

CONSULTANCY SERVICES FOR SURVEY, DESIGN AND EIA WORKS OF WATER SUPPLY AND
SEWERAGE FACILITIES IN 6 ISLANDS, MALDIVES

PACKAGE 5

WATER SUPPLY SYSTEM OF TH. MADIFUSHI, MALDIVES

For Ministry of National Planning and Housing Infrastructure, Republic of Maldives

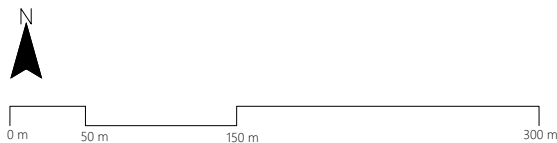


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	Ø63 HDPE Water Main Distribution Pipe		Ø75 HDPE Water Main Distribution Pipe
	Ø90 HDPE Water Main Distribution Pipe		Ø110 HDPE Water Main Distribution Pipe
	Ø160 HDPE Water Main Distribution Pipe		Ø110 HDPE Brine Outfall Pipe
	Gate Valves		Washout Valves
	Junction		

Notes:

1. All levels are shown in meters.
2. All levels are shown from mean sea level.
3. This drawing to be read in conjunction with all other relevant drawing and specifications.
4. All pressure pipes and fittings shall be installed using electro-fusion and butt-fusion technologies.
5. All pressure pipes shall be laid in between 0.7m - 1.0m below natural ground level to achieve best flat alignment based on topographic survey.
6. All the service connections to the mains shall be made using electro-fusion saddle and

7. Minimum size of the main water supply network shall be OD 63mm PE100, PN10, SDR17 HDPE pipe.




8. Minimum size of the house service line shall be OD 25mm PE100, PN16, SDR11 HDPE pipe.

9. Minimum size of commercial and other institutional connection service line shall be 50mm, PE100, PN16, SDR17 HDPE pipe.

MAINS DISTRIBUTION		
DIAMETER (mm)	LENGTH HDPE (m)	TYPE OF PIPE
63	3481	HDPE (PE100,PN10,SDR17)
75	2440	
110	694	
160	388	
Total	7003	
Gate Valves - 18 nos		
Washout Valves - 02 nos		

OUTFALL		
DIAMETER (mm)	LENGTH HDPE (m)	TYPE OF PIPE
110	- 15m (on land), 182m (offshore)	HDPE (PE100, PN10, SDR11)

PSM BENCHMARKS

	PERMANENT SURVEY MARK PSM_0063 316868 936E, 260565 819N 0.820m From MSL
	PERMANENT SURVEY MARK PSM_0064 317034 178E, 260784.228N 0.743m From MSL
	PERMANENT SURVEY MARK PSM_0065 317040 151E, 260352 589N 0.911m From MSL

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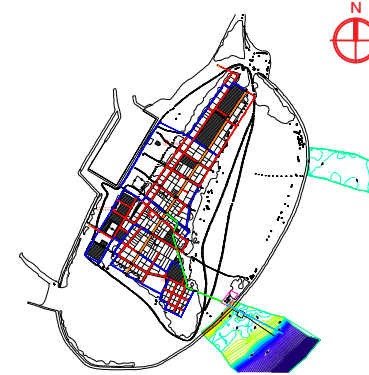
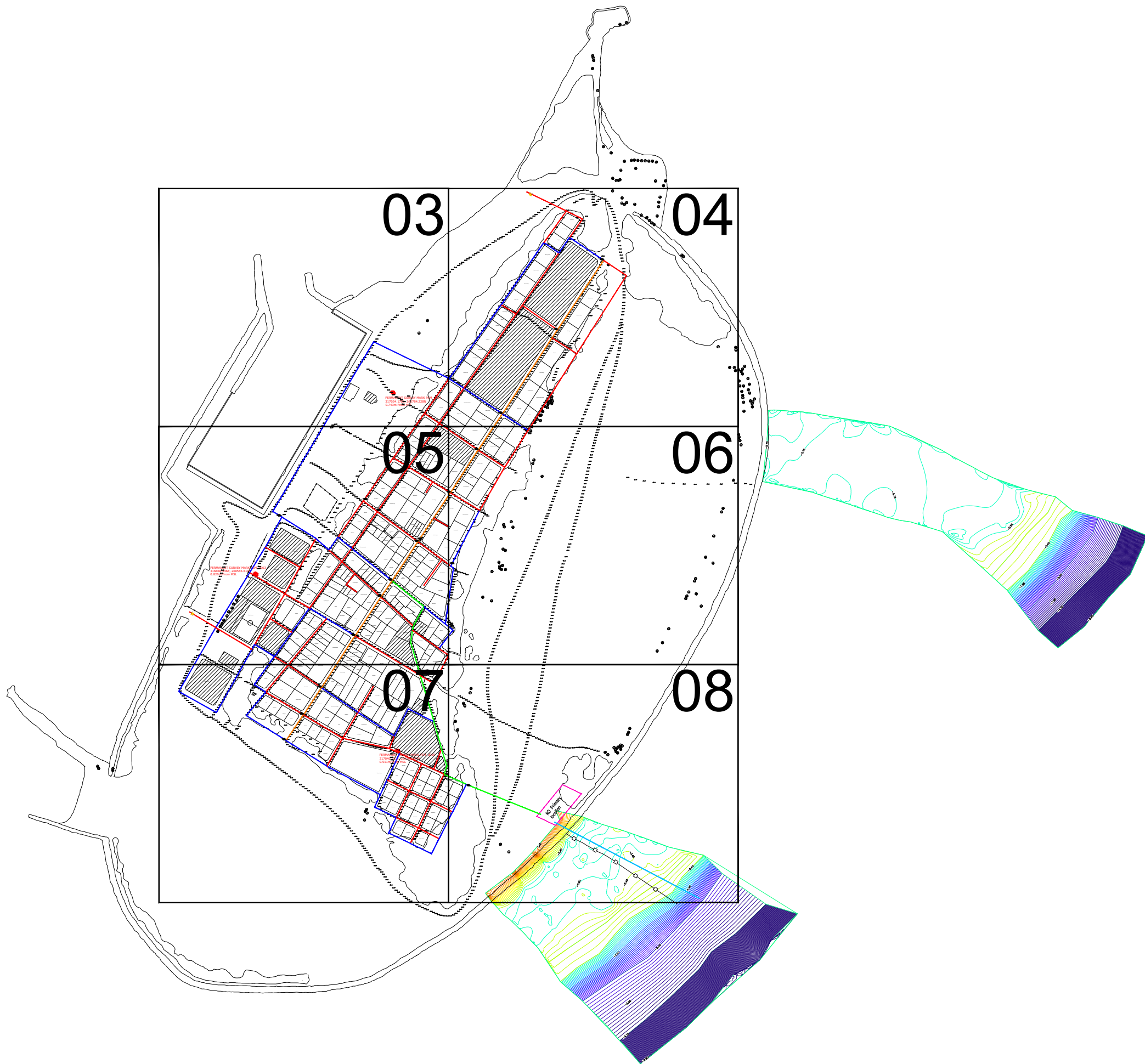
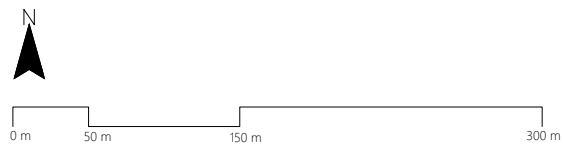
Title:
**Consultancy Services for Survey,
Design and EIA works of Water
Supply and Sewerage Facilities in
6 islands, Maldives - Package 5**

Sub Title:
Water Supply System in Th. Madifushi

Client: **Ministry of National Planning, Housing and Infrastructure, Republic of Maldives**



Drawn: F.I.A.	Checked: M.S.S.
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Rev: R-01	Page: 01



Legend

- 063 HDPE Water Main Distribution Pipe
- 075 HDPE Water Main Distribution Pipe
- 090 HDPE Water Main Distribution Pipe
- 0100 HDPE Water Main Distribution Pipe
- 0110 HDPE Brine Outfall Pipe
- Gate Valves
- Junction
- Washout Valves

- Notes:
- All levels are shown in meters.
 - All levels are shown from mean sea level.
 - This drawing to be read in conjunction with all other relevant drawing and specifications.
 - All pressure pipes and fittings shall be installed using electro-fusion and butt-fusion technologies.
 - All pressure pipes shall be laid in between 0.7m - 1.0m below natural ground level to achieve best flat alignment based on topographic survey.
 - All the service connections to the mains shall be made using electro-fusion saddle and coupler.
 - Minimum size of the main water supply network shall be OD 63mm PE100, PN10, SDR17 HDPE pipe.
 - Minimum size of the house service line shall be OD 25mm PE100, PN16, SDR11 HDPE pipe.
 - Minimum size of commercial and other institutional connection service line shall be 50mm, PE100, PN16, SDR11 HDPE pipe.

MAINS DISTRIBUTION		
DIAMETER (mm)	LENGTH HDPE (m)	TYPE OF PIPE
63	3481	HDPE (PE100,PN10,SDR17)
75	2440	
110	694	
160	388	
Total	7003	
Gate Valves	- 18 nos	
Washout Valves	- 02 nos	

OUTFALL		
DIAMETER (mm)	LENGTH HDPE (m)	TYPE OF PIPE
110	- 15m (on land), 182m (offshore)	HDPE (PE100,PN10,SDR11)

PSM BENCHMARKS	
PERMANENT SURVEY MARK PSM_0063 316868.936E, 260565.819N 0.820m From MSL	
PERMANENT SURVEY MARK PSM_0064 317034.178E, 260784.228N 0.743m From MSL	
PERMANENT SURVEY MARK PSM_0065 317040.151E, 260352.589N 0.911m From MSL	

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Rev: R-01	

TH. MADIFUSHI WATER NETWORK ZONE LAYOUT

1:5000



- | | | | |
|---|---|---|---|
|  | Ø63 HDPE Water Main
Distribution Pipe |  | Ø75 HDPE Water Main
Distribution Pipe |
|  | Ø90 HDPE Water Main
Distribution Pipe |  | Ø110 HDPE Water Main
Distribution Pipe |
|  | Ø160 HDPE Water Main
Distribution Pipe |  | Ø110 HDPE Brine Outfall Pipe |
|  | Gate Valves |  | Washout Valves |
|  | Junction | | |

Notes




- Notes:
1. All levels are shown in meters.
 2. All levels are shown from mean sea level.
 3. This drawing to be read in conjunction with all other relevant drawing and specifications.
 4. All pressure pipes and fittings shall be installed using electro-fusion and butt-fusion technologies.
 5. All pressure pipes shall be laid in between 0.7m - 1.0m below natural ground level to achieve best alignment based on topographic survey.
 6. All the service connections to the mains shall be made using electro-fusion saddle and coupler.
 7. Minimum size of the main water supply network shall be OD 63mm PE100, PN10, SDR17 HDPE pipe.
 8. Minimum size of the house service line shall be OD 25mm PE100, PN6, SDR11 HDPE pipe.
 9. Minimum size of commercial and other institutional connection service line shall be 50mm, PN10, PN16, SDR11 HDPE pipe.

DIAMETER (mm)	LENGTH HDPE (m)	TYPE OF PIPE
63	3481	HDPE (PE100, PN10, SDR17)
75	2440	
110	694	
160	388	
Total	7003	

Gate Valves	- 18 nos
Washout Valves	- 02 nos

OUTFALL		
DIAMETER (mm)	LENGTH HDPE (m)	TYPE OF PIPE
110	- 15m (on land), 182m (offshore)	HDPE (PE100, PN10, SDR11)

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	PERMANENT SURVEY MARK PSM_0063 310668 936E, 260565.819N 0.820m From MSL
	PERMANENT SURVEY MARK PSM_0064 317034.178E, 260784.228N 0.743m From MSL
	PERMANENT SURVEY MARK PSM_0065 317040.151E, 260352.589N 0.911m From MSL

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Title:

Consultancy Services for Survey, Design and EIA works of Water Supply and Sewerage Facilities in 6 islands, Maldives - Package 5

Sub Title:

Water Supply System in Th. Madifushi

Client:

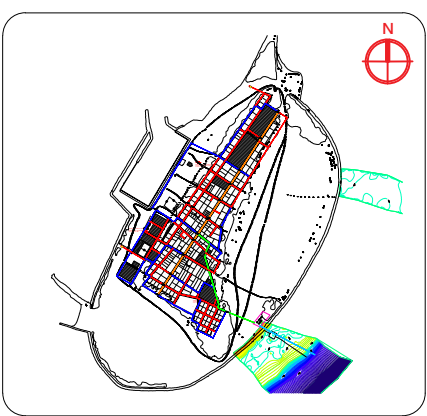
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Rev: R-01	Page: 03



	063 HDPE Water Main Distribution Pipe		075 HDPE Water Main Distribution Pipe
	090 HDPE Water Main Distribution Pipe		0110 HDPE Water Main Distribution Pipe
	0160 HDPE Water Main Distribution Pipe		0110 HDPE Brine Outfall Pipe
	Gate Valves		Washout Valves
	Junction		

Notes:

1. All levels are shown in meters.
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3. This drawing to be read in conjunction with all other relevant drawing and specifications.
4. All pressure pipes and fittings shall be installed using electro-fusion and butt-fusion technologies.
5. All pressure pipes shall be laid in between 0.7m – 1.0m below natural ground level to achieve best fit alignment based on topographic survey.
6. All the service connections to the mains shall be made using electro-fusion saddle and

7. Minimum size of the main water supply network shall be OD 63mm PE100, PN10, SDR17 HDPE pipe.

8. Minimum size of the house service line shall be OD 25mm PE100, PN16, SDR11 HDPE pipe.

9. Minimum size of commercial and other institutional connection service line shall be 50mm, PE100, PN16, SDR11 HDPE pipe.

MAINS DISTRIBUTION		
DIAMETER (mm)	LENGTH HDPE (m)	TYPE OF PIPE
63	3481	HDPE (PE100, PN10, SDR17)
75	2440	
110	694	
160	388	
Total	7003	
Gate Valves - 18 nos Washout Valves - 02 nos		

OUTFALL		
DIAMETER (mm)	LENGTH HDPE (m)	TYPE OF PIPE
110	- 15m (on land), 182m (offshore)	HDPE (PE100, PN10, SDR11)

PSM BENCHMARKS	
1	PERMANENT SURVEY MARK PSM_0063 316868.936E, 260565.819N 0.820m From MSL
2	PERMANENT SURVEY MARK PSM_0064 317034.178E, 260784.228N 0.743m From MSL
3	PERMANENT SURVEY MARK PSM_0065 317040.151E, 260352.589N 0.911m From MSL

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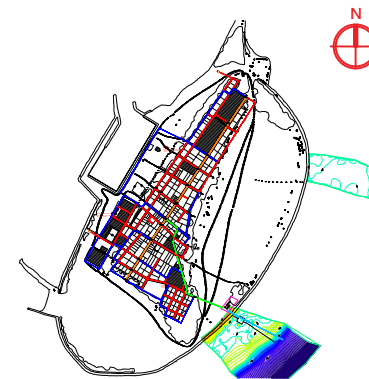
Title: **Consultancy Services for Survey, Design and EIA works of Water Supply and Sewerage Facilities in 6 islands, Maldives - Package 5**

Sub Title:
Water Supply System in Th. Madifushi

Client:
**Ministry of National Planning, Housing and
Infrastructure, Republic of Maldives**



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Legend

- | | | | |
|---|--|---|--|
|  | Ø63 HDPE Water Main Distribution Pipe |  | Ø75 HDPE Water Main Distribution Pipe |
|  | Ø90 HDPE Water Main Distribution Pipe |  | Ø110 HDPE Water Main Distribution Pipe |
| | Ø160 HDPE Water Main Distribution Pipe | | Ø110 HDPE Brine Outfall Pipe |
|  | Gate Valves |  | Washout Valves |
|  | Junction | | |

Not

- Notes:
 1. All levels are shown in meters.
 2. All levels are shown from mean sea level.
 3. This drawing to be read in conjunction with all other relevant drawing and specifications.
 4. All pressure pipes and fittings shall be installed using electro-fusion and butt-fusion technologies.
 5. All pressure pipes shall be laid in between 0.7m – 1.0m below natural ground level to achieve best flat alignment based on topographic survey.
 6. All of the service connections to the mains shall be made using electro-fusion saddle and coupler.
 7. Minimum size of the main water supply network shall be OD 63mm PE100, PN10, SDR17 HDPE pipe.
 8. Minimum size of the house service line shall be OD 25mm PE100, PN16, SDR11 HDPE pipe.
 9. Minimum size of commercial and other institutional connection service line shall be OD 75mm PE100, PN16, SDR11 HDPE pipe.

MAINS DISTRIBUTION

DIAMETER (mm)	LENGTH HDPE (m)	TYPE OF PIPE
63	3481	HDPE (PE100,PN10,SDR17)
75	2440	
110	694	
160	388	
Total	7003	

Gate Valves	- 18 nos
Washout Valves	- 02 nos

OUTFALL

DIAMETER (mm)	LENGTH HDPE (m)	TYPE OF PIPE
110	- 15m (on land), 182m (offshore)	HDPE (PE100, PN10, SDR11)

PSM BENCHMARKS

- | | |
|---|---|
|  | PERMANENT SURVEY MARK PSM_0063
316868.936E, 260565.819N
0.820m From MSL |
|  | PERMANENT SURVEY MARK PSM_0064
317034.178E, 260784.228N
0.743m From MSL |
|  | PERMANENT SURVEY MARK PSM_0065
317040.151E, 260352.589N
0.911m From MSL |

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Title:
**Consultancy Services for Survey,
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Supply and Sewerage Facilities in
6 islands, Maldives - Package 5**

Sub Title:

Water Supply System in Th. Madifushi

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	Ø63 HDPE Water Main Distribution Pipe		Ø75 HDPE Water Main Distribution Pipe
	Ø90 HDPE Water Main Distribution Pipe		Ø110 HDPE Water Main Distribution Pipe
	Ø160 HDPE Water Main Distribution Pipe		Ø110 HDPE Brine Outfall Pipe
	Gate Valves		Washout Valves
	Junction		

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3. This drawing to be read in conjunction with all other relevant drawing and specifications.
4. All pressure pipes and fittings shall be installed using electro-fusion and butt-fusion technologies.
5. All pressure pipes shall be laid in between 0.7m - 1.0m below natural ground level to achieve best flat alignment based on topographic survey.
6. All the service connections to the mains shall be made using electro-fusion saddle and coupler.
7. Minimum size of the main water supply network shall be OD 63mm PE100, PN10, SDR17 HDPE pipe.
8. Minimum size of the house service line shall be OD 25mm PE100, PN16, SDR11 HDPE pipe.
9. Minimum size of commercial and other institutional connection service line shall be 50mm, PE100, PN16, SDR11 HDPE pipe.

MAINS DISTRIBUTION		
DIAMETER (mm)	LENGTH HDPE (m)	TYPE OF PIPE
63	3481	HDPE (PE100,PN10,SDR17)
75	2440	
110	694	
160	388	
Total	7003	
Gate Valves - 18 nos Washout Valves - 02 nos		

OUTFALL		
DIAMETER (mm)	LENGTH HDPE (m)	TYPE OF PIPE
110	- 15m (on land), 182m (offshore)	HDPE (PE100, PN10, SDR11)

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Title:

**Consultancy Services for Survey,
Design and EIA works of Water
Supply and Sewerage Facilities in
6 islands, Maldives - Package 5**

Sub Title:
Water Supply System in Th. Madifushi

Client:
**Ministry of National Planning, Housing and
Infrastructure, Republic of Maldives**



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- Notes:
 1. All levels are shown in meters.
 2. All levels are shown from mean sea level.
 3. This drawing to be read in conjunction with all other relevant drawing and specifications.
 4. All pressure pipes and fittings shall be installed using electro-fusion and butt-fusion technologies.
 5. All pressure pipes shall be laid in between 0.7m - 1.0m below natural ground level to avoid best sight alignment and not on topographic survey.
 6. All the service connections to the mains shall be made using electro-fusion saddle and coupler.
 7. Minimum size of the main water supply network shall be OD 63mm PE100, PN10, SDR17 HDPE pipe.
 8. Minimum size of the house service line shall be OD 25mm PE100, PN16, SDR11 HDPE pipe.
 9. Minimum size of commercial and other institutional connection service line shall be 50mm, PE100, PN16, SDR11 HDPE pipe.

MAINS DISTRIBUTION		
DIAMETER (mm)	LENGTH HDPE (m)	TYPE OF PIPE
63	3481	HDPE (PE100,PN10,SDR17)
75	2440	
110	694	
160	388	
Total	7003	
Gate Valves - 18 nos Washout Valves - 02 nos		

OUTFALL		
DIAMETER (mm)	LENGTH HDPE (m)	TYPE OF PIPE
110	- 15m (on land), 182m (offshore)	HDPE (PE100, PN10, SDR11)

PSM BENCHMARKS

- | | |
|---|---|
| 2 | PERMANENT SURVEY MARK PSM_0063
316868 936E, 260565 819N
0.820m From MSL |
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317040 151E, 260352 589N
0.911m From MSL |

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Legend

- Ø63 HDPE Water Main Distribution Pipe
- Ø90 HDPE Water Main Distribution Pipe
- Ø160 HDPE Water Main Distribution Pipe
- Ø75 HDPE Water Main Distribution Pipe
- Ø110 HDPE Water Main Distribution Pipe
- Ø110 HDPE Brine Outfall Pipe
- Gate Valves
- Junction
- Washout Valves

- Notes:
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 - Minimum size of the house service line shall be OD 25mm PE100, PN16, SDR11 HDPE pipe.
 - Minimum size of commercial and other institutional connection service line shall be 50mm, PE100, PN16, SDR11 HDPE pipe.

MAINS DISTRIBUTION		
DIAMETER (mm)	LENGTH HDPE (m)	TYPE OF PIPE
63	3481	HDPE (PE100,PN10,SDR17)
75	2440	
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Total	7003	

Gate Valves	- 18 nos
Washout Valves	- 02 nos

OUTFALL		
DIAMETER (mm)	LENGTH HDPE (m)	TYPE OF PIPE
110	- 15m (on land), 182m (offshore)	HDPE (PE100,PN10,SDR11)

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PERMANENT SURVEY MARK PSM_0063 316868.936E, 260565.819N 0.820m From MSL	
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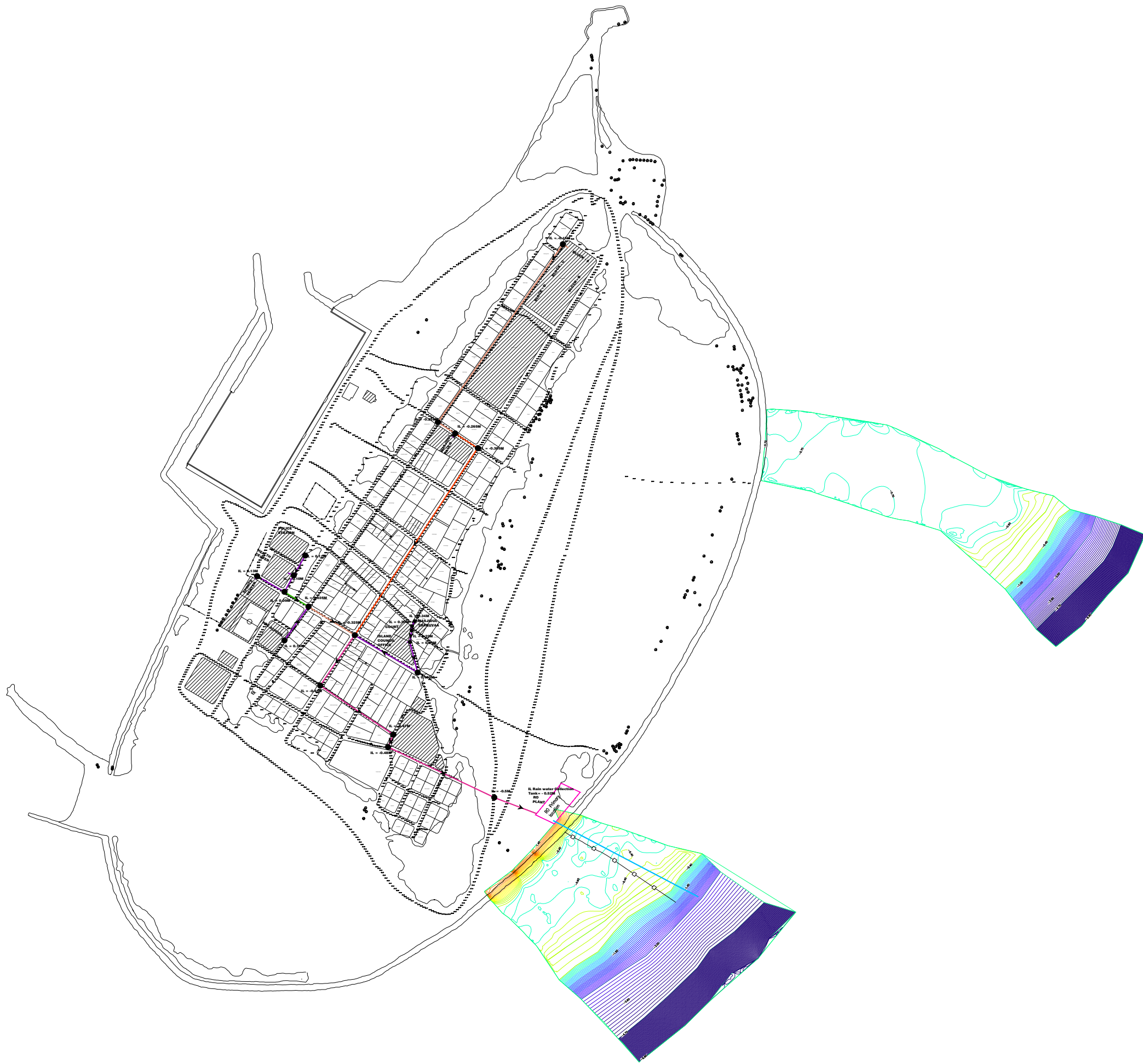


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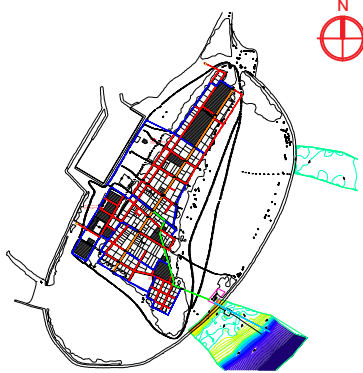


0 m 50 m 150 m 300 m



TH. MADIFUSHI RAINWATER COLLECTION NETWORK LAYOUT

1:5000



Legend

- Ø160 HDPE Rainwater Flow Pipe
- Ø225 HDPE Rainwater Flow Pipe
- Ø315 HDPE Rainwater Flow Pipe
- Ø200 HDPE Rainwater Flow Pipe
- Ø250 HDPE Rainwater Flow Pipe
- Ø355 HDPE Rainwater Flow Pipe
- Junction

Notes:
1. All levels are shown in meters.
2. All levels are shown from mean sea level.
3. This drawing to be read in conjunction with all other relevant drawing and specifications.

RAINWATER FLOW PIPES

DIAMETER (mm)	LENGTH HDPE (m)	TYPE OF PIPE
160	313	HDPE (PE100, PN6, SDR26)
200	34	
225	361	
250	303	
355	393	
Total	1404	

PSM BENCHMARKS

- PERMANENT SURVEY MARK PSM_0063
316868.936E, 260565.819N
0.820m From MSL
- PERMANENT SURVEY MARK PSM_0064
317034.178E, 260784.228N
0.743m From MSL
- PERMANENT SURVEY MARK PSM_0065
317040.151E, 260352.589N
0.911m From MSL

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.
R00	JUNE 2020	STAGE -1	PD	SBC	SD

Title:
Consultancy Services for Survey, Design and EIA works of Water Supply and Sewerage Facilities in 6 islands, Maldives - Package 5

Sub Title:
Water Supply System in Th. Madifushi

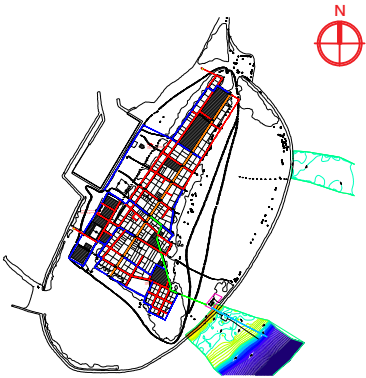
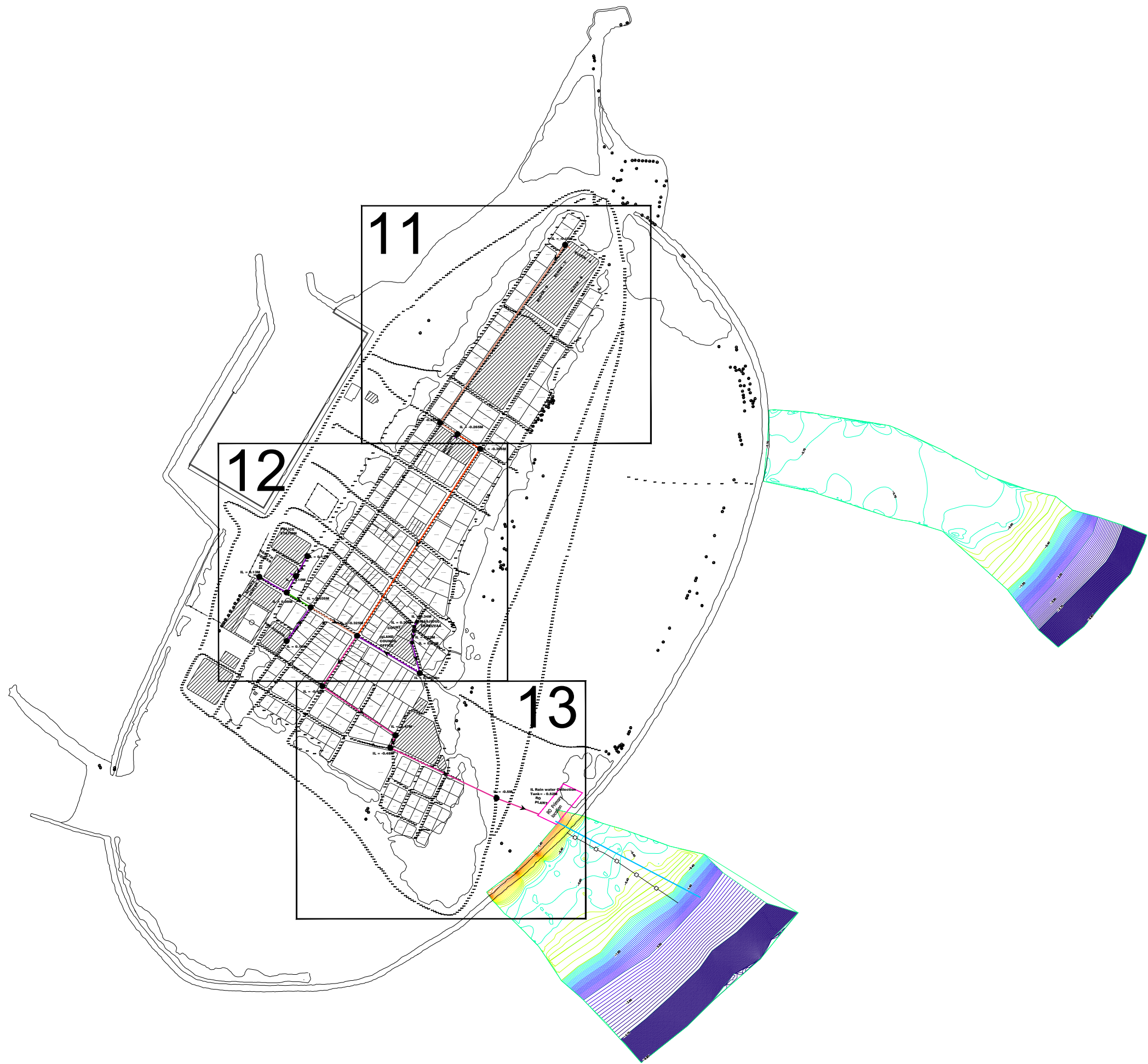
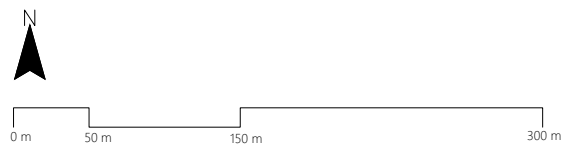
Client:
Ministry of National Planning, Housing and Infrastructure, Republic of Maldives



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A: G. Rossary West,
Husnuheena Magu, Male', Maldives



Drawn: F.I.A.	Checked: M.S.S.
Designed: F.I.A.	Approved: I.W.
Date: Sep 2020	SCALE (A3): 1:1000
Project No: EP-WS/2019/05	
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Legend

- Ø160 HDPE Rainwater Flow Pipe
- Ø225 HDPE Rainwater Flow Pipe
- Ø315 HDPE Rainwater Flow Pipe
- Ø200 HDPE Rainwater Flow Pipe
- Ø250 HDPE Rainwater Flow Pipe
- Ø355 HDPE Rainwater Flow Pipe
- Junction

Notes:
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RAINWATER FLOW PIPES

DIAMETER (mm)	LENGTH HDPE (m)	TYPE OF PIPE
160	313	HDPE (PE100/PN8, SDR26)
200	34	
225	361	
250	303	
355	393	
Total	1404	

PSM BENCHMARKS

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PERMANENT SURVEY MARK PSM_0064 317034.178E, 260784.228N 0.743m From MSL
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R00	JUNE 2020	STAGE -1	PD	SBC	SD

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Sub Title:
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Client:
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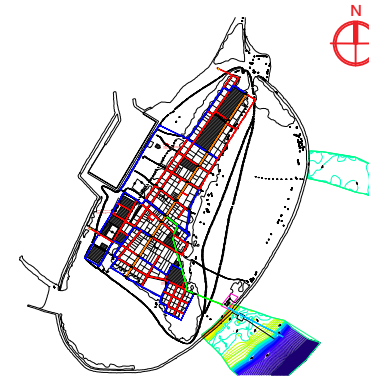
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Date: Sep 2020	SCALE (A3): 1:1000
Project No: EP-WS/2019/05	Page: 10

TH. MADIFUSHI RAINWATER COLLECTION NETWORK LAYOUT

1:5000



Legend

- Ø160 HDPE Rainwater Flow Pipe
 Ø225 HDPE Rainwater Flow Pipe
 Ø315 HDPE Rainwater Flow Pipe
 Junction
- Ø200 HDPE Rainwater Flow Pipe
 Ø250 HDPE Rainwater Flow Pipe
 Ø355 HDPE Rainwater Flow Pipe

Notes:

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RAINWATER FLOW PIPES

DIAMETER (mm)	LENGTH HDPE (m)	TYPE OF PIPE
160	313	HDPE (PE100,PN6,SDR26)
200	34	
225	361	
250	303	
355	393	
Total	1404	

PSM BENCHMARKS

1	PERMANENT SURVEY MARK PSM_0063 316808 936E, 260565.819N 0.820m From MSL
2	PERMANENT SURVEY MARK PSM_0064 317034.178E, 260784.228N 0.743m From MSL
3	PERMANENT SURVEY MARK PSM_0065 317040.151E, 260352.589N 0.911m From MSL

R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd

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Supply and Sewerage Facilities in
6 islands, Maldives - Package 5**

Sub Title:
Water Supply System in Th. Madifushi

Client:
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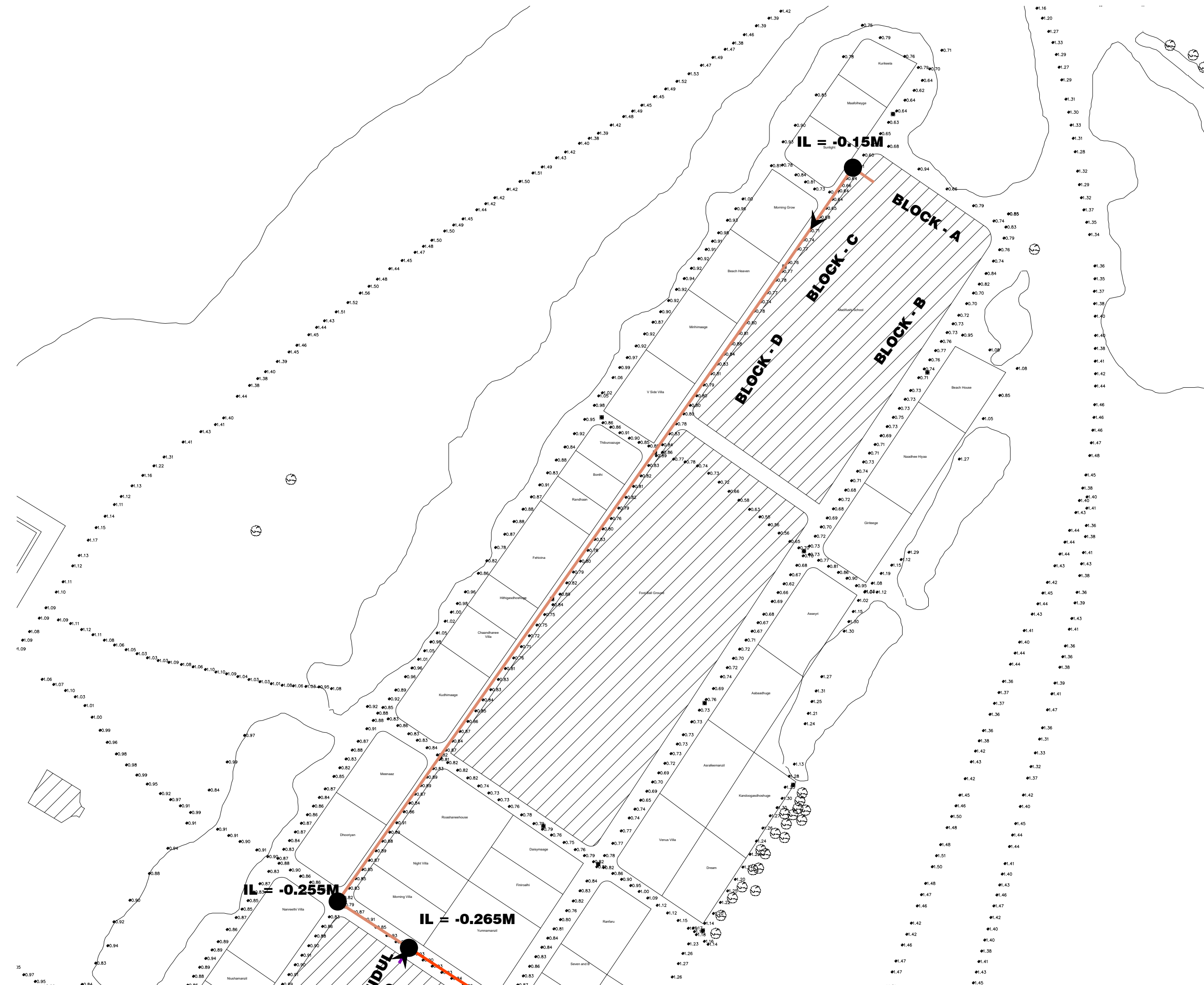


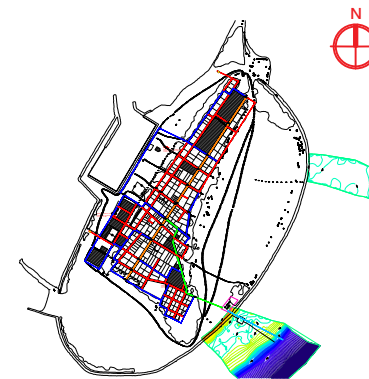
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Project No:	EP-WS/2019/05

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Legend

- Notes:
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RAINWATER FLOW PIPES

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REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

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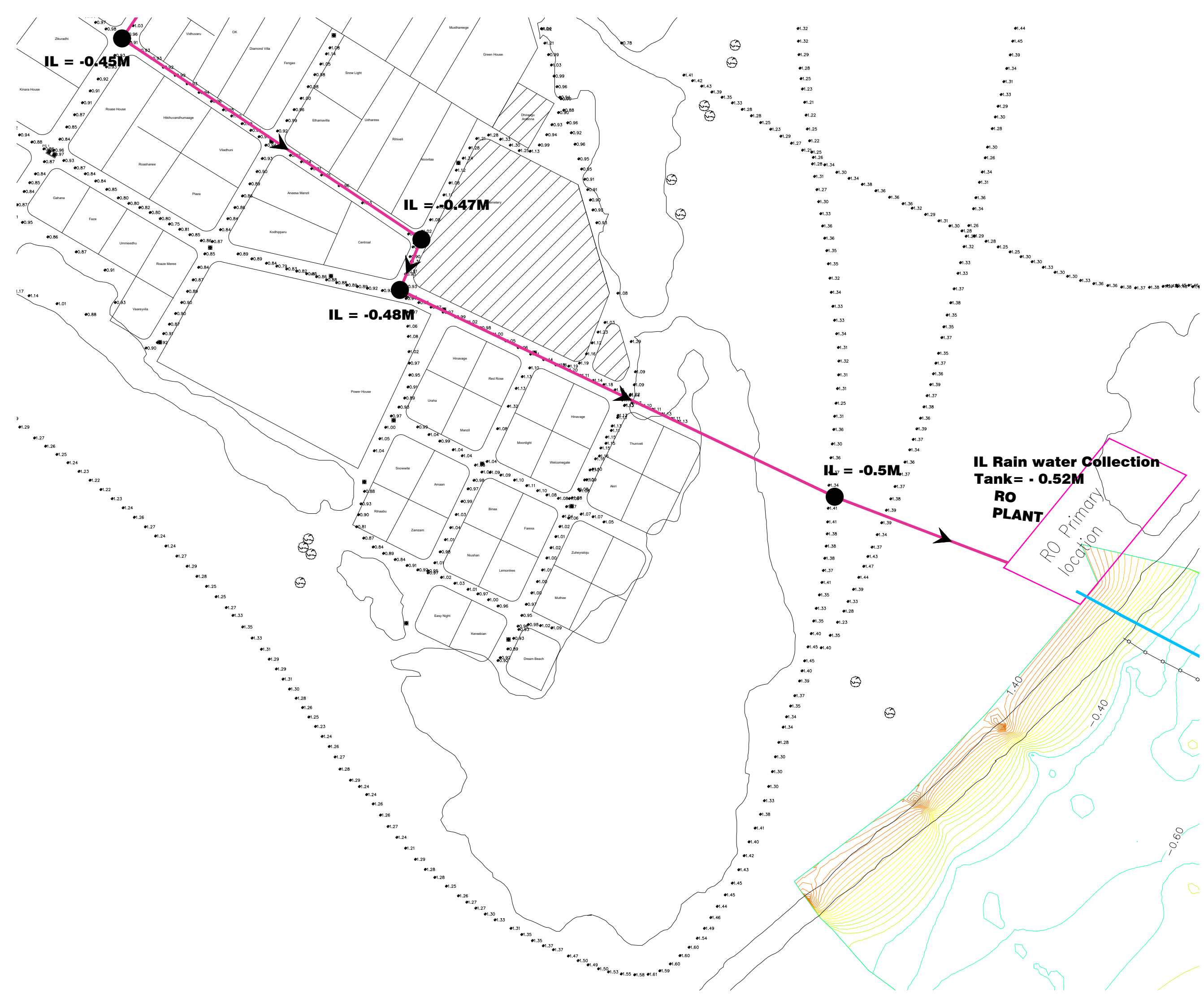
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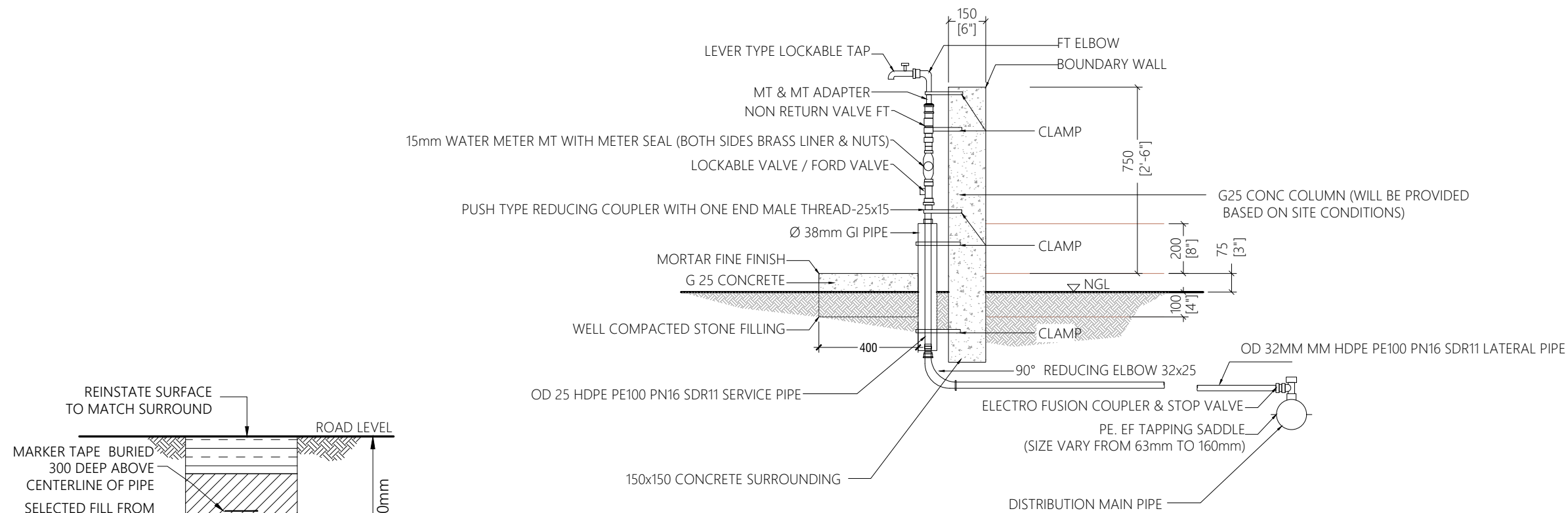
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Date: Sep 2020	SCALE (A3): 1:1000
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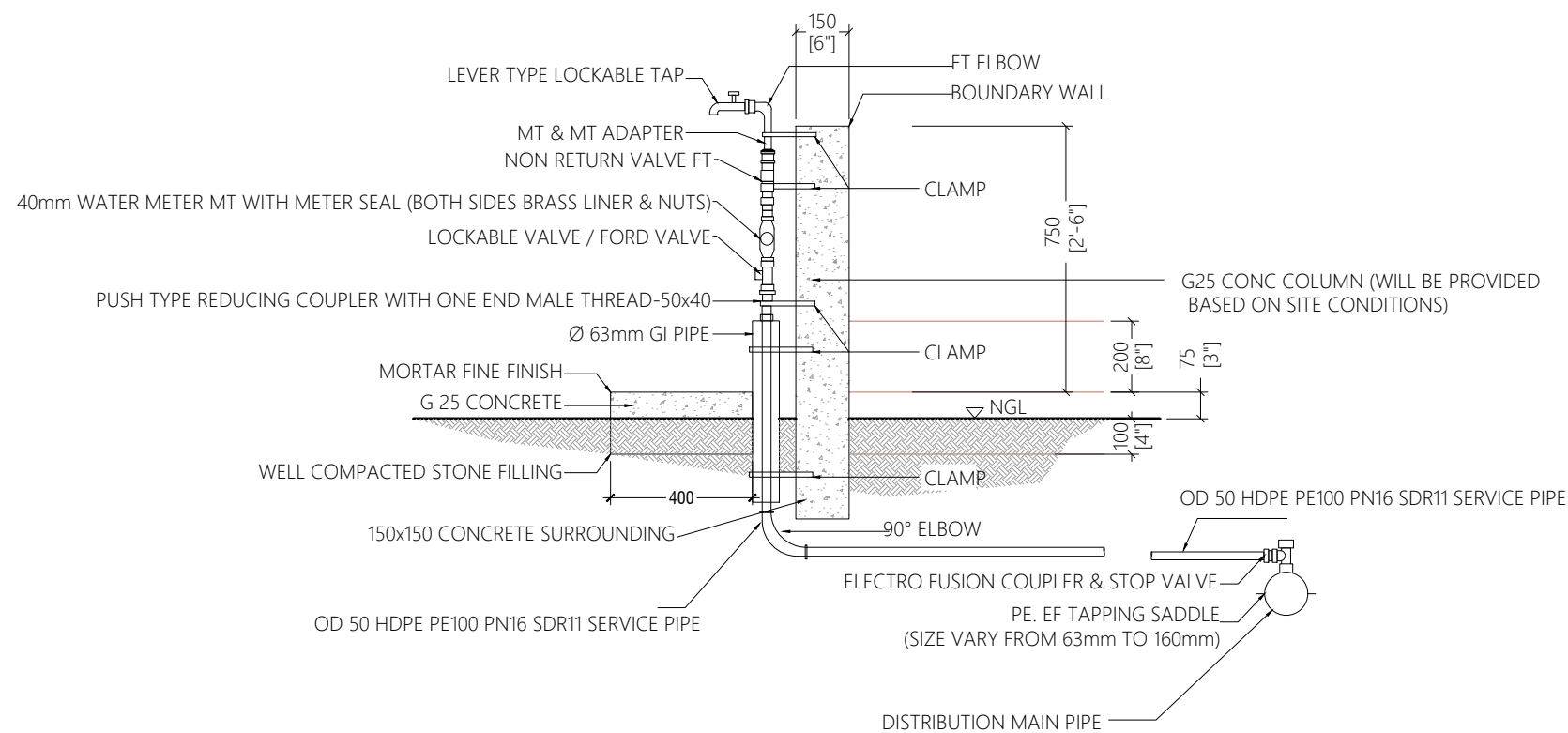
Project No: EP-WS/2019/05

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WATER SUPPLY HOUSE CONNECTION DETAILS



WATER SUPPLY COMMERCIAL/INSTITUTIONAL CONNECTION DETAILS

WATER SUPPLY HOUSE AND
COMMERCIAL/INSTITUTIONAL CONNECTIONS

1:20

Legend

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.
R00	JUNE 2020	STAGE -1	PD	SBC	SD

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Consultancy Services for Survey, Design and EIA works of Water Supply and Sewerage Facilities in 6 islands, Maldives - Package 5

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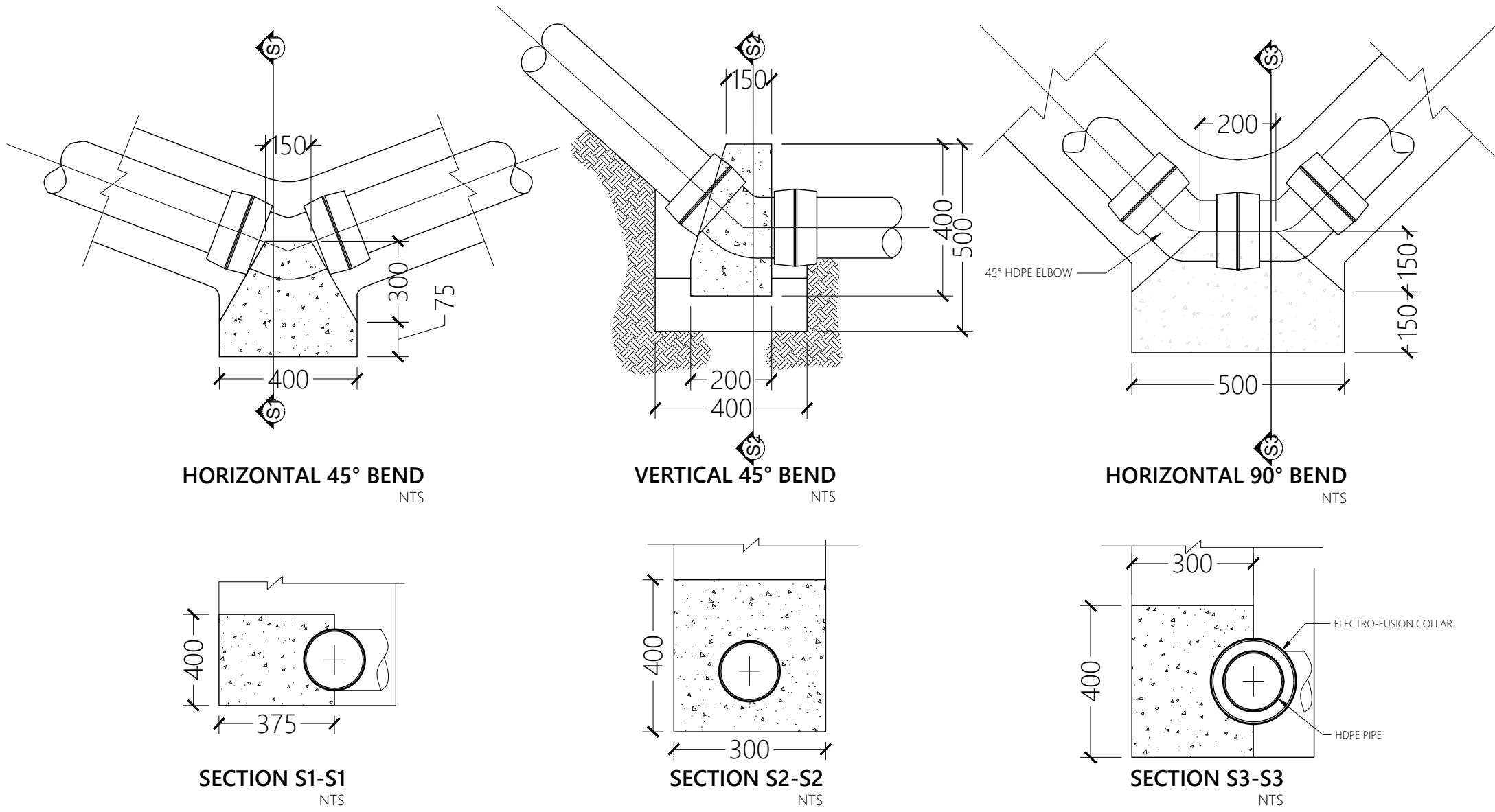
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Designed: F.I.A. Approved: I.W.

Date: Sep 2020 SCALE (A3): 1:20

Project No: EP-WS/2019/05

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THRUST BLOCK DETAILS

NTS



Legend

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.
R00	JUNE 2020	STAGE -1	PD	SBC	SD

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Consultancy Services for Survey, Design and EIA works of Water Supply and Sewerage Facilities in 6 islands, Maldives - Package 5

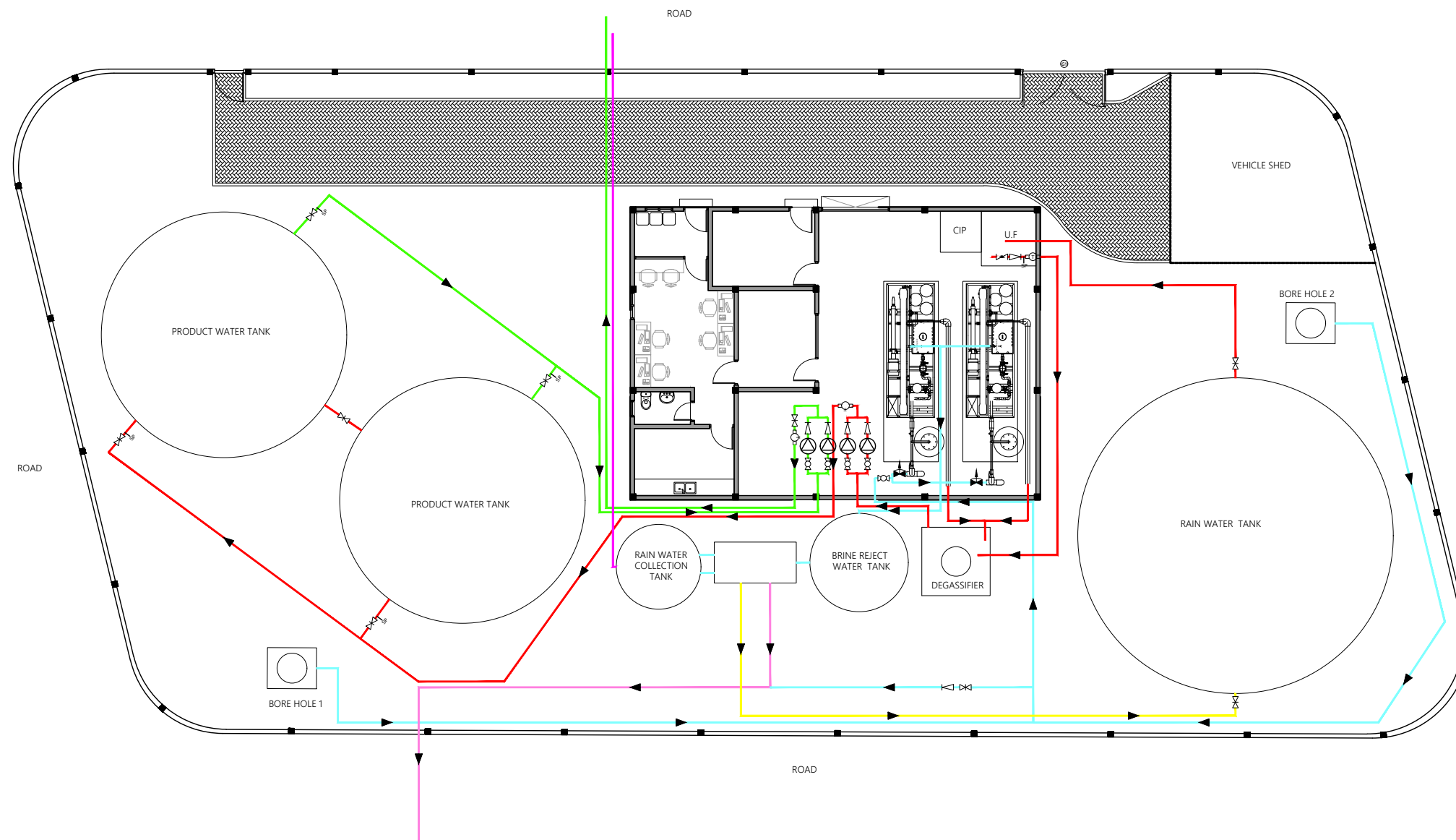
Sub Title:
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Client:
Ministry of National Planning, Housing and Infrastructure, Republic of Maldives

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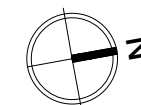
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Designed: F.I.A.	Approved: I.W.
Date: Sep 2020	SCALE (A3): NTS
Project No: EP-WS/2019/05	
Rev: R-01	Page: W-03



PUMP DETAILS

- Borehole Pump : 2 Nos
- Flow (Q) = 20.4 m³/hr
- Head (H) = 50 m
- High Pressure Pump : 2 Nos
- Flow (Q) = 10.2 m³/hr
- Pressure Range = 45-85 bar
- Transfer Pump : 2 Nos
- Flow (Q) = 8.62 m³/hr
- Head (H) = 17m
- Distribution Pump Set : 2 Nos
- Flow (Q) = 15.9 m³/hr
- Head (H) = 30 m
- Brine Pump : 2 Nos
- Flow (Q) = 14.3 m³/hr
- Head (H) = 16 m
- Rain Water lift Well Pump : 2 Nos
- Flow (Q) = 74.1 m³/hr
- Head (H) = 18m
- UF Feed Pump : 2 Nos
- Flow (Q) = 2.5 m³/hr
- Head (H) = 35 m

- Gate Valve
- Check Valve
- Totalizer
- Pump
- Closed Gate Valve
- SP
- Sampling Point
- Butterfly Valve
- Ball Valve



INTERNAL PIPE LAYOUT

1:200



Legend

- Ø90 HDPE (PE100, PN10, SDR17)
- Ø63 HDPE (PE100, PN10, SDR17)
- Ø110 HDPE (PE100, PN10, SDR17)
- Ø 160 HDPE (PE100, P10, SDR17)
- Ø 200 HDPE (PE100, P10, SDR17)
- Ø110 HDPE (OUTFALL PE100, PN16, SDR11)
- Ø355 HDPE (RAINWATER PE100, PN6, SDR26)

Notes:

- All Pump sizes are based on 15 year demands.
- Rainwater collection Pump sizing is done considering Maximum Rainfall intensity of 50mm/hr.
- UF feed pump will be subject to Approved UF Plant suppliers approval.
- Both Feed Pump and High pressure pump capacity will need to be approved by the approved RO plant Supplier. The working pressure range will be established based on the approved suppliers requirements.
- Distribution Pump set will have Variable Frequency Drive.
- All pump control float switches and automated valves will be provided.

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.
R00	JUNE 2020	STAGE -1	PD	SBC	SD

Title:

Consultancy Services for Survey, Design and EIA works of Water Supply and Sewerage Facilities in 6 islands, Maldives - Package 5

Sub Title:

Water Supply System in Th. Madifushi

Client:

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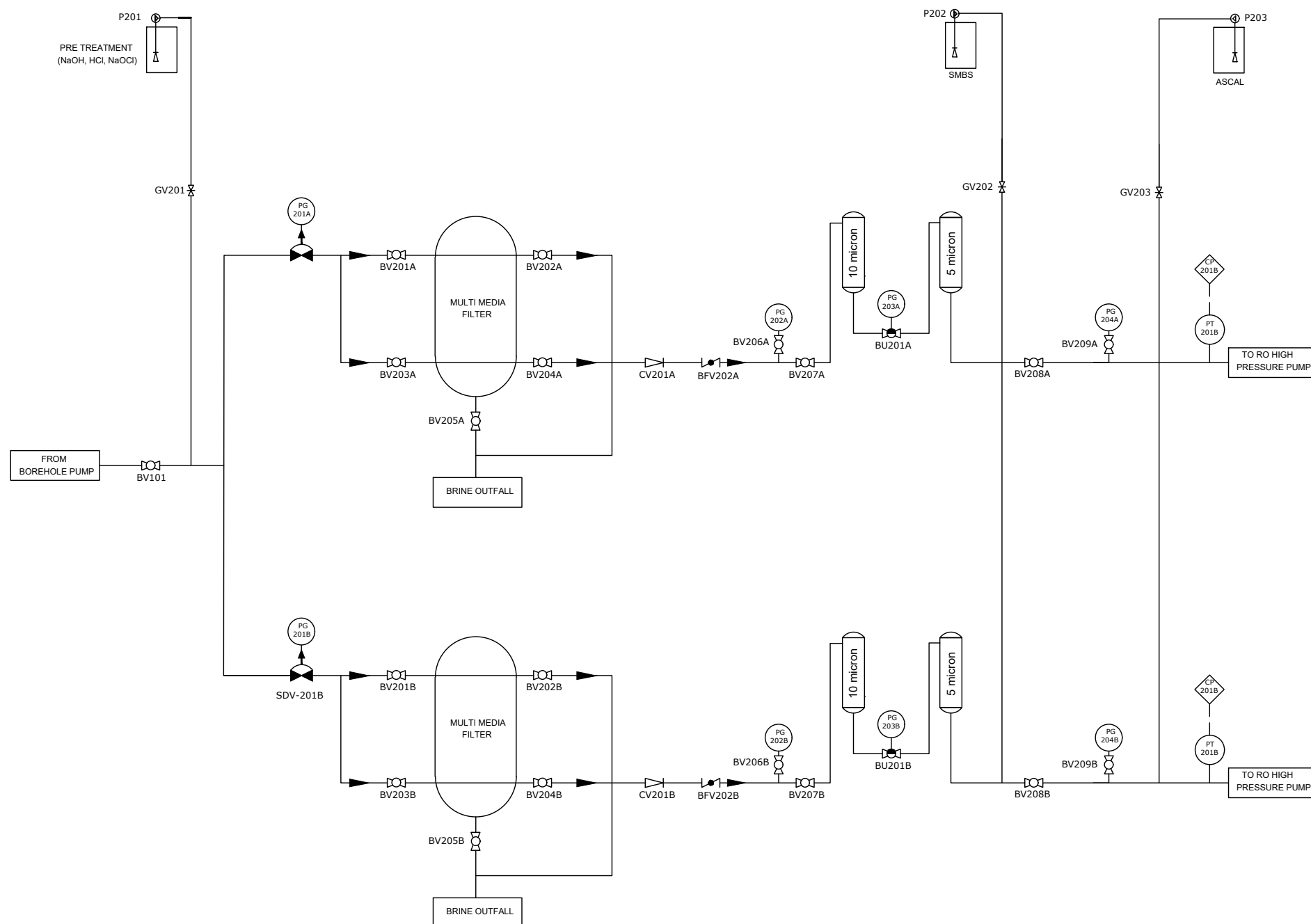
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Date: Sep 2020 SCALE (A3): 1:200

Project No: EP-WS/2019/05

Rev: R-01 Page: W-04



LEGEND										
ACTUATION		VALVES			FEATURES		CONDITION		ABBREVIATIONS	
	MANUALLY OPERATED		BUTTERFLY		MOTORIZED BALL		FLANGED CONNECTION		VALVE NORMALLY OPEN	LS - LEVEL SENSOR FT - FLOW TRANSMITTER PI - PRESSURE INDICATOR SP - SAMPLING POINT AR - AIR RELEASE P - PUMP PG - PRESSURE GAUGE PS - PRESSURE SENSOR CP - CONNECTION POINT LT - LEVEL TRANSMITTER QIT - CONDUCTIVITY INDICATOR PLC - PROGRAMMABLE LOGIC CONTROLLER
	PNEUMATIC DIAPHRAGM - SINGLE ACTING		BALL		TORTALIZER		TRAP		VALVE NORMALLY CLOSED	
	PNEUMATIC DIAPHRAGM - DOUBLE ACTING		DIAPHRAGM		GATE		DISCHARGE TO ATMOSPHERE			
	PNEUMATIC PISTON		3-WAY		CHECK VALVE		SAMPLING POINT			
	PNEUMATIC PISTON		SLUICE		MOTORIZED 3 WAY		FLOW INDICATOR			

NTS

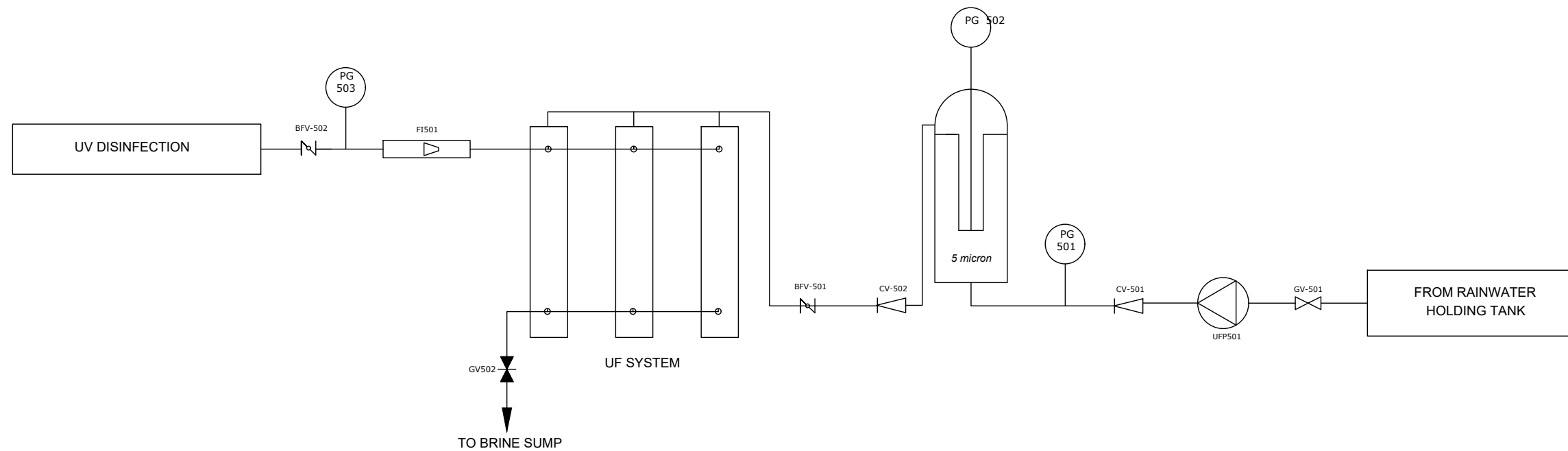
R00	JUNE 2020	STAGE -1	PD	S&C	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appr

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IWRM PLANT P&I DETAIL C

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UV DISINFECTION



DETAIL G

LEGEND										
ACTUATION		VALVES				FEATURES		CONDITION		ABBREVIATIONS
	MANUALLY OPERATED		BUTTERFLY		MOTORIZED BALL		FLANGED CONNECTION		VALVE NORMALLY OPEN	LS - LEVEL SENSOR
	PNEUMATIC DIAPHRAGM - SINGLE ACTING		BALL		TORTALIZER		TRAP		VALVE NORMALLY CLOSED	FT - FLOW TRANSMITTER
	PNEUMATIC DIAPHRAGM - DOUBLE ACTING		DIAPHRAGM		GATE		DISCHARGE TO ATMOSPHERE			PI - PRESSURE INDICATOR
	PNEUMATIC PISTON		3-WAY		CHECK VALVE		SAMPLING POINT			SP - SAMPLING POINT
			SLUICE		MOTORIZED 3 WAY		FLOW INDICATOR			AR - AIR RELEASE
										P - PUMP
										PG - PRESSURE GAUGE
										PS - PRESSURE SENSOR
										CP - CONNECTION POINT
										LT - LEVEL TRANSMITTER
										QIT - CONDUCTIVITY INDICATOR
										PLC - PROGRAMMABLE LOGIC CONTROLLER

IWRM PLANT P&I DETAIL G

NTS



Legend

R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

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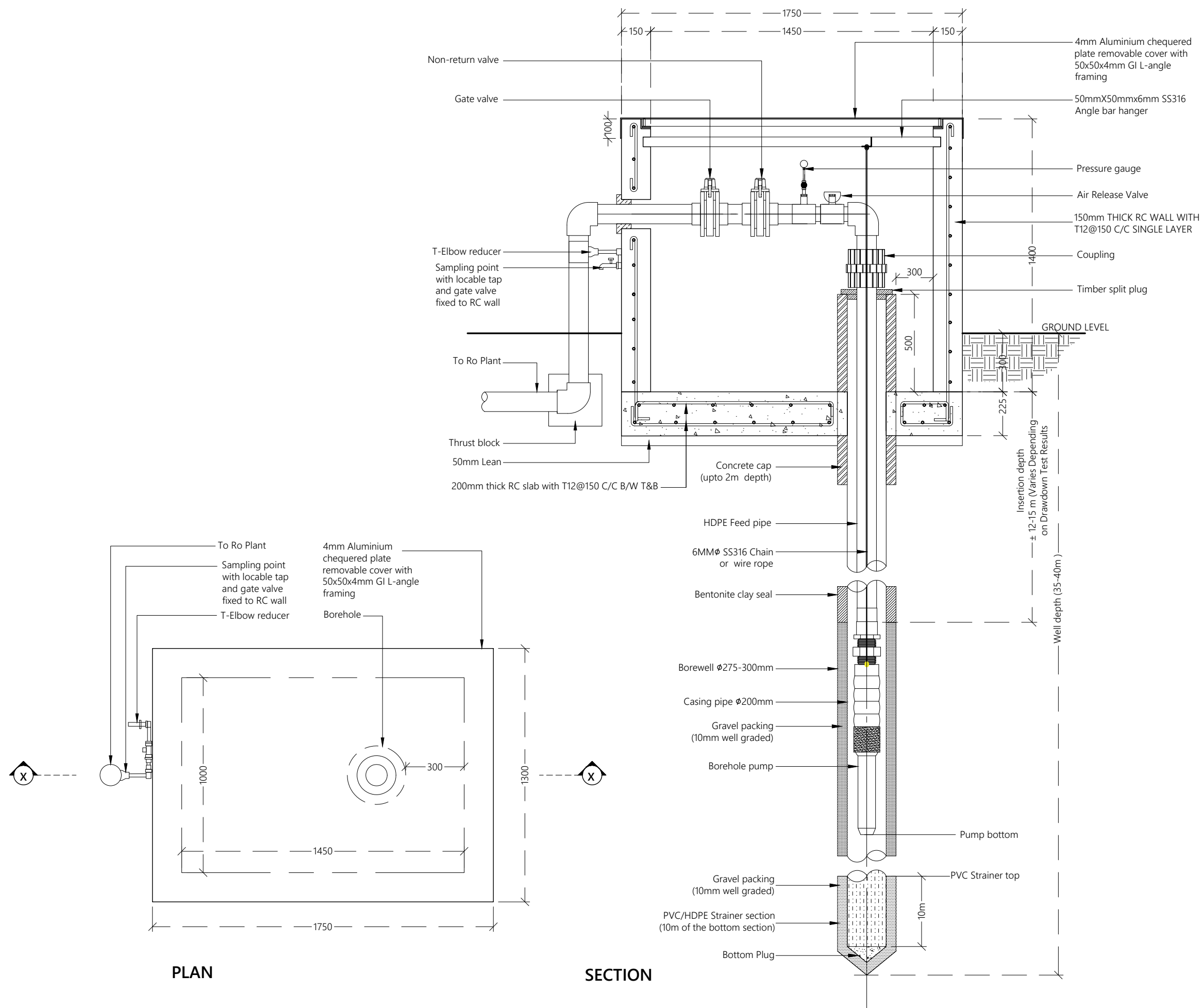
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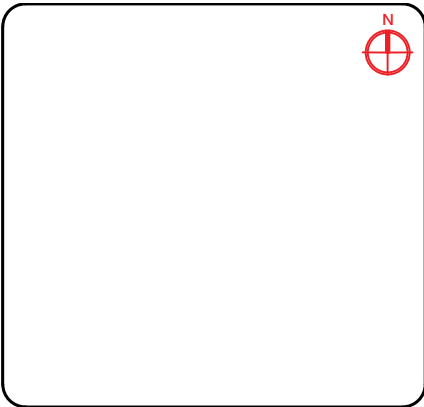
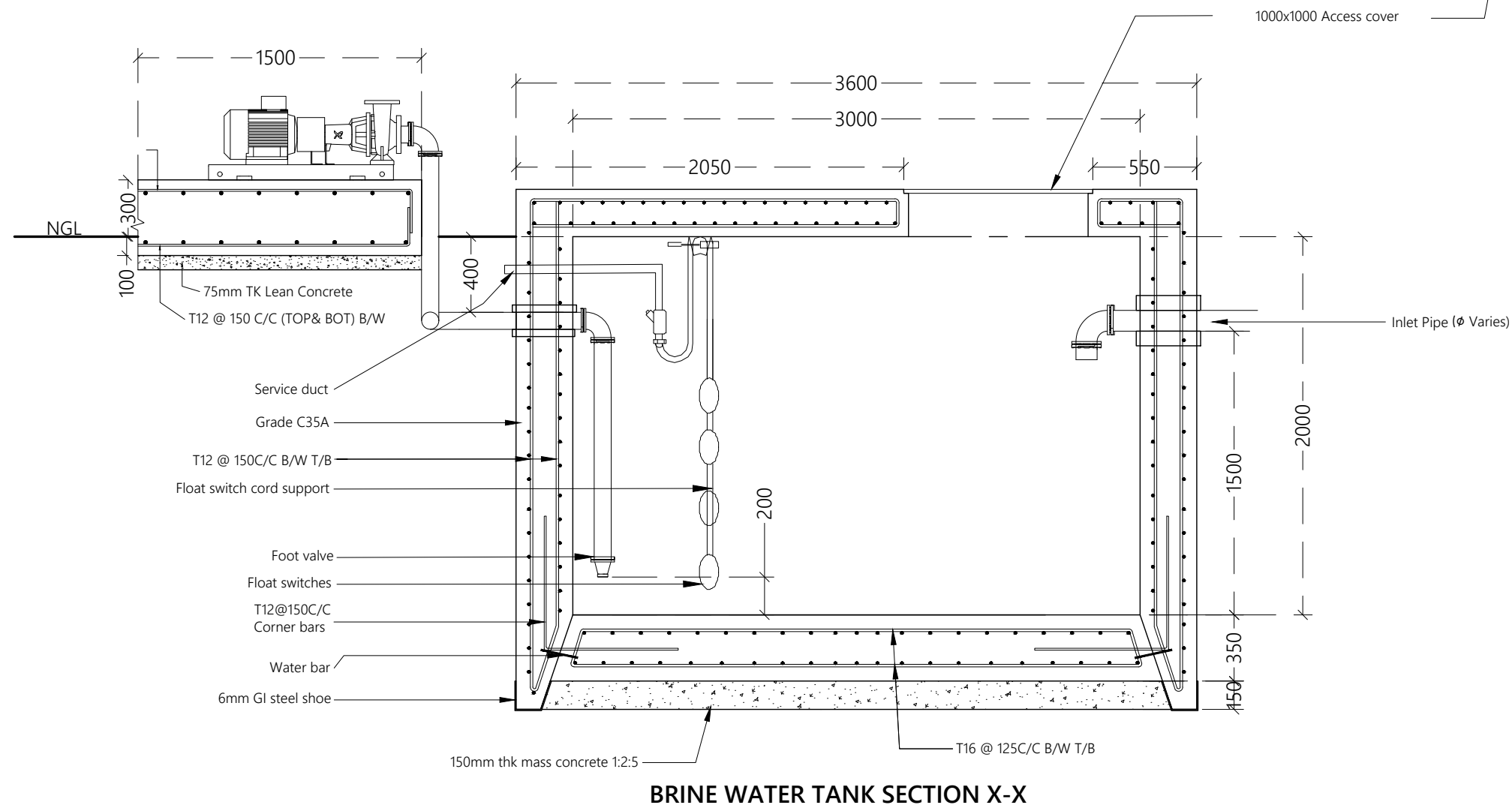
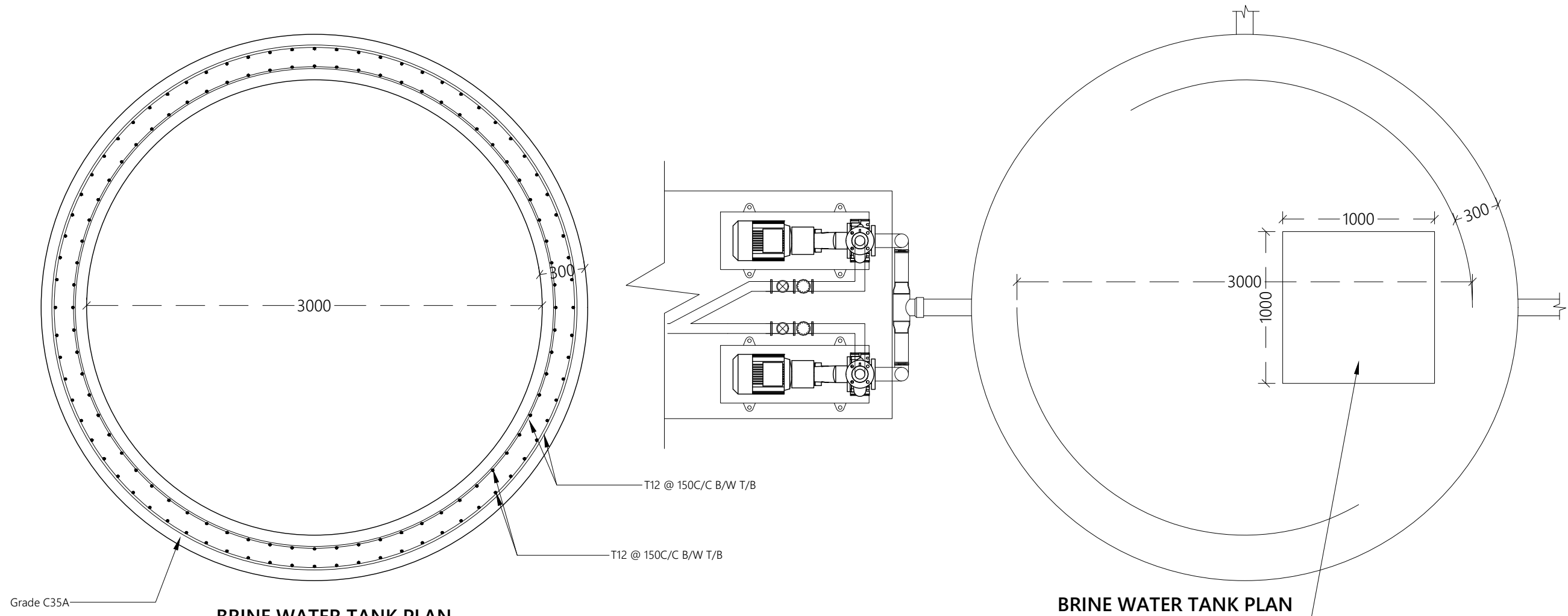
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Date: Sep 2020	SCALE (A3): NTS
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Project No: EP-WS/2019/05

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Legend

Note:

- Pumps, pipe work, fittings and control panel shall be installed in accordance with manufacturers recommendations.
- Orientation of tanks and pipe work to suit location.

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.
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Date: Sep 2020	SCALE (A3): 1:30
Project No: EP-WS/2019/05	
Rev: R-01	Page: W-14

BRINE TANK DETAILS

1:30



Legend

- Note:**
- Pumps, pipe work, fittings and control panel shall be installed in accordance with manufacturers recommendations.
 - Orientation of tanks and pipe work to suit location.
 - The rainwater lift well will have a filter to prevent entry of debris and dirt.

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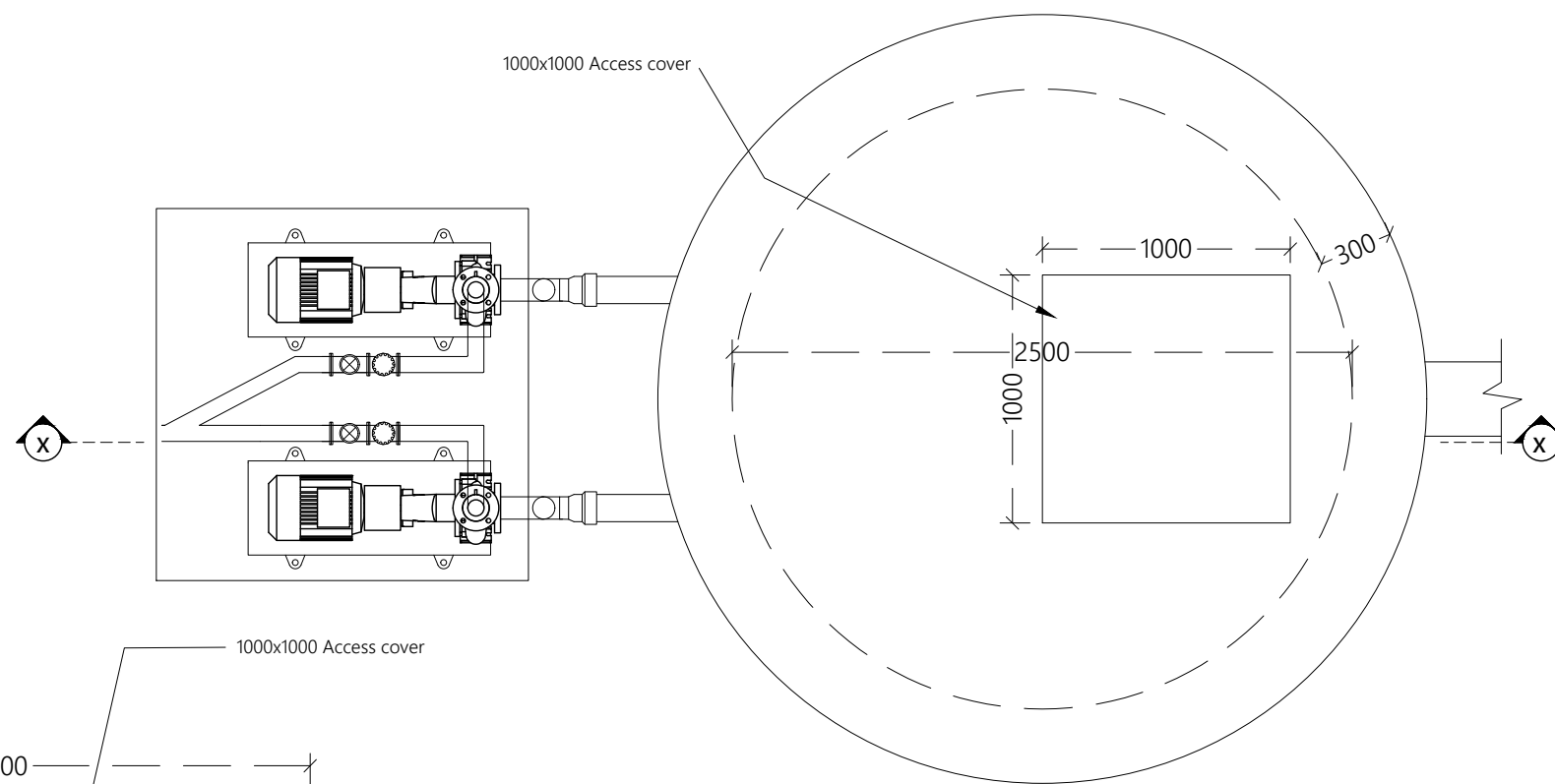
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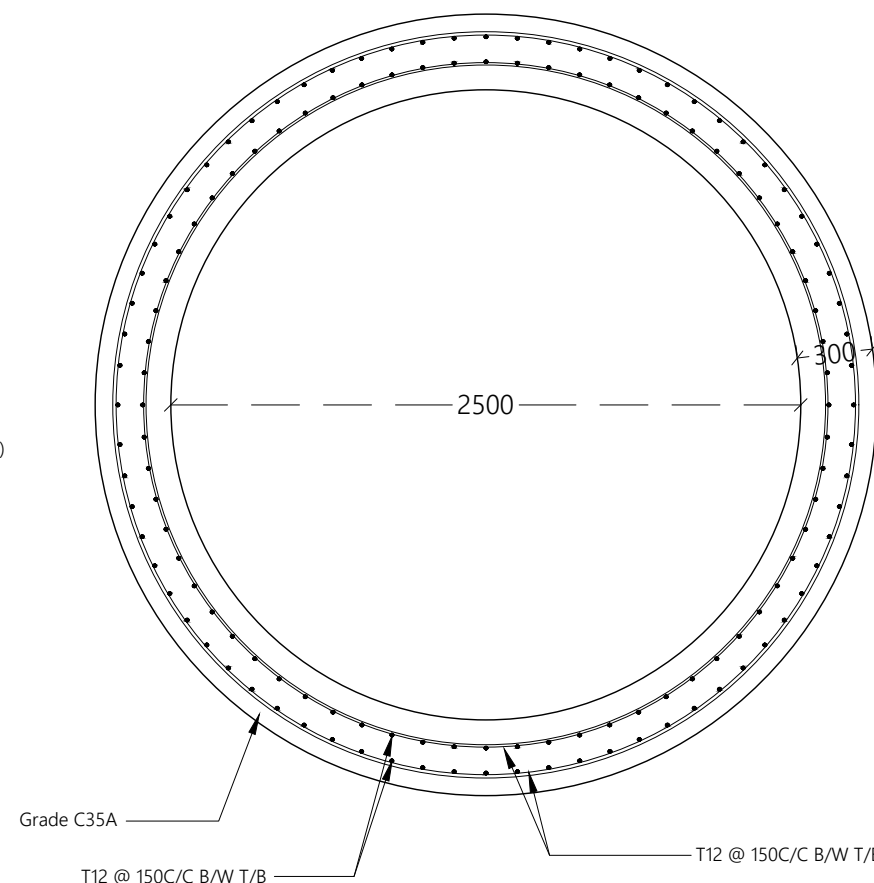
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Project No: EP-WS/2019/05

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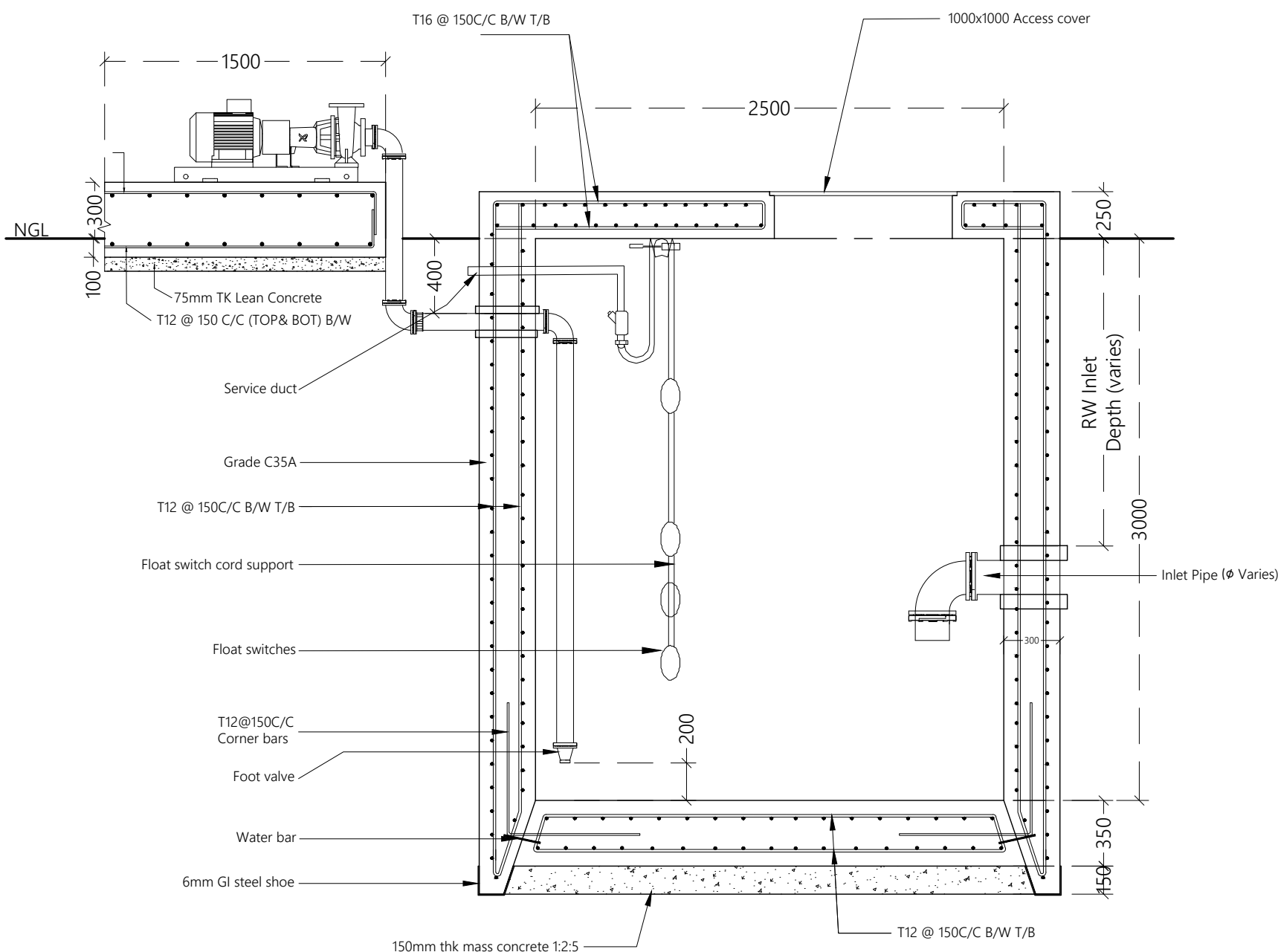
RAIN WATER LIFT WELL PLAN



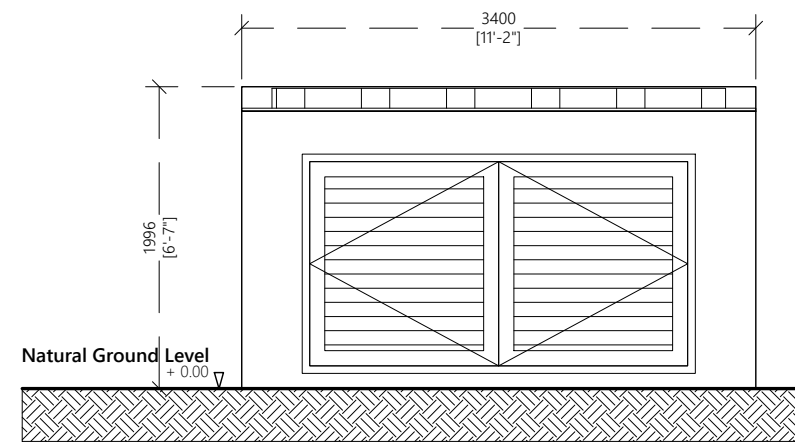
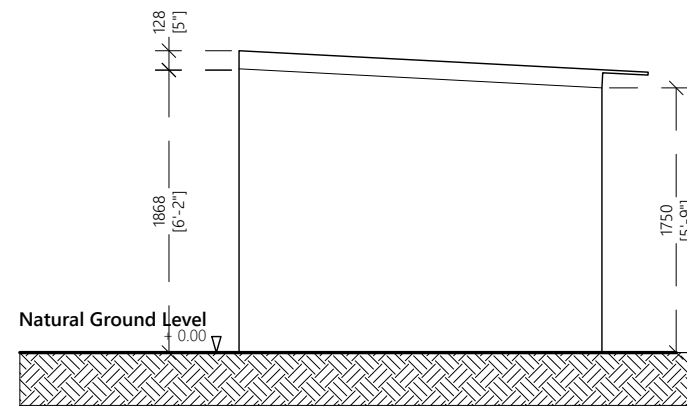
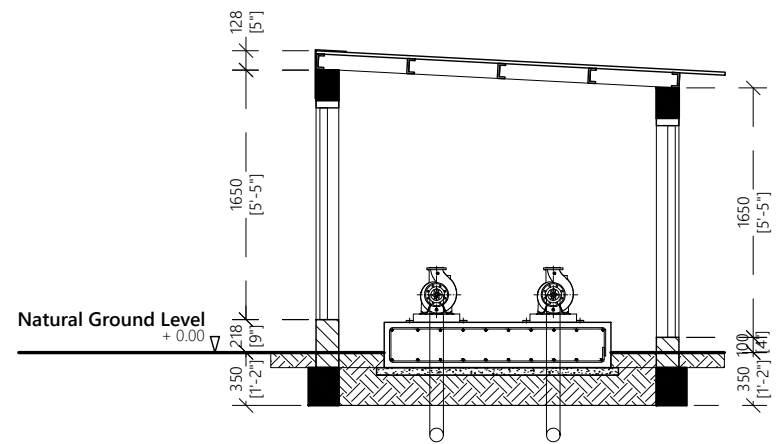
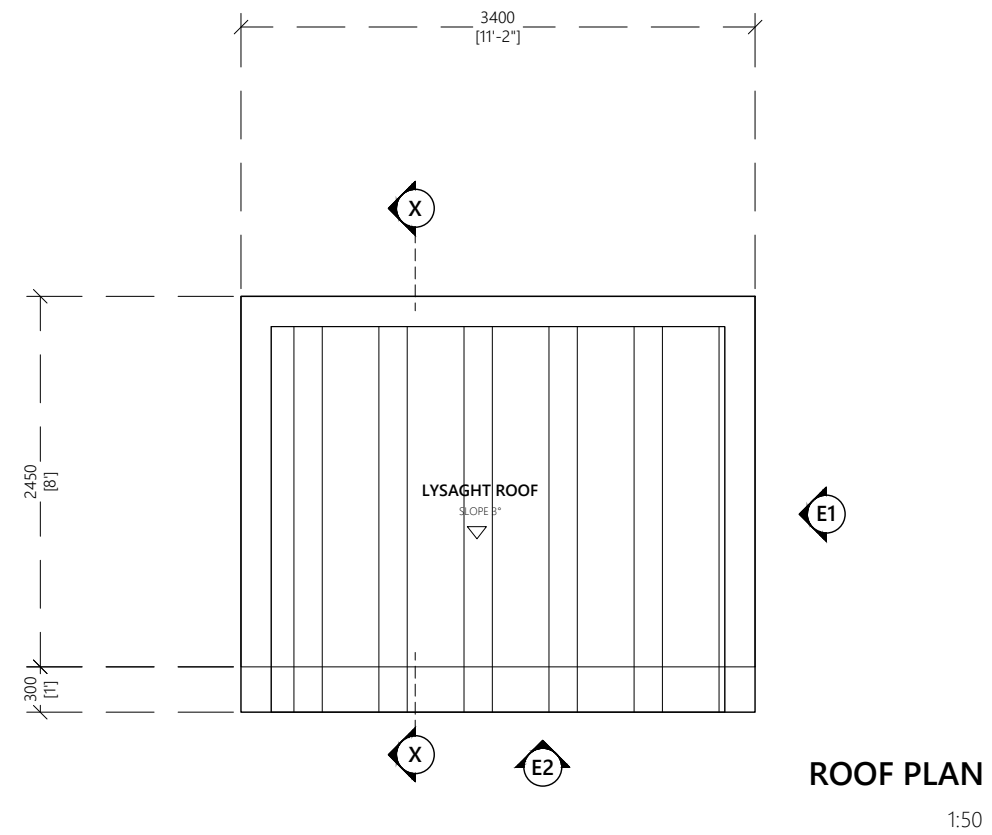
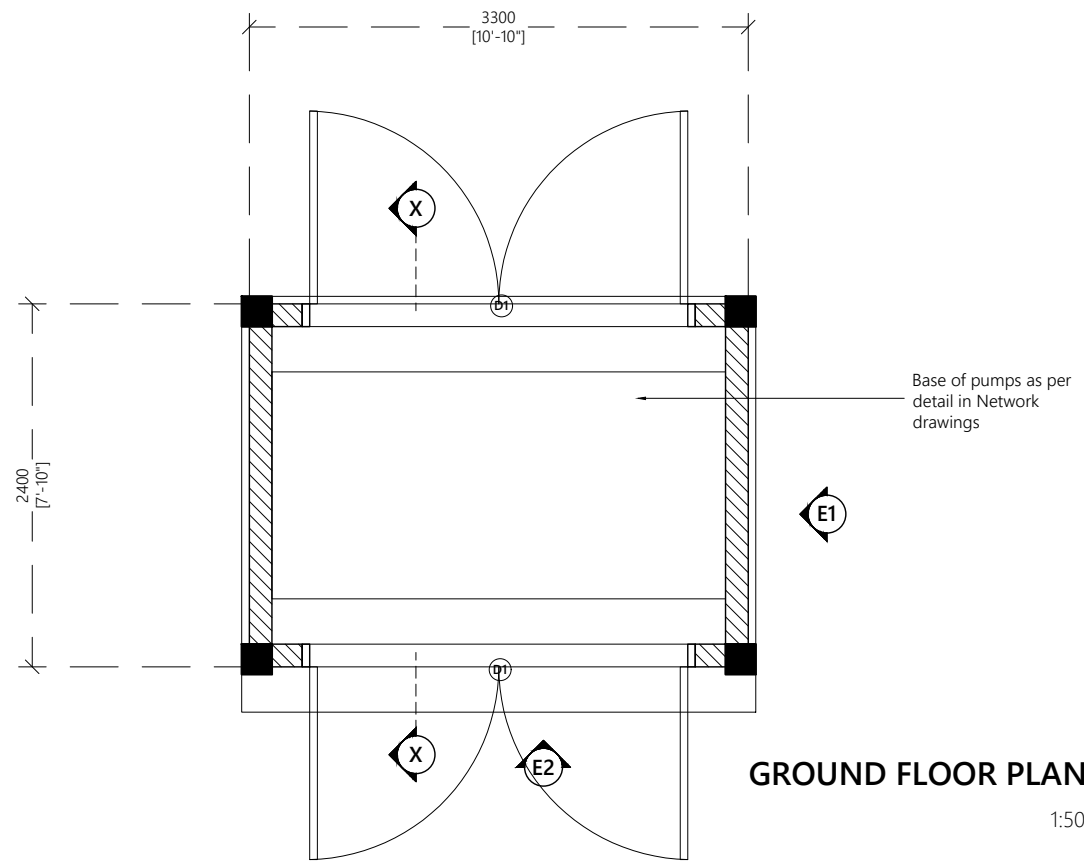
RAIN WATER LIFT WELL PLAN - STRUCTURAL

RAINWATER LIFT WELL DETAILS

1:30



RAIN WATER LIFT WELL SECTION X-X



PUMP SHED DETAILS

Legend

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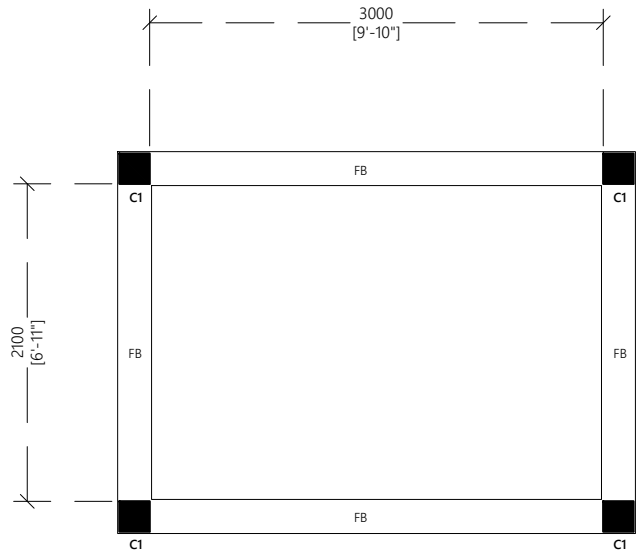
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Date: Sep 2020 SCALE (A3): -

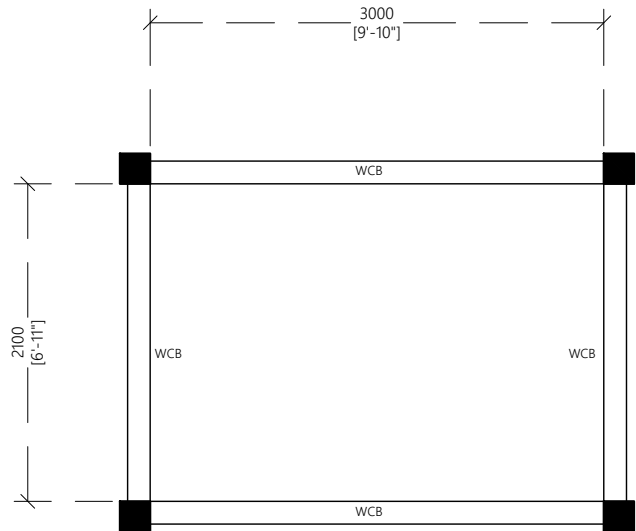
Project No: EP-WS/2019/05

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GROUND FLOOR PLAN

1:100



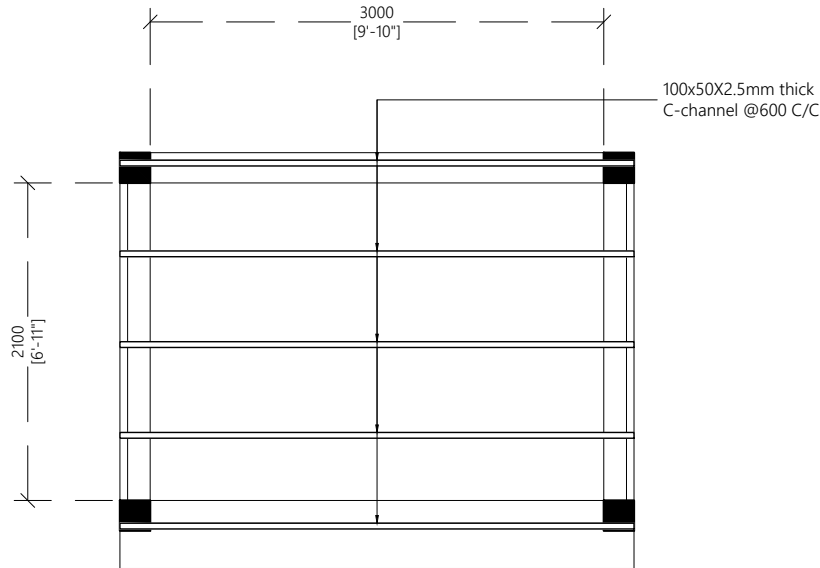
ROOF PLAN

1:100

Door ID		
Plan view		
Elevation view		<p>General Door Notes:</p> <p>Dimensions shown on DWG indicate effective openings of frame</p> <p>All frame depths are 100mm All dor panel thicknesses are 35mm All window manel thickness are 25mm Al frame edges shal be trimmed 3mm</p> <p>All wodden components should be wood stained finish</p> <p>All glazing should be of 6mm unless specified</p> <p>External units must comply the following weather conditions:- Wind pressure: 200 kg/sqm Water tightness: 25 kg/sqm</p> <p>All external frames / wall joints must be sealed with silicon sealant and the wedges trimmed with 12X12mm hardwood beading fixed to frames by brass nails</p> <p>All hardware should be provided for the performance of al functions of the units</p> <p>Hinges shall confirm to</p> <ol style="list-style-type: none">Door size more than 700X1900mm WD: 125mm X2 sets SD: 150mm X3 setsDoor size less than 700X1900mm WD: 100mm X2 sets SD: 125mm X2 sets <p>Locks shall be cylindrical with master key sets</p> <p>Door knobs shall be1000mm above FFL</p>
FFL		
Frame material	600 micron powder coated aluminum frames	
Panel material	600 micron powder coated aluminum louvered panel with side aluminum frames with allowance for handle and lock	
Openable area	-	

Door Schedule

1:100



ROOF PLAN

1:100

PUMP SHED DETAILS

Legend

Notes:

- All CHS shall have minimum yield stress of 275MPa
- All welds shall be 6mm thick full perimeter fillet welds
- All Truss ends shall be end capped with 6mm plates
- All truss members shall be protected with anti corrosive coatings

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.
R00	JUNE 2020	STAGE -1	PD	SBC	SD

Title:
Consultancy Services for Survey, Design and EIA works of Water Supply and Sewerage Facilities in 6 islands, Maldives - Package 5

Sub Title:
Water Supply System in Th. Madifushi

Client:
Ministry of National Planning, Housing and Infrastructure, Republic of Maldives

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Date: Sep 2020	SCALE (A3): 1:100
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1:20



1:20



Title:
**Consultancy Services for Survey,
Design and EIA works of Water
Supply and Sewerage Facilities in
6 islands, Maldives - Package 5**

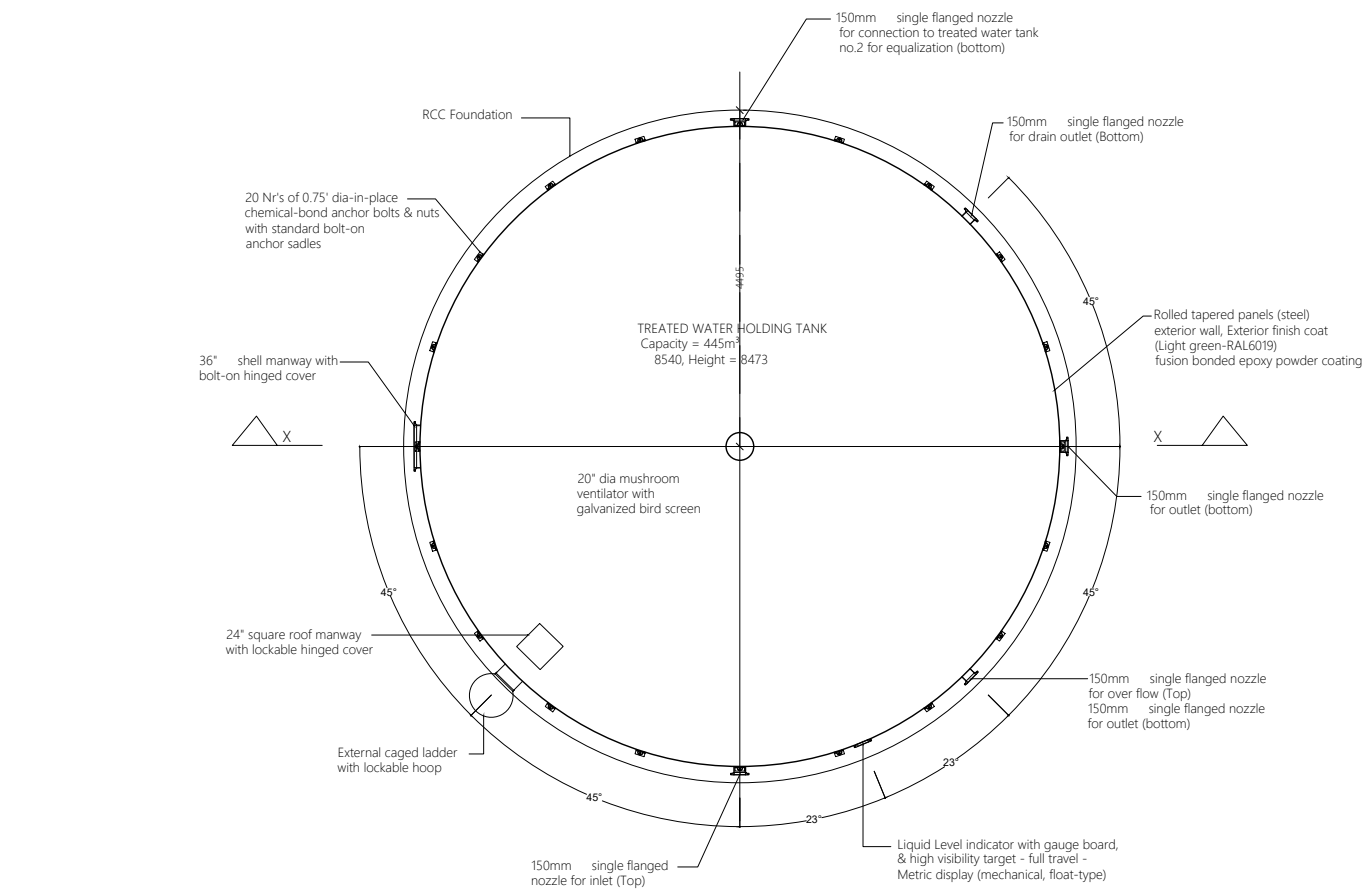
Sub Title:
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Client:
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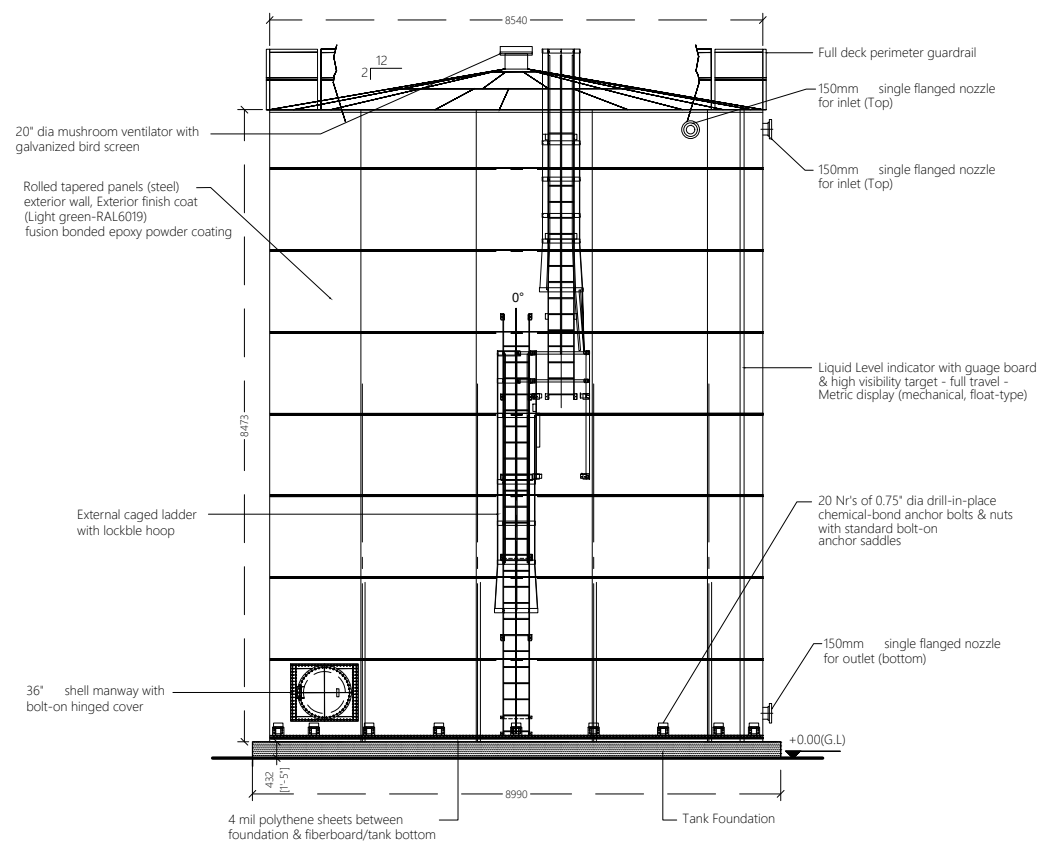


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Project No: EP-WS/2019/05	
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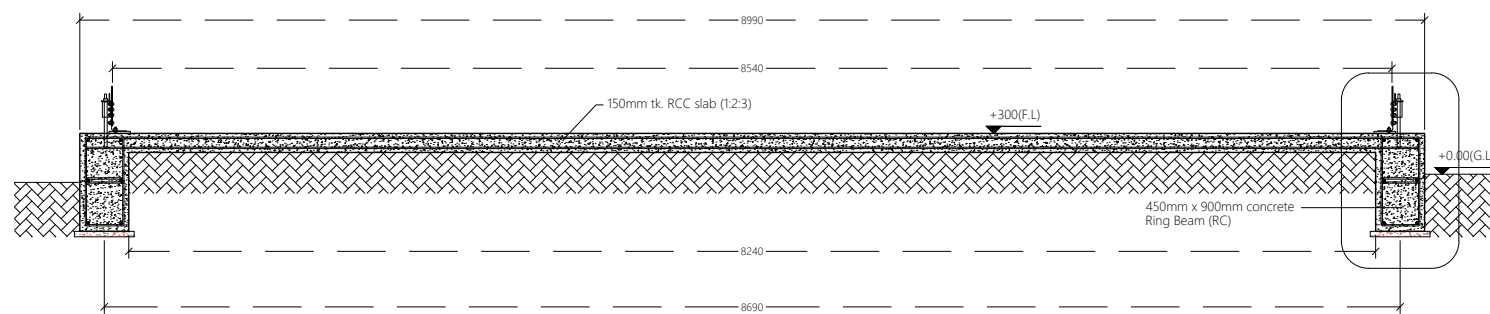
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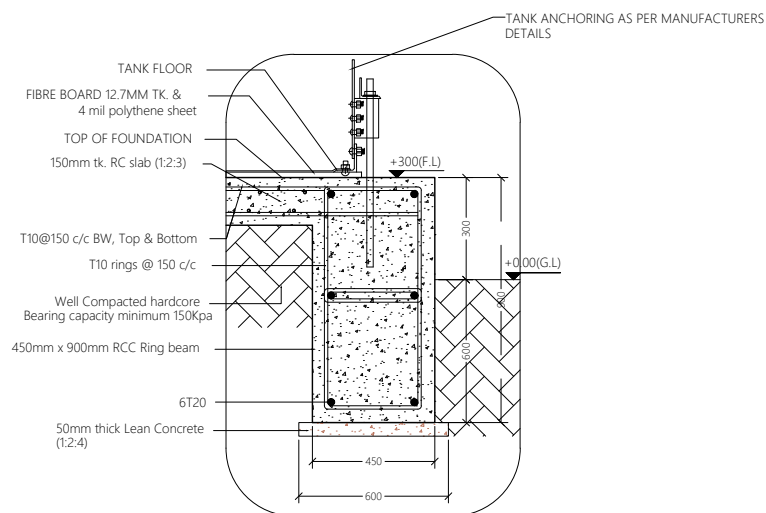
TREATED WATER HOLDING TANK AND FOUNDATION- PLAN



TREATED WATER HOLDING TANK AND FOUNDATION- ELEVATION



SECTION X-X



DETAIL

Note:-
Cover = 50mm
Lap length 50

TREATED WATER TANK DETAILS

NTS

Legend

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.
R00	JUNE 2020	STAGE -1	PD	SBC	SD

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Project No: EP-WS/2019/05

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Legend

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.
R00	JUNE 2020	STAGE -1	PD	SBC	SD

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Consultancy Services for Survey, Design and EIA works of Water Supply and Sewerage Facilities in 6 islands, Maldives - Package 5

Sub Title:
Water Supply System in Th. Madifushi

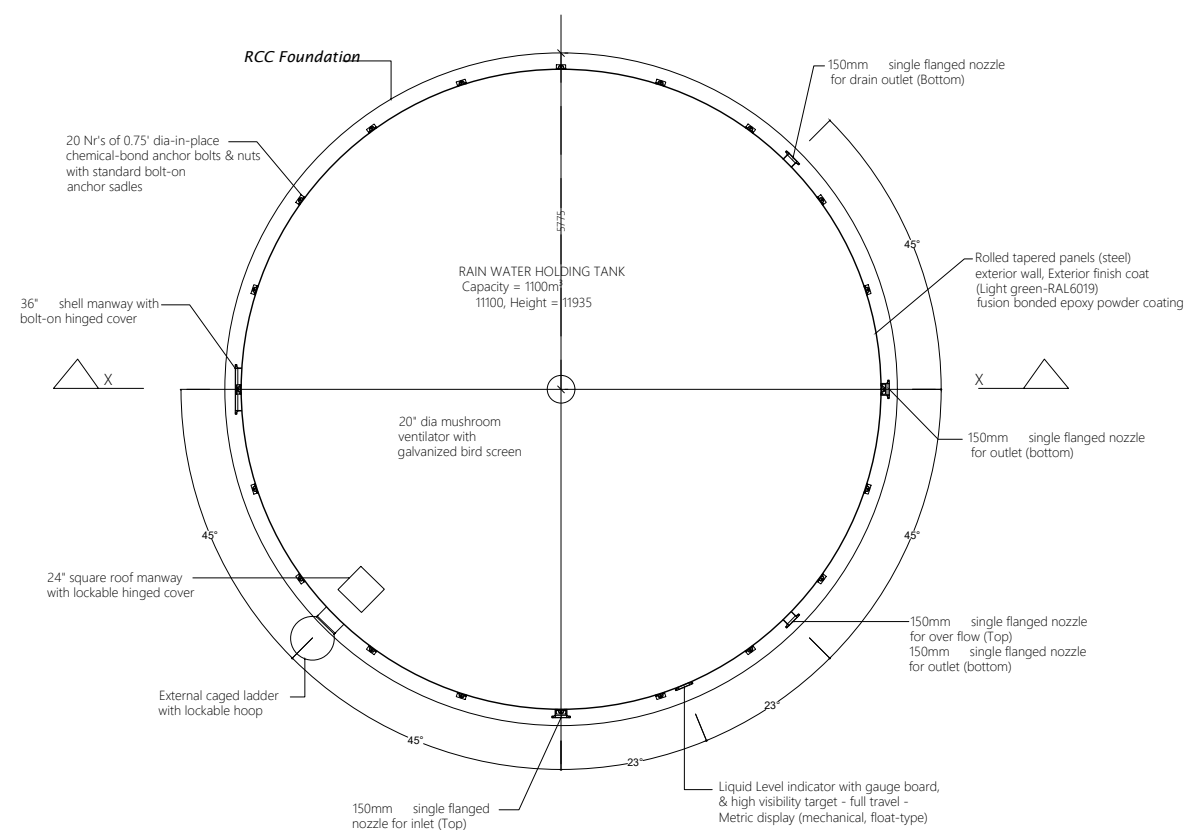
Client:
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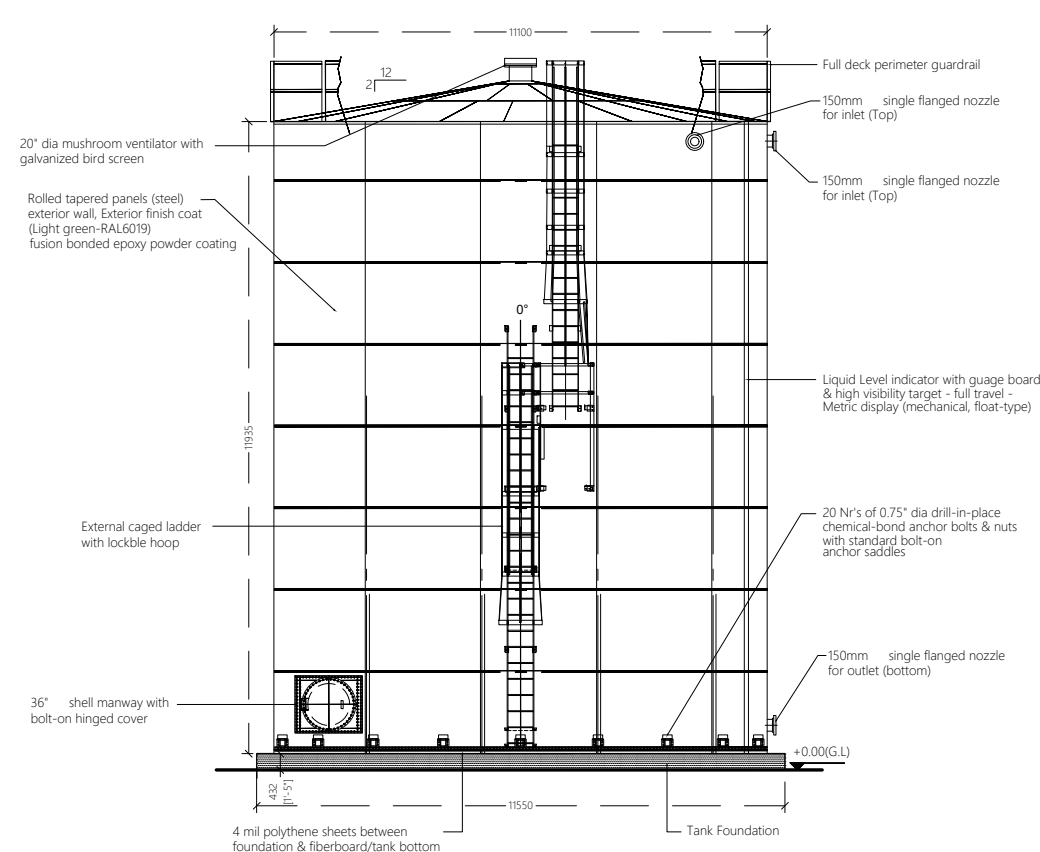
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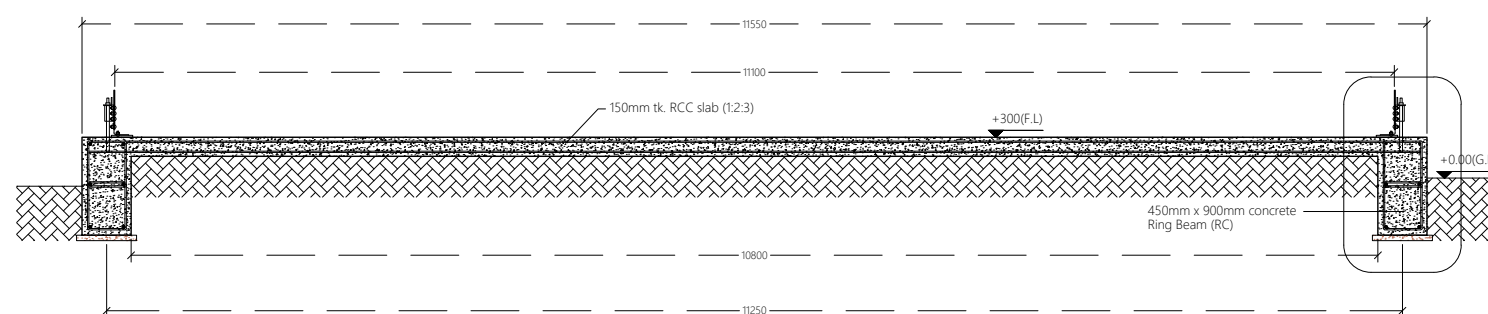
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Project No: EP-WS/2019/05	
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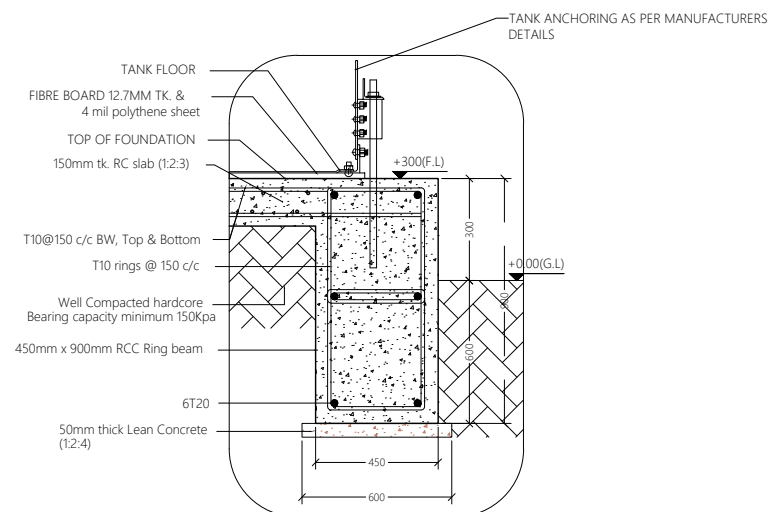
RAINWATER HOLDING TANK AND FOUNDATION- PLAN



RAINWATER HOLDING TANK AND FOUNDATION- ELEVATION



SECTION X-X

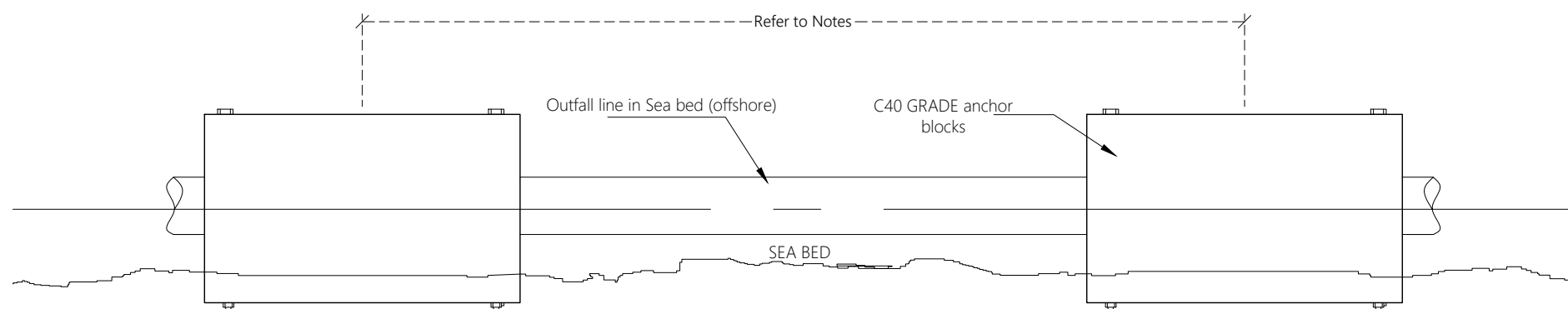


DETAIL

Note:-
Cover = 50mm
Lap length 50

RAINWATER HOLDING TANK DETAILS

NTS



Technical drawing of a sea bed marker. The drawing shows a cross-section of the marker, which is a trapezoid with a semi-circular top. The dimensions are as follows:

- Top width: 900
- Bottom width: 600
- Height of the trapezoid: 300
- Height of the semi-circular top: 300
- Radius of the semi-circular top: 150
- Height of the marker above the sea bed: 100

The marker is shown resting on the sea bed, which is indicated by a horizontal line labeled "SEA BED". A cross-section of the marker is shown, revealing a hollow interior with a shaded area representing the sea bed.

T12 @200c/c B/W

Anchor blocks C40A GRADE

4 nos. 25mm ϕ Threaded rod with bolts (SS316)

Outfall pipe

T12 @200c/c B/W

SEA BED

150 600 150

300 300 100

Technical drawing of a rectangular plate with the following dimensions and annotations:

- Overall width: 1000
- Overall height: 1500
- Plate thickness: 27mm ϕ hole
- Four nos. 25mm ϕ Threaded rod with bolts (SS316) are shown passing through the plate.
- Dimensions for the threaded rods:
 - Top rod: 100 (from top edge to center), 150 (from top edge to bottom of plate)
 - Bottom rod: 100 (from bottom edge to center), 150 (from bottom edge to top of plate)
 - Distance between top and bottom rods: 400
 - Distance between the two rods on the right side: 600

NTS

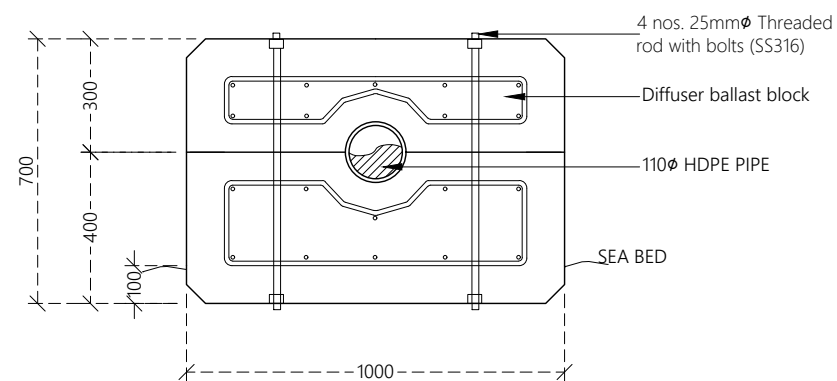


Diagram illustrating the cross-section of the proposed floating structure. The structure is a trapezoidal platform with a top width of 600 and a bottom width of 1000. The total height is 800, divided into a top section of 300 and a bottom section of 400. The bottom section contains a rectangular frame labeled 'SEA BED' with a height of 100. The top section contains a horizontal pipe labeled '110φ HDPE PIPE' with a diameter of 110. Above the pipe is a layer labeled 'Diffuser ballast block'. The top surface is labeled 'T12@200C/C B/W'.

Technical drawing of a square diffuser ballast block. The overall dimensions are 1000mm by 900mm. The block features four mounting holes, one in each quadrant. The holes are labeled "4 nos. 25mm Ø Threaded rod with bolts (SS316)". The block is labeled "Diffuser ballast block".

Technical drawing of the diffuser layout plan view. The layout is rectangular, measuring 1000 mm in width and 700 mm in total depth. The depth is divided into three sections: 300 mm for the top diffuser, 400 mm for the central diffuser, and 100 mm for the bottom diffuser. The central diffuser is represented by a circle with a hatched pattern, labeled "110Ø HDPE PIPE". The top diffuser is labeled "4 nos. 25mmØ Threaded rod with bolts (SS316)". The bottom diffuser is labeled "Diffuser ballast block". The entire layout is situated on a "SEA BED".

Technical drawing of a diffuser ballast block. The block is a trapezoidal structure with a total height of 700 units. The top width is 600 units, and the bottom width is 900 units. The block is divided into three horizontal sections: a top section of 300 units, a middle section of 400 units, and a bottom section of 100 units. The top section is labeled "4 nos. 25mm \varnothing Threaded rod with bolts (SS316)". The middle section is labeled "Diffuser ballast block". The bottom section is labeled "SEA BED". The drawing includes dashed lines for dimensions and a wavy line representing the sea bed.

Technical drawing of a diffuser ballast block. The drawing shows a trapezoidal structure with a top width of 600 and a bottom width of 1000. The total height is 300, with a top section of 400 and a bottom section of 100. The structure is supported by four vertical rods, labeled "4 nos. 25mm ϕ Threaded rod with bolts (SS316)". The rods are connected by two horizontal rings, labeled "T12@200C/C B/W". The bottom section is labeled "SEA BED". The top section is labeled "Diffuser ballast block".

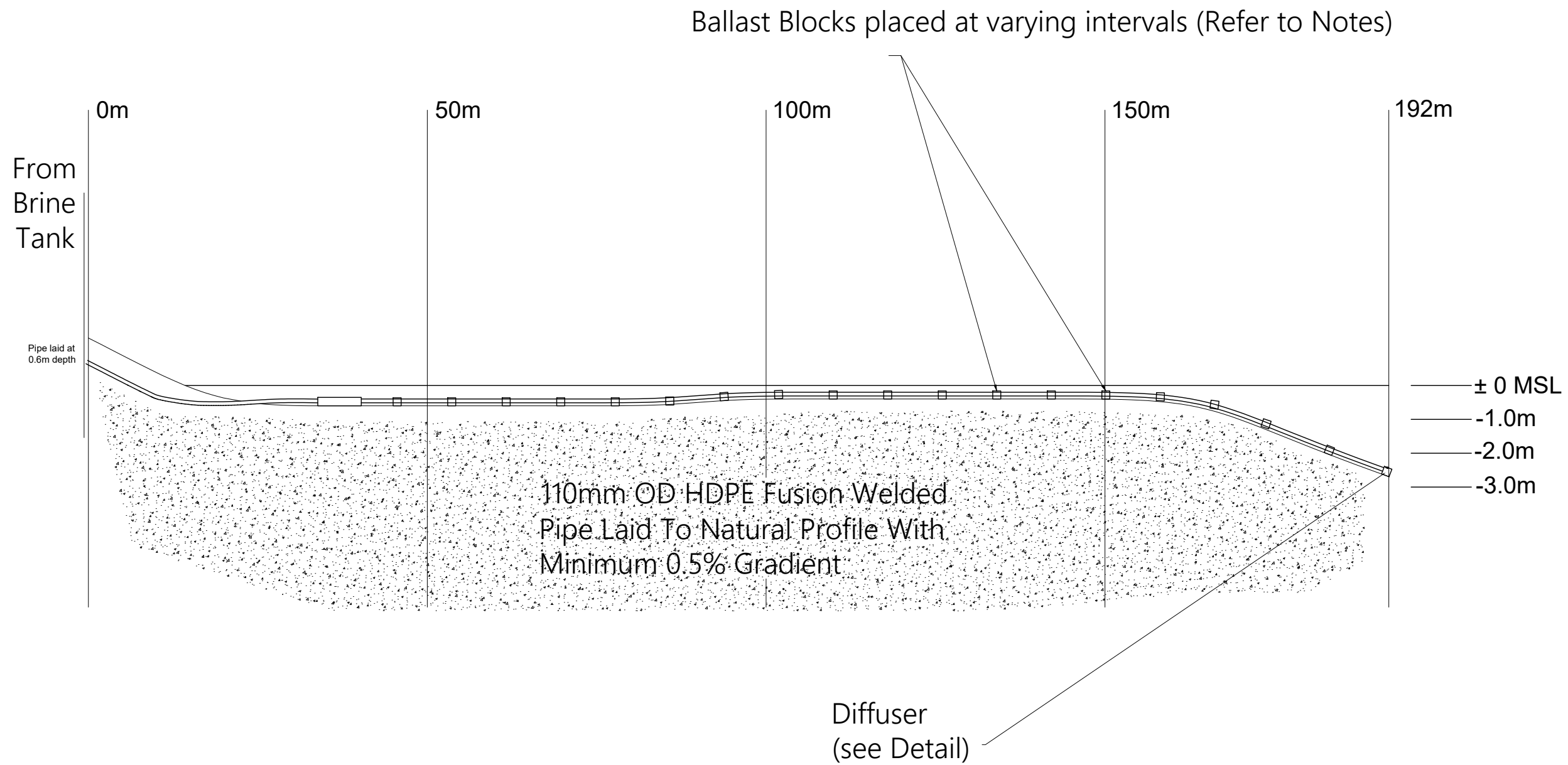
DIFFUSER DETAILS



- All backing rings for stub flanges , nuts and bolts shall be grade 316 stainless steel.
- All pipe work shall be bedded on 10mm thick neoprene rubber seat in semicircular recess matching the O.D. the pipe.
- Fabricate specific pipe clamps to provide firm clamping action according to pipe O.D.
- All structural concrete shall be of grade C40A.
- All castings shall be BS done using sulphate resistant portland cement to D5 4027:1996.
- All structural reinforcement shall be epoxy coating of non-pre-stressed reinforcement to ASTM-A775/A775M.
- A cover of 75mm should be given for all reinforcements.
- In shallow water(regions where the depth is less than 1m), the ballast block spacing is 3.5m. In deeper water (regions where the depth is greater than 1m), the ballast block spacing is 2.0m. All distances are from c/c of blocks.

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Notes:

- The contractor to undertake a detailed inspection of the outfall site to assess the profile and condition of the reef below sea level and to prepare his methodology for installation and fixing.
- In shallow water (regions where the depth is less than 1m), the ballast block spacing is 3.5m. In deeper water (regions where the depth is greater than 1m), the ballast block spacing is 2.0m. All distances are from c/c of blocks.

R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
**Consultancy Services for Survey,
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Supply and Sewerage Facilities in
6 islands, Maldives - Package 5**

Sub Title:
Water Supply System in Th. Madifushi

Client:
**Ministry of National Planning, Housing and
Infrastructure, Republic of Maldives**

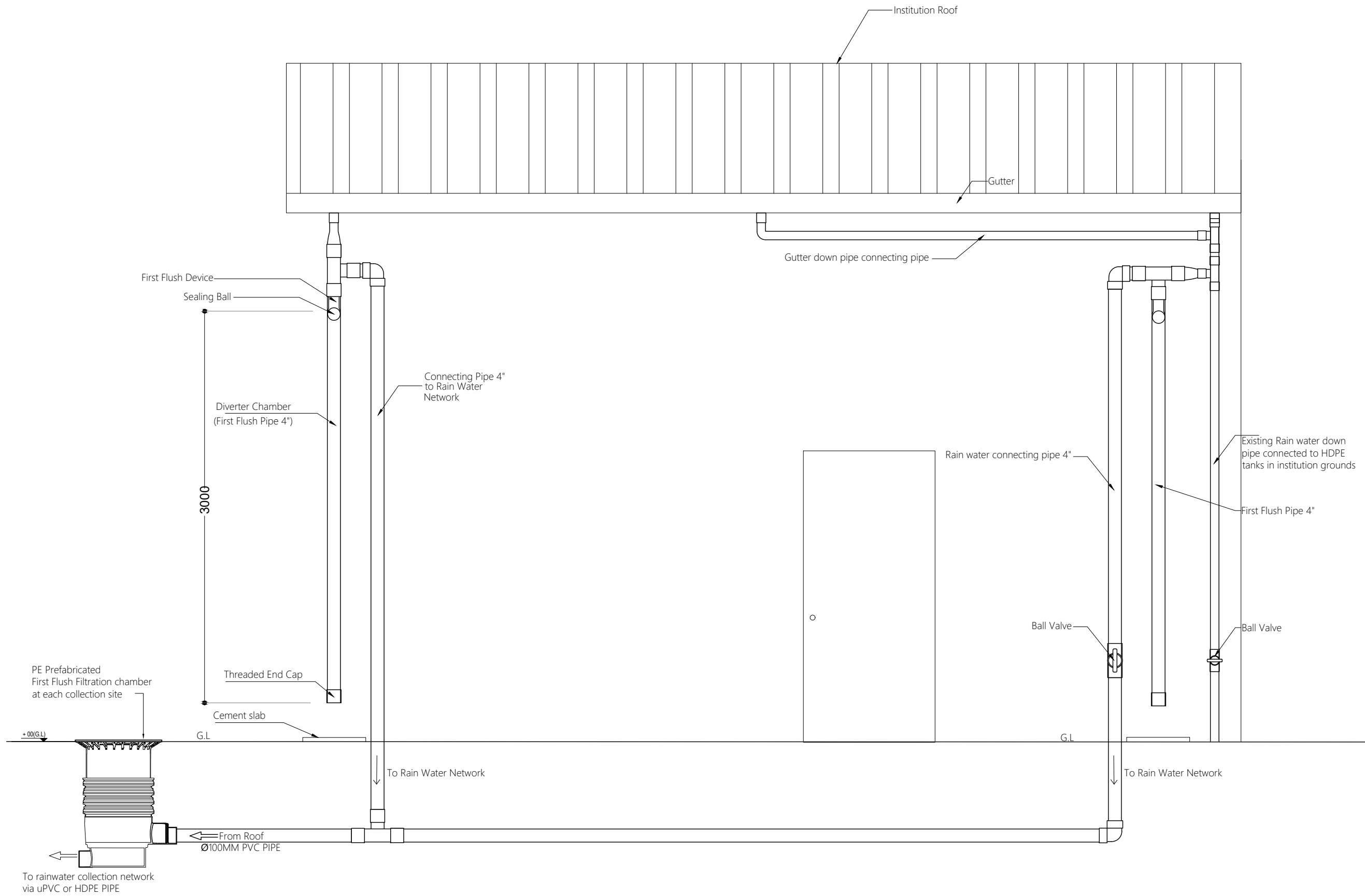


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Designed: F.J.A.	Approved: I.W.
Date: Sep 2020	SCALE (A3): NTS
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BRINE SEA OUTFALL DETAIL

NTS



RAINWATER FIRST FLUSH MECHANISM

NTS



Legend

Notes:

- Prefab filtration chambers will be used as first flush mechanism.
- Filtration chambers suppliers to be approved by engineer.
- Number of chambers will be based on approved manufacturers roof area recommendations.
- Overflow mechanism will be installed on only corner down pipes or where necessary.
- All down pipes are 3 inch dia PVC pipes.
- The filtration chamber will have a screen to prevent entry of debris and dirt.

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.
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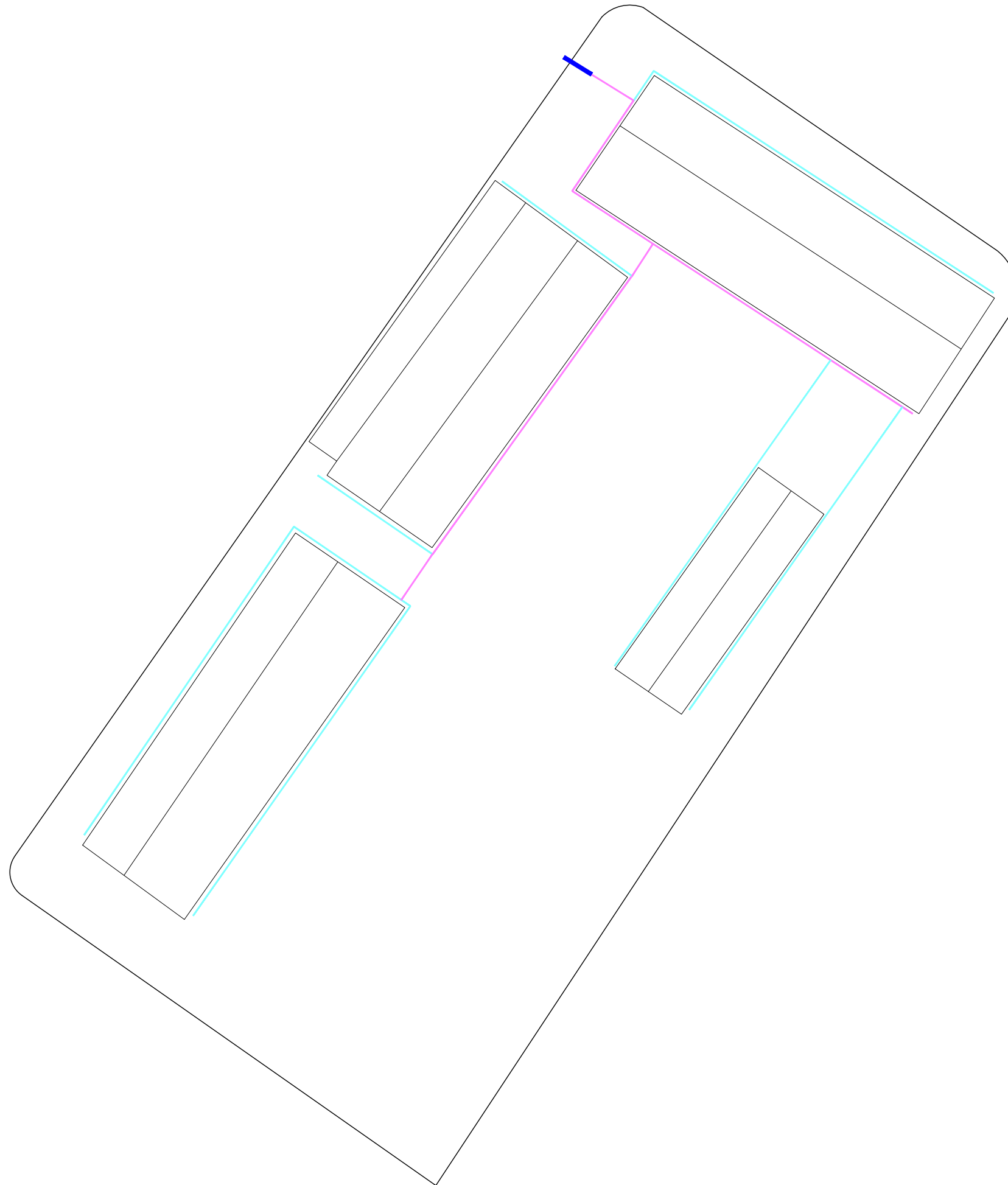
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Date: Sep 2020 SCALE (A3): NTS

Project No: EP-WS/2019/05

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INTERNAL NETWORK LAYOUT- MADIFUSHI SCHOOL



Legend

———— = PVC PIPES Ø160mm

———— = PVC PIPES Ø110mm

APPROXIMATE TOTAL NETWORK LENGTH =
294m

APPROXIMATE GUTTER LENGTH = 238m

APPROXIMATE PIPE NETWORK LENGTH (DIAMETER 160mm) = 87m

APPROXIMATE PIPE NETWORK LENGTH (DIAMETER 110mm) = 207m

R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd

Title:

Consultancy Services for Survey, Design and EIA works of Water Supply and Sewerage Facilities in 6 islands, Maldives - Package 5

Sub Title:

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Client:

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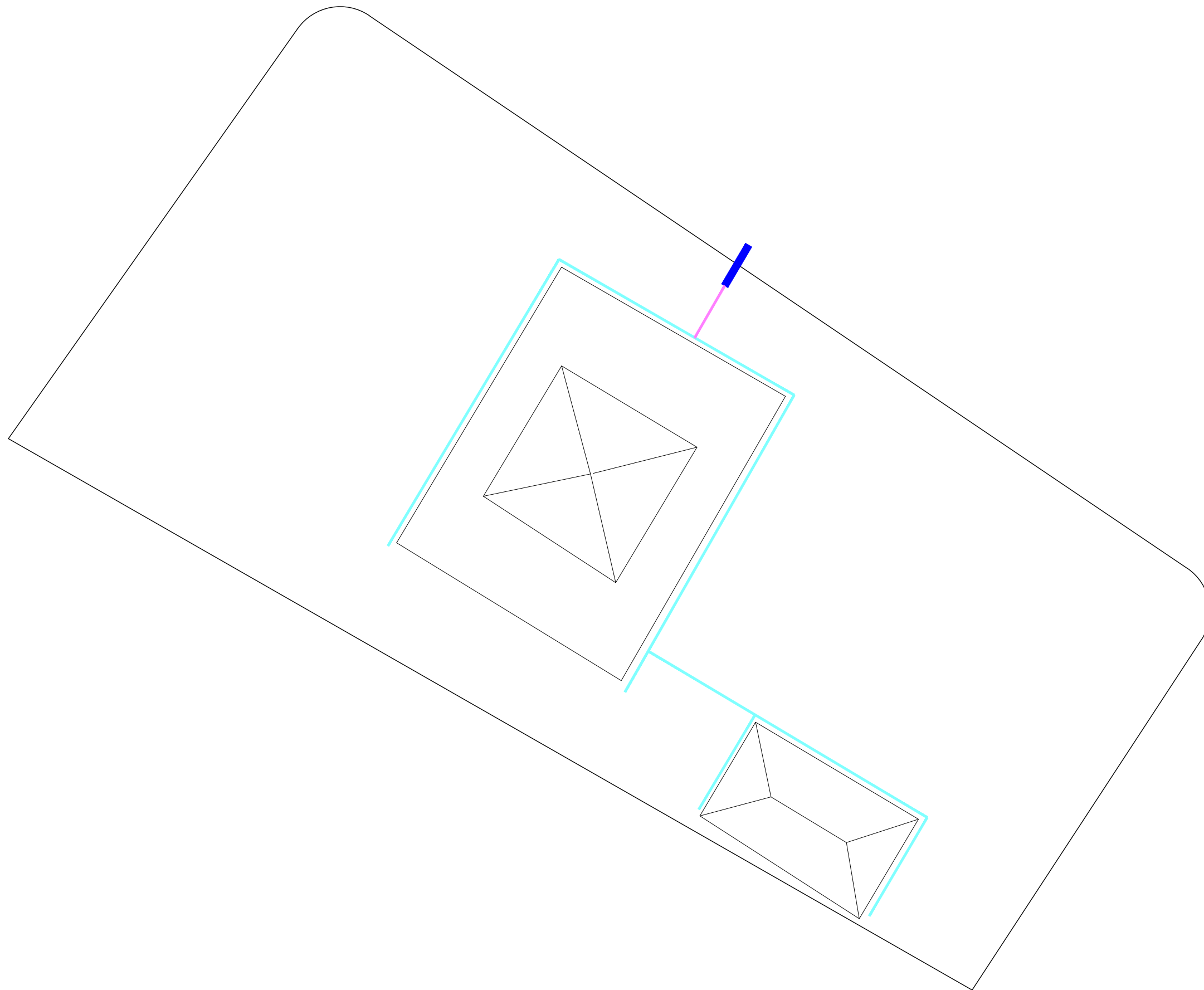
Drawn: F.I.A.	Checked: M.S.S.
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Designed: F.I.A.	Approved: I.W.
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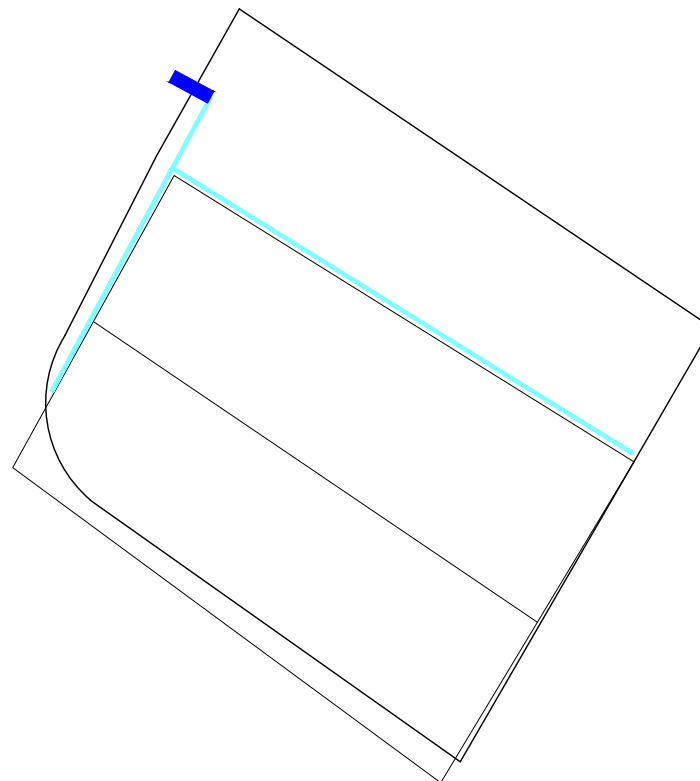
Date: Sep 2020	SCALE (A3): 1:400
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INTERNAL NETWORK LAYOUT-MOSQUE



Legend

———— = PVC PIPES Ø160mm

———— = PVC PIPES Ø110mm

APPROXIMATE TOTAL NETWORK LENGTH =
23m

APPROXIMATE GUTTER LENGTH = 47m

APPROXIMATE PIPE NETWORK LENGTH (DIAMETER 160mm) = 0m

APPROXIMATE PIPE NETWORK LENGTH (DIAMETER 110mm) = 23m

R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

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Sub Title:

Water Supply System in Th. Madifushi

Client:

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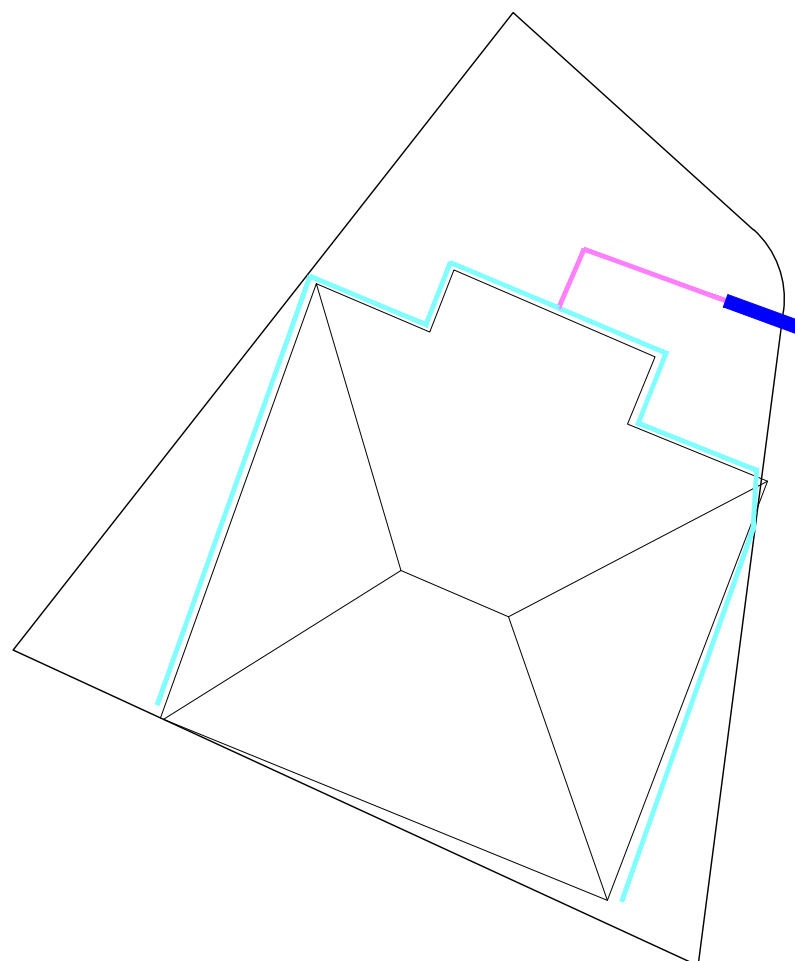
Designed: F.I.A.	Approved: I.W.
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Date: Sep 2020	SCALE (A3): 1:200
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Legend

———— = PVC PIPES Ø160mm

— = PVC PIPES Ø110mm

APPROXIMATE TOTAL NETWORK LENGTH =
47m

APPROXIMATE GUTTER LENGTH = 53m

APPROXIMATE PIPE NETWORK LENGTH (DIAMETER 160mm) = 6m

APPROXIMATE PIPE NETWORK LENGTH (DIAMETER 110mm) = 41m

R00	JUNE 2020	STAGE -1	PD	SBC	SI
REV. NO.	Date	Revision Description	Drawn	Chkd	App

Title:
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Designed: F.I.A.	Approved: I.W.
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Date: Sep 2020	SCALE (A3): 1:200
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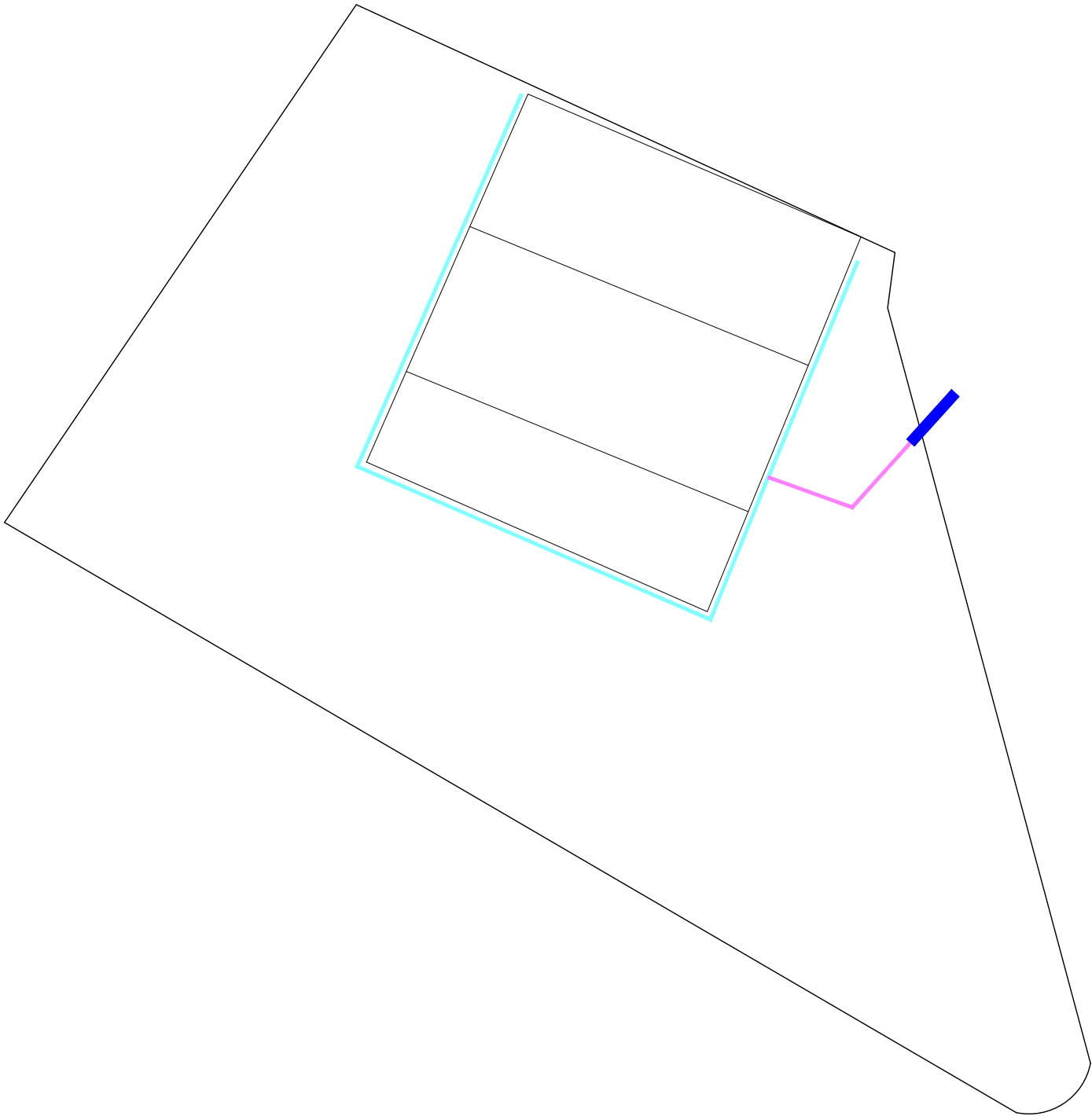
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INTERNAL NETWORK LAYOUT- MAGISTRATE COURT

1:200



Legend

- = PVC PIPES Ø160mm
- = PVC PIPES Ø110mm

APPROXIMATE TOTAL NETWORK LENGTH = 46m

APPROXIMATE GUTTER LENGTH ≈27m

APPROXIMATE PIPE NETWORK LENGTH (DIAMETER 160mm) = 6m

APPROXIMATE PIPE NETWORK LENGTH (DIAMETER 110mm) = 40m

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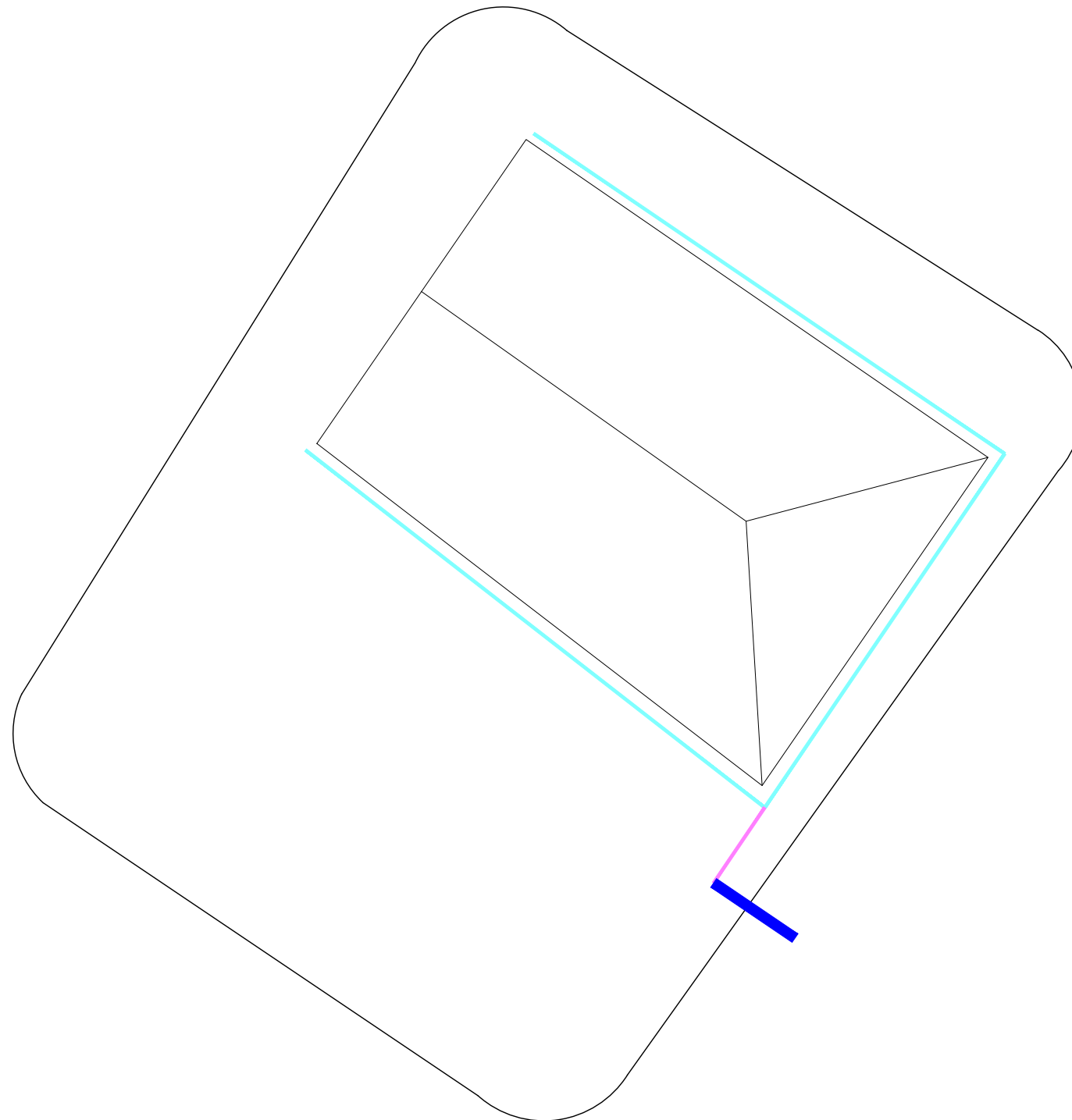


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Date: Sep 2020	SCALE (A3): 1:200
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INTERNAL NETWORK LAYOUT- COUNCIL OFFICE

1:200



Legend

———— = PVC PIPES Ø160mm

———— = PVC PIPES Ø110mm

APPROXIMATE TOTAL NETWORK LENGTH =
57m

APPROXIMATE GUTTER LENGTH = 38m

APPROXIMATE PIPE NETWORK LENGTH (DIAMETER 160mm) = 3m

APPROXIMATE PIPE NETWORK LENGTH (DIAMETER 110mm) = 54m

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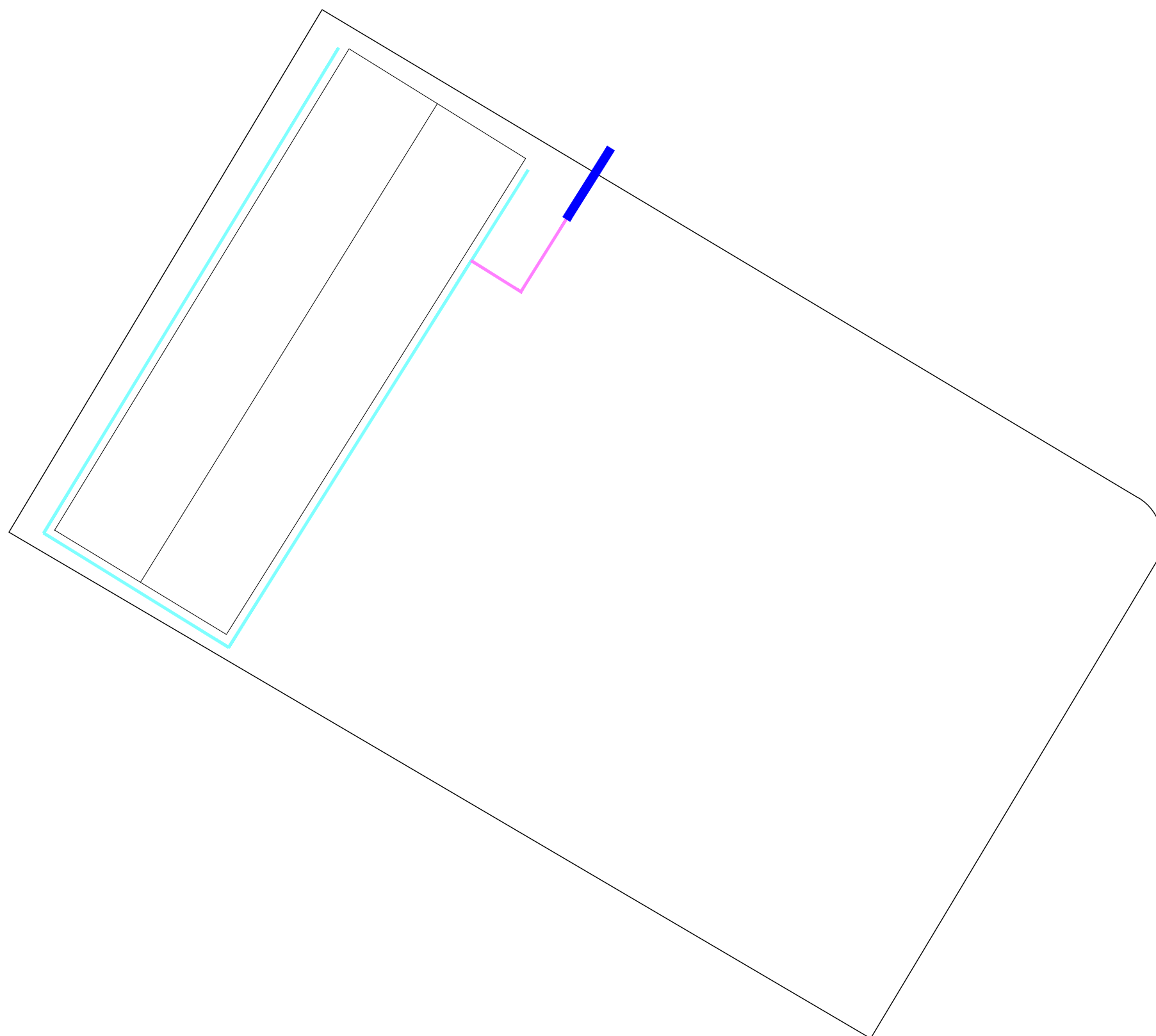
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Designed: F.I.A.	Approved: I.W.
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Date: Sep 2020	SCALE (A3): 1:200
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1:200



Legend

———— = PVC PIPES Ø160mm

———— = PVC PIPES Ø110mm

APPROXIMATE TOTAL NETWORK LENGTH = 62m

APPROXIMATE GUTTER LENGTH =47m

APPROXIMATE PIPE NETWORK LENGTH (DIAMETER 160mm) = 6m

APPROXIMATE PIPE NETWORK LENGTH (DIAMETER 110mm) = 56m

R00	JUNE 2020	STAGE -1	PD	5BC	S
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Drawn: F.I.A.

Checked:	M.S.S.
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Designed: F.I.A.

	Approved: I.W.
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Date: Sep 2020

SCALE (A3): 1:200

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APPROXIMATE TOTAL NETWORK LENGTH = 188m

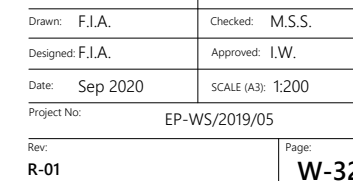
APPROXIMATE GUTTER LENGTH = 190m


APPROXIMATE PIPE NETWORK LENGTH (DIAMETER 160mm) = 26 m

APPROXIMATE PIPE NETWORK LENGTH (DIAMETER 110mm) = 102m

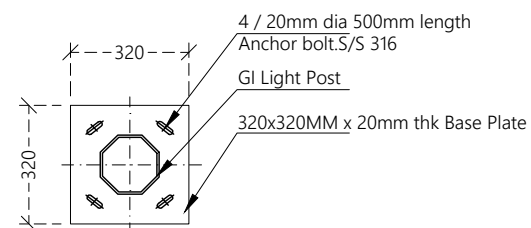
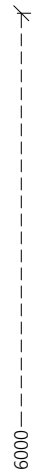
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**Consultancy Services for Survey,
Design and EIA works of Water
Supply and Sewerage Facilities in
6 islands, Maldives - Package 5**

Client:
**Ministry of National Planning, Housing and
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Project No: EP-WS/2019/05	
Rev: R-01	Page: W-33



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Project No:	EP-WS/2019/05
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R-01	W-34

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ARCHITECTURAL AND STRUCTURAL DRAWINGS OF

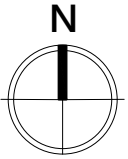
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RO PLANT ADMIN BUILDING AND VEHICLE SHED, TH.MADIFUSHI



For Ministry of National Planning, Housing and Infrastructure

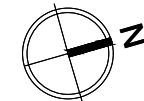
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Project No: EP-WS/2019/06	
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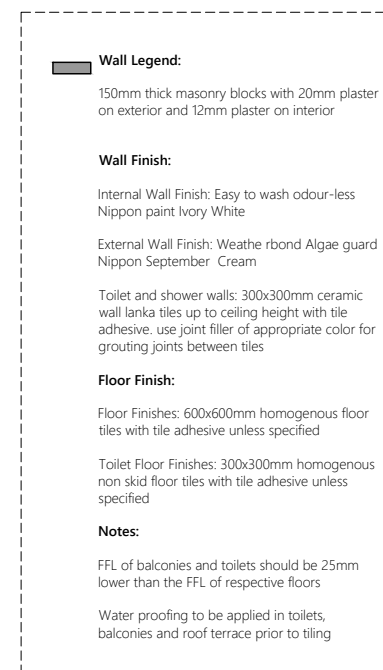
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ARCHITECTURAL AND STRUCTURAL DRAWINGS OF

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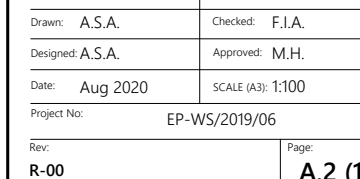
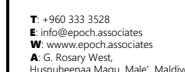
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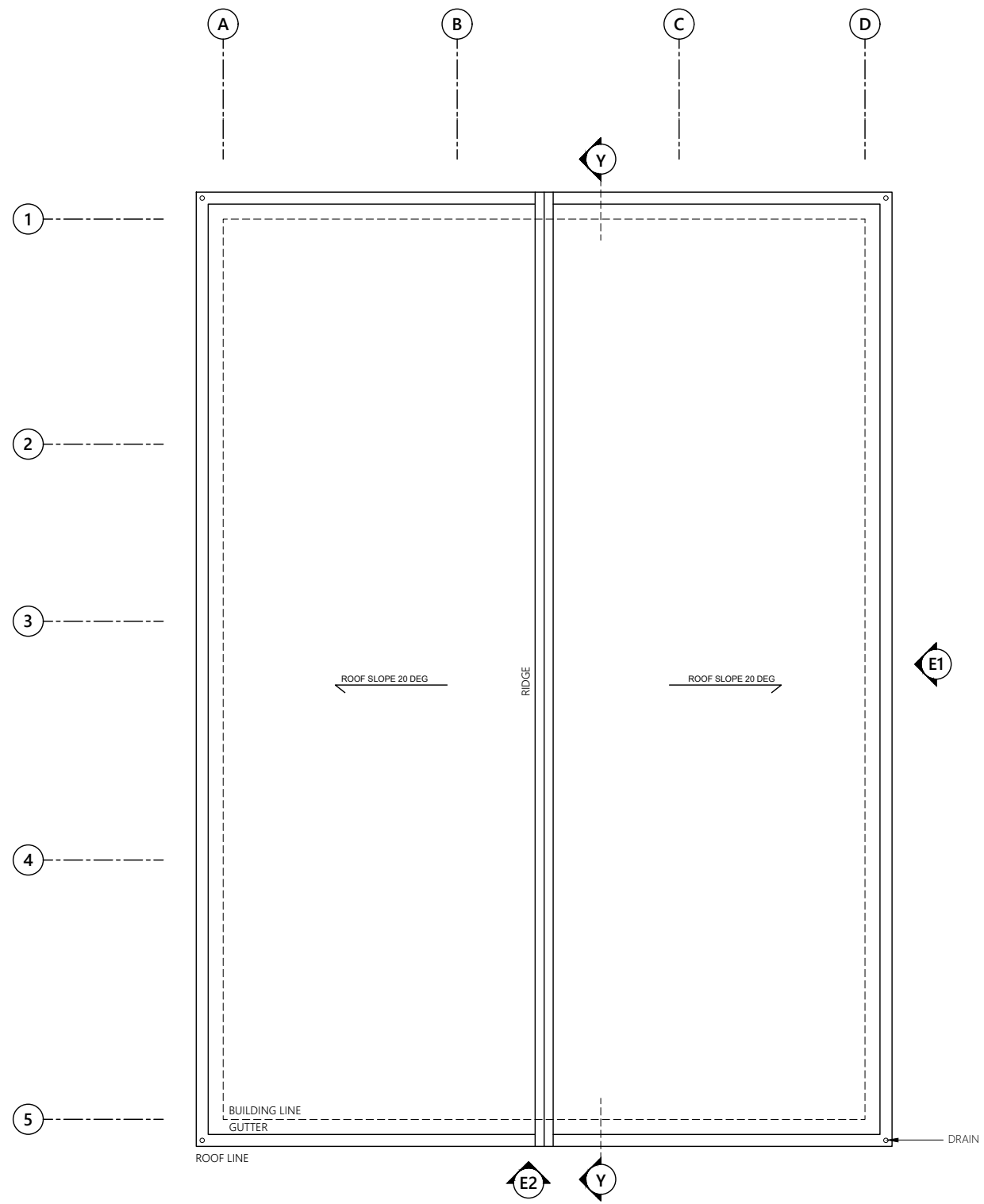


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REV. NO.	Date	Revision Description	Drawn	Chkd	Appr

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Sub Title: **Water Supply System in GA,Dhevvadhoo**

Client:
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A.2 (1)





ROOF PLAN

1:100

Legend

Note:

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Title:
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Sub Title:
Water Supply System in GA.Dhevvadhoo

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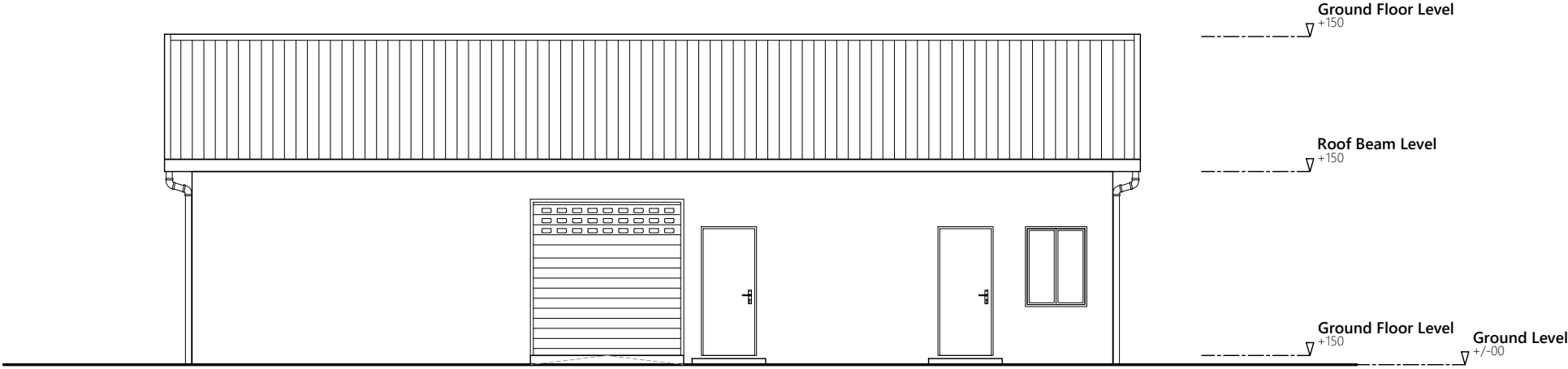


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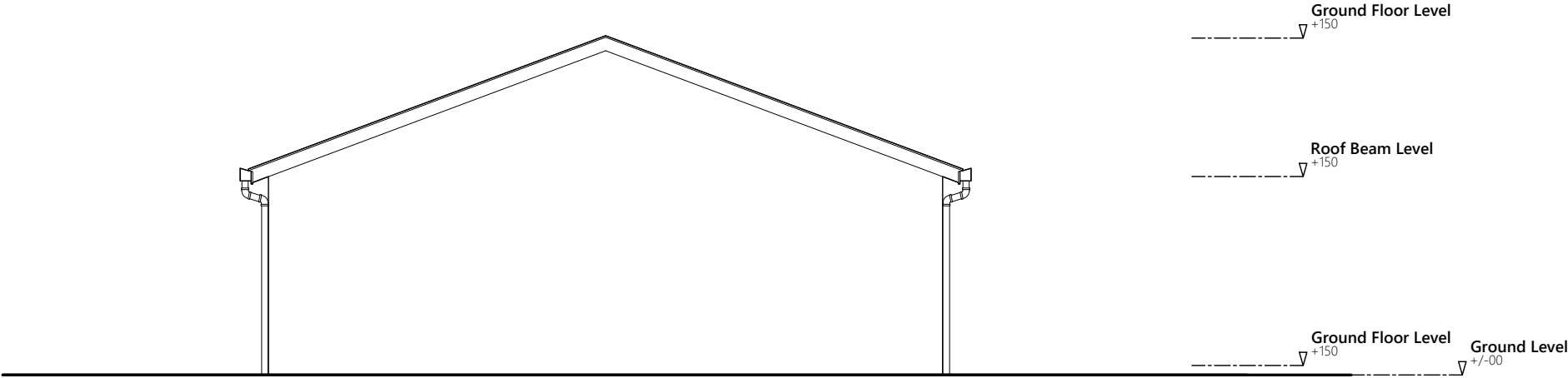
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ELEVATION E1

1:100



ELEVATION E2

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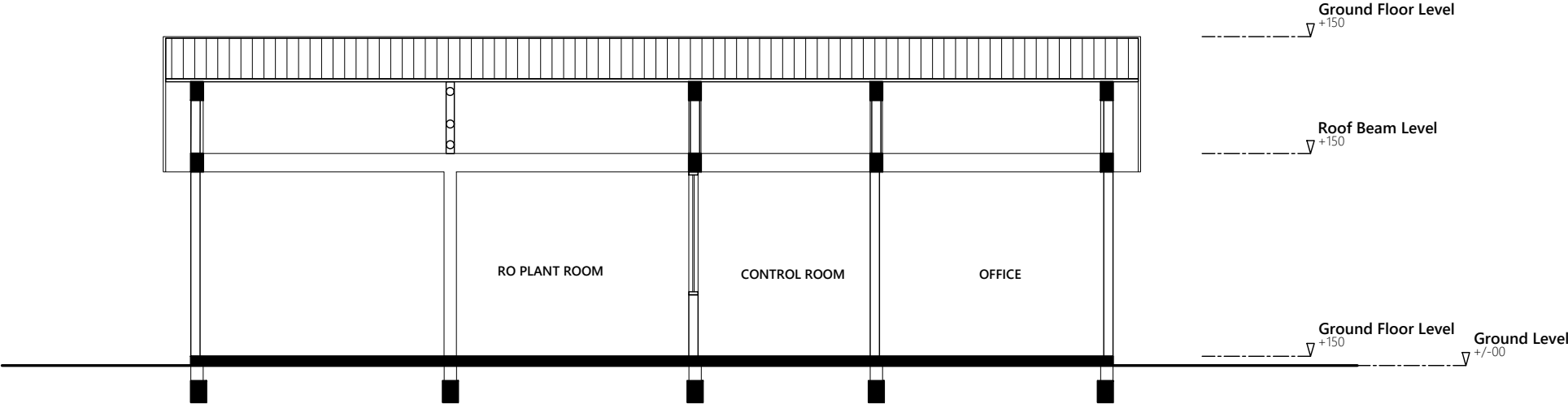
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SECTION XX
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SECTION
1:100

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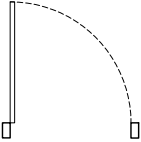
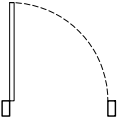
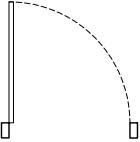
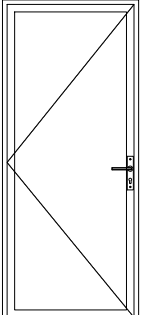
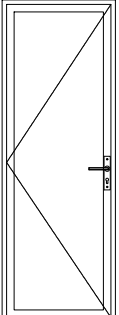
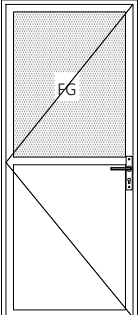
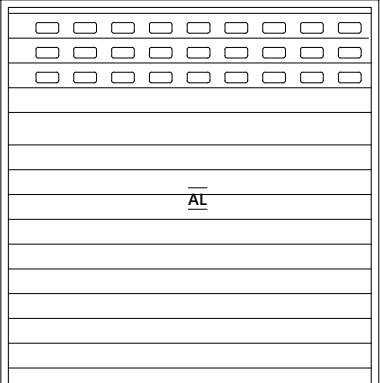
Title:
**Consultancy Services for
Survey, Design and EIA works of
Water Supply and Sewerage
Facilities
in 6 Islands, Maldives – Package 6**
Sub Title:
Water Supply System in GA.Dhevvadhoo

Client:
**Ministry of National Planning, Housing and
Infrastructure, Republic of Maldives**


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Door ID	D1	D2	D3	GD1
Plan view				
Elevation view				
FFL				
Frame material	Aluminum black powder coated	Aluminum black powder coated	Aluminum black powder coated	Aluminum framed roller shutter
Panel material	Aluminum cladding sheet	Aluminum cladding sheet	Aluminum cladding sheet & Fixed clear glass	Aluminium
Openable area	1.74	1.45	1.74	6.0

General Notes:

Dimensions shown on DWG indicate effective openings of frame

All frame depths are 100mm
All dor panel thicknesses are 35mm
All window manel thickness are 25mm
Al frame edges shal be trimmed 3mm

All wooden components should be wood stained finish

All glazing should be of 6mm unless specified

External units must comply the following weather conditions:-
Wind pressure: 200 kg/sqm
Water tightness: 25 kg/sqm

All external frames / wall joints must be sealed with silicon sealant and the wedges trimmed with 12X12mm hardwood beading fixed to frames by brass nails

All hardware should be provided for the performance of al functions of the units

Hinges shall confirm to
1. Door size more than 700X1900mm
WD: 125mm X2 sets
SD: 150mm X3 sets
2. Door size less than 700X1900mm
WD: 100mm X2 sets
SD: 125mm X2 sets

Locks shall be cylindrical with master key sets

Door knobs shall be1000mm above FFL

DOOR & WINDOW SCHEDULE -1

1:50

Legend

Note:

R00	AUG 2020	STAGE -1	A.S.A.	F.I.A.	M.H.
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:

Consultancy Services for Survey, Design and EIA works of Water Supply and Sewerage Facilities in 6 Islands, Maldives – Package 6

Sub Title:

Water Supply System in GA.Dhevvdhoo

Client:

Ministry of National Planning, Housing and Infrastructure, Republic of Maldives



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Door ID	DW 1	DW 2	W3
Plan view			
Elevation view			
FFL			
Frame material	Aluminum black powder coated	Aluminum black powder coated	Aluminum black powder coated
Panel material	Aluminum cladding sheet & Fixed clear glass	Aluminum cladding sheet & Fixed clear glass	Reflective Glass
Openable area	-	-	-

Door ID	V1
Plan view	
Elevation view	
FFL	
Frame material	Aluminum black powder coated
Panel material	Reflective Glass
Openable area	0.32

General Notes:

Dimensions shown on DWG indicate effective openings of frame

All frame depths are 100mm
All dor panel thicknesses are 35mm
All window manel thickness are 25mm
Al frame edges shal be trimmed 3mm

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WD: 125mm X2 sets
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2. Door size less than 700X1900mm
WD: 100mm X2 sets
SD: 125mm X2 sets

Locks shall be cylindrical with master key sets

Door knobs shall be1000mm above FFL

DOOR & WINDOW SCHEDULE -2

1:50

Legend

Note:

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REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
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Sub Title:
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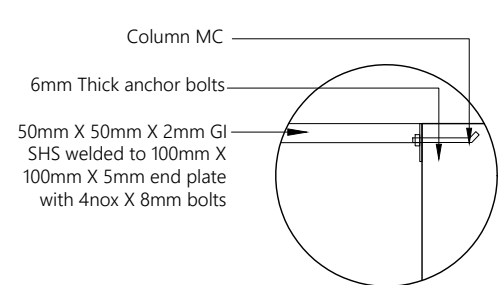
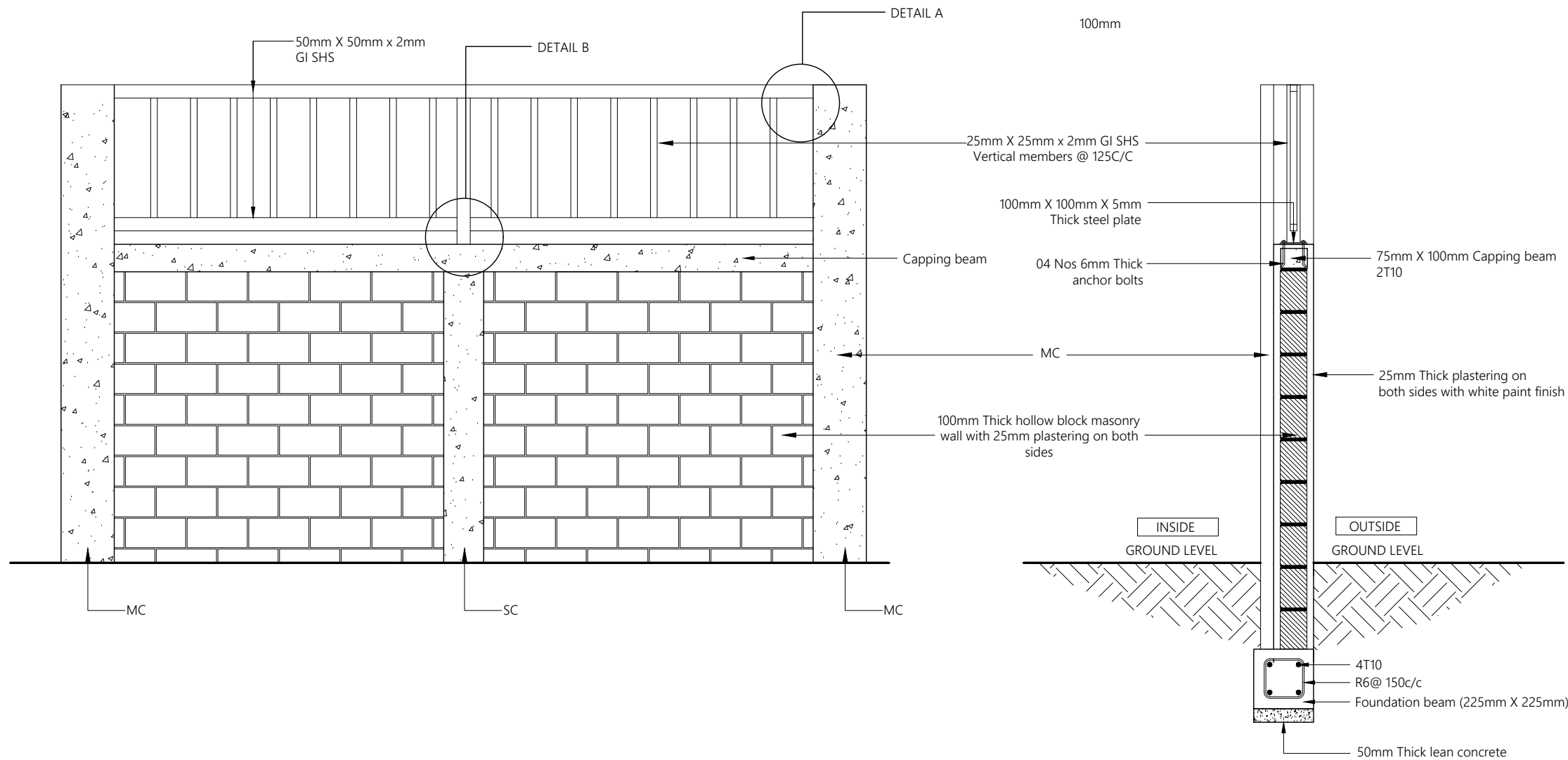
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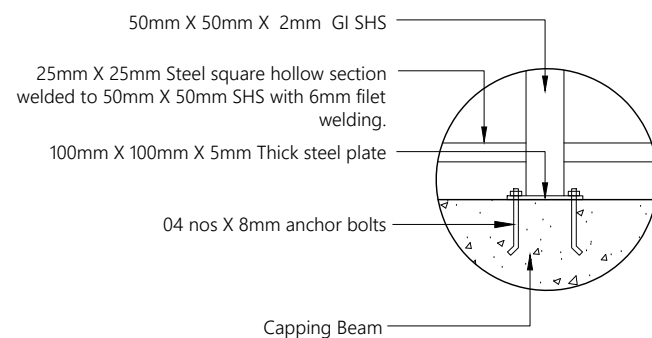
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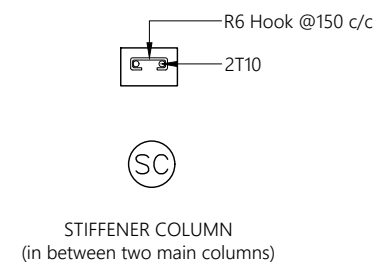
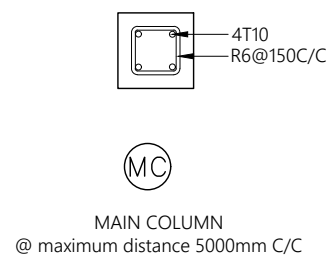
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DETAIL A
1:10



DETAIL B
1:10



NOTE:

- FRAME MATERIAL : Steel gate frame 2.5mm thick GI sections SHS
- All steel members and GI SHS to be applied with 2 coats of anti-corrosive paint with epoxy finishing paint
- Allowance shall be made to fix pad lock in Gates

BOUNDARY WALL DETAIL

1:20

Legend

Note:

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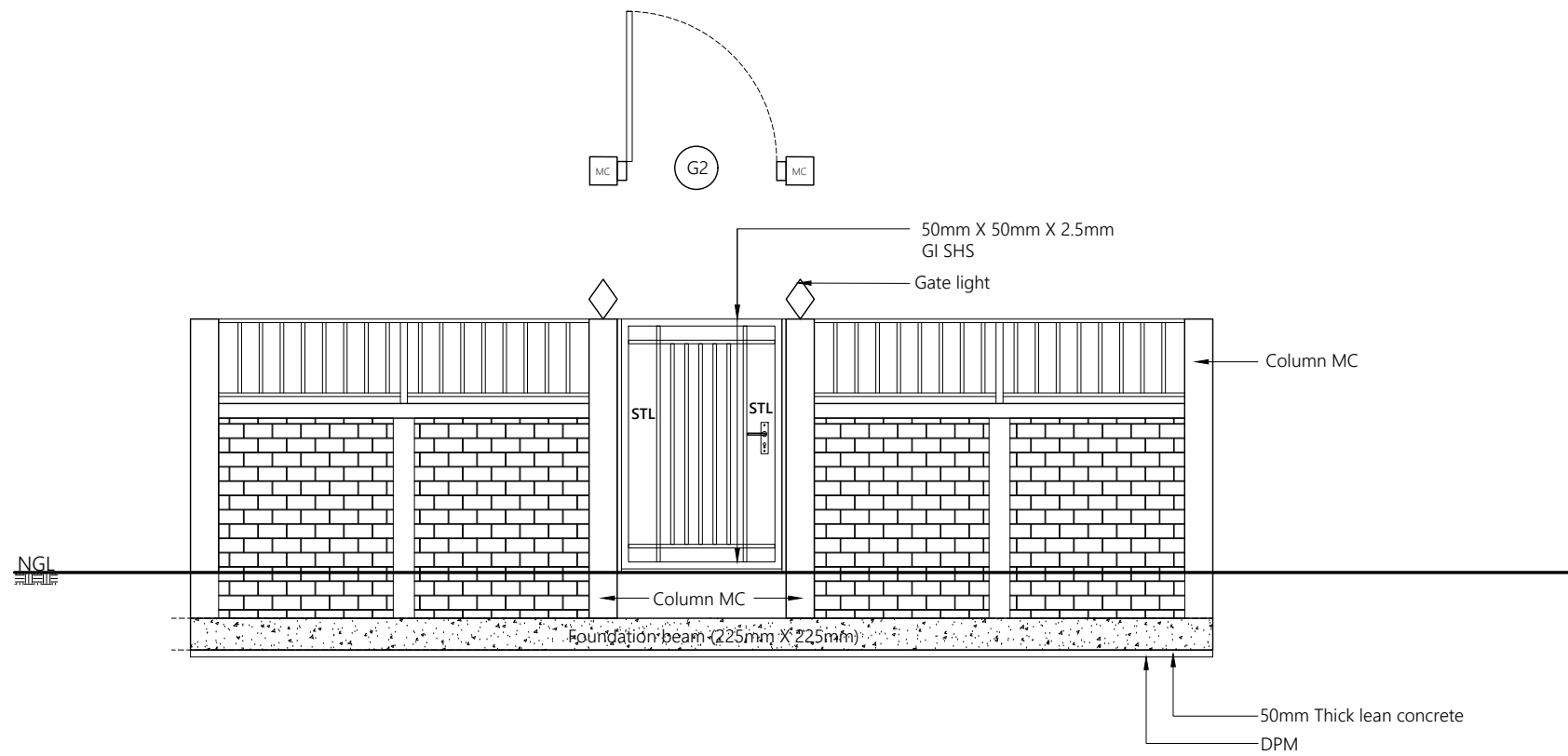
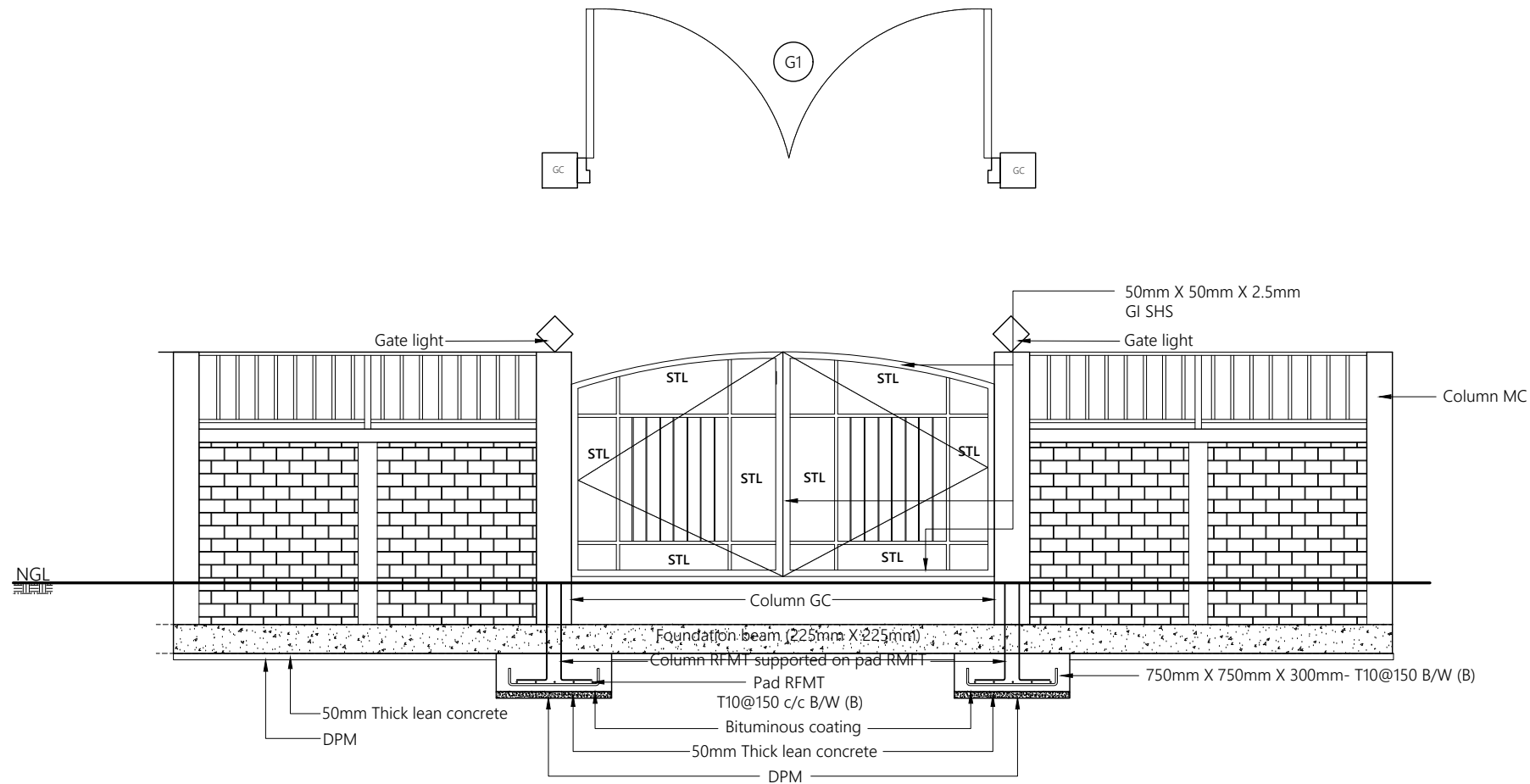
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Sub Title:
Water Supply System in GA.Dhevvdhoo

Client:
Ministry of National Planning, Housing and Infrastructure, Republic of Maldives

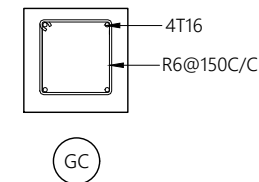
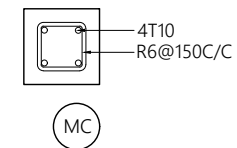
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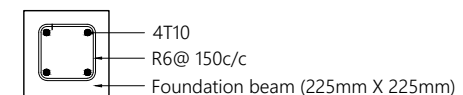
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Rev: R-00 Page: A.D (3)



GATE DETAILS
1:50



COLUMN DETAILS
1:20



FOUNDATION BEAM DETAIL
1:20

Legend

Note:

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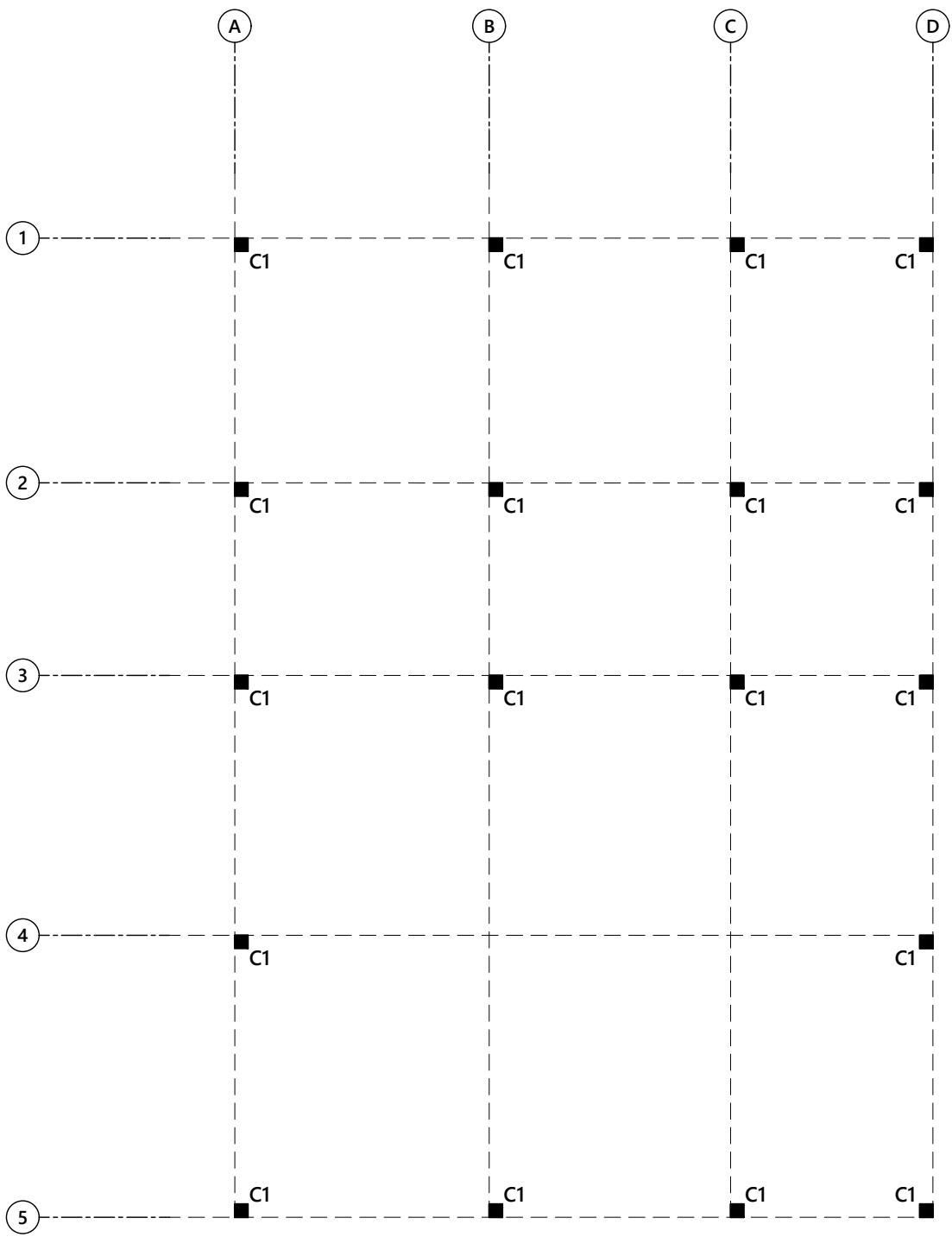
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Sub Title:
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COLUMN LAYOUT PLAN

1:100

Legend

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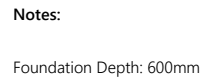
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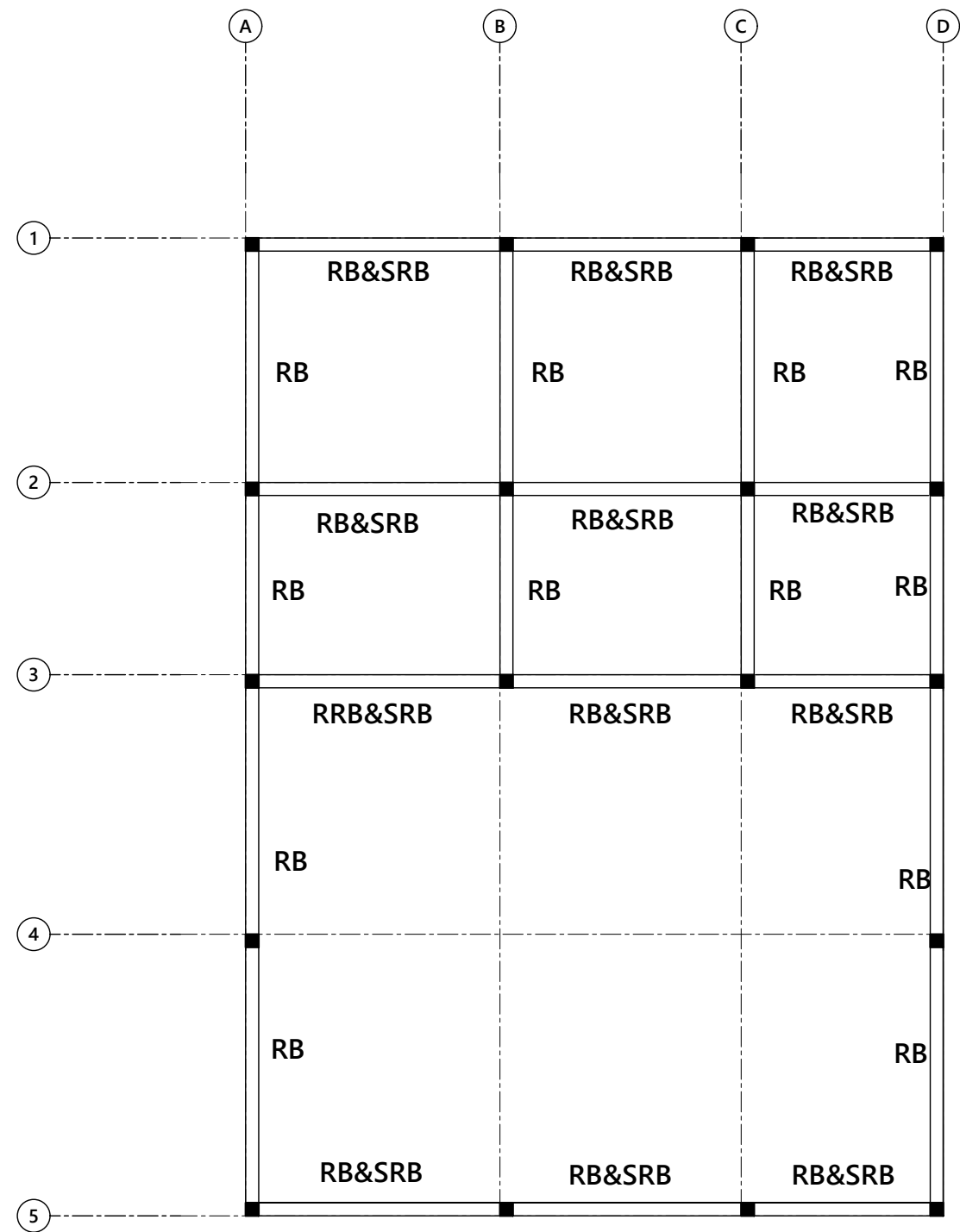
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ROOF BEAM PLAN

1:100

Legend

Note:

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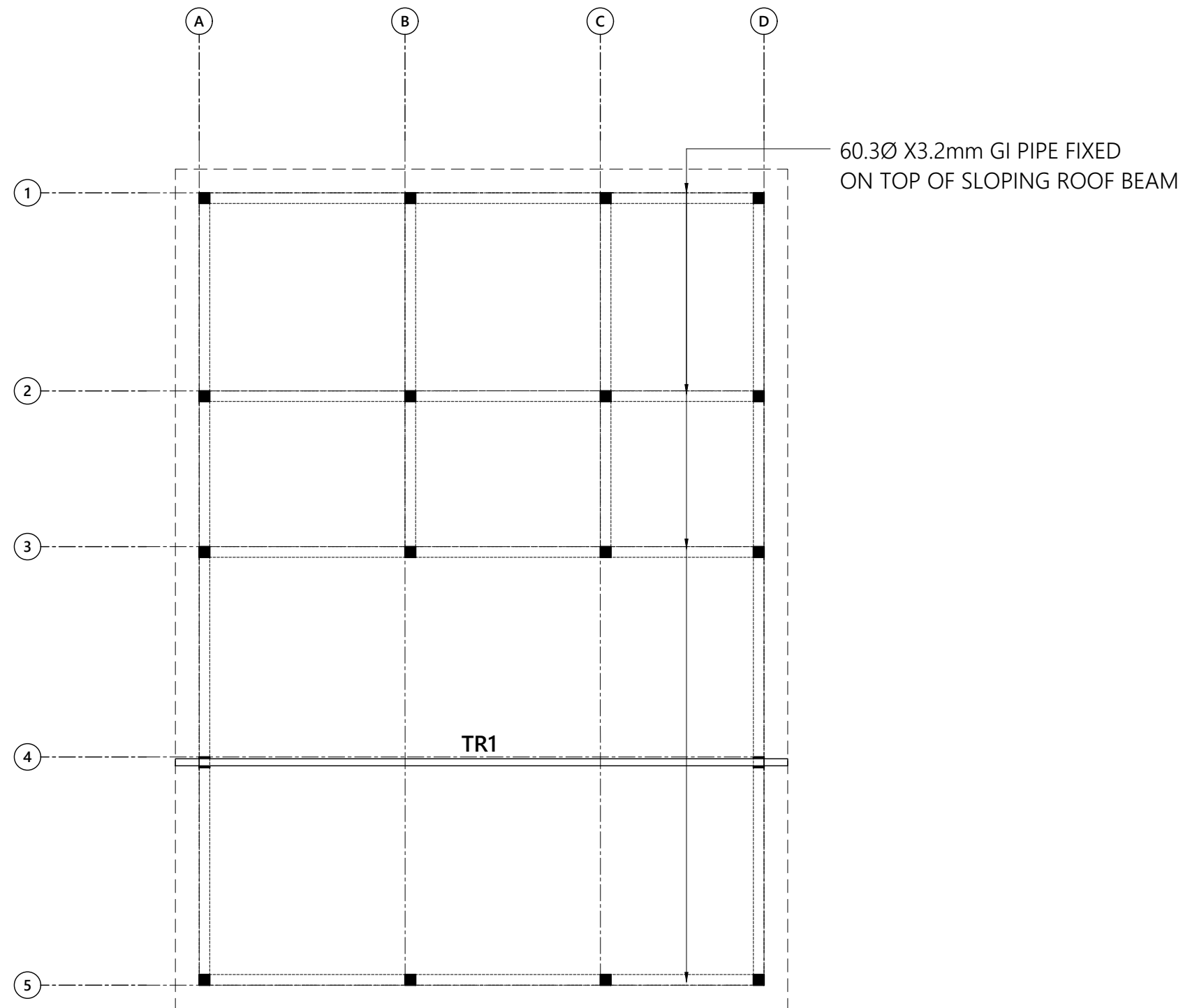
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ROOF TRUSS PLAN

1:100

Legend

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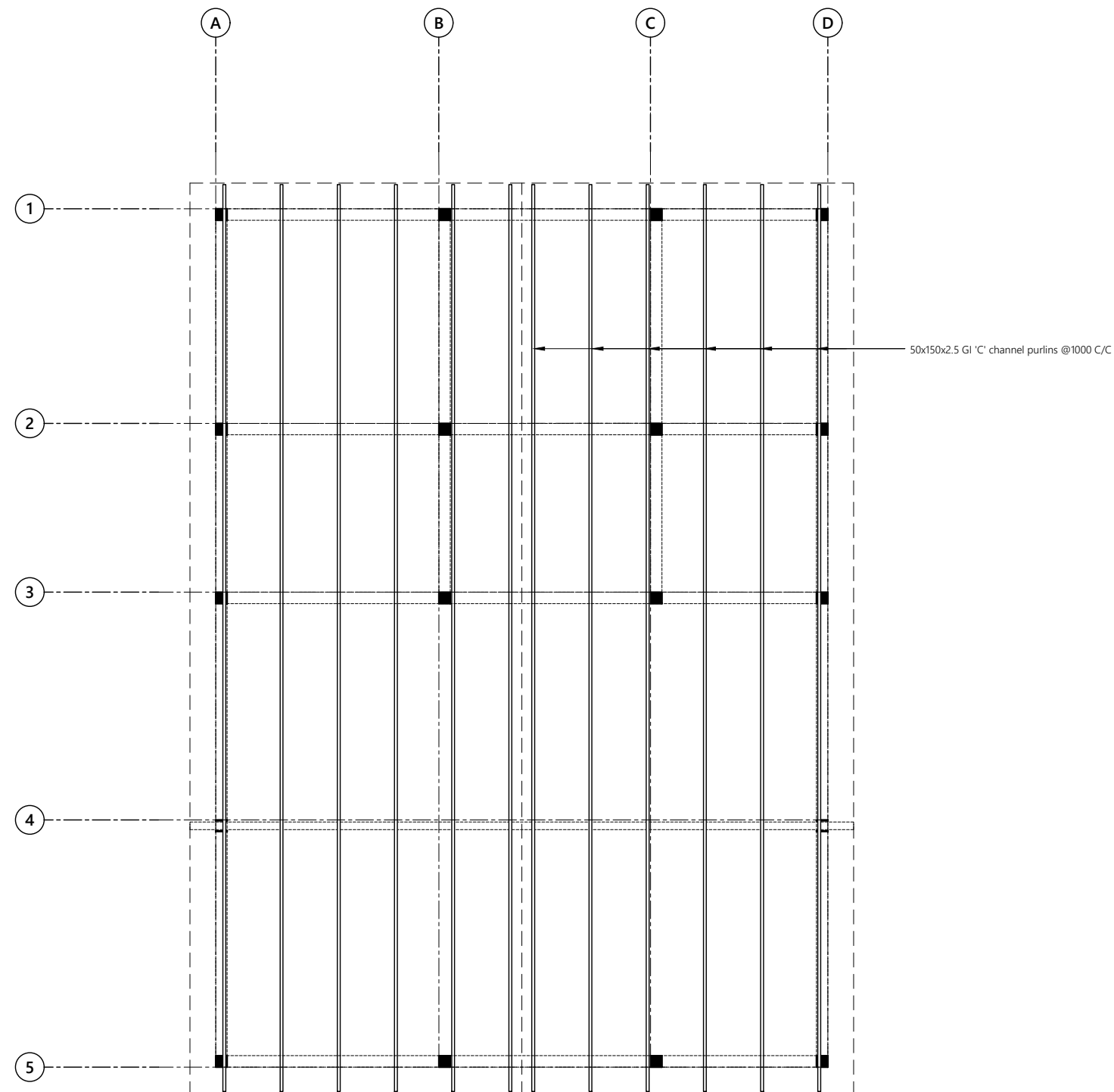
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ROOF FRAMING PLAN

1:100

Legend

Note:

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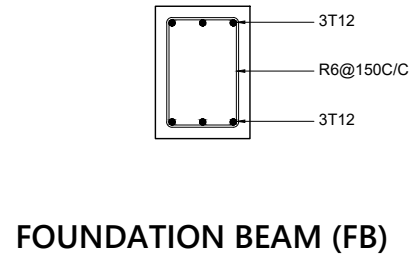
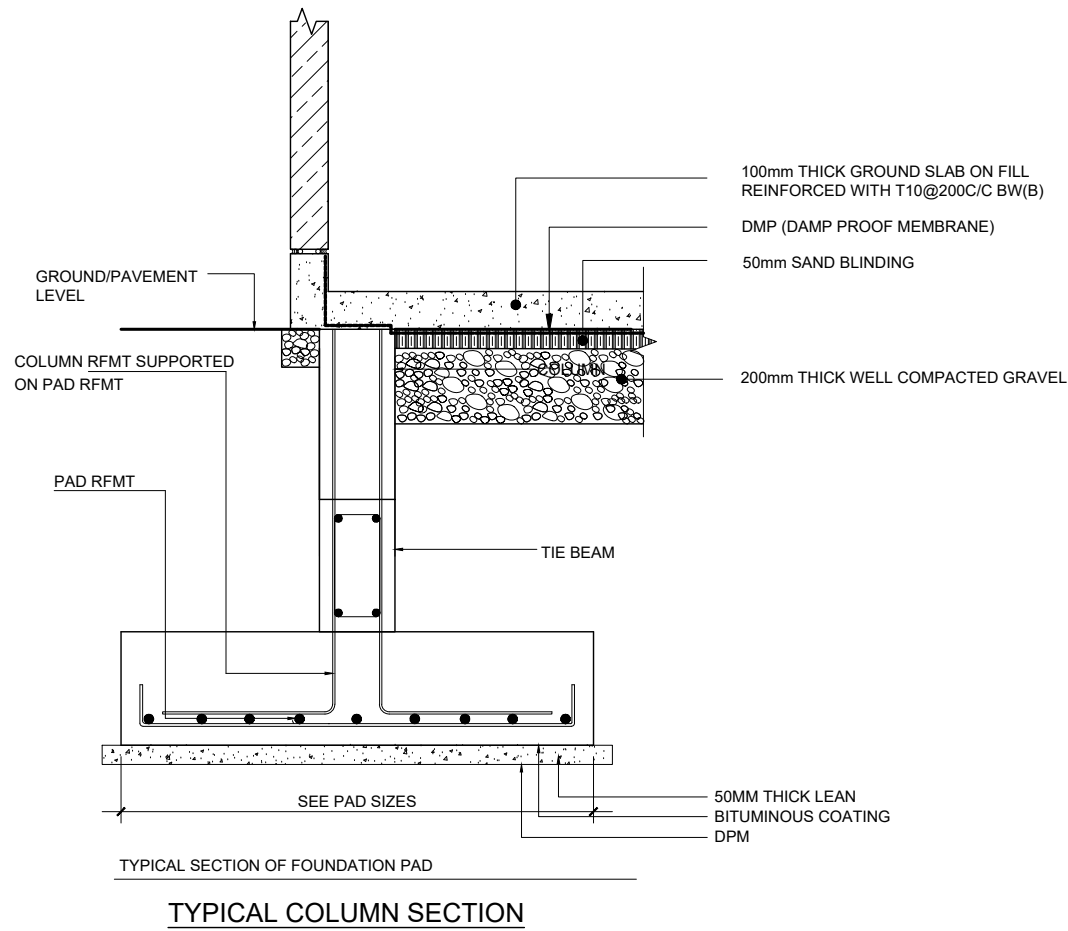
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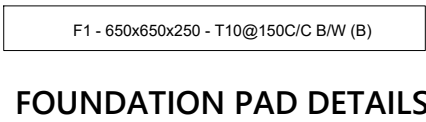
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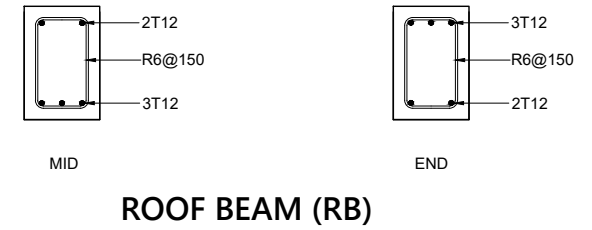
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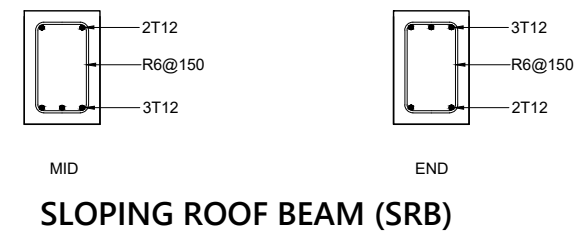
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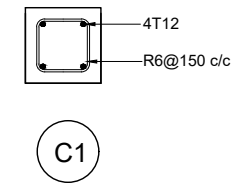
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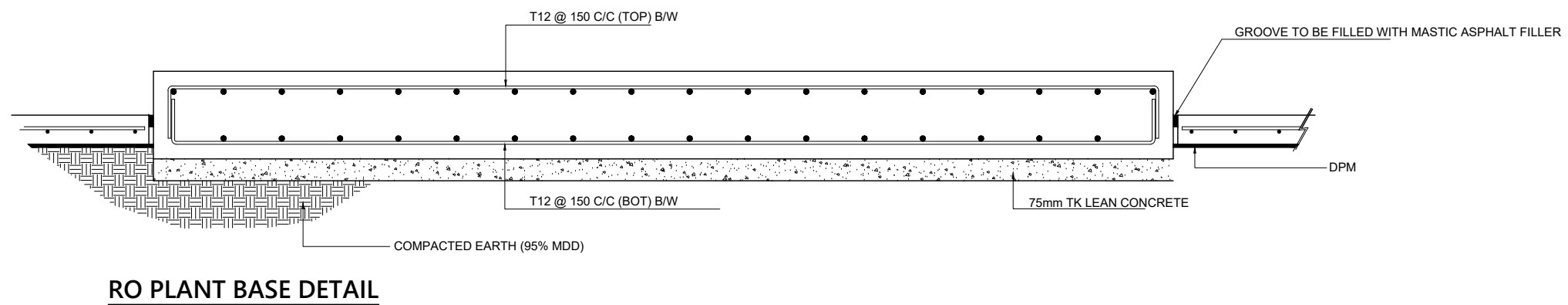
ROOF BEAM (RB)



SLOPING ROOF BEAM (SRB)



COLUMN DETAIL



RO PLANT BASE DETAIL

STRUCTURAL DETAILS

1:20

Legend

Note:

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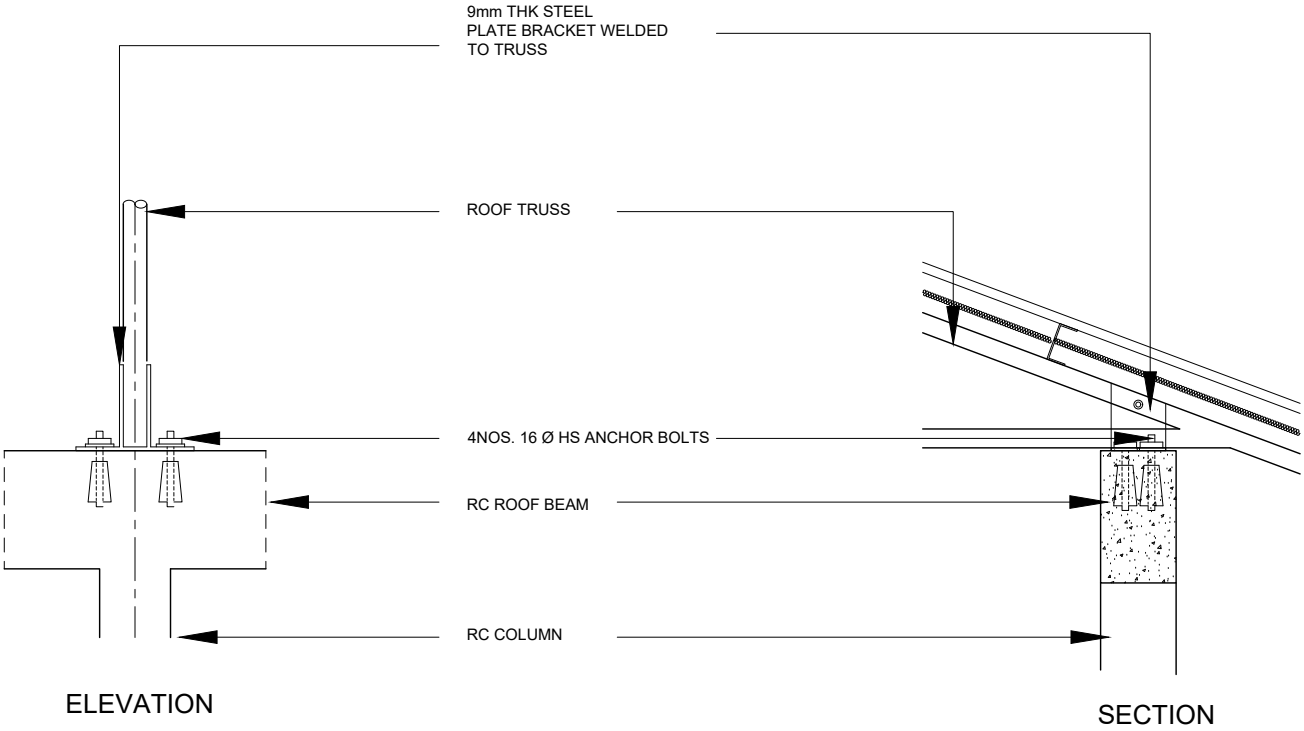


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DETAIL A

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Legend

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Approved: M.H.

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ARCHITECTURAL AND STRUCTURAL DRAWINGS OF

PROPOSED SINGLE STOREY BUILDING AT

RO PLANT VEHICLE SHED, TH.MADIFUSHI



Legend

Note:

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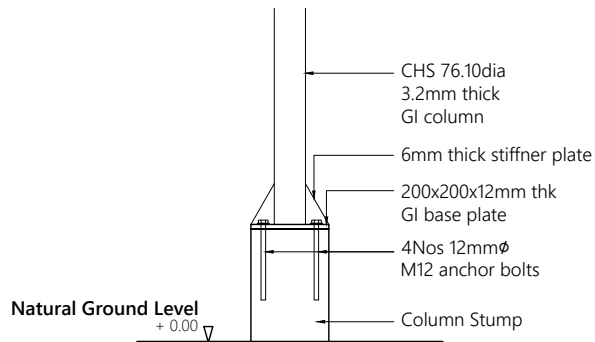


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1:20



- *All welds shall be 6mm thick full perimeter fillet welds
- *All Truss ends shall be end capped with 6mm plates
- *All truss members shall be protected with anti corrosive coatings
- *All CHS shall have a minimum yield stress of 275 MPa

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BUILDING SERVICES DRAWINGS OF
PROPOSED SINGLE STOREY BUILDING AT
RO PLANT ADMIN BUILDING, TH. MADIFUSHI

For Ministry of National Planning, Housing and Infrastructure

CONTENTS

BUILDING SERVICES DRAWINGS	
GROUND FLOOR POWER AND ACV LAYOUT	PAC-01
GROUND FLOOR FDP LAYOUT	FDP-01
GROUND FLOOR LIGHTING LAYOUT	EL-01
GROUND FLOOR PLUMBING LAYOUT	PL-01
GROUND FLOOR DRAINAGE LAYOUT	DR-01
ROOF DRAINAGE LAYOUT	DR-02
SITE LIGHTING LAYOUT	EL-02

	13A Twin Socket
	13A Twin Socket With USB Ports
	15A Switched Socket @ H.L.
	15A Socket In Polycarbonate Box
	15A Switch @ 1200mm From F.F.L.
	13A Power Socket


HL. High Level

—— 82Ø PVC Duct For Tel./Internet Cable Lead In Below Ground Slab

— Main Incoming Cable For Power In 110Ø PVC Duct Below Ground Slab

ISB Internet Switchboard

Telephone Outlet

 Computer Network Outlet

 Emergency Light

M Electricity Meter

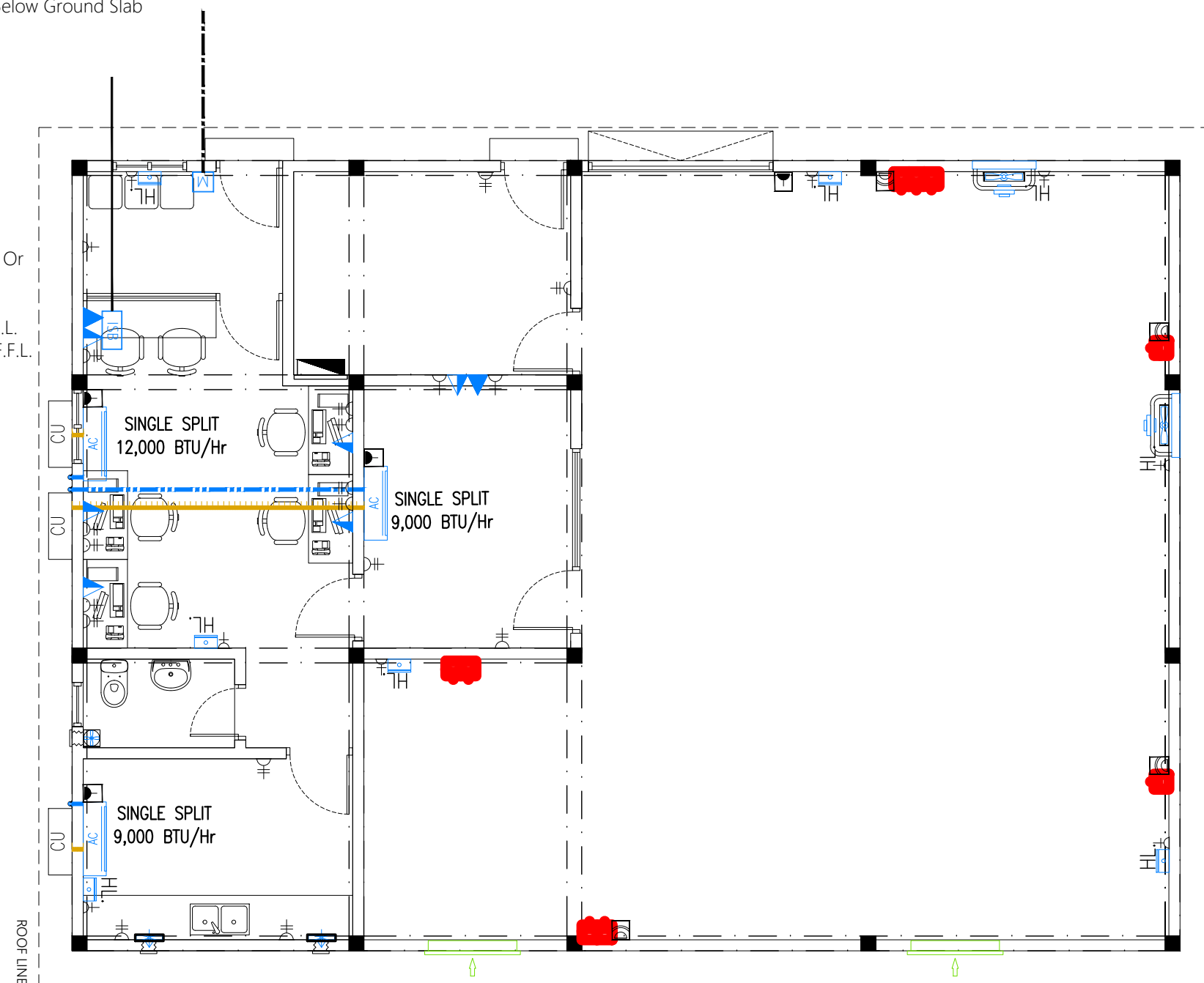
Notes: -

- All 13A Power Outlets For Kitchen Hood Or Under Cabinet Or Wardrobe Lights At 1800mm From F.F.L.

- All Twin Sockets At 300mm From F.F.L. Except Located At Kitchen Cupboard Area Which Shall Be At 1200mm From F.F.L.

- All Computer, TV And Telephone Points At 300mm From F.F.L.

- All 20A Switched Neon Indicator At 1200mm From F.F.L.



	Refrigerator
	2500 BTU
	4000 BTU
	Wall Mounted AC Unit
	Outdoor Condensing Unit
	Ceiling Fan
	Wall Mounted Fan
	Single Motor
	Fresh Air Intake

Legend

Note:

- All 13A Power Outlets For Kitchen Hood Or Under Cabinet Or Wardrobe Lights At 1800mm From F.F.L.

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Checked:	M.R.
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Designed: H.R.

Approved:	M.R.
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Date: Aug 2020

SCALE (A3): 1:75

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Rev:













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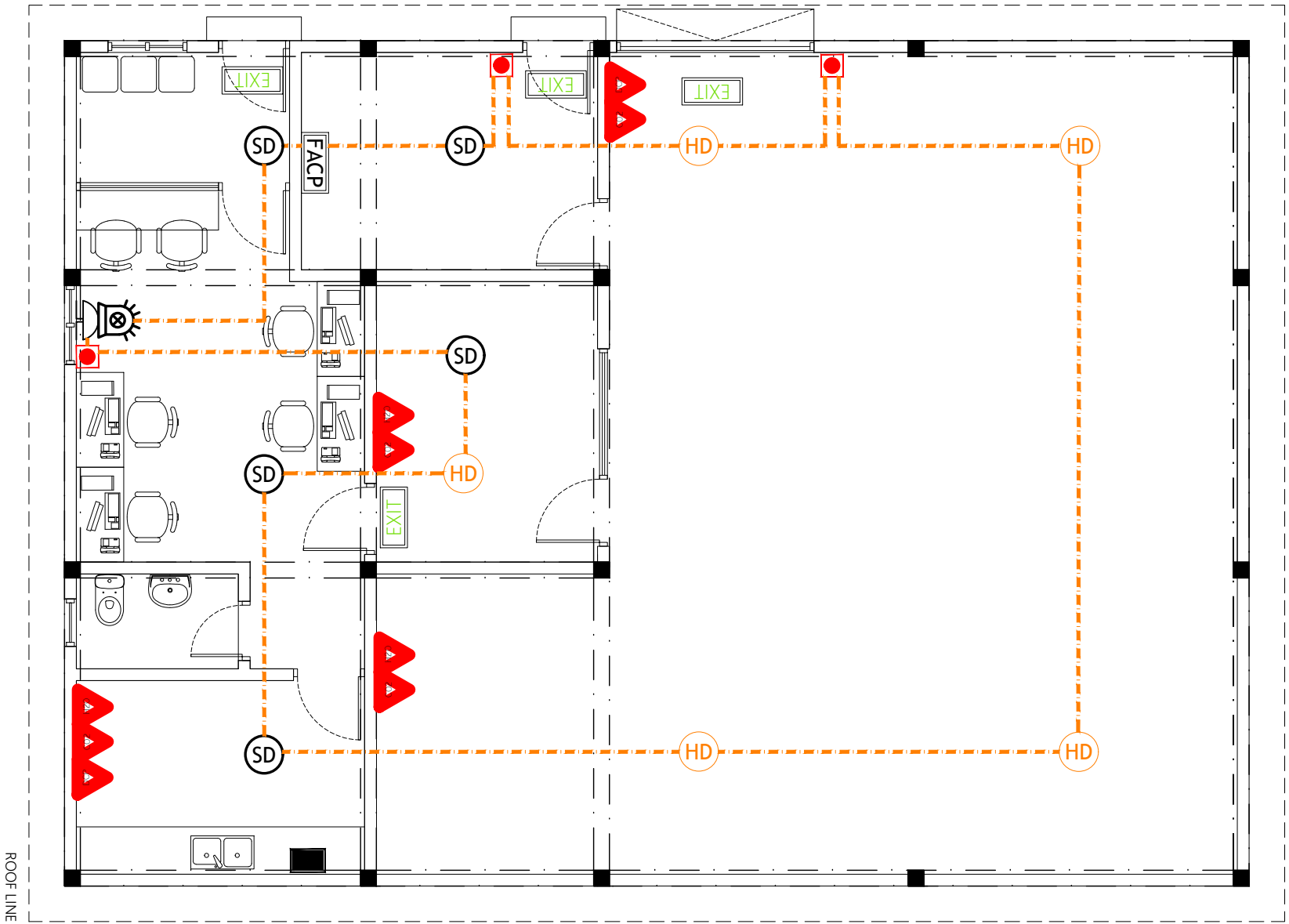
R-00

PAC-01

GROUND FLOOR POWER A

Legend

-  DCP Extinguisher (load: 6kg) In Polycarbonate Enclosure
-  CO₂ Extinguisher (load: 2kg) In Polycarbonate Enclosure
-  H₂O Extinguisher (load: 9L) In Polycarbonate Enclosure
-  Manual Call Point
-  Smoke Detector
-  Heat Detector
-  Beacon
-  Sounder Bell
-  Fire Blanket
-  2.5mm² Fire Retardant Low Smoke (FRLS) Cables In FRLS Conduits
-  Fire Alarm Control Panel
-  Exit Sign



Legend

Note:

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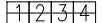








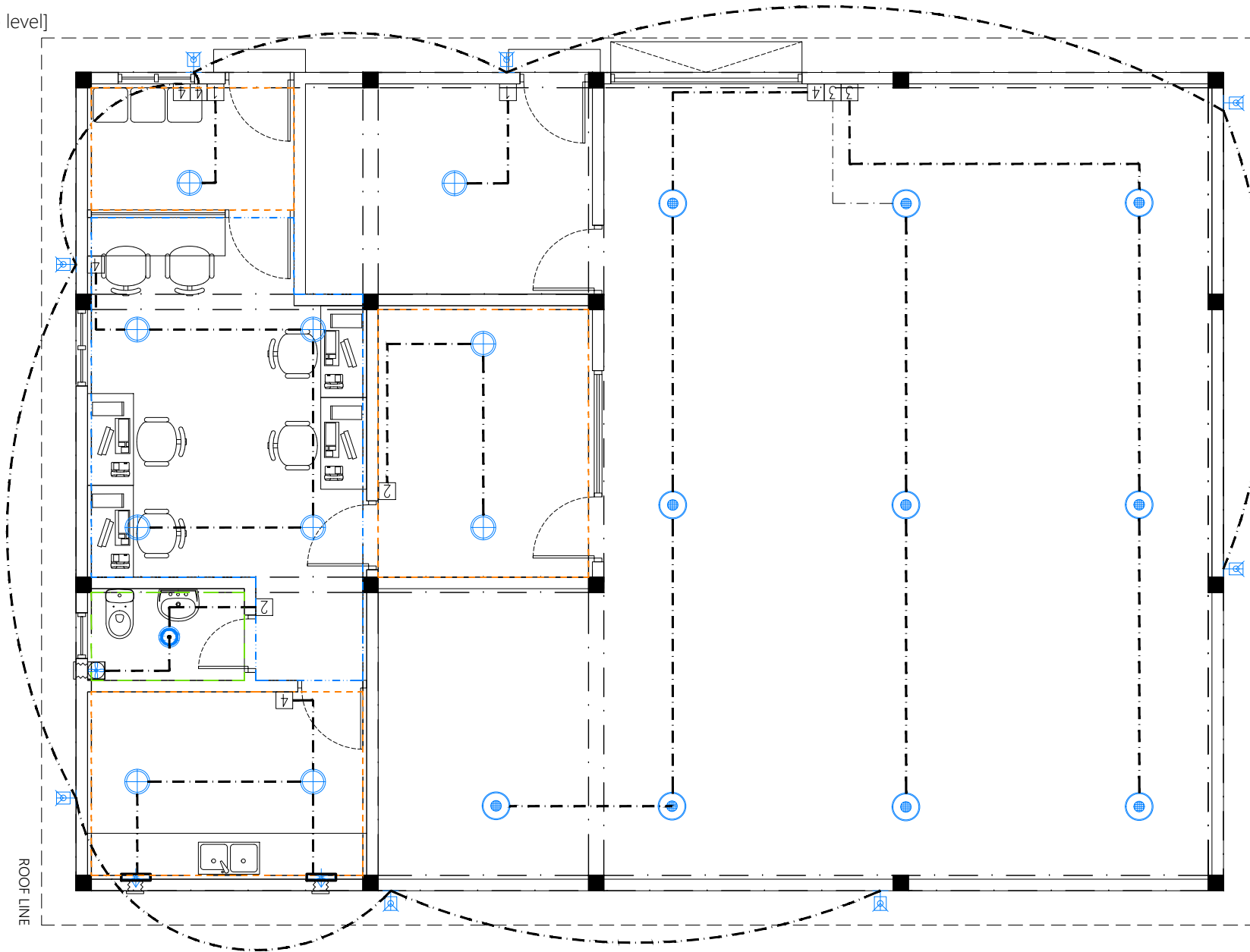
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Legend

-  Ceiling Light (12W)
-  Recessed Ceiling Light (12W)
-  Weather Proof Wall Light IP55 (12W)
-  60W, HPS, Low Bay Light
-  Light Switch (1 Gang - 4 Gang)
-  Two Way Light Switches (1 Gang - 4 Gang)
-  SINGLE INTAKE, CENTRIFUGAL, EXTERNAL MOTOR, 800M3/Hr
-  Ceiling Mounted Exhaust Fan 90m3/hr
-  Wall Mounted Exhaust Fan
-  Cement Board False Ceiling [200mm below beam bottom]
-  Plaster Board False Ceiling [200mm below beam bottom]
-  Plaster Board False Ceiling [at roof beam top level]



GROUND FLOOR LIO

Legend

Note:

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










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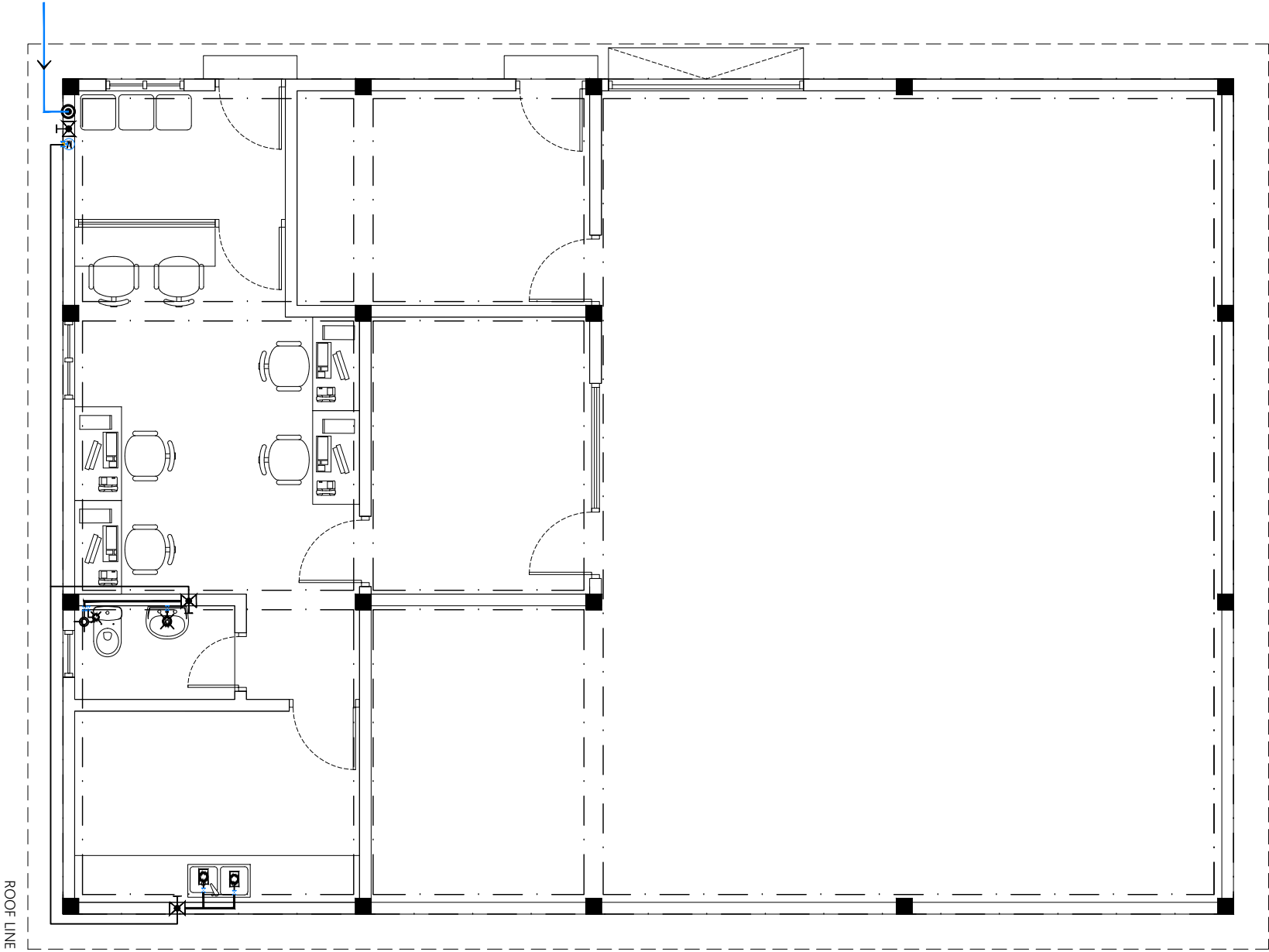


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Legend

-  16Ø Cold Water Supply To Basin Faucet
-  16Ø Cold Water Supply To Bidet Shower
-  16Ø Cold Water Supply To Wall Tap
-  16Ø Cold Water Supply To Cistern
-  Gate Valve
-  Rise In Wall
-  MWSC Meter
-  25Ø Cold Water Supply Pipes Running Underground
-  20Ø Cold Water Supply Pipes Running In Wall

PIPE FROM MAINS SUPPLY



GROUND FLOOR PLU



Legend

Note:

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- Notes: -

CONNECTED TO MAIN NETWORK

CONNECTED TO RAINWATER NETWORK

CONNECTED TO RAINWATER NETWORK

CONNECTED TO RAINWATER NETWORK

TO BRINE TANK

CONNECTED TO RAINWATER NETWORK

GROUND FLOOR D

Legend

Note:

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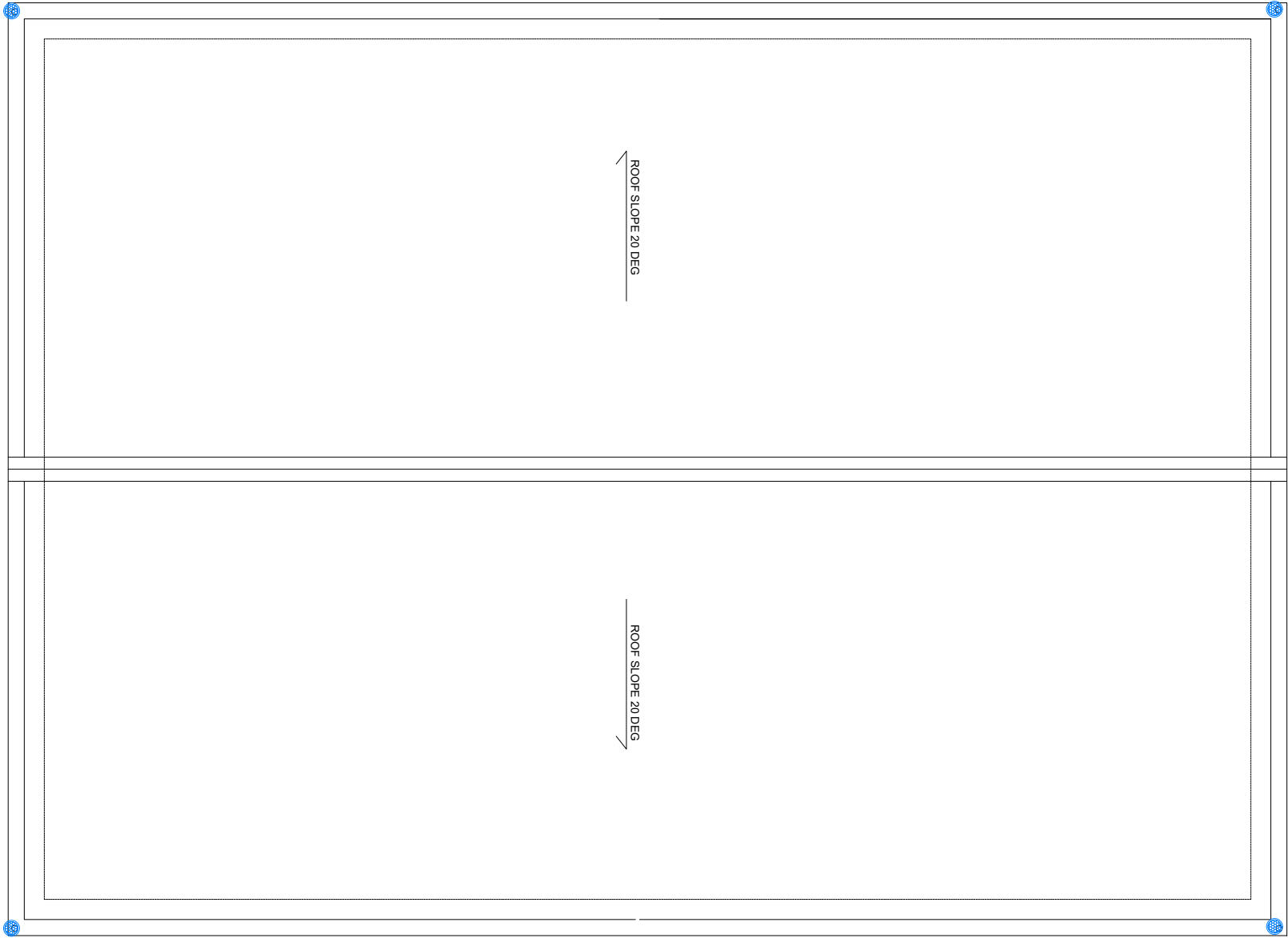
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Legend

-  Floor Drain
-  Floor Gully
-  82Ø Soil Pipe (uPVC Pipe)
-  82Ø Soil Vent Pipe (uPVC Pipe)
-  63Ø Waste Pipe (uPVC Pipe)
-  63Ø Waste Vent Pipe (uPVC Pipe)
-  40Ø Waste Pipe (uPVC Pipe)
-  50Ø Manhole Vent Pipe (uPVC Pipe)
-  110Ø Rain Water Pipes (uPVC Pipe)
-  Gully Trap
-  110Ø Rainwater Outlet
-  Clean Out Point
-  Bottle Trap

Notes: -

- All Drainage Pipes Should Have At A Slope Of 1/150
-All Floor Drains Should Have 'P' Traps



GROUND FLOOR



Legend

- Note:
- All Drainage Pipes Should Have At A Slope Of 1/150
-All Floor Drains Should Have 'P' Traps

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- ### Legend



- All Drainage Pipes Should Have At A Slope Of 1/150
- All Floor Drains Should Have 'P' Traps

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SITE LIGHTING LAYOUT
1:150