

CONSULTANCY SERVICES FOR SURVEY, DESIGN AND EIA WORKS OF WATER SUPPLY AND
SEWERAGE FACILITIES IN 7 ISLANDS, MALDIVES

PACKAGE 6

SEWERAGE SYSTEM OF GDH. NADELLA, MALDIVES

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

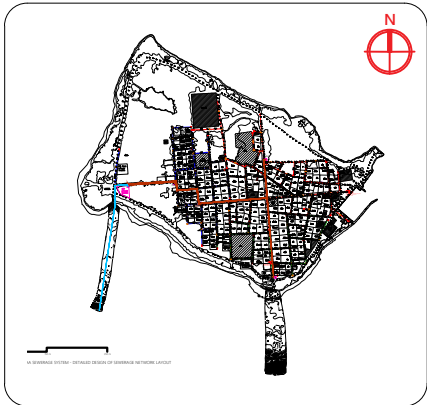


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Legend

- 160mm \varnothing uPVC PS1 Gravity Sewer - 2200 m
- Main (SN4, SDR41)
- 160mm \varnothing uPVC PS2 Gravity Sewer - 3181 m
- Main (SN4, SDR41)
- 160mm \varnothing uPVC PS3 Gravity Sewer - 1661 m
- Main (SN4, SDR41)
- 160 mm \varnothing HDPE Pumping Main - 1628 m
- (PE100, PN16, SDR11)
- 160 mm \varnothing HDPE Sea Outfall Pipe - 111 m on land
- (PE100, PN16, SDR11) - 351 m offshore
- 462 m total
- 600mm \varnothing PE/PP Maintenance Shaft - 121 nos
- 160mm \varnothing uPVC Clean Out - 66 nos
- PERMANENT SURVEY MARK PSM_0325
- 282357.663E, 32382.617N
- 0.862m From MSL
- PERMANENT SURVEY MARK PSM_0326
- 281871.056E, 32343.026N
- 0.812m From MSL
- PERMANENT SURVEY MARK PSM_0327
- 282101.986E, 32148.977N
- 0.862m From MSL

Notes

1. ALL LEVELS SHOWN ARE IN METERS.
2. ALL LEVELS SHOWN ARE FROM MEAN SEA LEVEL
3. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS
4. ALL GRAVITY SEWER PIPES SHALL BE UPVC TO BS EN1401-1:2019.
5. ALL GRAVITY SEWER MAINS SHALL BE 160MM DIA UPVC OF WALL THICKNESS & STIFFNESS RATED TO SN4 & SDR41.
6. ALL GRAVITY HOUSE LATERALS SHALL BE 110MM DIA UPVC OF WALL THICKNESS & STIFFNESS RATED TO SN4 & SDR41.
7. ALL GRAVITY SEWER MAINS SHALL HAVE MINIMUM 0.4% SLOPE.
8. ALL GRAVITY SEWER PIPES SHALL BE JOINTED USING RUBBER RING PUSH FIT JOINTING METHOD & RUBBER RINGS COMPLY WITH BS 2494 (TYP2).
9. CONNECTION FROM THE HOUSEHOLD TO THE INSPECTION CHAMBER IS NOT INCLUDED. PROVISION SHALL BE GIVEN IN IC FOR MULTIPLE CONNECTIONS.
10. ALL SEWER PIPES SHALL BE BURIED UNDER EARTH COVER OF MINIMUM 0.6 METERS.
11. CATCHMENT OVER FLOW LINKS ARE TO BE CONNECTED AS INDICATED BELOW:
 - a) CO1-06 and MH1-36
 - b) CO2-04 and CO1-12
 - c) CO3-06 and CO1-08

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
Consultancy Services for Survey, Design and EIA works of Water Supply and Sewerage Facilities in 7 islands, Maldives - Package 6

Sub Title:
Sewerage System in GA. Nilandhoo

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



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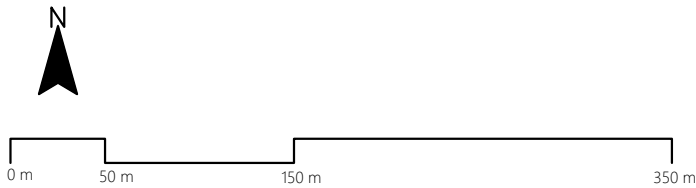
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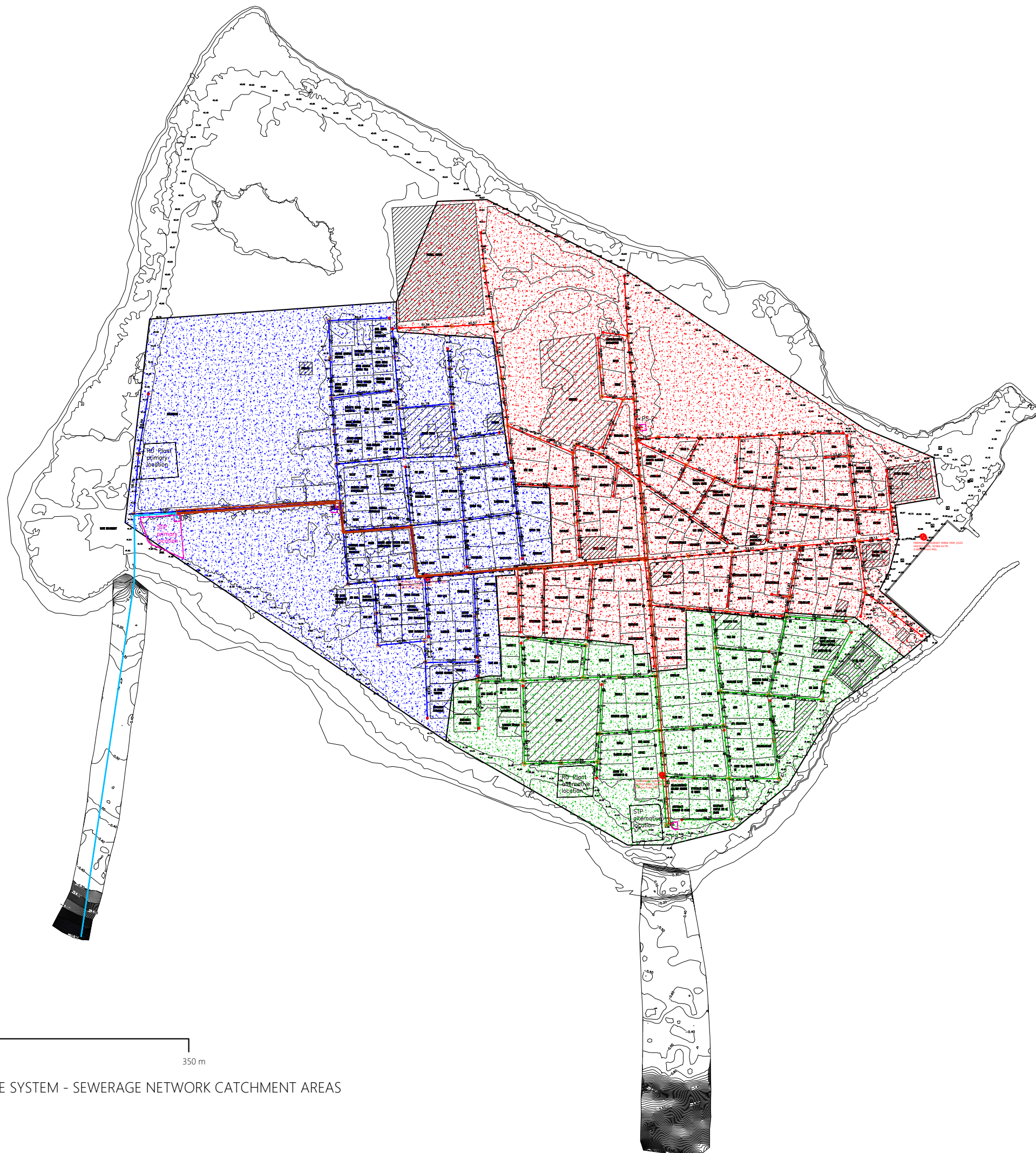
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A-(1)



GDH. NADELLAA SEWERAGE SYSTEM - DETAILED DESIGN OF SEWERAGE NETWORK LAYOUT
1:4000



Legend

- PS-1 Catchment Area
- PS-2 Catchment Area
- PS-3 Catchment Area

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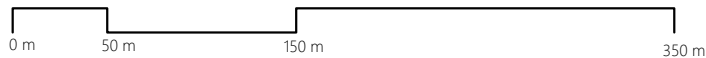
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GDH. NADELLAA SEWERAGE SYSTEM - SEWERAGE NETWORK CATCHMENT AREAS
1:4000



GDH. NADELLAA SEWERAGE SYSTEM - SEWERAGE NETWORK ZONE LAYOUT
1:4000



Legend

- 160mm Ø uPVC PS1 Gravity Sewer Main (SN4, SDR41)
- 160mm Ø uPVC PS2 Gravity Sewer Main (SN4, SDR41)
- 160mm Ø uPVC PS3 Gravity Sewer Main (SN4, SDR41)
- 600mm Ø PE/PP Maintenance Shaft
- 160mm Ø uPVC Clean Out
- 160 mm Ø HDPE Pumping Main (PE100, PN16, SDR11)
- 160 mm Ø HDPE Sea Outfall Pipe (PE100, PN16, SDR11)

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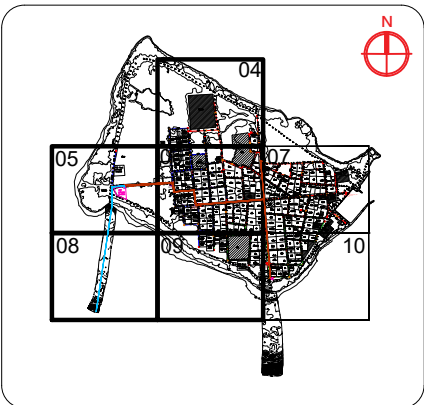
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Legend

- ### Legend
- | | |
|---|---|
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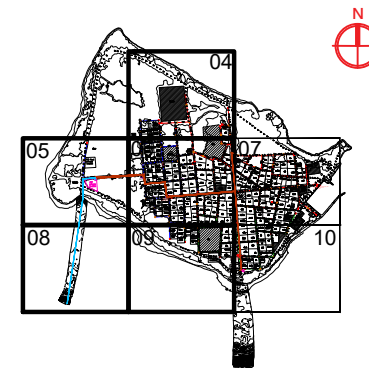
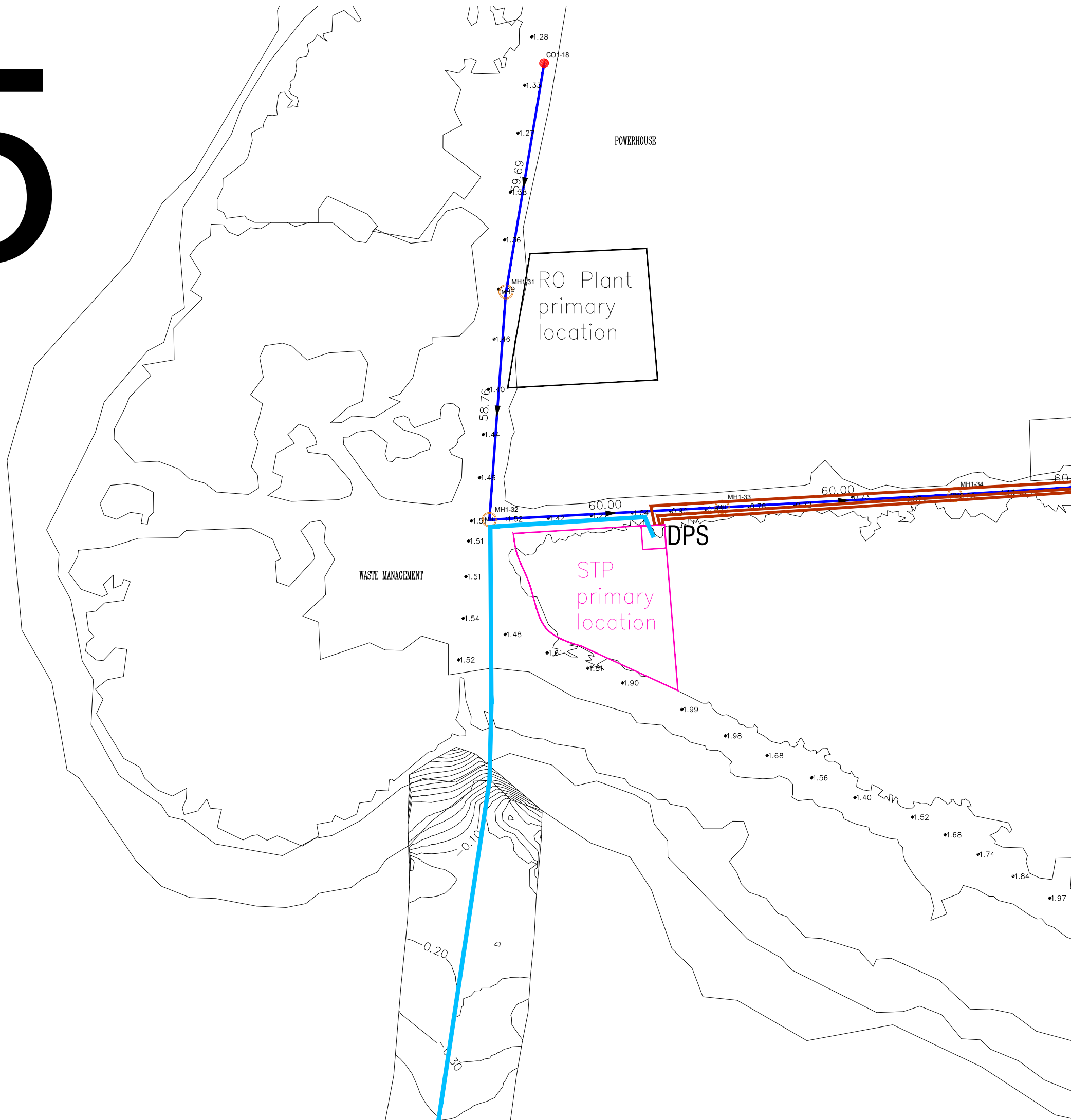
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	04
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04

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Legend

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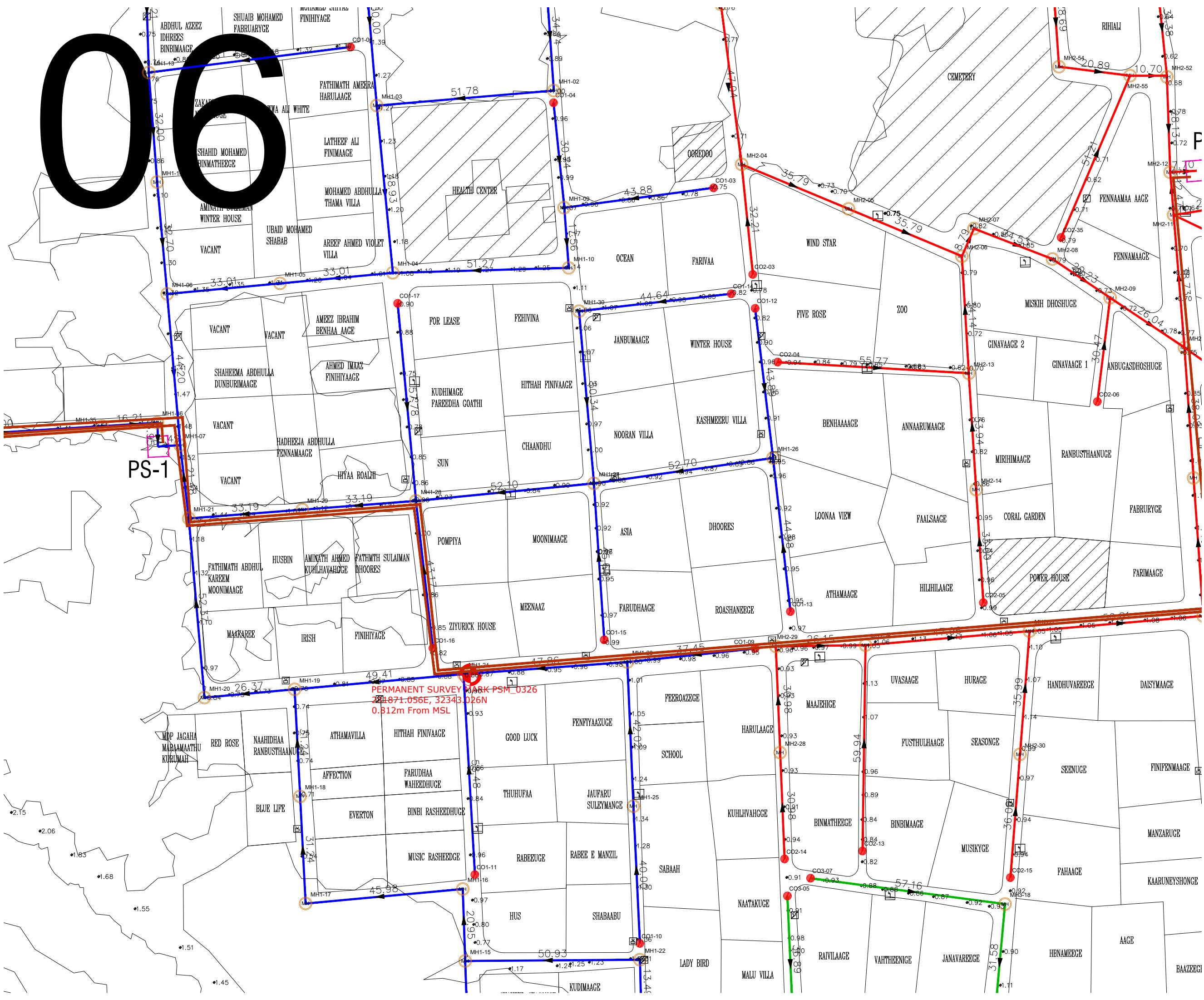
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04

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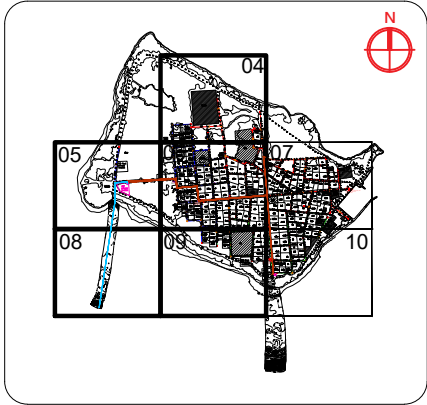
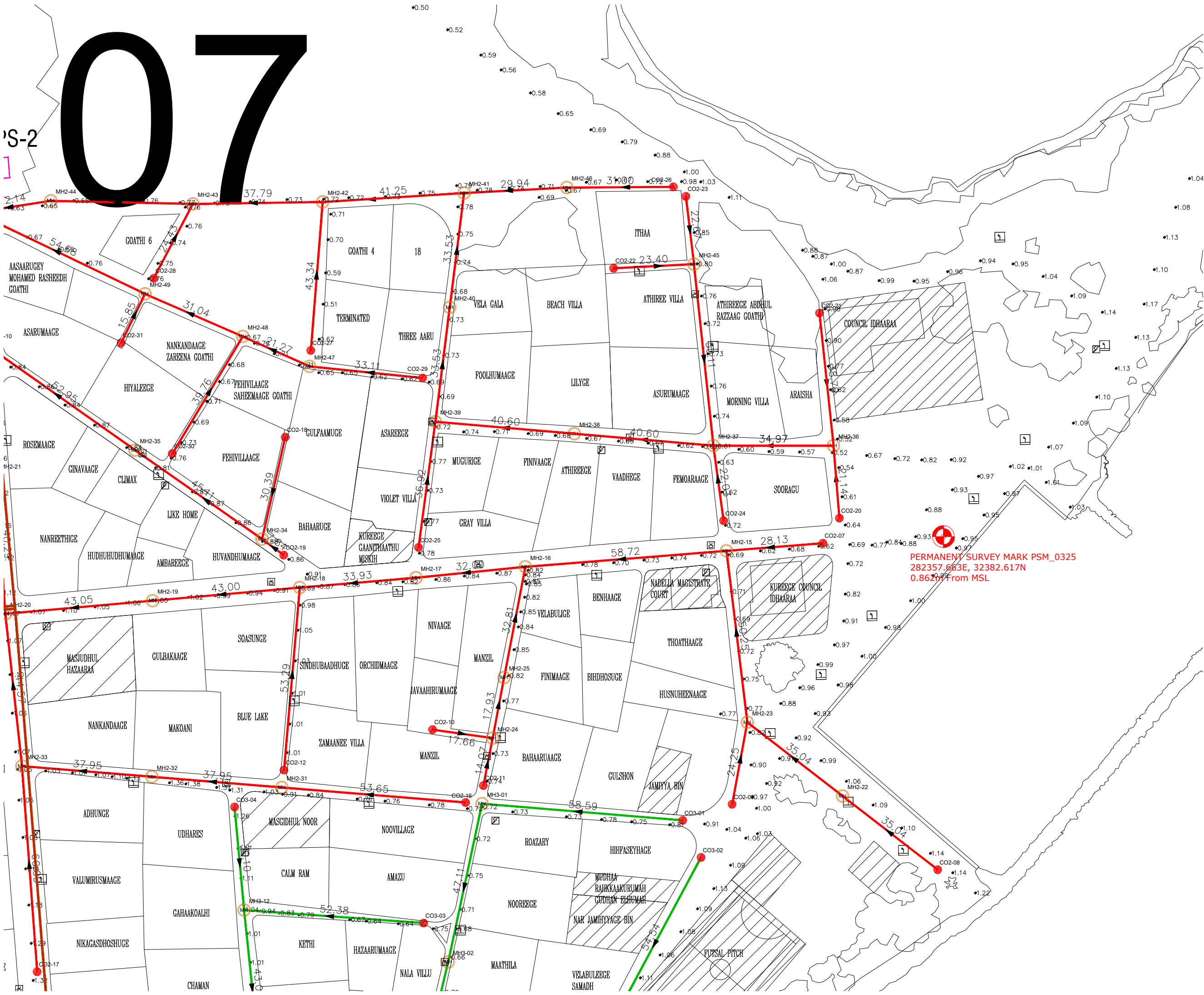
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0.862m From MSL

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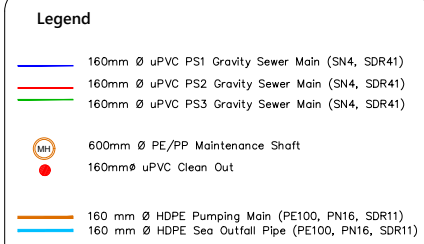
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09



Legend

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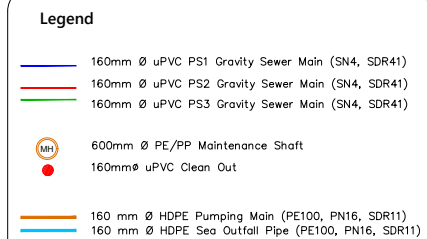
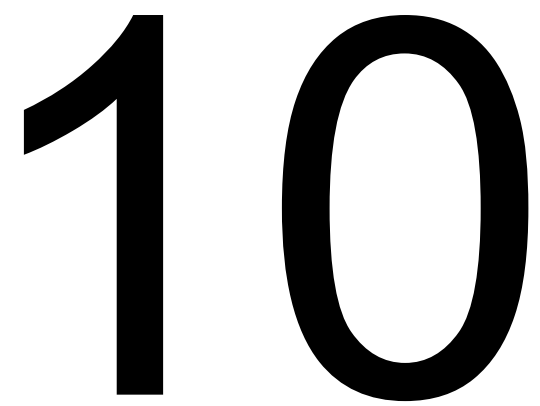
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Sewerage System in GA. Nilandhoo

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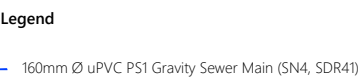
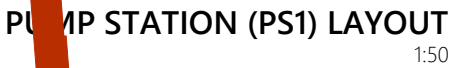


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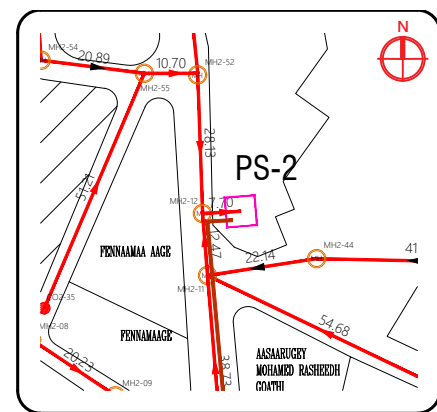
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Water Supply System in GDh. Nadella

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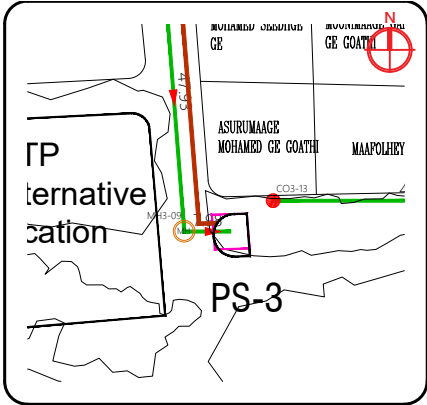
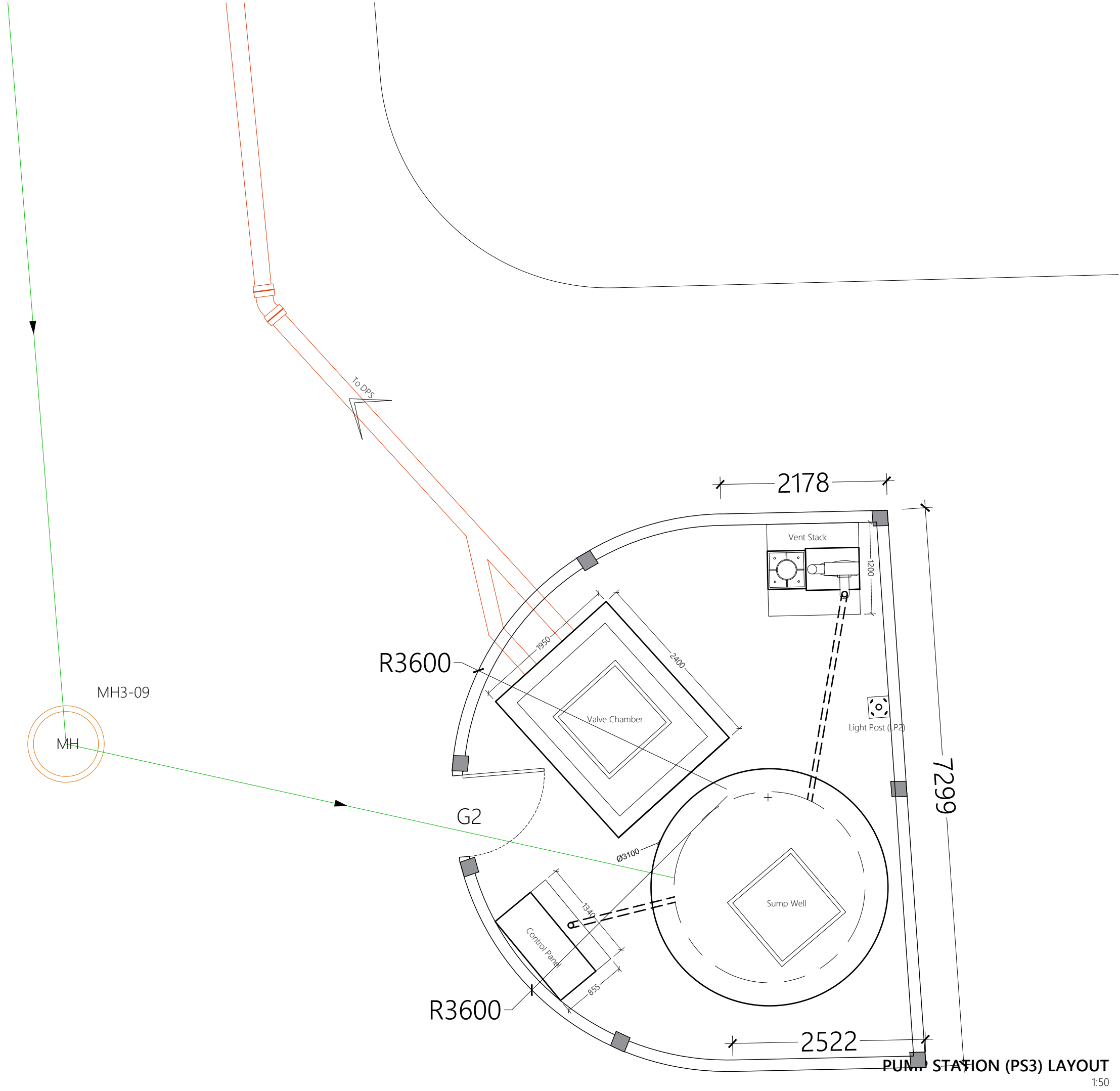


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PUMP STATION (PS2) LAYOUT



Legend

160mm Ø uPVC PS3 Gravity Sewer Main (SN4, SDR41)

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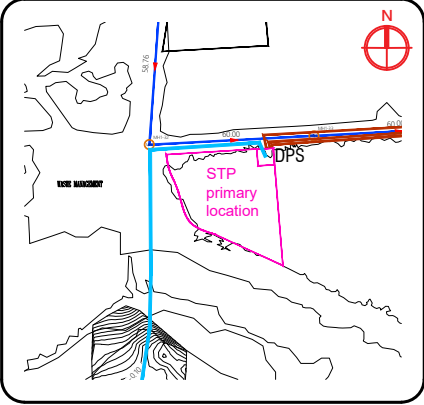
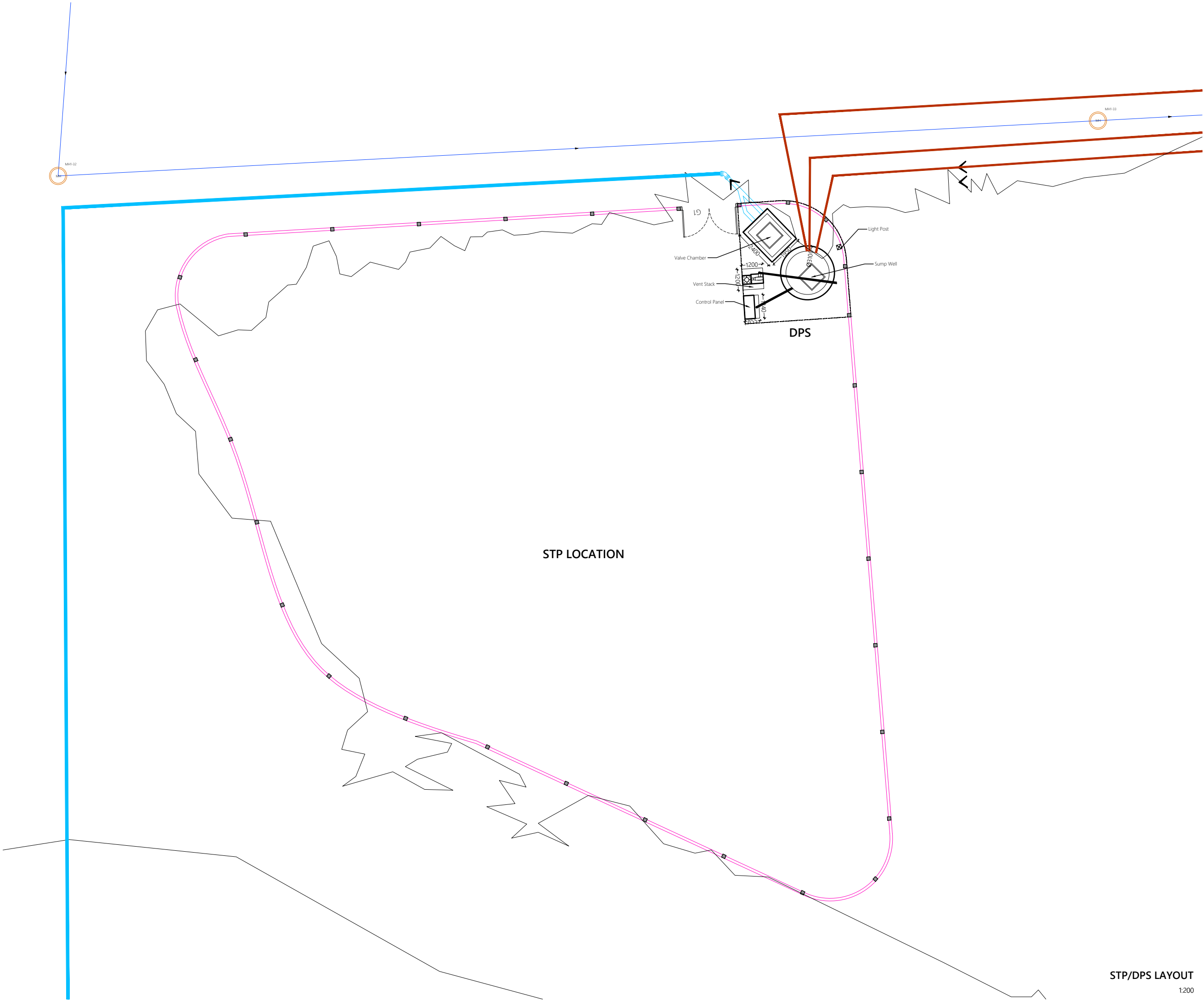
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Legend

- 160mm Ø uPVC Gravity Sewer Main (SN4, SDR41)
- 110 mm Ø HDPE Pumping Main (PE100, PN16, SDR11)
- 160 mm Ø HDPE Sea Outfall Pipe (PE100, PN16, SDR11)

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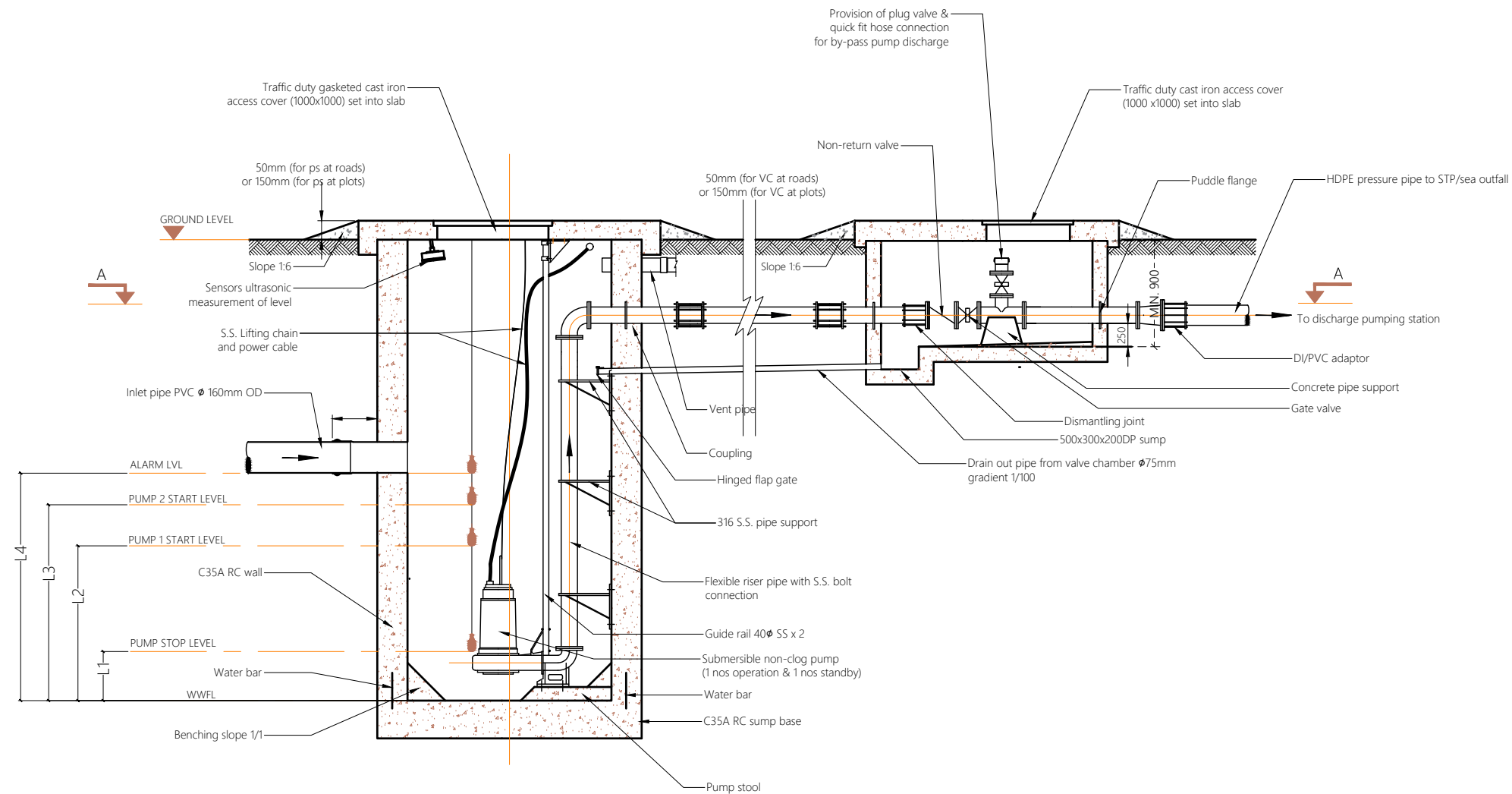
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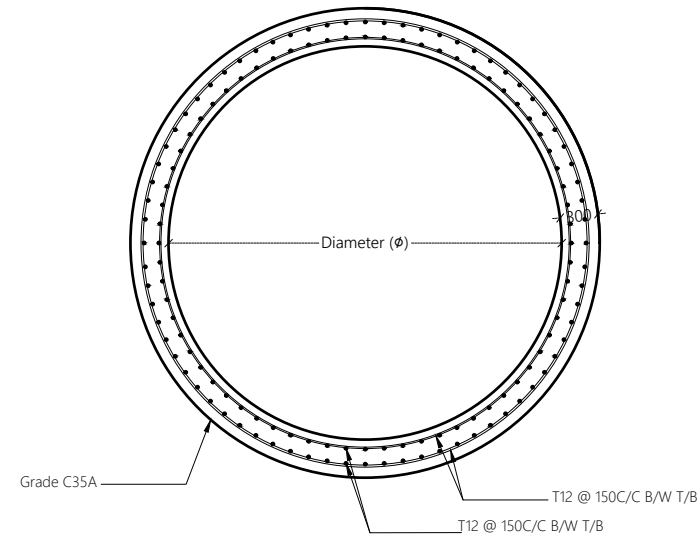
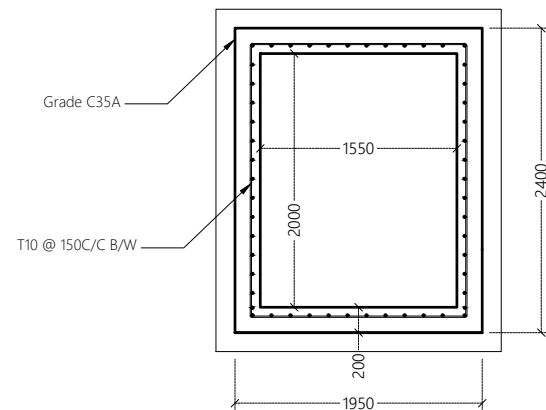
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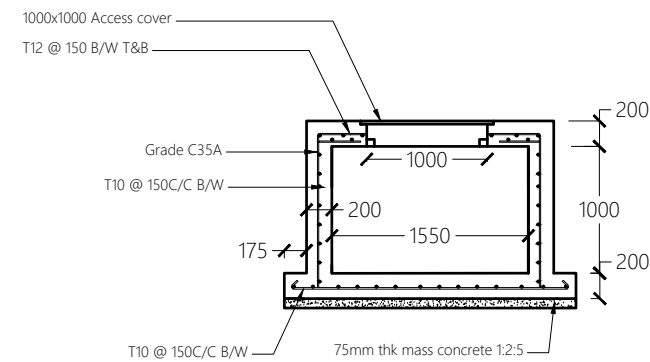
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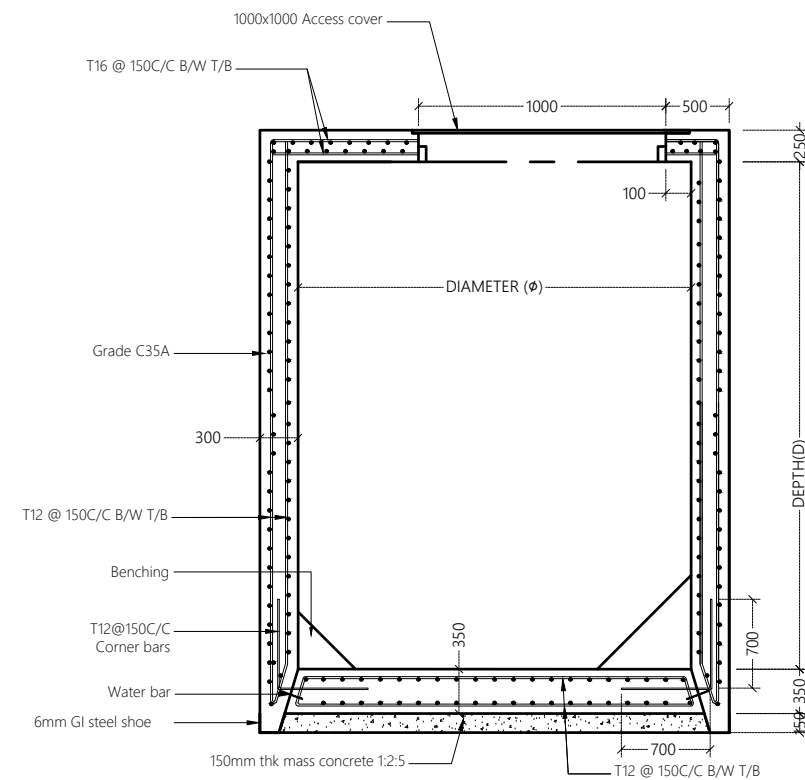
PLAN VIEW



SECTION



VALVE CHAMBER DETAIL



PUMP STATION DETAIL

Pump Station	Diameter (ϕ)	Depth (D)	Inlet Depth
PS1	2.5m	3.30m	2.486m, 2.236m
PS2	2.5m	3.20m	2.443m
PS3	2.5m	3.30m	2.563m
DPS	2.5m	3.00m	0.8m

PUMP STATION STRUCTURAL DETAILS

NTS

Legend

Notes:

- Pumps, pipe work, fittings and control panel shall be installed in accordance with manufacturers recommendations.
- Orientation of valve chamber pipework to suit location.
- All structural concrete shall be of grade C35A.
- All castings shall be done using sulphate resistant portland cement to BS 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.
- Internal concrete surfaces to be coated with 5mm thickness of epoxy bonded glass fibre and finished with gel coat or 500 microns epoxy paint coating.
- External concrete surfaces to be painted with 3 coats of bitumen/rubber emulsion and protected by 500 micron polythene.

- List of main instruments of pumping station:
- 1. Sewage pumps (1 duty & 1 standby)
- 2. Power cable
- 3. Auto-coupling with 400 SS guide rail
- 4. Stainless steel (316) suspension chain
- 5. Cable with float control and weight
- 6. Discharge pipe
- 7. Puddle flange
- 8. Bitumen emulsion and 500 micron polythene sheet protection to external concrete surfaces
- 9. Construction joint / water bars
- 10. Manhole cover double seal ductile heavy duty cast iron / SS 316 cover
- 11. Vent pipe with vent cowl

[illegible]

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

Sub Title:
Water Supply System in GDh. Nadella

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



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 Husnuheenaa Magu, Male', Maldives



Drawn: F.I.A.	Checked: M.S.S.
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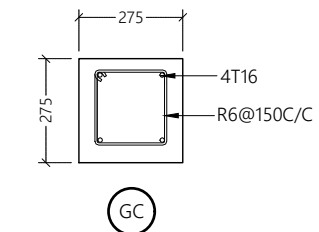
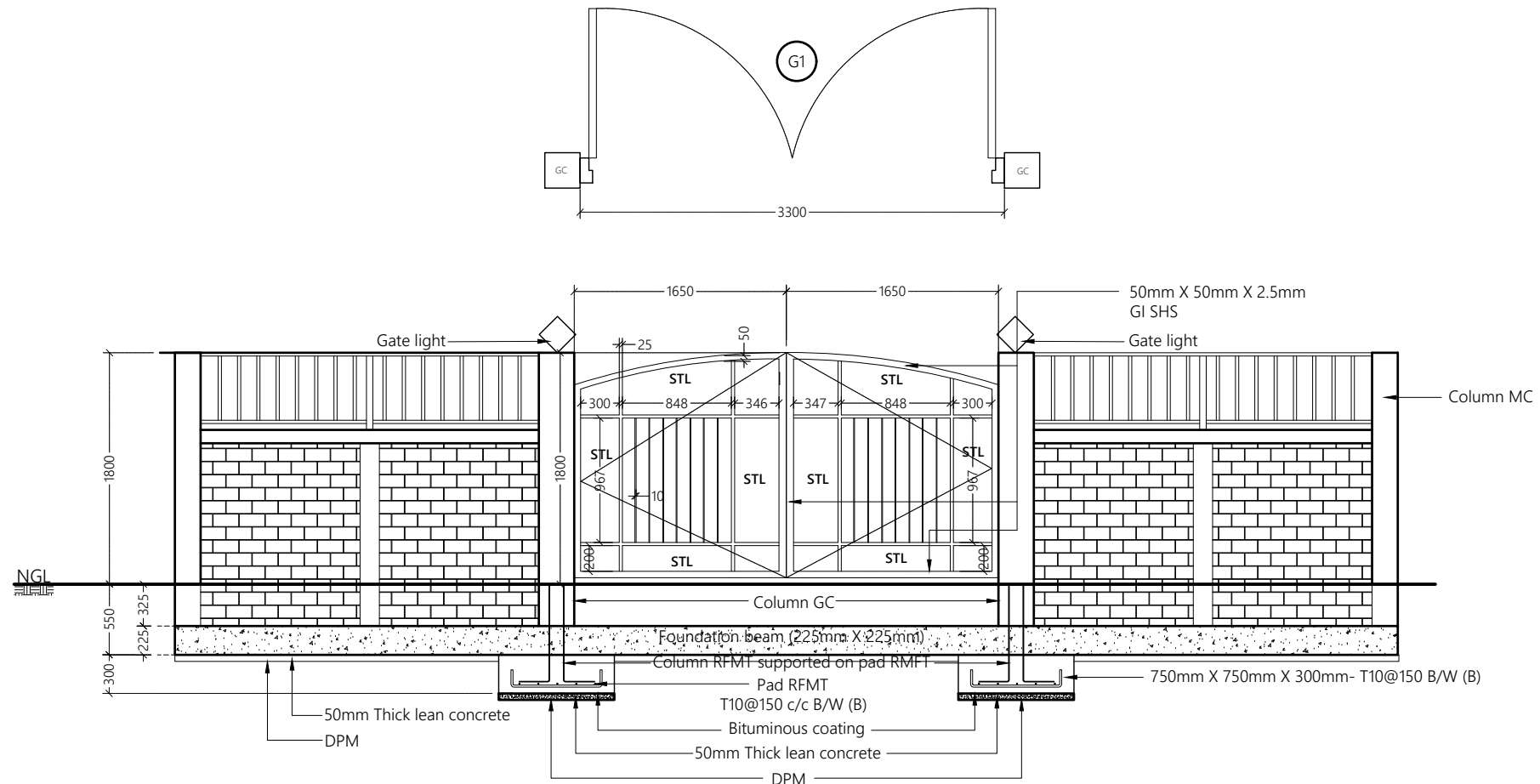
Designed: F.I.A.	Approved: I.W.
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Project No: EP-WS/2019/06

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W-(7)



225

225

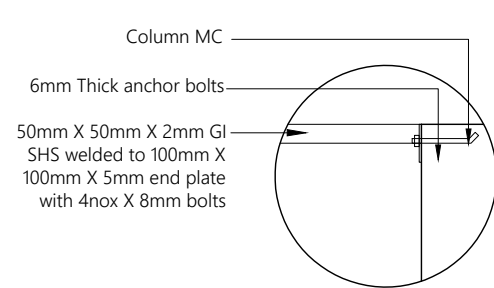
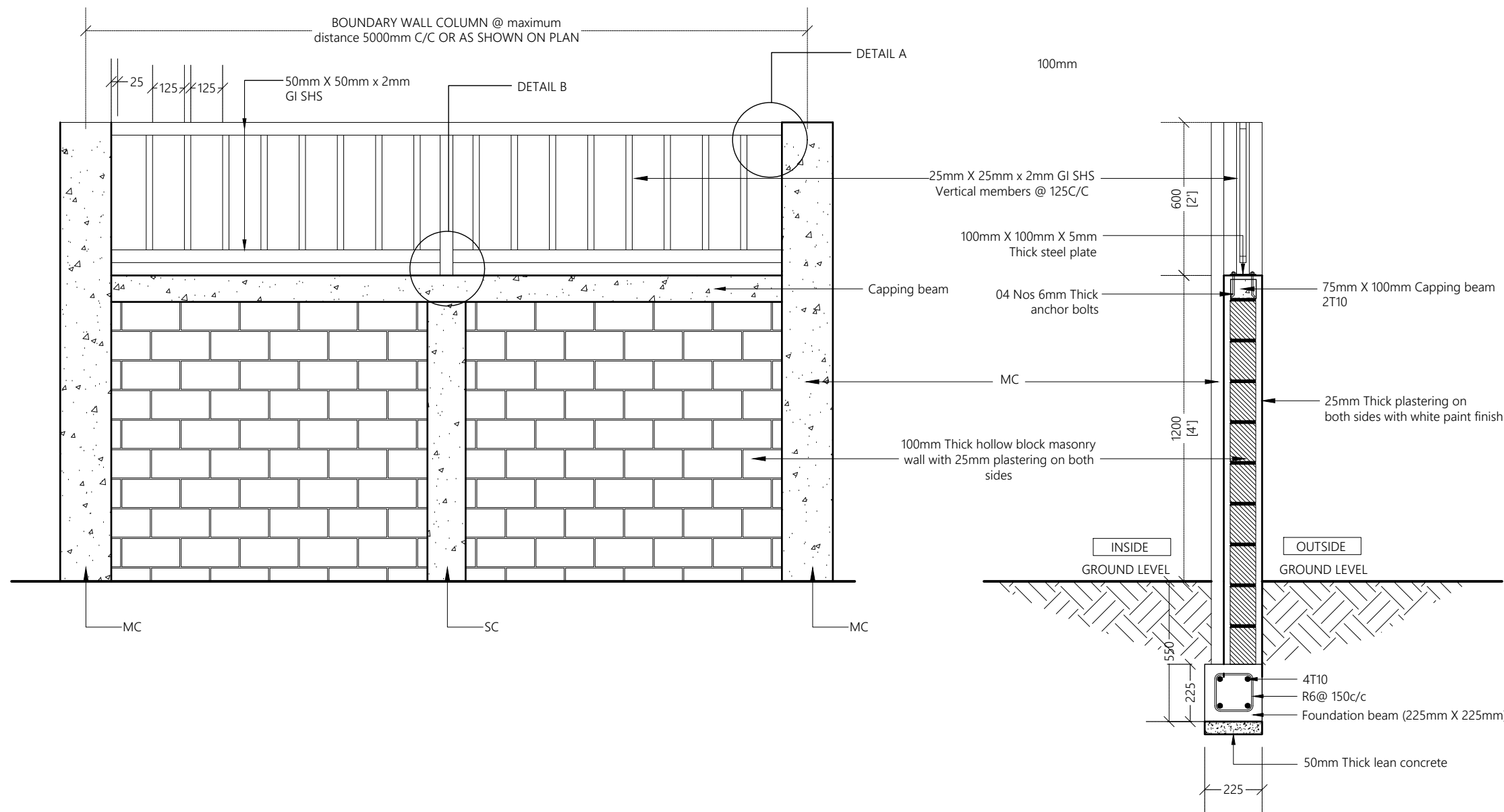
4T10

R6@ 150c/c

Foundation beam (225mm X 225mm)

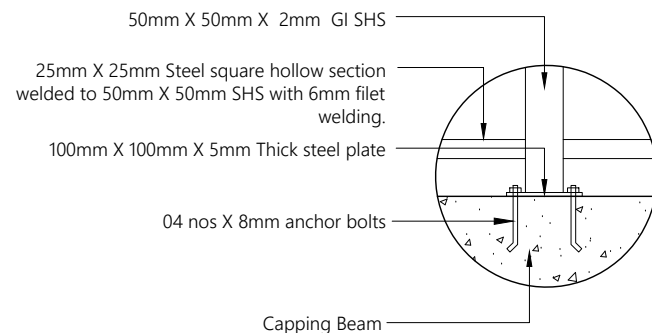
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W-(8)



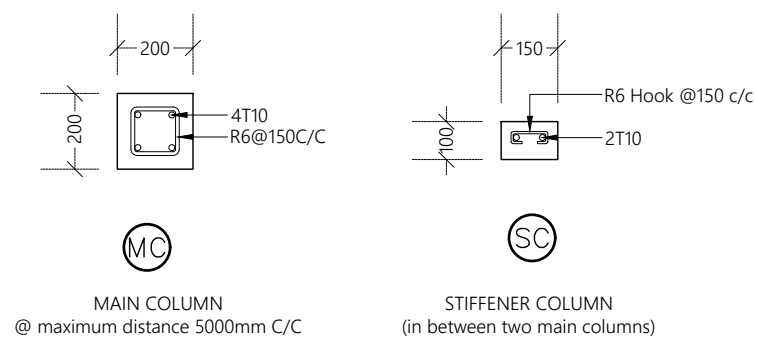
DETAIL A

1:10



DETAIL B

1:10



BOUNDARY WALL AND FENCING DETAILS

1:20



Legend

Notes:

- 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

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

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

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FEEDBACK INFRA
Maldives Infrastructure Development

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

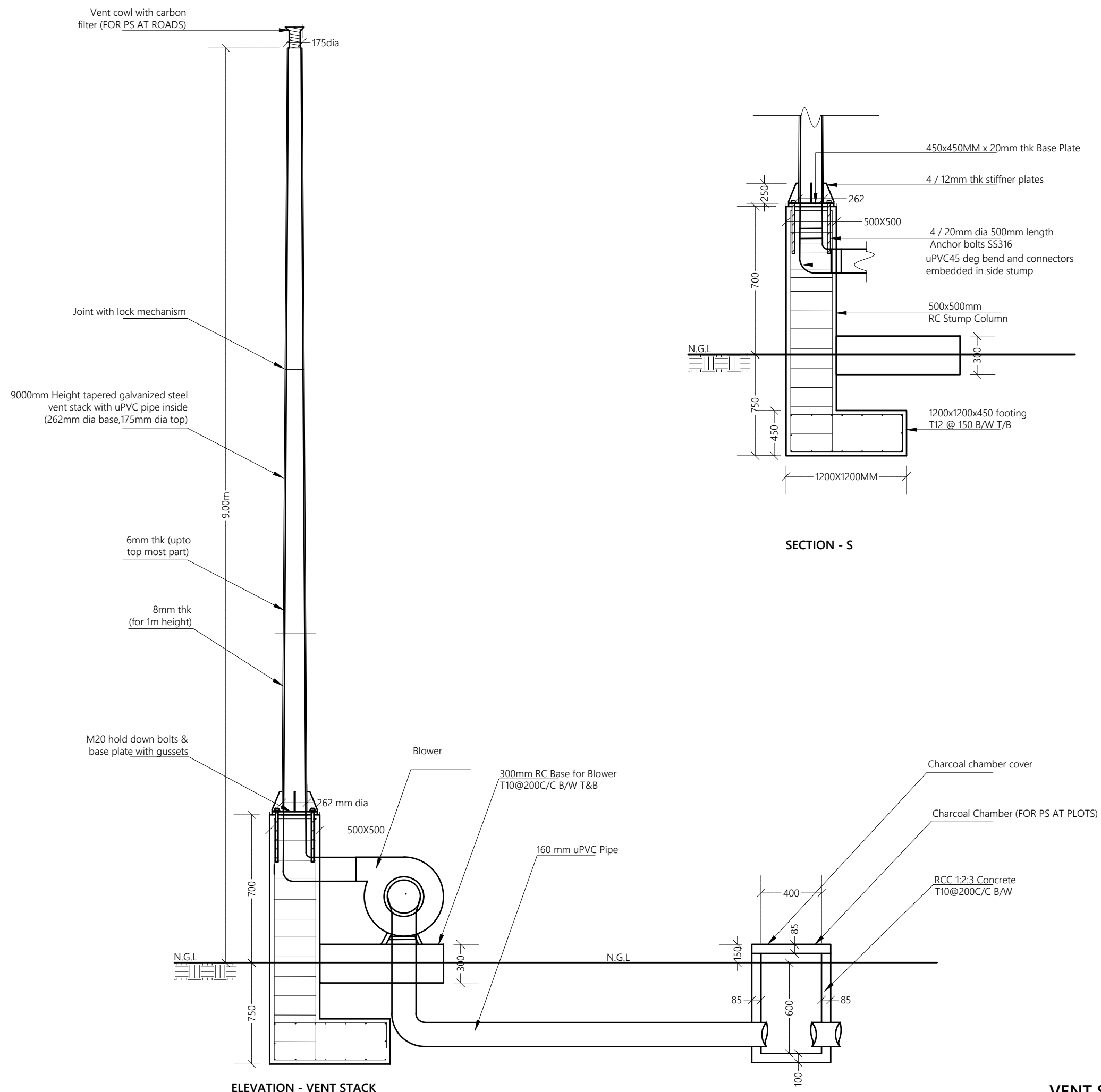
Designed: F.I.A. Approved: I.W.

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

Project No: EP-WS/2019/06

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NTS

Legend

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Water Supply System in GDh. Nadella

Client:
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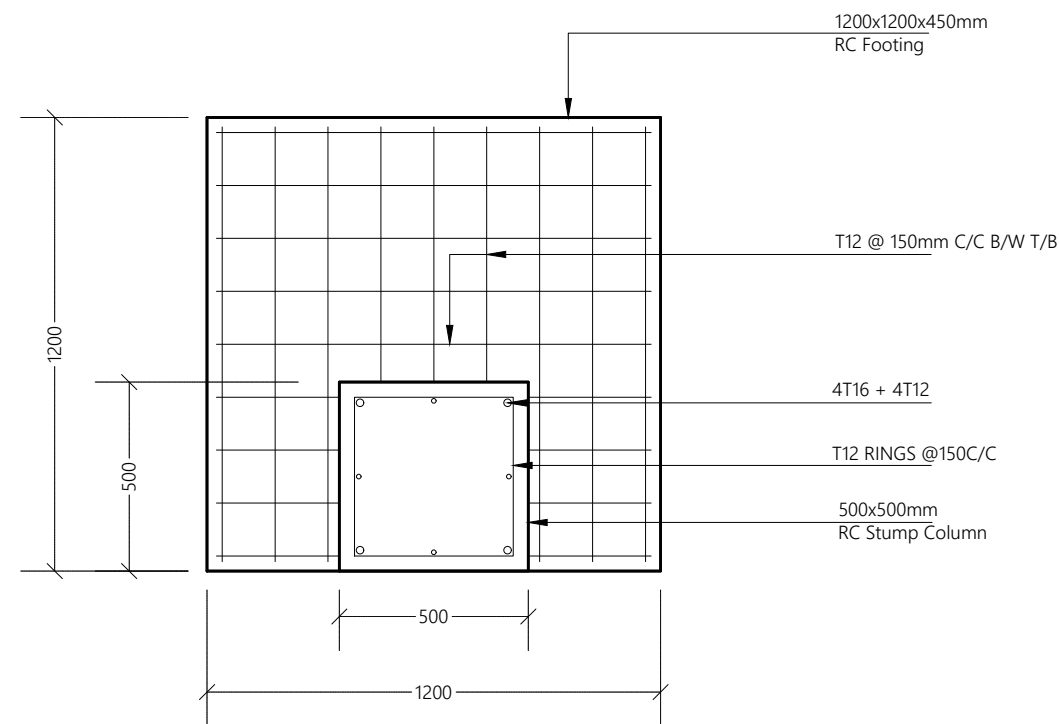


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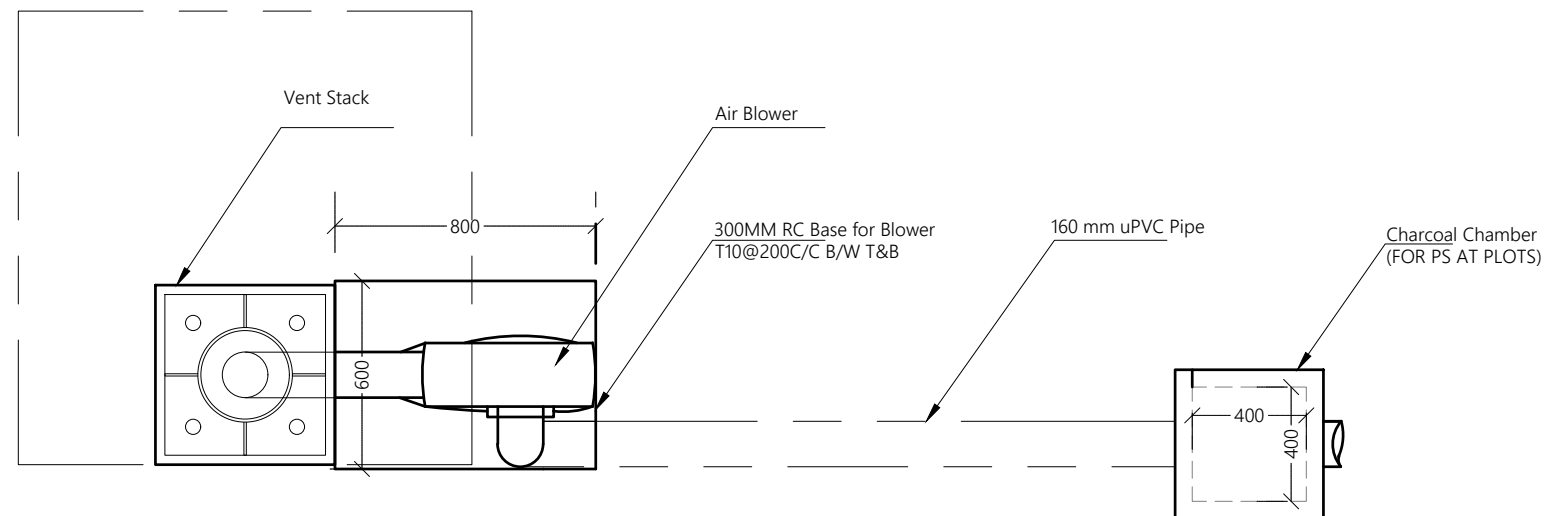


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Date: Sep 2020	SCALE (A3): NTS
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FOOTING & STUMP DETAILS OF VENT STACK



AIR BLOWER DETAILS (Plan View)

VENT STACK AND AIR BLOWER DETAILS

NTS



Legend

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Consultancy Services for Survey, Design and EIA works of Water Supply and Sewerage Facilities in 7 islands, Maldives - Package 6

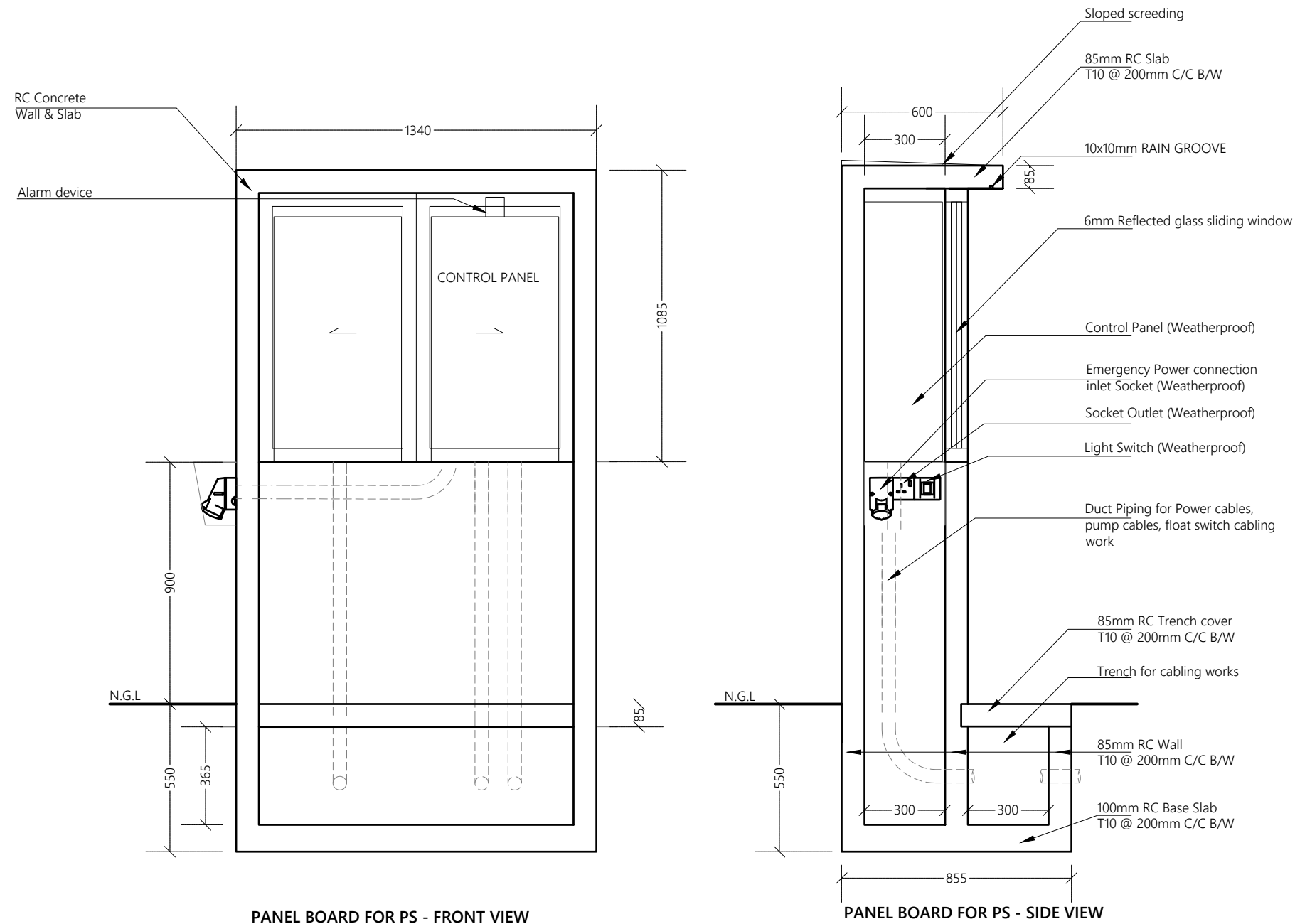
Sub Title:
Water Supply System in GDh. Nadella

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

Drawn: F.I.A. Checked: M.S.S.
Designed: F.I.A. Approved: I.W.
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Project No: EP-WS/2019/06
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FEEDBACK INFRA
Maldives Sri Lanka Singapore



CONTROL PANEL BOARD DETAILS

NTS



Legend

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

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Sub Title:
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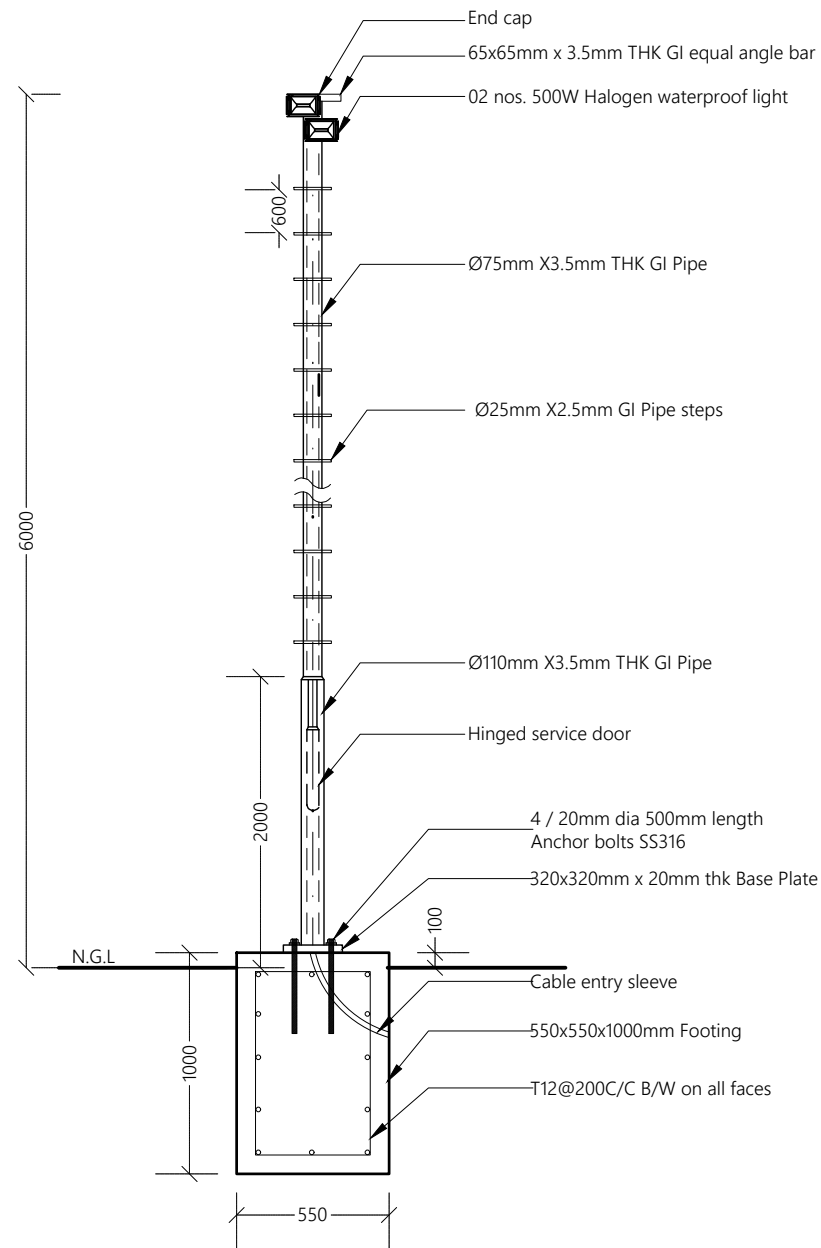
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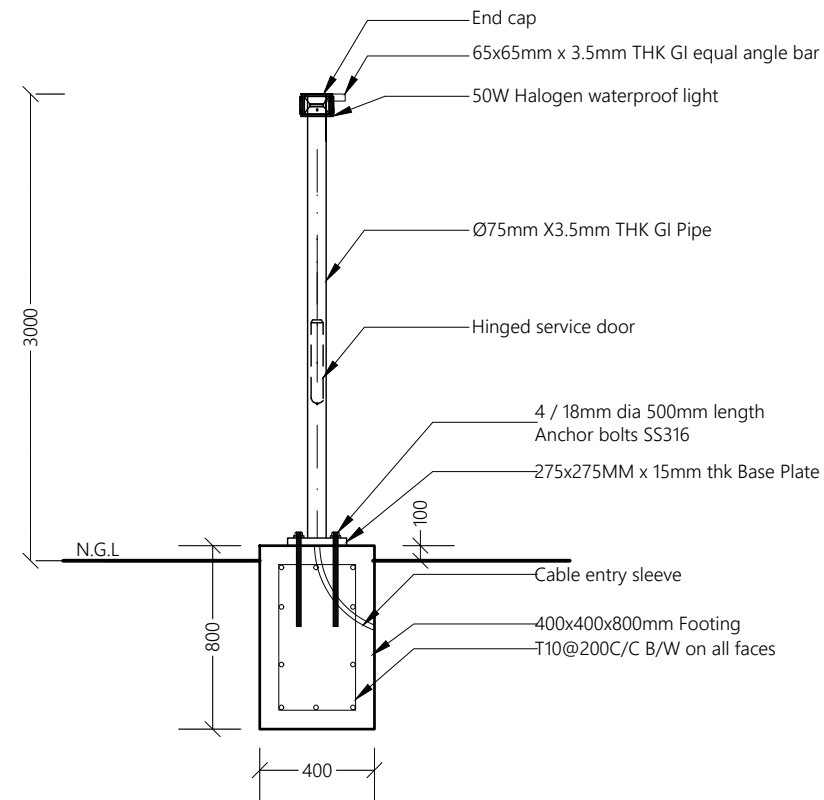
FEEDBACK INFRA

Working with you to improve infrastructure

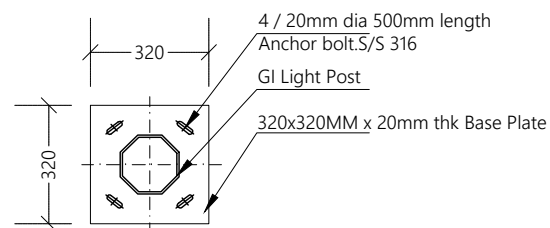
Drawn: F.I.A.	Checked: M.S.S.
Designed: F.I.A.	Approved: I.W.
Date: Sep 2020	SCALE (A3): NTS
Project No: EP-WS/2019/06	Page: W-(12)
Rev:	



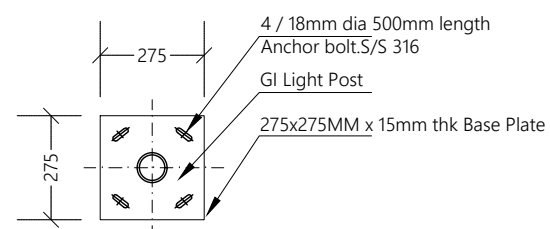
LIGHT POST DETAILS FOR STP COMPOUND (LP1)



LIGHT POST DETAILS FOR PUMP STATION (LP2)



BASE PLATE (LP1)



BASE PLATE (LP2)

NOTE:
 - CONCRETE COVER :50mm
 - All steel members and GI SHS to be applied with 2 coats of anti-corrosive paint with epoxy finishing paint

LIGHT POST DETAILS

NTS



Legend

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

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Sub Title:
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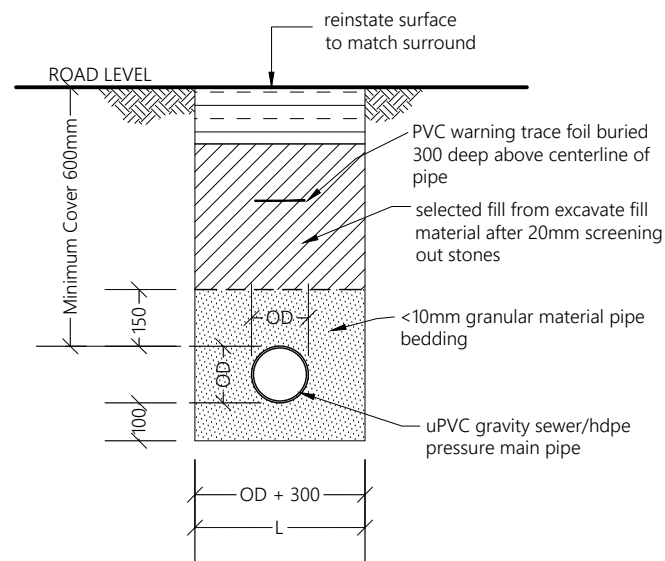
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Date: Sep 2020 SCALE (A3): NTS

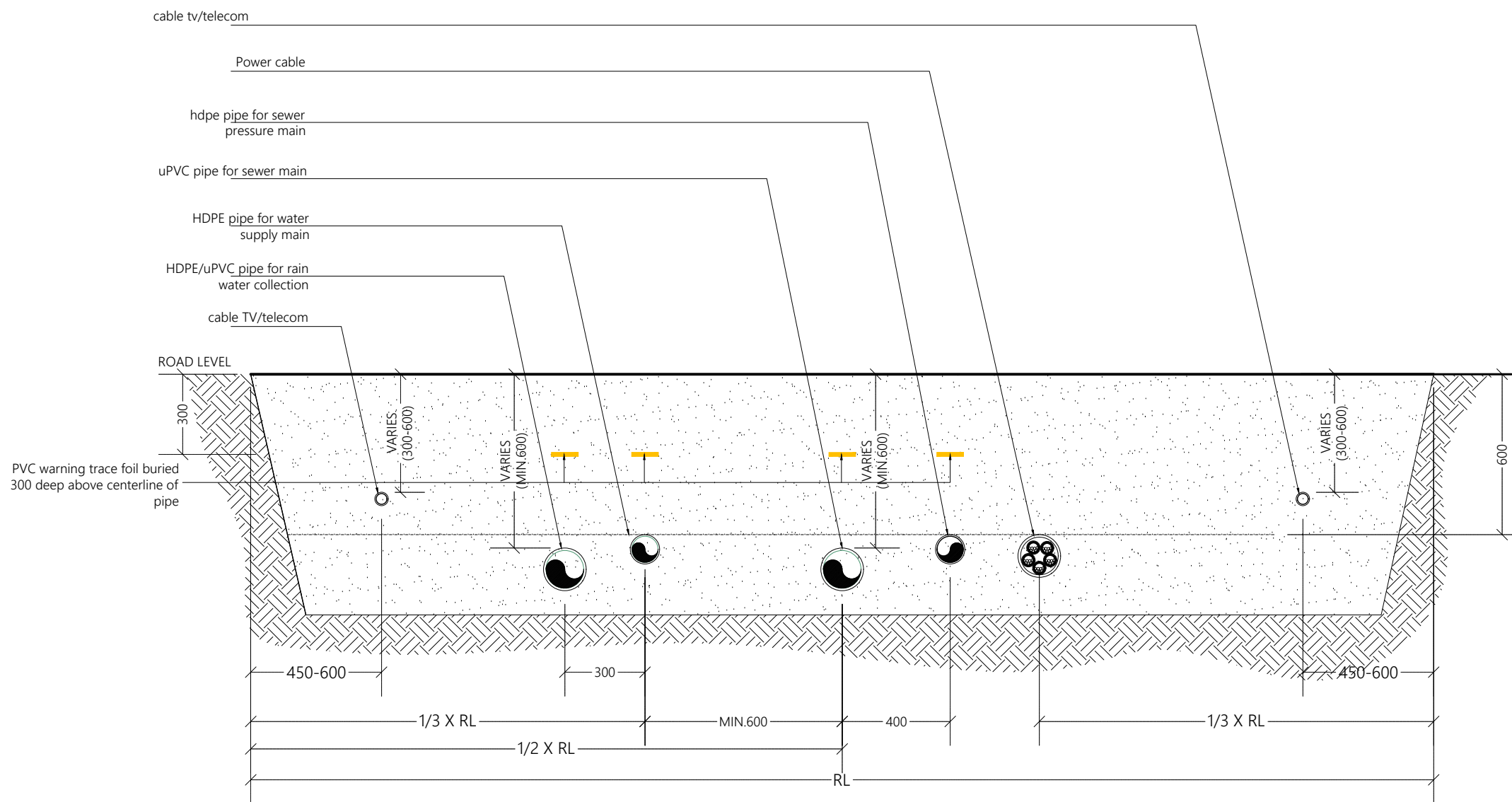
Project No: EP-WS/2019/06

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TRENCH & BEDDING DETAILS



TYPICAL ROAD SECTION

TRENCH AND BEDDING DETAILS

1:20

Legend

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

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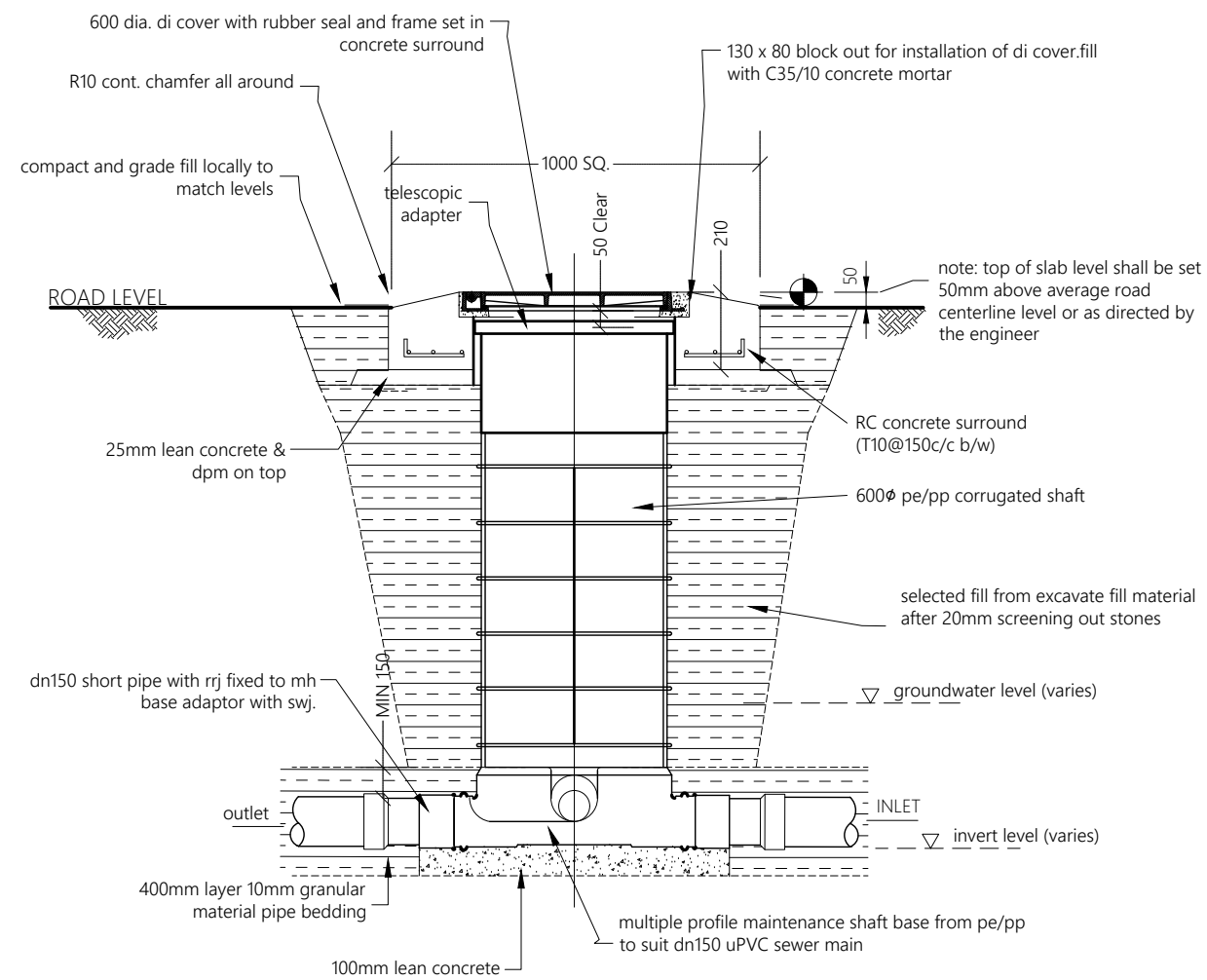
Designed: F.I.A. Approved: I.W.

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

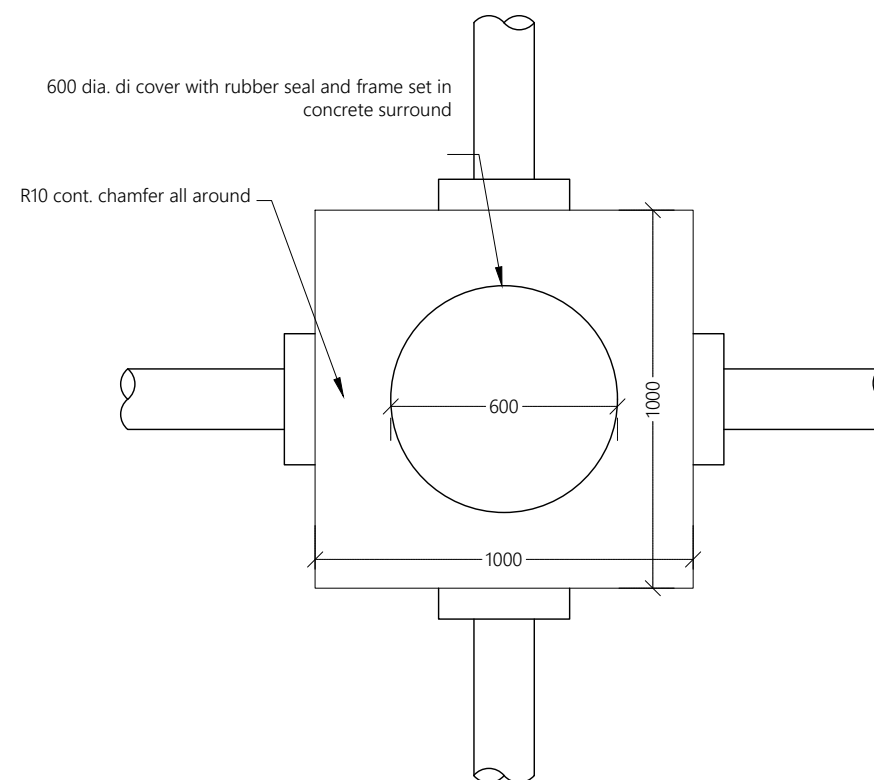
Project No: EP-WS/2019/06

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ELEVATION - MAINTENANCE SHAFT (MH)



PLAN VIEW - MAINTENANCE SHAFT (MH)

MAINTENANCE SHAFT (MH) DETAILS

1:20



Legend

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Consultancy Services for Survey, Design and EIA works of Water Supply and Sewerage Facilities in 7 islands, Maldives - Package 6

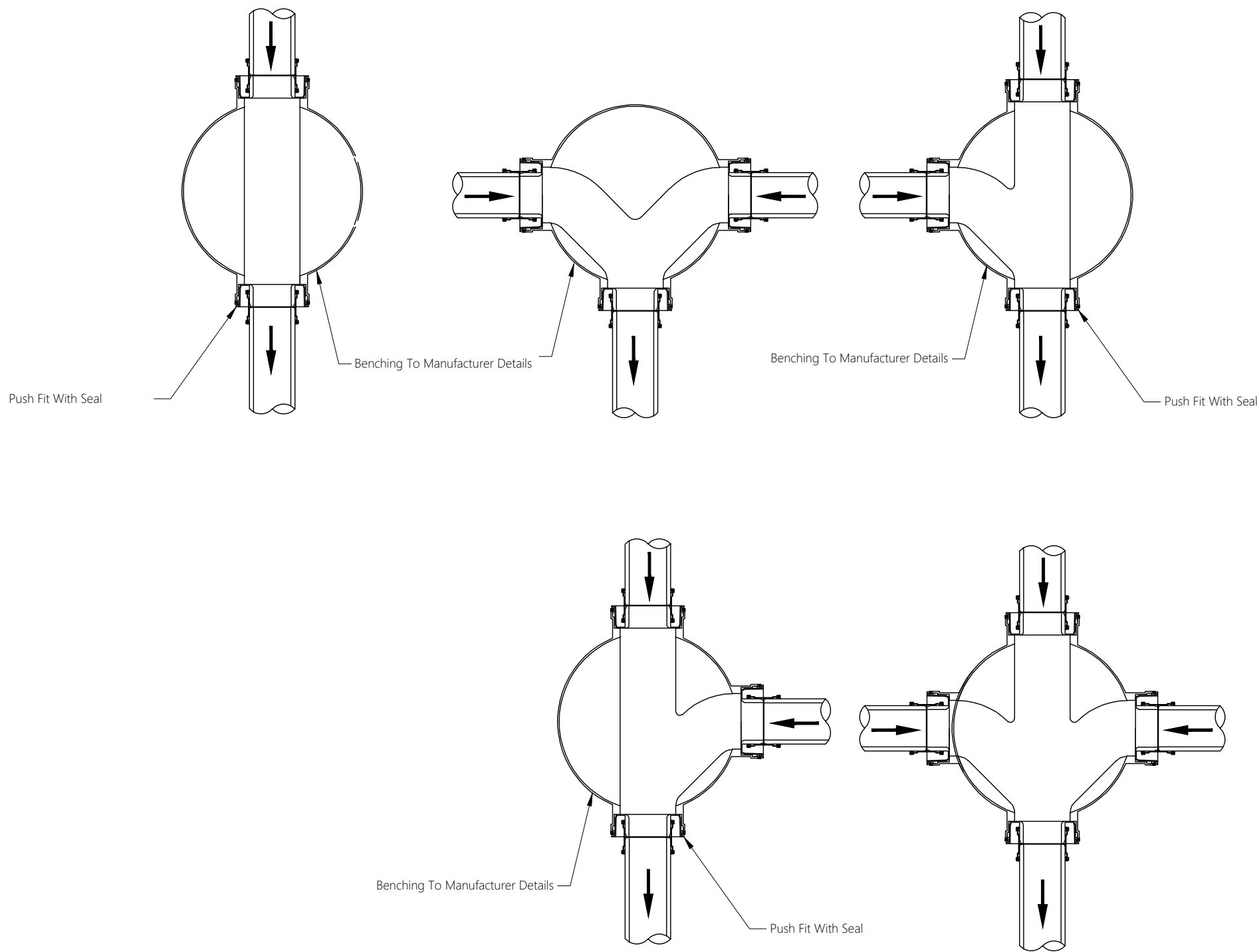
Sub Title:
Water Supply System in GDh. Nadella

Client:
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Date: Sep 2020	SCALE (A3): 1:20
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TYPICAL MANHOLE BASE DETAILS

NTS

Legend

REV.	NO.	Date	Revision Description	Drawn	Chkd	Appd.

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Consultancy Services for Survey, Design and EIA works of Water Supply and Sewerage Facilities in 7 islands, Maldives - Package 6

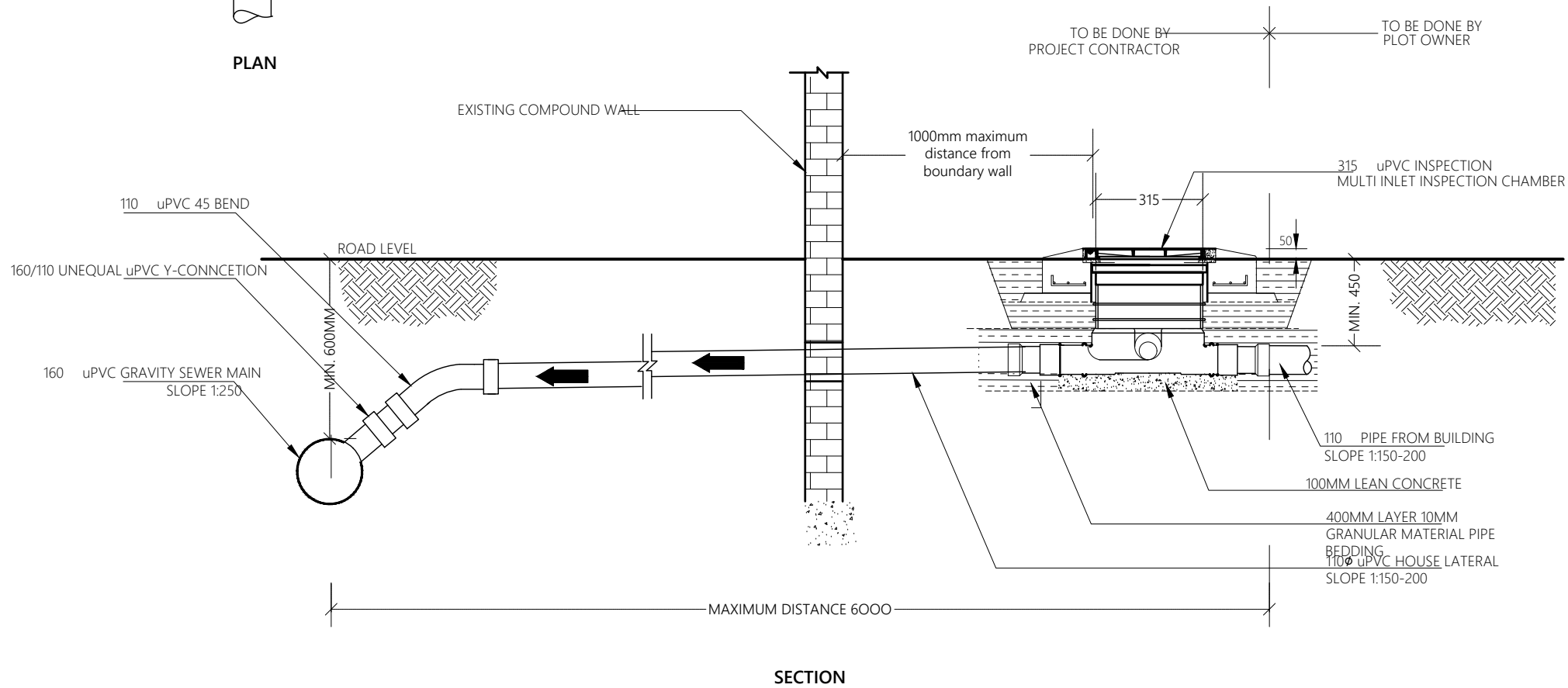
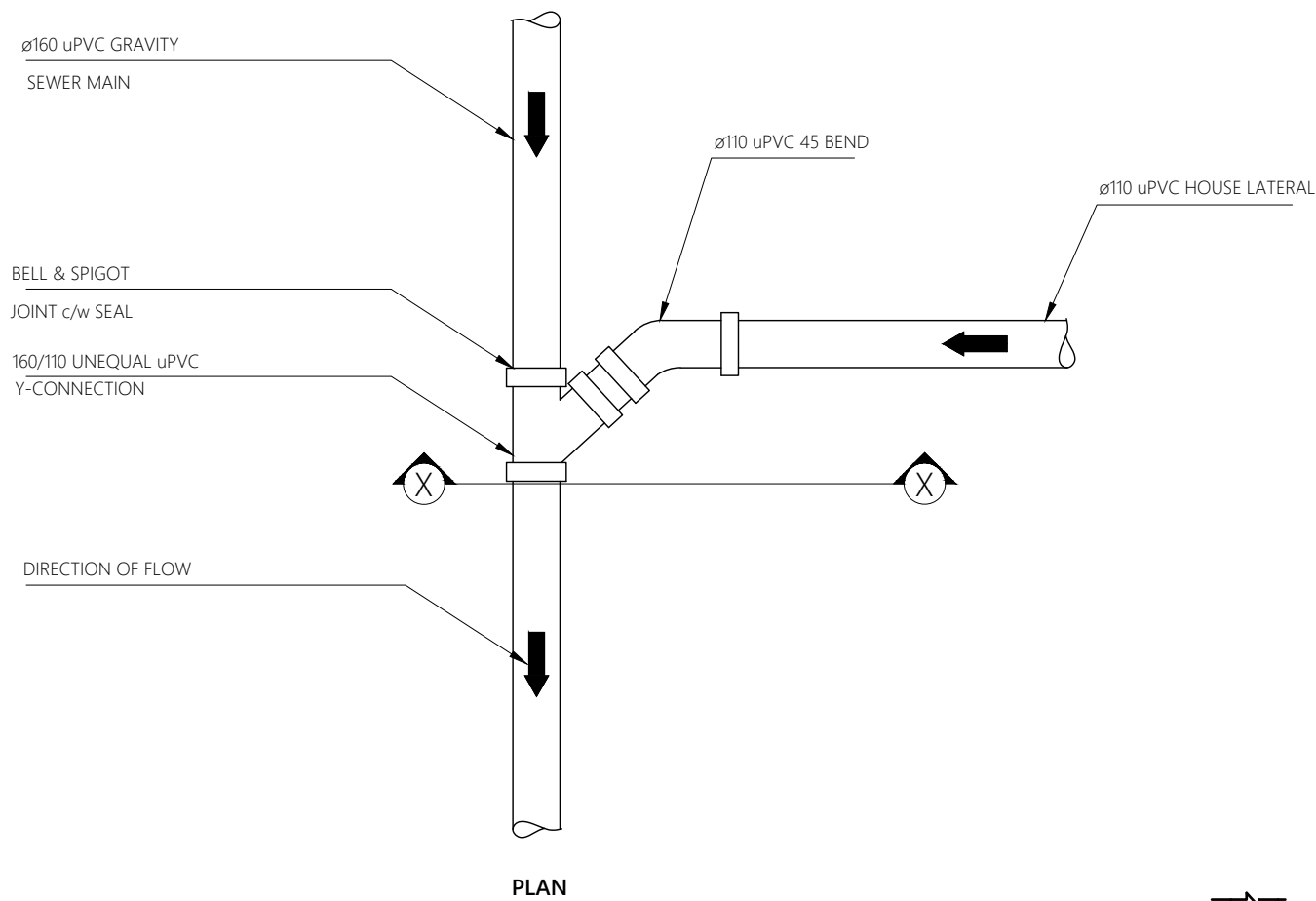
Sub Title:
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Client:
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TYPICAL HOUSE CONNECTION DETAIL

NTS



Legend

Notes:

1. Invert level at house inspection chamber and invert level of the sewer main on the road should be checked during the house connection survey and invert level should be adjusted in order to facilitate gravity flow from house inspection chamber to sewer main.

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Consultancy Services for Survey, Design and EIA works of Water Supply and Sewerage Facilities in 7 islands, Maldives - Package 6

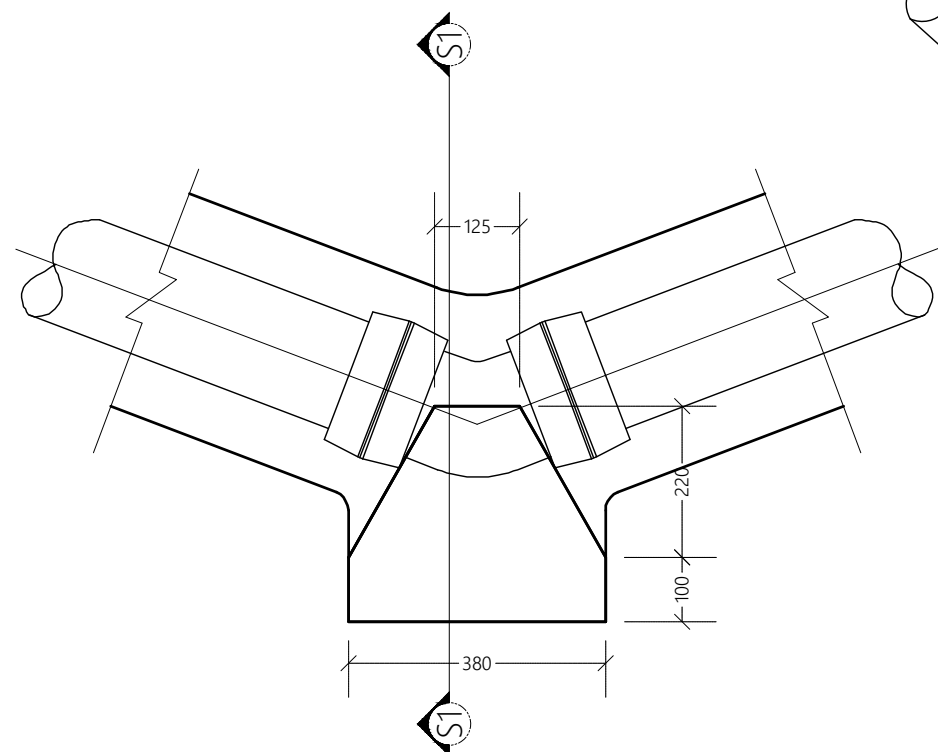
Sub Title:
Water Supply System in GDh. Nadella

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

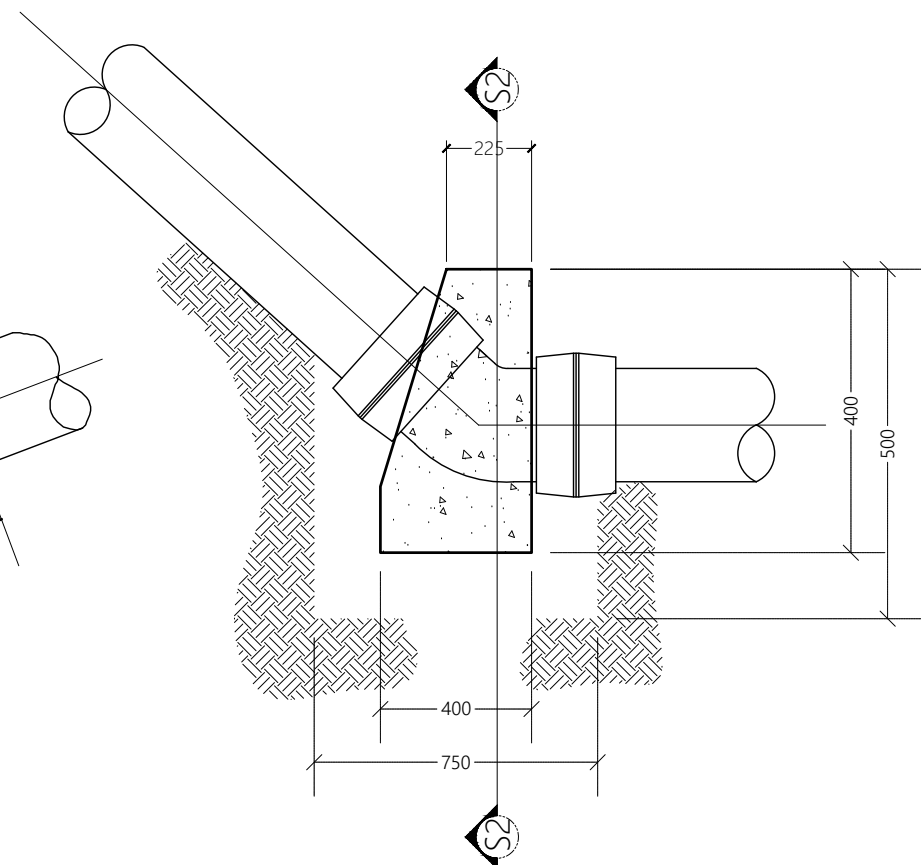
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Maldives Infrastructure Support

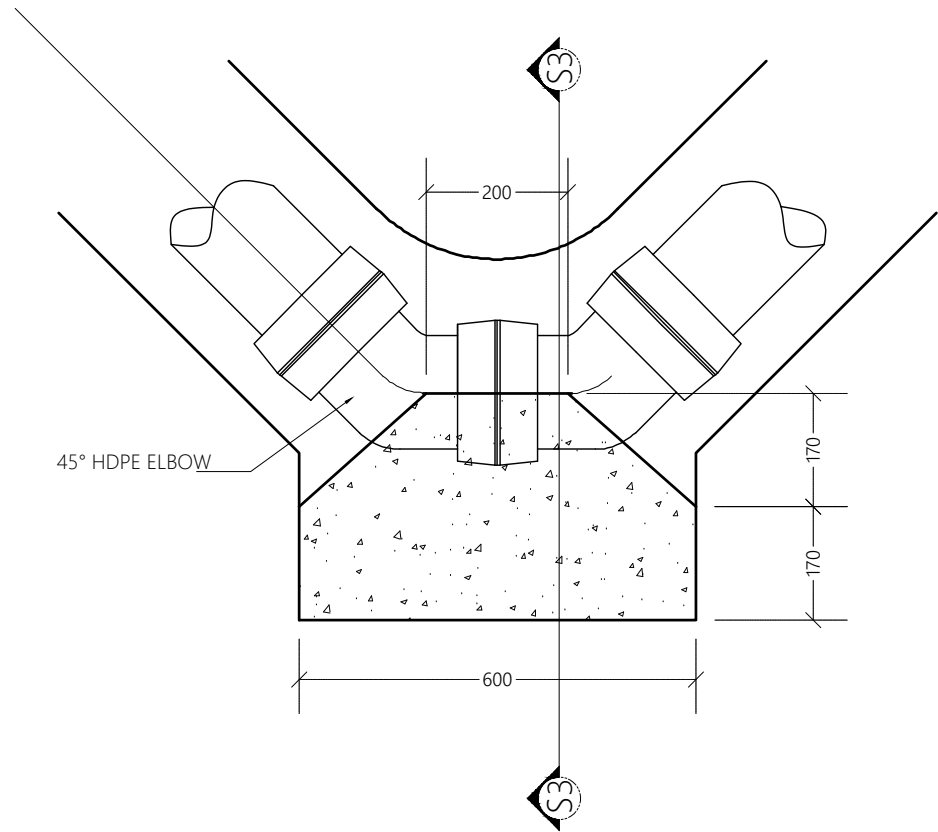
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Designed: F.I.A.	Approved: I.W.
Date: Sep 2020	SCALE (A3): NTS
Project No: EP-WS/2019/06	Page: W-(18)



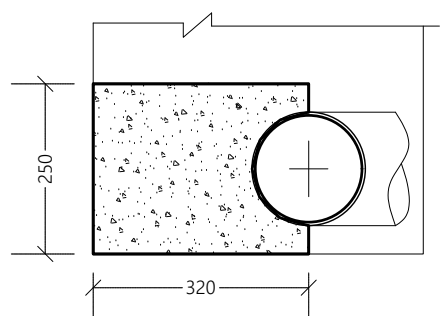
HORIZONTAL 45° BEND
NTS



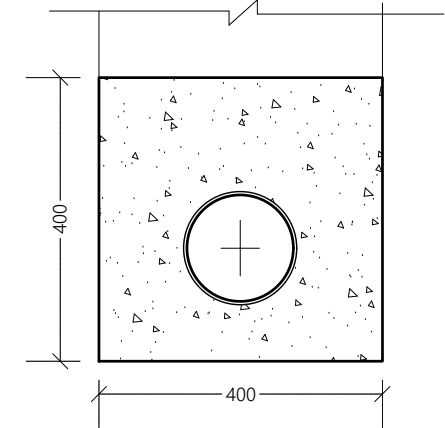
VERTICAL 45° BEND
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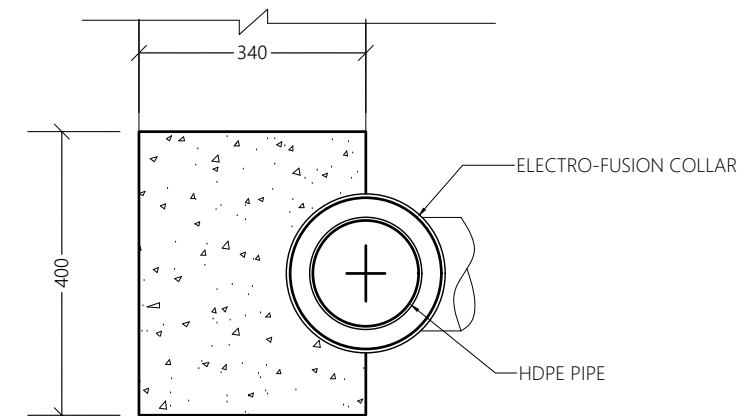
HORIZONTAL 90° BEND
NTS



SECTION S1-S1
NTS



SECTION S2-S2
NTS



SECTION S3-S3
NTS

THRUST BLOCK DETAILS

NTS

Legend

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Title:
Consultancy Services for Survey, Design and EIA works of Water Supply and Sewerage Facilities in 7 islands, Maldives - Package 6

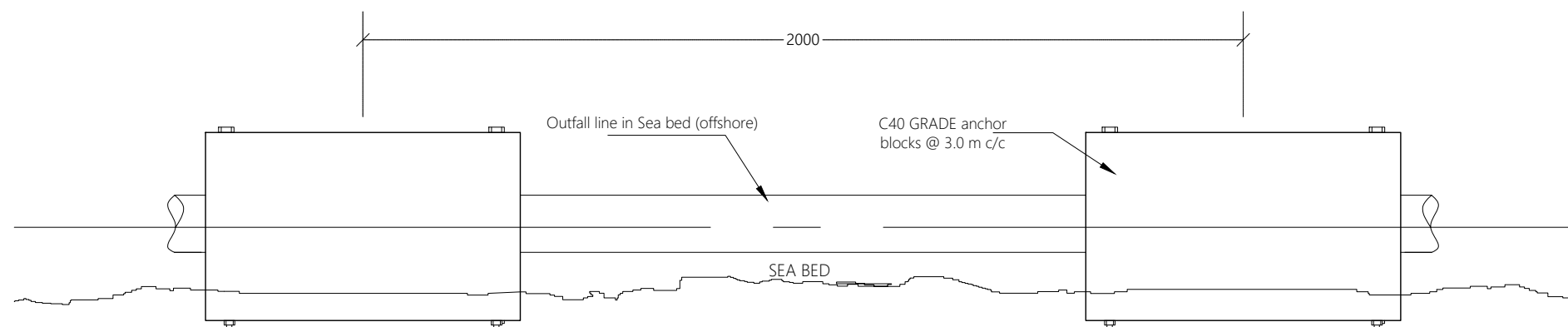
Sub Title:
Water Supply System in GDh. Nadella

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

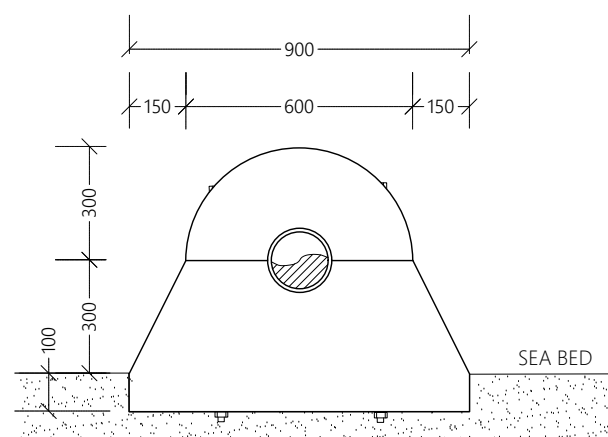
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Designed: F.I.A. Approved: I.W.
Date: Sep 2020 SCALE (A3): NTS
Project No: EP-WS/2019/06
Rev: Page: **W-(19)**

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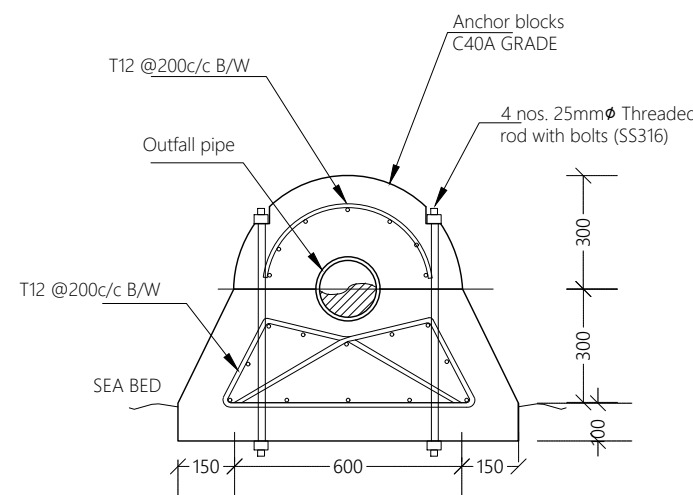
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Maldivian Infrastructure Development



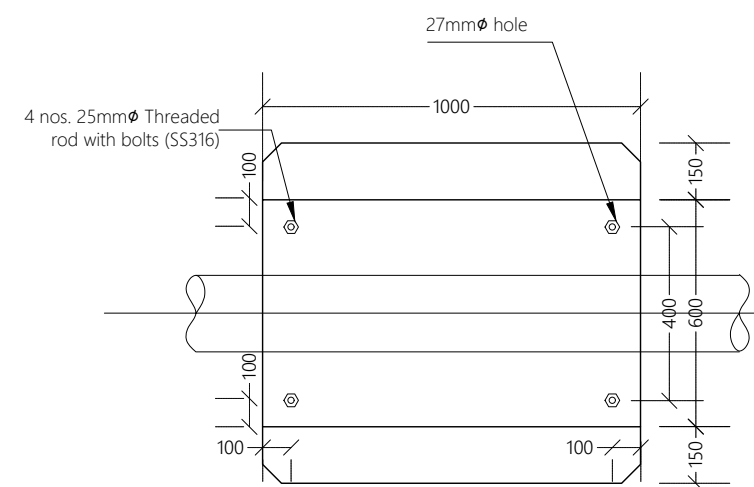
BALLAST BLOCK SIDE ELEVATION



BALLAST BLOCK FRONT ELEVATION



BALLAST BLOCK SECTION



BALLAST BLOCK PLAN

Legend

Notes:

1. All backing rings for stub flanges , nuts and bolts shall be grade 316 stainless steel.
2. All pipe work shall be bedded on 10mm thick neoprene rubber seat in semicircular recess matching the O.D. the pipe.
3. Fabricate specific pipe clamps to provide firm clamping action according to pipe O.D.
4. All structural concrete shall be of grade C40A.
5. All castings shall be done using sulphate resistant portland cement to BS 4027:1996.
6. All structural reinforcement shall be epoxy coating of non-pre-stressed reinforcement to ASTM-A775/A775M.
7. A cover of 75mm should be given for all reinforcements.

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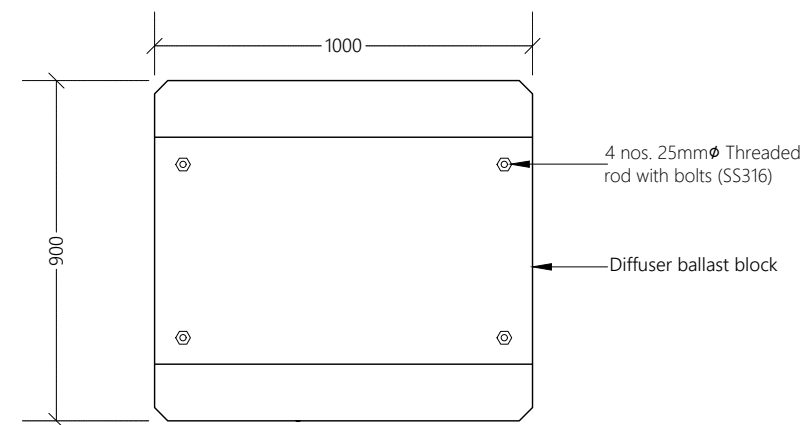
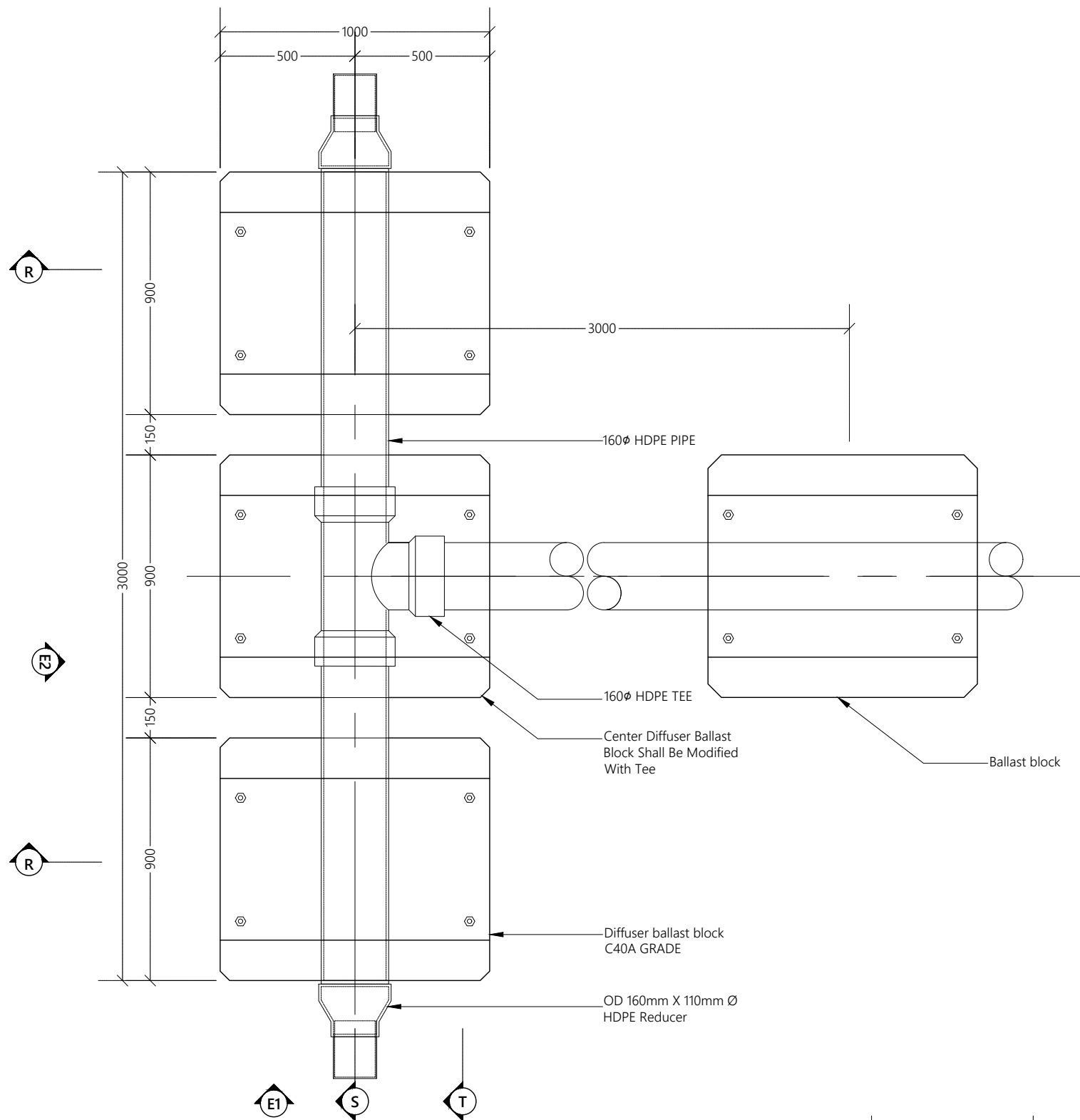
Date: Sep 2020 SCALE (A3): NTS

Project No: EP-WS/2019/06

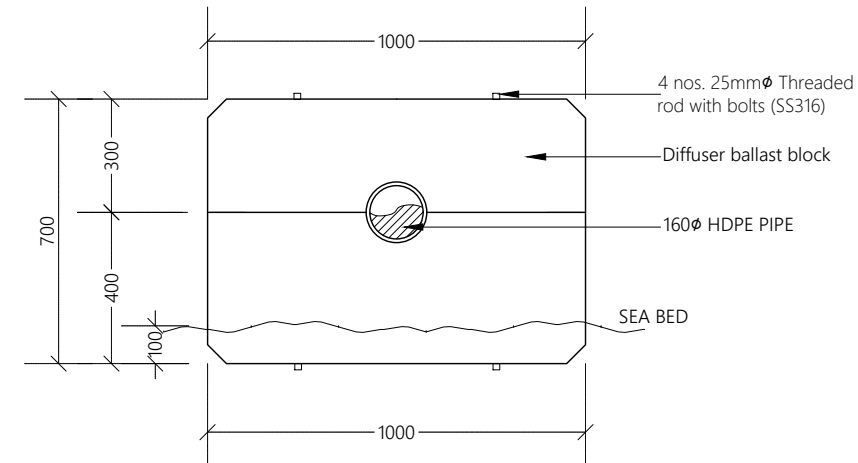
Rev: Page: W-(20)

BALLAST BLOCK DETAILS

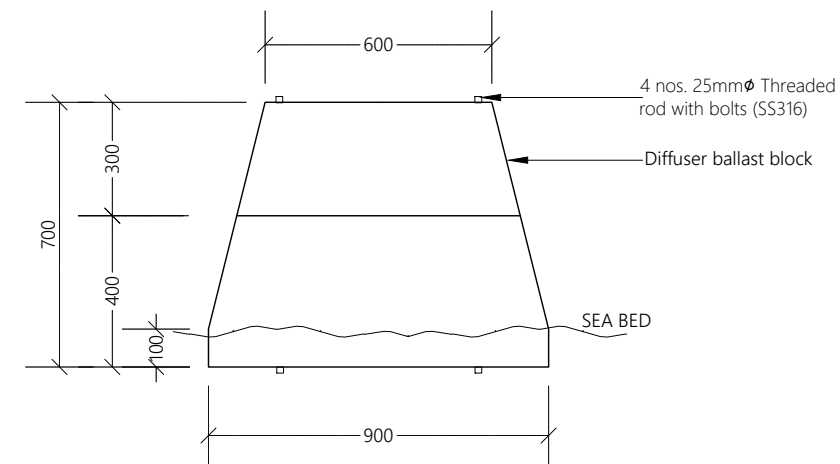
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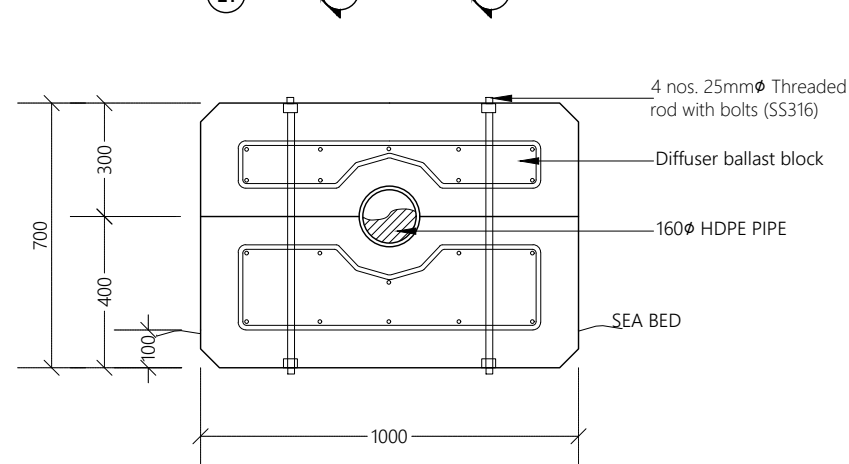
DIFFUSER BALLAST BLOCK PLAN



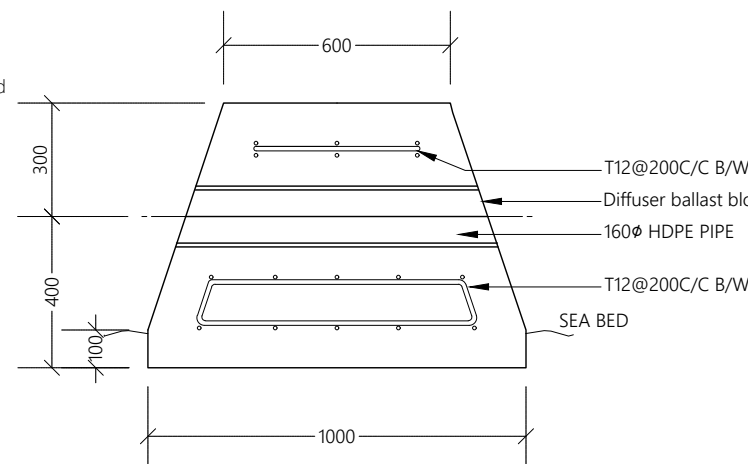
DIFFUSER BALLAST BLOCK FRONT ELEVATION - E1



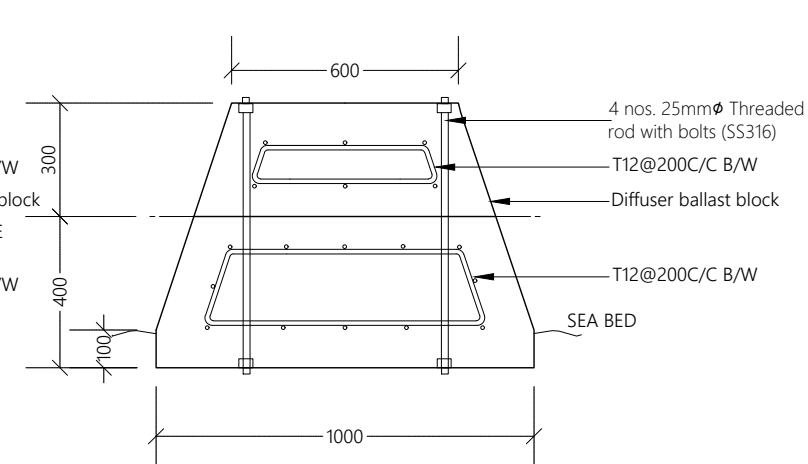
DIFFUSER BALLAST BLOCK FRONT ELEVATION - E2



DIFFUSER BALLAST BLOCK SECTION - R



DIFFUSER BALLAST BLOCK SECTION - S



DIFFUSER BALLAST BLOCK SECTION - T

DIFFUSER DETAILS
NTS

Legend

Notes:

1. All backing rings for stub flanges , nuts and bolts shall be grade 316 stainless steel.
2. All pipe work shall be bedded on 10mm thick neoprene rubber seat in semicircular recess matching the O.D. the pipe.
3. Fabricate specific pipe clamps to provide firm clamping action according to pipe O.D.
4. All structural concrete shall be of grade C40A.
5. All castings shall be done using sulphate resistant portland cement to BS 4027:1996.
6. All structural reinforcement shall be epoxy coating of non-pre-stressed reinforcement to ASTM-A775/A775M.
7. A cover of 75mm should be given for all reinforcements.

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FEEDBACK INFRA
Working Safely, Smartly, Happily

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

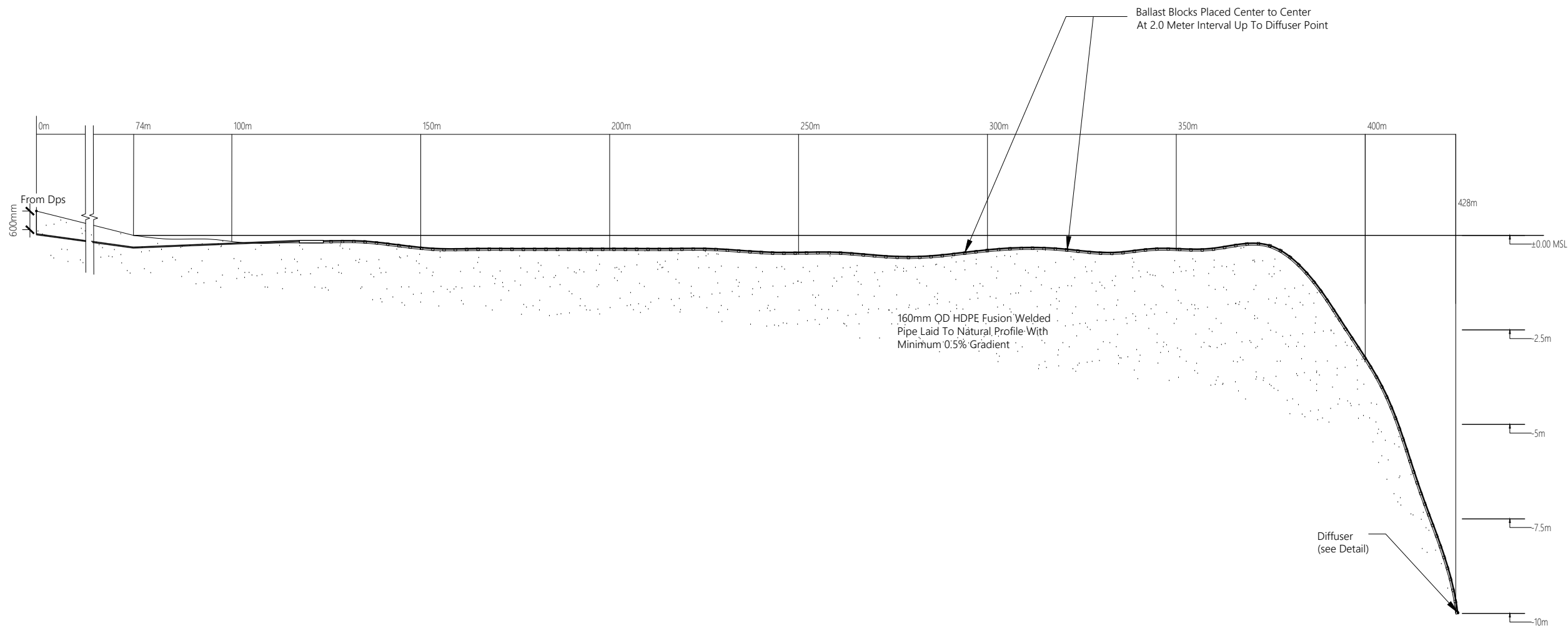
Designed: F.I.A. Approved: I.W.

Date: Sep 2020 SCALE (A3): NTS

Project No: EP-WS/2019/06

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Legend

Notes:

- Contractor should carry out a detailed bathymetric survey for the proposed area, revise and present a shop drawing for the outfall layout prior to commencement of outfall works.
- The ballast block spacing is 2.0m. All distances are from c/c of blocks.

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

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Client:
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Project No: EP-WS/2019/06

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GDH. NADELLAA SEWERAGE SYSTEM - PRESSURE NETWORK LAYOUT
1:4000



Legend

— 160 mm Ø HDPE Sea Outfall Pipe (PE100, PN16, SDR11)

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Husuheena Magu, Male', Maldives



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

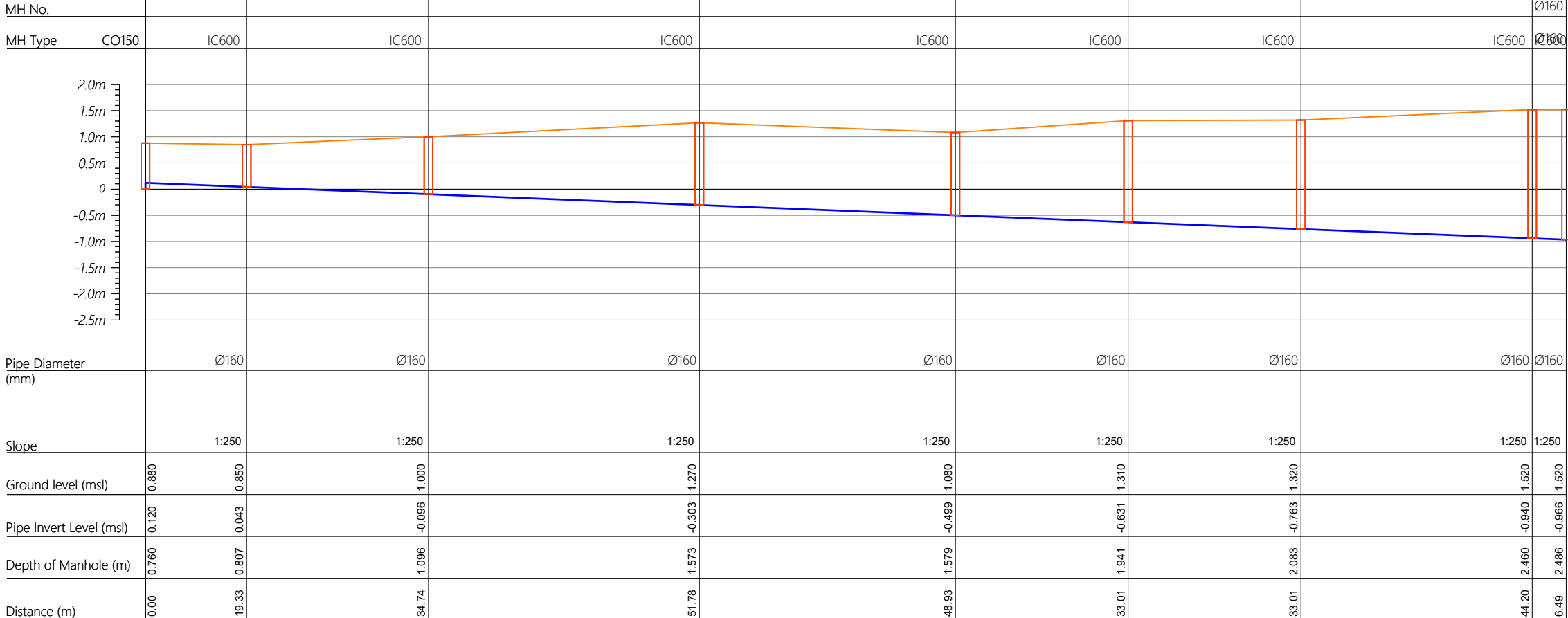
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Date: Sep 2020 SCALE (A3): NTS

Project No: EP-WS/2019/06

Rev: Page:

Profile 01



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 5 islands, Maldives - Package 6*

Sub Title:
Sewerage System in Gdh.Nadella

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



T: +960 333 3528
E: info@epoch.associates
W: www.epoch.associates
A: G. Rosary West,
 Husnuheena Magu, Male', Maldives



Drawn: A.R.W. | Checked: M.S.S.

Designed: F.I.A	Approved: I.W
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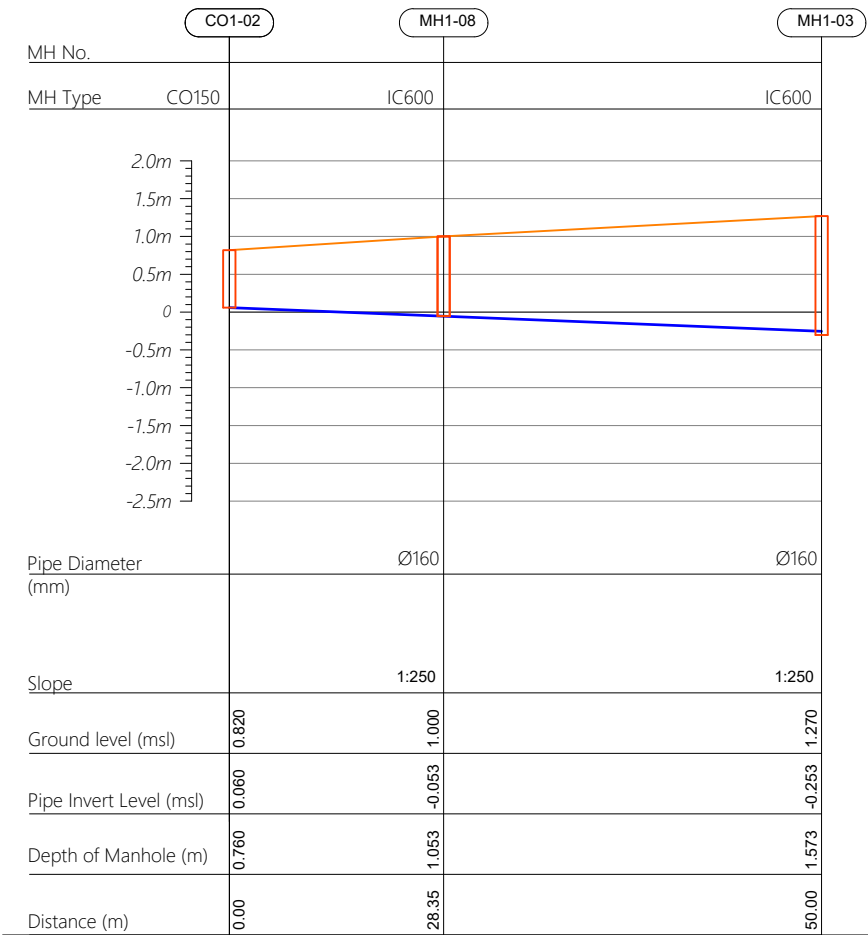
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Project No: 01010101

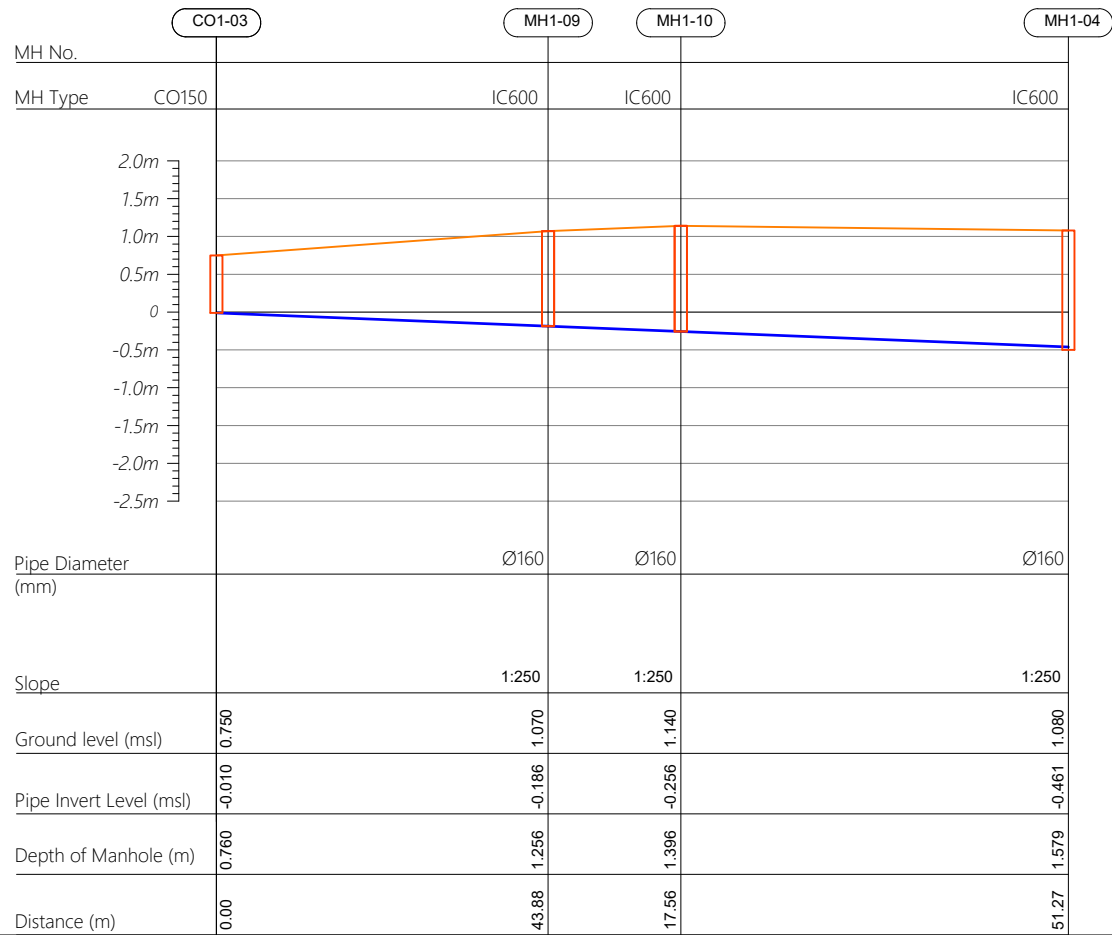
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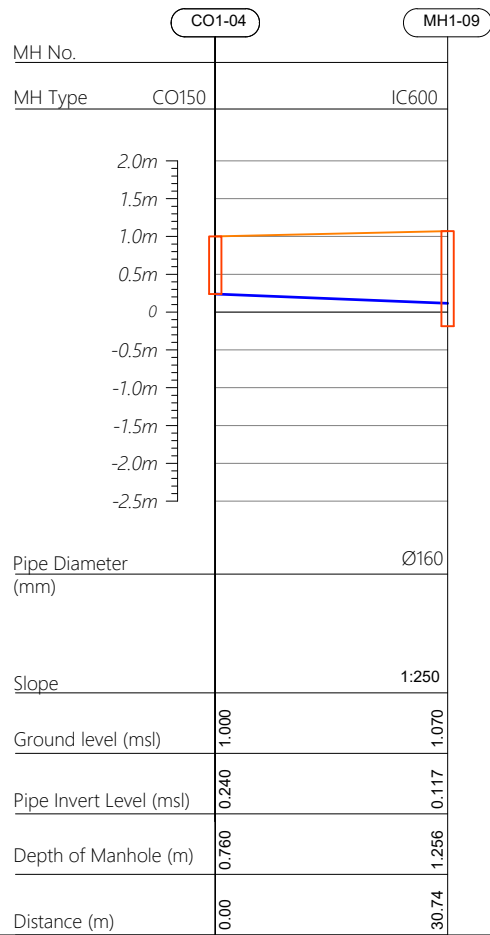
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Profile 03

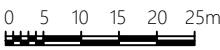


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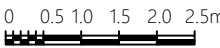


R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

HORIZONTAL SCALE



VERTICAL SCALE



- CO160 — Cleanout Ø160
- IC600 — HDPE Manhole Ø600
- PS — Pump Station

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

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Drawn: A.R.W Checked: M.S.S

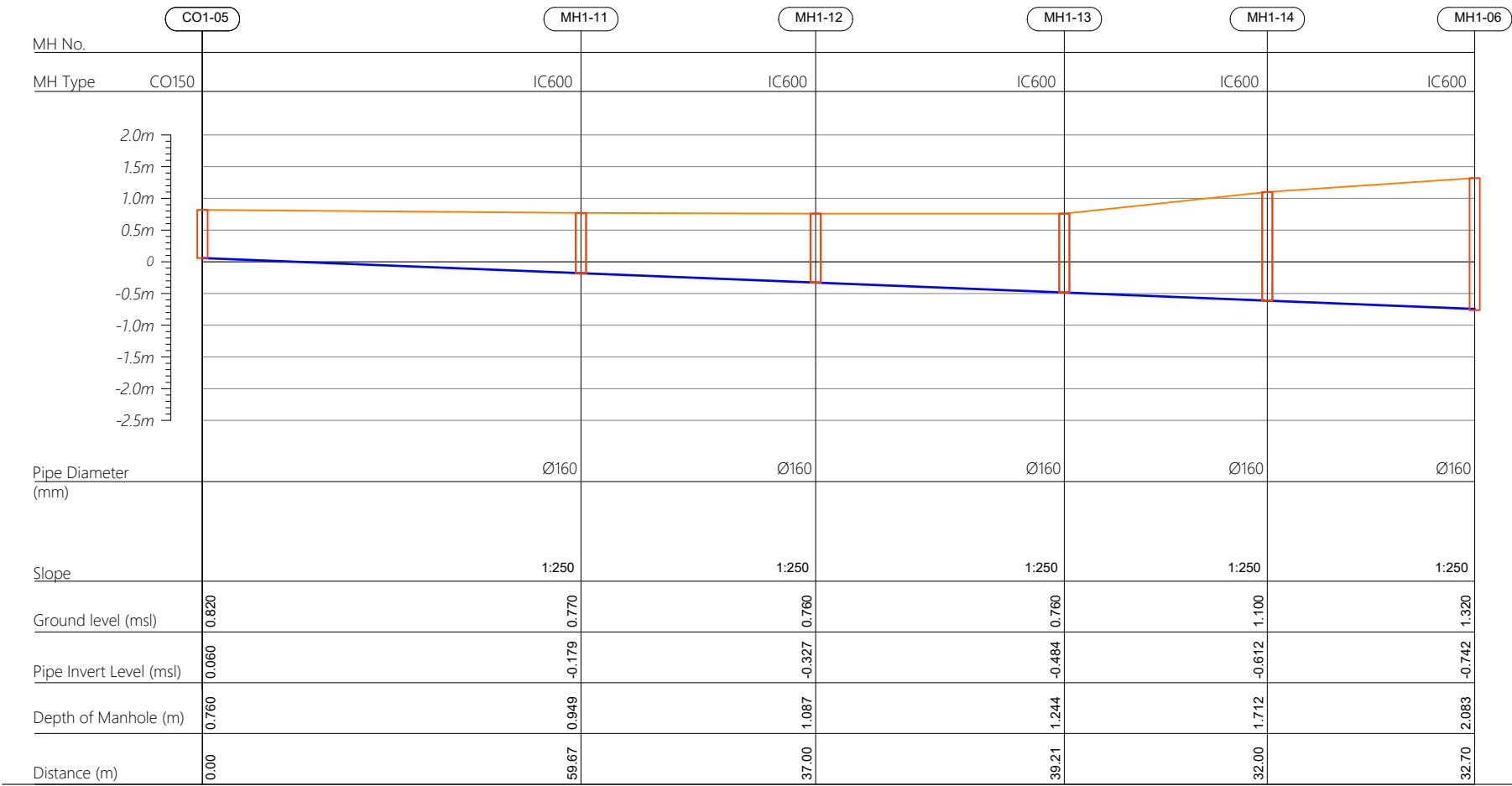
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Date: Aug 2020 SCALE (A3): 1:100

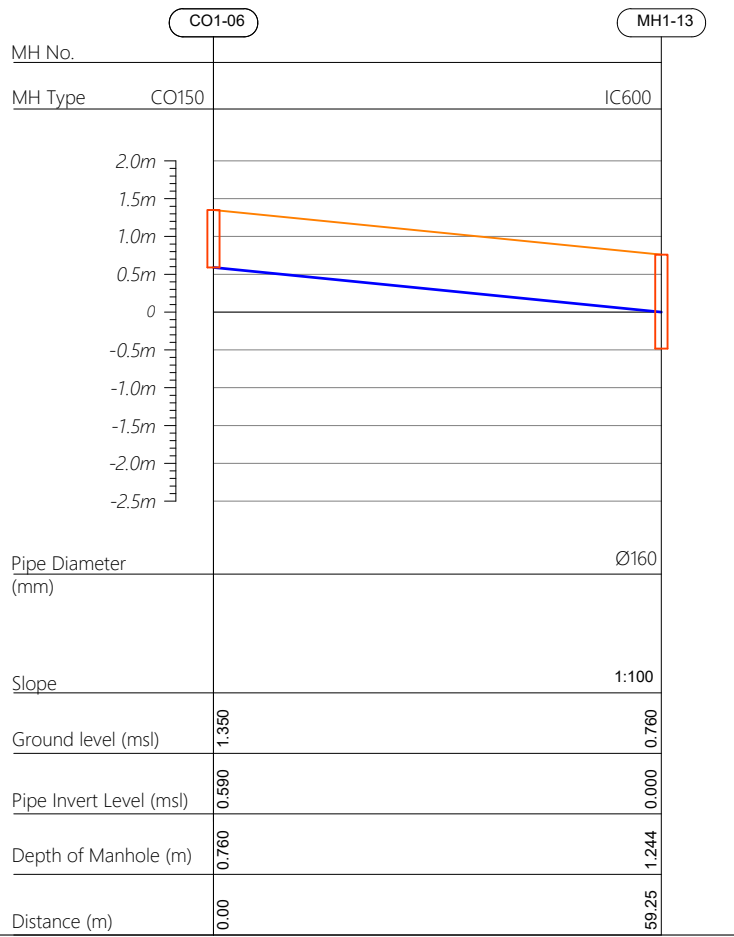
Project No: 01010101

Rev: R-01 Page: PS1-02

Profile 05

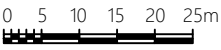


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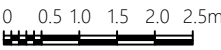


R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

HORIZONTAL SCALE



VERTICAL SCALE



- CO160 — Cleanout Ø160
- IC600 — HDPE Manhole Ø600
- PS — Pump Station

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

Sub Title:
Sewerage System in Gdh.Nadella

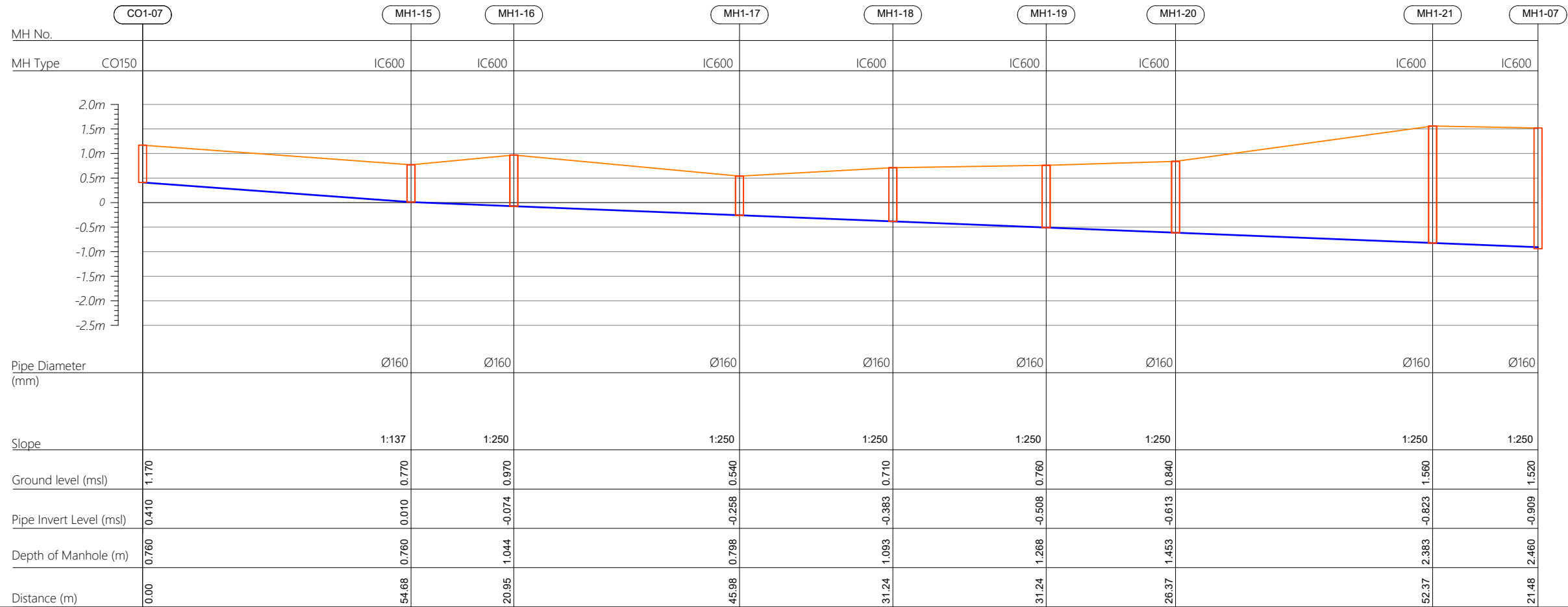
Client:
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Drawn: A.R.W	Checked: M.S.S
Designed: F.I.A	Approved: I.W
Date: Aug 2020	SCALE (A3): 1:100
Project No:	01010101

Profile 07



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
5 islands, Maldives - Package 6*

Sub Title:
Sewerage System in Gdh.Nadella

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



Drawn: A.R.W	Checked: M.S.S
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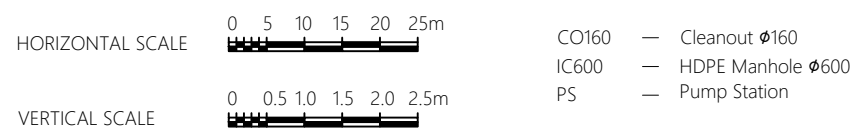
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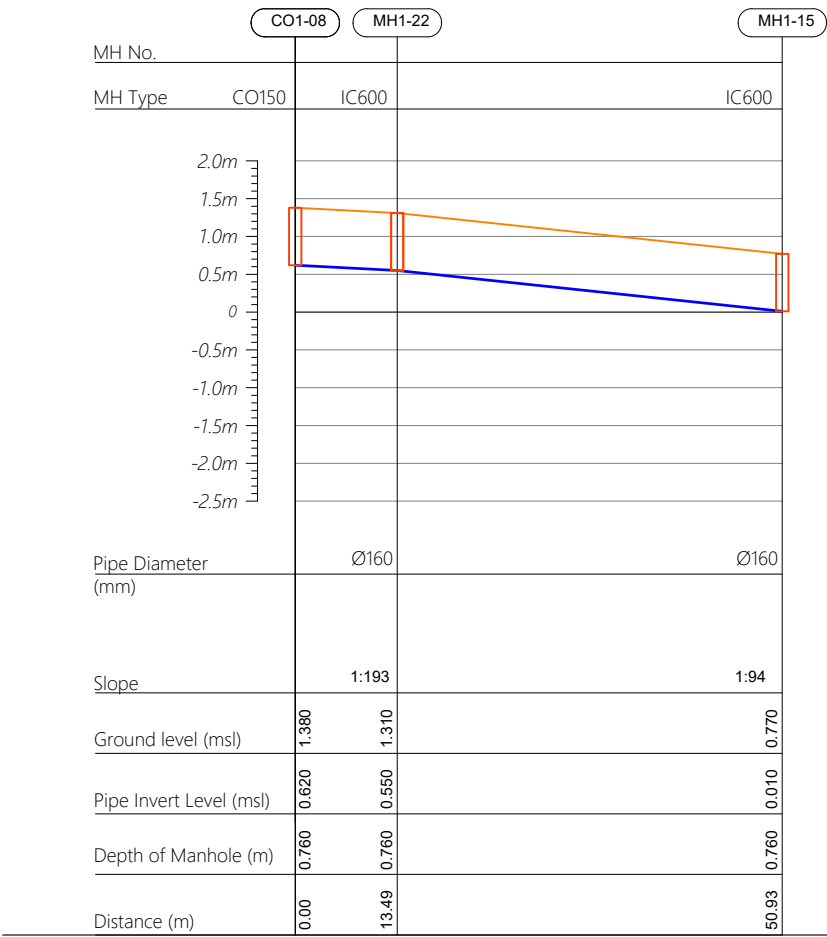
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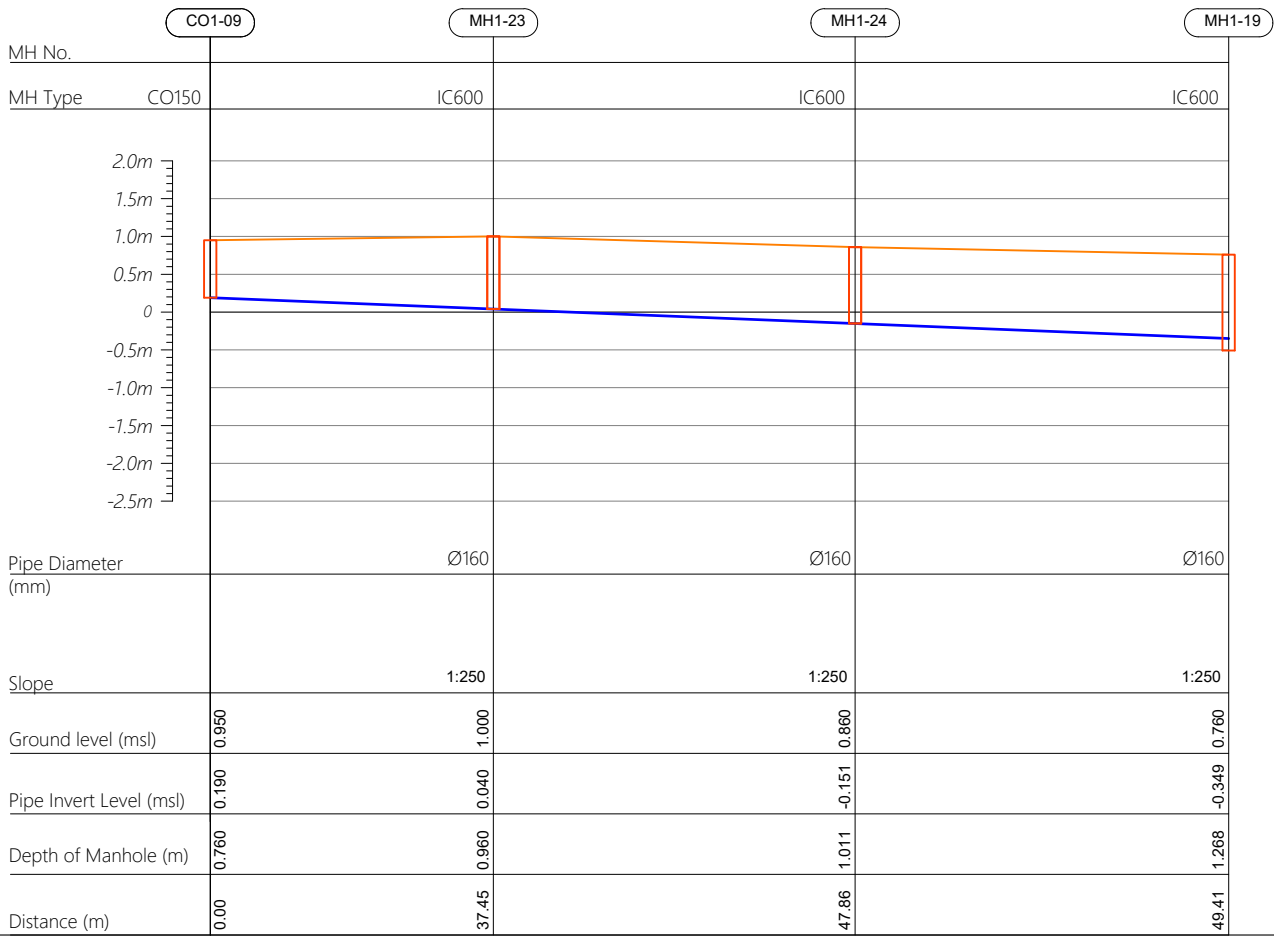
R-01 PS1-04



Profile 08



Profile 09



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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Drawn: A.R.W Checked: M.S.S

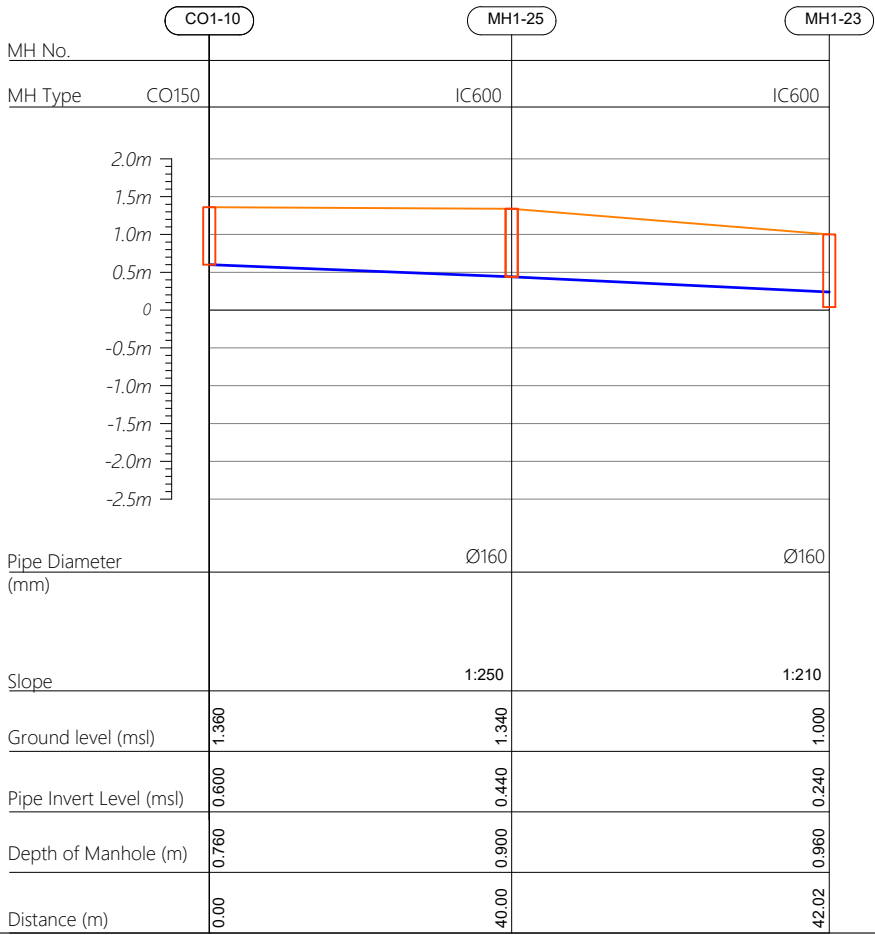
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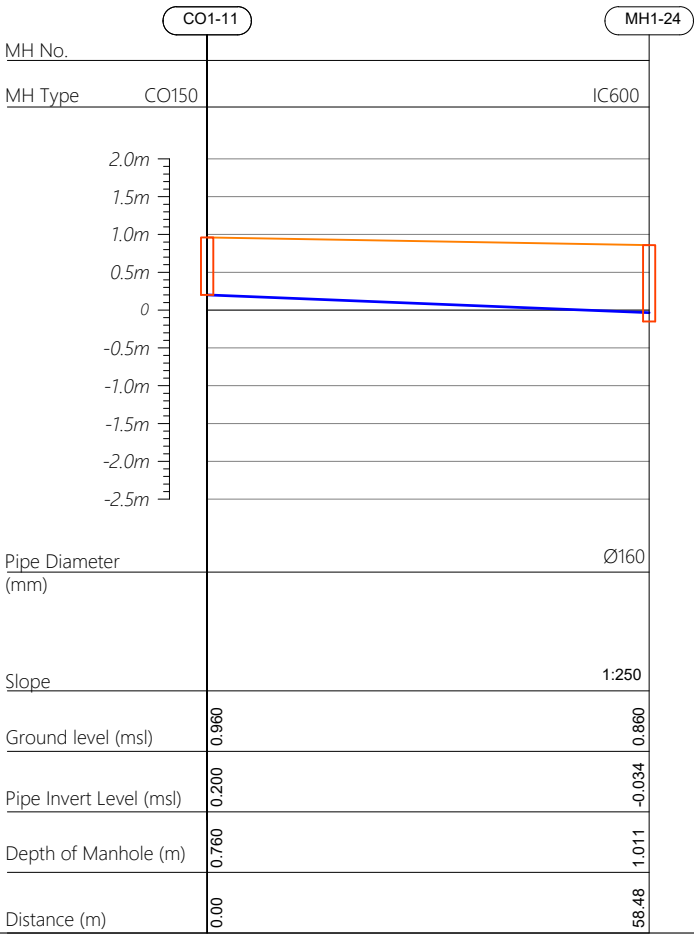
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Rev: R-01 Page: PS1-05

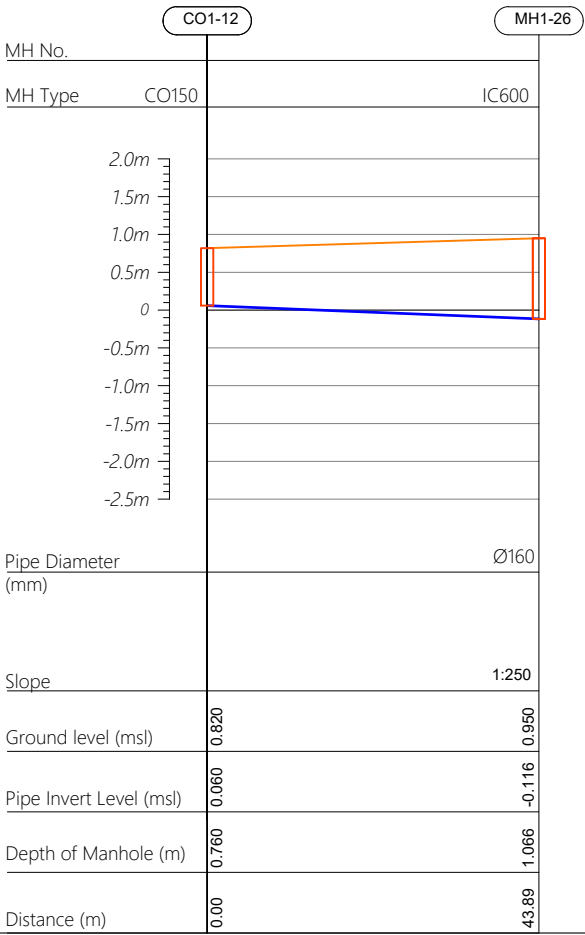
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Profile 11

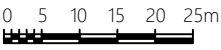


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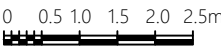


R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

HORIZONTAL SCALE



VERTICAL SCALE



- CO160 — Cleanout Ø160
- IC600 — HDPE Manhole Ø600
- PS — Pump Station

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

Sub Title:
Sewerage System in Gdh.Nadella

Client:
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Checked: M.S.S

Designed: F.I.A

Approved: I.W

Date: Aug 2020

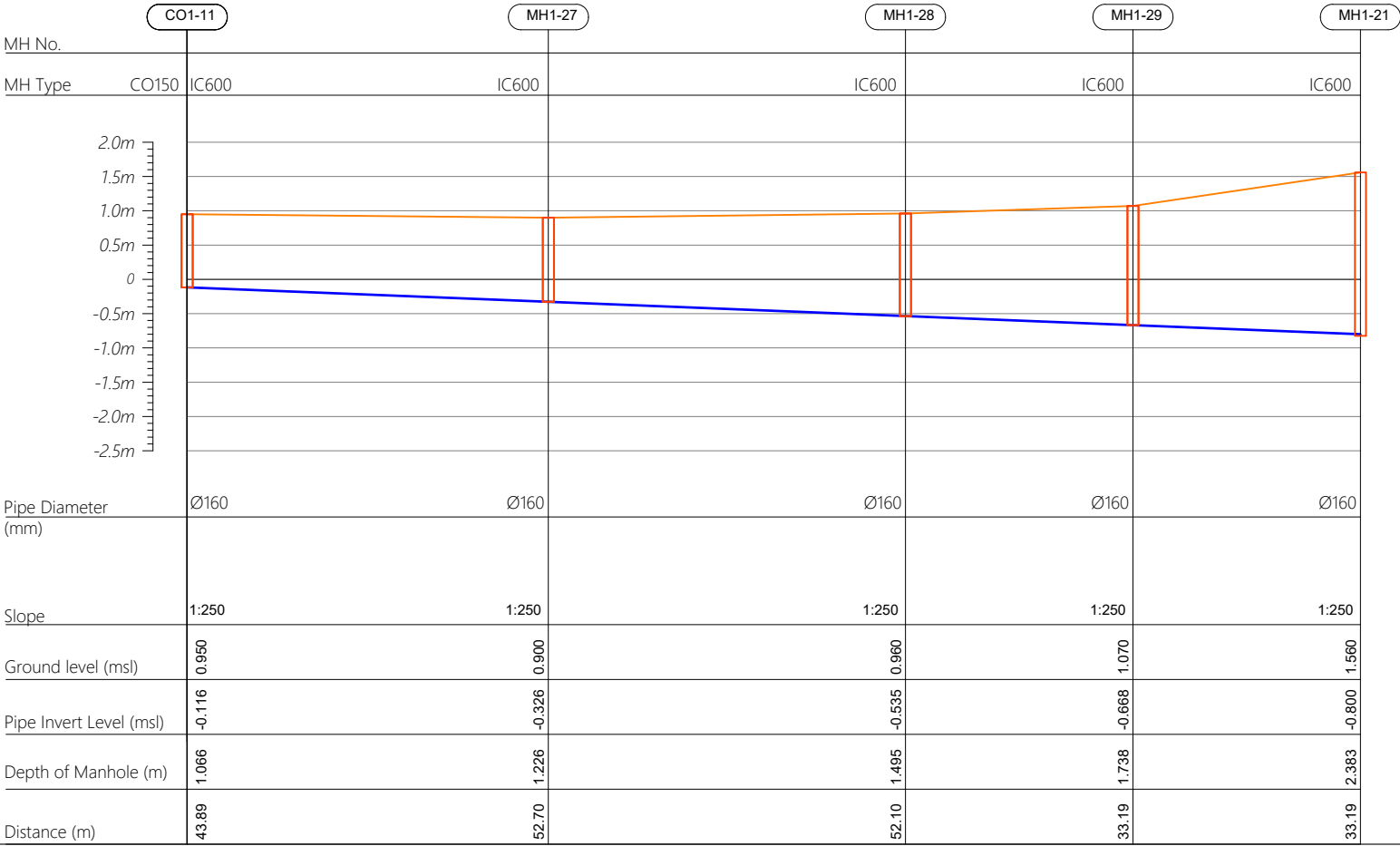
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Project No: 01010101

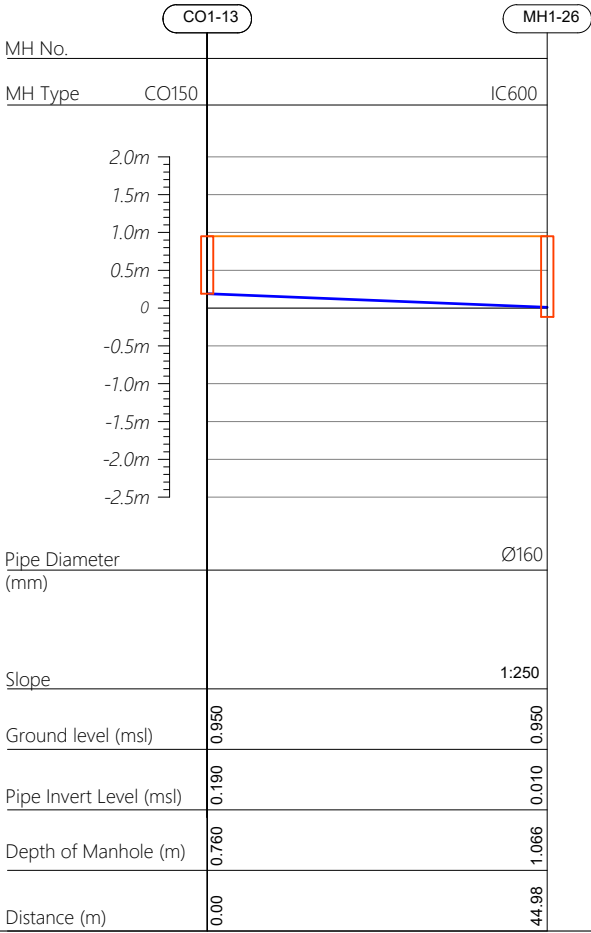
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Page:
PS1-06

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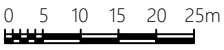


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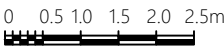


R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

HORIZONTAL SCALE



VERTICAL SCALE



- CO160 — Cleanout Ø160
- IC600 — HDPE Manhole Ø600
- PS — Pump Station

Title:
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Design and EIA works of Water
Supply and Sewerage Facilities in
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Sub Title:
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Drawn: A.R.W Checked: M.S.S

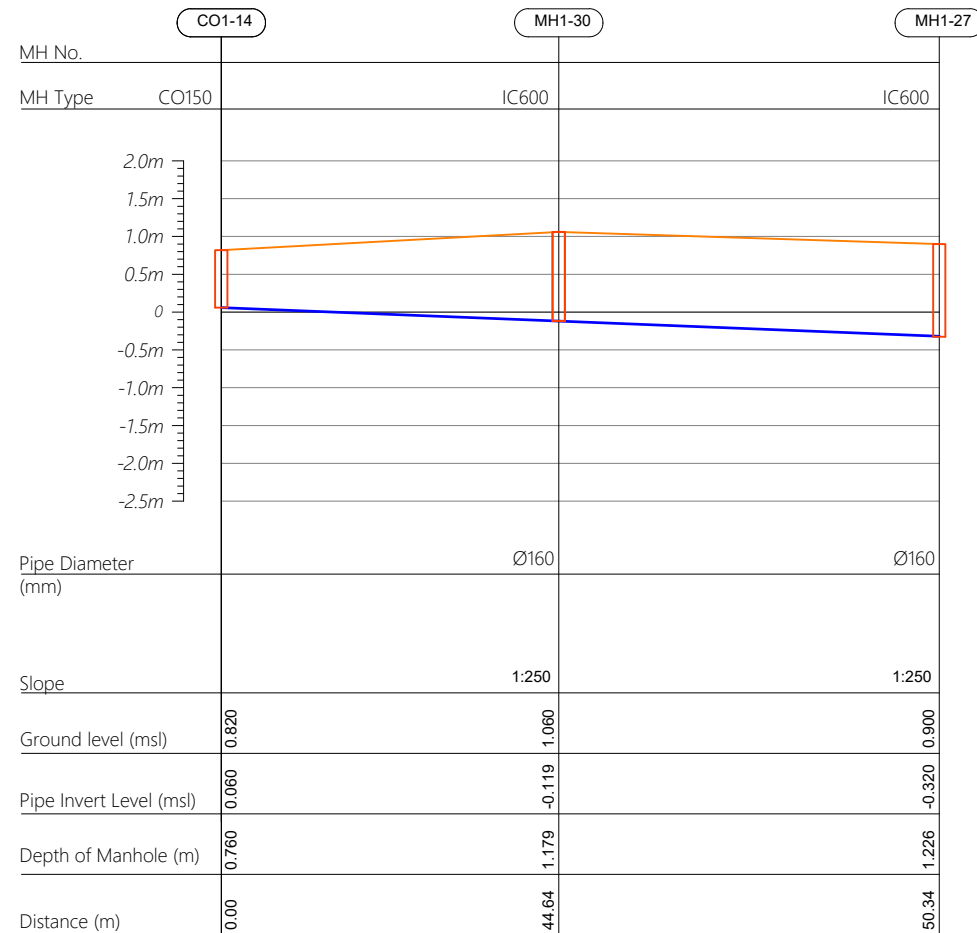
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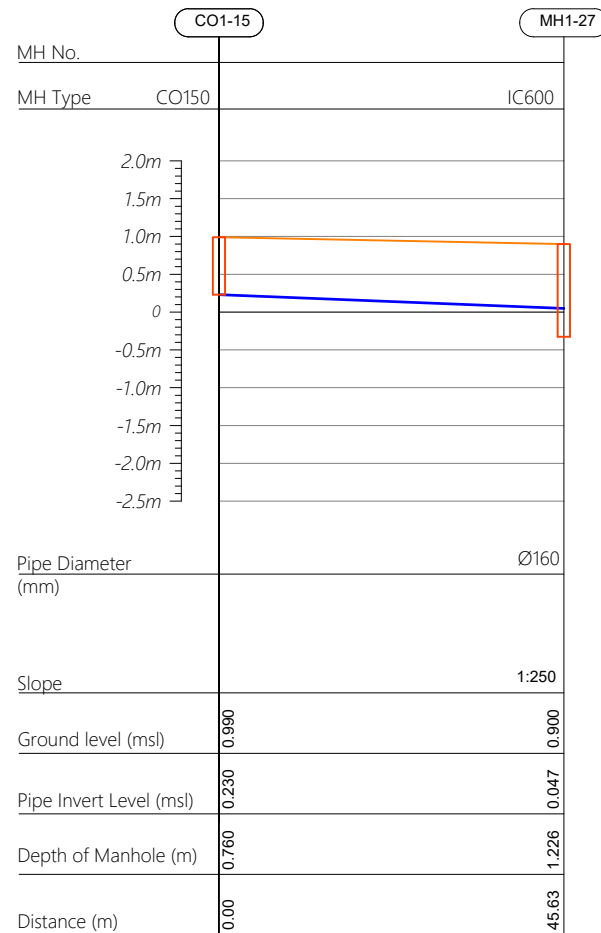
Project No: 01010101

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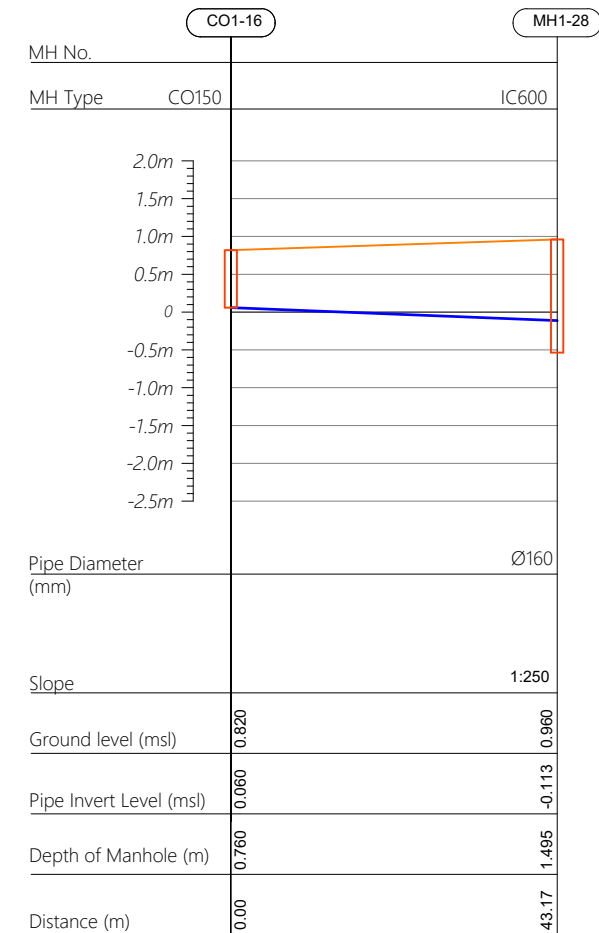
Profile 14



Profile 15



Profile 16



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
5 islands, Maldives - Package 6*

Sub Title:
Sewerage System in Gdh.Nadella

Client:
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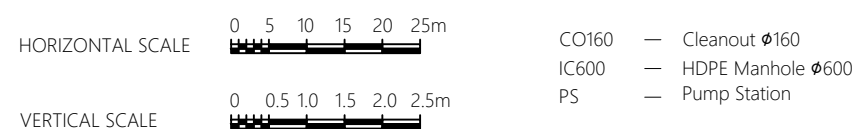
Drawn: A.R.W	Checked: M.S.S
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Designed: F.I.A	Approved: I.W
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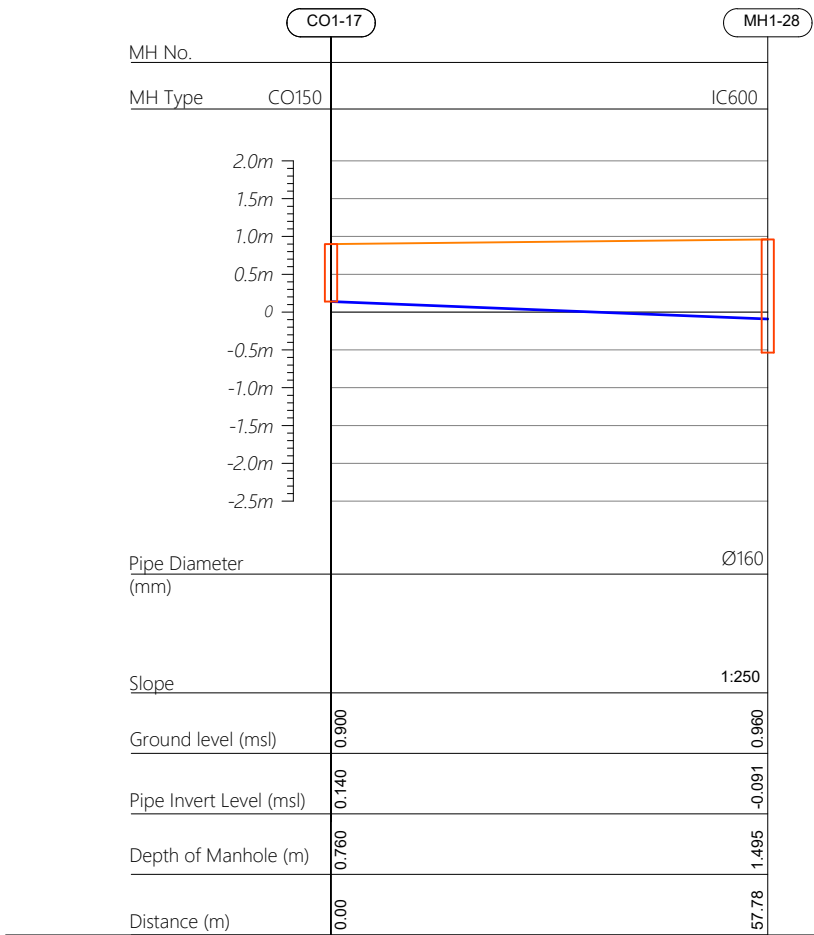
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Project No: 01010101

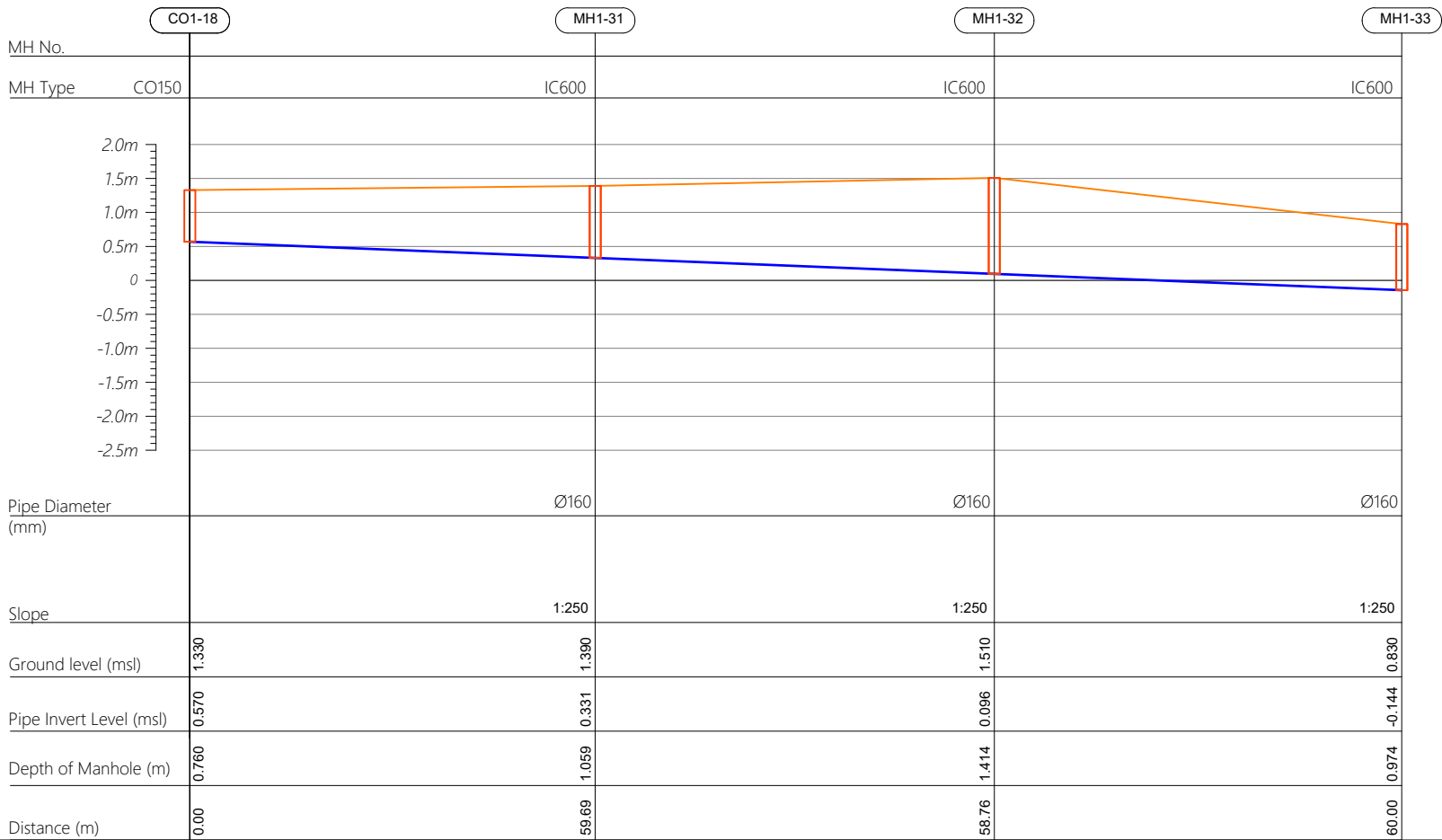
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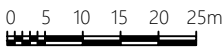


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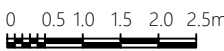


R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

HORIZONTAL SCALE



VERTICAL SCALE



- CO160 — Cleanout Ø160
IC600 — HDPE Manhole Ø600
PS — Pump Station

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

Sub Title:
Sewerage System in Gdh.Nadella

Client:
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Infrastructure, Republic of Maldives*



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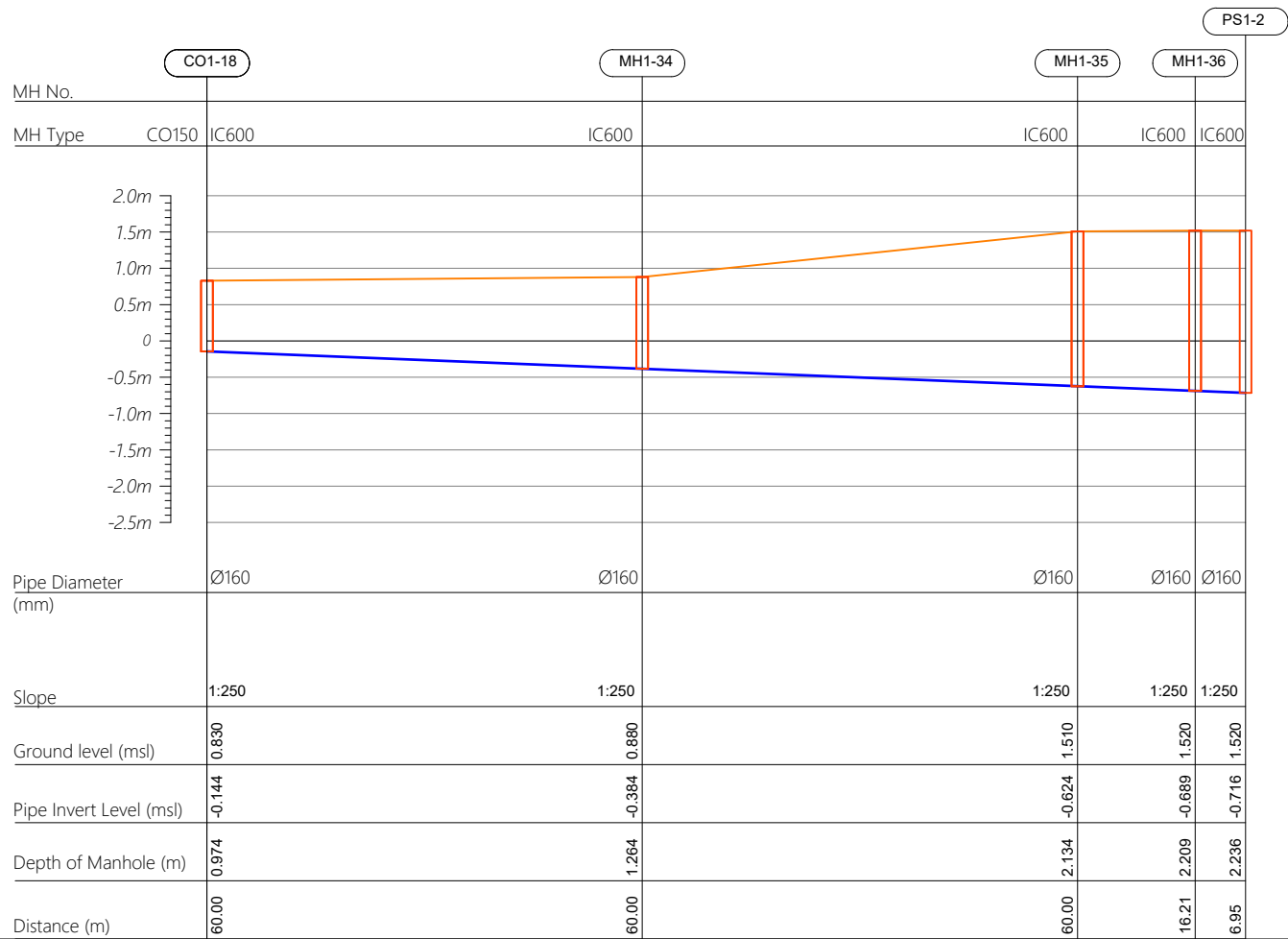
Designed: F.I.A Approved: I.W

Date: Aug 2020 SCALE (A3): 1:100

Project No: 01010101

Rev: R-01 Page: PS1-09

Profile 18



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



- CO160 — Cleanout Ø160
IC600 — HDPE Manhole Ø600
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Title:
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Drawn: A.R.W Checked: M.S.S

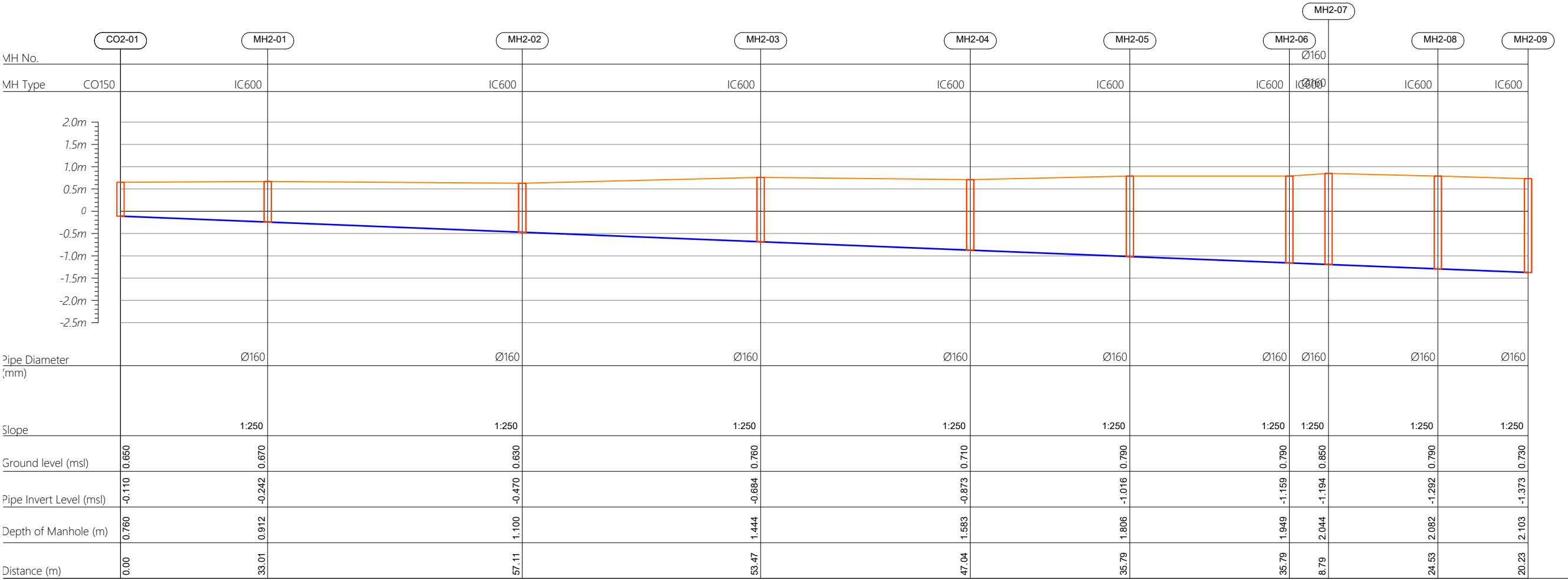
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Date: Aug 2020 SCALE (A3): 1:100

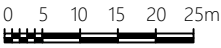
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Rev: R-01 Page: PS1-10

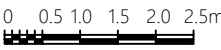
Profile 01



HORIZONTAL SCALE



VERTICAL SCALE



- CO160 — Cleanout Ø160
- IC600 — HDPE Manhole Ø600
- PS — Pump Station

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 5 islands, Maldives - Package 6

Sub Title:
Sewerage System in Gdh.Nadella

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Drawn: A.R.W Checked: M.S.S

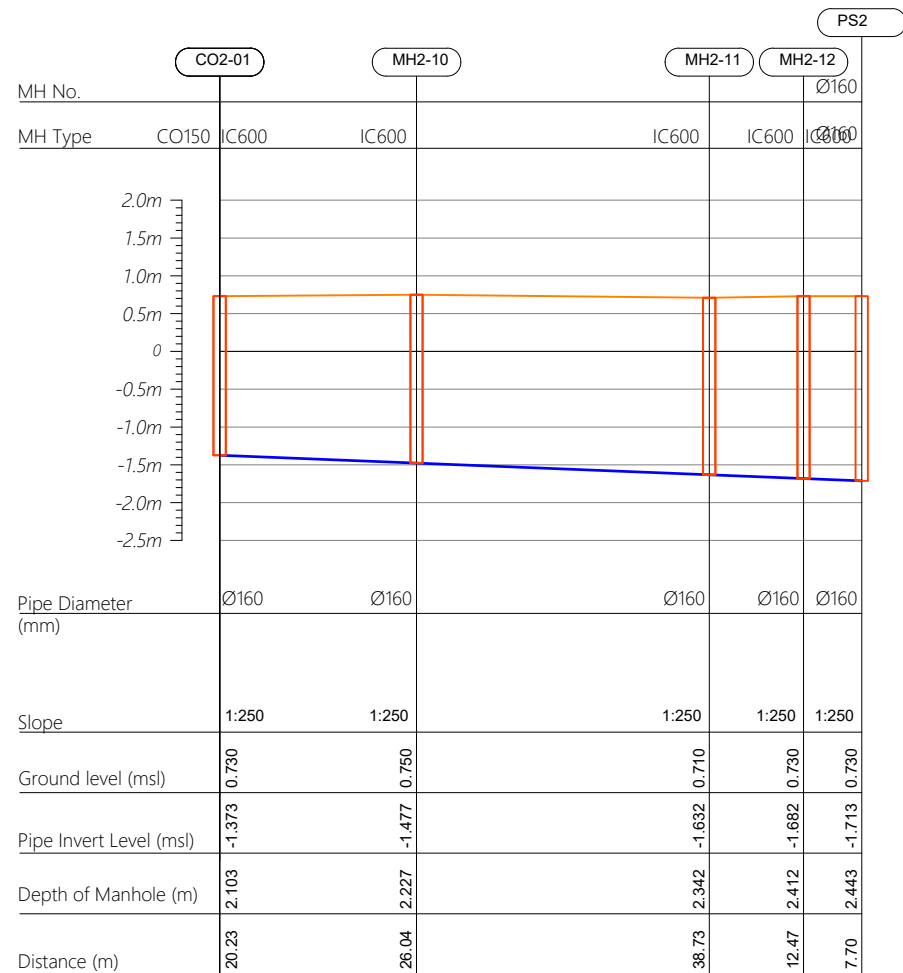
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Date: Aug 2020 SCALE (A3): 1:100

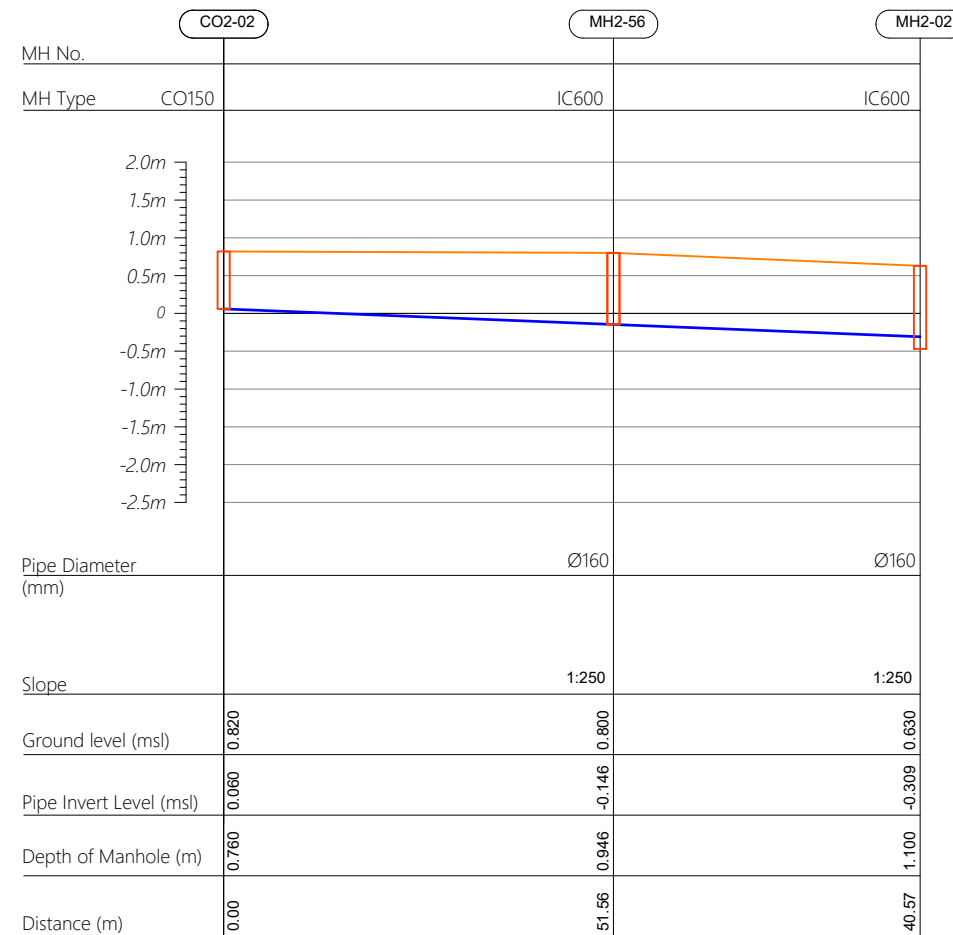
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Rev: R-01 Page: PS2-01

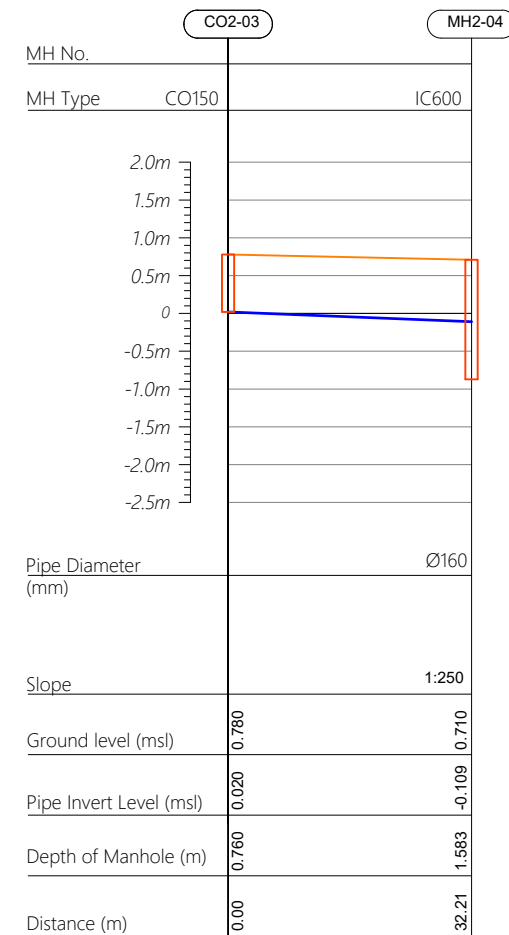
Profile 01



Profile 02



Profile 03



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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5 islands, Maldives - Package 6*

Sub Title:
Sewerage System in Gdh.Nadella

Client:
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Infrastructure, Republic of Maldives*



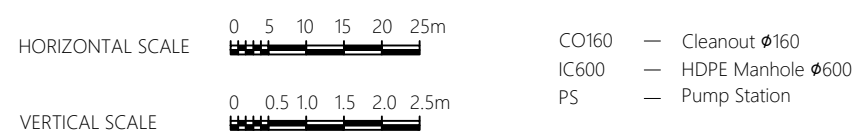
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Designed: F.I.A	Approved: J.W
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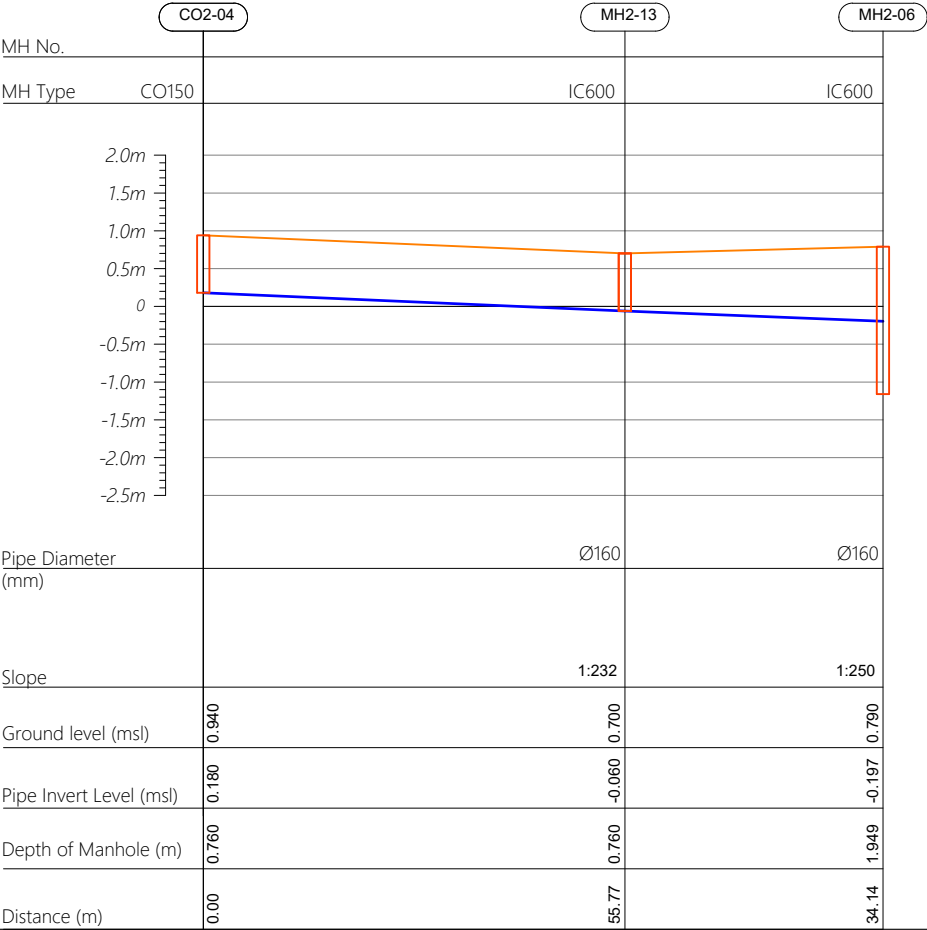
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Project No: 01010101

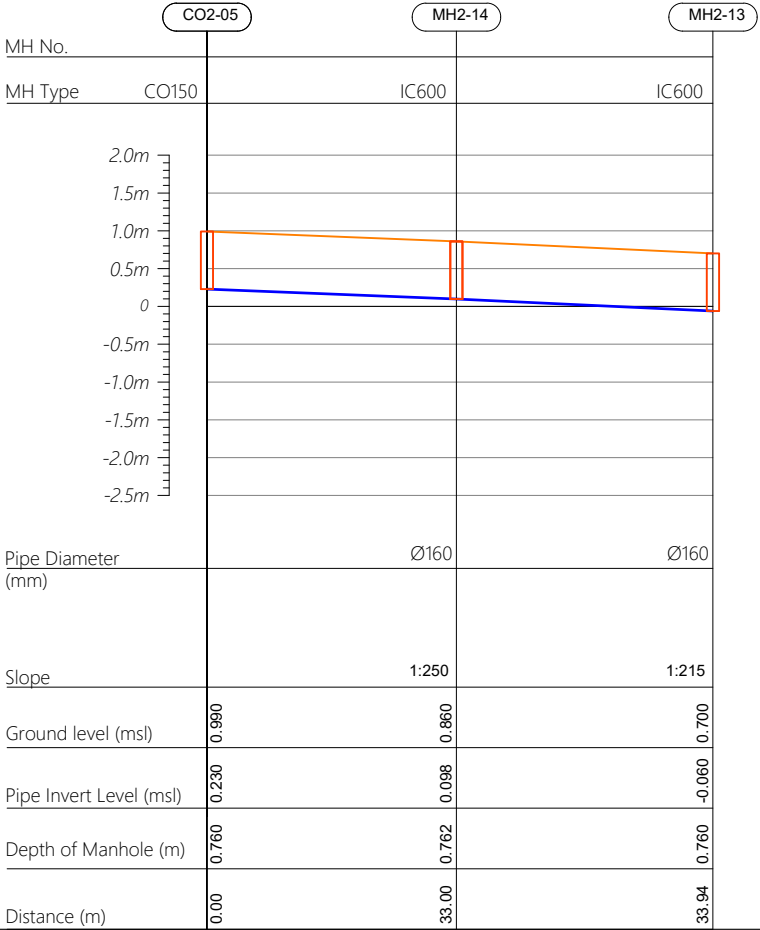
Rev:	Page:
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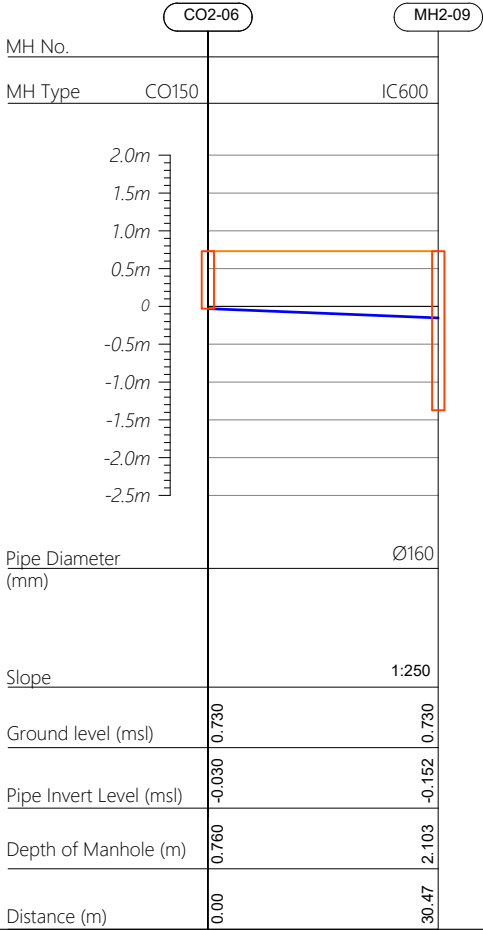
Profile 04



Profile 05

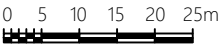


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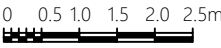


R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

HORIZONTAL SCALE



VERTICAL SCALE



- CO160 — Cleanout Ø160
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Title:
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5 islands, Maldives - Package 6*

Sub Title:
Sewerage System in Gdh.Nadella

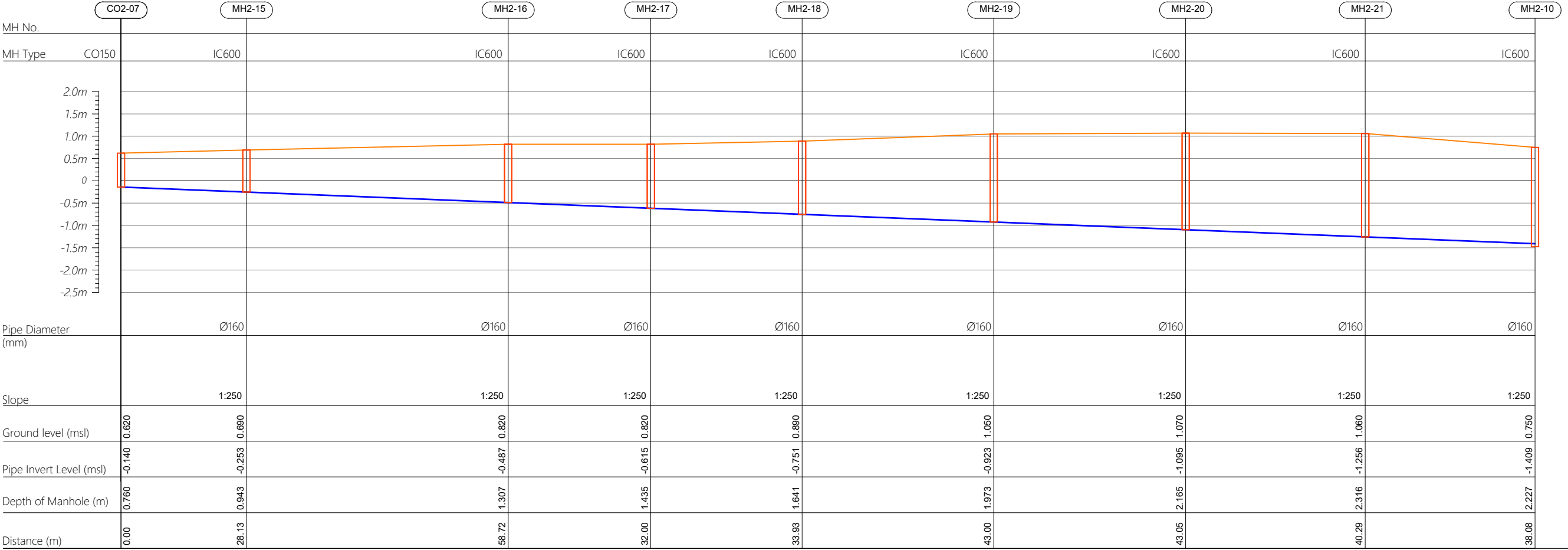
Client:
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Drawn: A.R.W	Checked: M.S.S
Designed: F.I.A	Approved: I.W
Date: Aug 2020	SCALE (A3): 1:100
Project No: 01010101	
Rev: R-01	Page: PS2-03

Profile 07



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 5 islands, Maldives - Package 6

Sub Title:

Sewerage System in Gdh.Nadella

Client:

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

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Husnuheemaa Magu, Male', Maldives

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Drawn: A.R.W

Checked: M.S.S

Designed: F.I.A

Approved: I.W

Date: Aug 2020

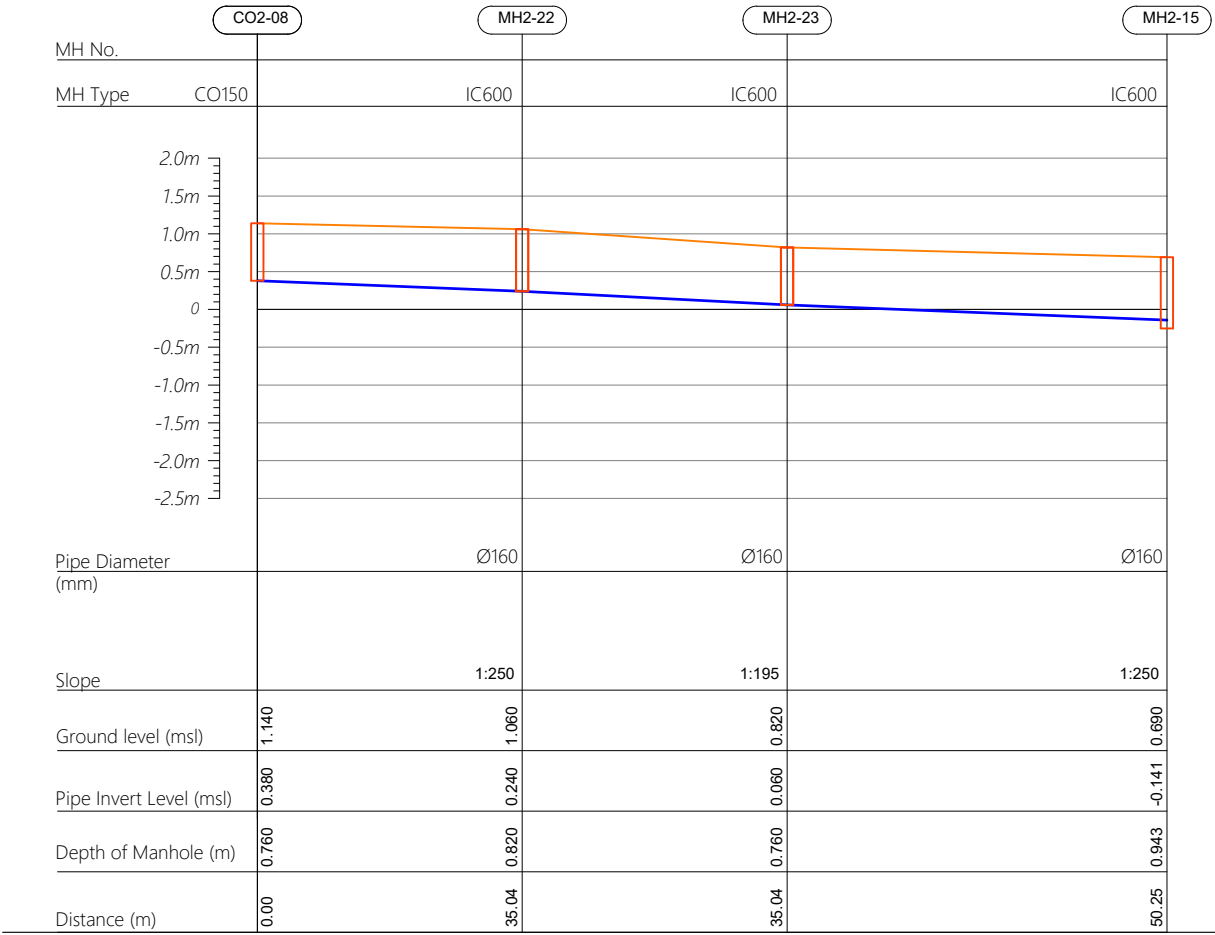
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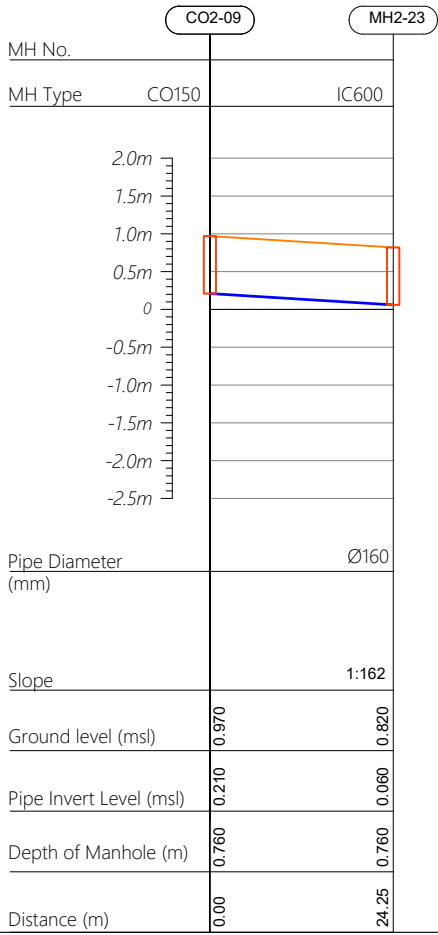
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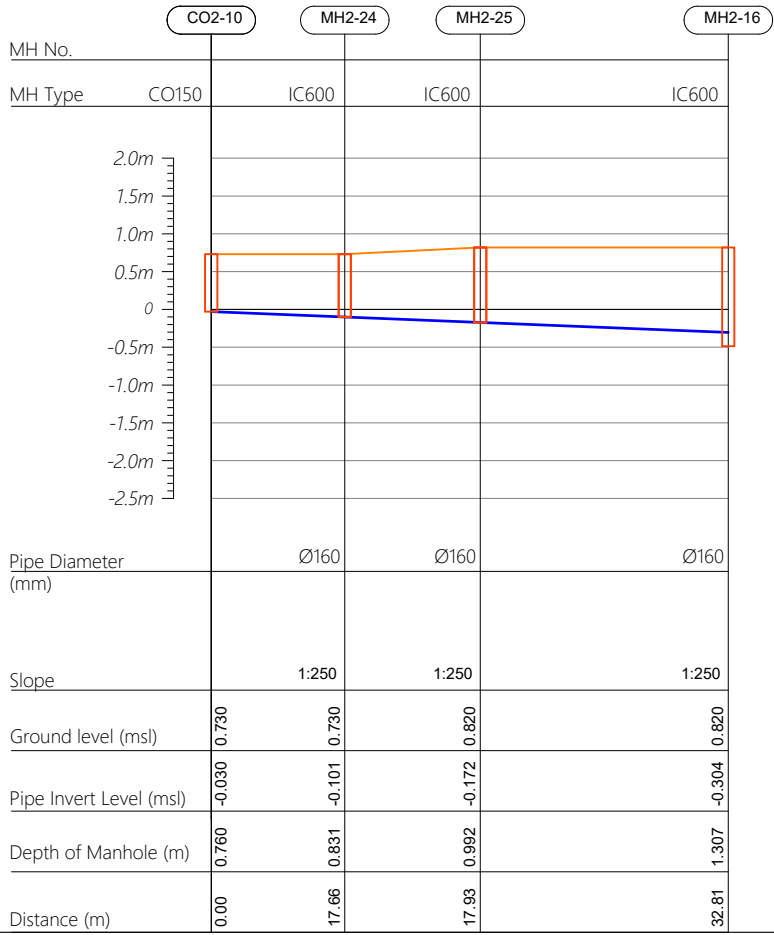
Profile 08



Profile 09

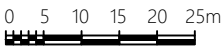


Profile 10

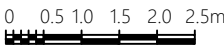


R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

HORIZONTAL SCALE



VERTICAL SCALE



- CO160 — Cleanout Ø160
IC600 — HDPE Manhole Ø600
PS — Pump Station

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

Sub Title:
Sewerage System in Gdh.Nadella

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

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ASSOCIATES
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W: www.epoch.associates
A: G. Rosary West,
Husnuheemaa Magu, Male', Maldives

FBAC INFRA
Maldivu Infrastructure Develop

Drawn: A.R.W
Designed: F.I.A
Date: Aug 2020
Project No: 01010101

Checked: M.S.S
Approved: I.W
SCALE (A3): 1:100

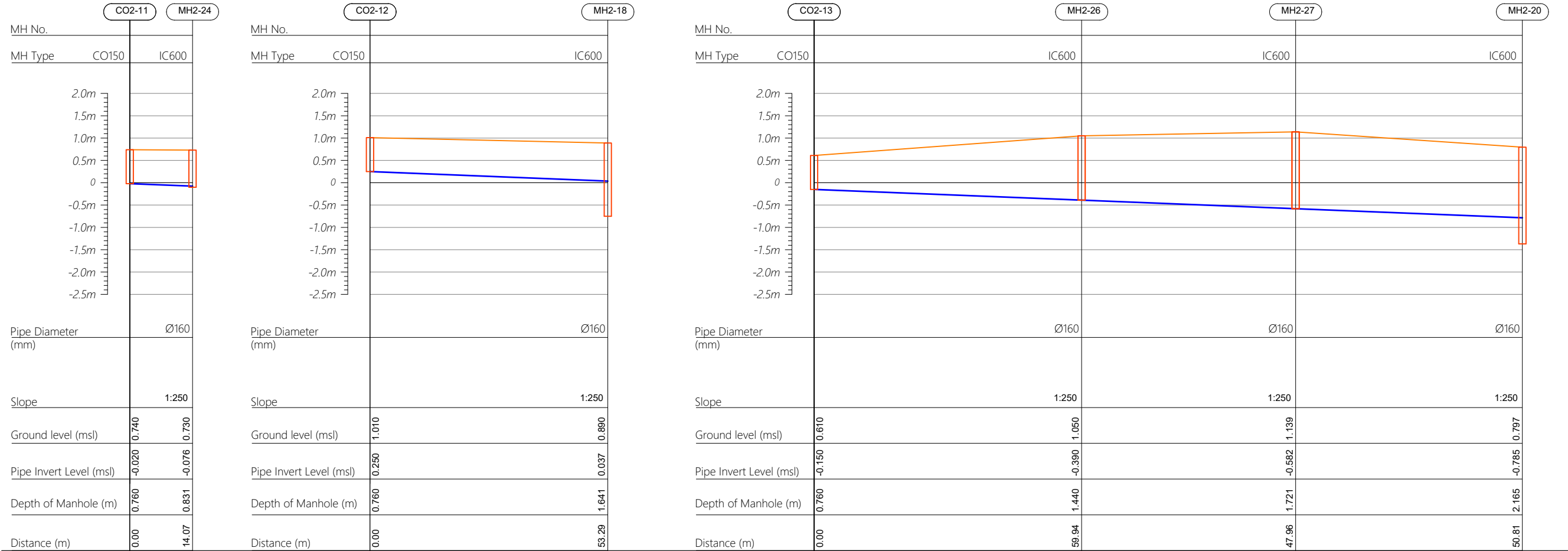
Rev:
R-01

Page:
PS2-05

Profile 11

Profile 12

Profile 13



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 5 islands, Maldives - Package 6

Sub Title:
Sewerage System in Gdh.Nadella

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

EPOCH

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Husnuheemaa Magu, Male', Maldives

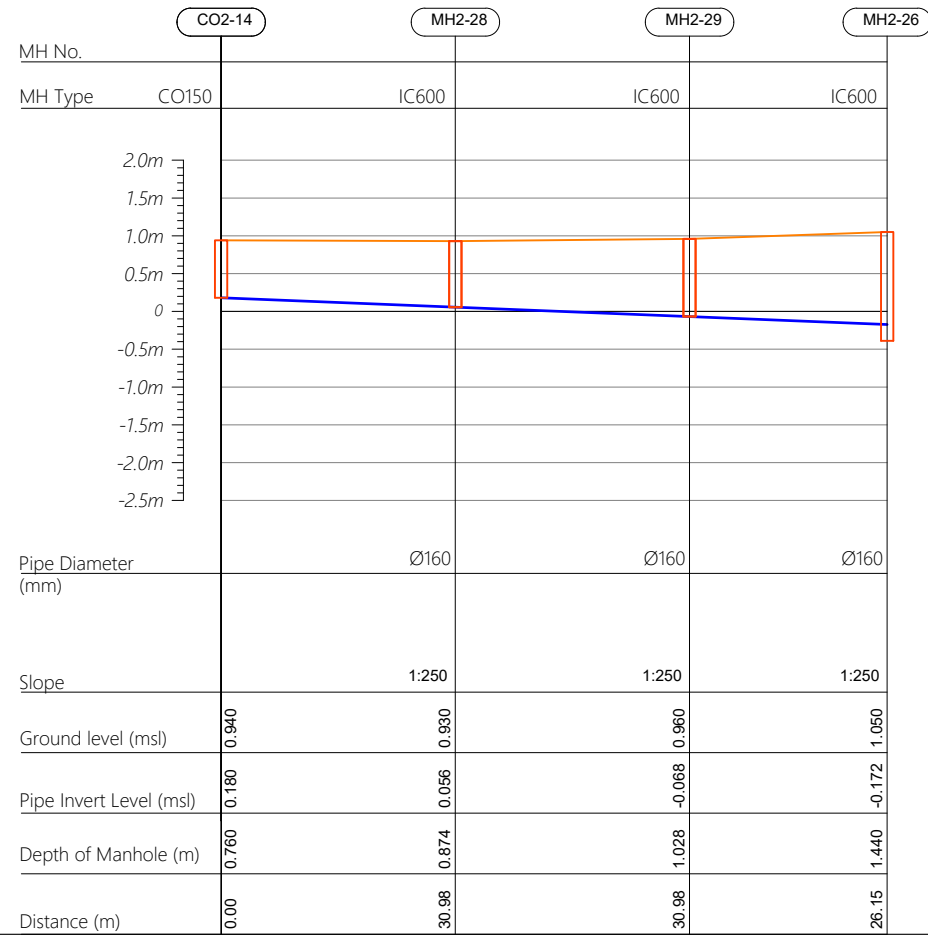
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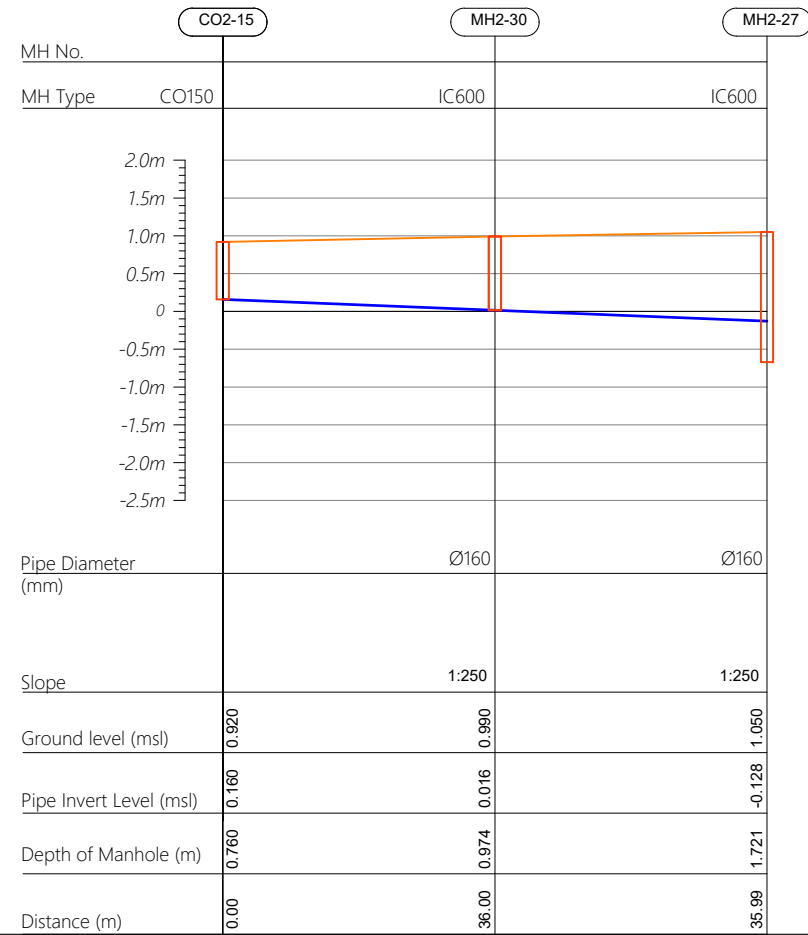
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Drawn: A.R.W	Checked: M.S.S
Designed: F.I.A	Approved: I.W
Date: Aug 2020	SCALE (A3): 1:100
Project No: 01010101	
Rev: R-01	Page: PS2-06

Profile 14



Profile 15



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
5 islands, Maldives - Package 6*

Sub Title:
Sewerage System in Gdh.Nadella

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



Drawn: A.R.W	Checked: M.S.S
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Designed: F.I.A	Approved: I.W
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Date: Aug 2020	SCALE (A3): 1:100
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Project No: 01010101

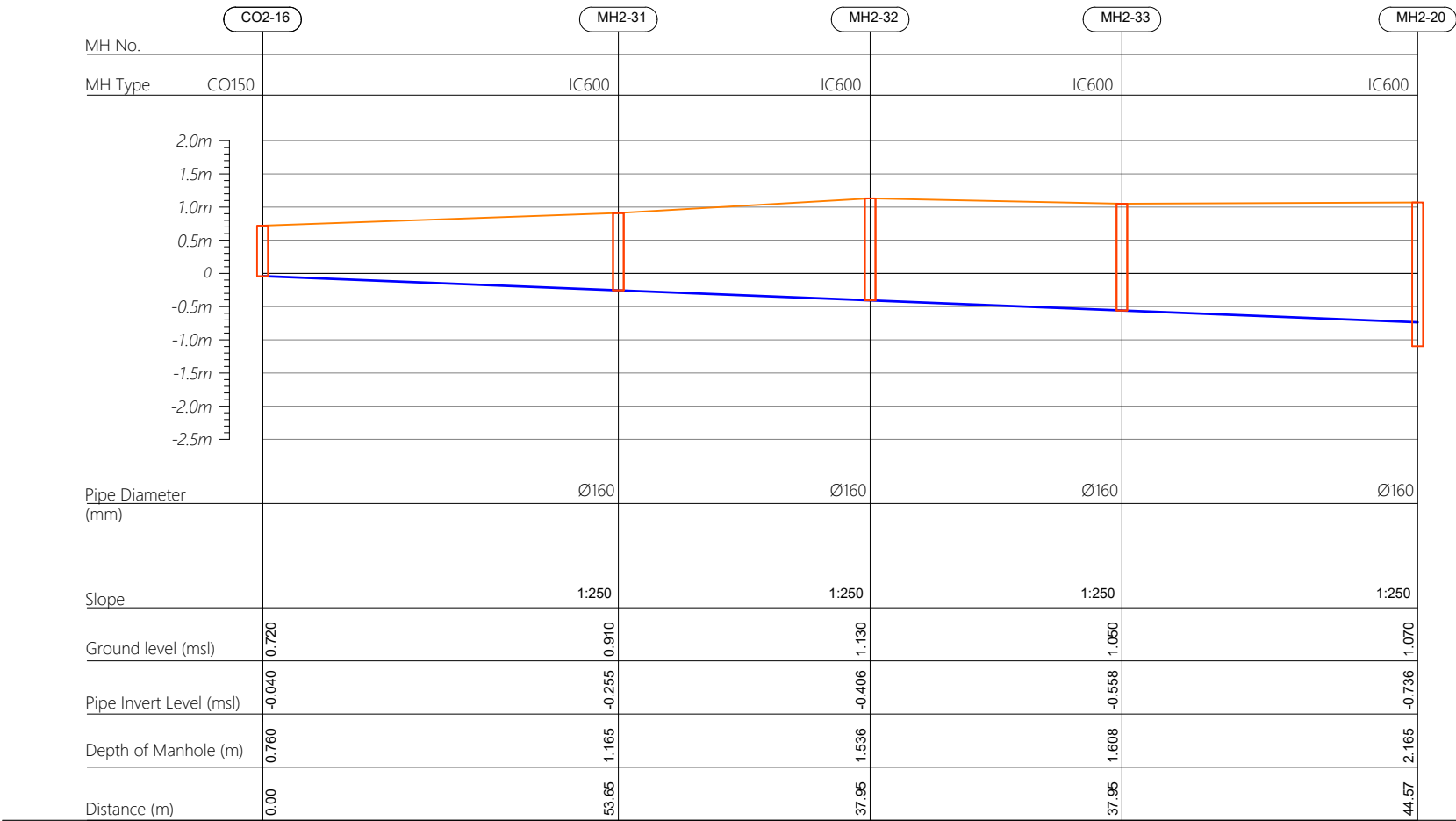
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R-01 PS2-07

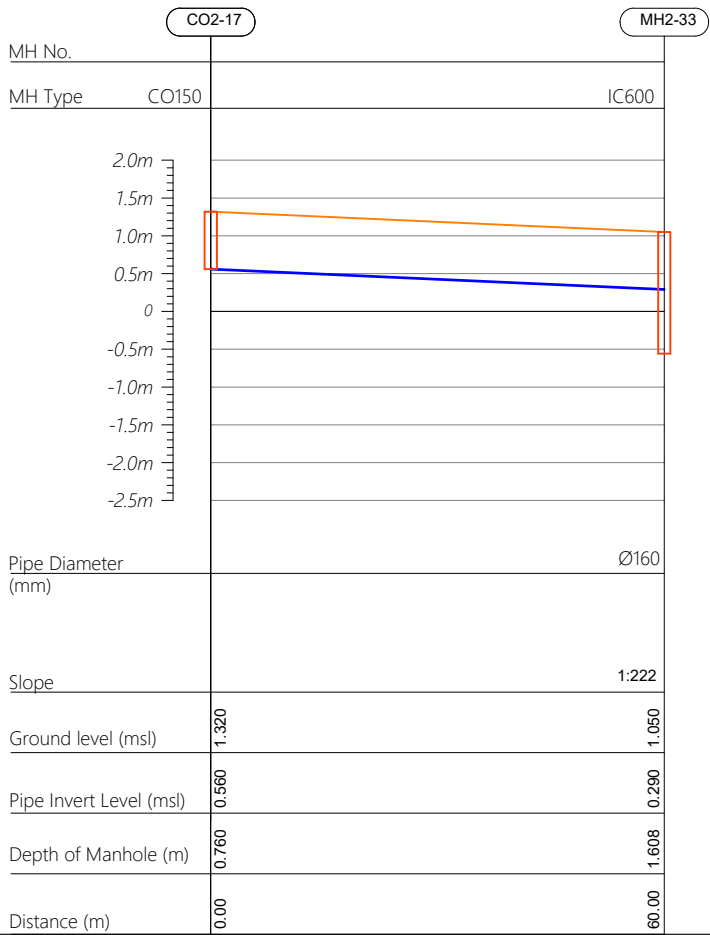
HORIZONTAL SCALE  CO160 — Cleanout Ø160
IC600 — HDPE Manhole Ø600
PS — Pump Station

VERTICAL SCALE 

Profile 16

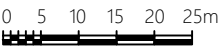


Profile 17

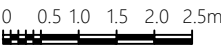


R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

HORIZONTAL SCALE



VERTICAL SCALE



CO160 — Cleanout Ø160
IC600 — HDPE Manhole Ø600
PS — Pump Station

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

Sub Title:
Sewerage System in Gdh.Nadella

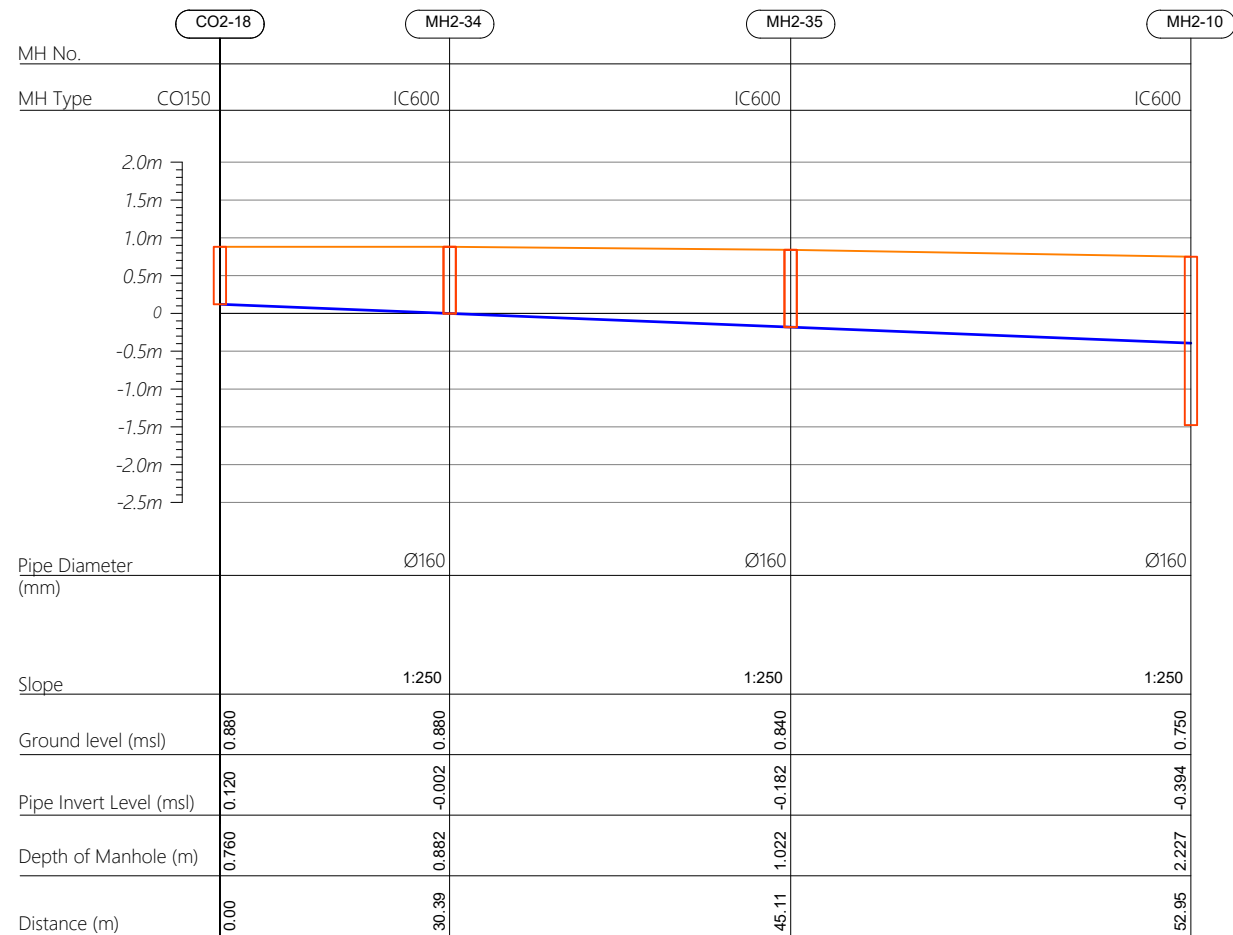
Client:
*Ministry of National Planning, Housing and
Infrastructure, Republic of Maldives*

T: +960 333 3528
E: info@epoch.associates
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A: G. Rosary West,
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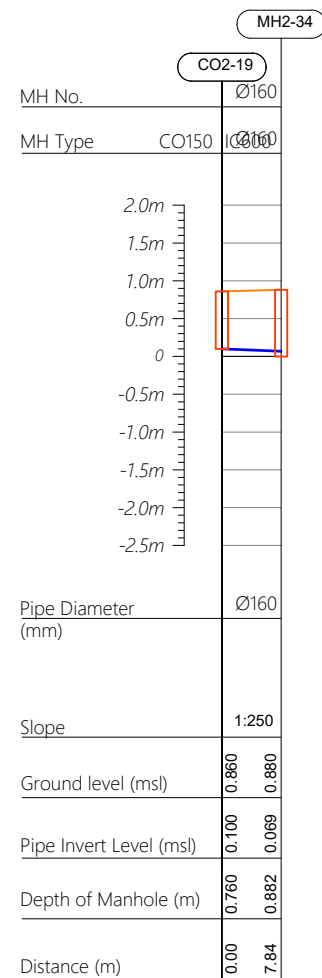
FIDBACK INFRA
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Drawn: A.R.W	Checked: M.S.S
Designed: F.I.A	Approved: I.W
Date: Aug 2020	SCALE (A3): 1:100
Project No:	01010101

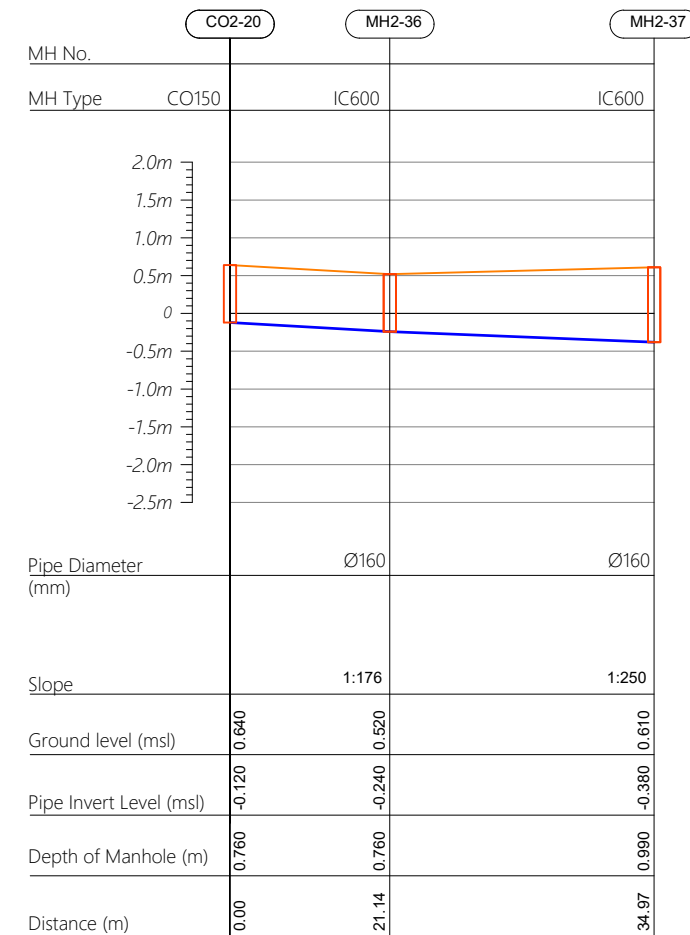
Profile 18



Profile 19



Profile 20



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
5 islands, Maldives - Package 6*

Sub Title:
Sewerage System in Gdh.Nadella

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



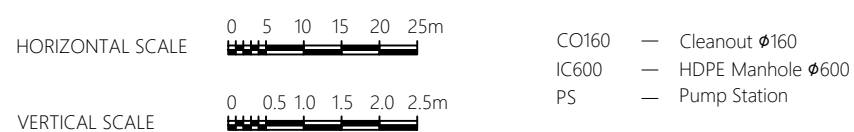
Drawn: A.R.W	Checked: M.S.S
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Designed: F.J.A	Approved: J.W
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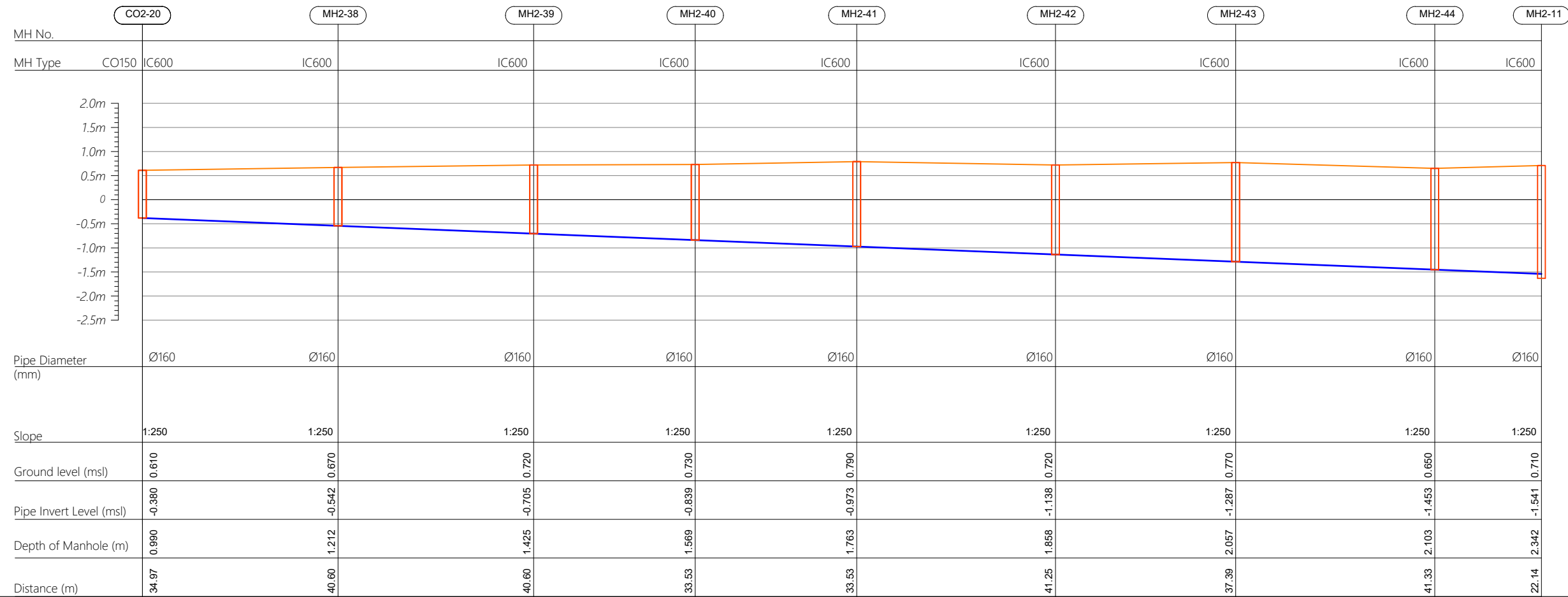
Date: Aug 2020	SCALE (A3): 1:100
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Project No: 01010101

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Profile 20



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
5 islands, Maldives - Package 6**

Sub Title:
Sewerage System in Gdh.Nadella

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



Drawn: A.R.W	Checked: M.S.S
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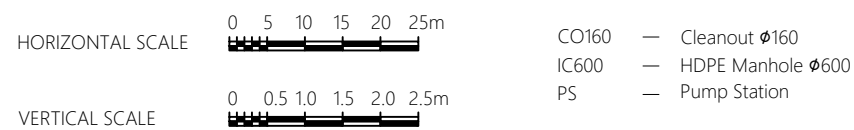
Designed: F.I.A	Approved: I.W
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Date: Aug 2020	SCALE (A3): 1:100
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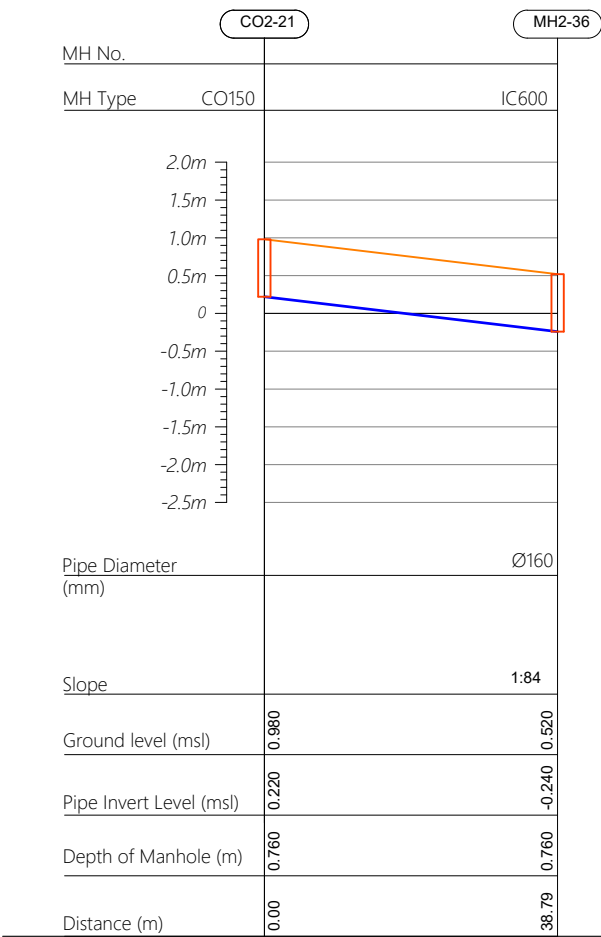
Project No: 01010101

Rev: _____ Page: _____

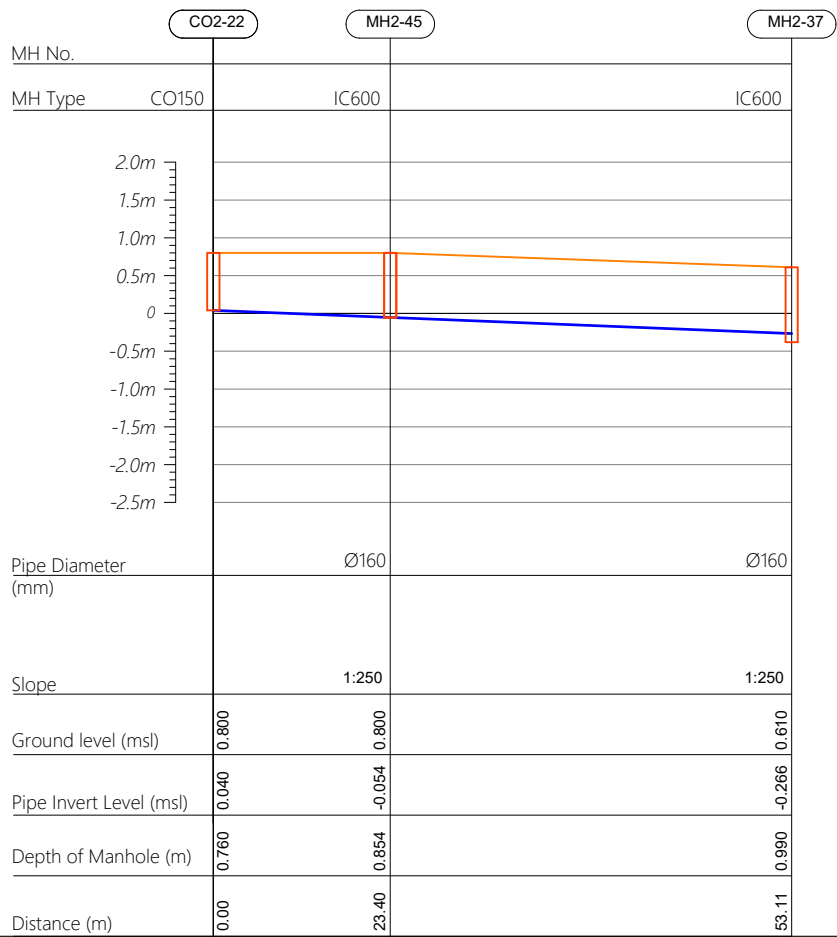
R-01 PS2-10



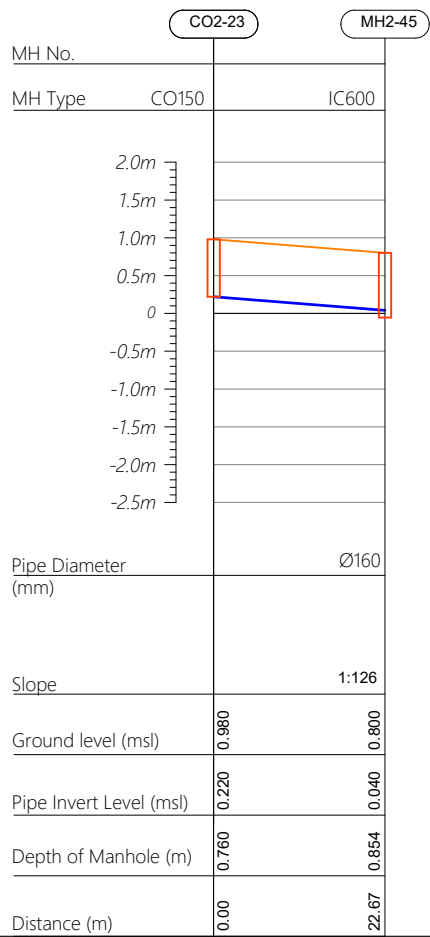
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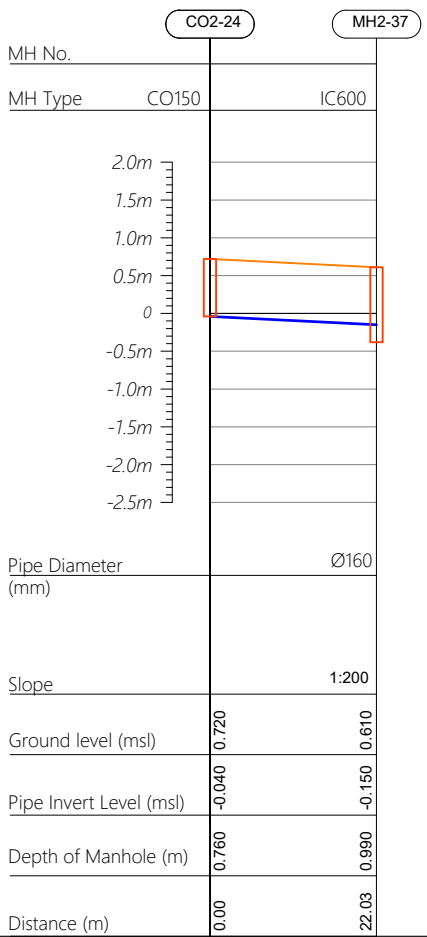
Profile 22



Profile 23

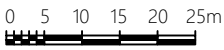


Profile 24

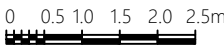


R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

HORIZONTAL SCALE



VERTICAL SCALE



- CO160 — Cleanout Ø160
IC600 — HDPE Manhole Ø600
PS — Pump Station

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

Sub Title:
Sewerage System in Gdh.Nadella

Client:
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W: www.epoch.associates
A: G. Rosary West,
Husnuheemaa Magu, Male', Maldives



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Drawn: A.R.W Checked: M.S.S

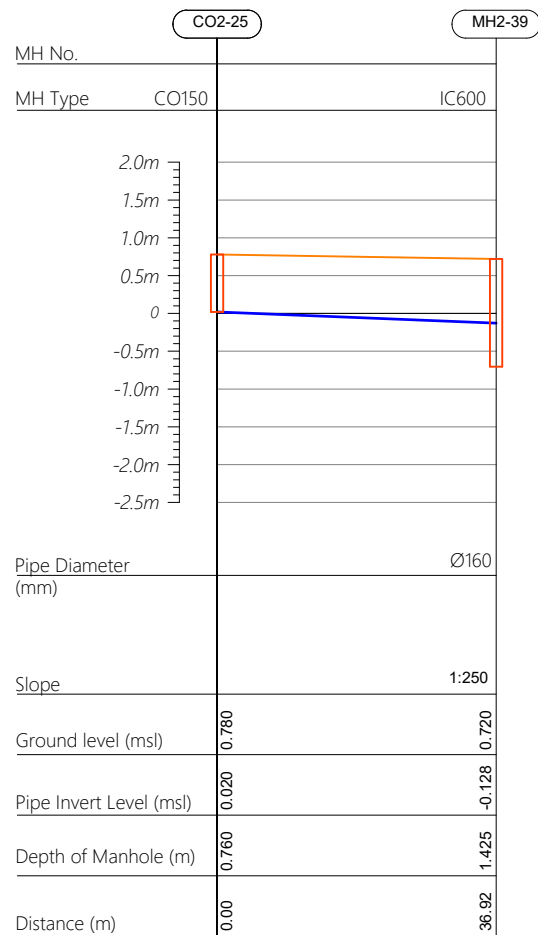
Designed: F.I.A Approved: I.W

Date: Aug 2020 SCALE (A3): 1:100

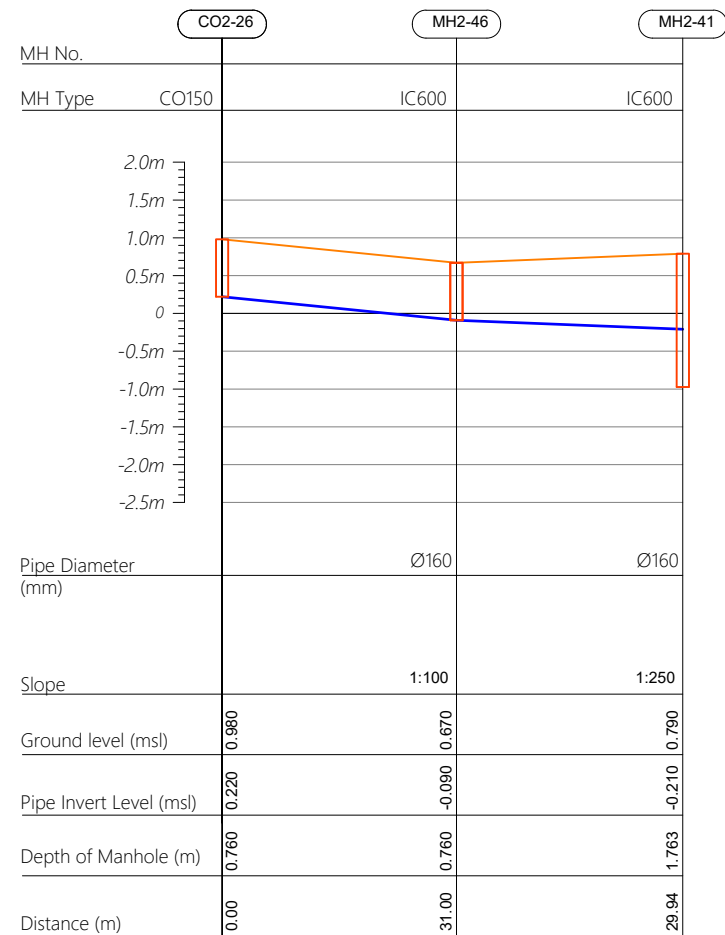
Project No: 01010101

Rev: R-01 Page: **PS2-11**

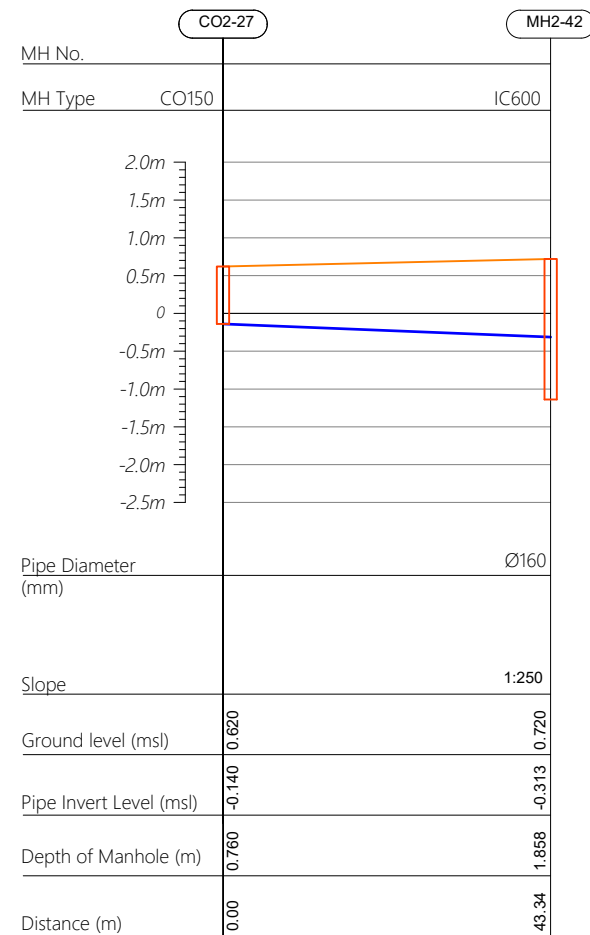
Profile 25



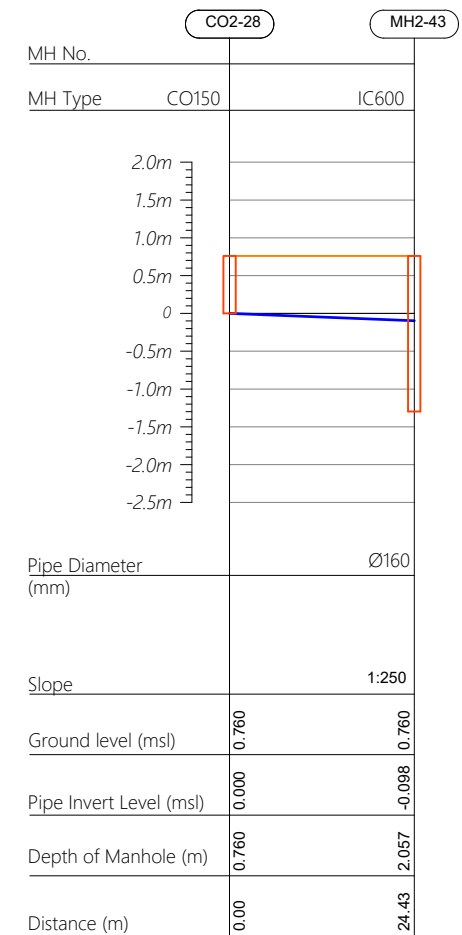
Profile 26



Profile 27



Profile 28



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
5 islands, Maldives - Package 6*

Sub Title:
Sewerage System in Gdh.Nadella

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



Drawn: A.R.W	Checked: M.S.S
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Designed: F.J.A	Approved: J.W
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Date: Aug 2020	SCALE (A3): 1:100
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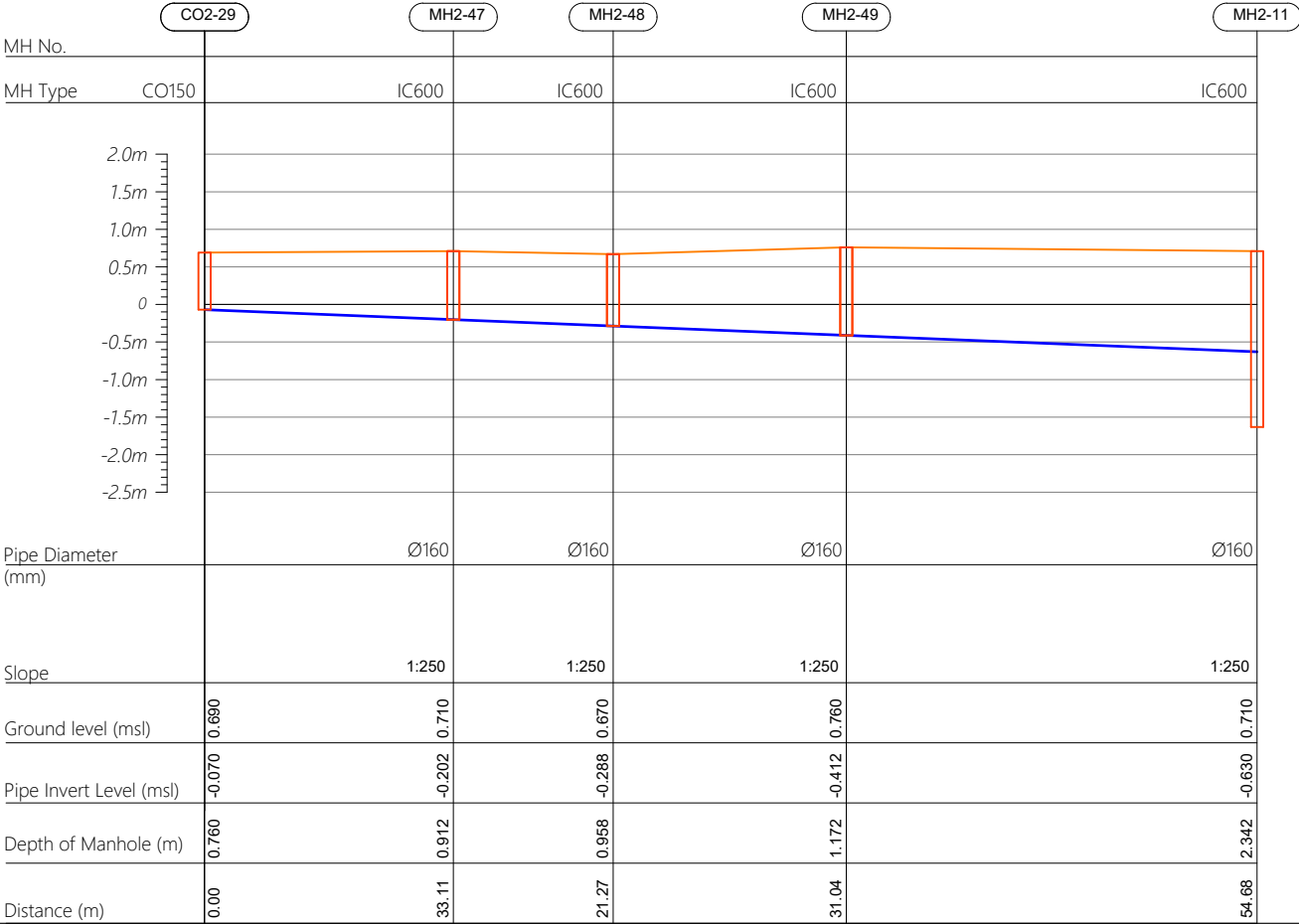
Project No: 01010101

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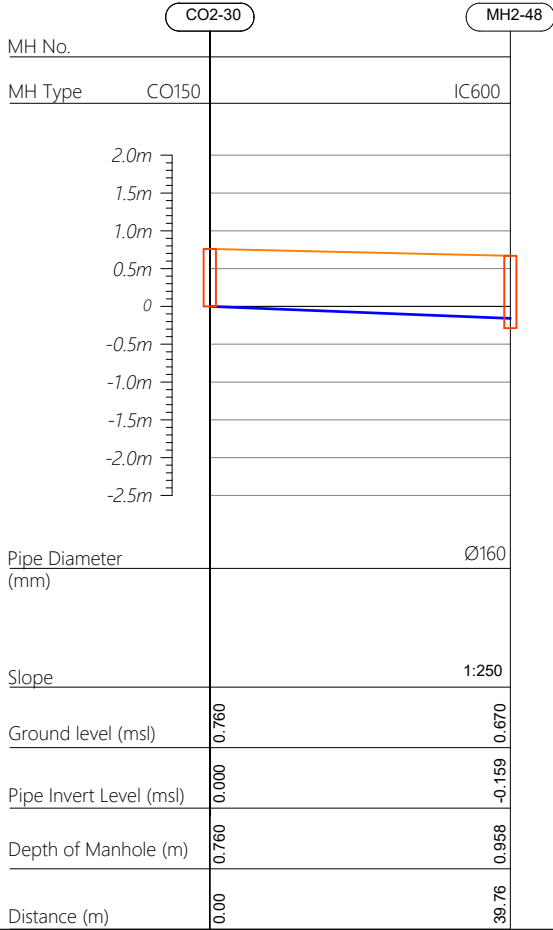


CO160 — Cleanout Ø160
IC600 — HDPE Manhole Ø600
PS — Pump Station

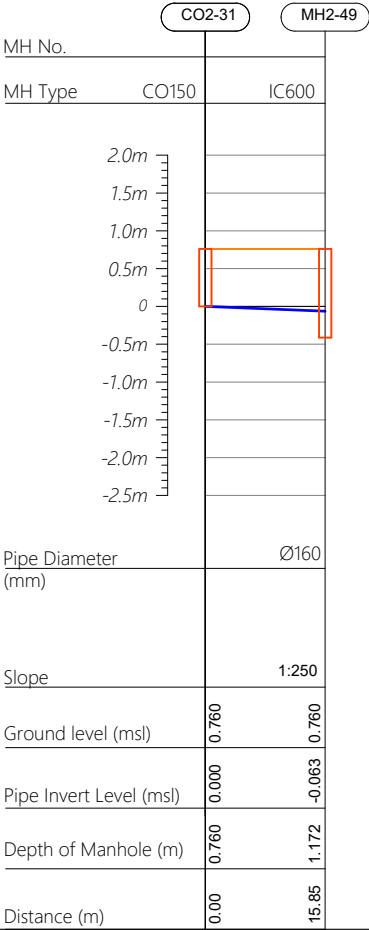
Profile 29



Profile 30

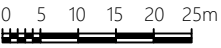


Profile 31

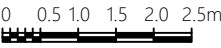


R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

HORIZONTAL SCALE



VERTICAL SCALE



- CO160 — Cleanout Ø160
- IC600 — HDPE Manhole Ø600
- PS — Pump Station

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

Sub Title:
Sewerage System in Gdh.Nadella

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

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Husnuheemaa Magu, Male', Maldives

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Drawn: A.R.W

Checked: M.S.S

Designed: F.I.A

Approved: I.W

Date: Aug 2020

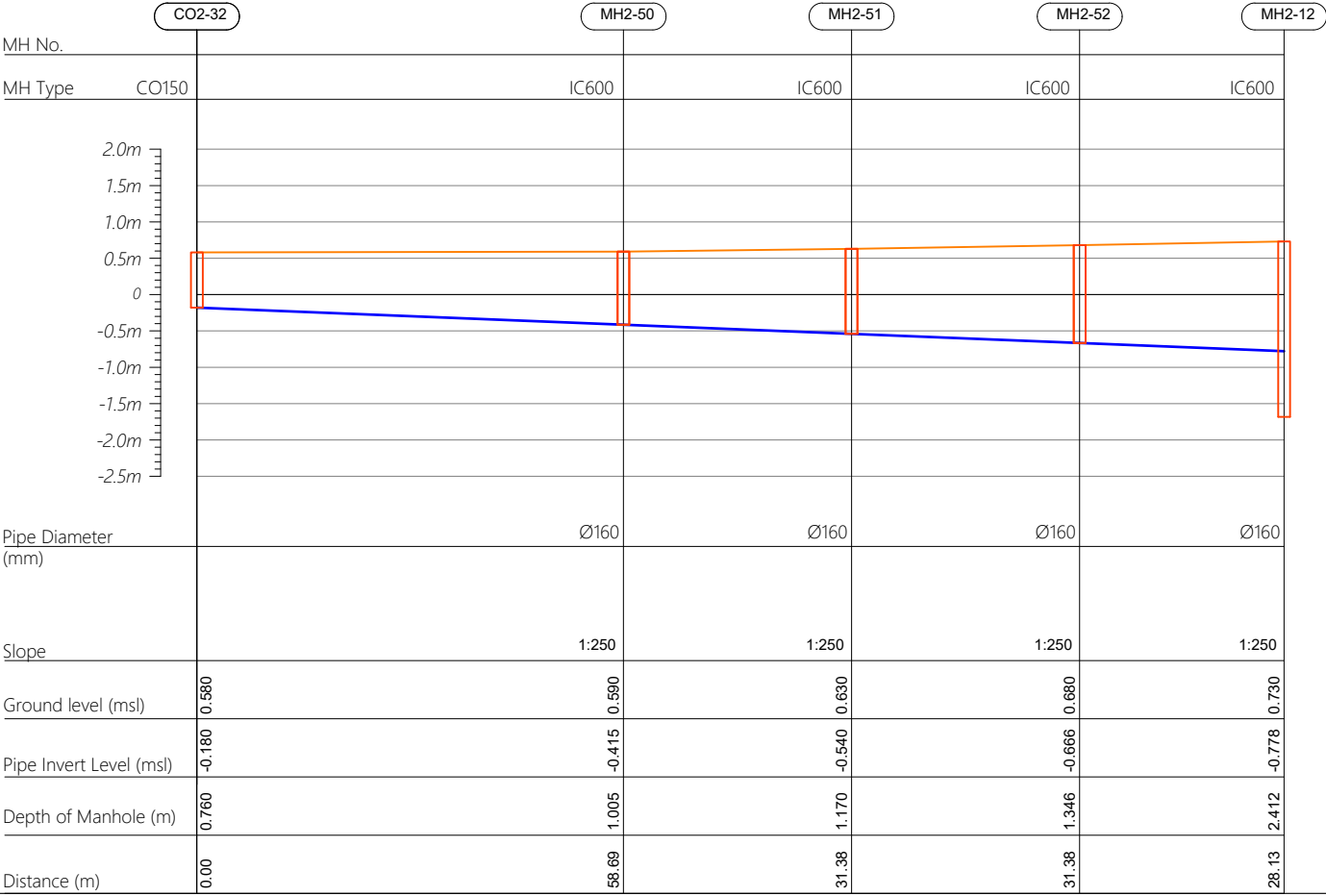
SCALE (A3): 1:100

Project No: 01010101

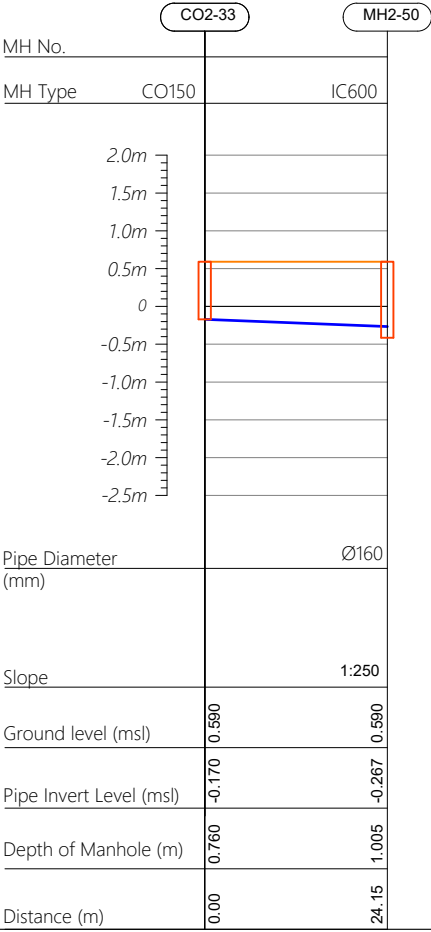
Rev: R-01

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PS2-13

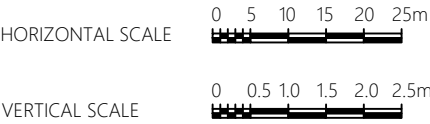
Profile 32



Profile 33



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



CO160 — Cleanout Ø160
IC600 — HDPE Manhole Ø600
PS — Pump Station

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

Sub Title:
Sewerage System in Gdh.Nadella

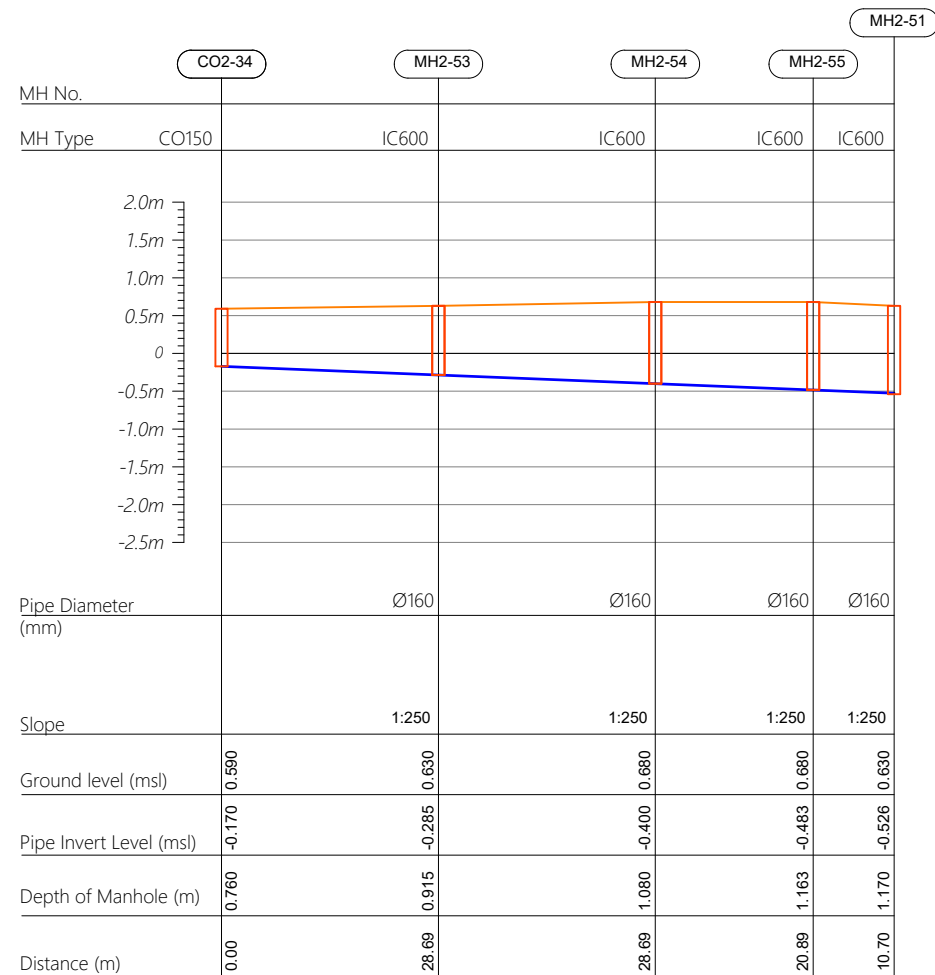
Client:
Ministry of National Planning, Housing and Infrastructure, Republic of Maldives

T: +960 333 3528
E: info@epoch.associates
W: www.epoch.associates
A: G. Rosary West, Huseenuheemaa Magu, Male', Maldives

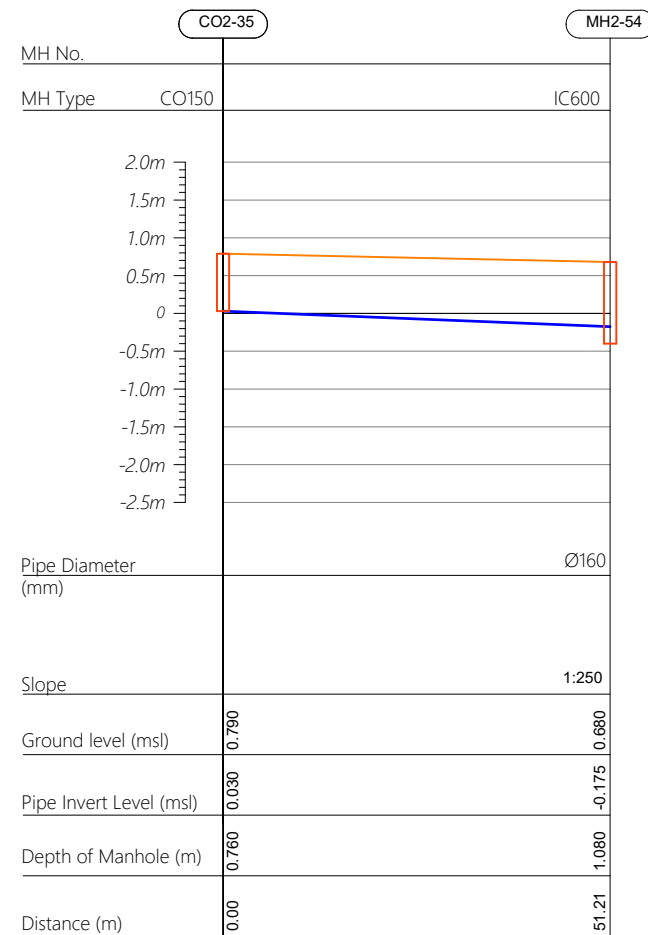
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Drawn: A.R.W	Checked: M.S.S
Designed: F.I.A	Approved: I.W
Date: Aug 2020	SCALE (A3): 1:100
Project No: 01010101	
Rev: R-01	Page: PS2-14

Profile 34



Profile 35



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
5 islands, Maldives - Package 6*

Sub Title:
Sewerage System in Gdh.Nadella

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




Drawn: A.R.W	Checked: M.S.S
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Designed: F.J.A	Approved: J.W
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Date: Aug 2020	SCALE (A3): 1:100
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Project No: 01010101

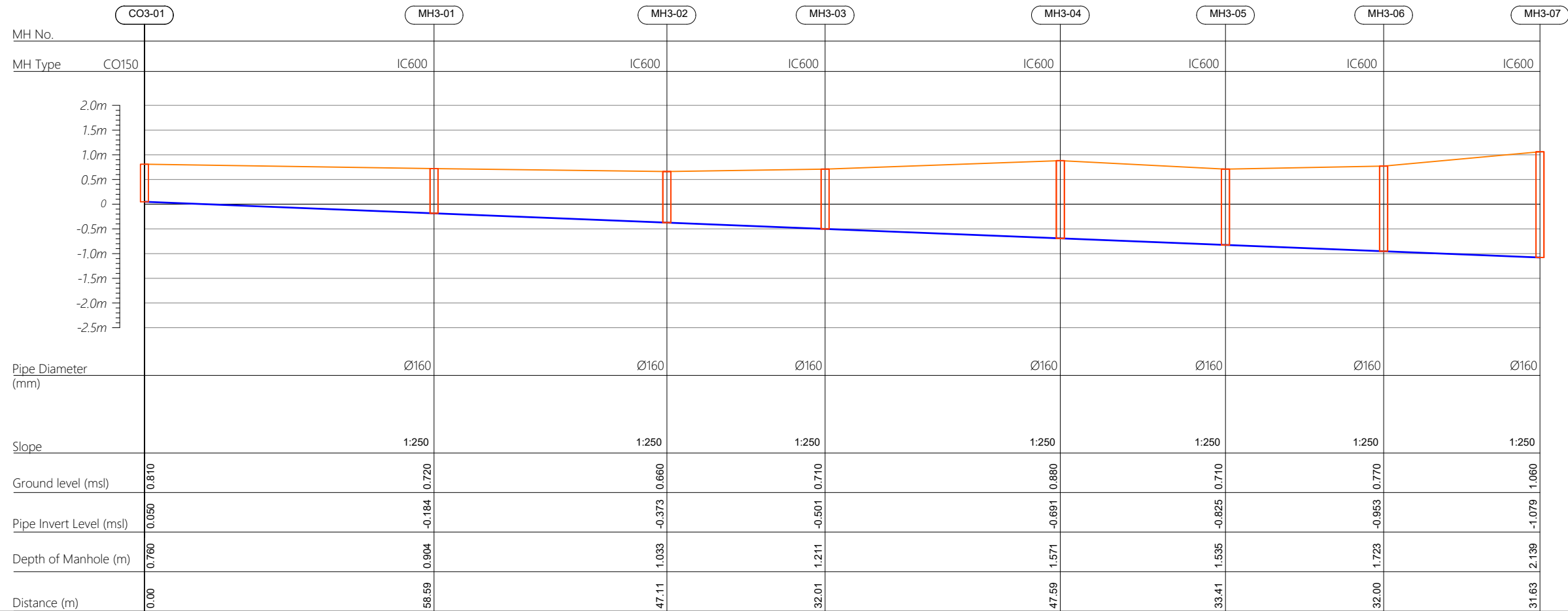
Rev: **R-01** Page: **PS2-15**

HORIZONTAL SCALE  0 5 10 15 20 25m

VERTICAL SCALE  0 0.5 1.0 1.5 2.0 2.5m

CO160 — Cleanout Ø160
IC600 — HDPE Manhole Ø600
PS — Pump Station

Profile 01



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
5 islands, Maldives - Package 6*

Sub Title:
Sewerage System in Gdh.Nadella

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



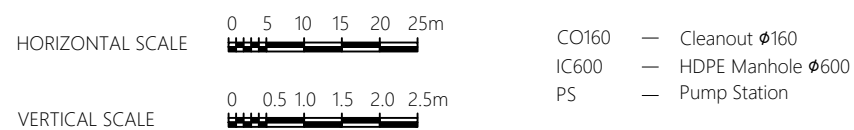
Drawn: A.R.W	Checked: M.S.S
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Designed: F.I.A	Approved: I.W
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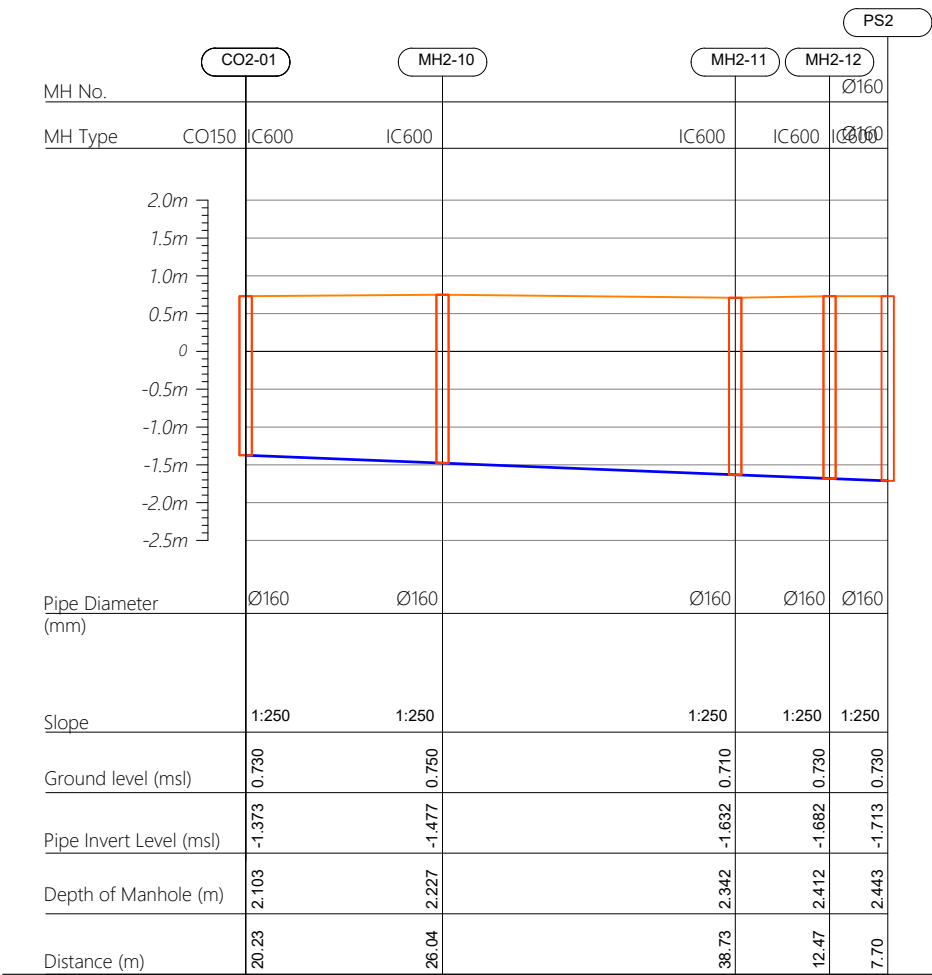
Date: Aug 2020	SCALE (A3): 1:100
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Project No: 01010101

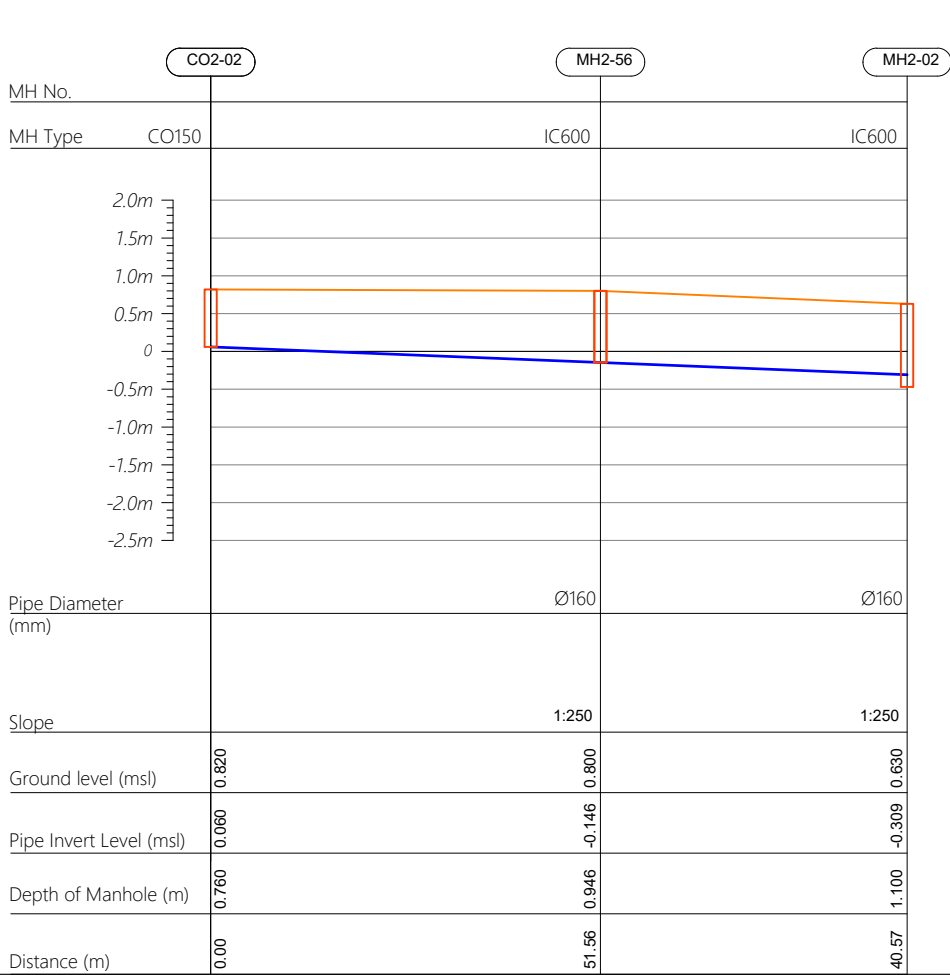
Rev: <i>R-01</i>	Page: <i>PS3-01</i>
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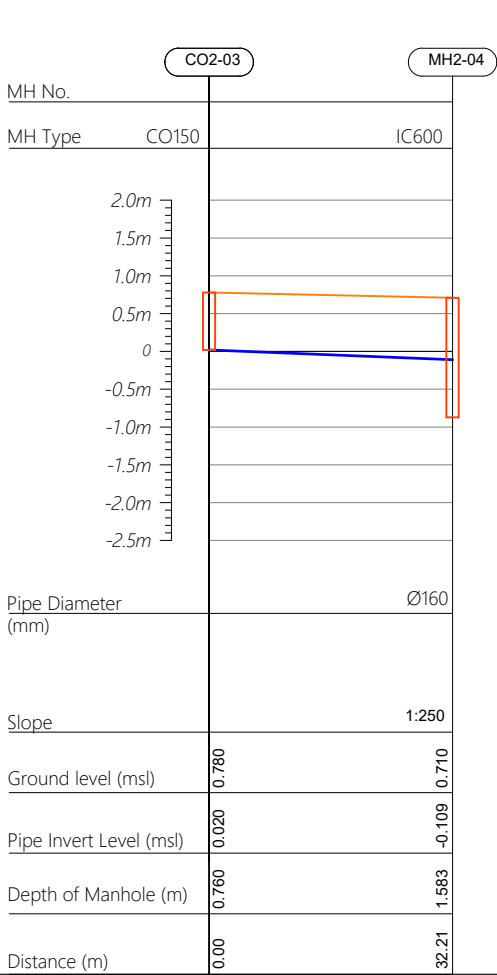
Profile 01



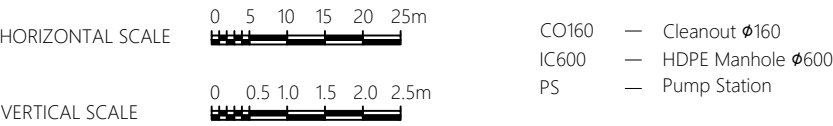
Profile 02



Profile 03



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 5 islands, Maldives - Package 6

Sub Title:
Sewerage System in Gdh.Nadella

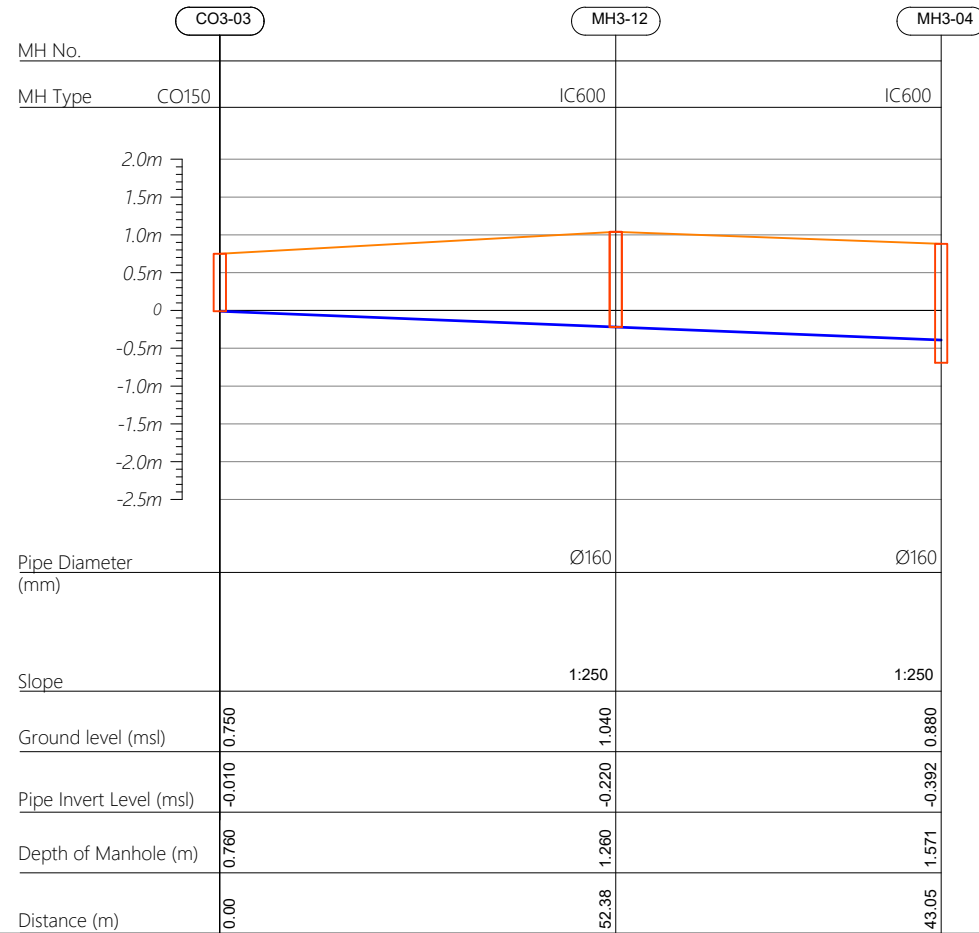
Client:
Ministry of National Planning, Housing and Infrastructure, Republic of Maldives

EPOCH ASSOCIATES
T: +960 333 3528
E: info@epoch.associates
W: www.epoch.associates
A: G. Rosary West, Huseinuheemaa Magu, Male', Maldives

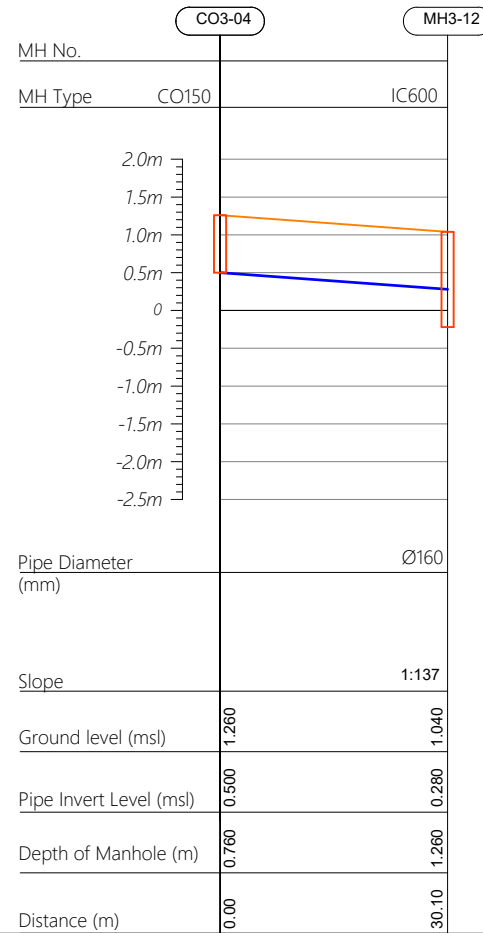
FBACK INFRA
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Drawn: A.R.W	Checked: M.S.S
Designed: F.I.A	Approved: I.W
Date: Aug 2020	SCALE (A3): 1:100
Project No: 01010101	
Rev: R-01	Page: PS3-02

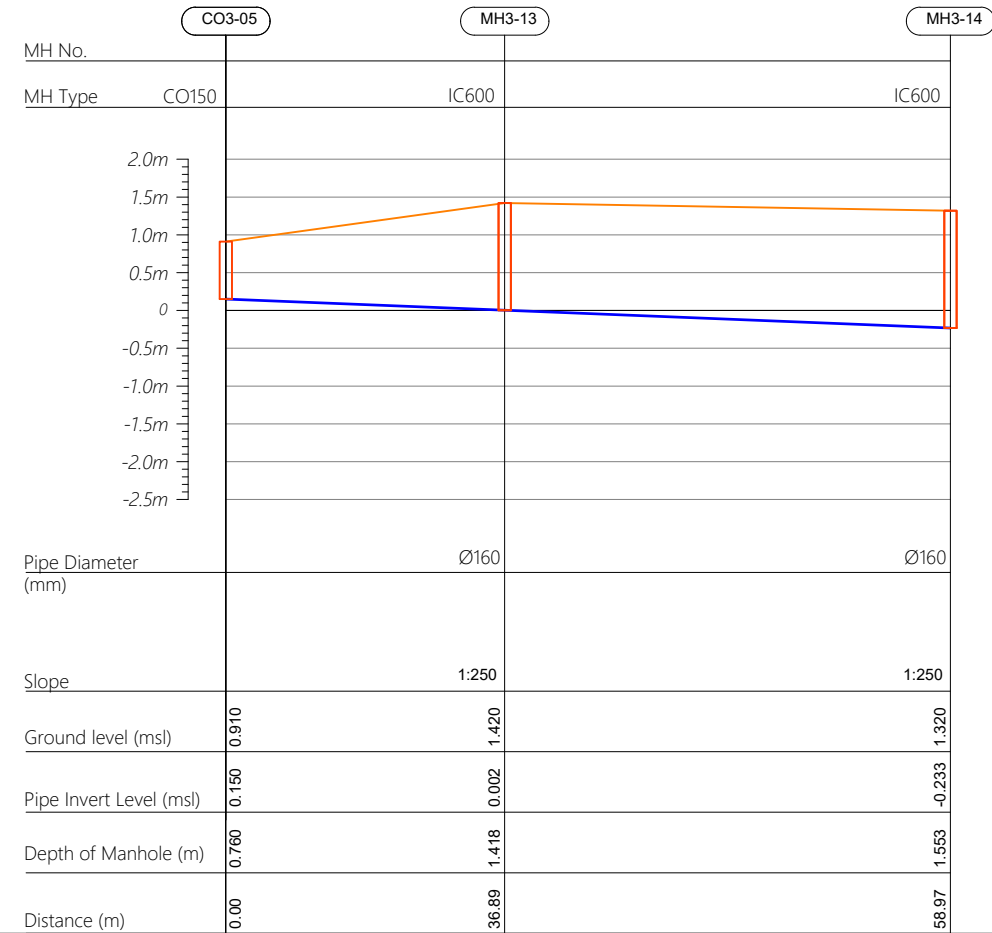
Profile 03



Profile 04



Profile 05



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
5 islands, Maldives - Package 6*

Sub Title:
Sewerage System in Gdh.Nadella

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



Drawn: A.R.W	Checked: M.S.S
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Designed: F.I.A	Approved: J.W
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Date: Aug 2020	SCALE (A3): 1:100
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Project No: 01010101

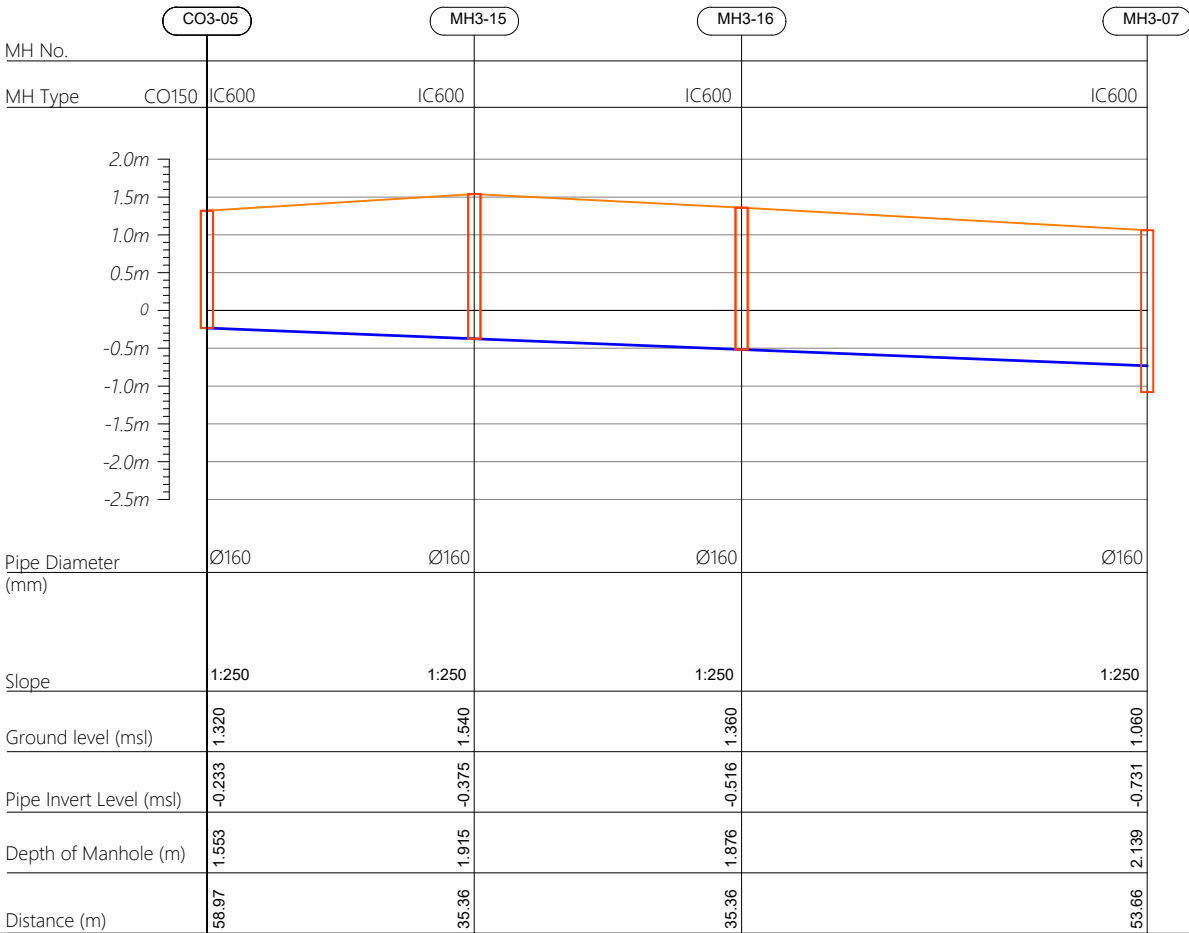
Rev:	Page:
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R-01	PS3-03
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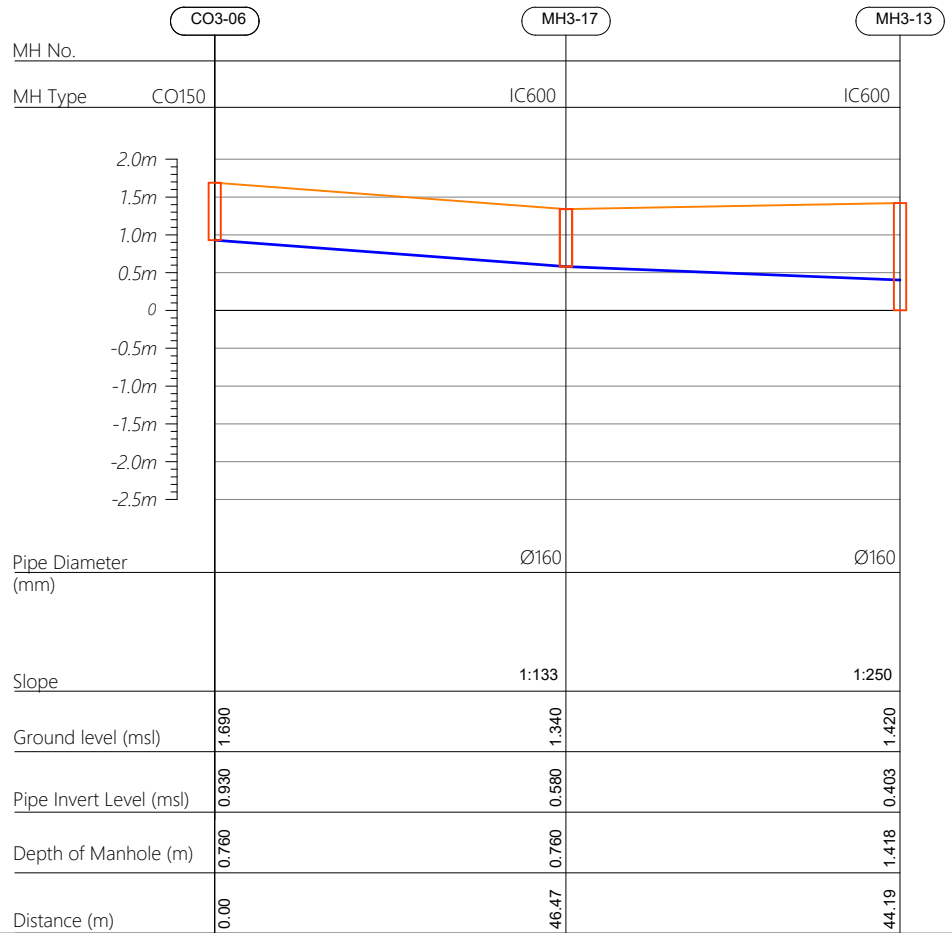
HORIZONTAL SCALE  CO160 — Cleanout ϕ 160
IC600 — HDPE Manhole ϕ 600
PS — Pump Station

VERTICAL SCALE 

Profile 05



Profile 06



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 5 islands, Maldives - Package 6*

Sub Title:
Sewerage System in Gdh.Nadella

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



Drawn: A.R.W	Checked: M.S.S
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Designed: F.I.A	Approved: I.W
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Date: Aug 2020	SCALE (A3): 1:100
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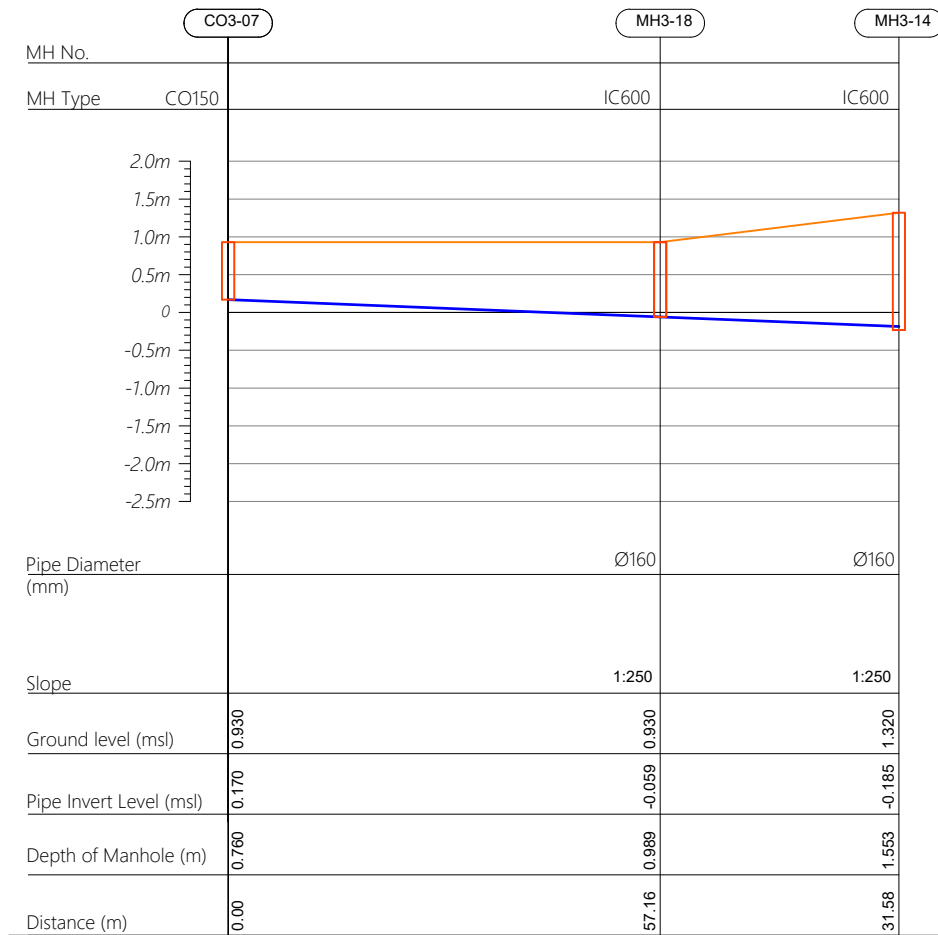
Project No: 01010101

Rev: <i>R-01</i>	Page: <i>PS3-04</i>
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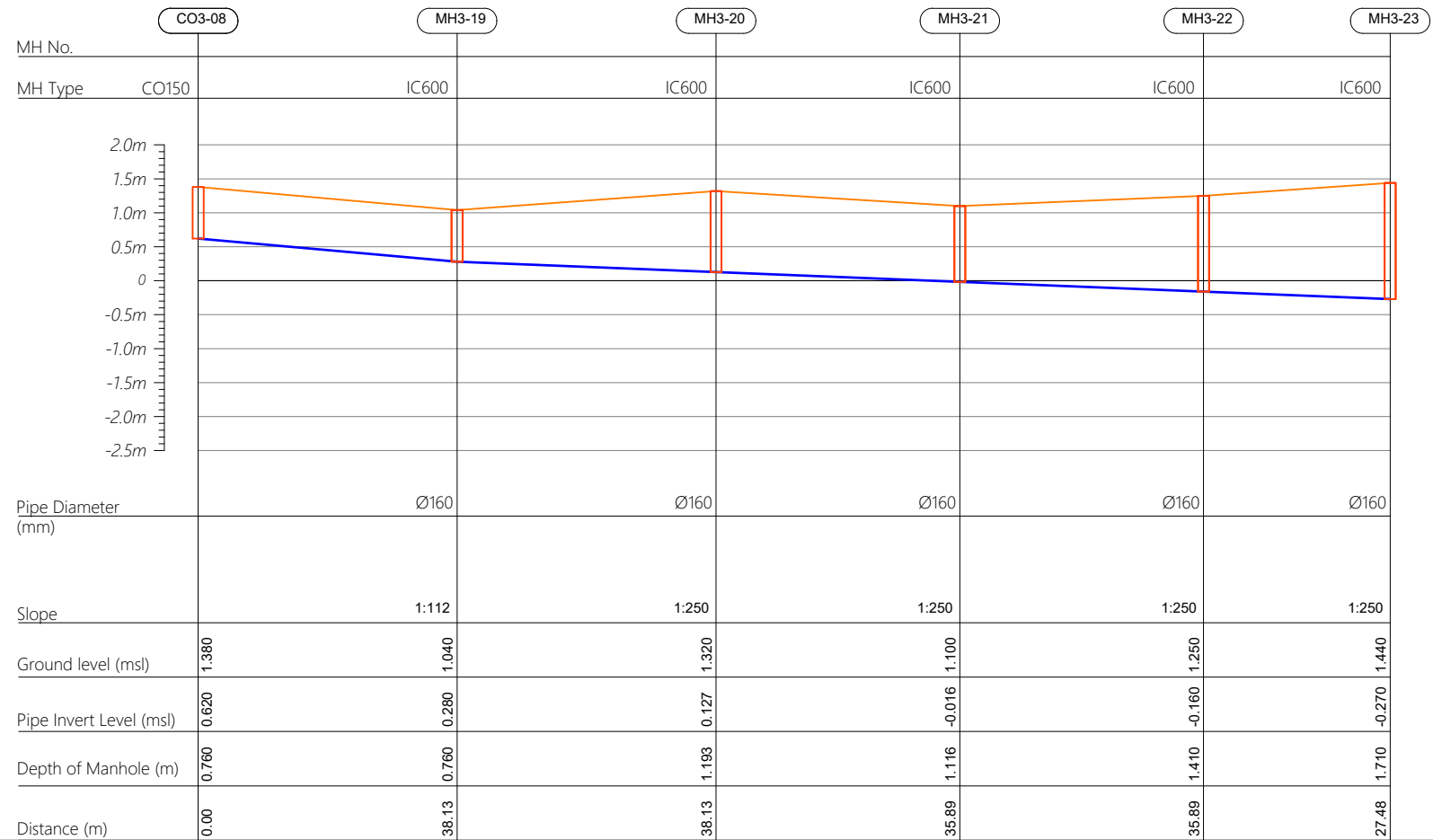
HORIZONTAL SCALE  CO160 — Cleanout Ø160
IC600 — HDPE Manhole Ø600
PS — Pump Station

VERTICAL SCALE 

Profile 07



Profile 08



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
5 islands, Maldives - Package 6*

Sub Title:
Sewerage System in Gdh.Nadella

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



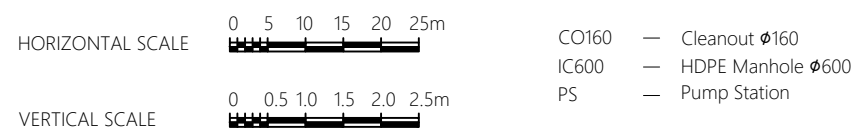
Drawn: A.R.W	Checked: M.S.S
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Designed: F.I.A	Approved: I.W
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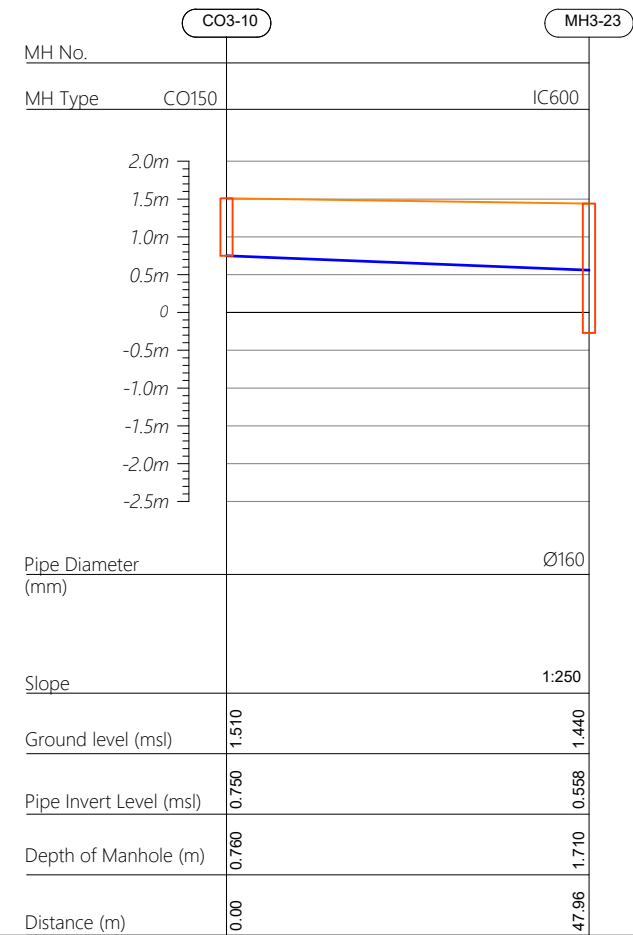
Date: Aug 2020	SCALE (A3): 1:100
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Project No: 01010101

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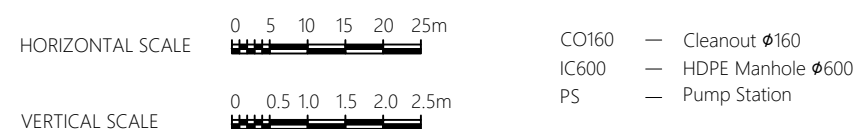


Profile 10

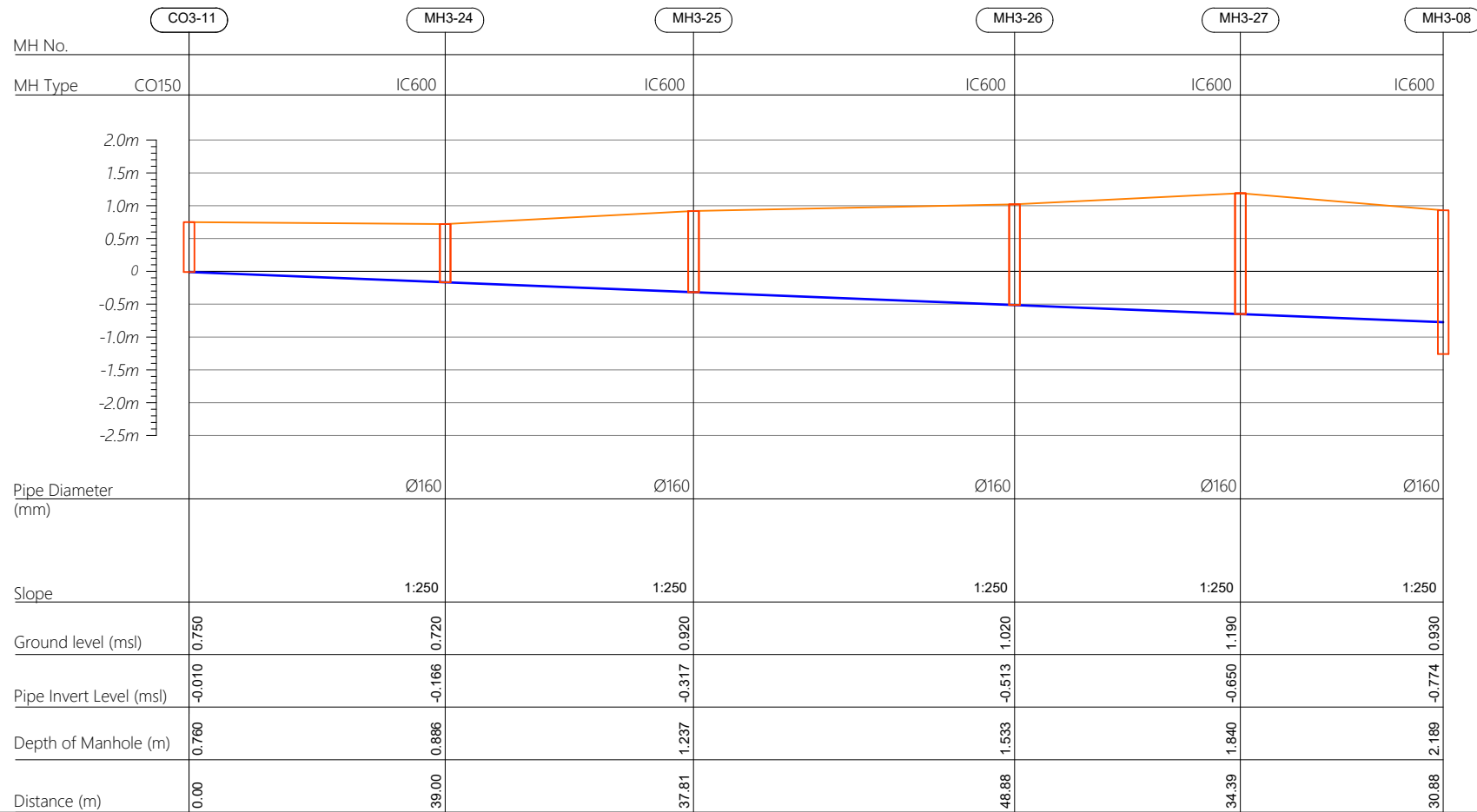


R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

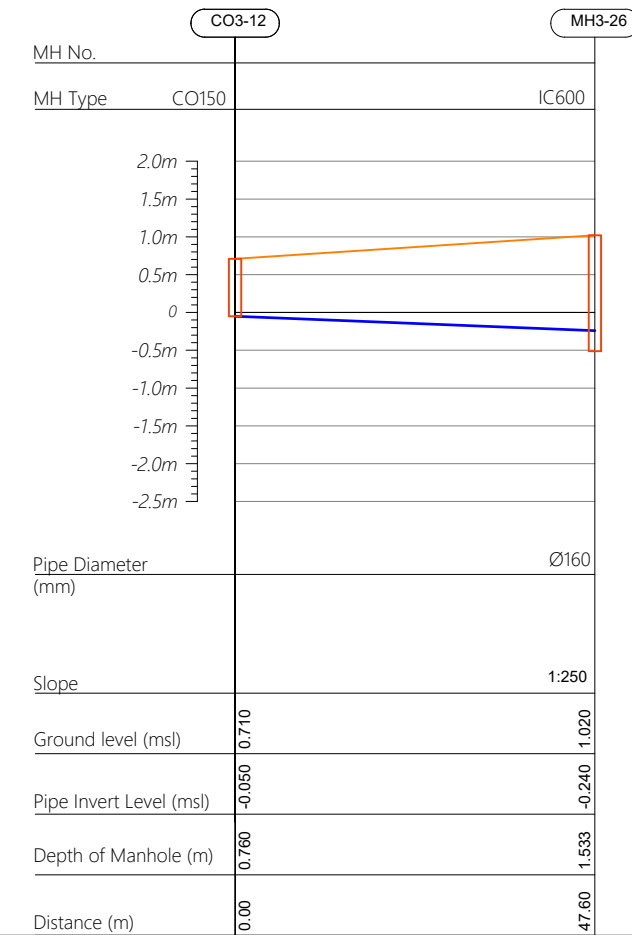
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R-01	PS3-06



Profile 11



Profile 12



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
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5 islands, Maldives - Package 6*

Sub Title:
Sewerage System in Gdh.Nadella

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



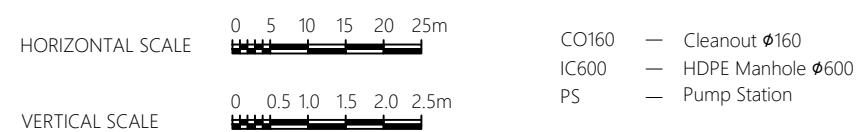
Drawn: A.R.W	Checked: M.S.S
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Designed: F.I.A	Approved: J.W
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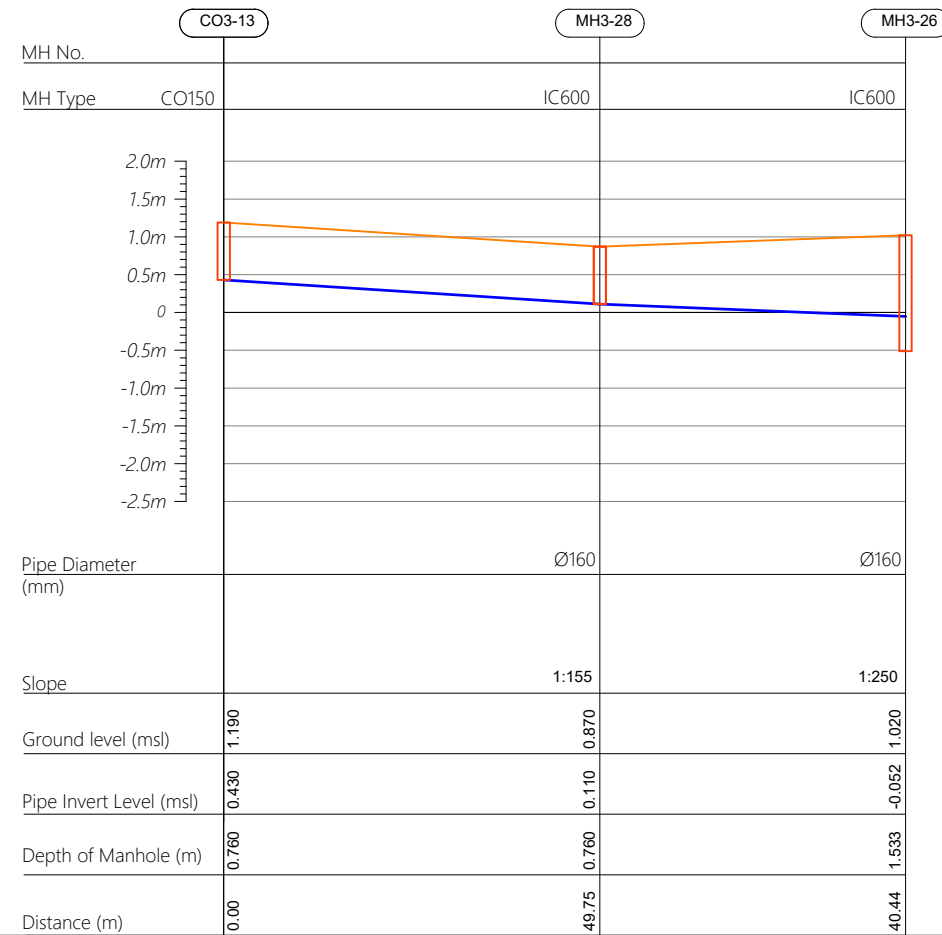
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Project No: 01010101

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<i>R-01</i>	<i>PS3-07</i>



Profile 13



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
5 islands, Maldives - Package 6*

Sub Title:
Sewerage System in Gdh.Nadella

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



Drawn: A.R.W	Checked: M.S.S
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Designed: F.I.A	Approved: I.W
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Date: Aug 2020	SCALE (A3): 1:100
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Project No: 01010101

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R-01 PS3-08



CO160 — Cleanout Ø160
IC600 — HDPE Manhole Ø600
PS — Pump Station