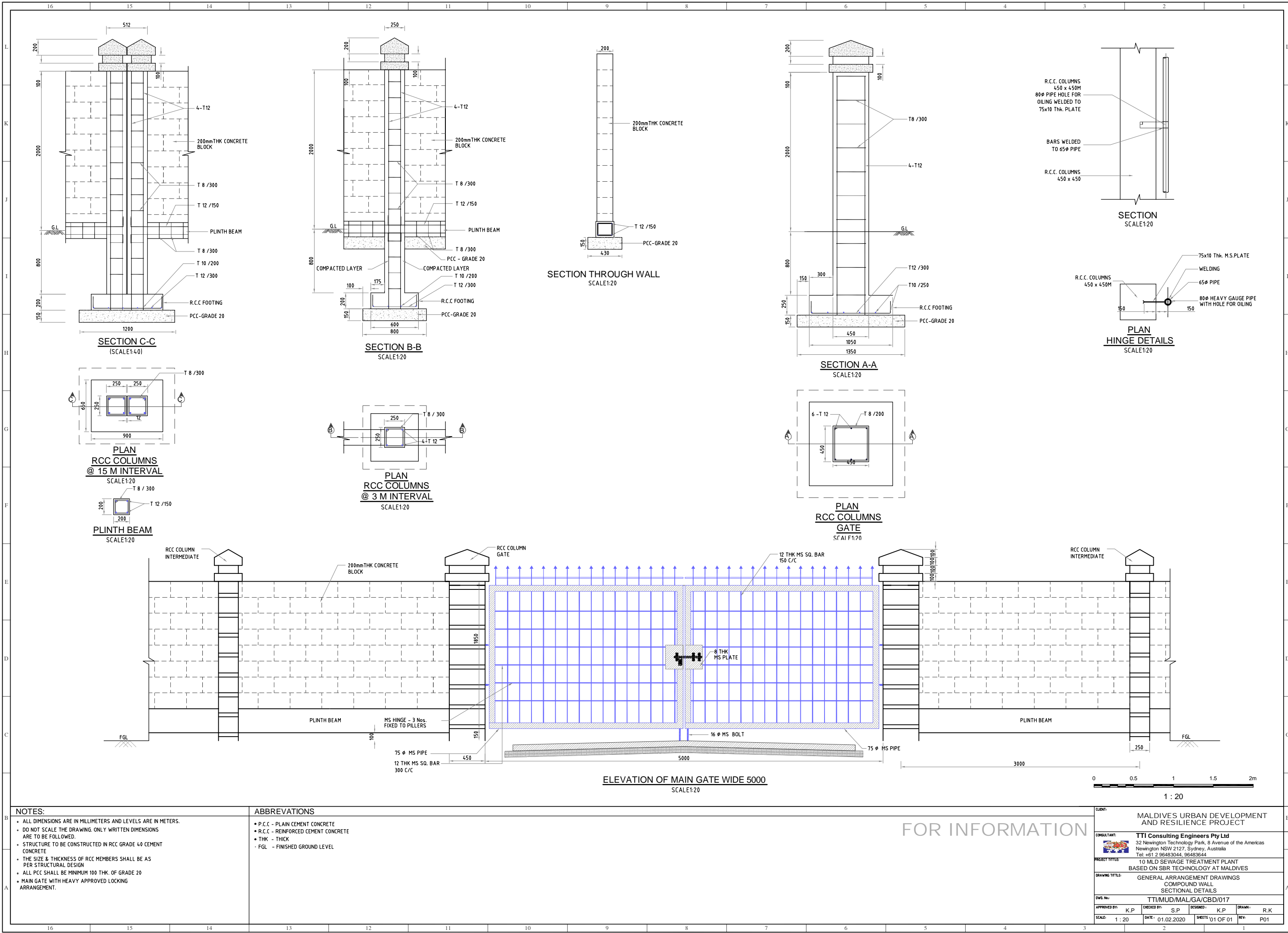
DRAWING NUMBER

FOR INFORMATION

CLIENT:	MALDIVES URBAN DEVELOPMENT AND RESILIENCE PROJECT
CONSULTANT:	TTI Consulting Engineers Pty Ltd 32 Newington Technology Park, 8 Avenue of the Americas Newington NSW 2127, Sydney, Australia Tel: +61 2 96483044, 96483644
PROJECT TITLE:	10 MLD SEWAGE TREATMENT PLANT BASED ON SBR TECHNOLOGY AT MALDIVES
DRAWING TITLE:	SEWAGE TREATMENT PLANT CHEMICAL HOUSE ARCHITECTURAL PLAN AND ELEVATION
DWG. No:	TTI/MUD/MAL/GA/CHD/015
APPROVED BY:	K.P.
CHECKED BY:	S.P.
DESIGNED BY:	K.P.
DRAWN BY:	R.K.
SCALE:	1:50
DATE:	01.02.2020
SHEETS:	01 OF 01
REV:	0P01



<div>NOTES:</div> <div><ul style="list-style-type: none">ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS.DO NOT SCALE THE DRAWING. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.STRUCTURE TO BE CONSTRUCTED IN RCC GRADE 30 CEMENT CONCRETETHE SIZE & THICKNESS OF RCC MEMBERS SHALL BE AS PER STRUCTURAL DESIGNALL PCC SHALL BE MINIMUM 100 THK. OF GRADE 201000 WIDE PLINTH PROTECTION SHALL BE PROVIDEDTHE FOUNDATION IS DESIGNED FOR SBC OF 150KN/Msq.THE SAME SHALL BE VERIFIED BY SOIL TESTING IN CASE OF ANY VARIATIONS THE FOUNDATION MAY BE RE DESIGNED ACCORDINGLY</div>			<div>LEGEND:</div> <div><ul style="list-style-type: none">MAIN GATE WITH HEAVY APPROVED LOCKING ARRANGEMENT.</div>			<div>ABBREVIATIONS</div> <div><ul style="list-style-type: none">CM : CEMENT MORTARGL : GROUND LEVELPC : PLAIN CONCRETEPVC : POLY VINYL CHLORIDERC : REINFORCED CONCRETETHK : THICKNESS</div>			<div>FOR INFORMATION</div>			<div>CLIENT:</div> <div>MALDIVES URBAN DEVELOPMENT AND RESILIENCE PROJECT</div>			<div>CONSULTANT:</div> <div><div></div><div>TTI Consulting Engineers Pty Ltd 32 Newington Technology Park, 8 Avenue of the Americas Newington NSW 2127, Sydney, Australia Tel: +61 2 96483044, 96483644</div></div>			<div>PROJECT TITLE:</div> <div>10 MLD SEWAGE TREATMENT PLANT BASED ON SBR TECHNOLOGY AT MALDIVES</div>			<div>DRAWING TITLE:</div> <div>GENERAL ARRANGEMENT DRAWINGS SECURITY HOUSE PLAN</div>			<div>DWG. No:</div> <div>TTI/MUD/MAL/GA/SH/016</div>			<div>APPROVED BY:</div> <div><div>K.P.</div><div>CHECKED BY:</div><div>S.P.</div><div>DESIGNED BY:</div><div>K.P.</div><div>DRAWN BY:</div><div>R.K.</div></div>			<div>SCALE:</div> <div>AS SHOWN</div>			<div>DATE:</div> <div>01.02.2020</div>			<div>SHEETS</div> <div>01 OF 01</div>			<div>REV:</div> <div>P01</div>		
---	--	--	--	--	--	---	--	--	----------------------------	--	--	---	--	--	---	--	--	--	--	--	---	--	--	--	--	--	--	--	--	---------------------------------------	--	--	--	--	--	---------------------------------------	--	--	--------------------------------	--	--



NOTES:

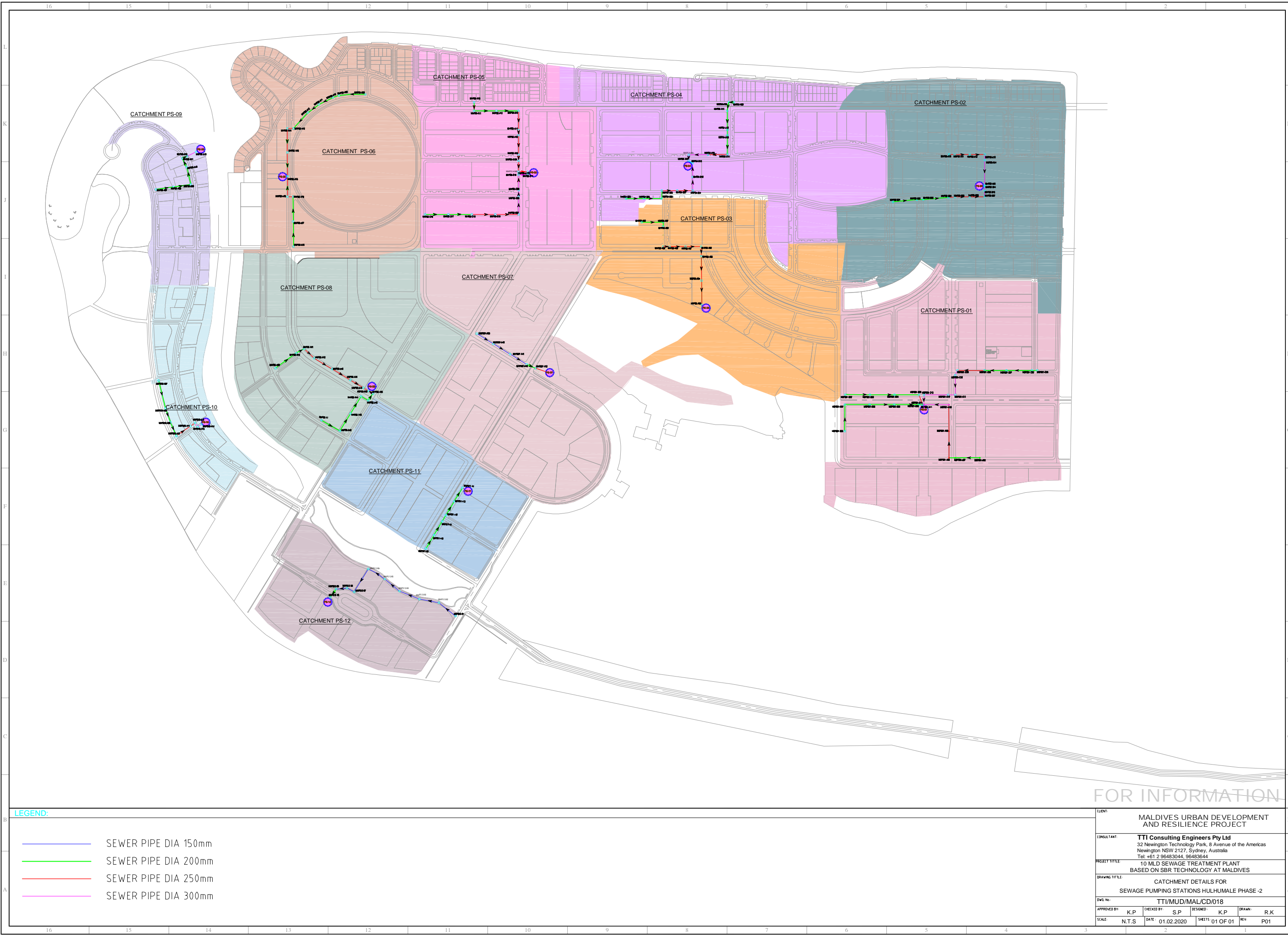
- ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS.
- DO NOT SCALE THE DRAWING. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
- STRUCTURE TO BE CONSTRUCTED IN RCC GRADE 40 CEMENT CONCRETE
- THE SIZE & THICKNESS OF RCC MEMBERS SHALL BE AS PER STRUCTURAL DESIGN
- ALL PCC SHALL BE MINIMUM 100 THK. OF GRADE 20
- MAIN GATE WITH HEAVY APPROVED LOCKING ARRANGEMENT.

ABBREVIATIONS

- P.C.C - PLAIN CEMENT CONCRETE
- R.C.C - REINFORCED CEMENT CONCRETE
- THK - THICK
- FGL - FINISHED GROUND LEVEL

FOR INFORMATION

CLIENT:	MALDIVES URBAN DEVELOPMENT AND RESILIENCE PROJECT
CONSULTANT:	TTI Consulting Engineers Pty Ltd 32 Newington Technology Park, 8 Avenue of the Americas Newington NSW 2127, Sydney, Australia Tel: +61 2 96483044, 96483644
PROJECT TITLE:	10 MLD SEWAGE TREATMENT PLANT BASED ON SBR TECHNOLOGY AT MALDIVES
DRAWING TITLE:	GENERAL ARRANGEMENT DRAWINGS COMPOUND WALL SECTIONAL DETAILS
DWG. No:	TTI/MUD/MAL/GA/CBD/017
APPROVED BY:	K.P.
CHECKED BY:	S.P.
DESIGNED BY:	K.P.
DRAWN BY:	R.K.
SCALE:	1 : 20
DATE:	01.02.2020
SHEETS:	01 OF 01
REV:	P01



LEGEND:

- SEWER PIPE DIA 150mm
- SEWER PIPE DIA 200mm
- SEWER PIPE DIA 250mm
- SEWER PIPE DIA 300mm

FOR INFORMATION

CLIENT:		MALDIVES URBAN DEVELOPMENT AND RESILIENCE PROJECT			
CONSULTANT:		TTI Consulting Engineers Pty Ltd 32 Newington Technology Park, 8 Avenue of the Americas Newington NSW 2127, Sydney, Australia Tel: +61 2 96483044, 96483644			
PROJECT TITLE:		10 MLD SEWAGE TREATMENT PLANT BASED ON SBR TECHNOLOGY AT MALDIVES			
DRAWING TITLE:		CATCHMENT DETAILS FOR SEWAGE PUMPING STATIONS HULHUMALE PHASE -2			
DWS No.:		TTI/MUD/MAL/CD/018			
APPROVED BY:	K.P	CHECKED BY:	S.P	DESIGNED BY:	K.P
SCALE:	N.T.S	DATE:	01.02.2020	SHEETS:	01 OF 01
				REV:	P01