

CONSULTANCY SERVICES FOR SURVEY, DESIGN AND EIA WORKS OF WATER SUPPLY AND  
SEWERAGE FACILITIES IN 5 ISLANDS, MALDIVES

PACKAGE 6

## SEWERAGE SYSTEM OF GDH. NADELLA, MALDIVES

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

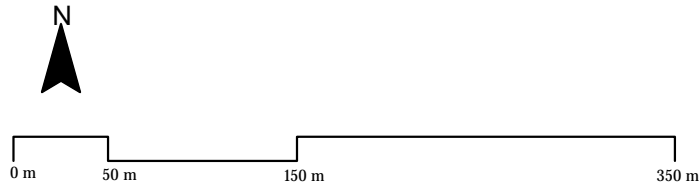


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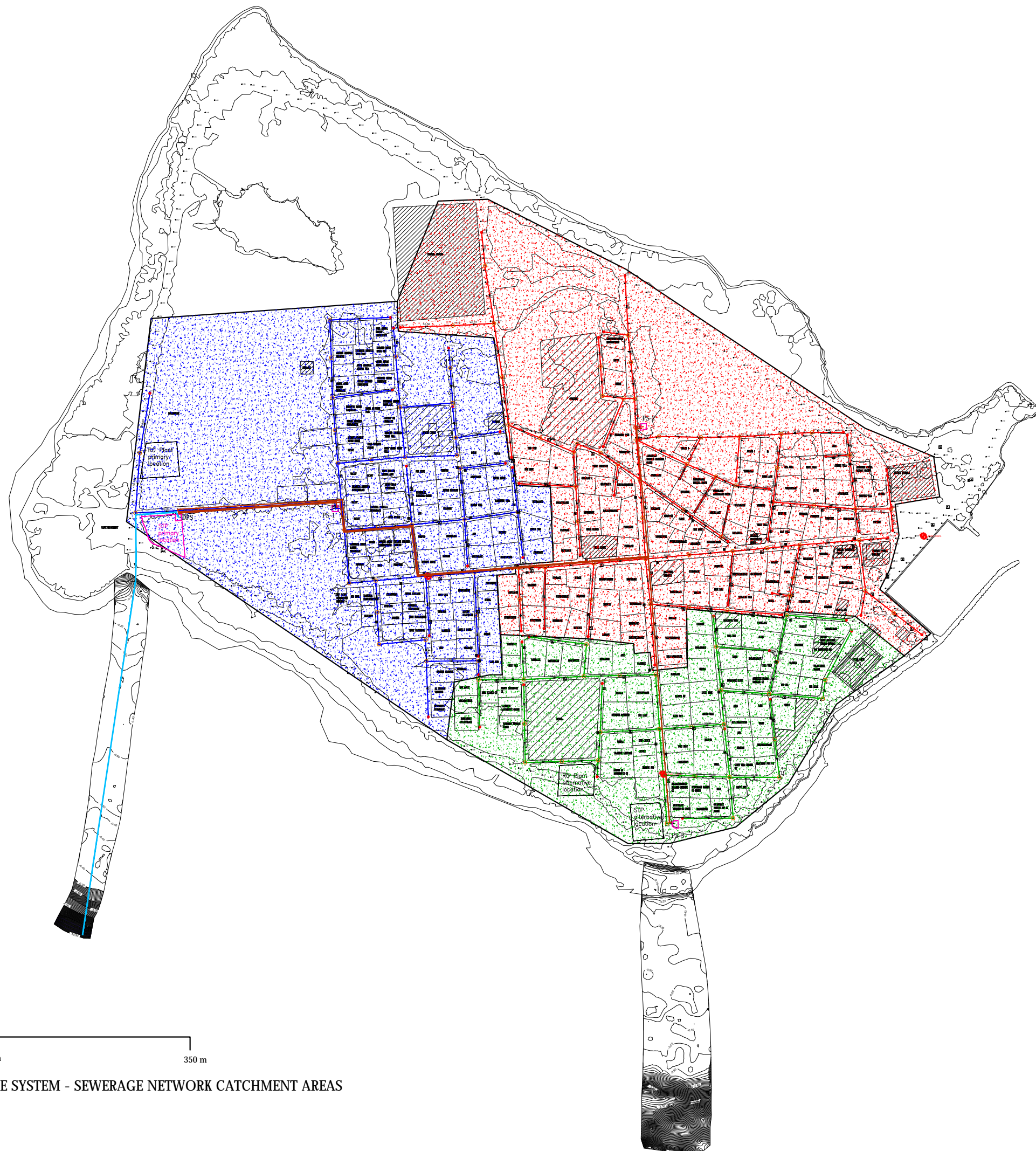


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Project No: <b>EP-WS/2019/06</b>	
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Legend

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

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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. Nadellaa

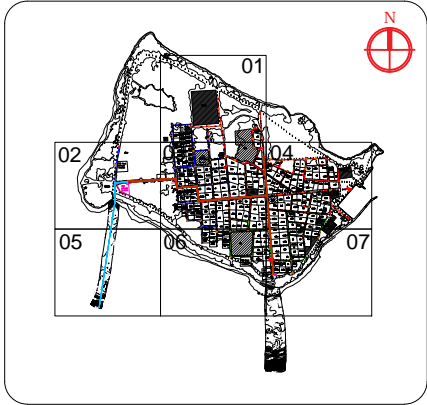
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Legend

- 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
- 160mmØ 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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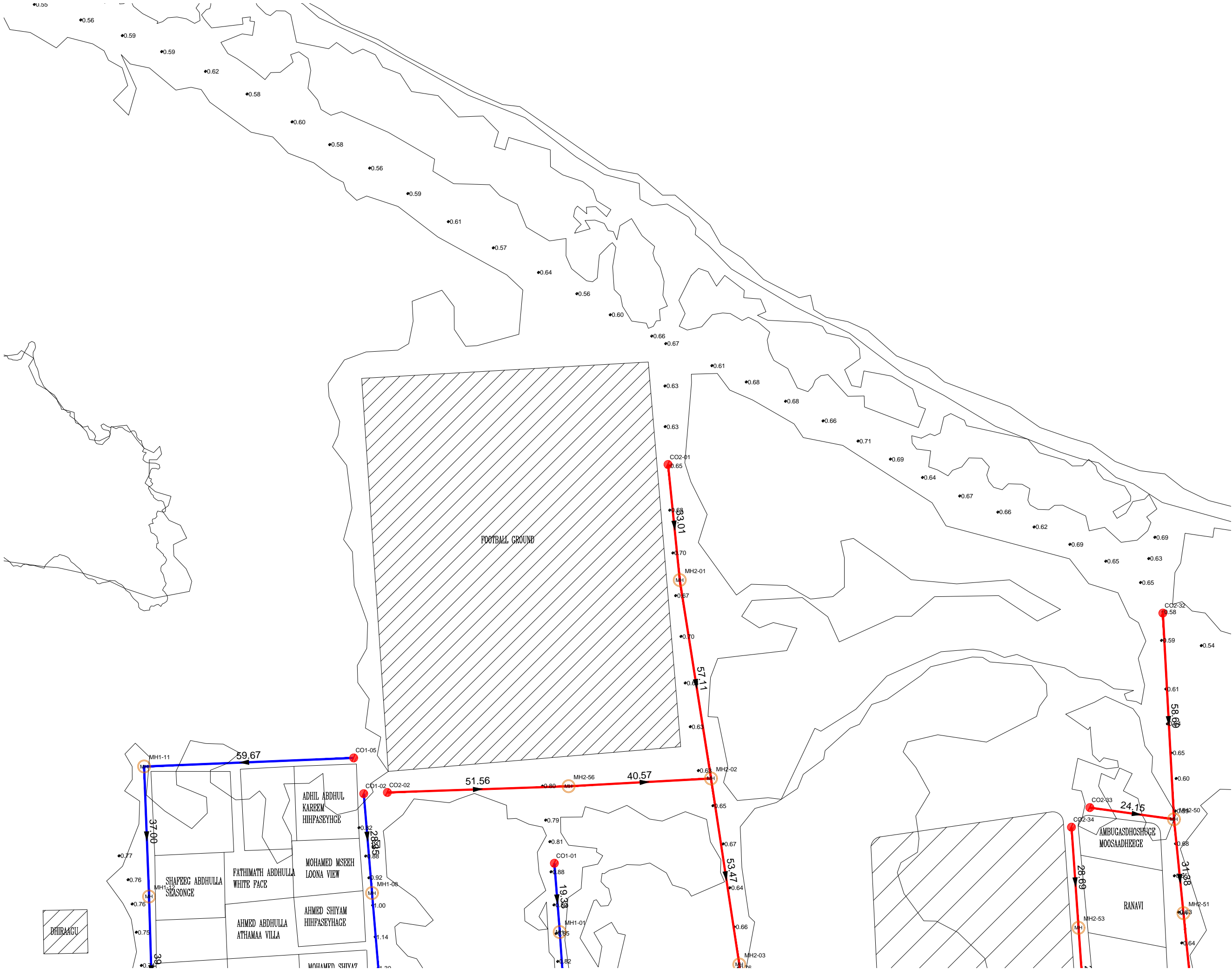
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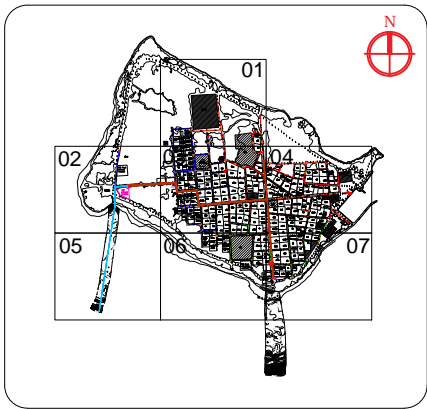
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GDH. NADELLAA SEWERAGE SYSTEM - SEWERAGE NETWORK LAYOUT - ZONE 01  
1:1000



**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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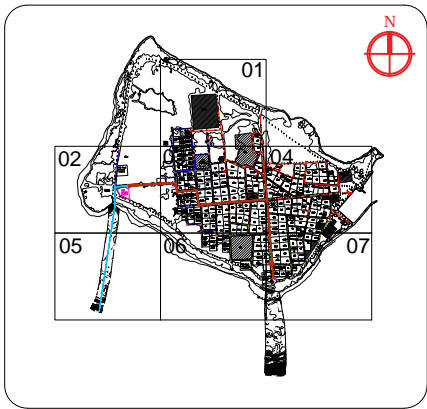
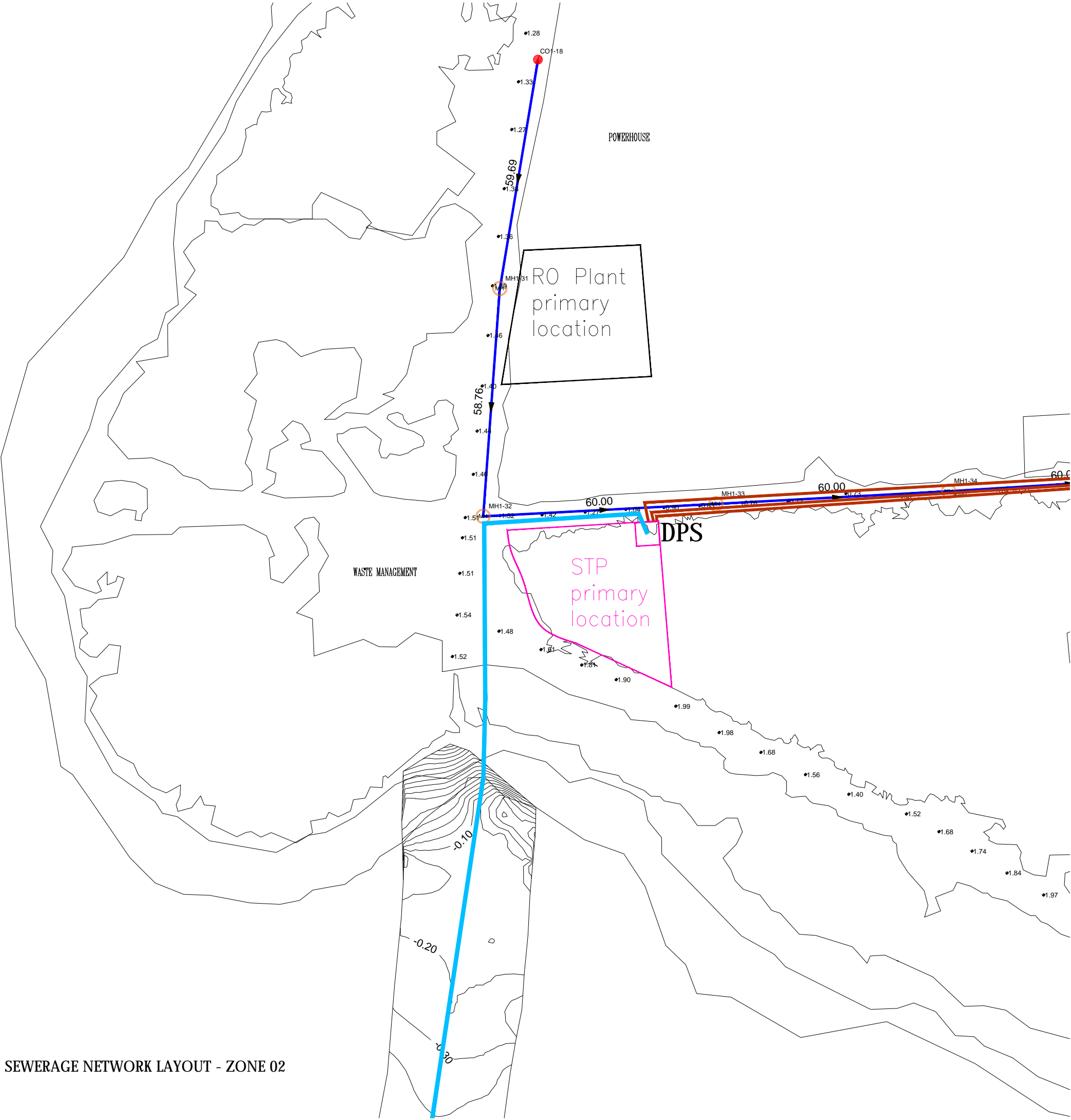
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GDH. NADELLAA SEWERAGE SYSTEM - SEWERAGE NETWORK LAYOUT - ZONE 02  
1:1000



**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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Sub Title:  
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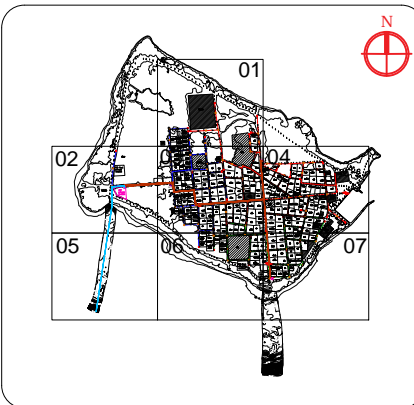
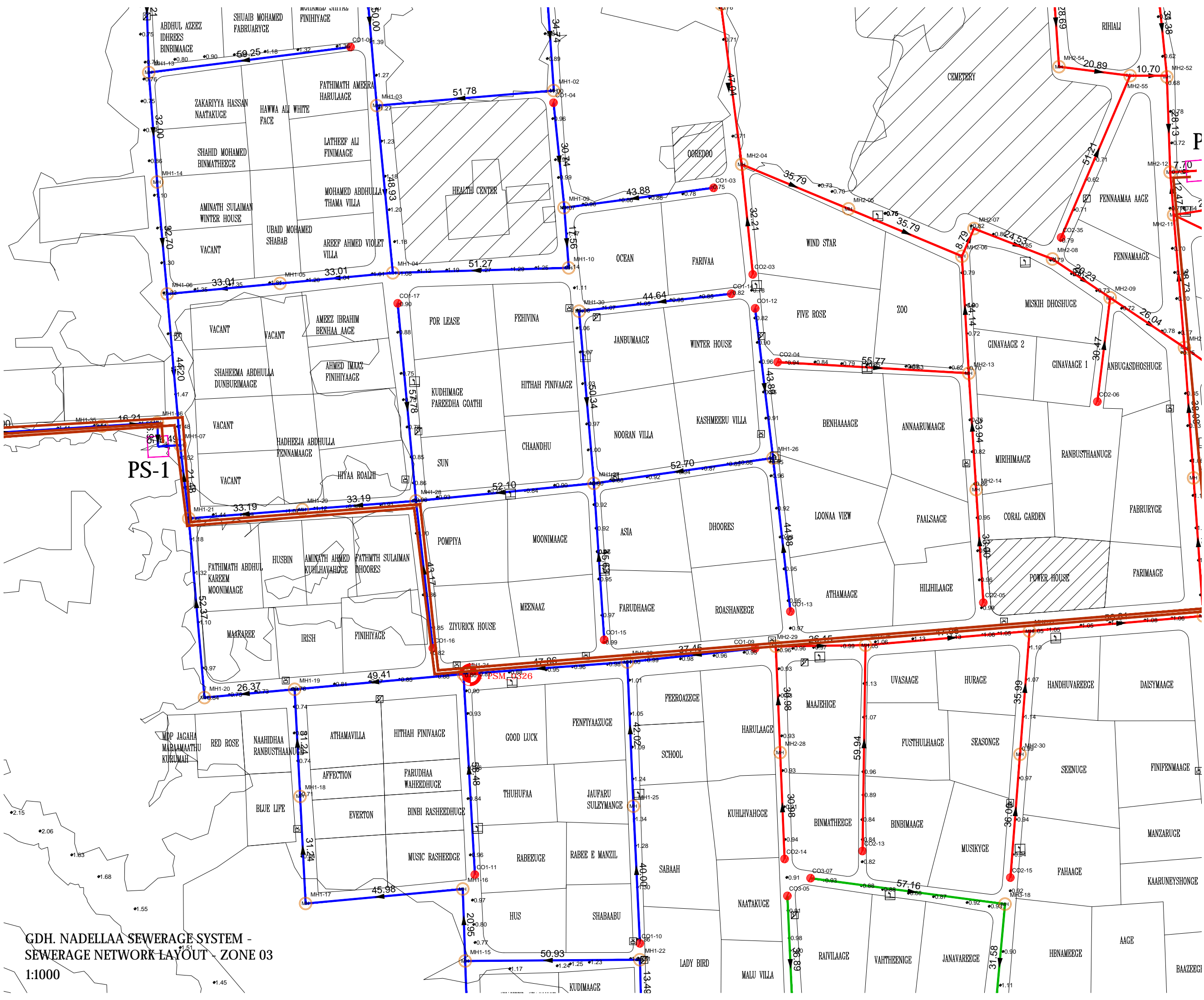
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**Legend**

- 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 PEPP 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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Sub Title: Sewerage System in GDh. Nadellaa

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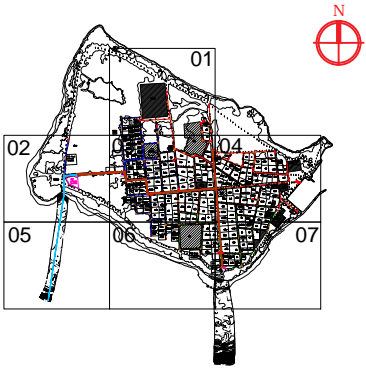
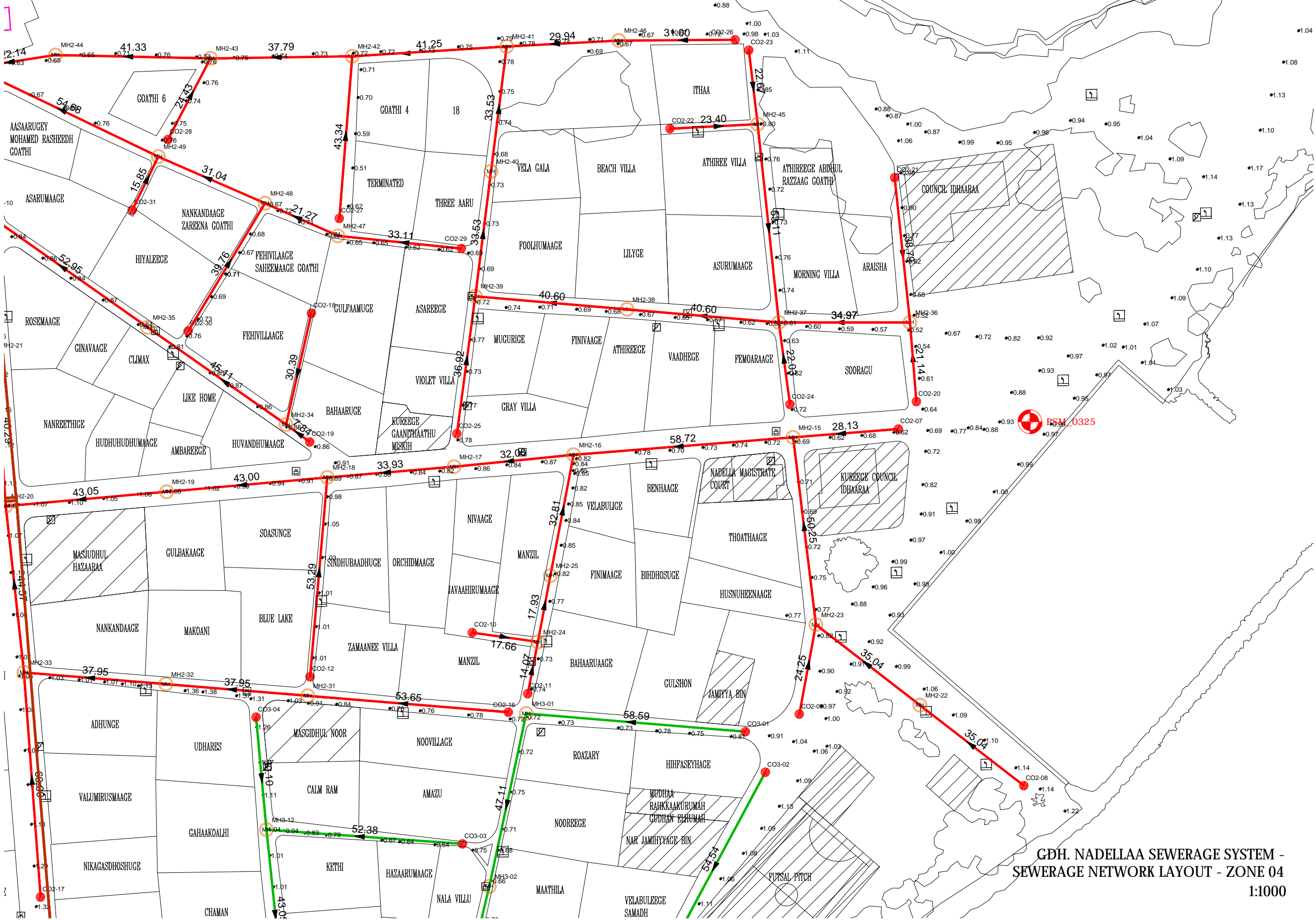
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'S-2




- 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 PEPP 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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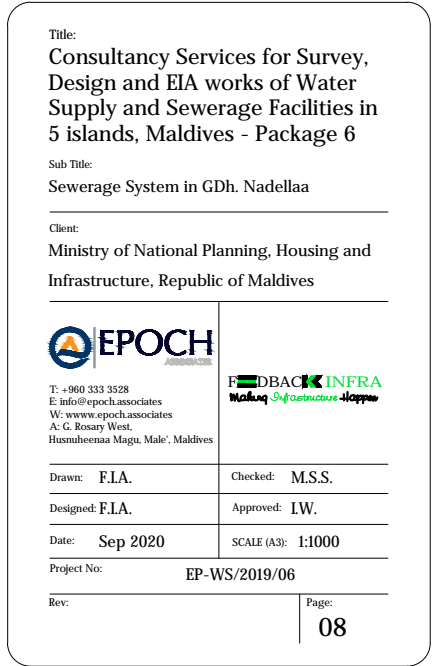
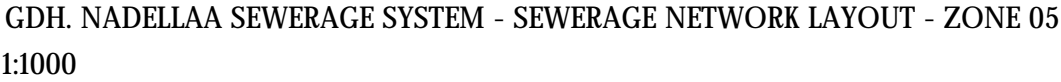
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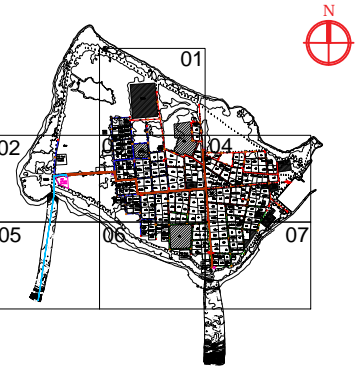
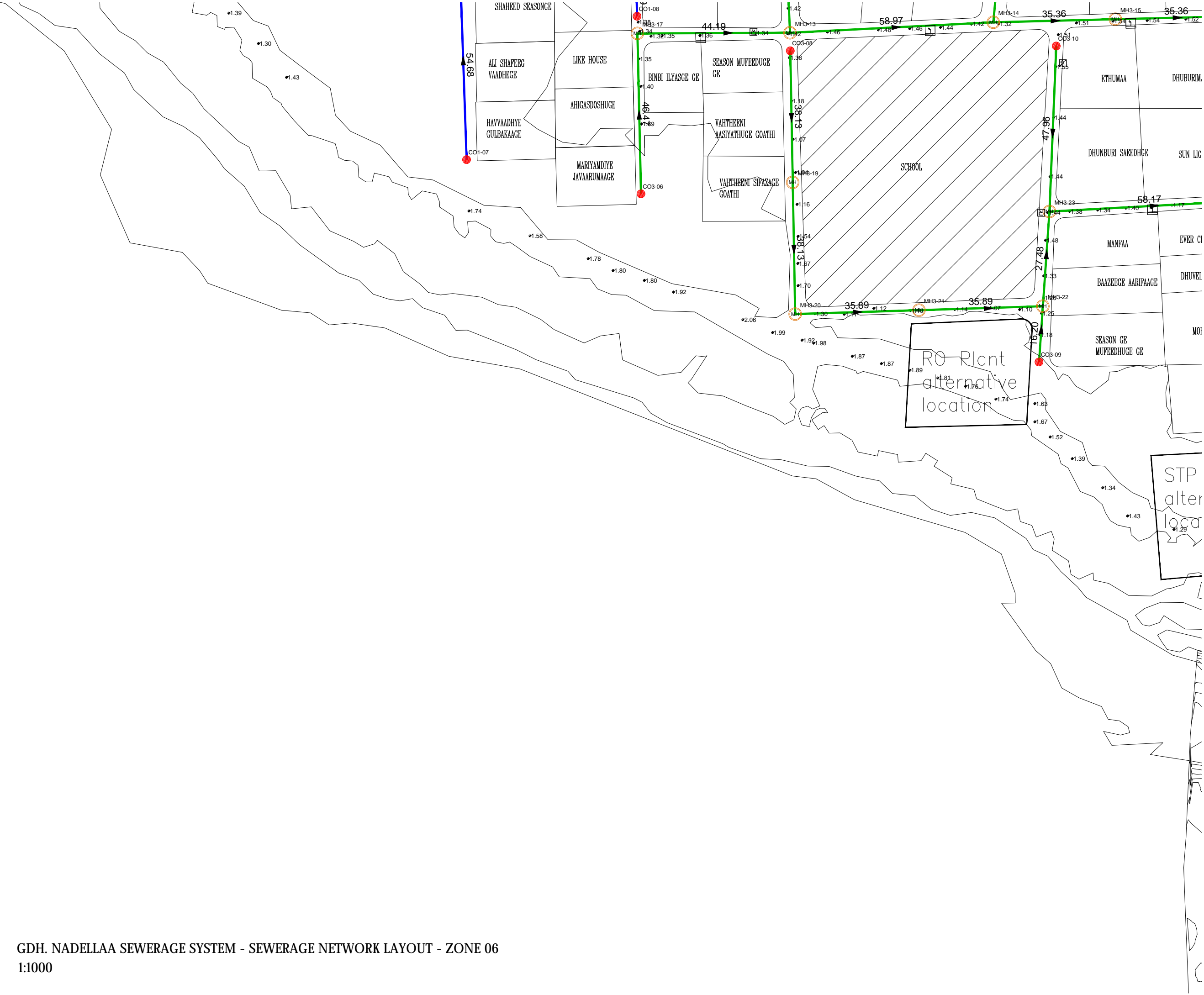


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GDH. NADELLAA SEWERAGE SYSTEM -  
SEWERAGE NETWORK LAYOUT - ZONE 04  
1:1000





- 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
  - 160mmØ 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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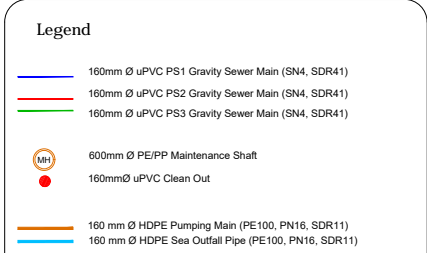
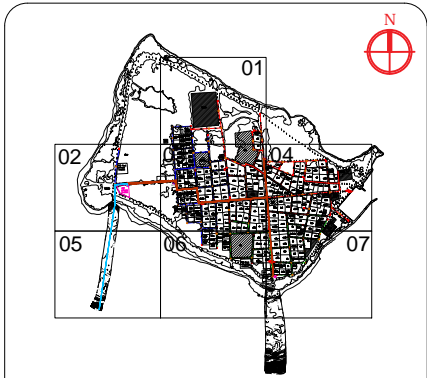
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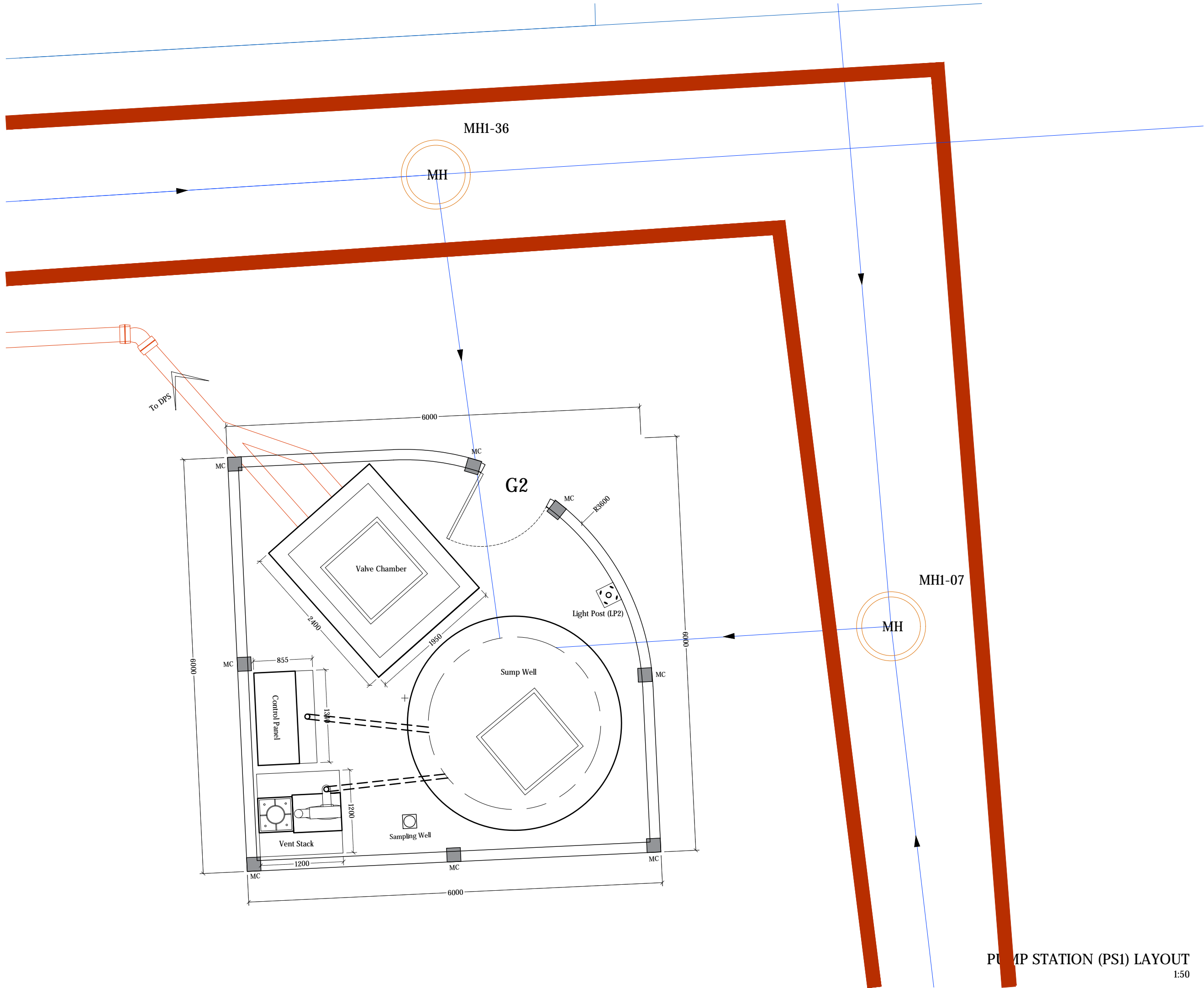
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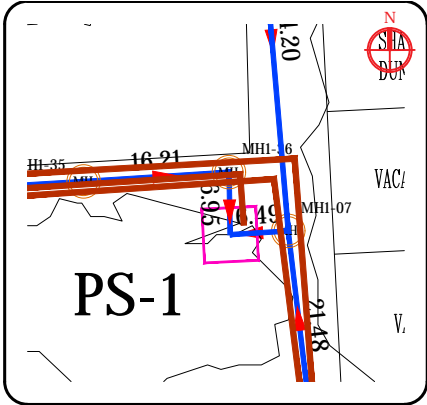
GDH. NADELLAA SEWERAGE SYSTEM - SEWERAGE NETWORK LAYOUT - ZONE 07

1:1000





PUMP STATION (PS1) LAYOUT  
1:50



Legend

160mm Ø uPVC PS1 Gravity Sewer Main (SN4, SDR41)

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

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Consultancy Services for Survey,  
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Sub Title:  
Sewerage System in GDh. Nadella

Client:  
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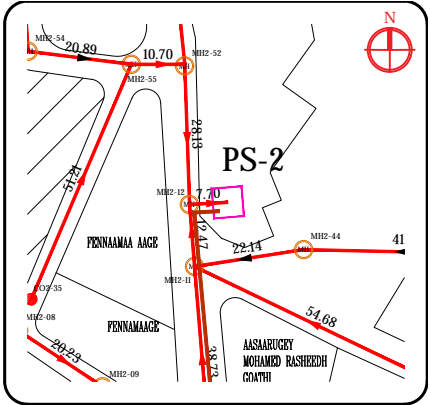


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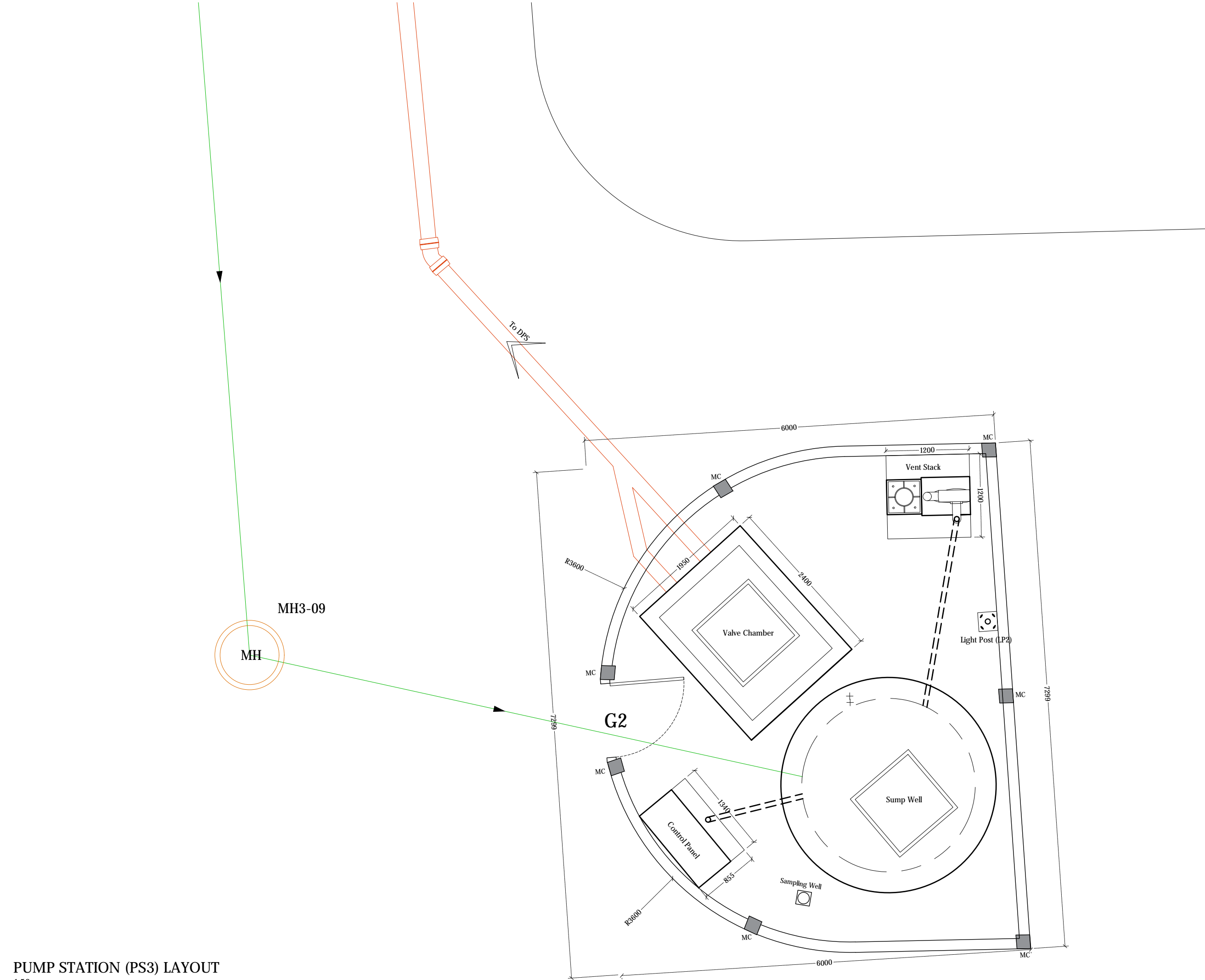
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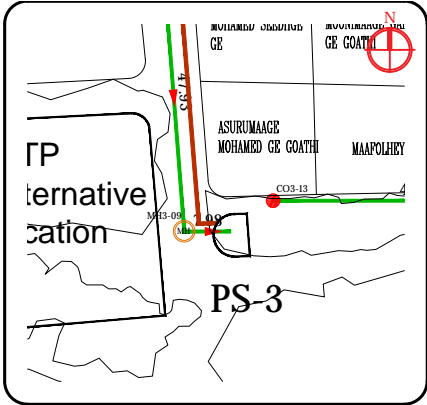
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<p>Sub Title:  <b>Sewerage System in GDh. Nadella</b></p>	
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## PUMP STATION (PS2) LAYOUT



PUMP STATION (PS3) LAYOUT  
1:50



Legend

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

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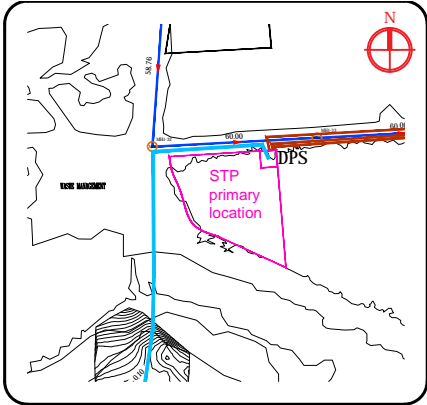
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FOODBACK INFRA  
Maldives Soft Infrastructure Mapping



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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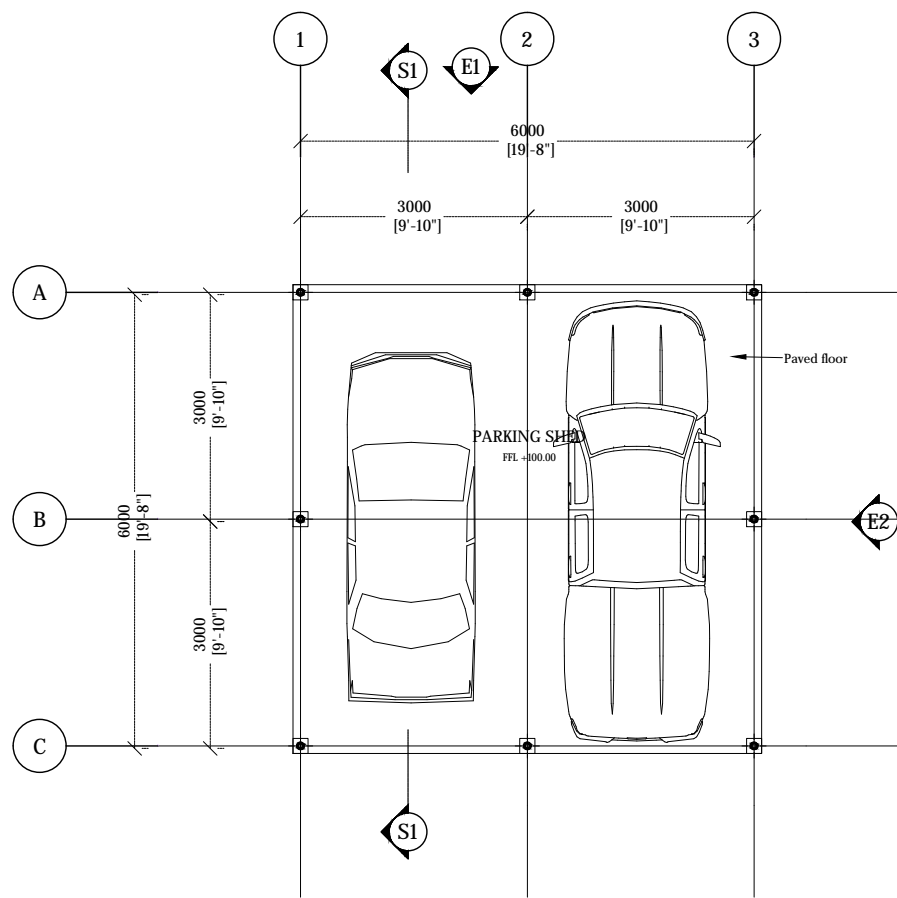
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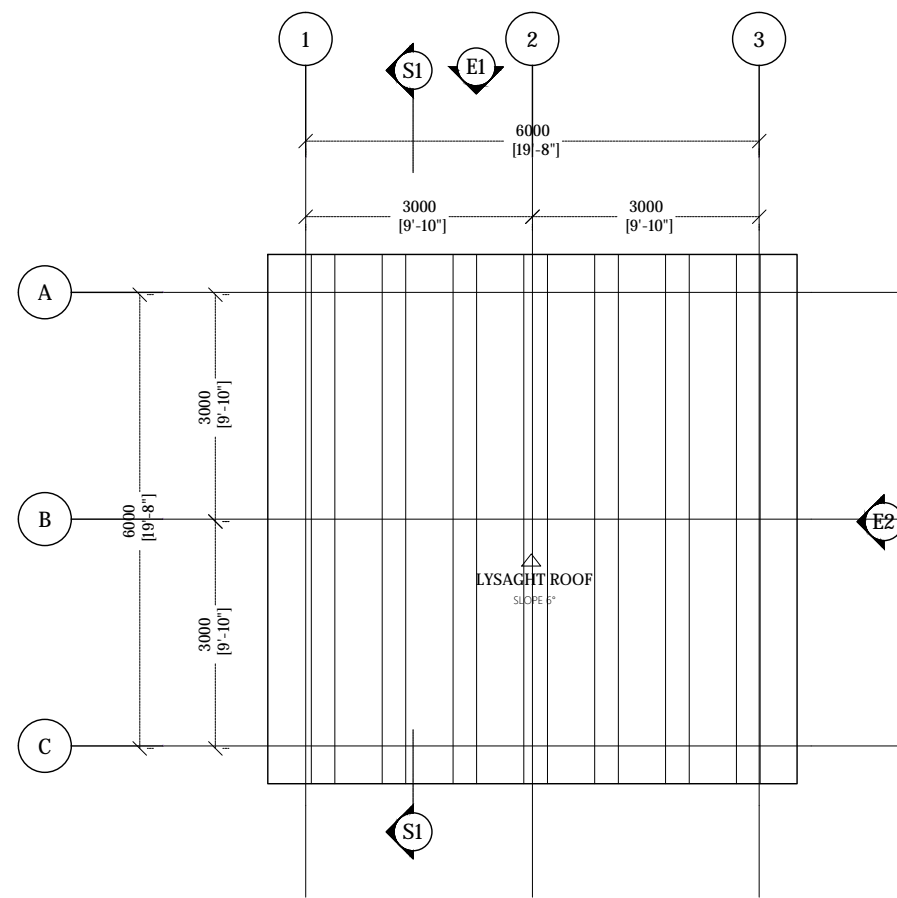
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VEHICLE SHED GROUND FLOOR PLAN

1:100



VEHICLE SHED ROOF PLAN

1:100



Legend

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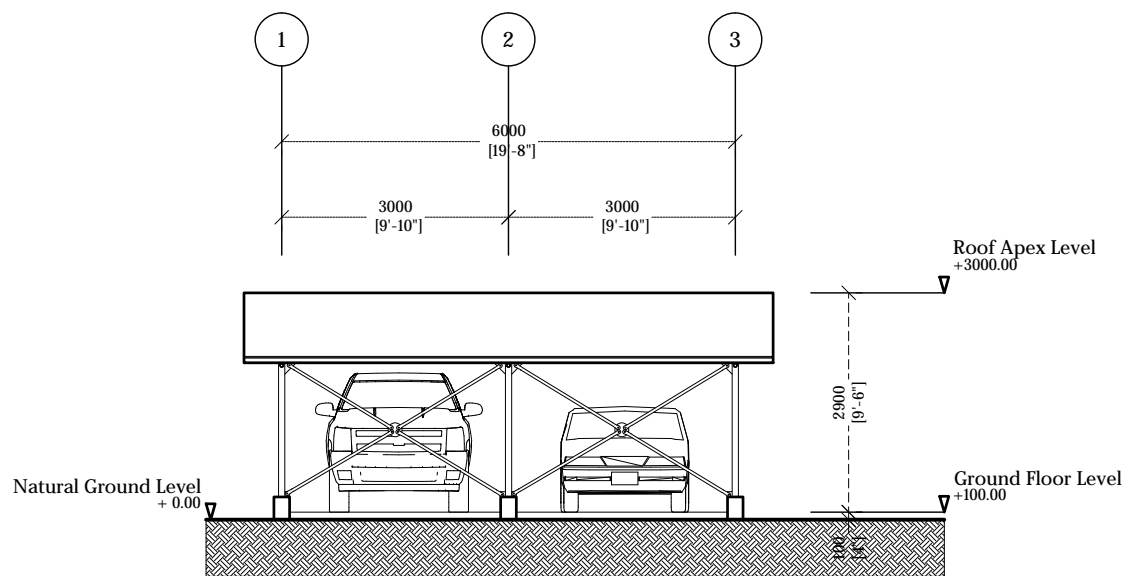
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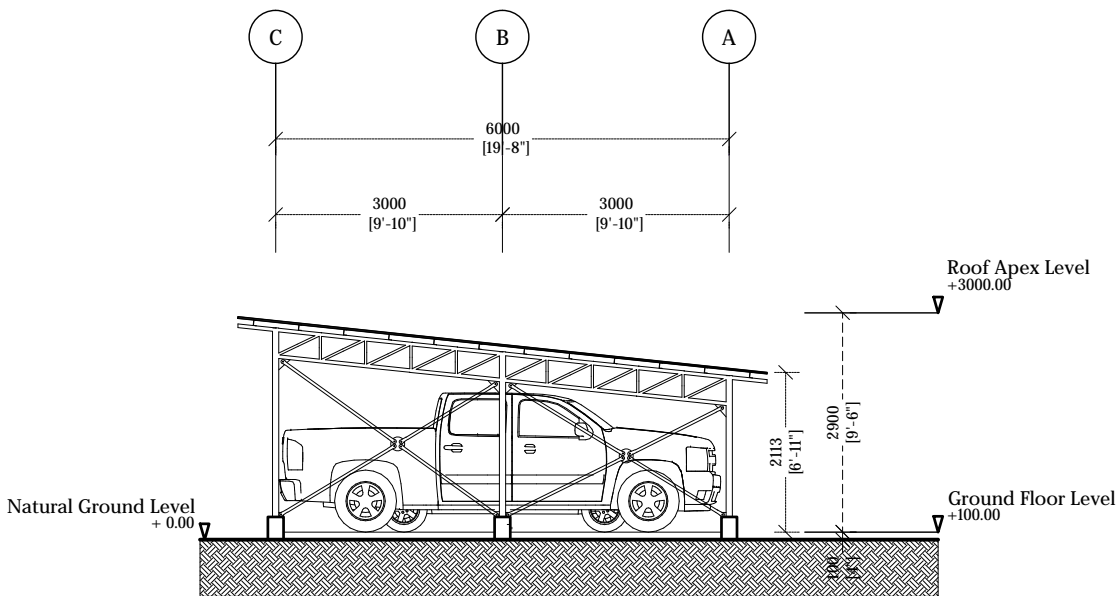
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VS-A(1)



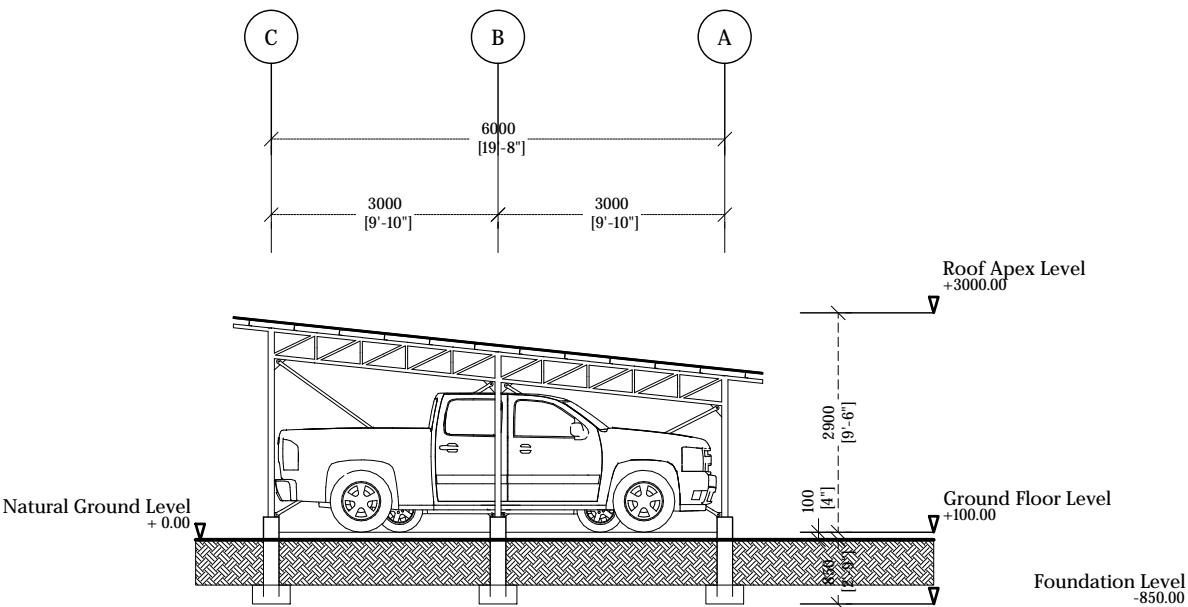
VEHICLE SHED ELEVATION E1

1:100



VEHICLE SHED ELEVATION E2

1:100



VEHICLE SHED SECTION S1

1:100



Legend

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

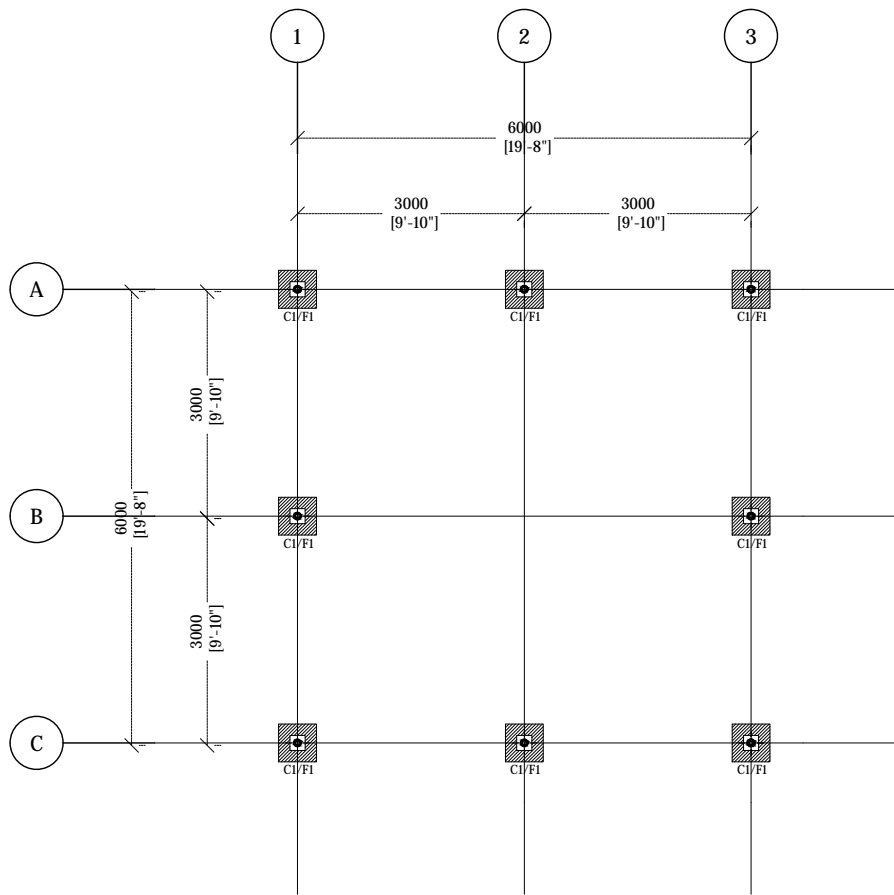
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Date: Sep 2020 SCALE (A3): 1:100

Project No: EP-WS/2019/06

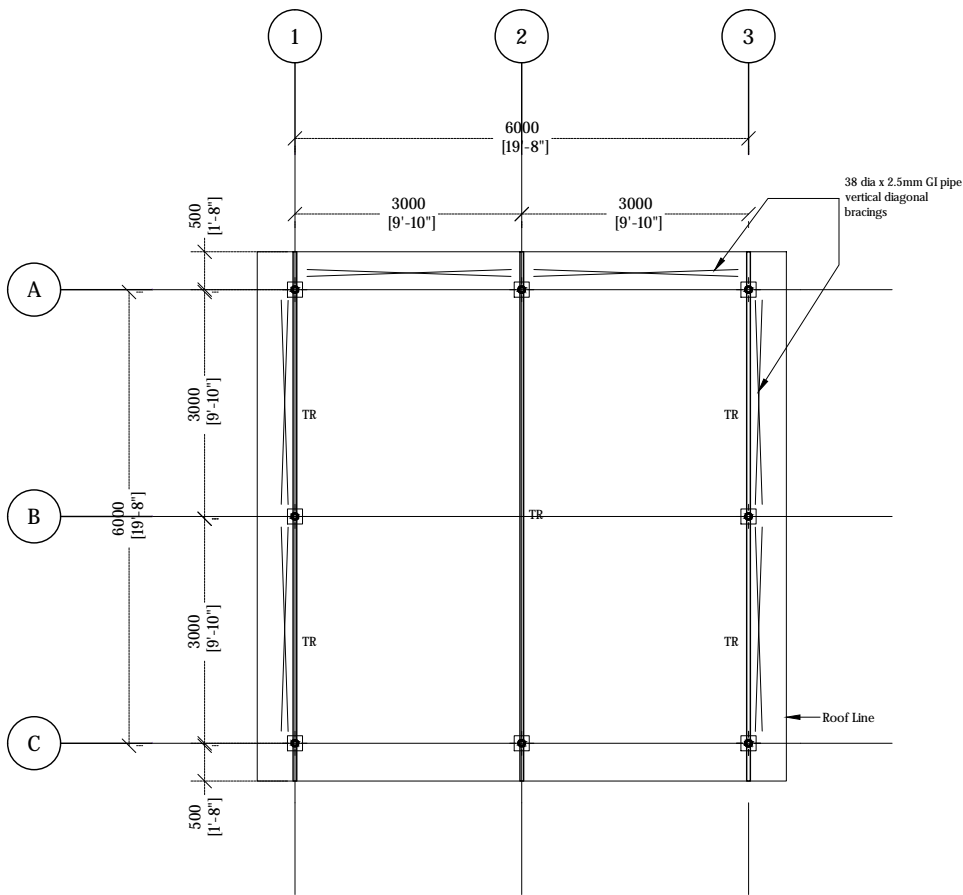
Rev: Page:

VS-A(2)



VEHICLE SHED FOUNDATION PLAN

1:100



VEHICLE SHED ROOF TRUSS PLAN

1:100



Legend

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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Maldivian Infrastructure Development

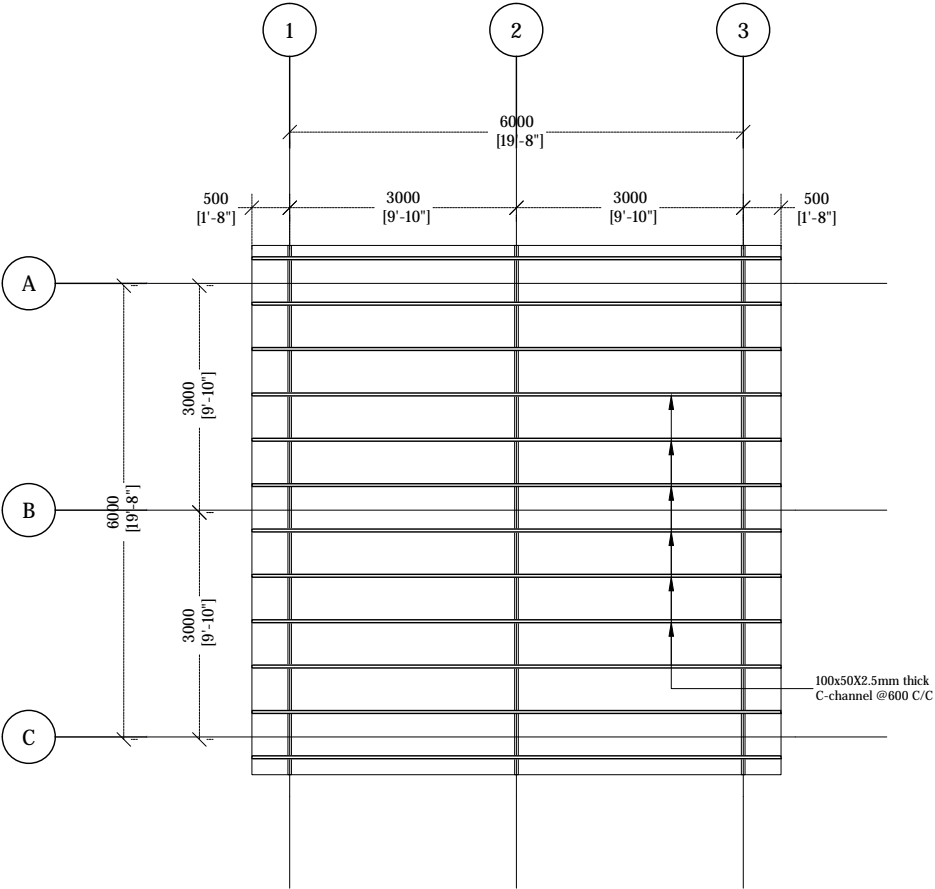
Drawn: F.I.A. Checked: M.S.S.

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

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

Project No: EP-WS/2019/06

Rev: Page: VS-S(1)



VEHICLE SHED ROOF FRAMING PLAN

1:100



Legend

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:  
Consultancy Services for Survey,  
Design and EIA works of Water  
Supply and Sewerage Facilities in  
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Husnuheena Magu, Male', Maldives



FDBAC INFRA  
Maldivian Infrastructure Development

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

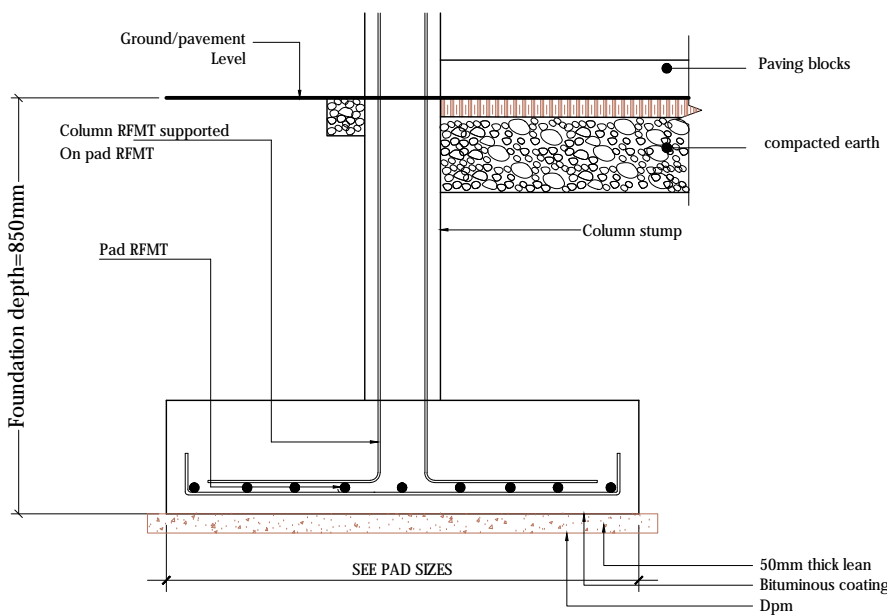
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Date: Sep 2020 SCALE (A3): 1:100

Project No: EP-WS/2019/06

Rev: Page: VS-S(2)



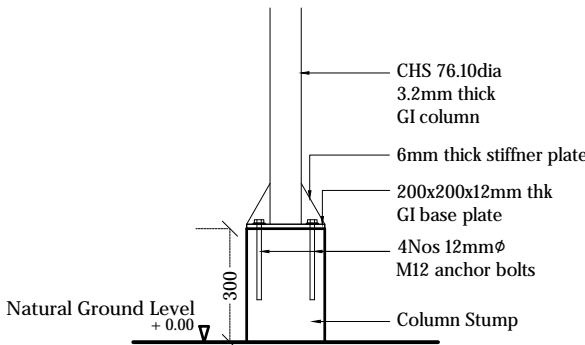


VEHICLE SHED FOOTING DETAIL

1:20

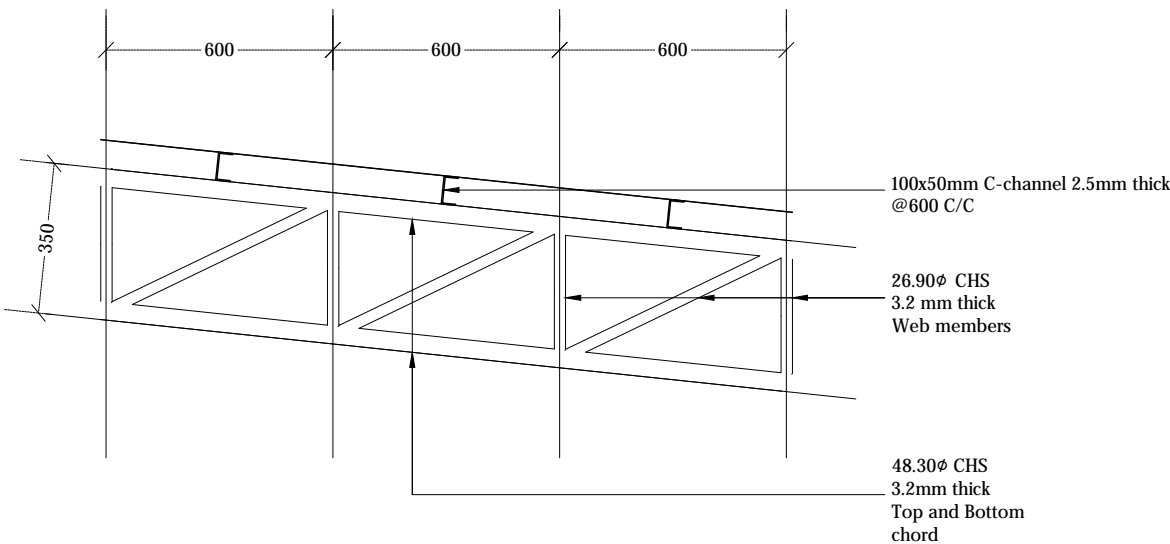
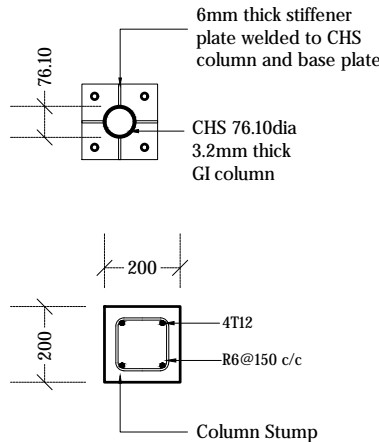
F1 - 500x500x250 - T10@150C/C B/W (B)

FOUNDATION PAD DETAILS



VEHICLE SHED COLUMN DETAIL

1:20



VEHICLE SHED TRUSS DETAIL

1:20



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
- \*38 dia x 2.5mm GI pipe to be used for all bracings.
- \*Cover for footings shall be 50mm.
- \*Cover for columns shall be 40mm.
- \*Concrete shall be of grade C25.

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

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Sub Title:  
Sewerage System in GDh. Nadella

Client:  
Ministry of National Planning, Housing and  
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**DBACK INFRA**  
Building Sustainable Infrastructure

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

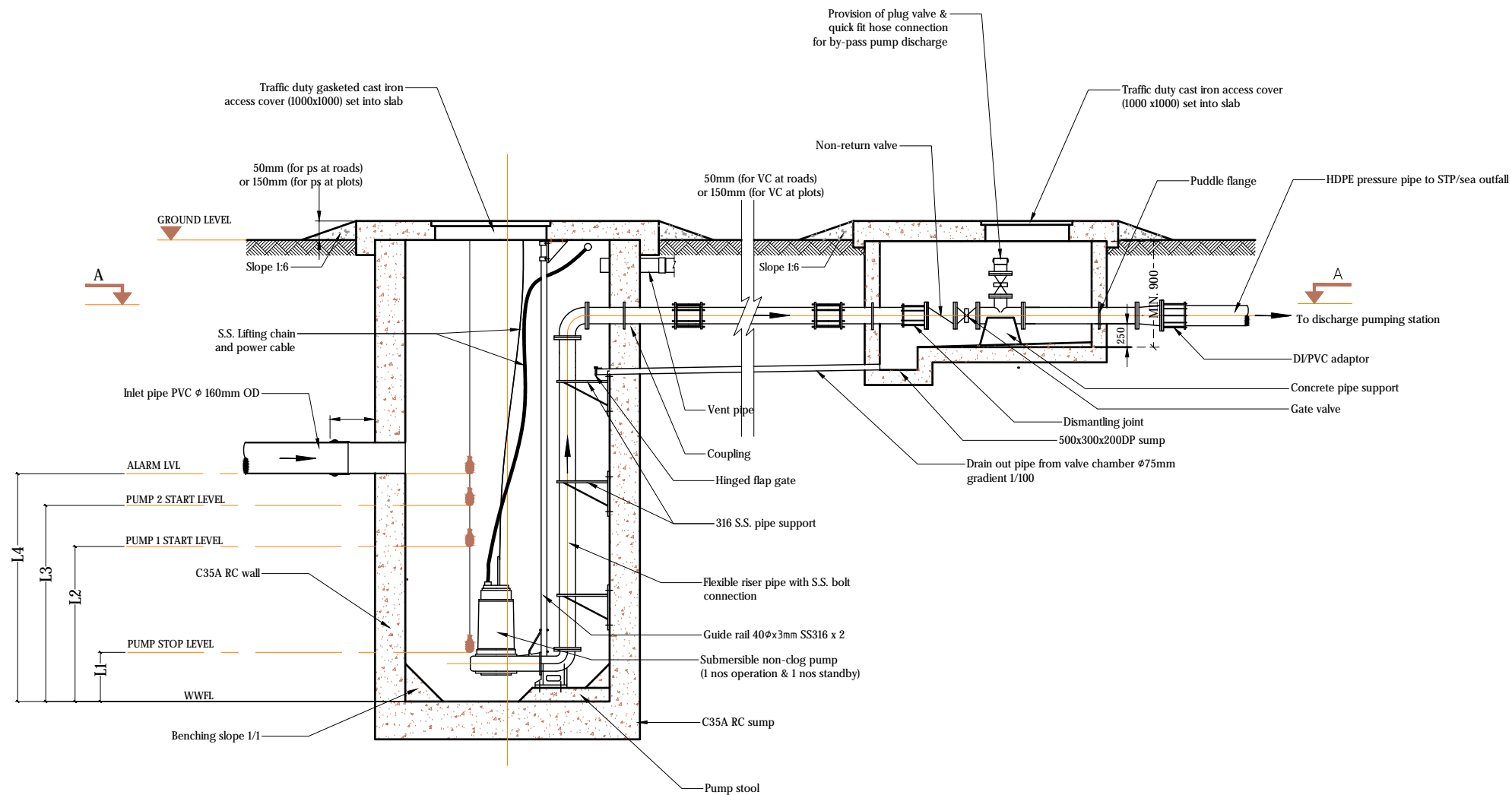
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Project No: EP-WS/2019/06

Rev: Page:

VS-S(3)



PUMP STATION DESIGN DETAILS

(15 YEARS)

Pump Station	Diameter (Ø)	Depth (D)	Inlet Depth	Pump Capacity	Head	Levels			
						L1	L2	L3	L4
PS1	2.0m	3.30m	2.486m, 2.236m	2.5 l/s	7.9 m	0.300m	0.629m	0.779m	0.929m
PS2	2.0m	3.20m	2.443m	3.6 l/s	14.9 m	0.300m	0.623m	0.773m	0.923m
PS3	2.0m	3.30m	2.563m	1.9 l/s	16.9 m	0.300m	0.630m	0.780m	0.930m

PUMP STATION DETAILS - LONGITUDINAL SECTION  
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.
- All concrete cold joints shall casted with bonding agent

List of main instruments of pumping station:

1. Sewage pumps (1 duty & 1 standby)
2. Power cable
3. Auto-coupling with 40Øx3mm SS316 guide rails
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

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.
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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: F.I.A. Checked: M.S.S.

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

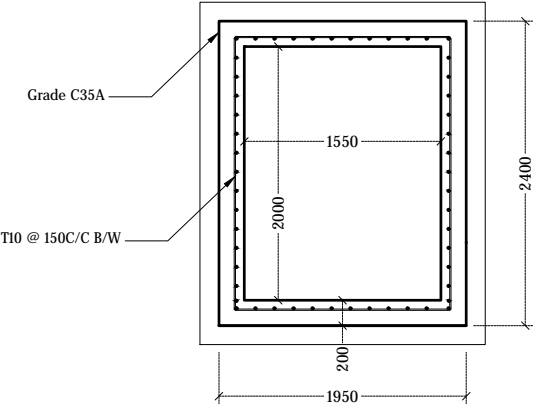
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Project No: EP-WS/2019/06

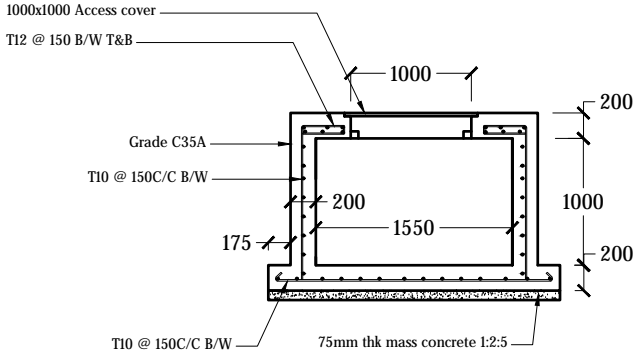
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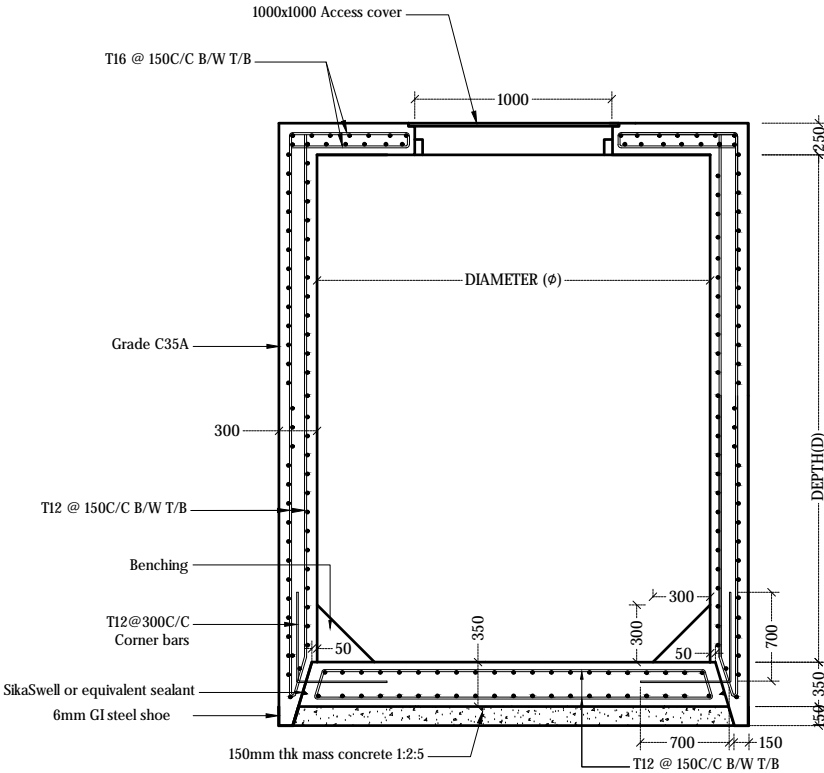
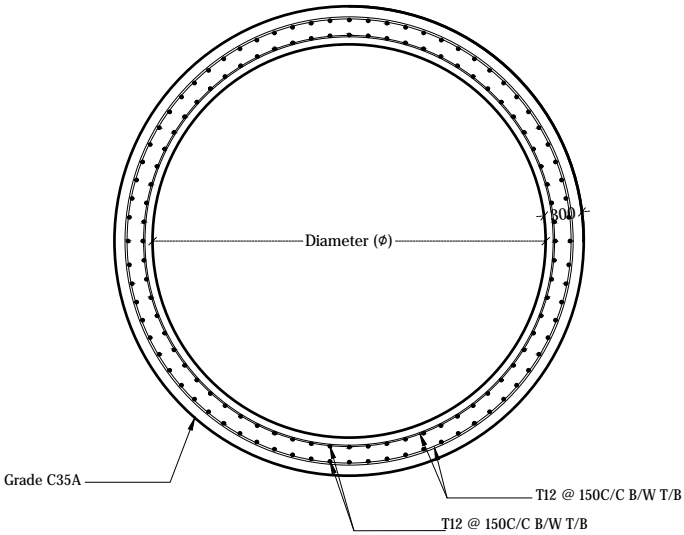
PLAN VIEW



SECTION



VALVE CHAMBER DETAIL



PUMP STATION DETAIL

Pump Station	Diameter ( $\phi$ )	Depth (D)	Inlet Depth
PS1	2.0m	3.30m	2.486m, 2.236m
PS2	2.0m	3.20m	2.443m
PS3	2.0m	3.30m	2.563m

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 polyethene.
- All concrete cold joints shall casted with bonding agent
- Corner bars (3T16 @ 75C/C T/B) shall be provided around top slab openings

- List of main instruments of pumping station:
1. Sewage pumps (1 duty & 1 standby)
  2. Power cable
  3. Auto-coupling with 40Øx3mm SS316 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

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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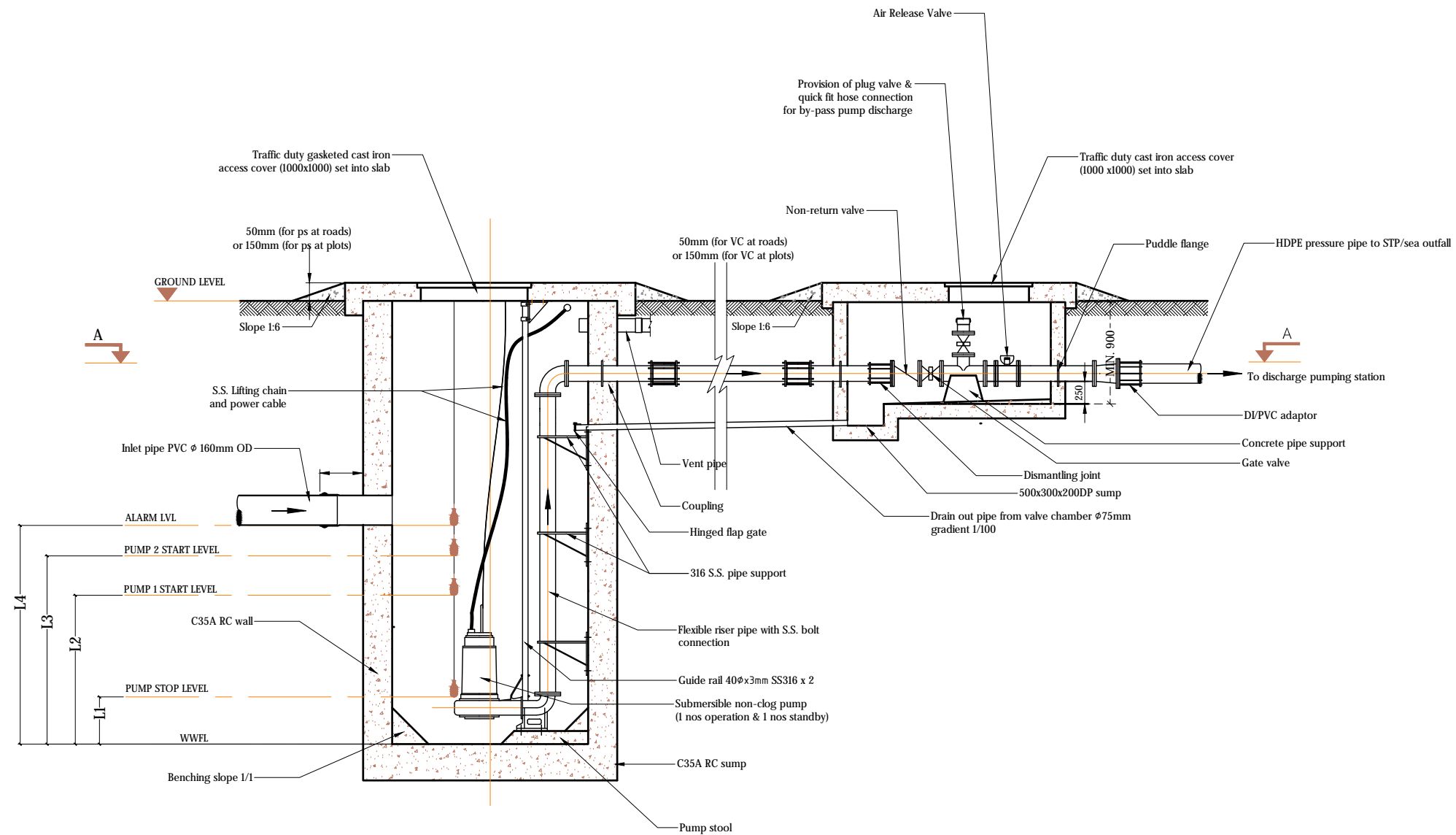
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Date: Sep 2020 SCALE (A3): NTS

Project No: EP-WS/2019/06

Rev: Page:

W-(7)



DISCHARGE PUMP STATION DESIGN DETAILS (15 YEARS)

Pump Station	Diameter (Ø)	Depth (D)	Inlet Depth	Pump Capacity	Head	Levels			
						L1	L2	L3	L4
DPS	2.5m	3.00m	0.8m	8.0 l/s	21.3 m	0.300m	0.695m	0.845m	0.995m

DISCHARGE PUMP STATION DETAILS - LONGITUDINAL SECTION

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.
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List of main instruments of pumping station:

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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

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.
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Title:  
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Supply and Sewerage Facilities in  
5 islands, Maldives - Package 6

Sub Title:  
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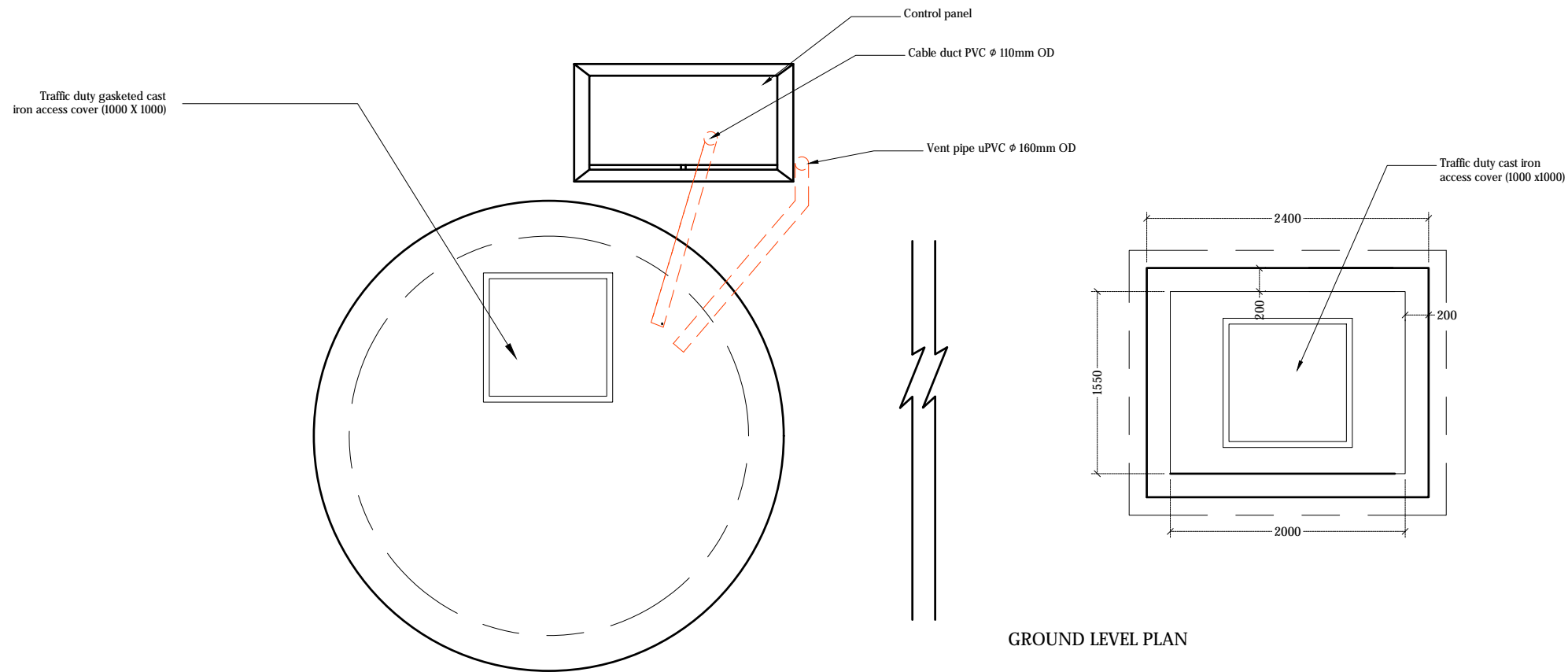
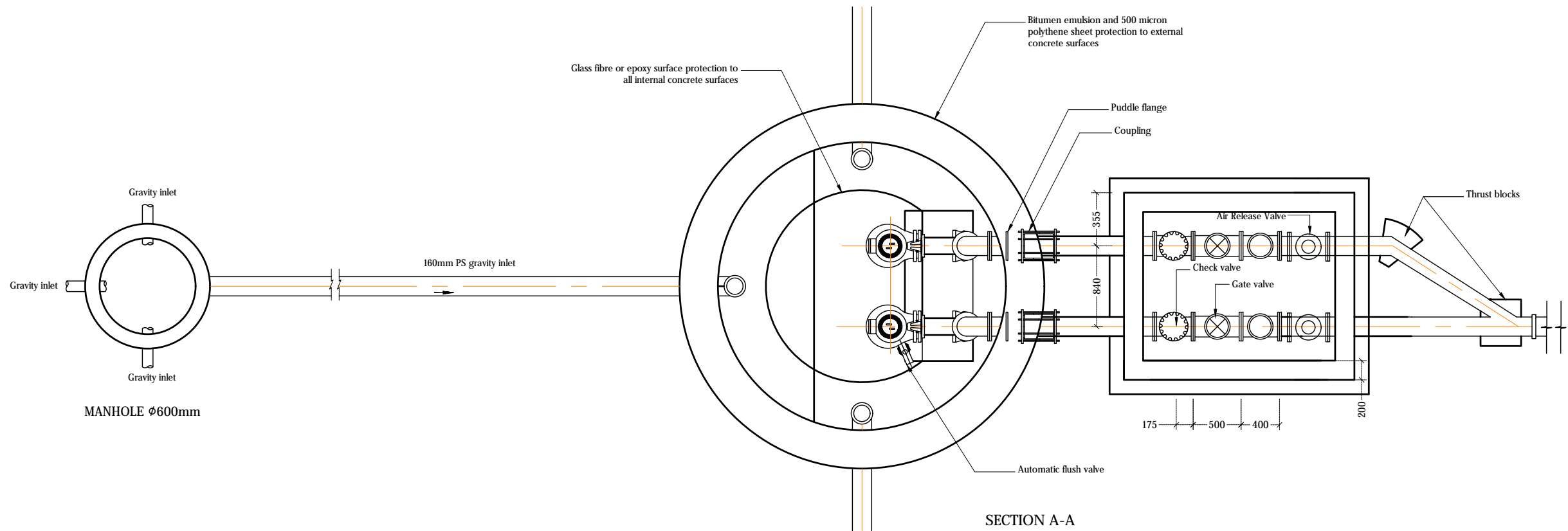
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Rev: Page:

W-(25)





## DISCHARGE PUMP STATION DETAILS - PLAN VIEW

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.
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- All concrete cold joints shall casted with bonding agent

#### List of main instruments of pumping station:

1. Sewage pumps (1 duty & 1 standby)
2. Power cable
3. Auto-coupling with 400x3mm SS316 guide rails
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

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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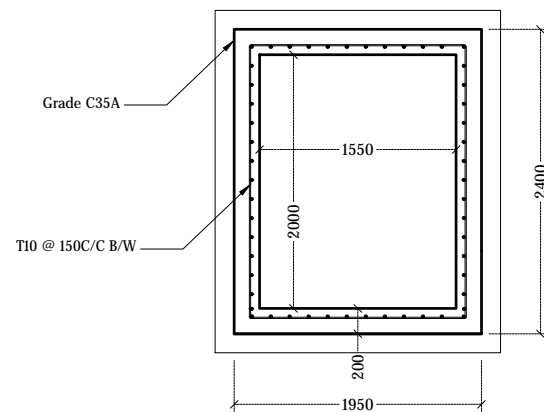
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Date: Sep 2020 SCALE (A3): NTS

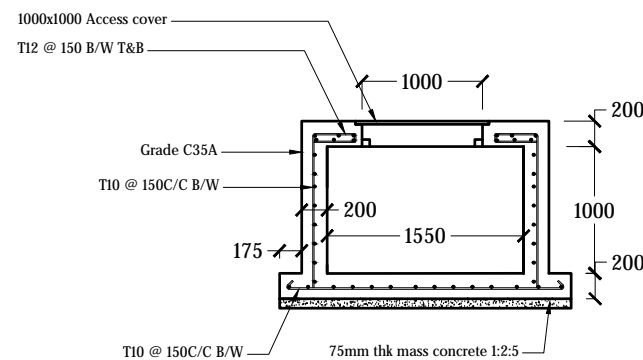
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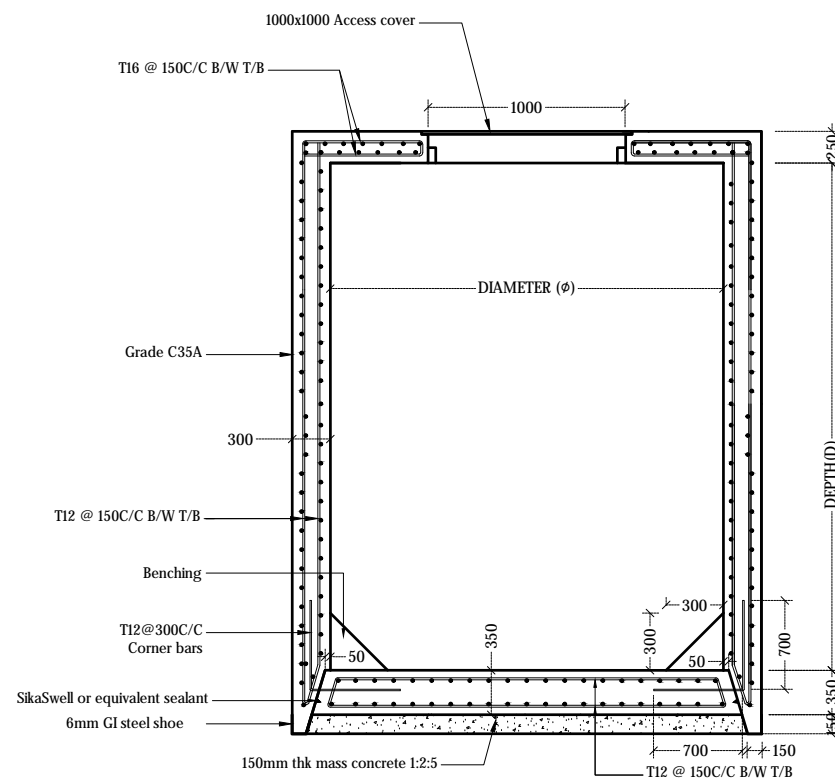
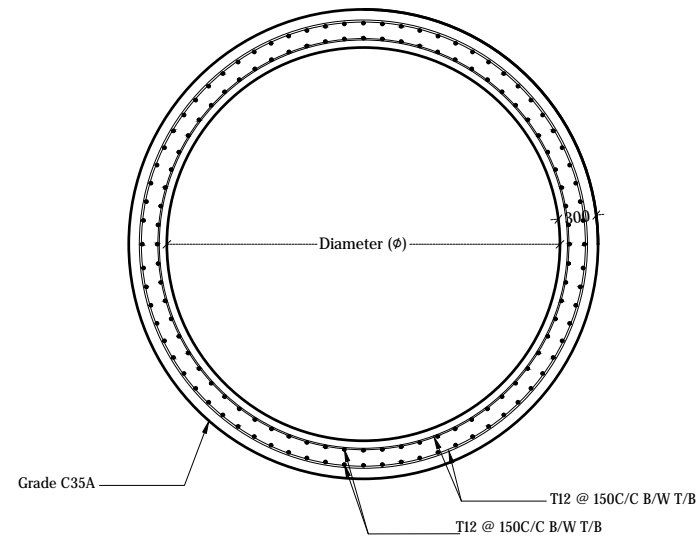
PLAN VIEW



SECTION



VALVE CHAMBER DETAIL



PUMP STATION DETAIL

Pump Station	Diameter (φ)	Depth (D)	Inlet Depth
DPS	2.5m	3.00m	0.8m

## DISCHARGE PUMP STATION STRUCTURAL DETAILS

NTS



## Legend

Notes:

- Pumps, pipe work, fittings and control panel shall be installed in accordance with manufacturers recommendations.
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  11. Vent pipe with vent cowl

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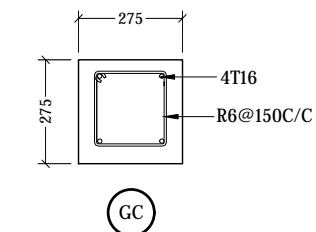
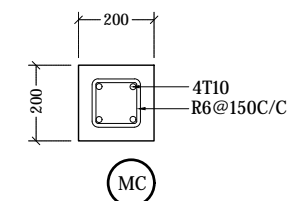
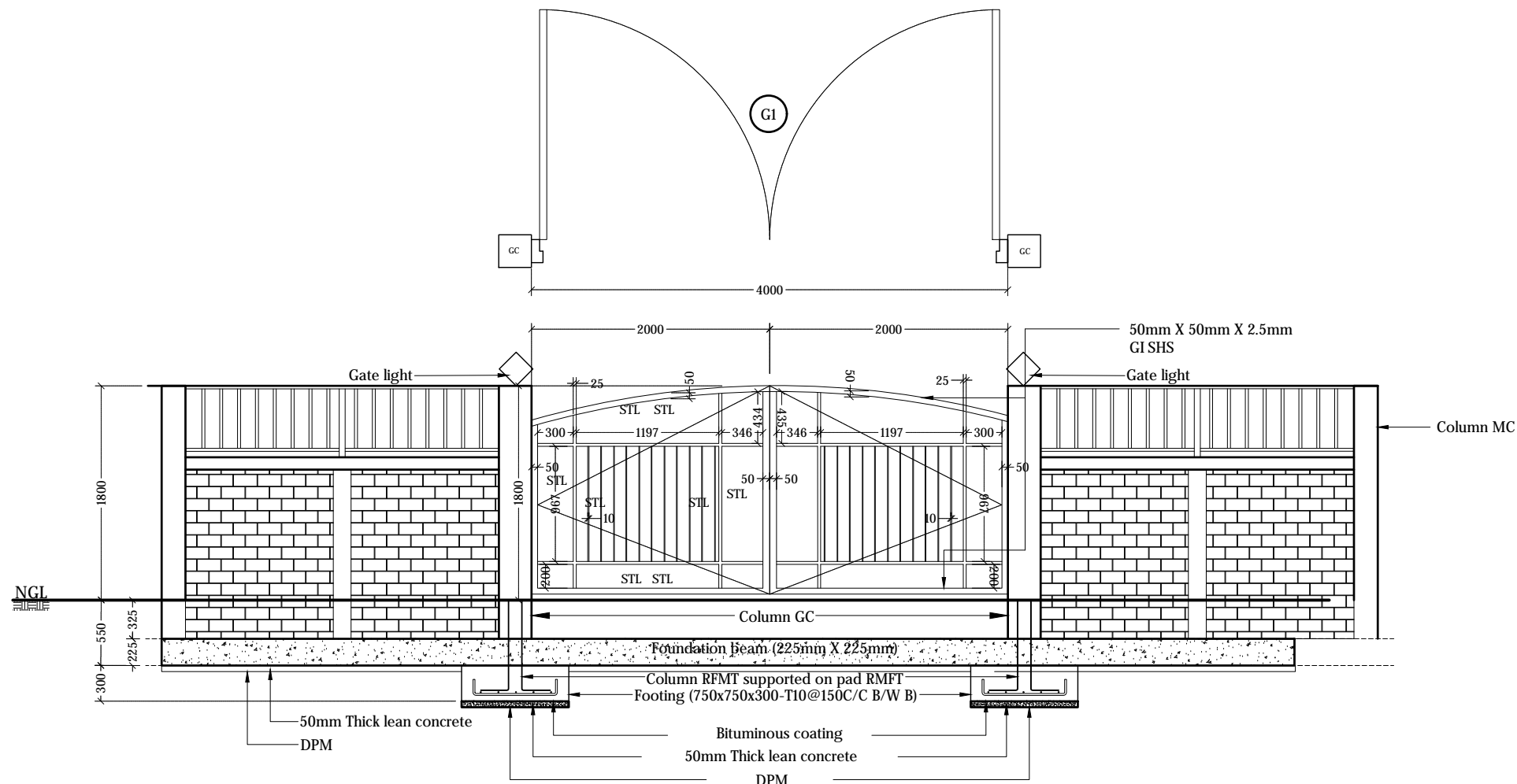
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Date: Sep 2020 SCALE (A3): NTS

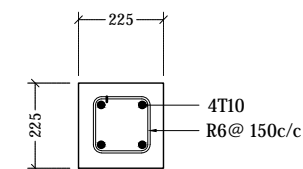
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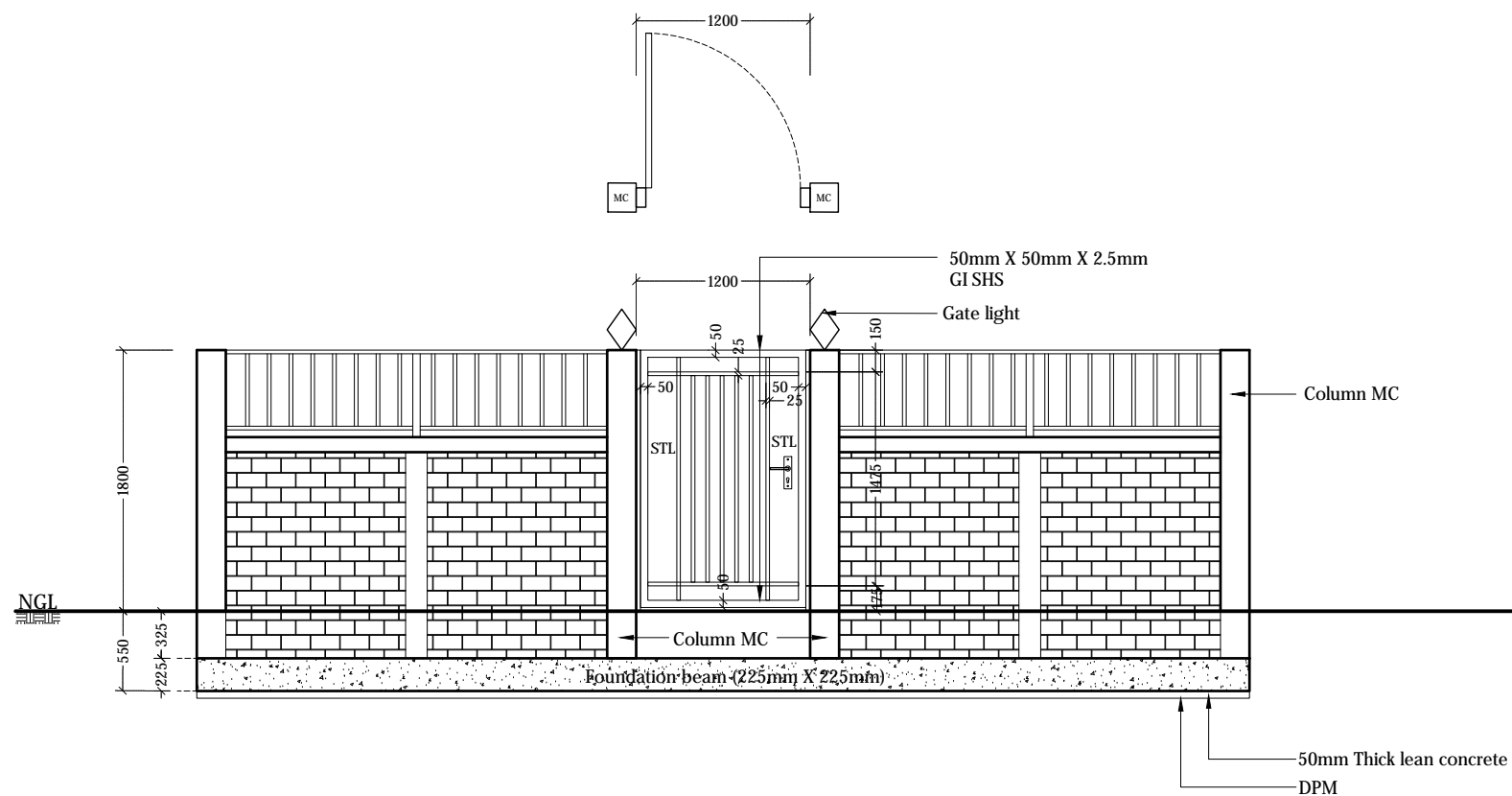
W-(27)



COLUMN DETAILS  
1:20



FOUNDATION BEAM DETAIL  
1:20



GATE DETAILS  
1:50



#### Legend

#### Notes:

- FRAME MATERIAL : Steel gate frame  
2.5mm thick GI sections RHS
- PANEL MATERIAL : Steel frame with steel  
panels (STL) as shown on elevation view
- 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
- Cover for foundation pads and foundation  
beams shall be 50mm
- Cover for columns (GC) and (MC) shall be  
40mm
- Concrete shall be of grade C25
- All concrete cold joints shall casted with  
bonding agent

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

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Consultancy Services for Survey,  
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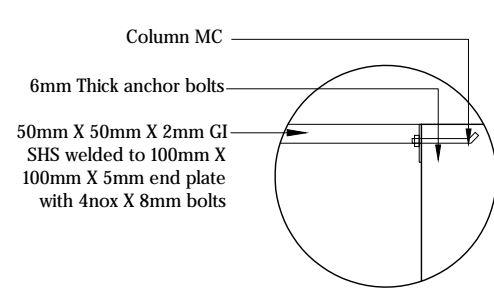
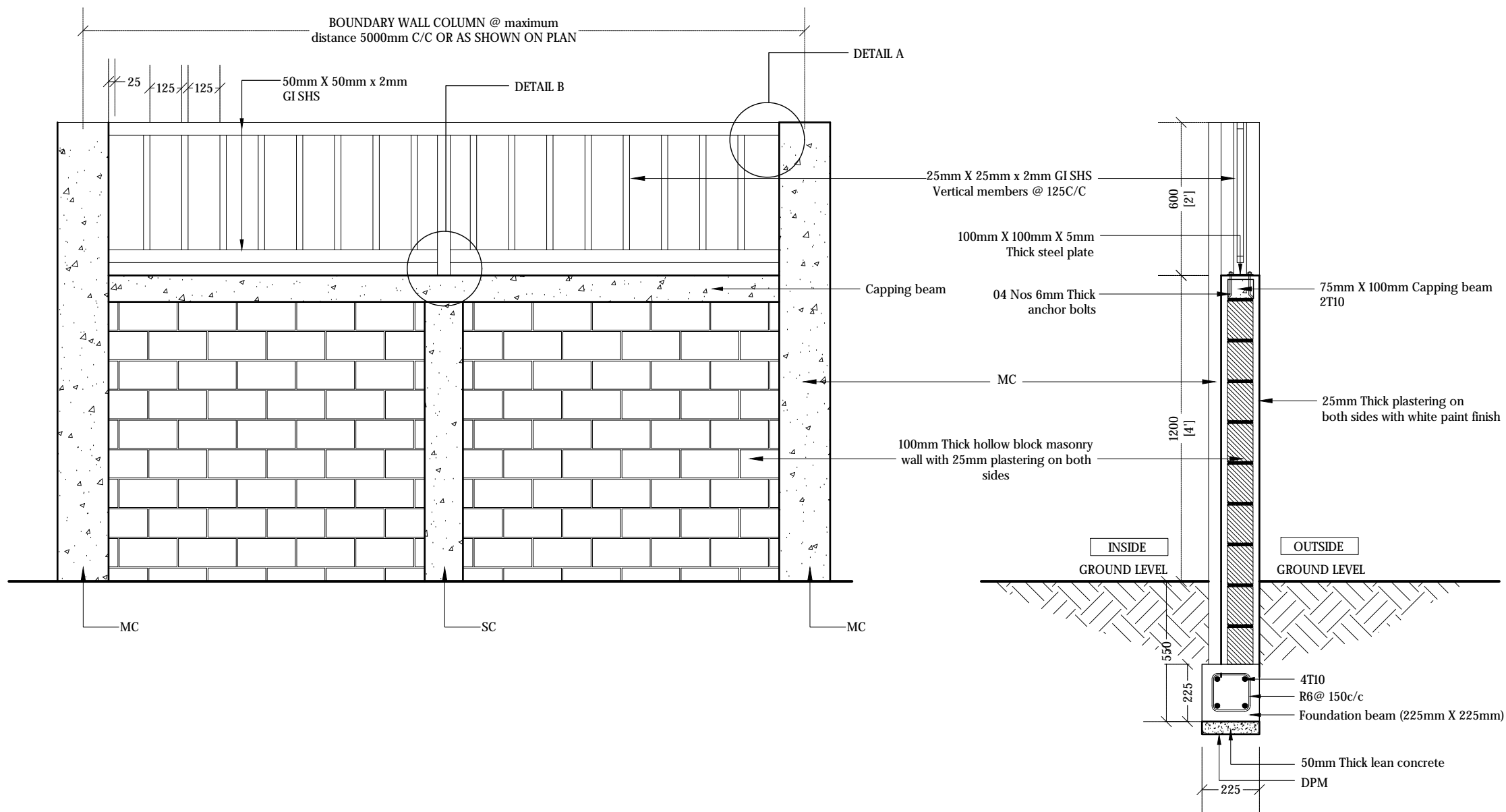
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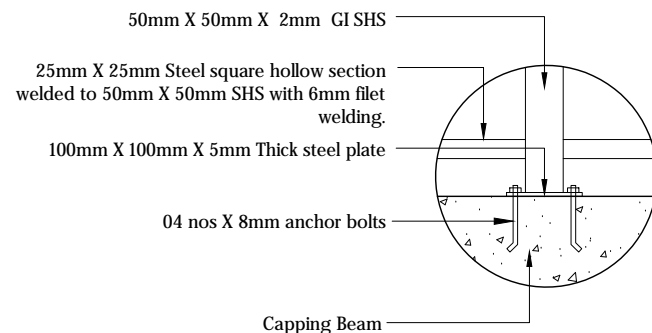
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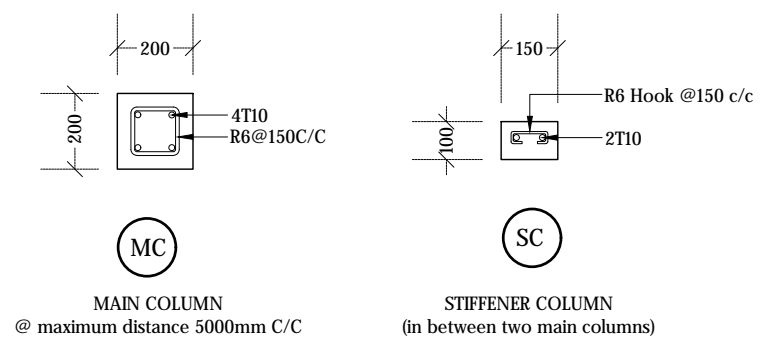
W-(8)



DETAIL A  
1:10



DETAIL B  
1:10



#### 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
- Cover for foundation beams shall be 50mm
- Cover for columns (MC) shall be 40mm
- Concrete shall be of grade C25
- All concrete cold joints shall casted with bonding agent

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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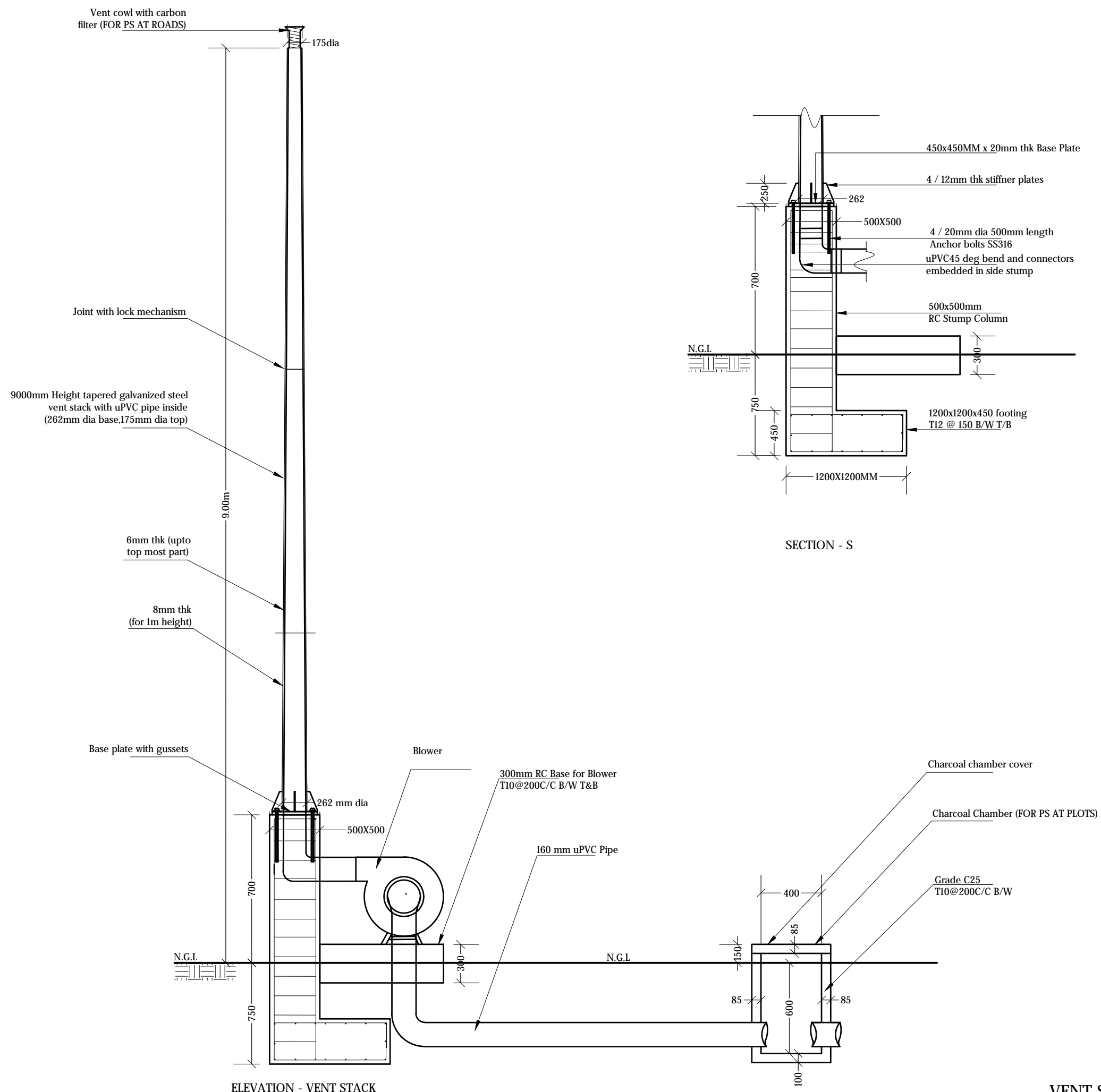
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Project No: EP-WS/2019/06

Rev: Page:

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## PS & STP BOUNDARY WALL AND FENCING DETAILS



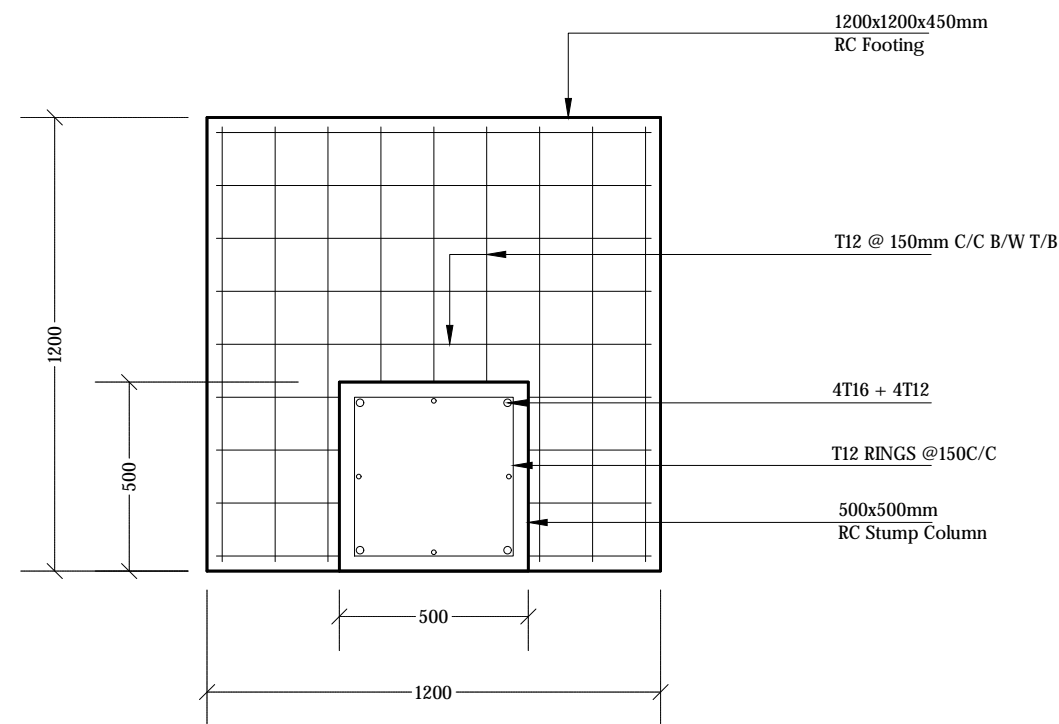
## NTS

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

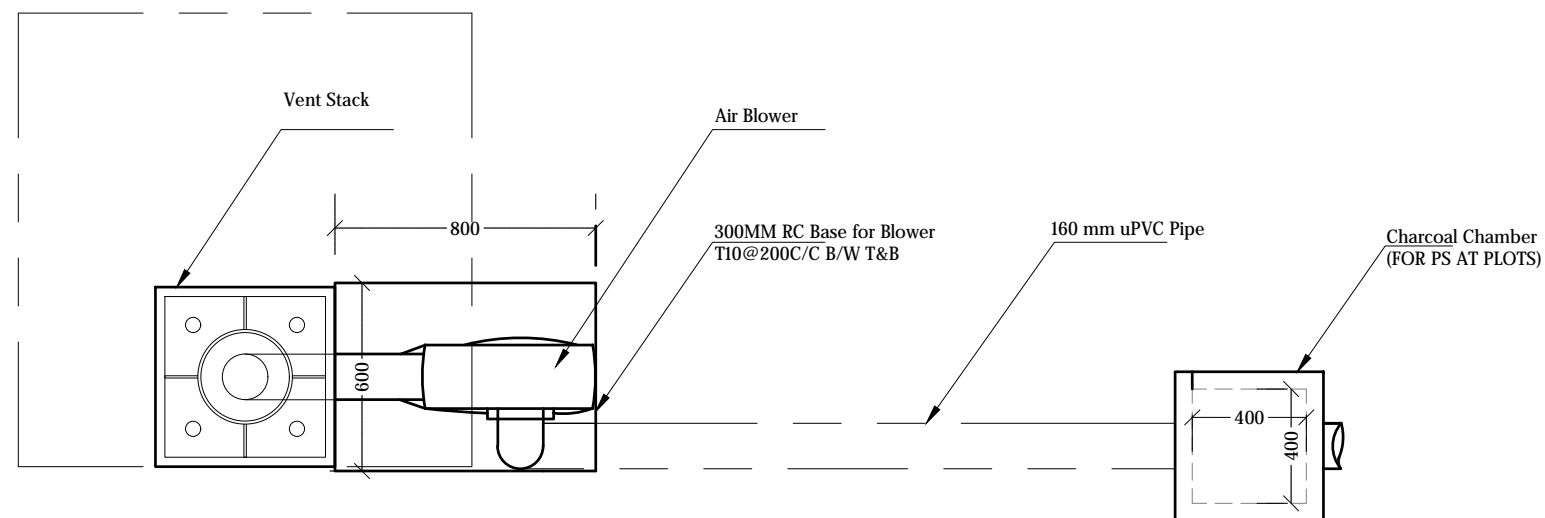
Rev:	Page:
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Page:	W-(10)
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FOOTING & STUMP DETAILS OF VENT STACK



AIR BLOWER DETAILS (Plan View)

## VENT STACK AND AIR BLOWER DETAILS

NTS



### Legend



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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W: www.epochassociates  
A: G. Rosary West,  
Husnuheena Magu, Male', Maldives

**DBACK INFRA**  
Building Infrastructure Happens

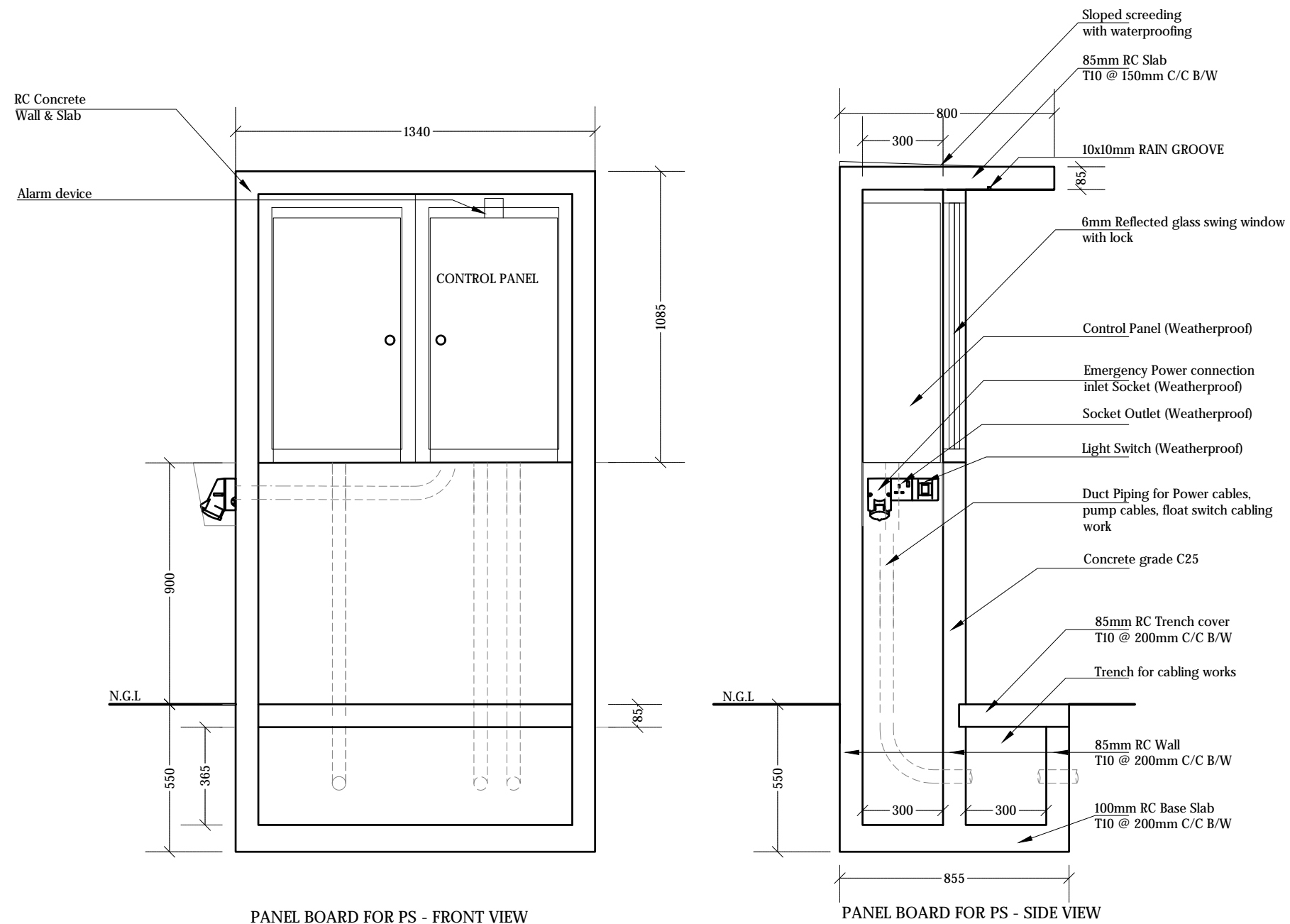
Drawn: F.I.A. Checked: M.S.S.

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

Date: Sep 2020 SCALE (A3): NTS

Project No: EP-WS/2019/06

Rev: Page: W-(11)



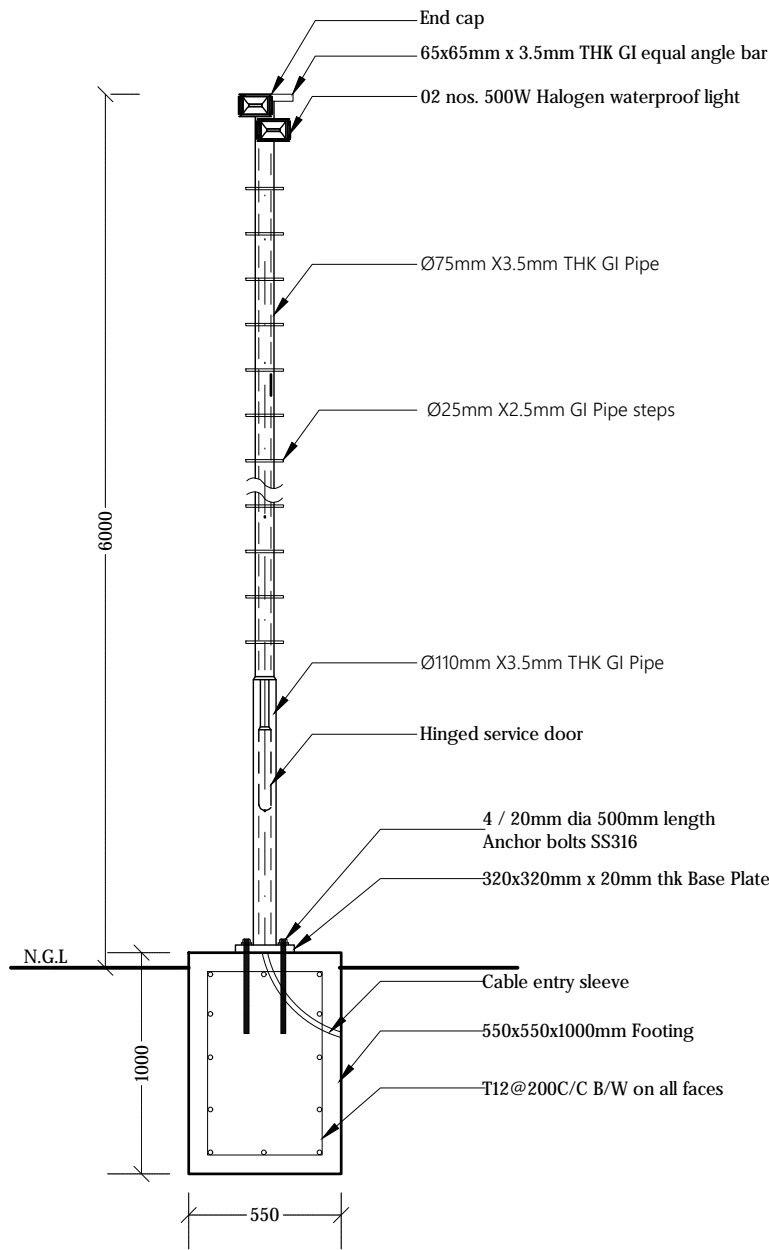
## CONTROL PANEL BOARD DETAILS

NTS

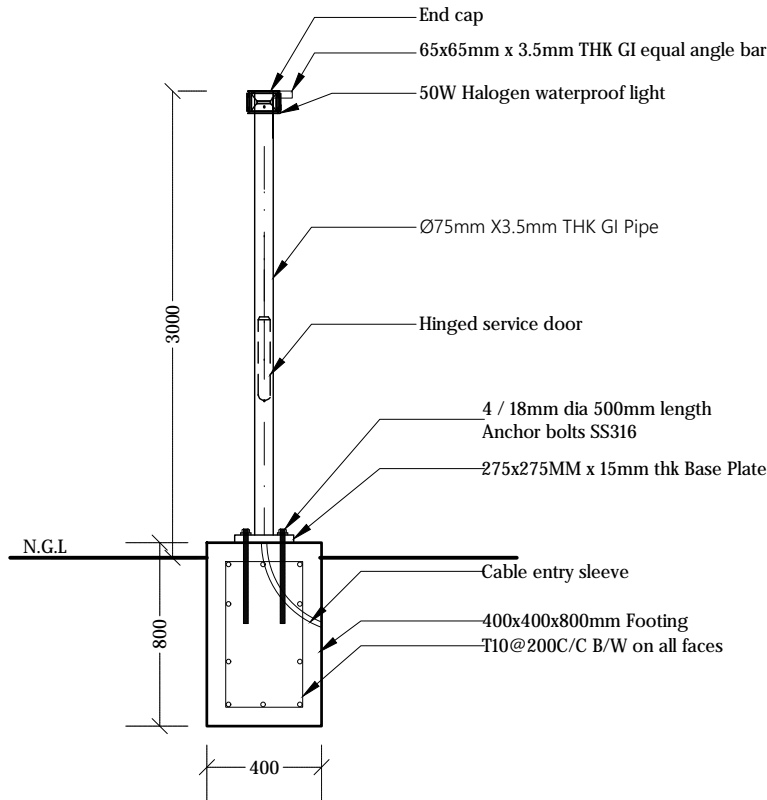
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Drawn: F.I.A.	Checked: M.S.S.
Designed: F.I.A.	Approved: I.W.
Date: Sep 2020	SCALE (A3): NTS
Project No: EP-WS/2019/06	
Rev:	Page:

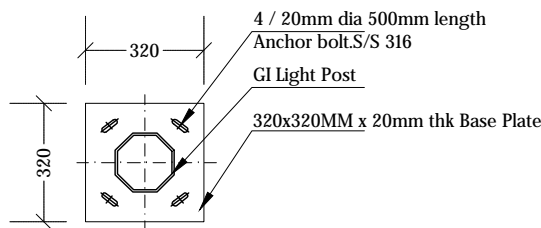
Rev:	Page: W-(12)
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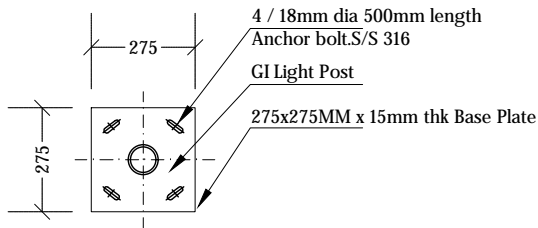
LIGHT POST DETAILS FOR STP COMPOUND (LP1)



LIGHT POST DETAILS FOR PUMP STATION (LP2)



BASE PLATE (LP1)



BASE PLATE (LP2)

## LIGHT POST DETAILS

NTS



### Legend



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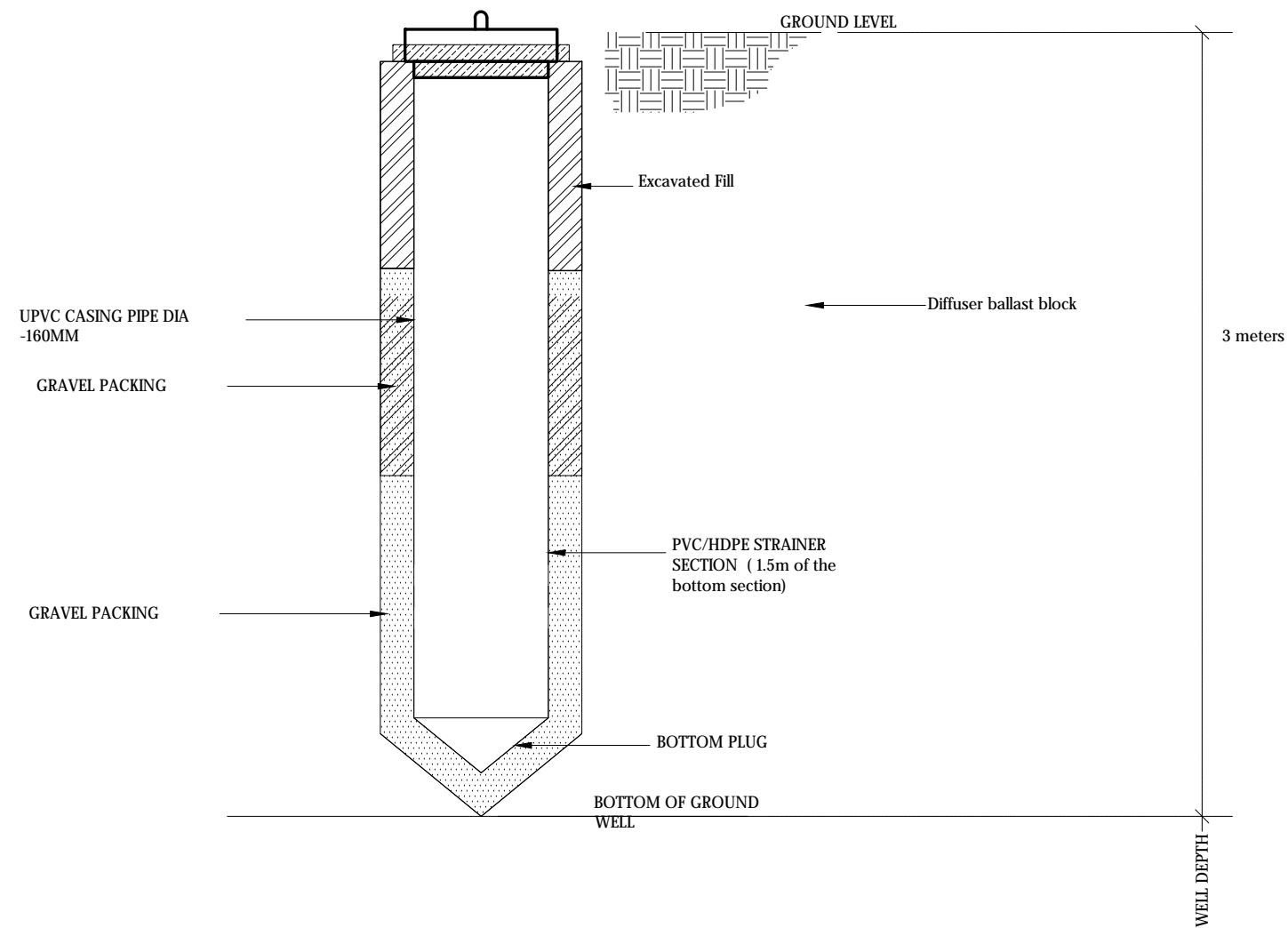
Drawn: F.I.A. Checked: M.S.S.

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

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SAMPLING WELL SECTION

NTS




Legend

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.


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Maldivian Infrastructure Development

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	
Rev:	Page: W-(24)



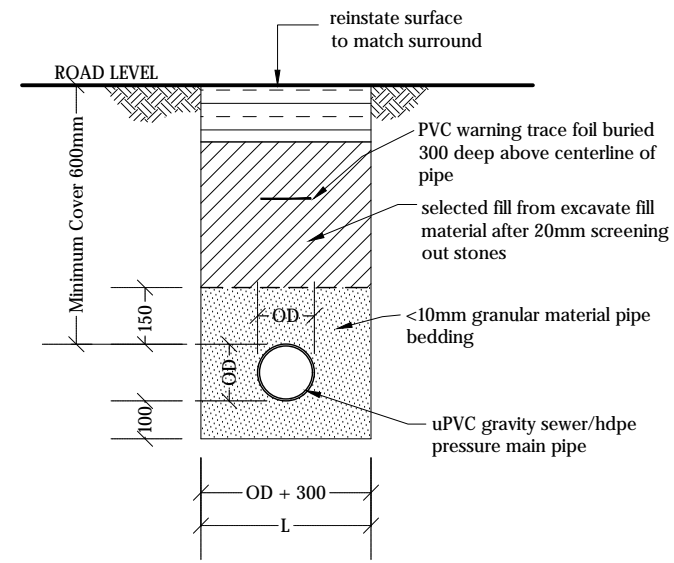


Diagram illustrating the cross-section of a road showing the layout of various underground utilities and their relative depths and horizontal positions.

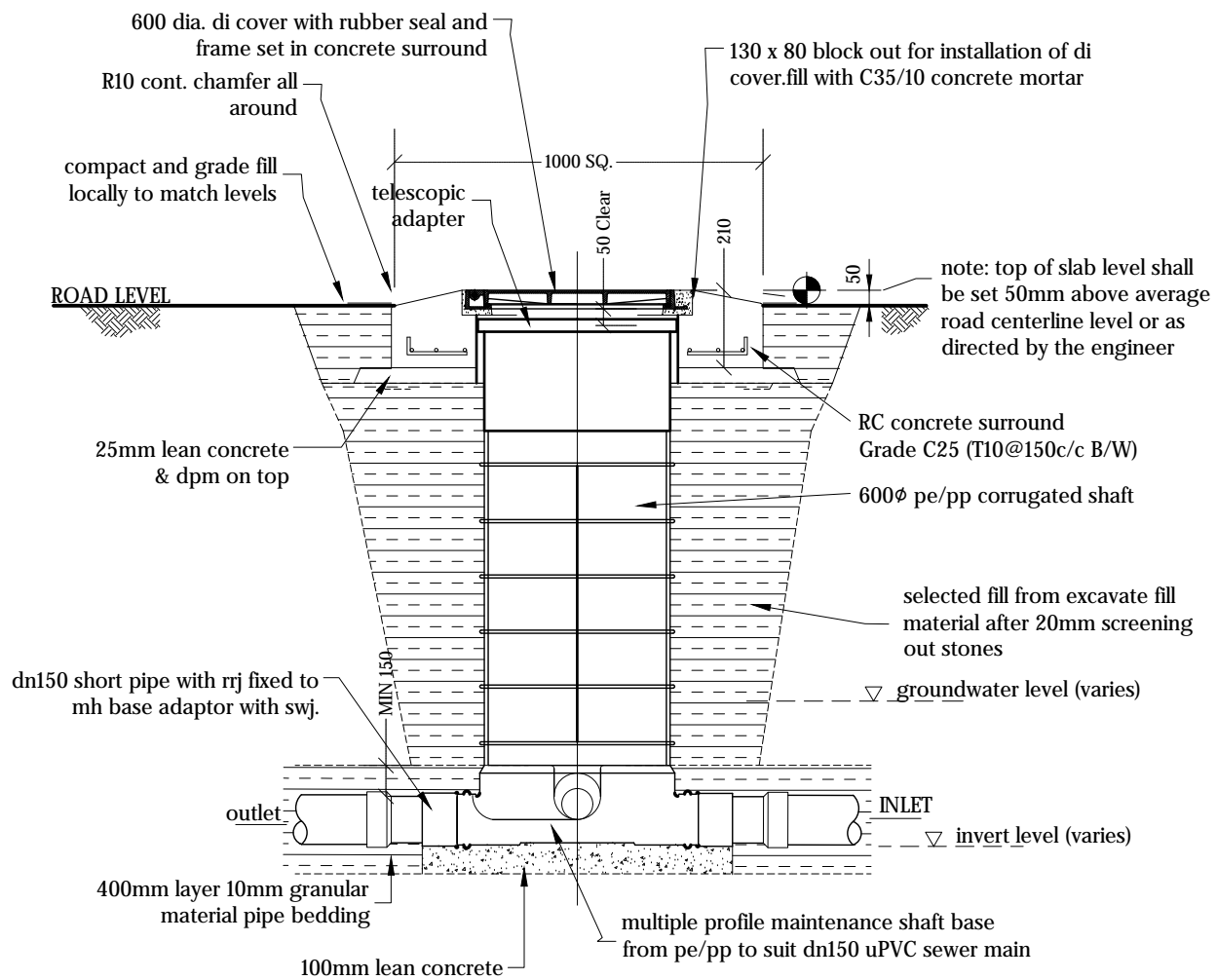
**Utilities and their relative depths (from top to bottom):**

- cable tv/telecom
- Power cable
- hdpe pipe for sewer pressure main
- uPVC pipe for sewer main
- HDPE pipe for water supply main
- HDPE/uPVC pipe for rain water collection

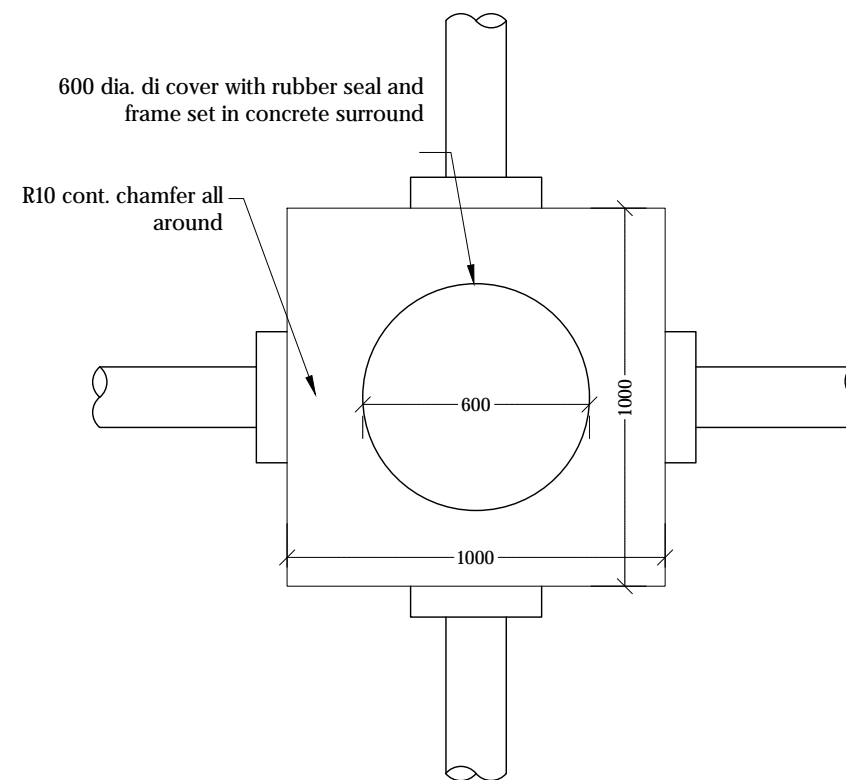
**Dimensions and Layout:**

- ROAD LEVEL** is indicated at the top.
- buried line of pipe** is indicated below the road level.
- Vertical dimensions (from ROAD LEVEL to buried line of pipe):**
  - 300 (for the first utility)
  - VARIES (300-600) (for the second utility)
  - VARIES (MIN. 600) (for the third utility)
  - VARIES (MIN. 600) (for the fourth utility)
  - VARIES (300-600) (for the fifth utility)
  - 600 (for the sixth utility)
- Horizontal dimensions (from left to right):**
  - 450-600
  - 1/3 X RL
  - 1/2 X RL
  - MIN. 600
  - 400
  - 1/3 X RL
  - 450-600
- RL** (Right of Way Line) is indicated at the bottom.

## TRENCH AND BEDDING DETAILS



ELEVATION - MAINTENANCE SHAFT (MH)



PLAN VIEW - MAINTENANCE SHAFT (MH)

## MAINTENANCE SHAFT (MH) DETAILS

1:20



Legend

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

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Infrastructure, Republic of Maldives



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Husuheena Magu, Male', Maldives



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

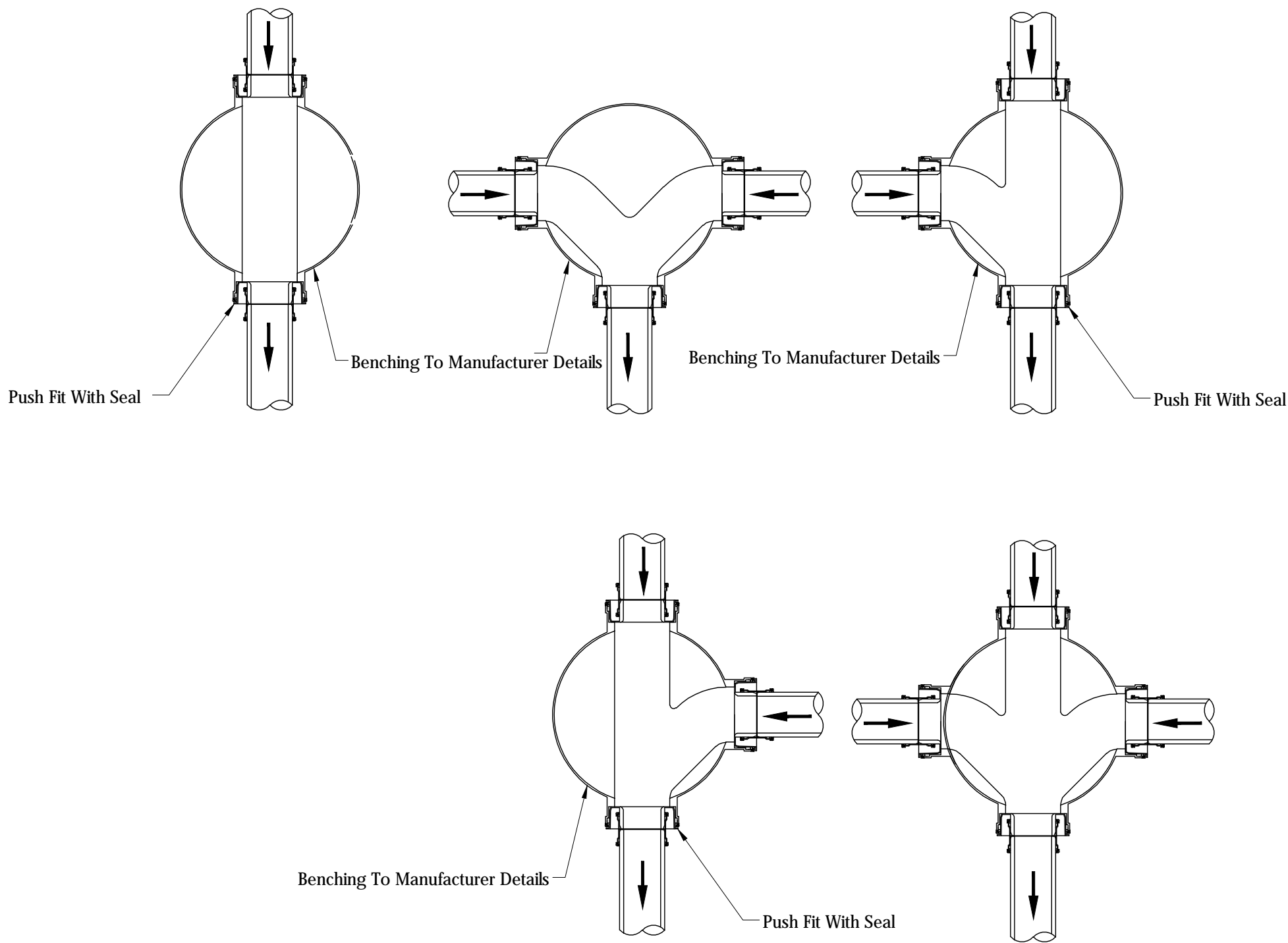
Designed: F.I.A. Approved: I.W.

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

Project No: EP-WS/2019/06

Rev: Page:

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TYPICAL MANHOLE BASE DETAILS

NTS

Legend

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**

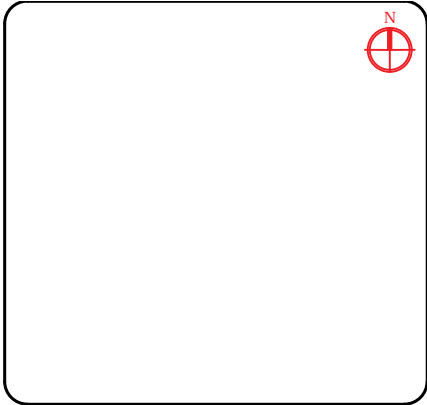
Sub Title:  
**Sewerage System in GDh. Nadella**

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


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Feedback 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	
Rev:	Page: W-(16)



Legend

A legend box containing a red dot followed by a horizontal line.

ELEVATION - CLEANOUT (CO)

PLAN VIEW - CLEANOUT (CO)

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:  
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Client:  
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Infrastructure, Republic of Maldives



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Husnuheena Magu, Male', Maldives



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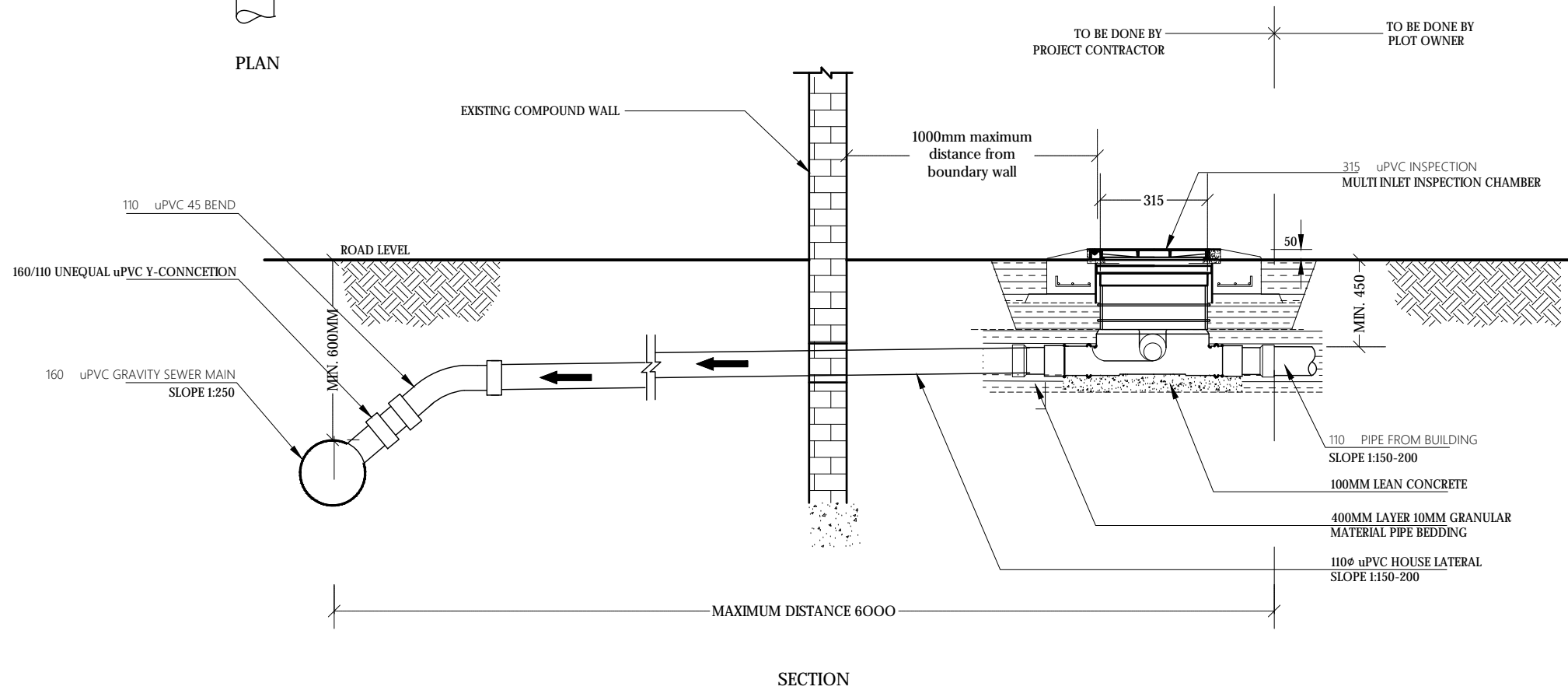
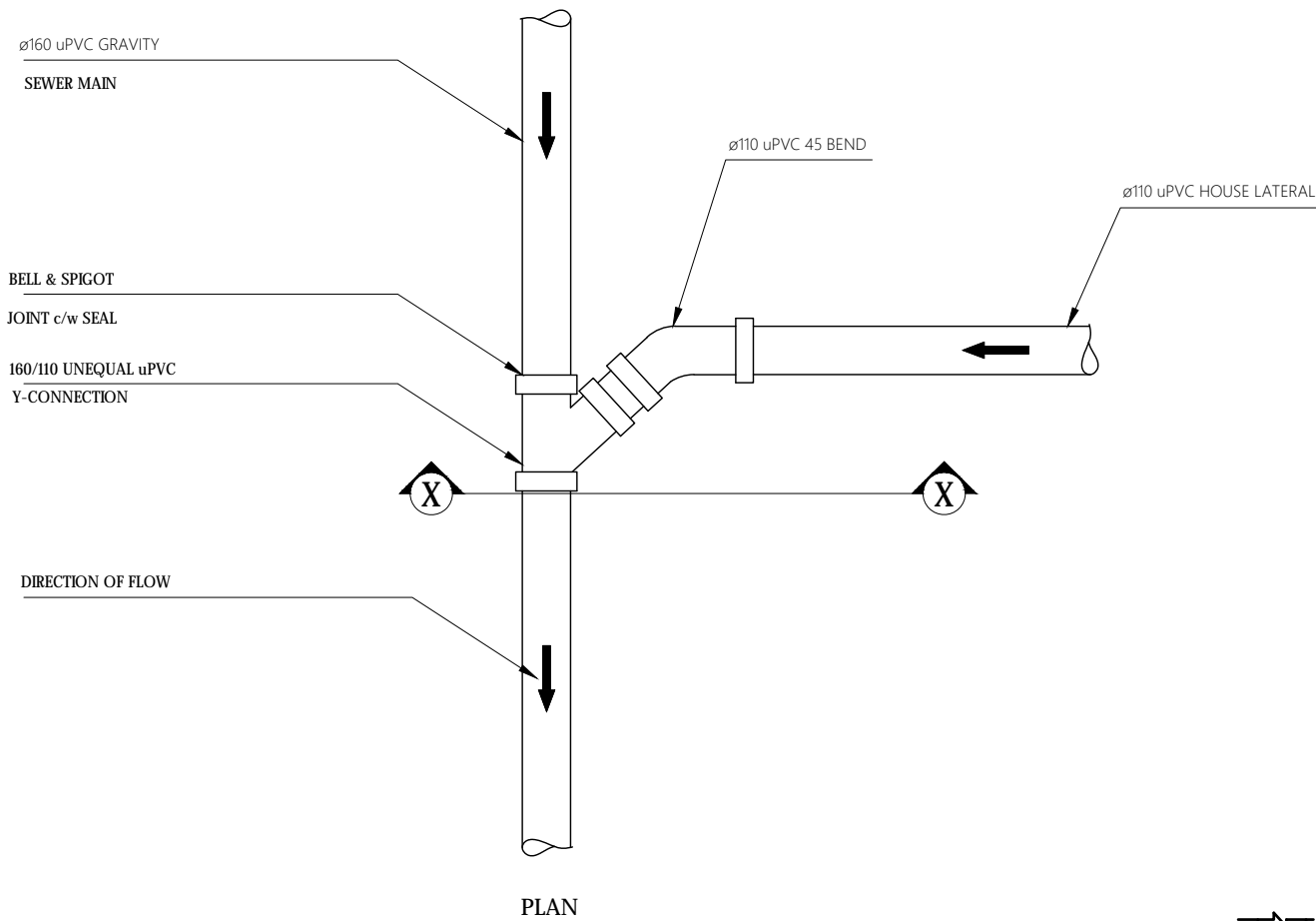
Project No: EP-WS/2019/06

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## CLEAN OUT DETAILS

NTS





## TYPICAL HOUSE CONNECTION DETAIL

NTS



### Legend

The invert level of the sewer main 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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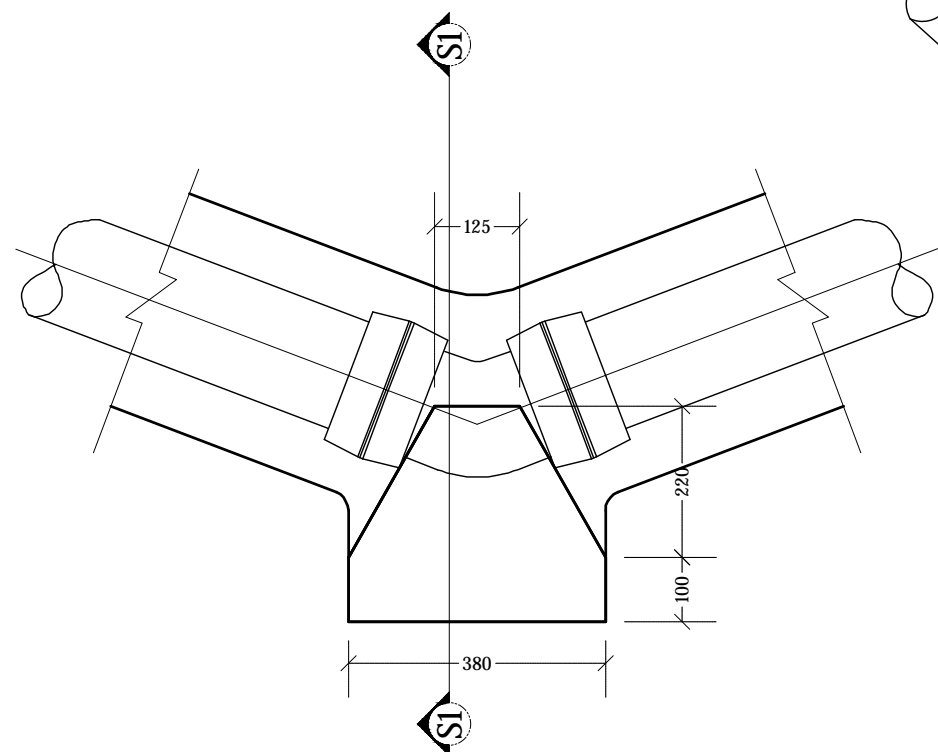
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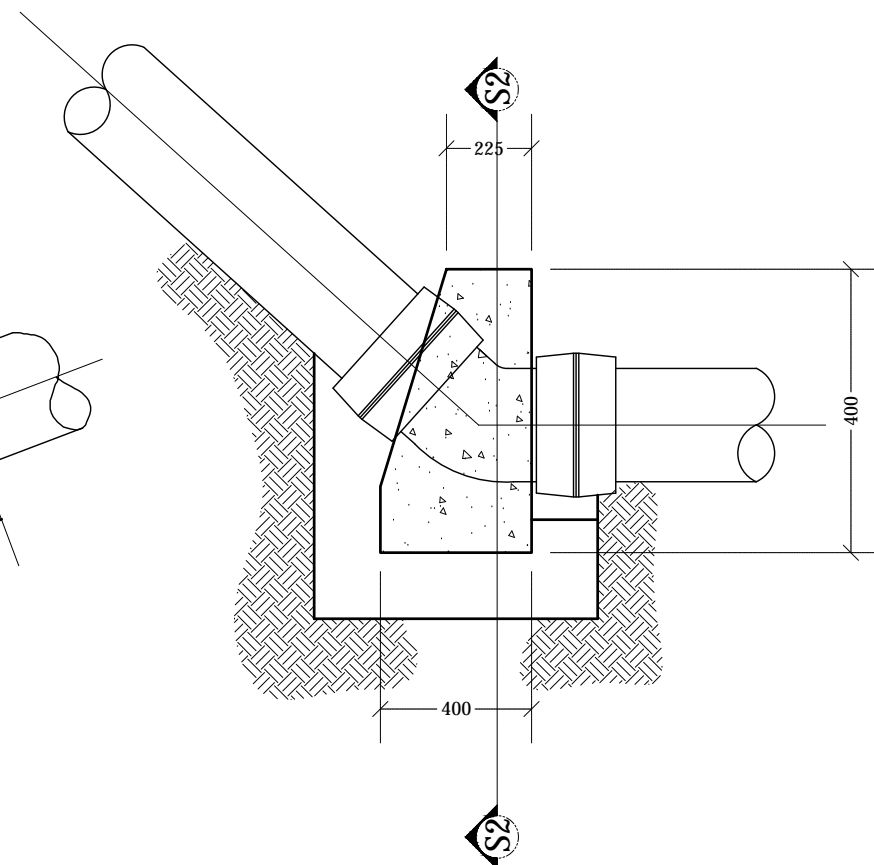
Project No: EP-WS/2019/06

Rev: Page:

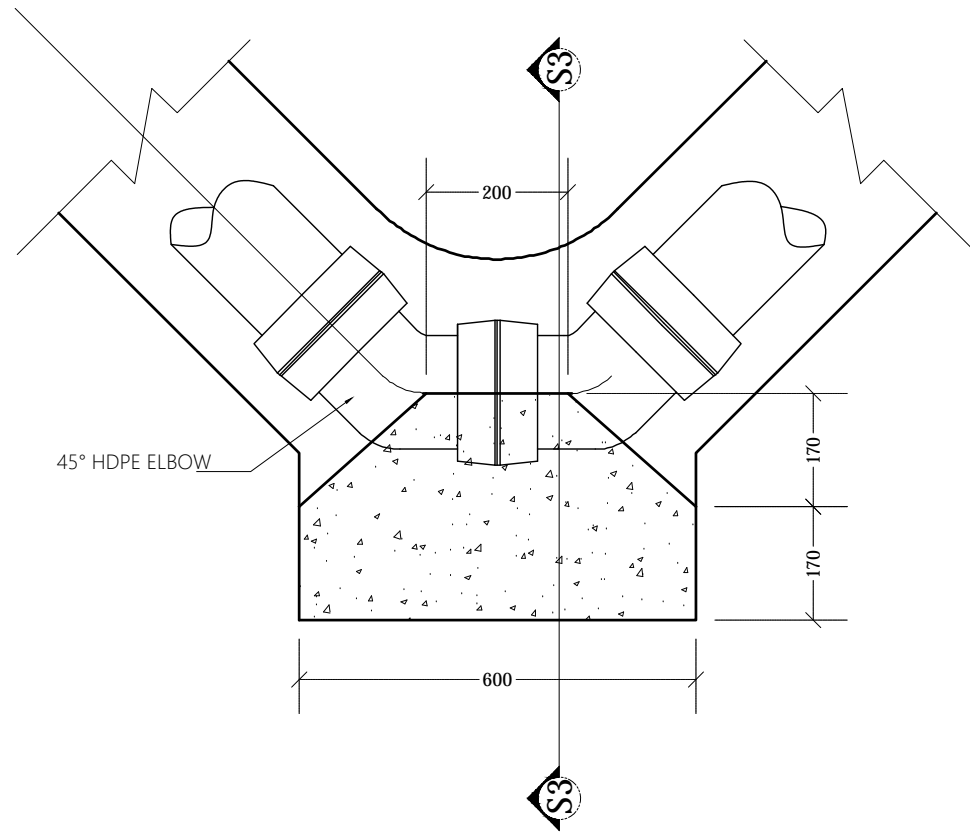
W-(18)



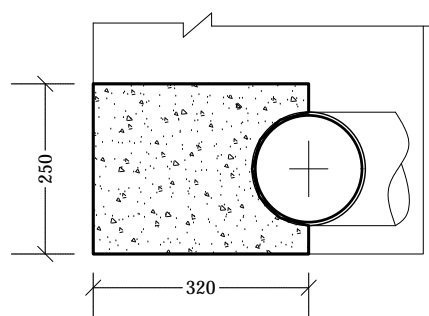
HORIZONTAL 45° BEND  
NTS



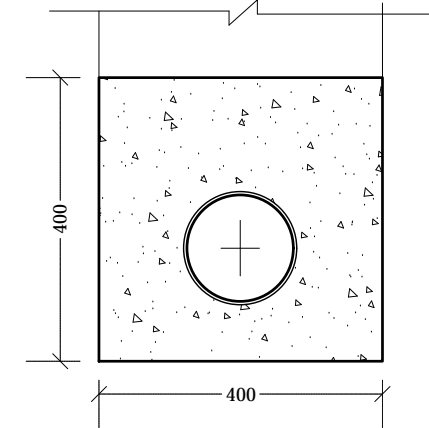
VERTICAL 45° BEND  
NTS



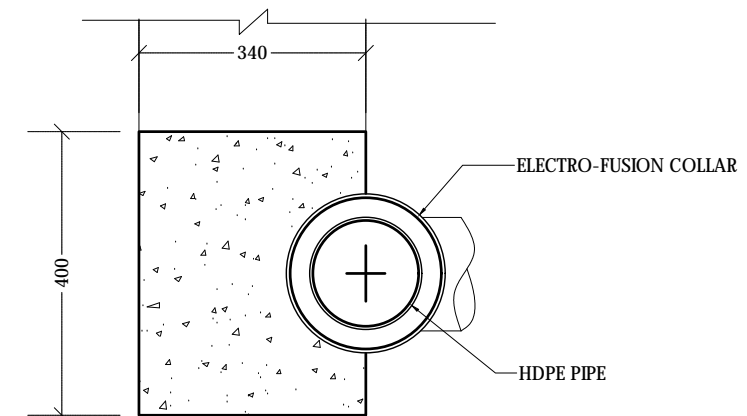
HORIZONTAL 90° BEND  
NTS



SECTION S1-S1  
NTS



SECTION S2-S2  
NTS



SECTION S3-S3  
NTS

THRUST BLOCK DETAILS  
NTS

Legend

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REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:  
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5 islands, Maldives - Package 6

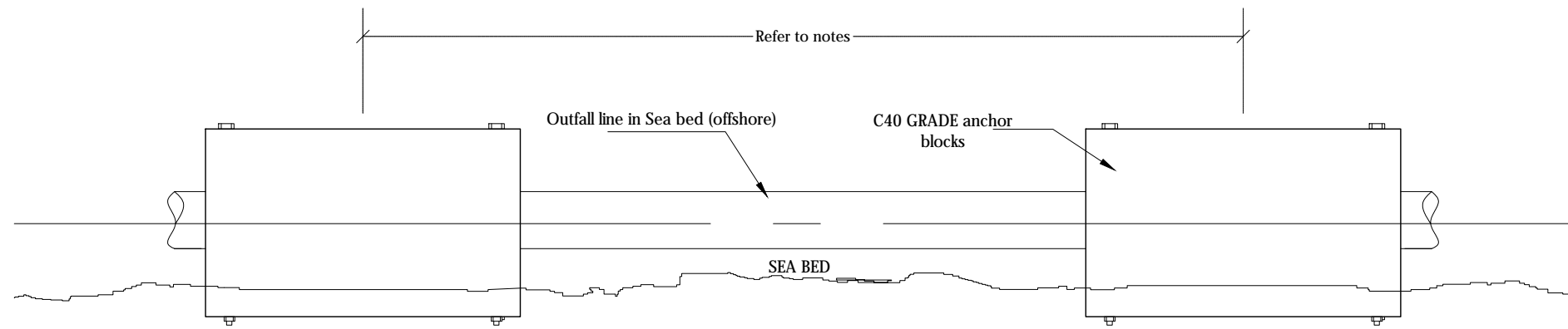
Sub Title:  
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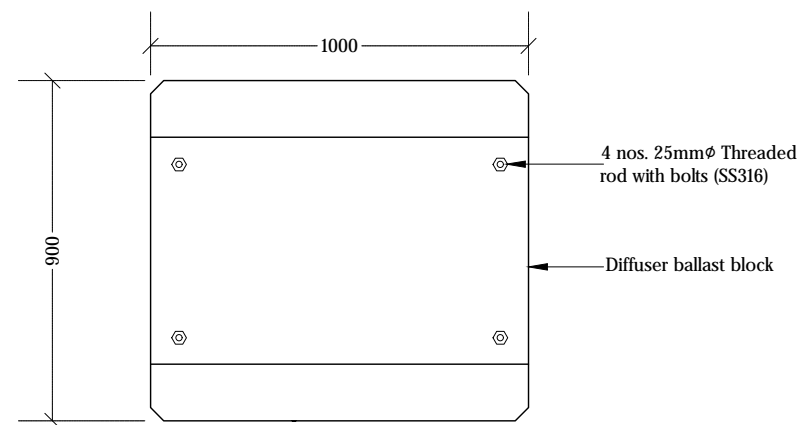
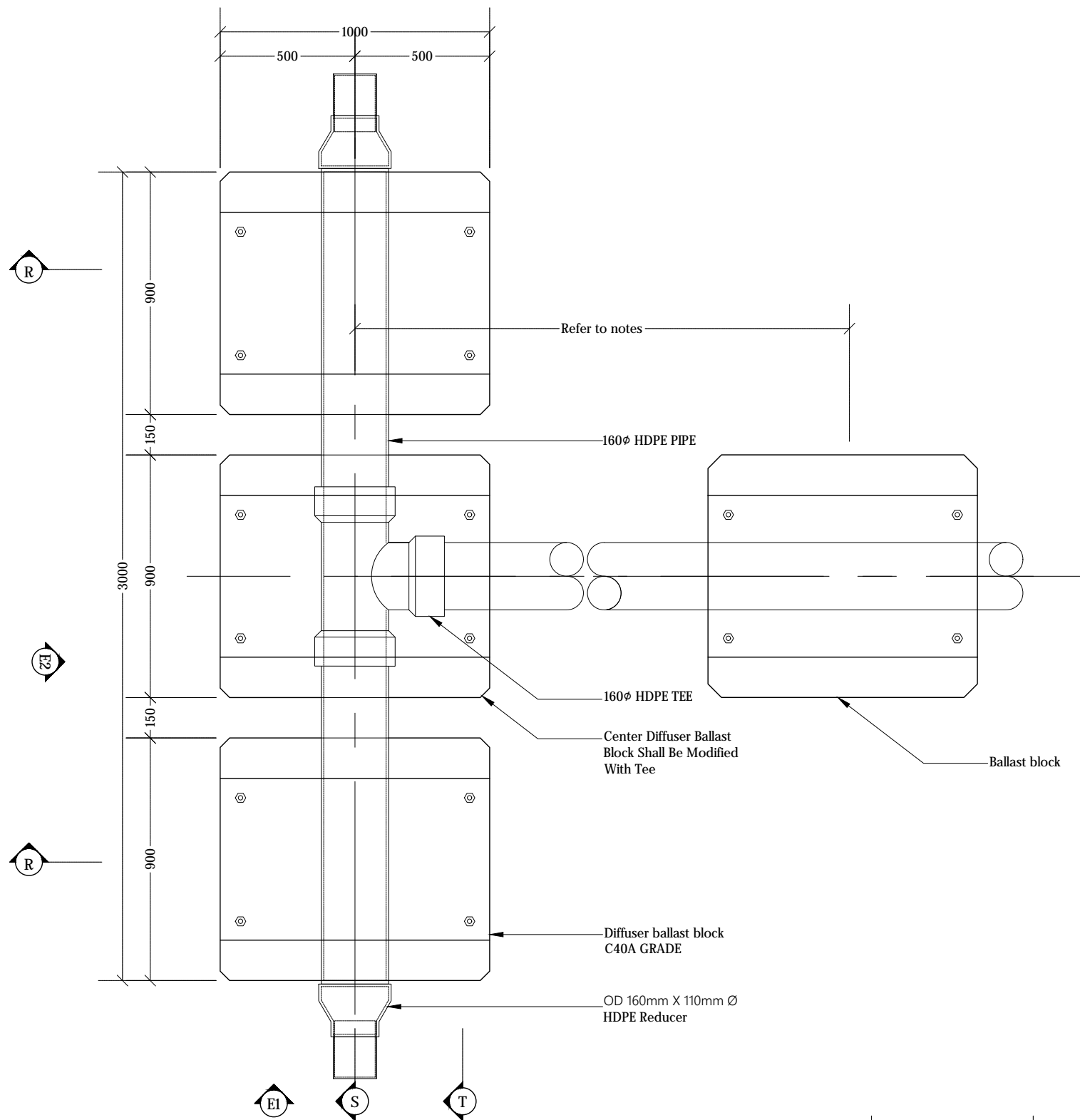
Working Safely & Sustainably

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-(19)

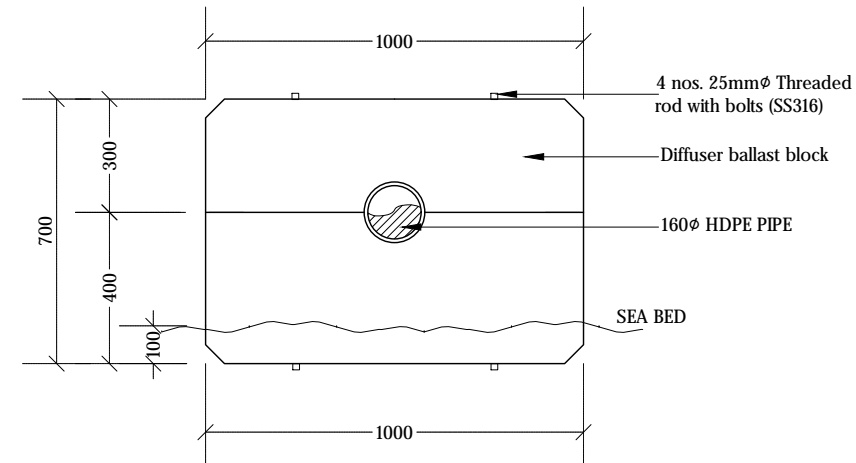


Technical drawing of a semi-circular culvert structure. The drawing shows a cross-section of the culvert with a semi-circular top and a trapezoidal body. Dimensions are provided: the total width at the top is 900, the width of the semi-circular part is 600, and the width of the trapezoidal part at the base is 150. The height of the semi-circular part is 300, and the height of the trapezoidal part is 300. A circular opening is shown in the center of the trapezoidal part, with a diameter of 100. The structure is shown resting on a "SEA BED".

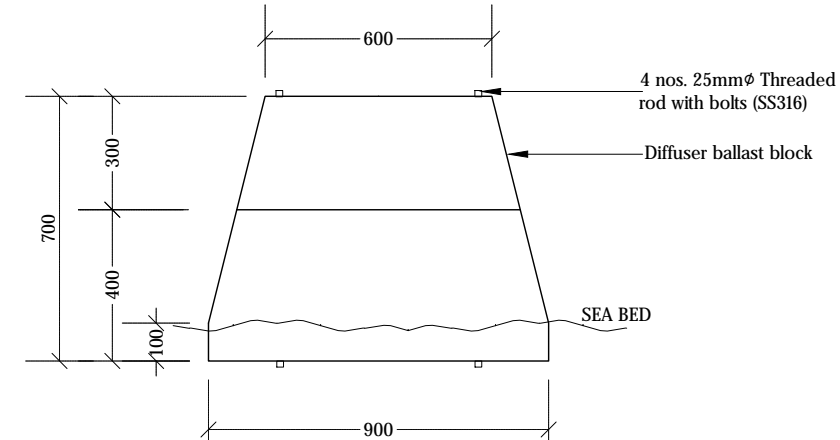
Technical drawing of a reinforced concrete slab cross-section showing reinforcement details. The slab has a total width of 1000 mm and a total depth of 150 mm. It contains 4 nos. of 25mm diameter threaded rods with bolts (SS316) spaced at 100 mm. The rods are bent up at 45 degrees and anchored with 27mm diameter holes. The drawing shows the top and bottom reinforcement bars, the bent-up bars, and the dimensions for the slab and reinforcement.



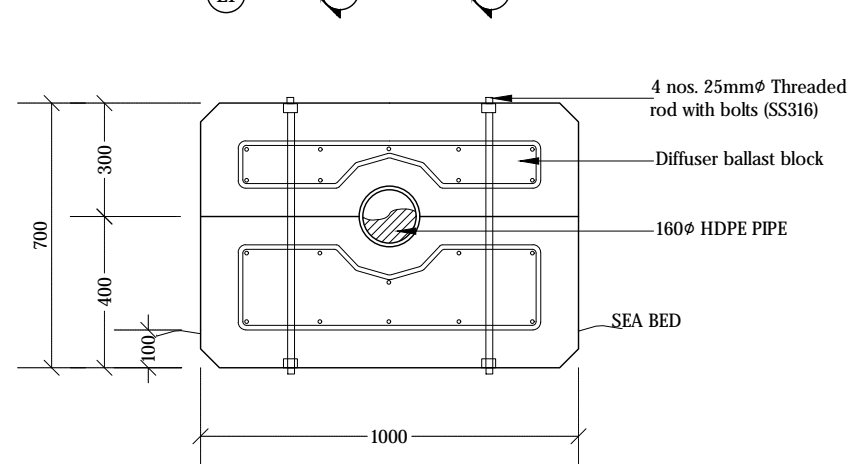
DIFFUSER BALLAST BLOCK PLAN



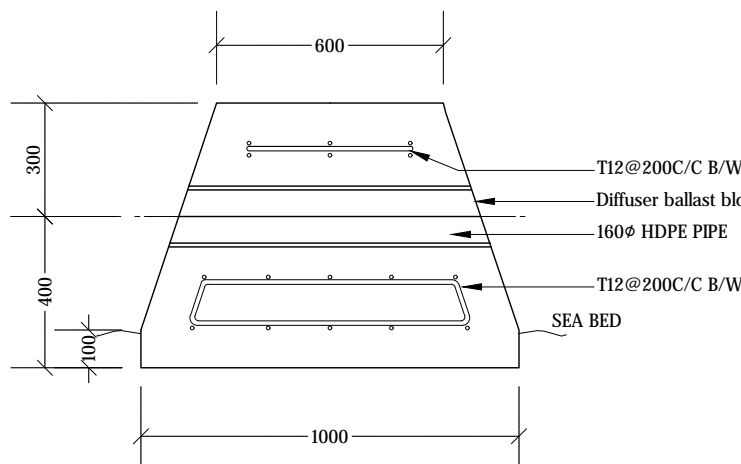
DIFFUSER BALLAST BLOCK FRONT ELEVATION - E1



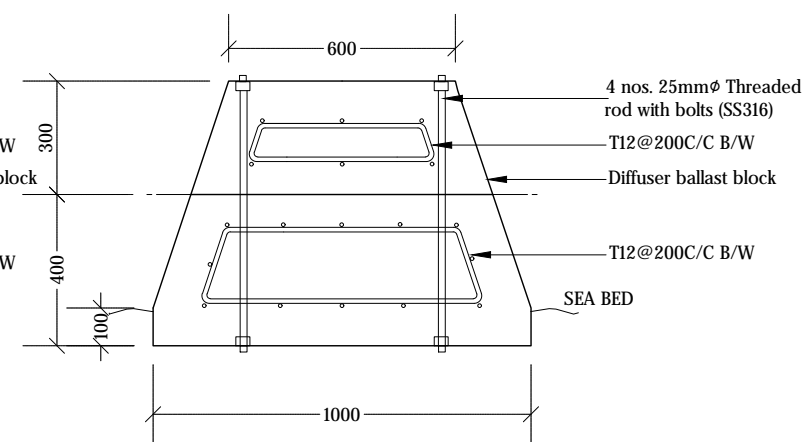
DIFFUSER BALLAST BLOCK FRONT ELEVATION - E2



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.
8. 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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Client:  
Ministry of National Planning, Housing and  
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**INFRA**  
Maldives

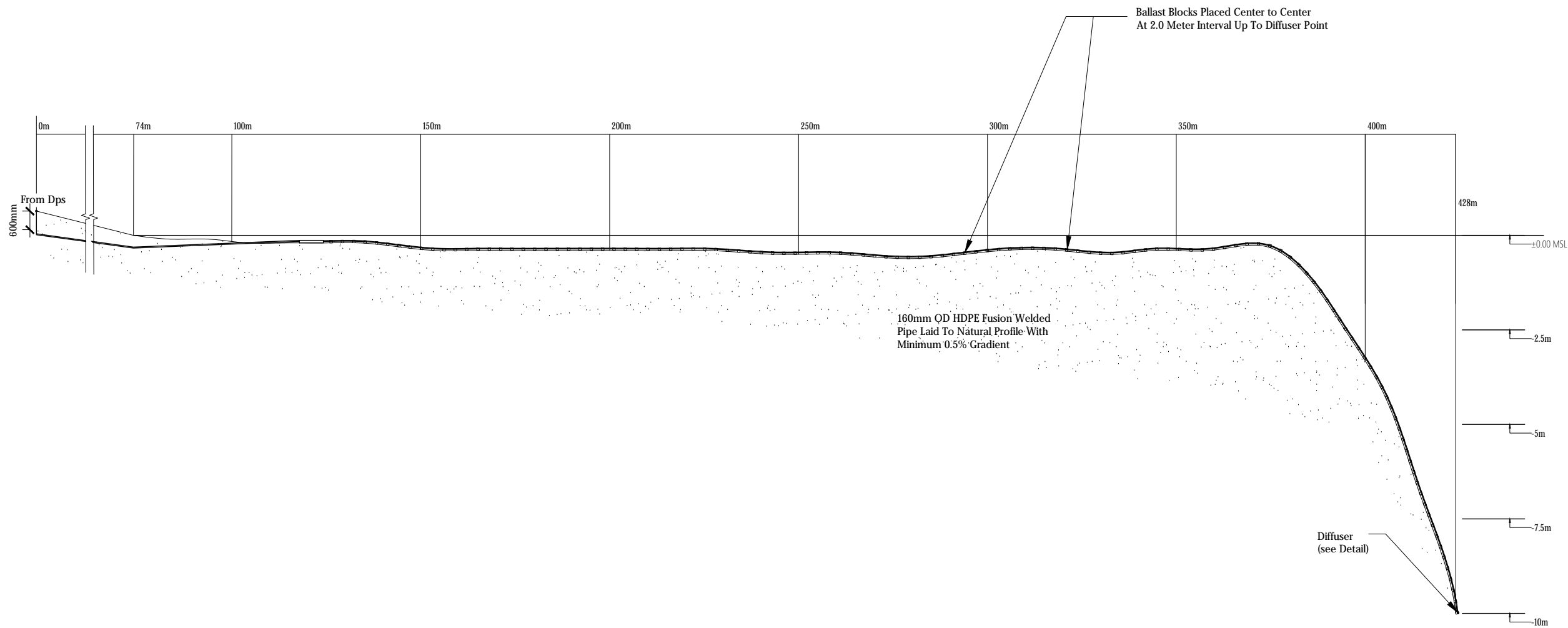
Drawn: F.I.A. Checked: M.S.S.

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

Date: Sep 2020 SCALE (A3): NTS

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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.

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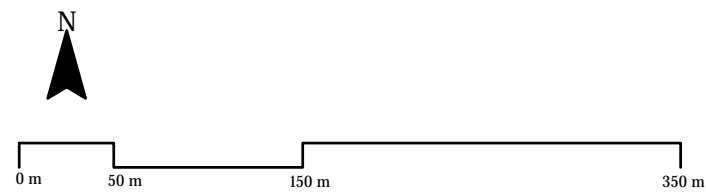
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Project No: EP-WS/2019/06

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GDH. NADELLAA SEWERAGE SYSTEM - PRESSURE NETWORK LAYOUT

1:4000



#### Legend

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

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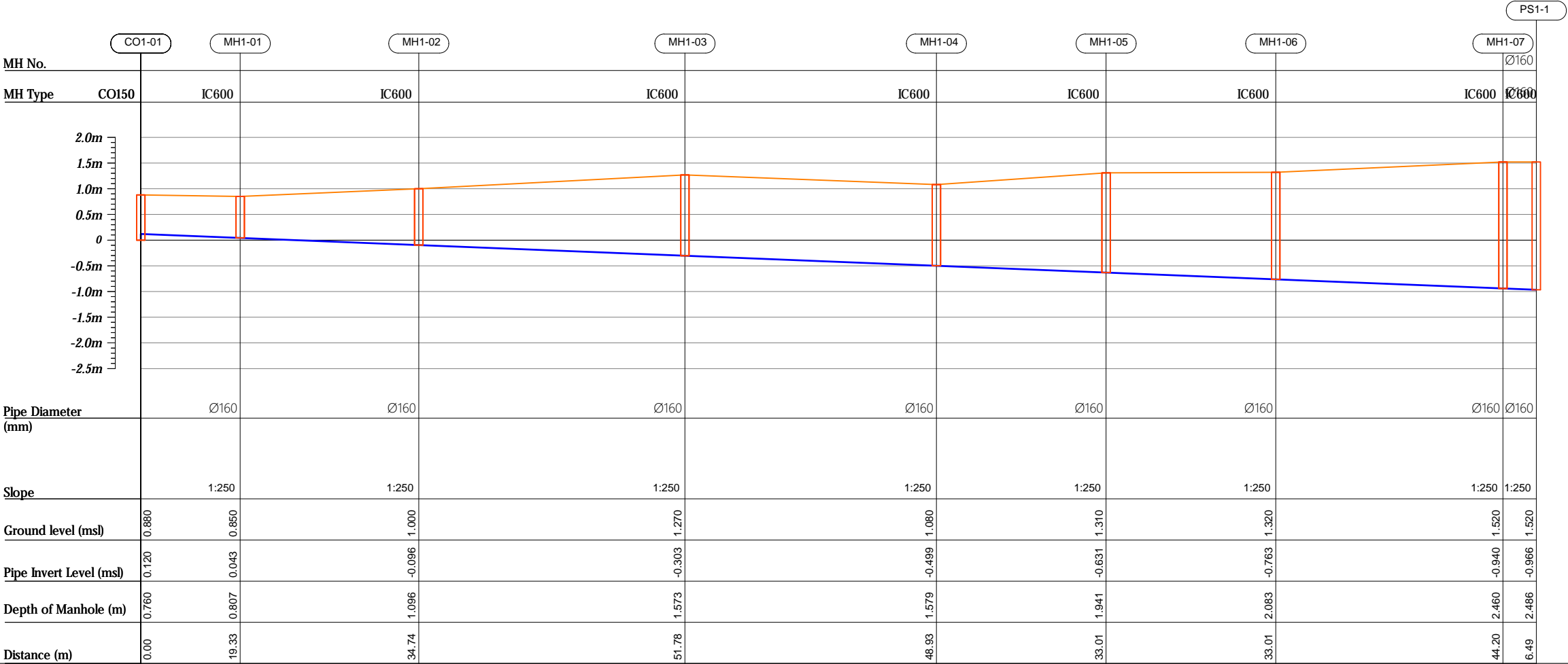
Date: Sep 2020 SCALE (A3): NTS

Project No: EP-WS/2019/06

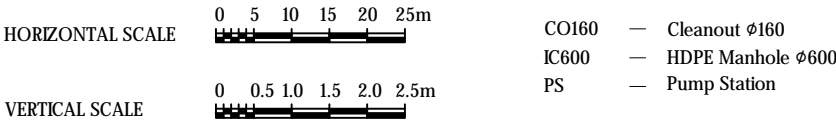
Rev: Page:

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Profile 01



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



Title:  
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Maldiva Infrastructure Develop

Drawn: Pratik.S.D Checked: S.B.Chapale

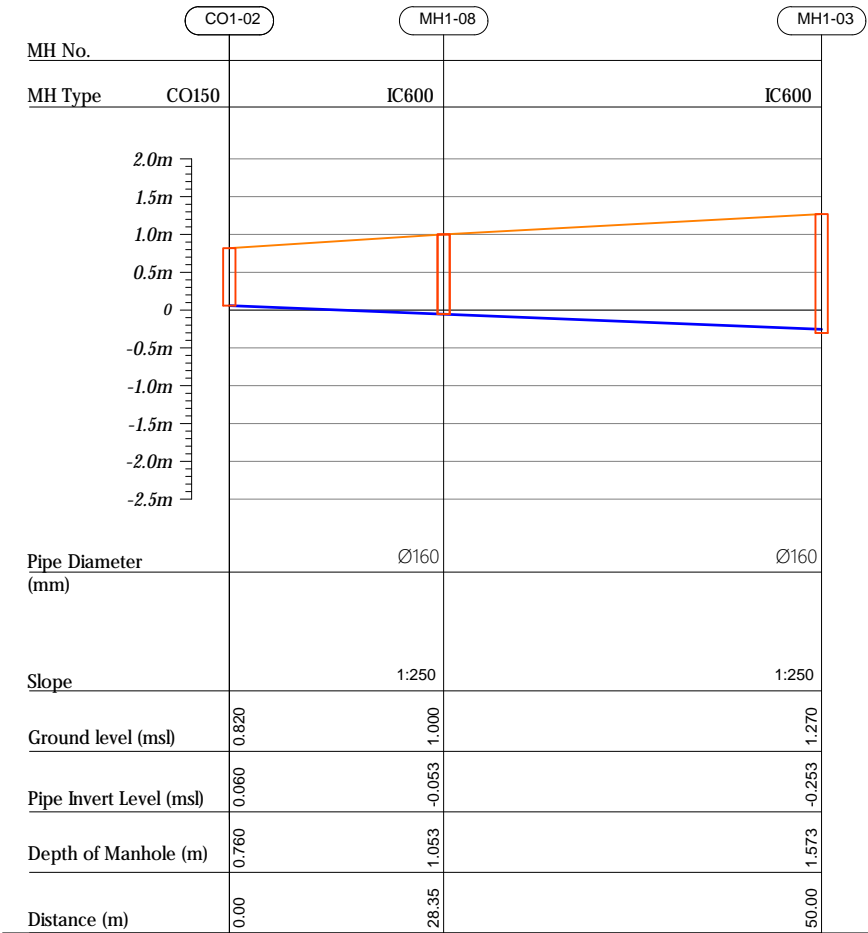
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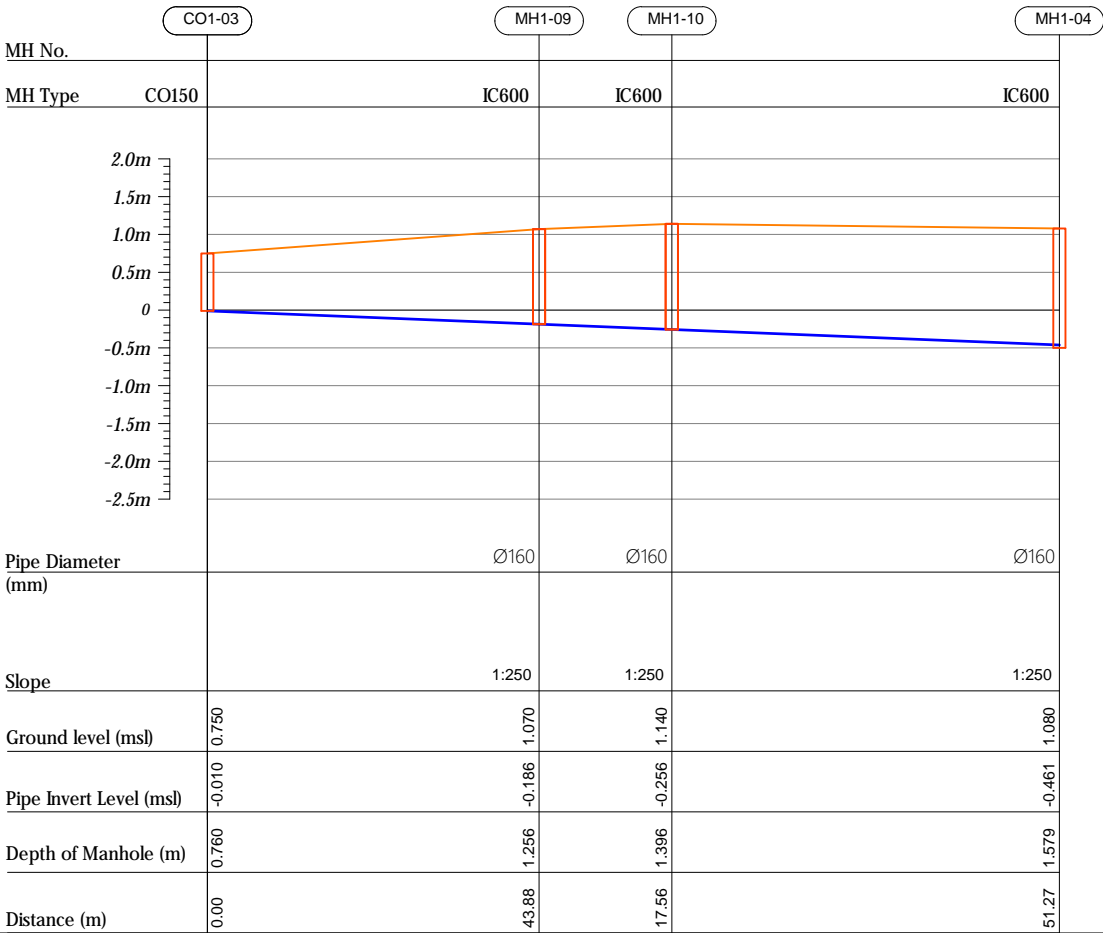
Project No: 01010101

Rev: R-01 Page: PS1-01

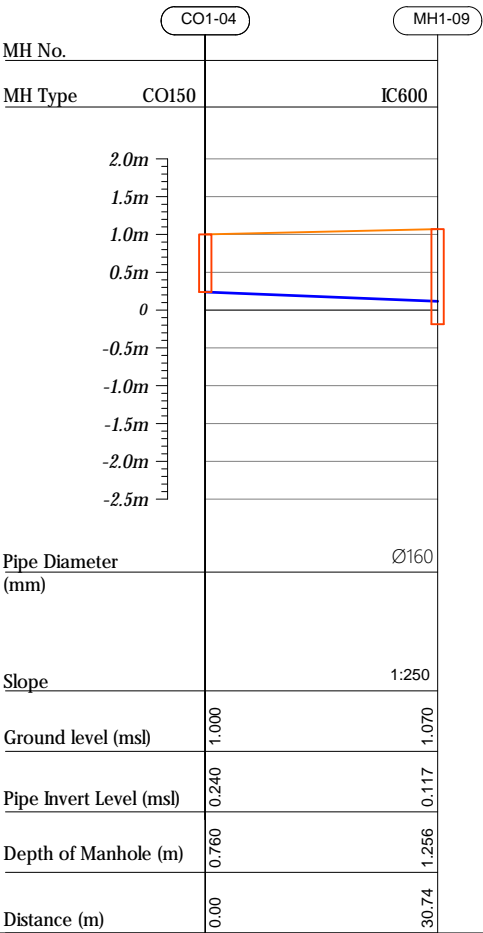
Profile 02



Profile 03

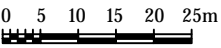


Profile 04

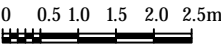


R00	JUNE 2020	STAGE -I	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

HORIZONTAL SCALE



VERTICAL SCALE



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

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Maldivu Infrastructure Develop

Drawn: Pratik.S.D      Checked: S.B.Chapale

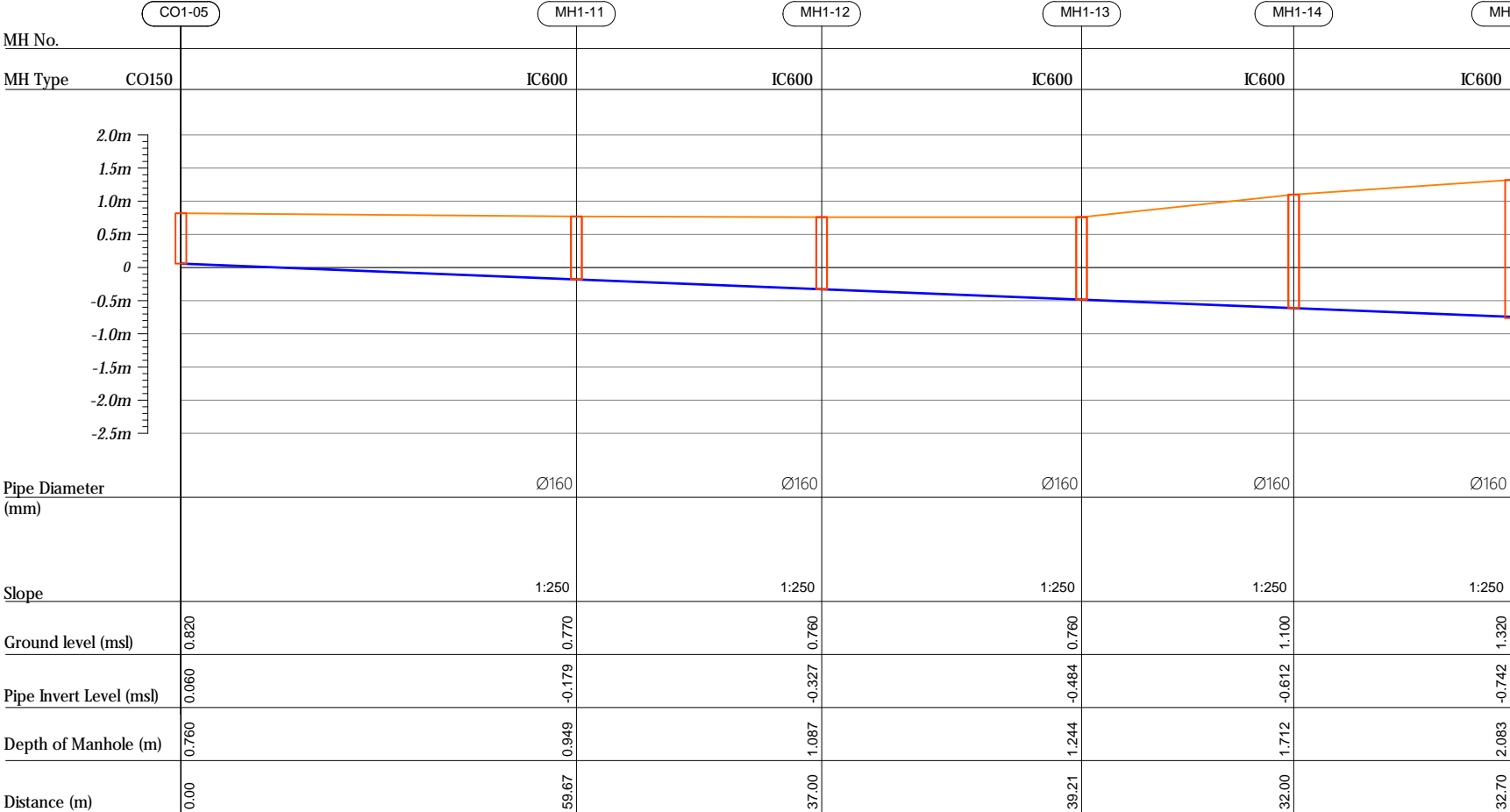
Designed: V.Muske      Approved: LW

Date: Aug 2020      SCALE (A3): 1:100

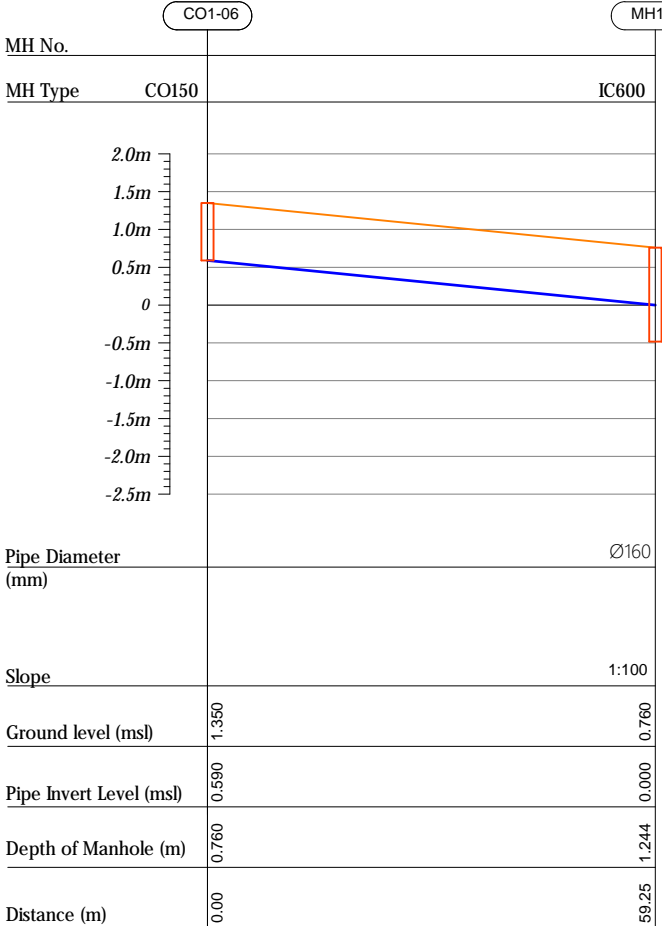
Project No: 01010101

Rev: R-01      Page: PS1-02

## 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*



T: +960 333 3528  
E: info@epoch.associates  
W: www.epoch.associates  
A: G. Rosary West,  
Husnuheenaa Magu, Male

**FEEDBACK INFRA**  
Making Infrastructure Happen


Drawn: Pratik.S.D | Checked: S.B.Chapale


Designed: V.Muske	Approved: LW
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Date: Aug 2020	SCALE (A3): 1:100
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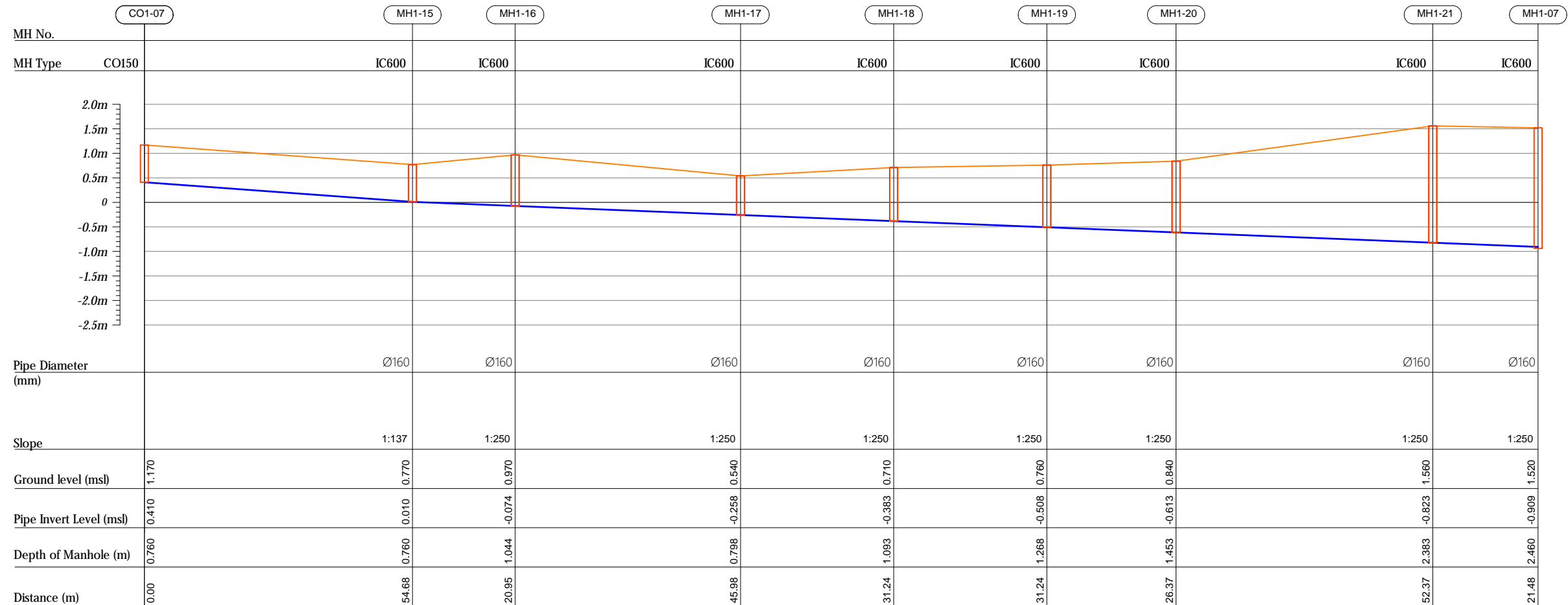
Project No: 01010101

Rev: <i>R-01</i>	Page: <i>PS1-03</i>
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HORIZONTAL SCALE  CO160 — Cleanout  $\phi$ 160  
IC600 — HDPE Manhole  $\phi$ 600  
PS — Pump Station

VERTICAL SCALE 

## Profile 07



R00	JUNE 2020	STAGE -I	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: Pratik.S.D	Checked: S.B.Chapale
-------------------	----------------------

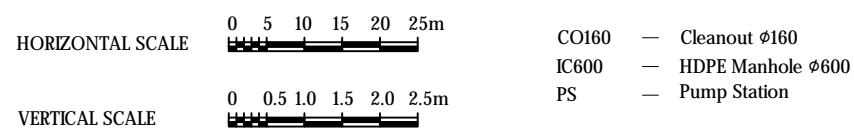
Designed: V.Muske	Approved: LW
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Date: Aug 2020	SCALE (A3): 1:100
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Project No: 01010101

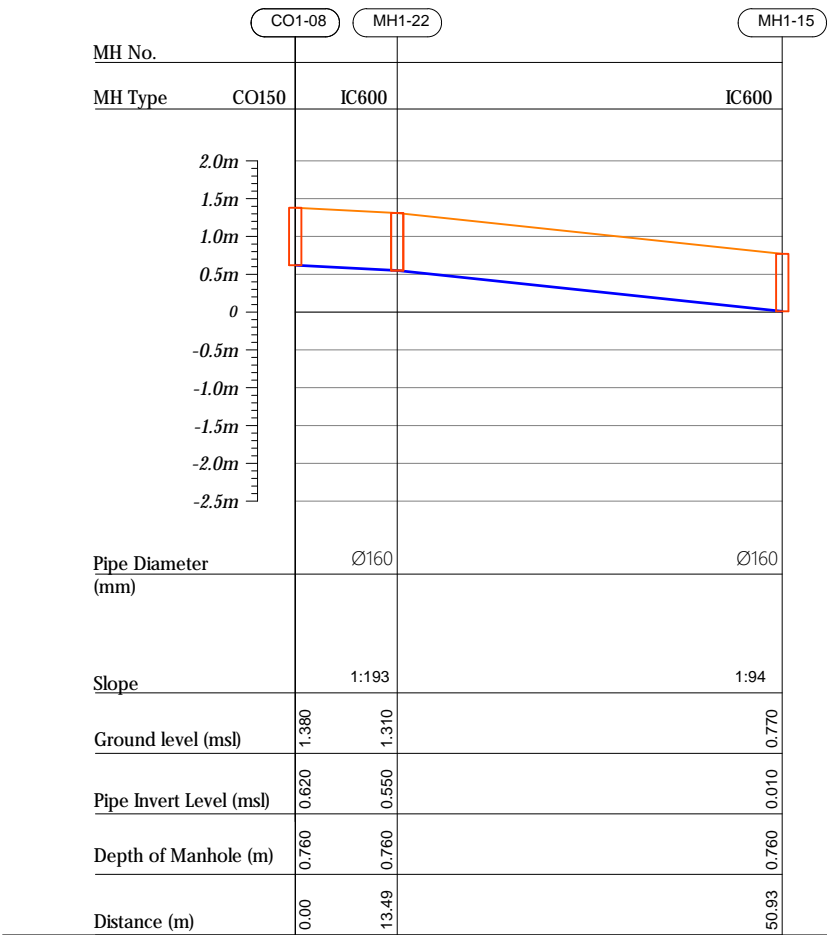
Rev:	Page:
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R-01

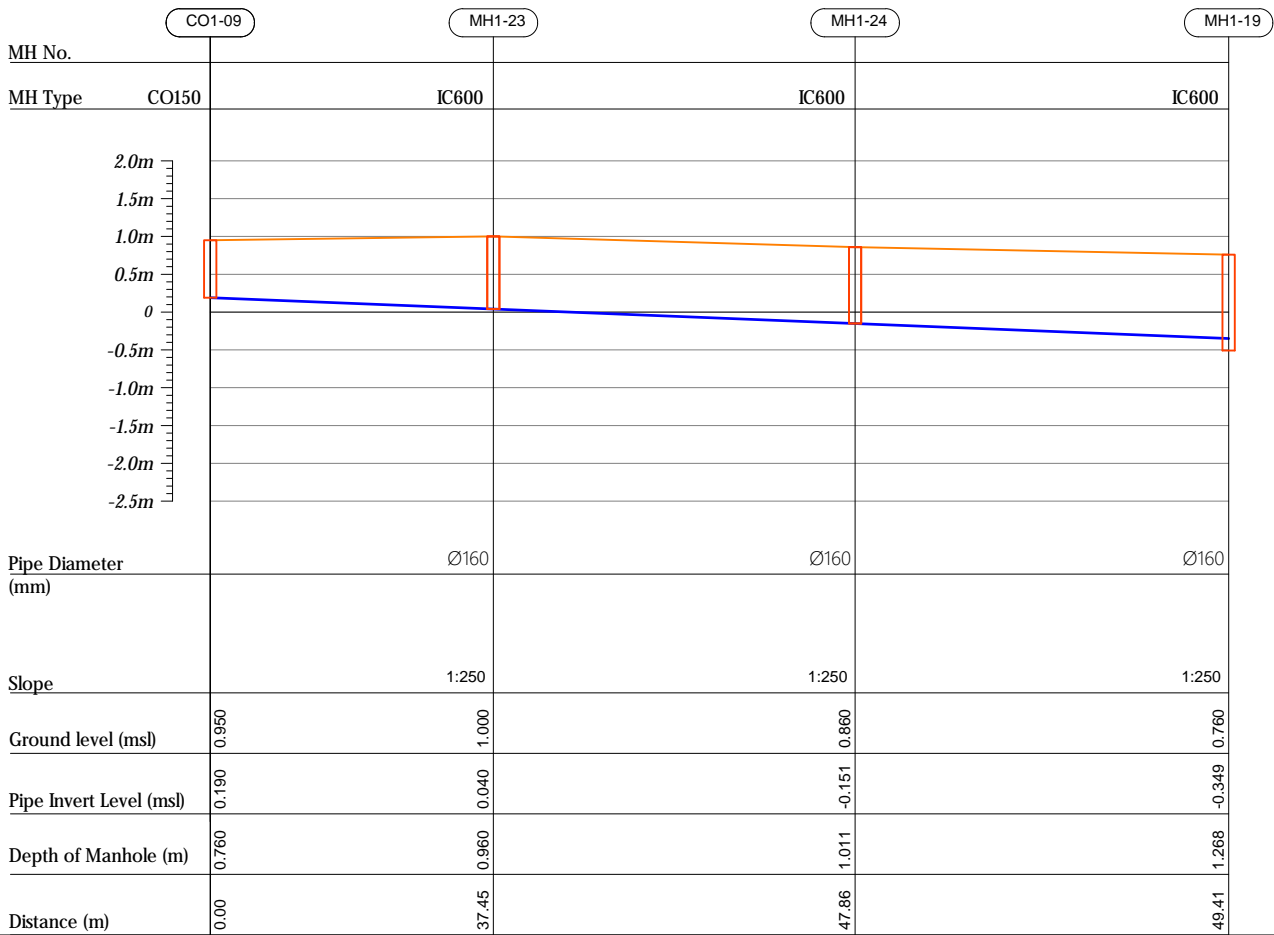




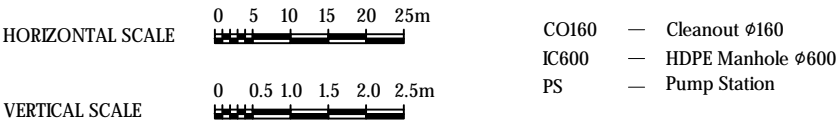
Profile 08



Profile 09



R00	JUNE 2020	STAGE -I	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

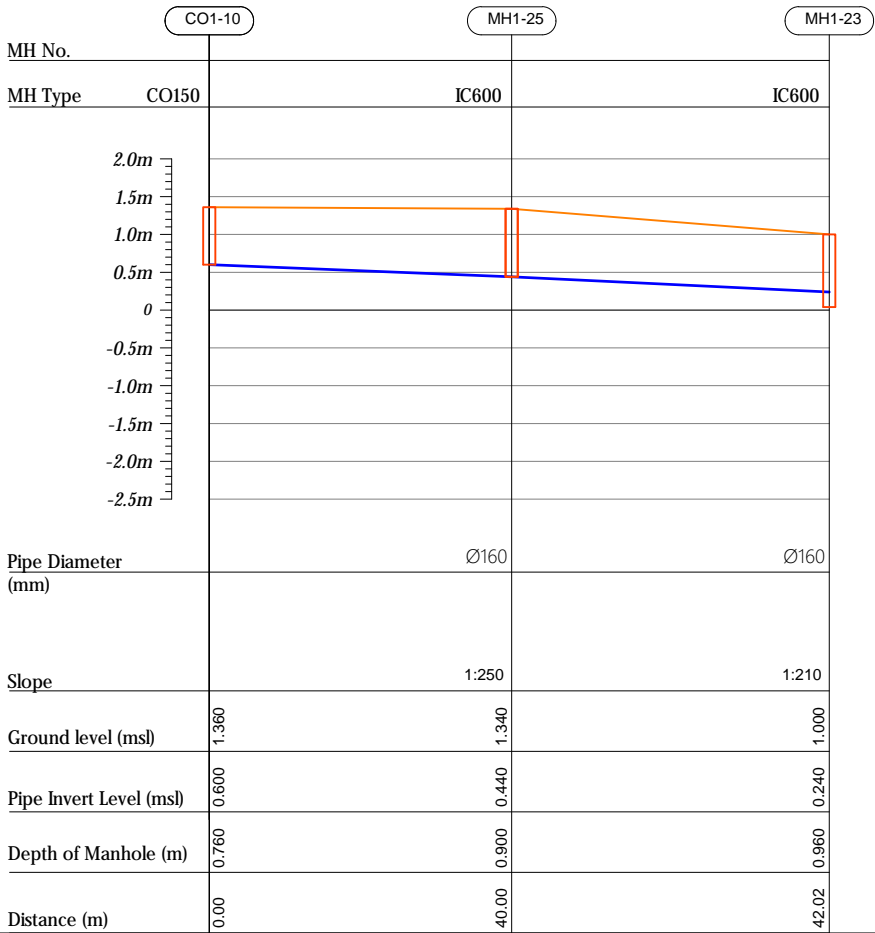
Client:  
Ministry of National Planning, Housing and  
Infrastructure, Republic of Maldives

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

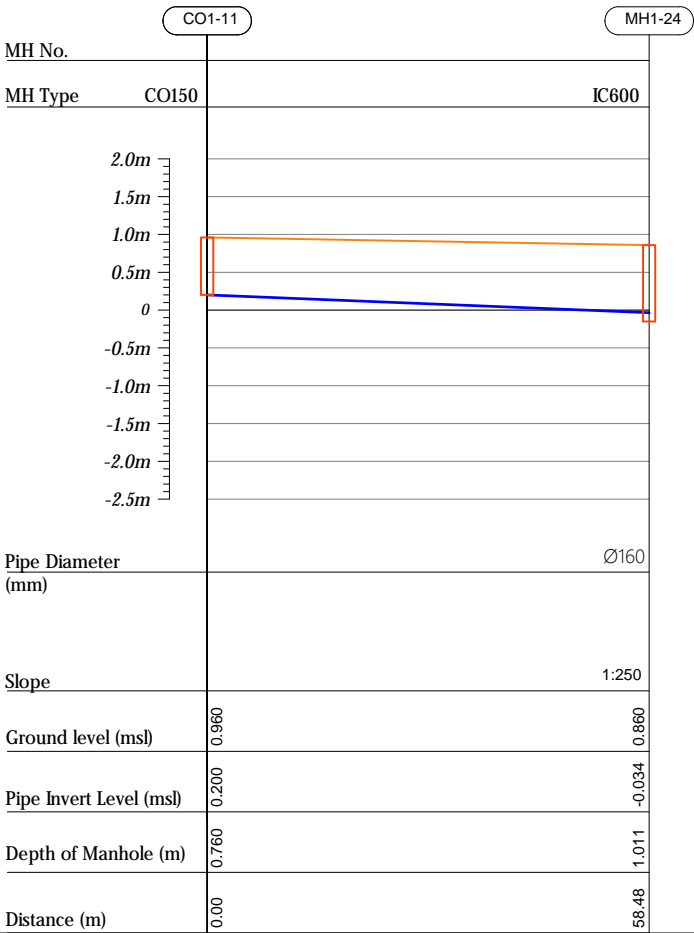
Making Infrastructure Happen

Drawn: Pratik.S.D	Checked: S.B.Chapale
Designed: V.Muske	Approved: LW
Date: Aug 2020	SCALE (AS): 1:100
Project No: 01010101	
Rev: R-01	Page: PS1-05

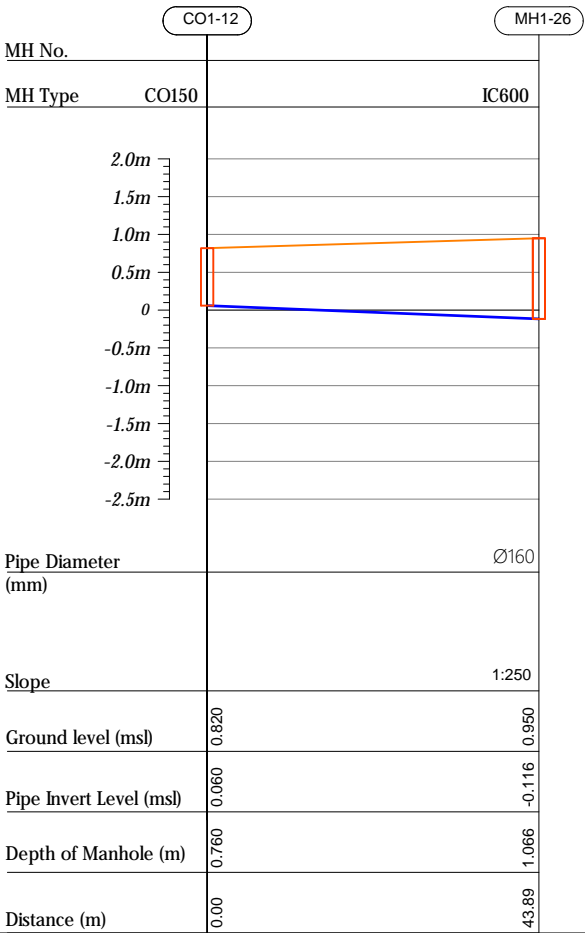
Profile 10



Profile 11

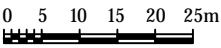


Profile 12

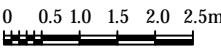


R00	JUNE 2020	STAGE -I	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

HORIZONTAL SCALE



VERTICAL SCALE



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

Title:  
Consultancy Services for Survey,  
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DBACINFRA  
Maldivu Infrastructure Develop

Drawn: Pratik.S.D Checked: S.B.Chapale

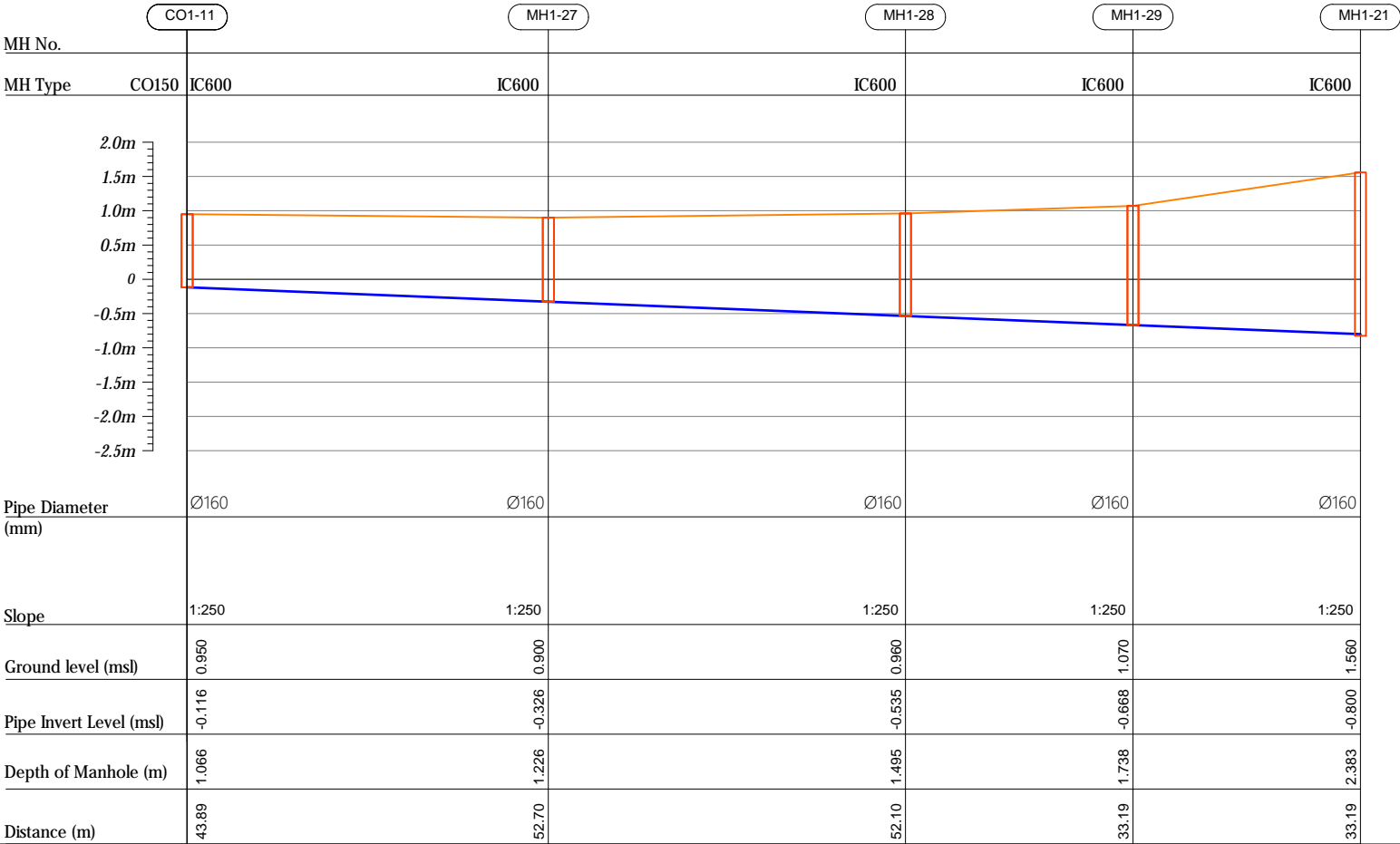
Designed: V.Muske Approved: LW

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

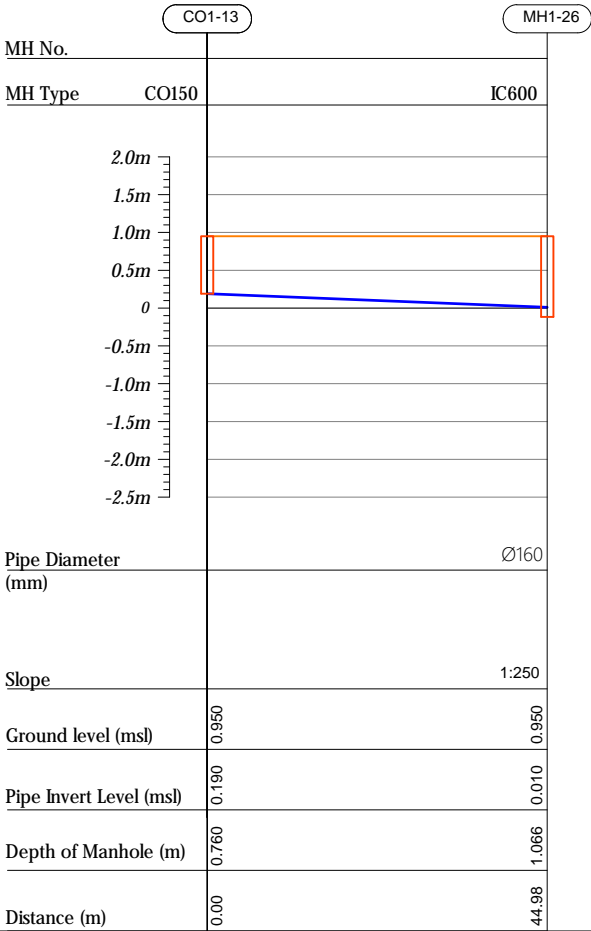
Project No: 01010101

Rev: R-01 Page: PS1-06

Profile 11

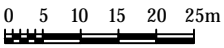


Profile 13

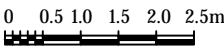


R00	JUNE 2020	STAGE -I	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

HORIZONTAL SCALE



VERTICAL SCALE



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

Title:  
Consultancy Services for Survey,  
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Maldivaq Infrastructure Develop

Drawn: Pratik.S.D Checked: S.B.Chapale

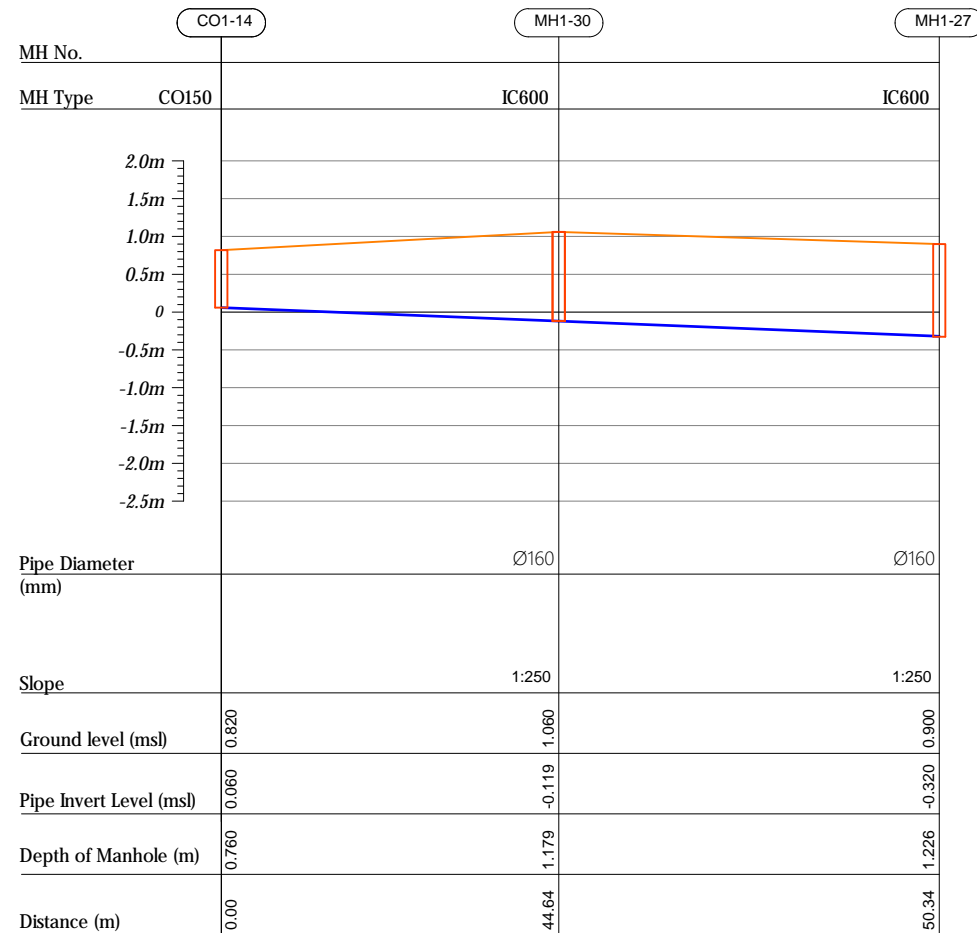
Designed: V.Muske Approved: LW

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

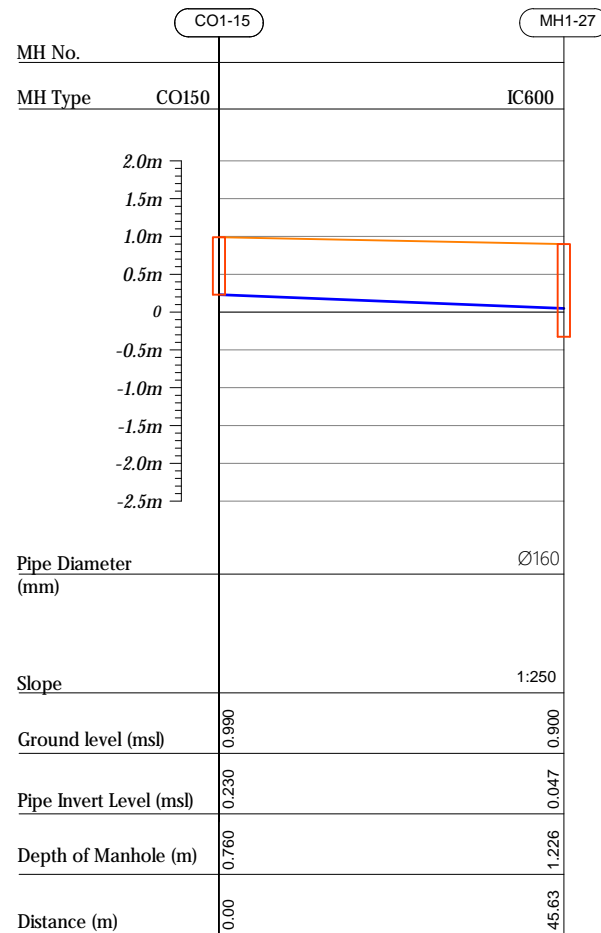
Project No: 01010101

Rev: R-01 Page: PS1-07

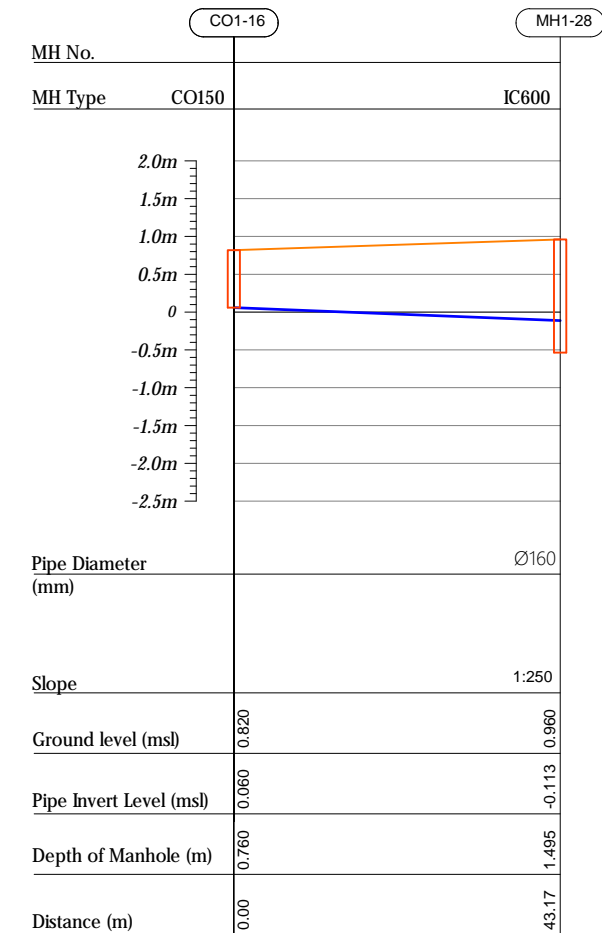
## Profile 14



## 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,  
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Supply and Sewerage Facilities in  
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Sub Title:  
*Sewerage System in Gdh.Nadella*

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



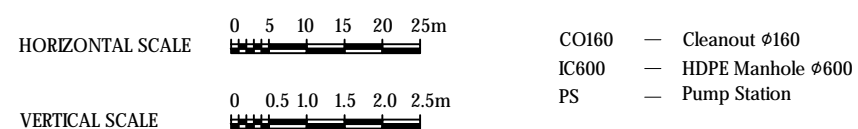
Drawn: Pratik.S.D	Checked: S.B.Chapale
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Designed: V. Muske	Approved: LW
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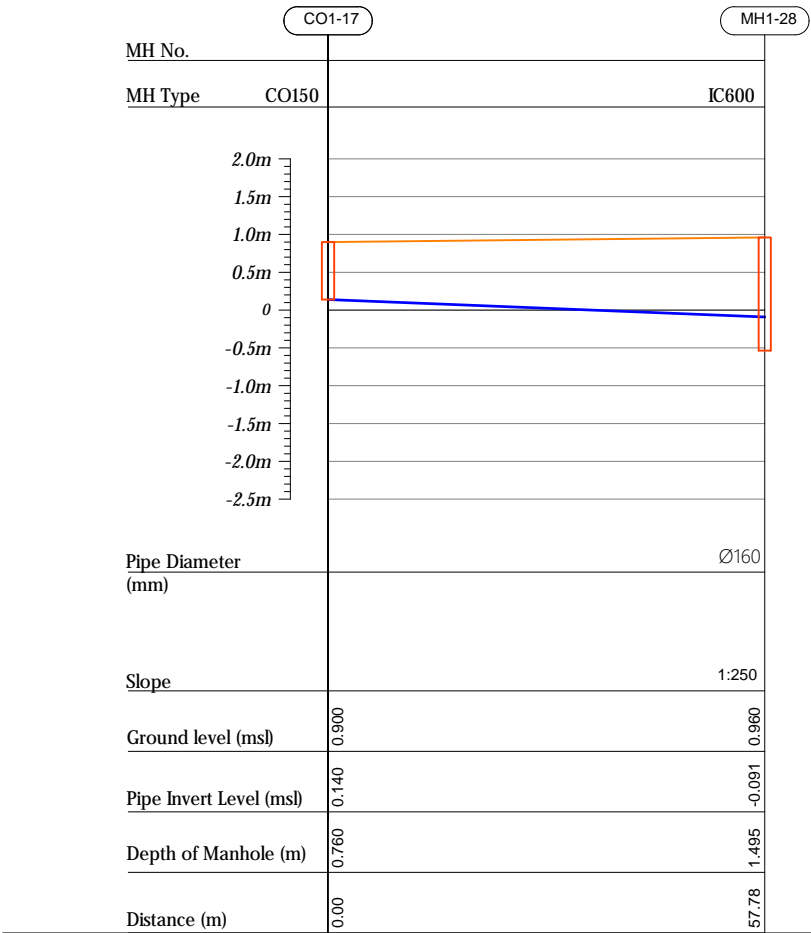
Date: Aug 2020	SCALE (A3): 1:100
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Project No: 01010101

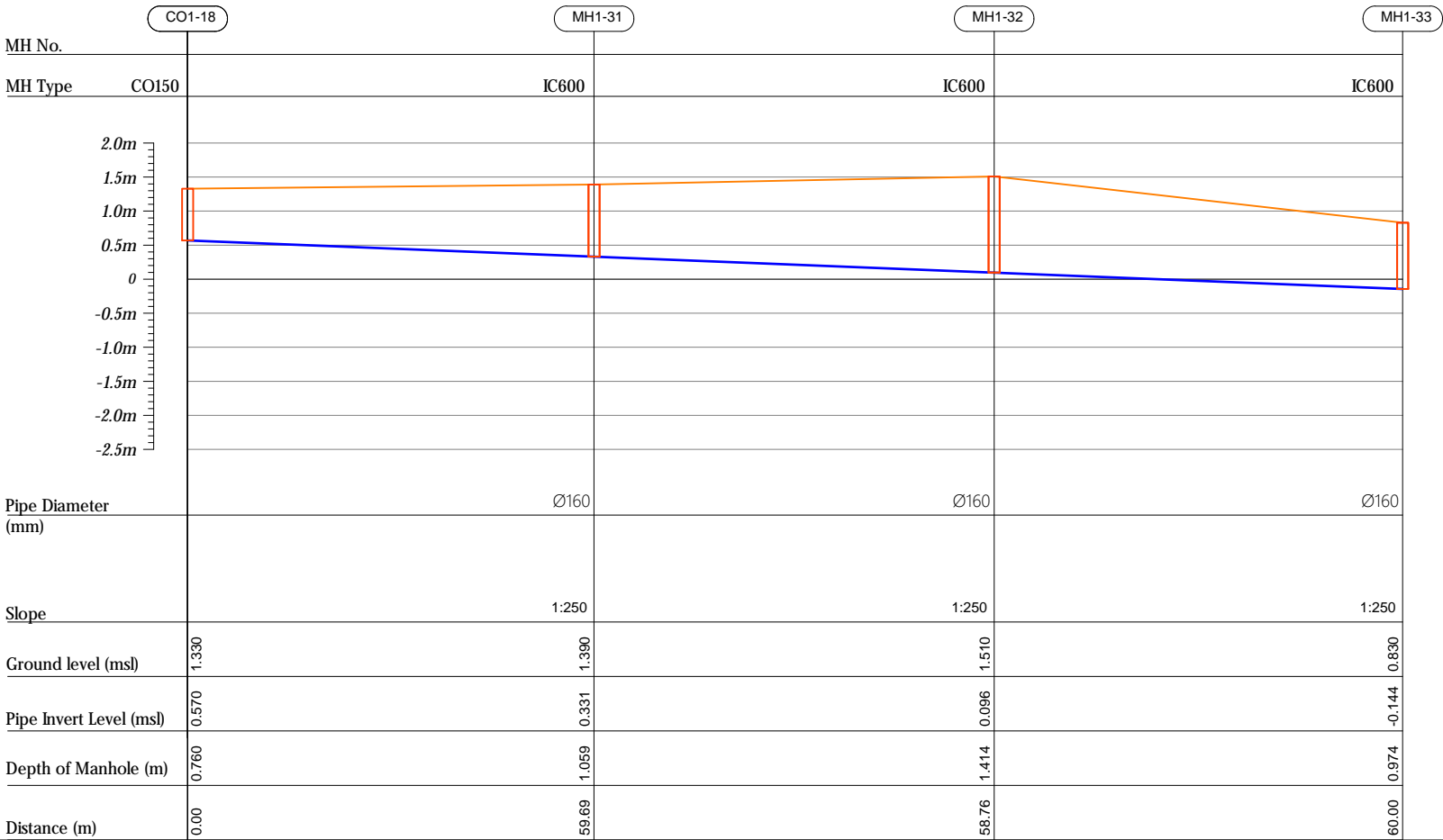
Rev:	Page:
R-01	PS1-08



Profile 17

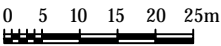


Profile 18

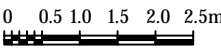


R00	JUNE 2020	STAGE -I	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

HORIZONTAL SCALE



VERTICAL SCALE



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

Title:  
Consultancy Services for Survey,  
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Sewerage System in Gdh.Nadella

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Husnuheemaa Magu, Male', Maldives



Maldivu Infrastructure Develop

Drawn: Pratik.S.D Checked: S.B.Chapale

Designed: V.Muske Approved: LW

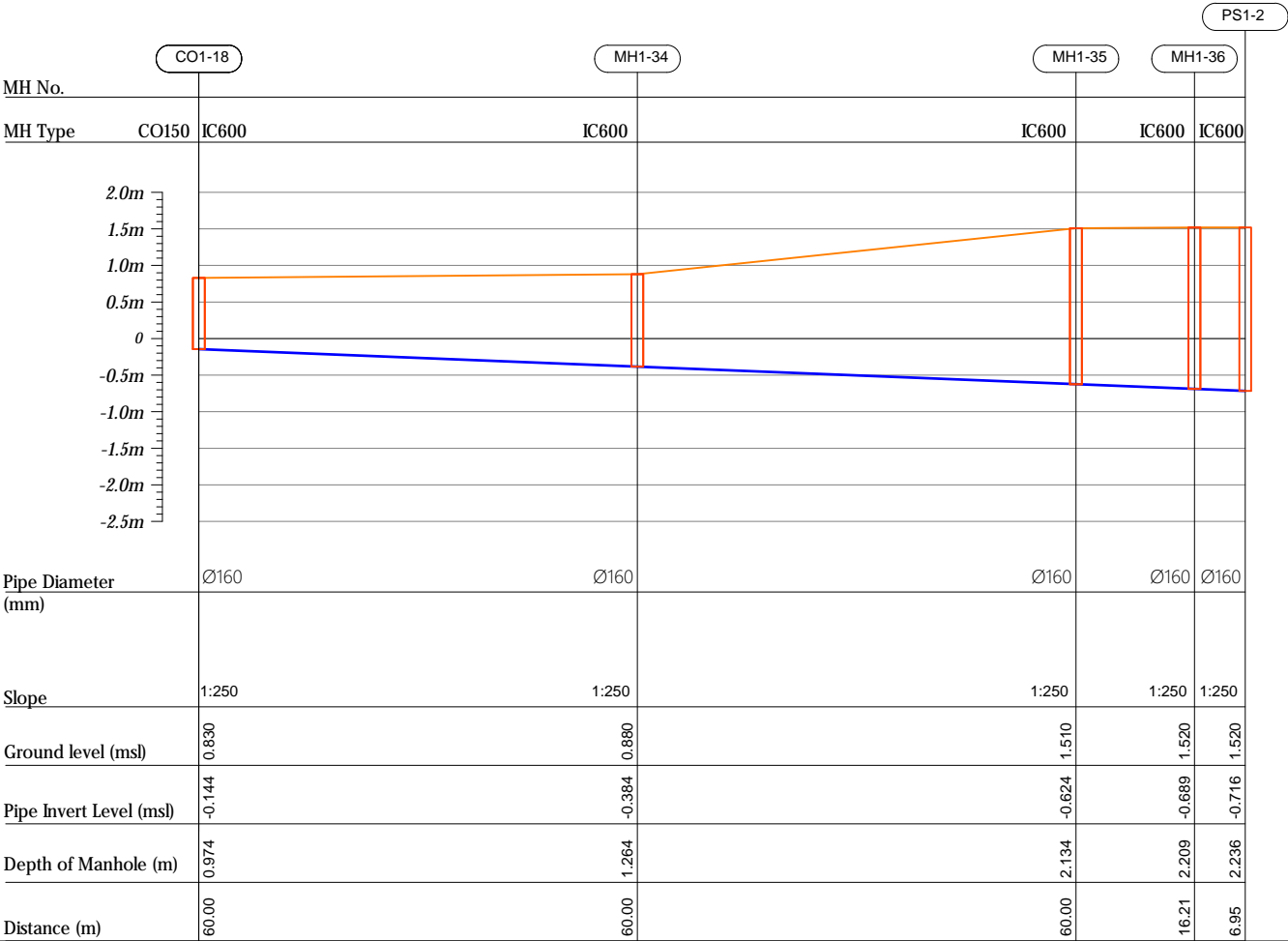
Date: Aug 2020 SCALE (A3): 1:100

Project No: 01010101

Rev: R-01 Page: PS1-09

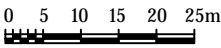


Profile 18

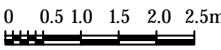


R00	JUNE 2020	STAGE -I	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

HORIZONTAL SCALE



VERTICAL SCALE



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

Title:  
Consultancy Services for Survey,  
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Supply and Sewerage Facilities in  
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Sub Title:  
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Hussuvehemaa Magu, Male', Maldives



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Drawn: Pratik.S.D Checked: S.B.Chapale

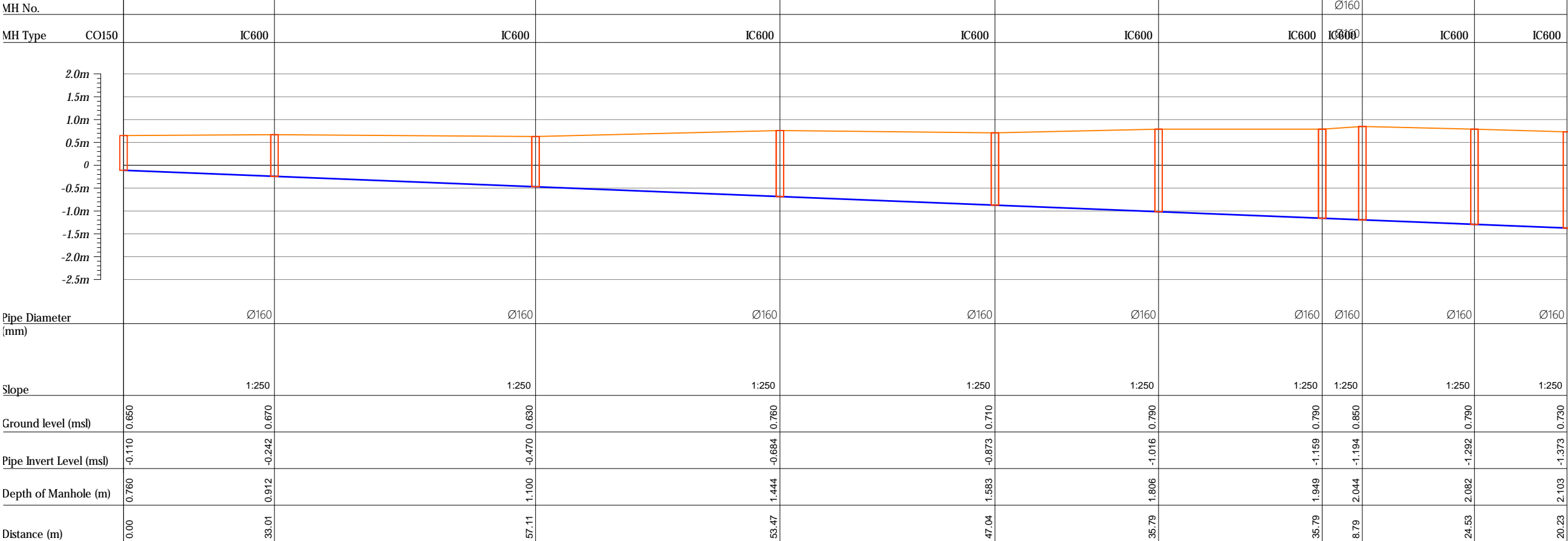
Designed: V.Muske Approved: LW

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

Project No: 01010101

Rev: R-01 Page: PS1-10

## 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*



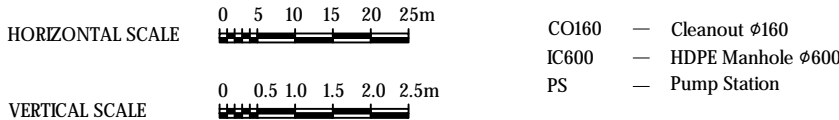
Drawn: Pratik.S.D	Checked: S.B.Chapale
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Designed: V.Muske	Approved: LW
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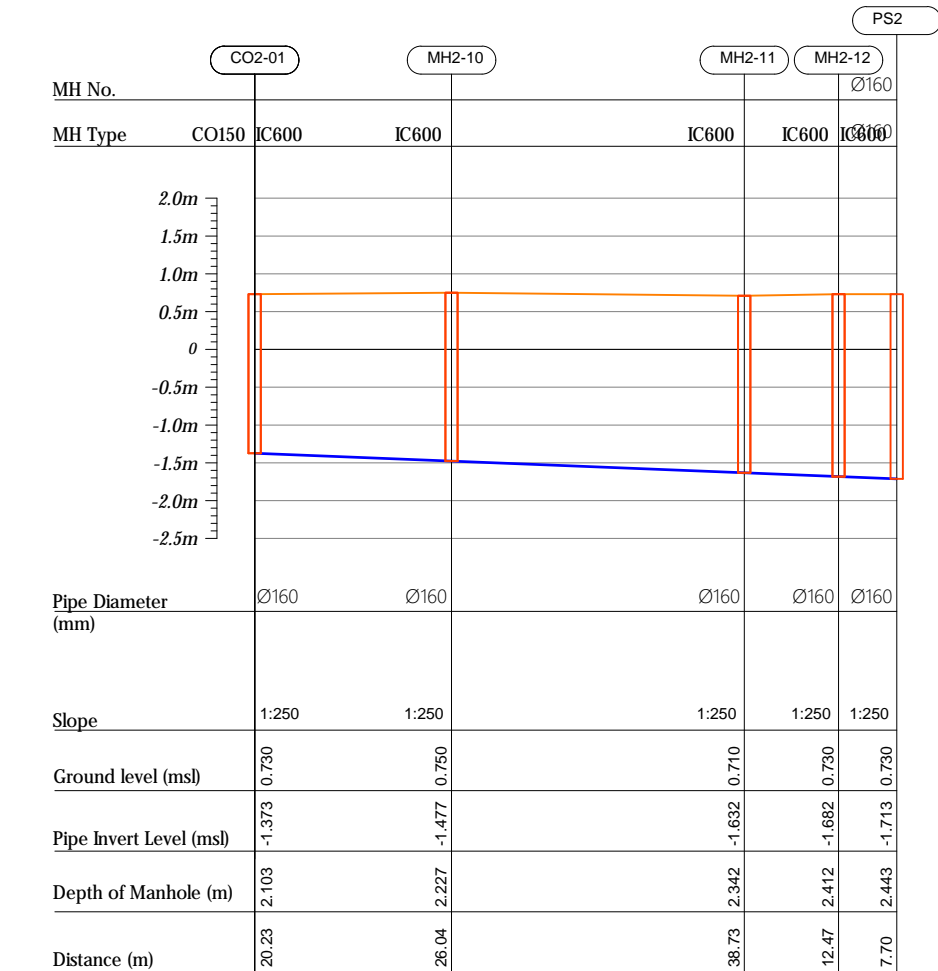
Date: Aug 2020	SCALE (A3): 1:100
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Project No: 01010101

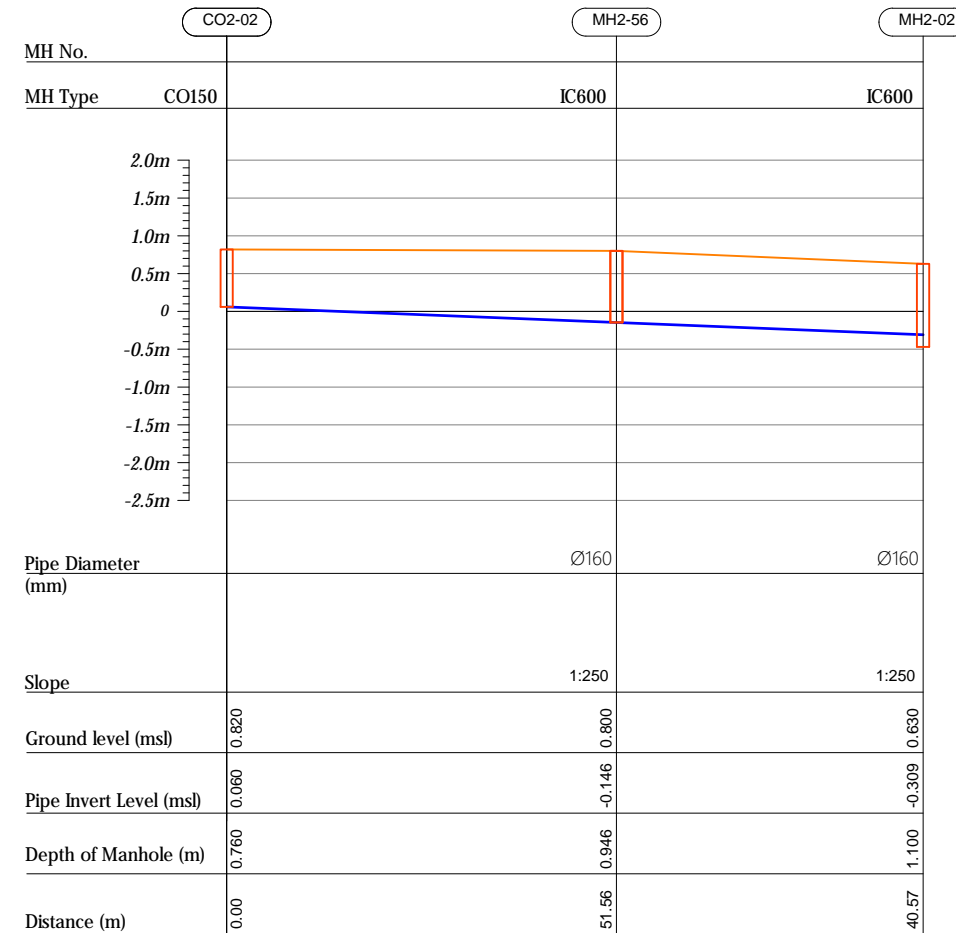
Rev: <i>R-01</i>	Page: <i>PS2-01</i>
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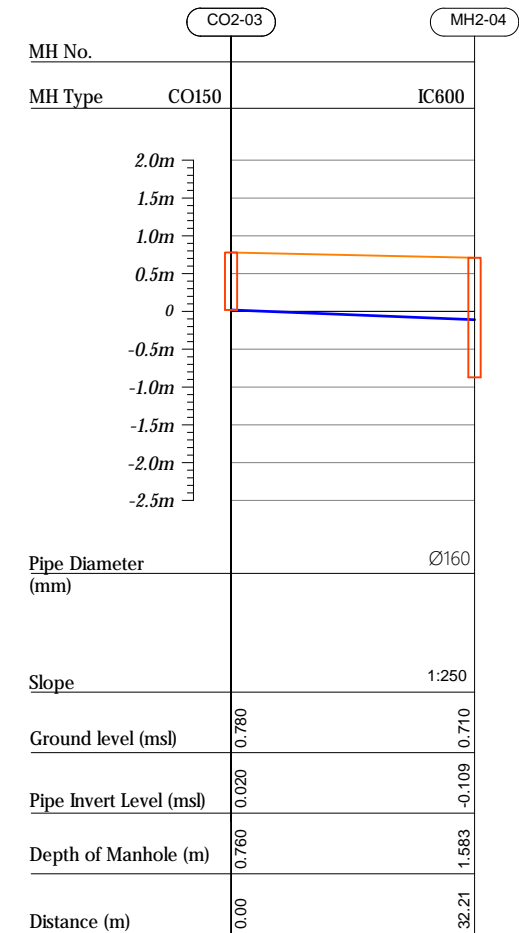
## Profile 01



## Profile 02



## Profile 03



R00	JUNE 2020	STAGE -I	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*

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



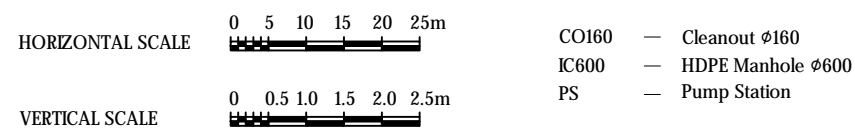
Drawn: Pratik.S.D	Checked: S.B.Chapale
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Designed: V.Muske	Approved: LW
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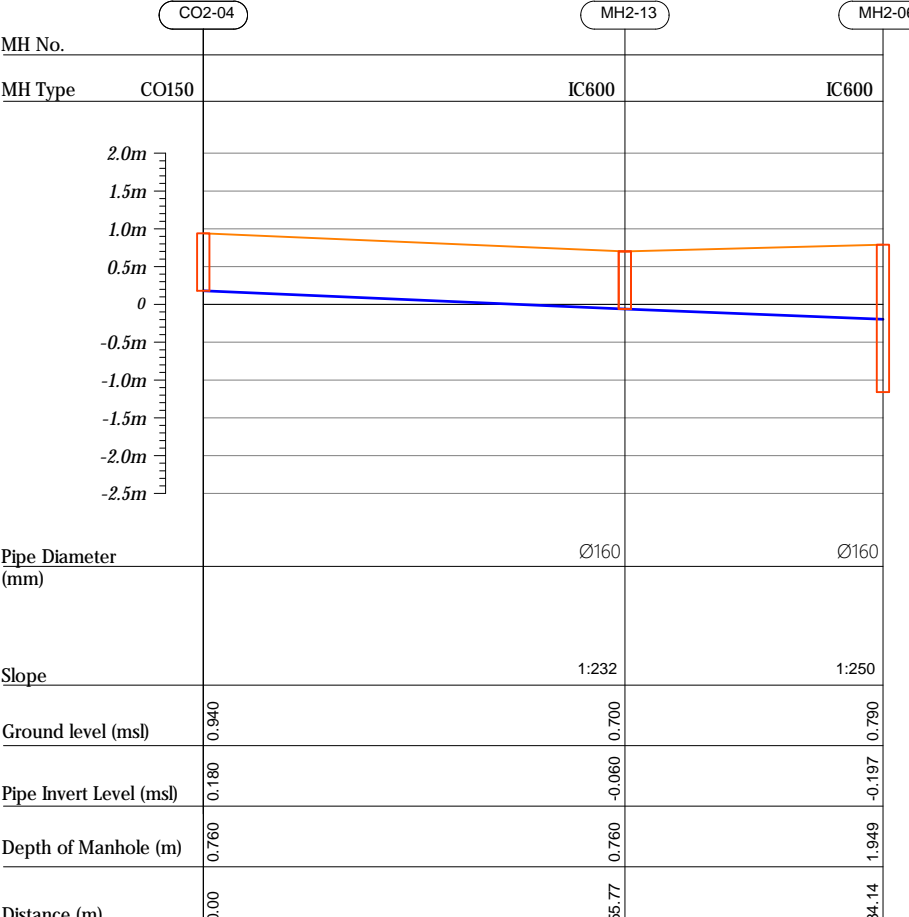
Date: Aug 2020 SCALE (A3): 1:100

Project No: 01010101

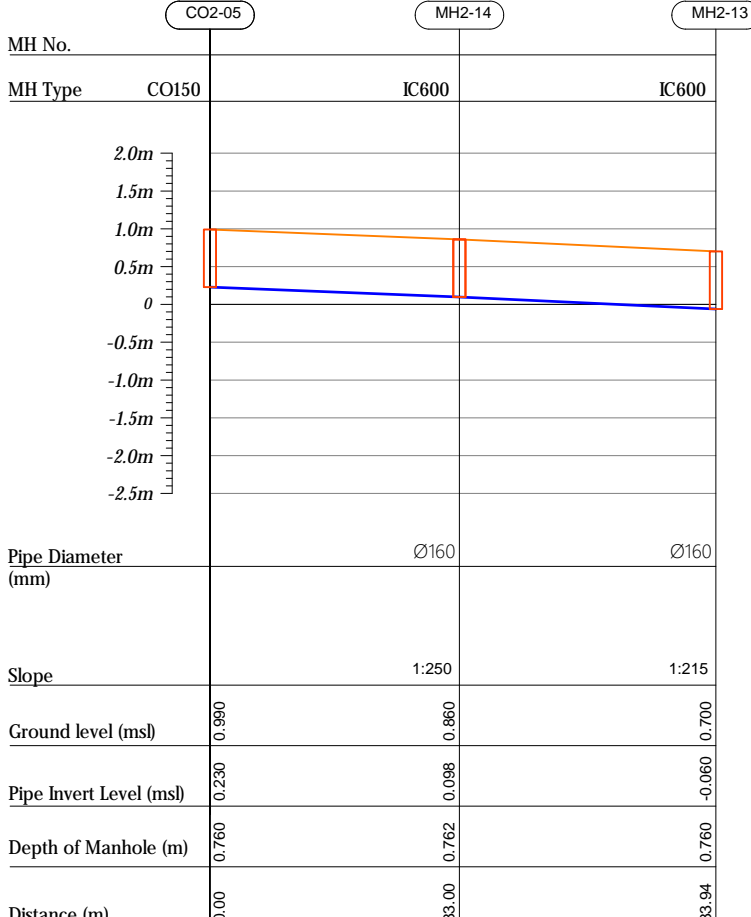
Rev:	Page:
R-01	PS2-02



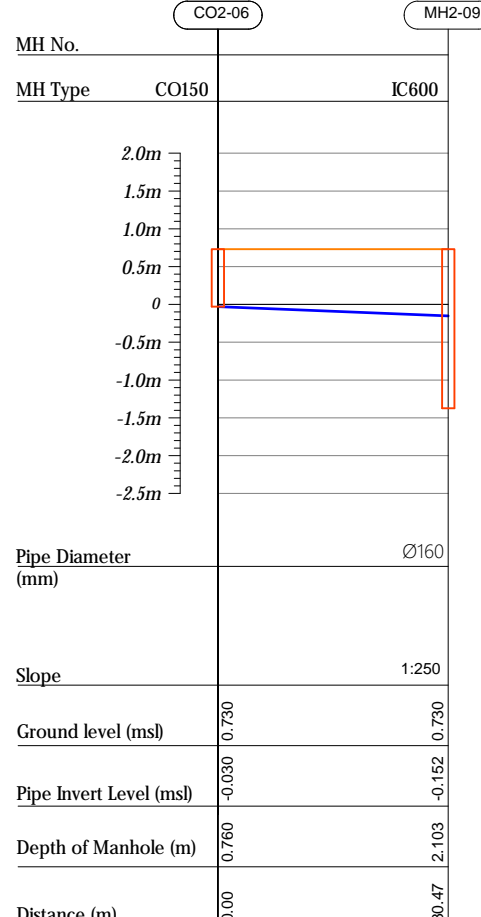
# Profile 04



## Profile 05



## Profile 06



R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV.	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*



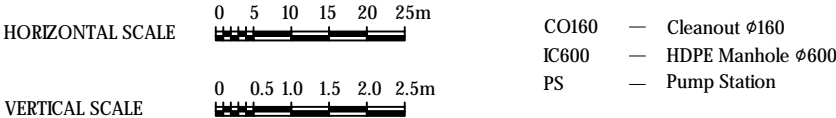
Drawn: Pratik.S.D | Checked: S.B.Chapale

Designed: V.Muske | Approved: I.W

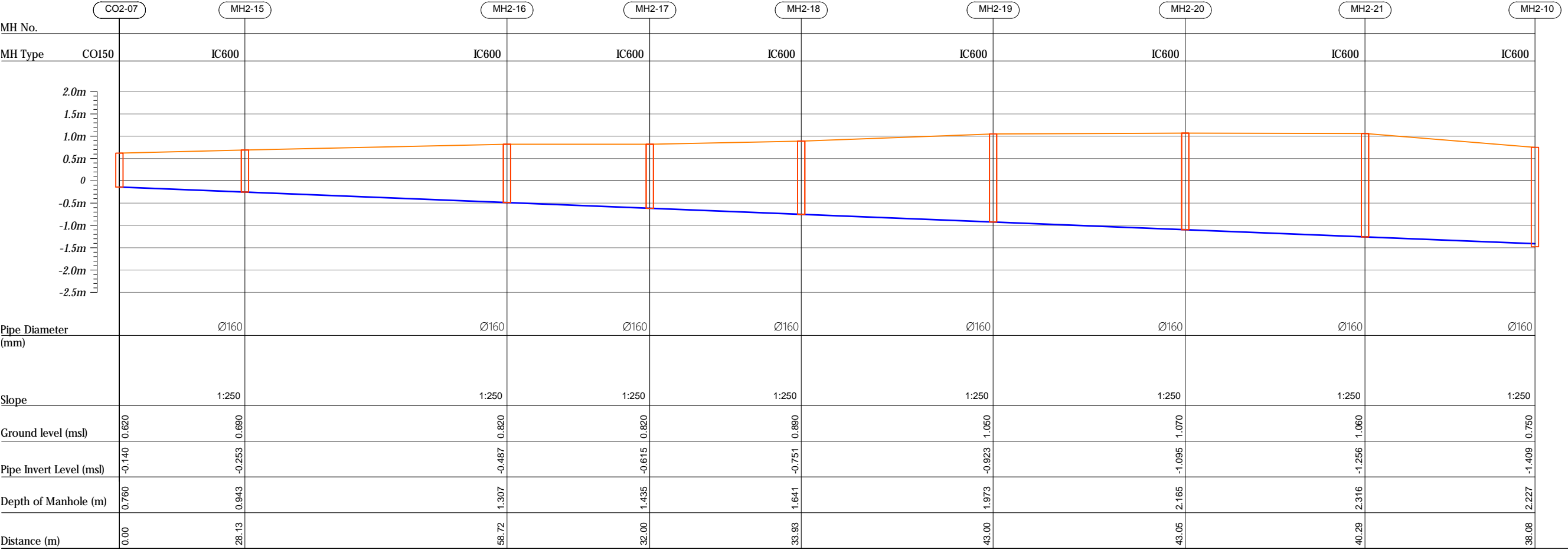
Date: Aug 2020 | SCALE (A3): 1:100

Project No: 01010101

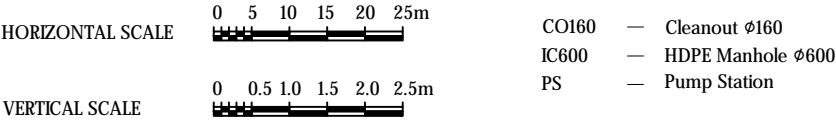
Rev:	Page:
R-01	PS2-03



Profile 07



R00	JUNE 2020	STAGE -I	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

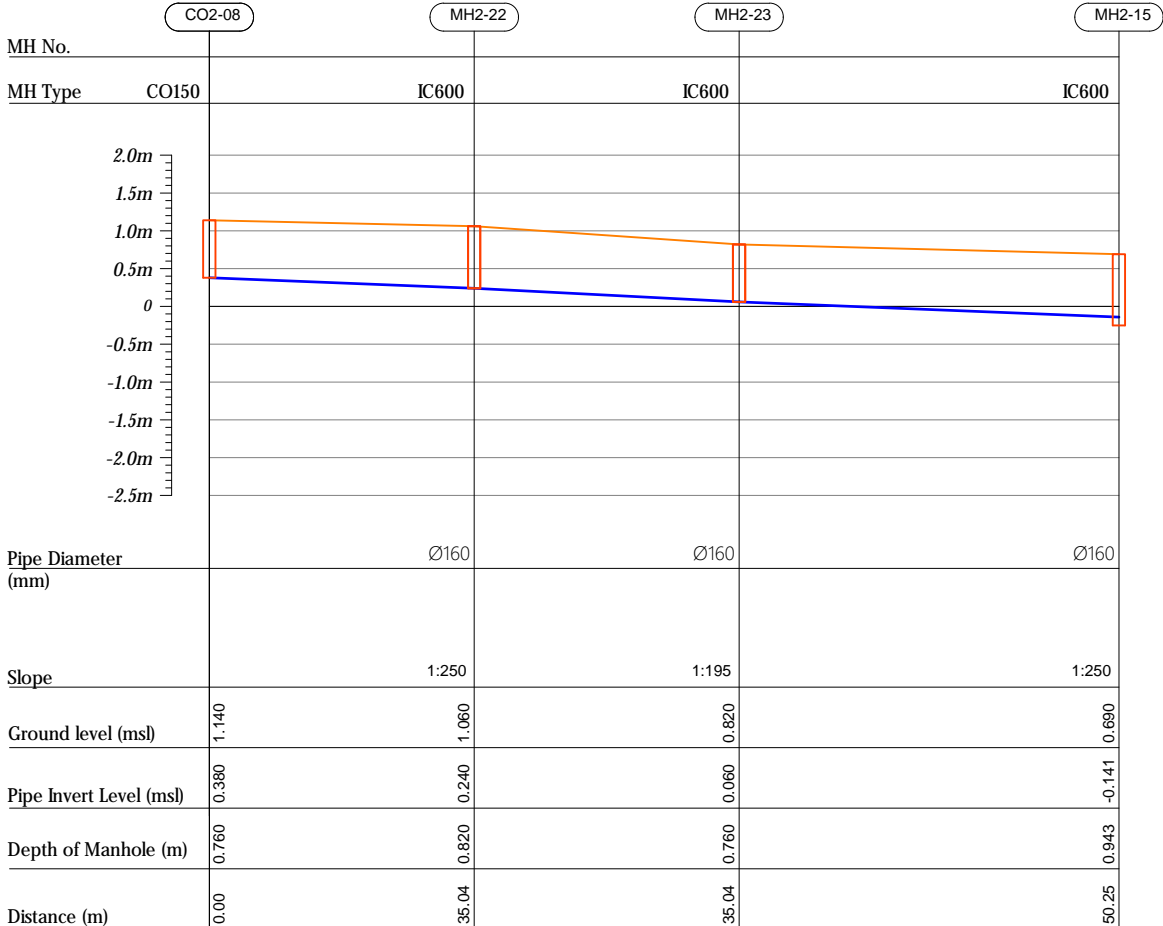
Client:  
Ministry of National Planning, Housing and  
Infrastructure, Republic of Maldives

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

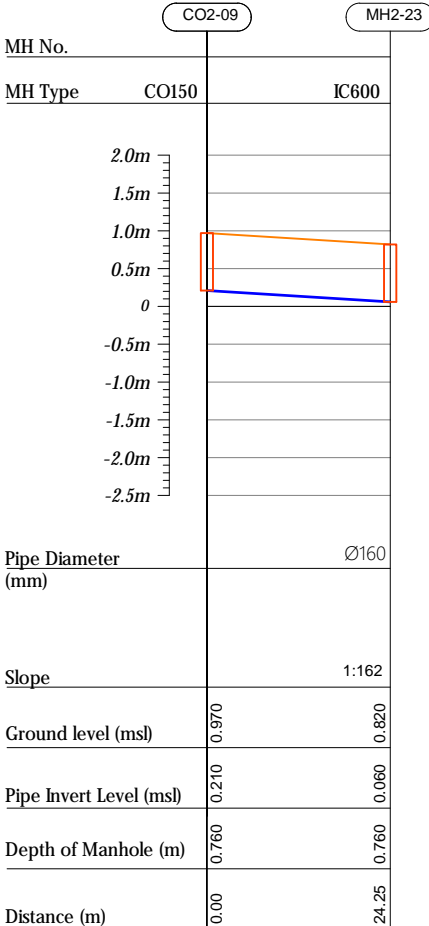
Makhuq Infrastructure Develop

Drawn: Pratik.S.D	Checked: S.B.Chapale
Designed: V.Muske	Approved: LW
Date: Aug 2020	SCALE (A3): 1:100
Project No: 01010101	
Rev: R-01	Page: PS2-04

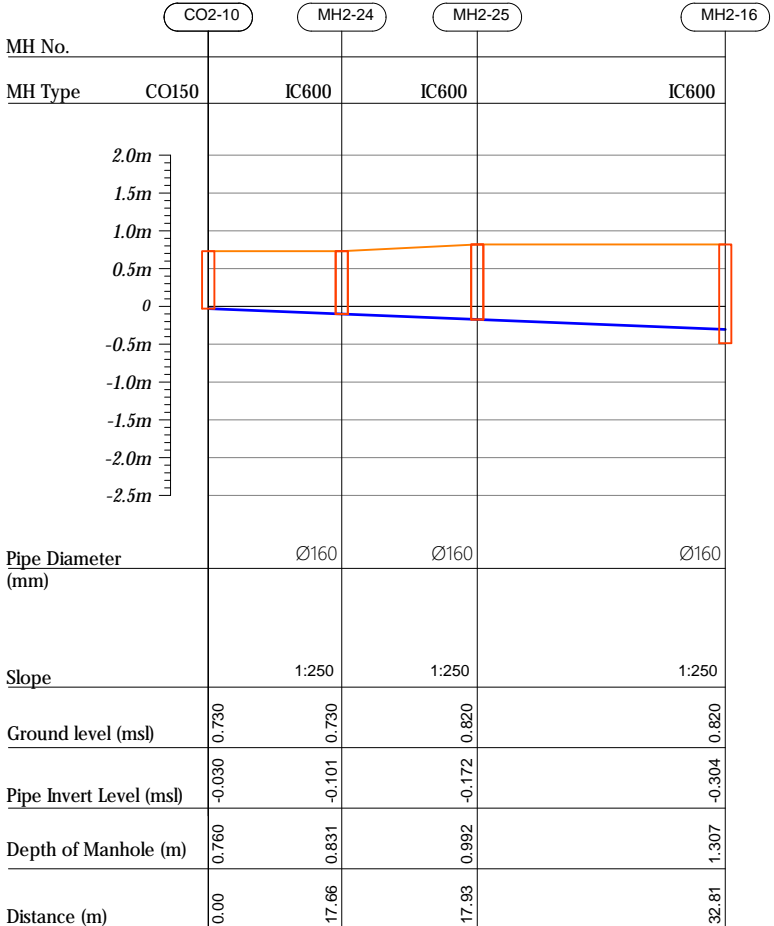
## Profile 08



## Profile 09



## Profile 10



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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Husnuheena Magu, Male', Maldives



Drawn: Pratik.S.D | Checked: S.B.Chapale

Designed: V.Muske	Approved: J.W
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Date: Aug 2020 SCALE (A3): 1:100

Project No: 01010101


Rev: <i>R-01</i>	Page: <i>PS2-</i>
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HORIZONTAL SCALE



A horizontal scale bar with markings at 0, 5, 10, 15, 20, and 25m.

VERTICAL SCALE

A horizontal scale bar with markings at 0, 0.5, 1.0, 1.5, 2.0, and 2.5m. The bar is divided into segments by vertical lines, with the longest segments between 0.5 and 1.0, and 1.0 and 1.5.

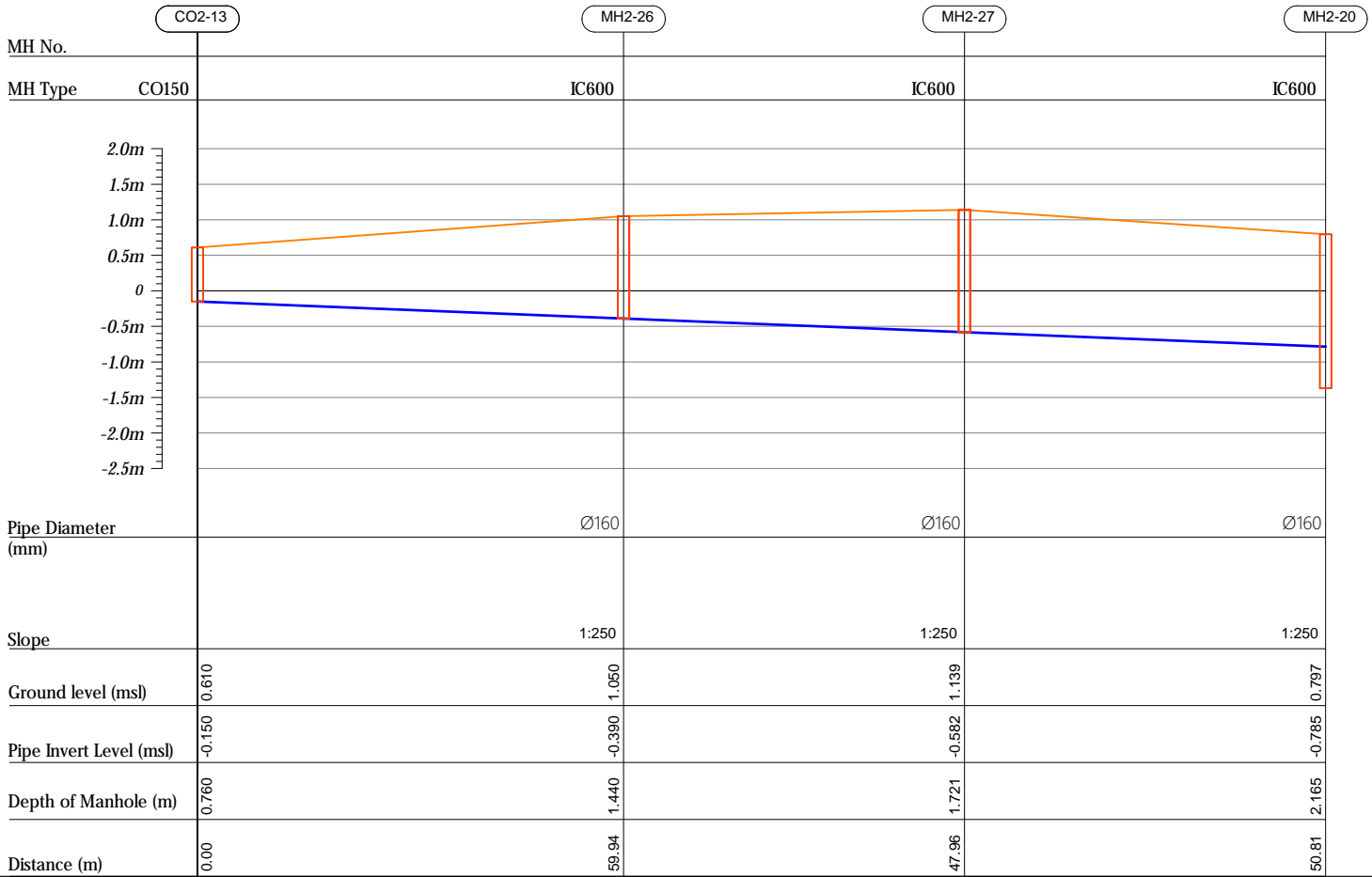
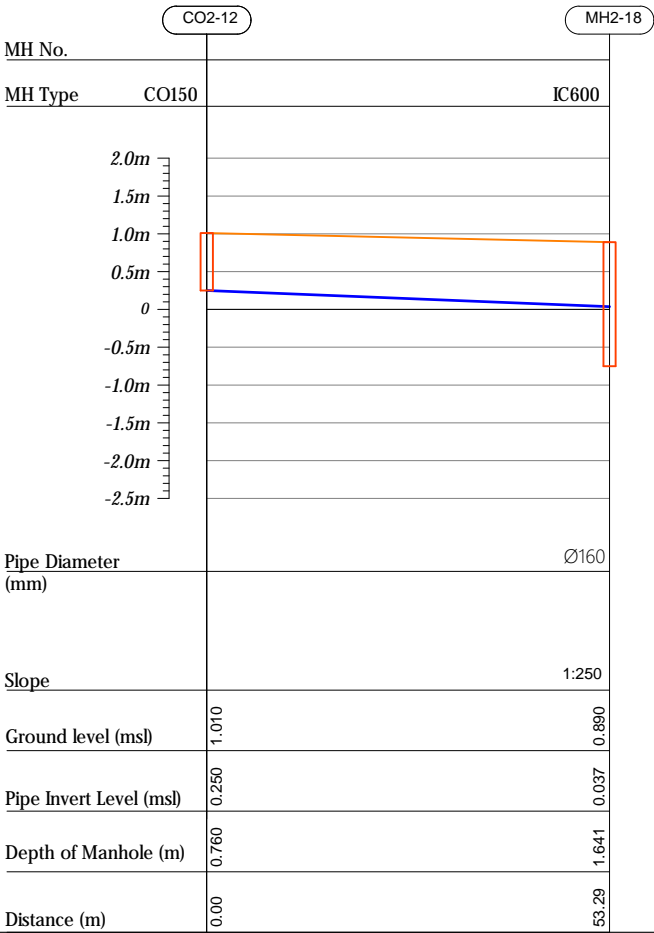
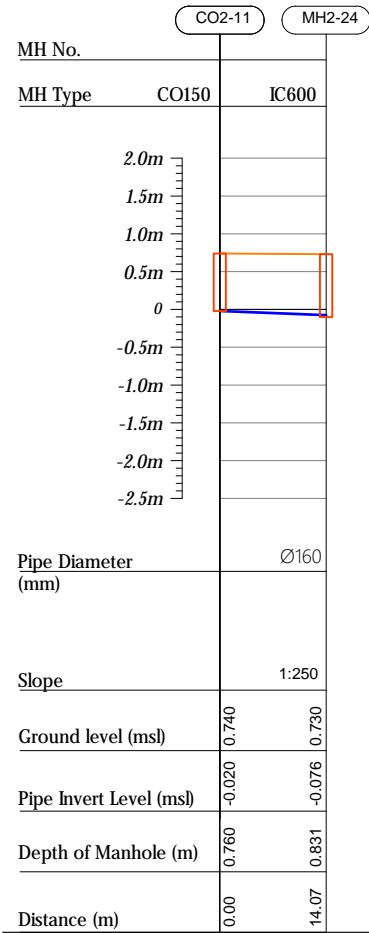
CO160	—	Cleanout $\phi 160$
IC600	—	HDPE Manhole $\phi 600$
PS	—	Pump Station



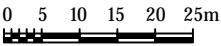
Profile 11

Profile 12

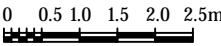
Profile 13



HORIZONTAL SCALE



VERTICAL SCALE



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

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

Title:  
Consultancy Services for Survey,  
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Making Infrastructure Happen

Drawn: Pratik.S.D Checked: S.B.Chapale

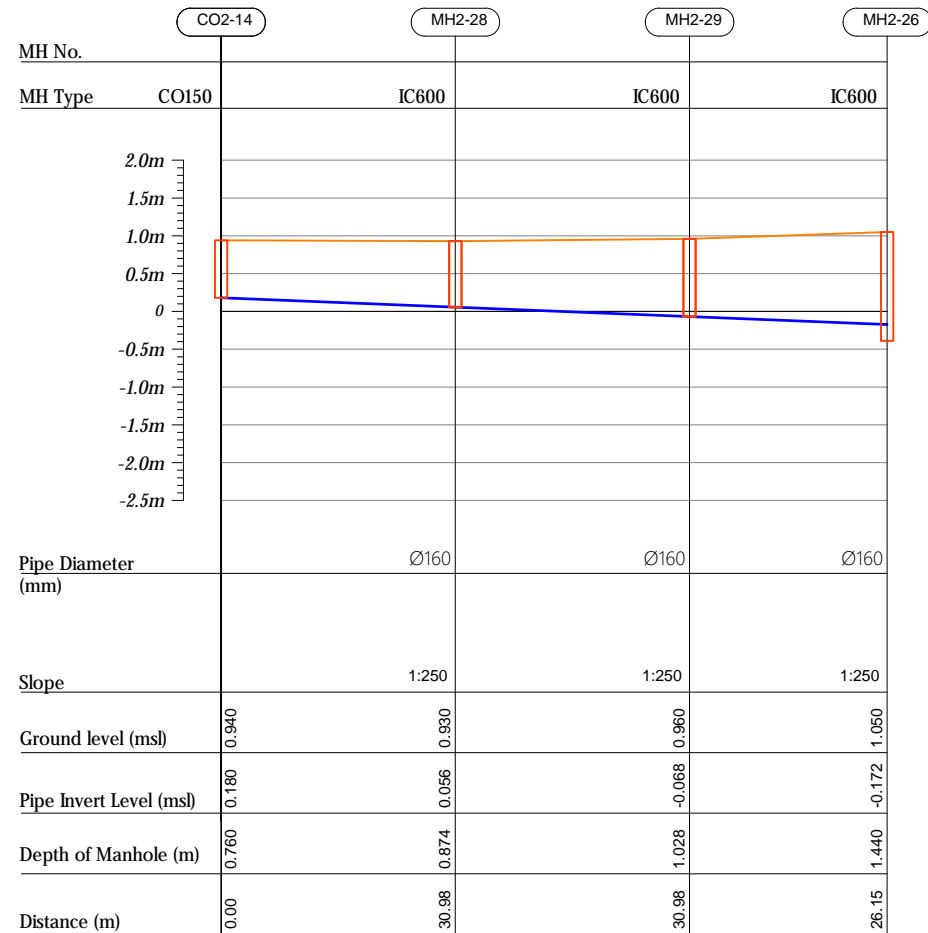
Designed: V.Muske Approved: LW

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

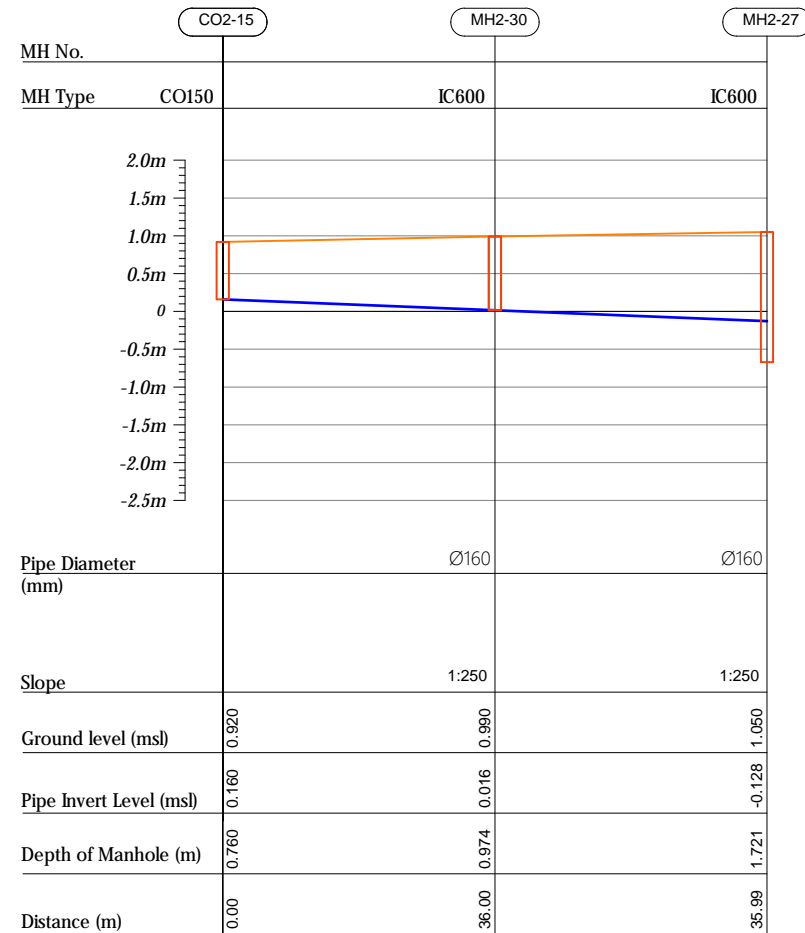
Project No: 01010101

Rev: R-01 Page: PS2-06

## Profile 14



## Profile 15



R00	JUNE 2020	STAGE -I	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: Pratik.S.D	Checked: S.B.Chapale
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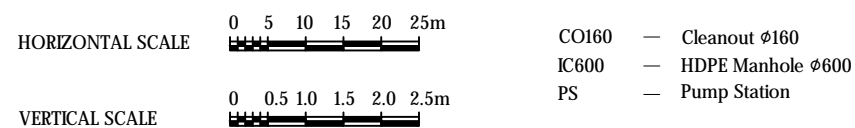
Designed: V.Muske	Approved: LW
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Date: Aug 2020	SCALE (A3): 1:100
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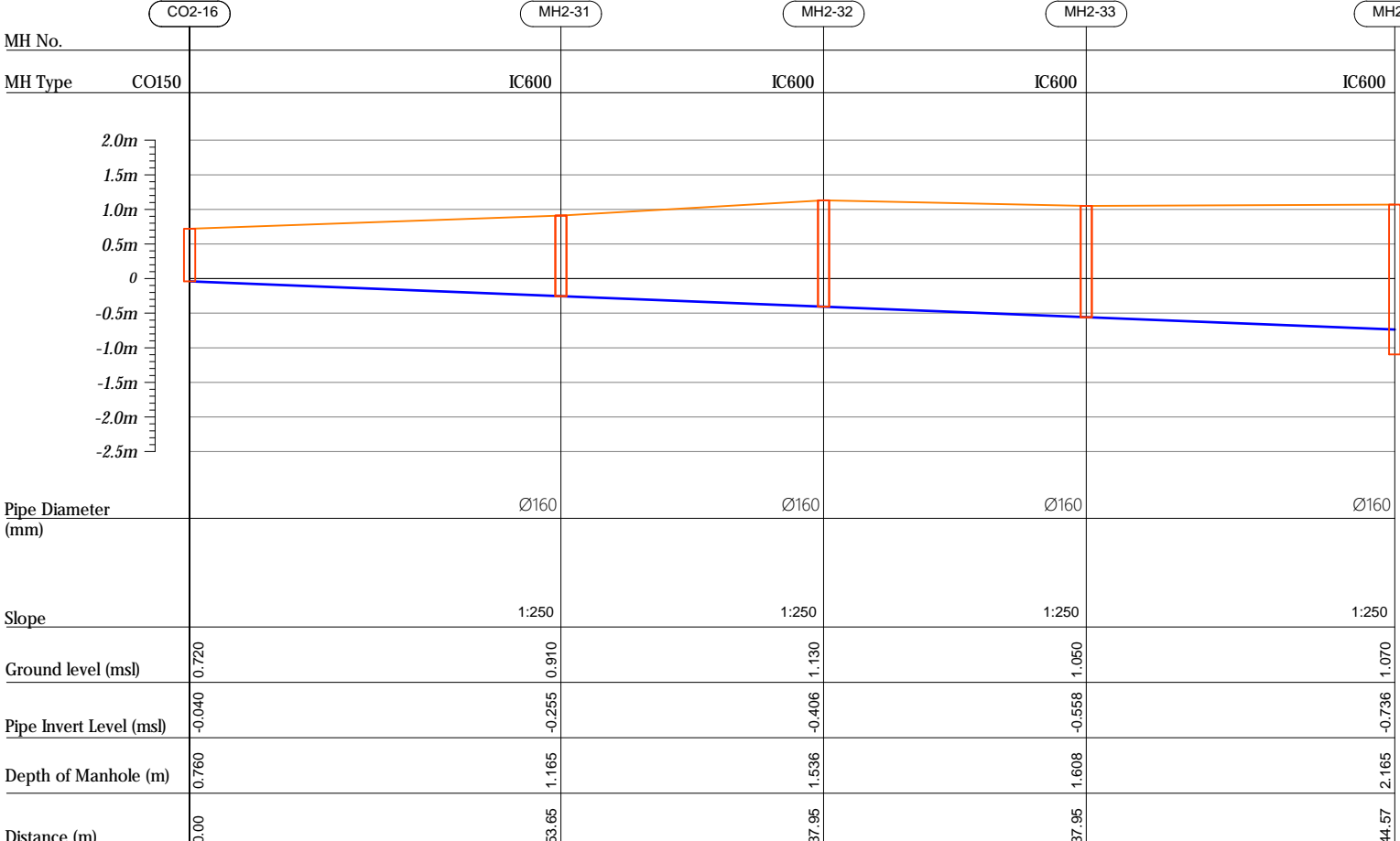
Project No: 01010101

Rev: \_\_\_\_\_ Page: \_\_\_\_\_

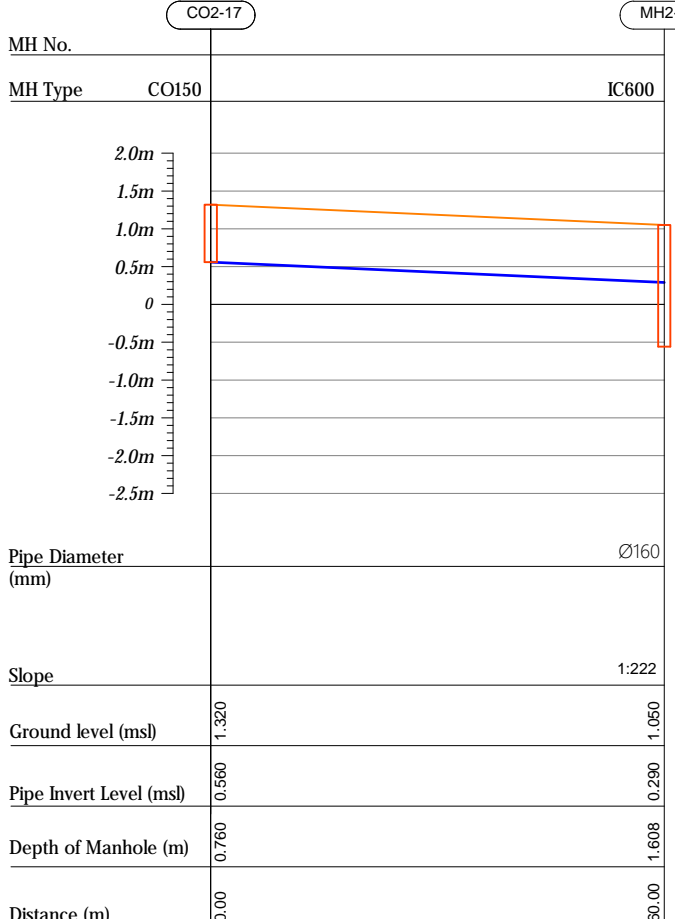
R-01 PS2-07



## Profile 16



## Profile 17



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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W: www.epoch.associates  
A: G. Rosary West,  
Husnuheenaa Magu, Male'

**FEEDBACK INFRA**  
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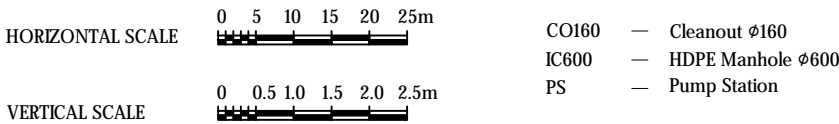
Drawn: Pratik.S.D	Checked: S.B.Chapale
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Designed: V.Muske	Approved: LW
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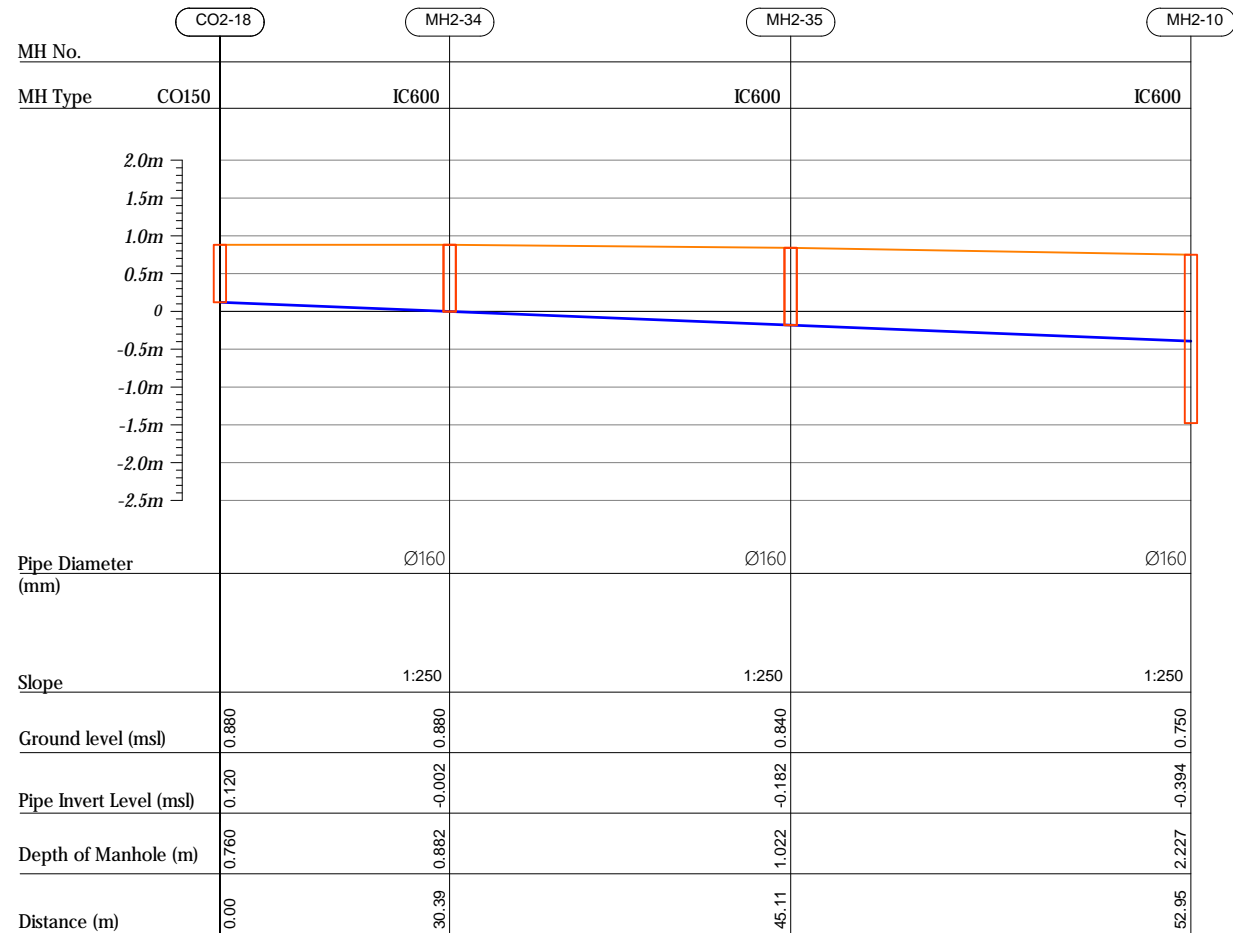
Date: Aug 2020 SC

Project No: 01010101

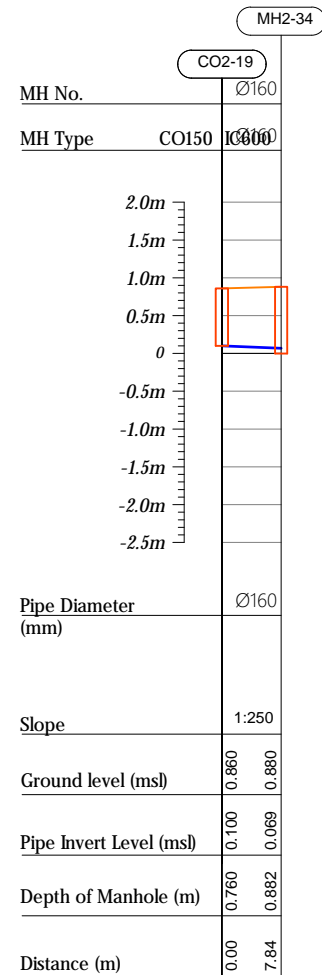
Rev:	Page:
R-01	PS2-08



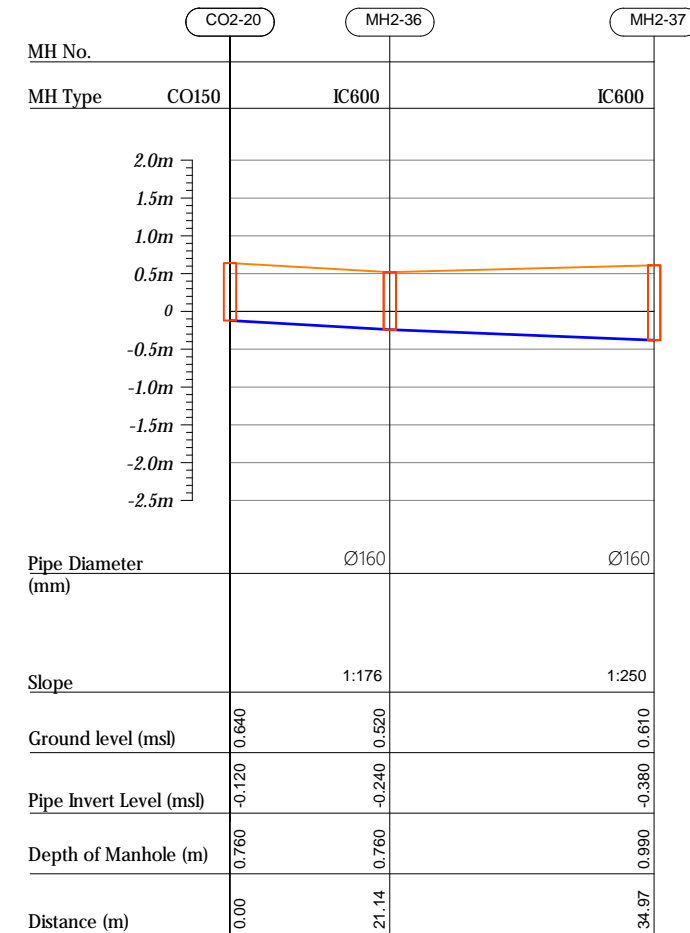
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## Profile 19



## 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: Pratik.S.D	Checked: S.B.Chapale
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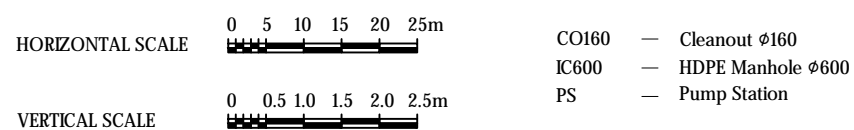
Designed: V. Muske	Approved: LW
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Date: Aug 2020	SCALE (A3): 1:100
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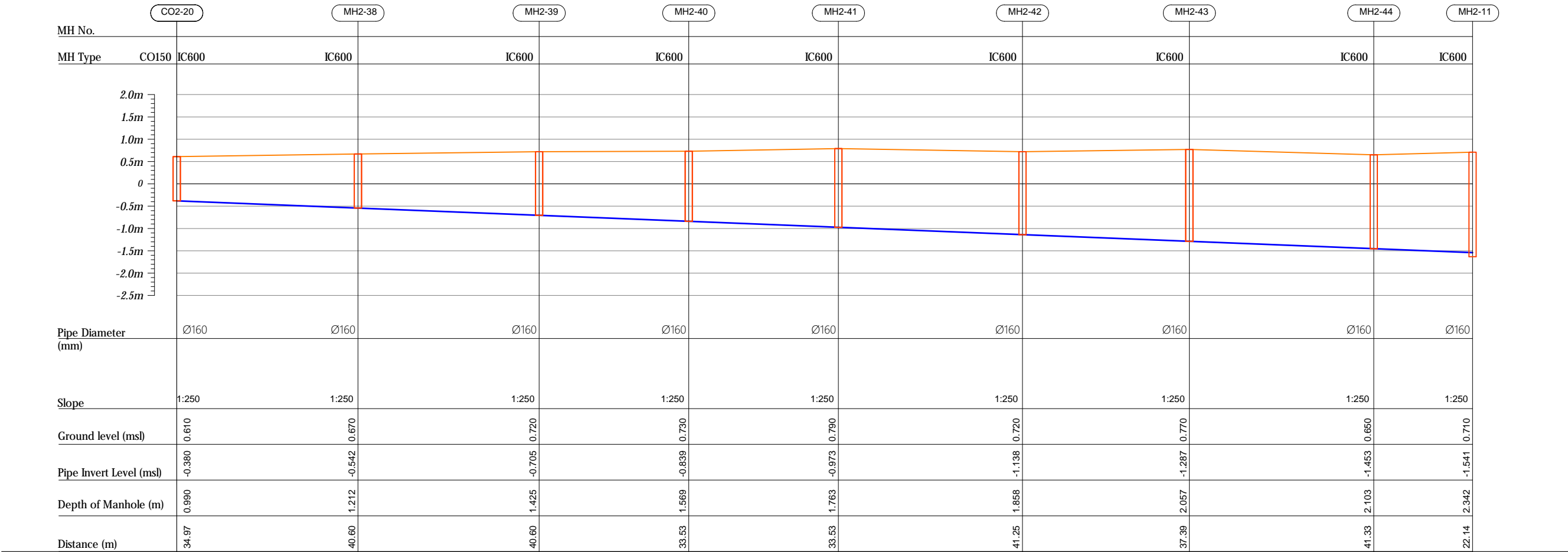
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Rev: \_\_\_\_\_ Page: \_\_\_\_\_

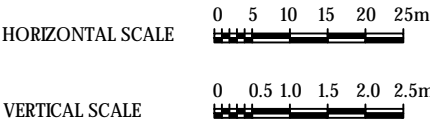
R-01 PS2-09



Profile 20



R00	JUNE 2020	STAGE -I	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*



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A: G. Rosary West,  
Husnuheemaa Magu, Male', Maldives

DBAC INFRA  
Making Infrastructure Happen

Drawn: Pratik.S.D Checked: S.B.Chapale

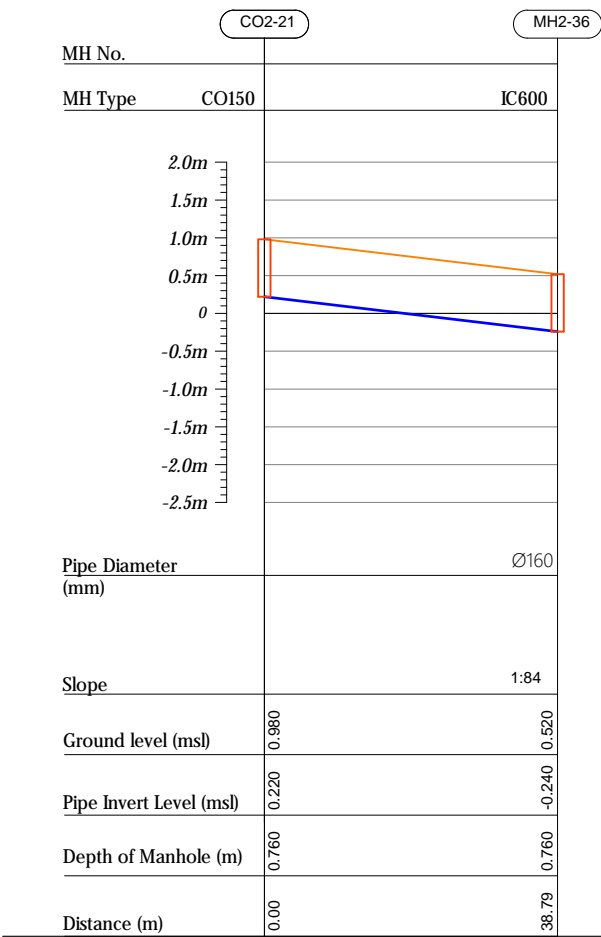
Designed: V.Muske Approved: LW

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

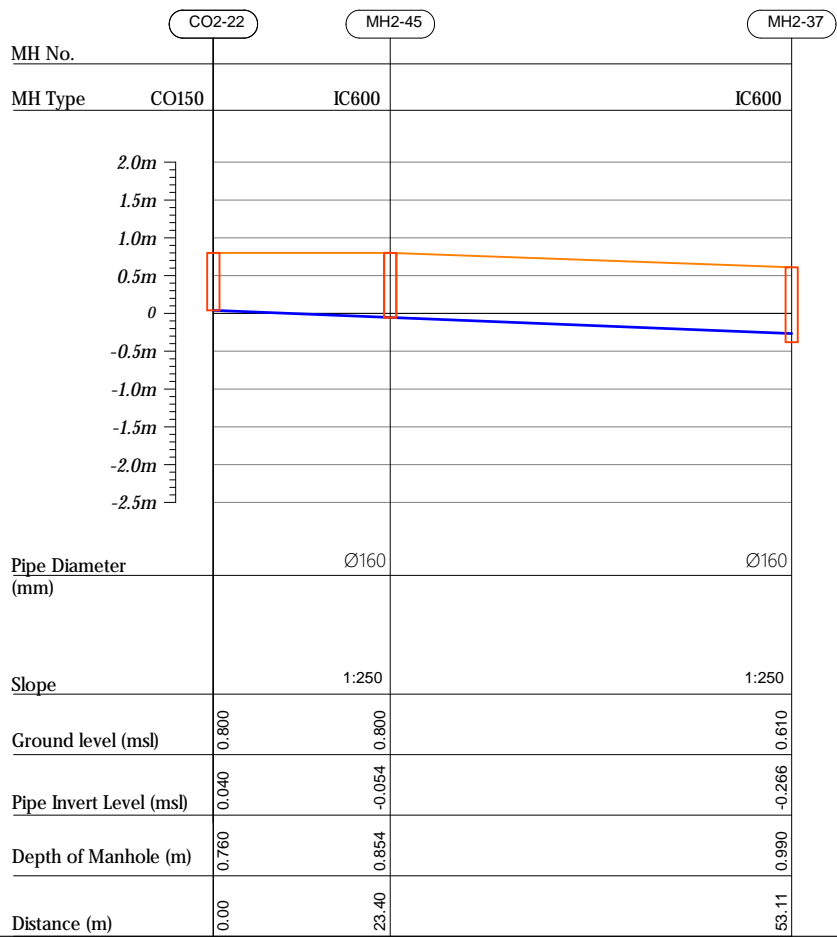
Project No: 01010101

Rev: R-01 Page: PS2-10

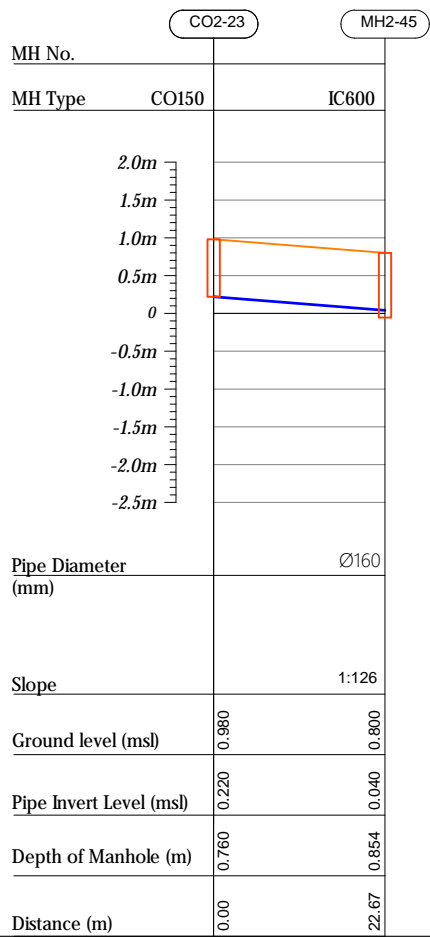
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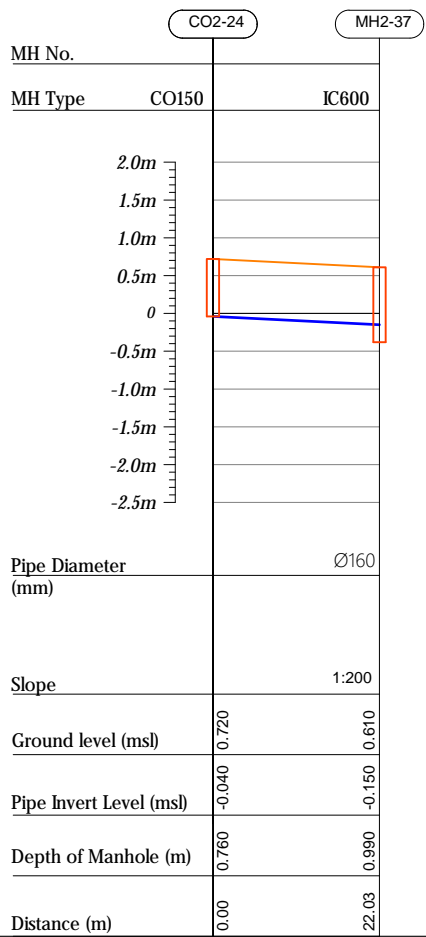
Profile 22



Profile 23

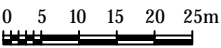


Profile 24

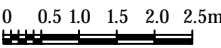


R00	JUNE 2020	STAGE -I	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

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

DBAC INFRA  
Maldivu Infrastructure Develop

Drawn: Pratik.S.D Checked: S.B.Chapale

Designed: V.Muske Approved: LW

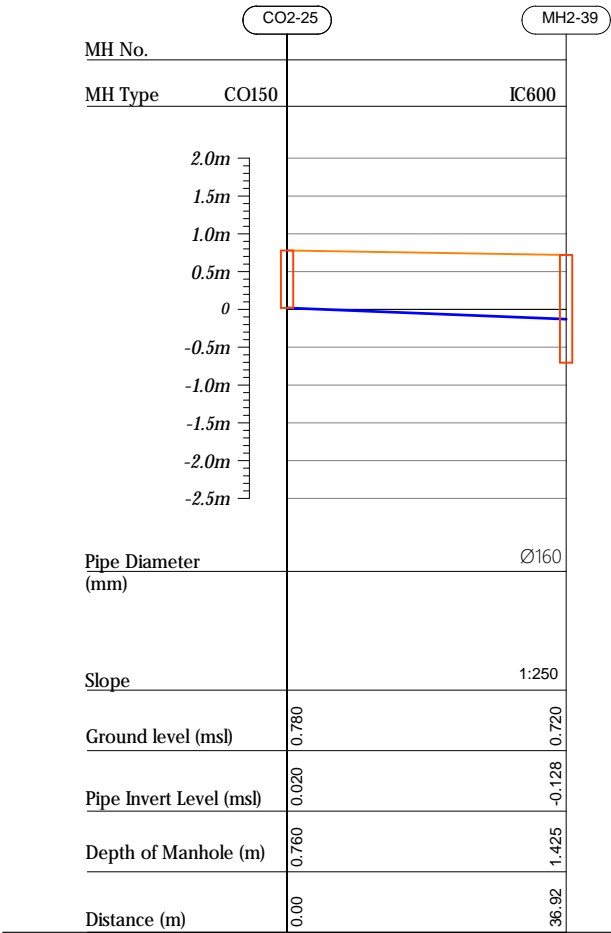
Date: Aug 2020 SCALE (AS): 1:100

Project No: 01010101

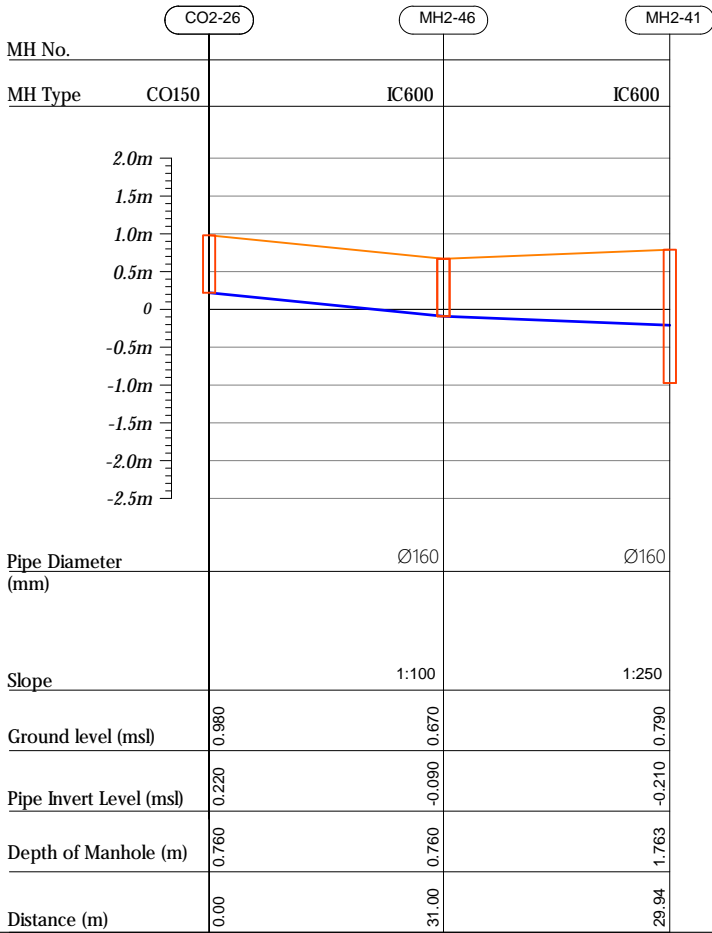
Rev: R-01 Page: PS2-11



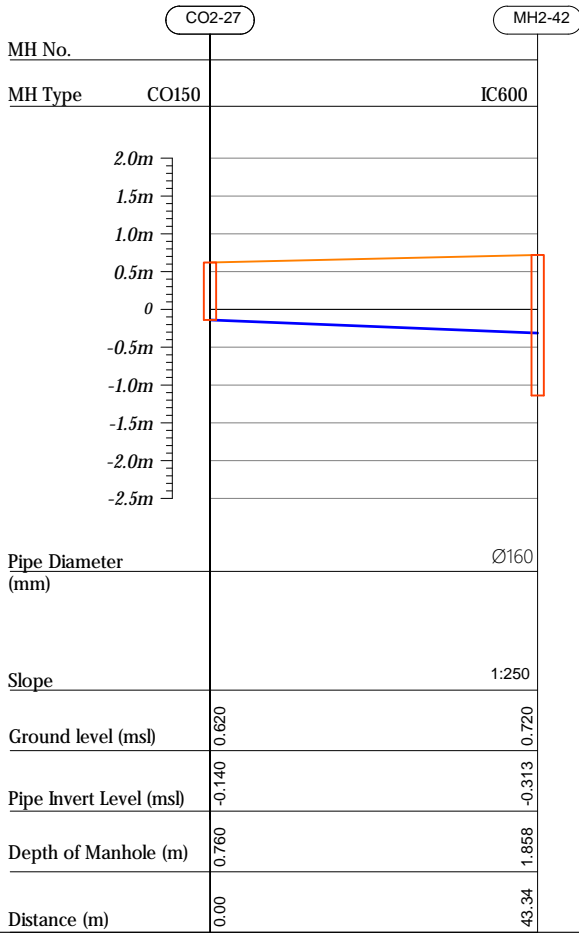
Profile 25



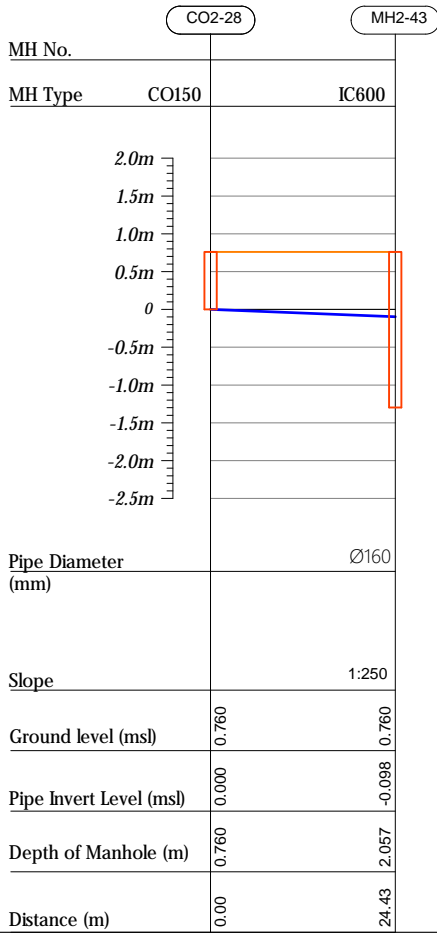
Profile 26



Profile 27

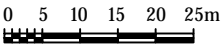


Profile 28

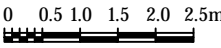


R00	JUNE 2020	STAGE -I	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

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

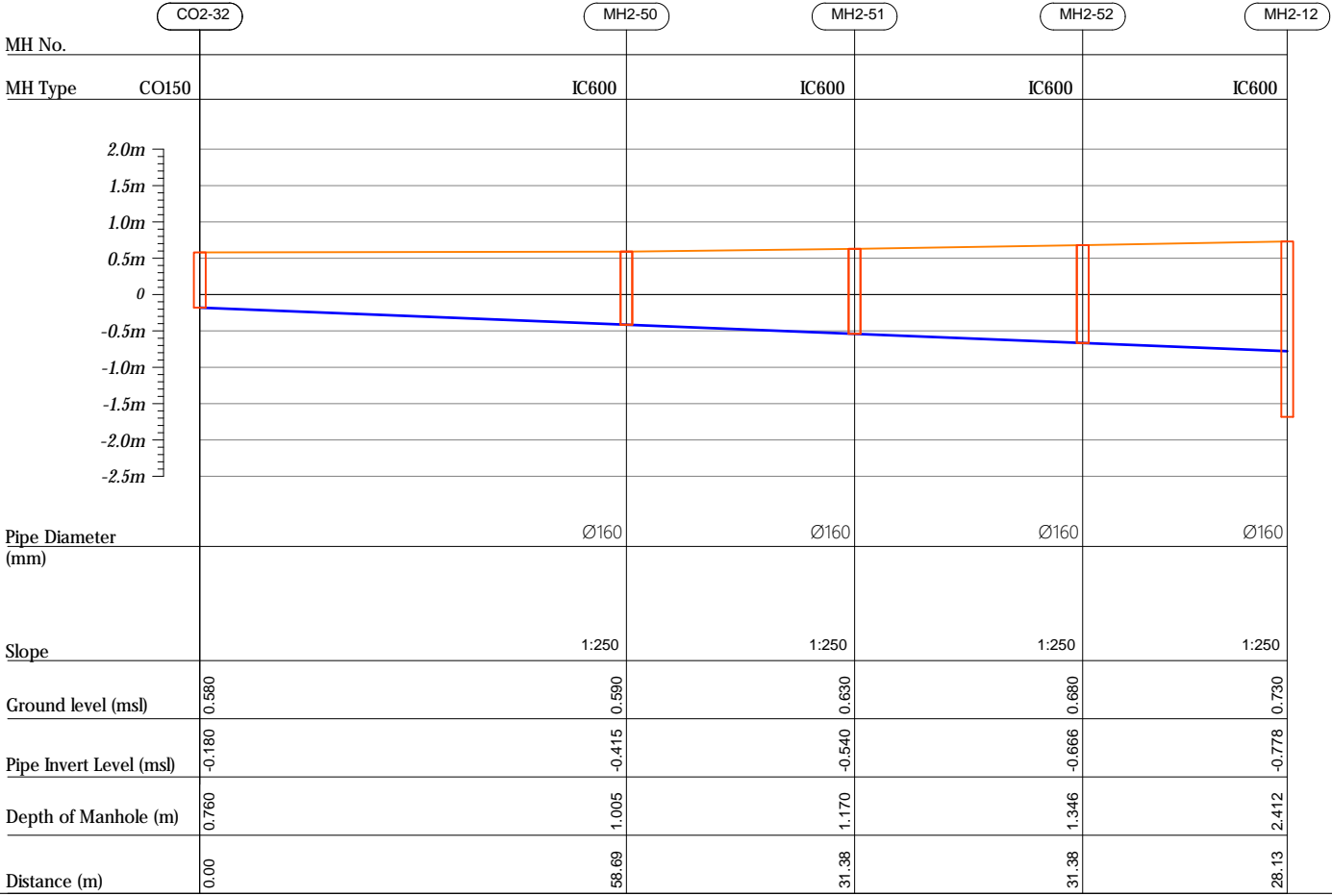
T: +960 333 3528  
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W: www.epoch.associates  
A: G. Rosary West,  
Hussuvehemaa Magu, Male', Maldives

DBAC INFRA  
Making Infrastructure Happen

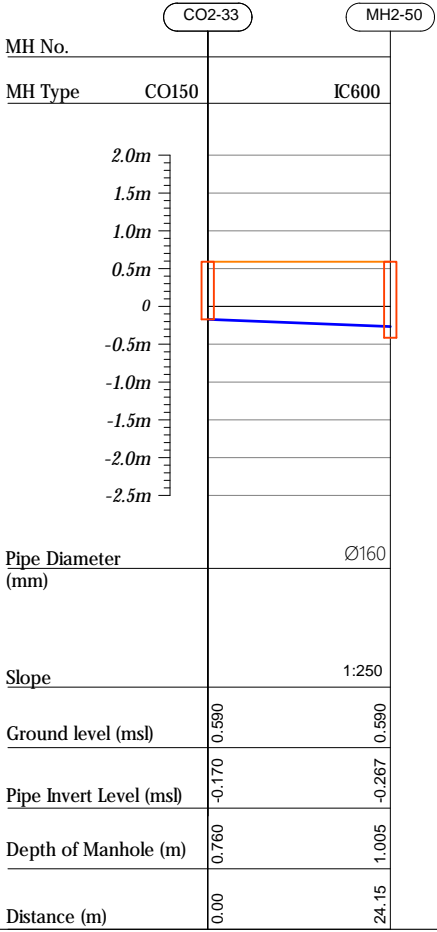
Drawn: Pratik.S.D	Checked: S.B.Chapale
Designed: V.Muske	Approved: LW
Date: Aug 2020	SCALE (A3): 1:100
Project No:	01010101



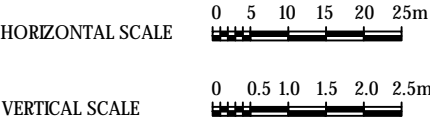
Profile 32



Profile 33



R00	JUNE 2020	STAGE -I	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*

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Hussuvehemaa Magu, Male', Maldives

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Making Infrastructure Happen

Drawn: Pratik.S.D

Designed: V.Muske

Date: Aug 2020

Project No: 01010101

Checked: S.B.Chapale

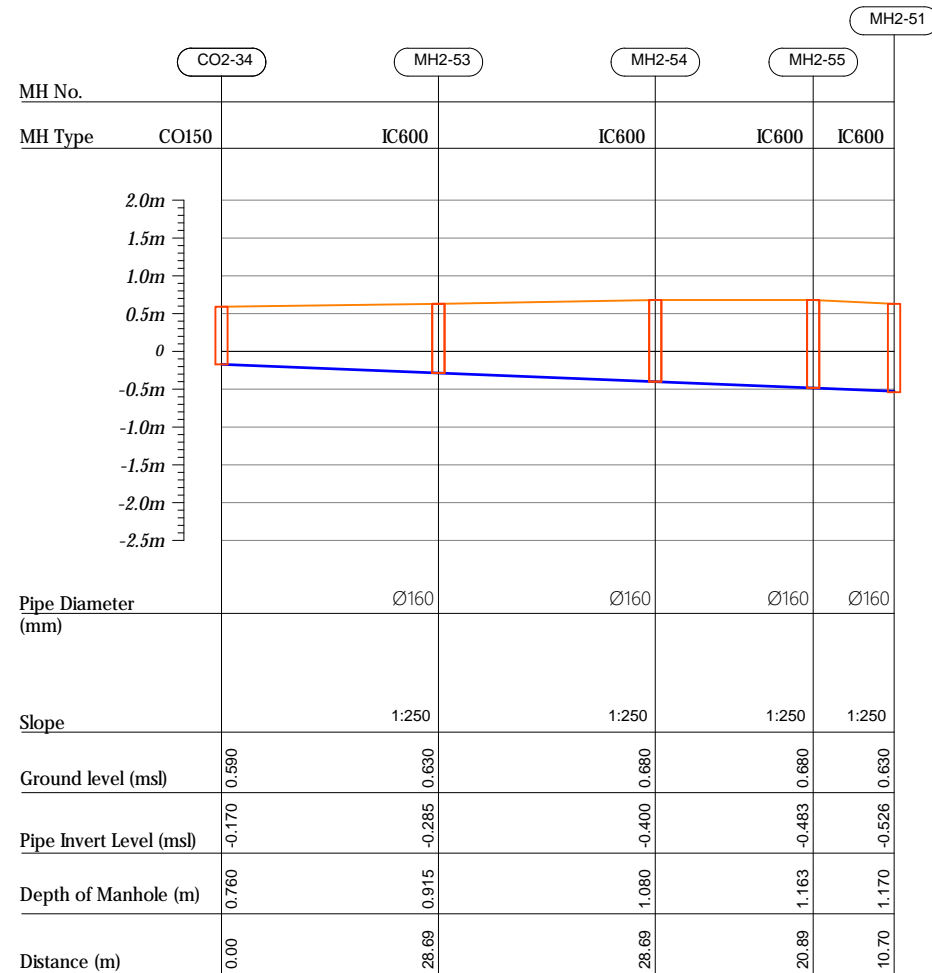
Approved: LW

SCALE (A3): 1:100

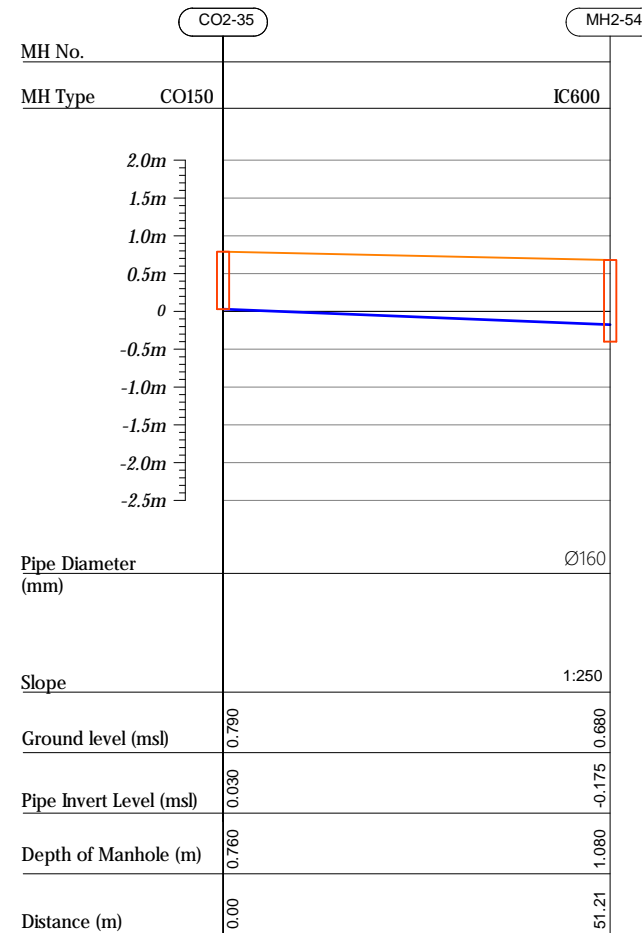
Rev: R-01

Page: PS2-14

## Profile 34



## Profile 35



R00	JUNE 2020	STAGE -I	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: Pratik.S.D	Checked: S.B.Chapale
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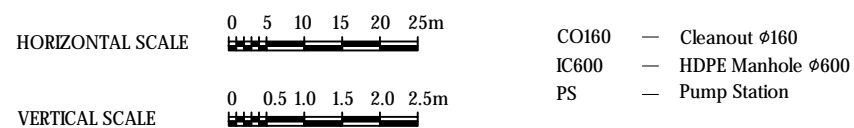
Designed: V.Muske	Approved: LW
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Date: Aug 2020	SCALE (A3): 1:100
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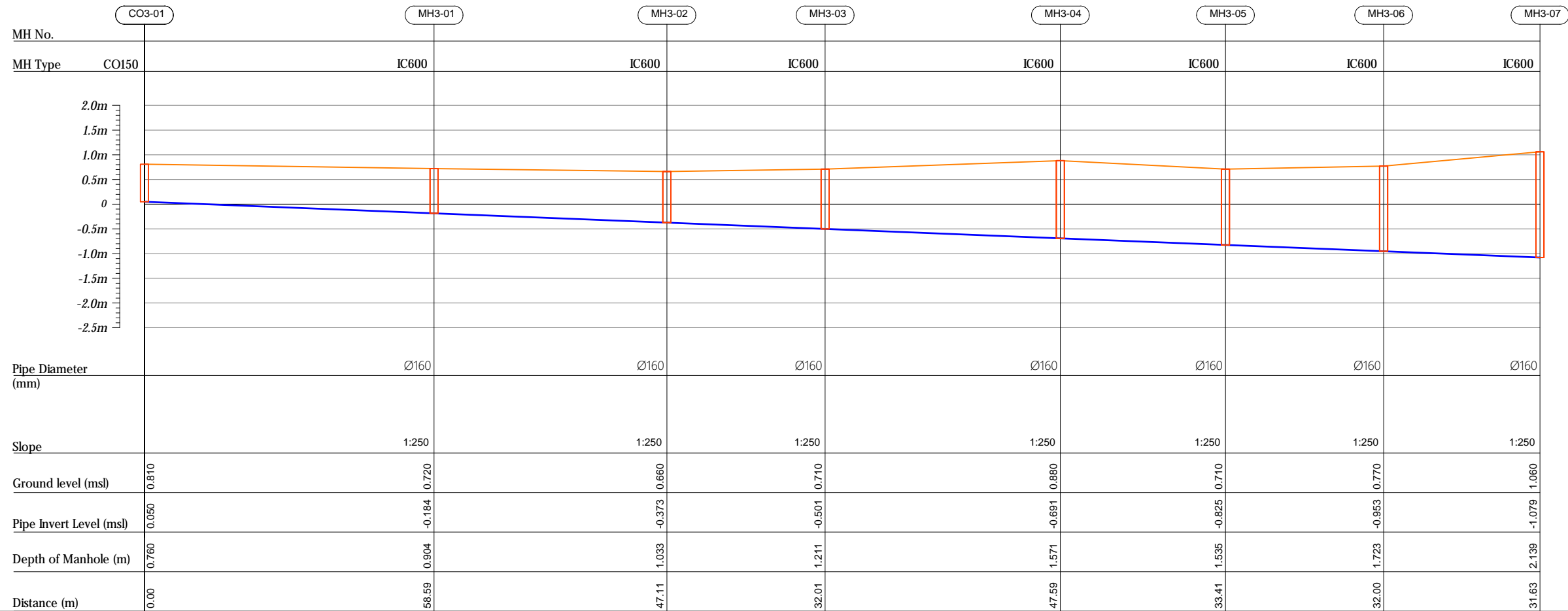
Project No: 01010101

Rev: \_\_\_\_\_ Page: \_\_\_\_\_

R-01 PS2-15



## 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



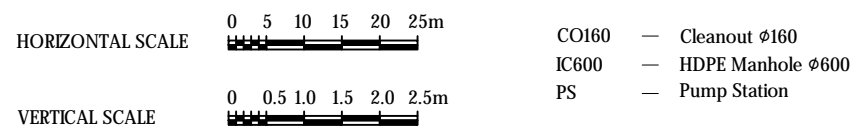
Drawn: Pratik.S.D	Checked: S.B.Chapale
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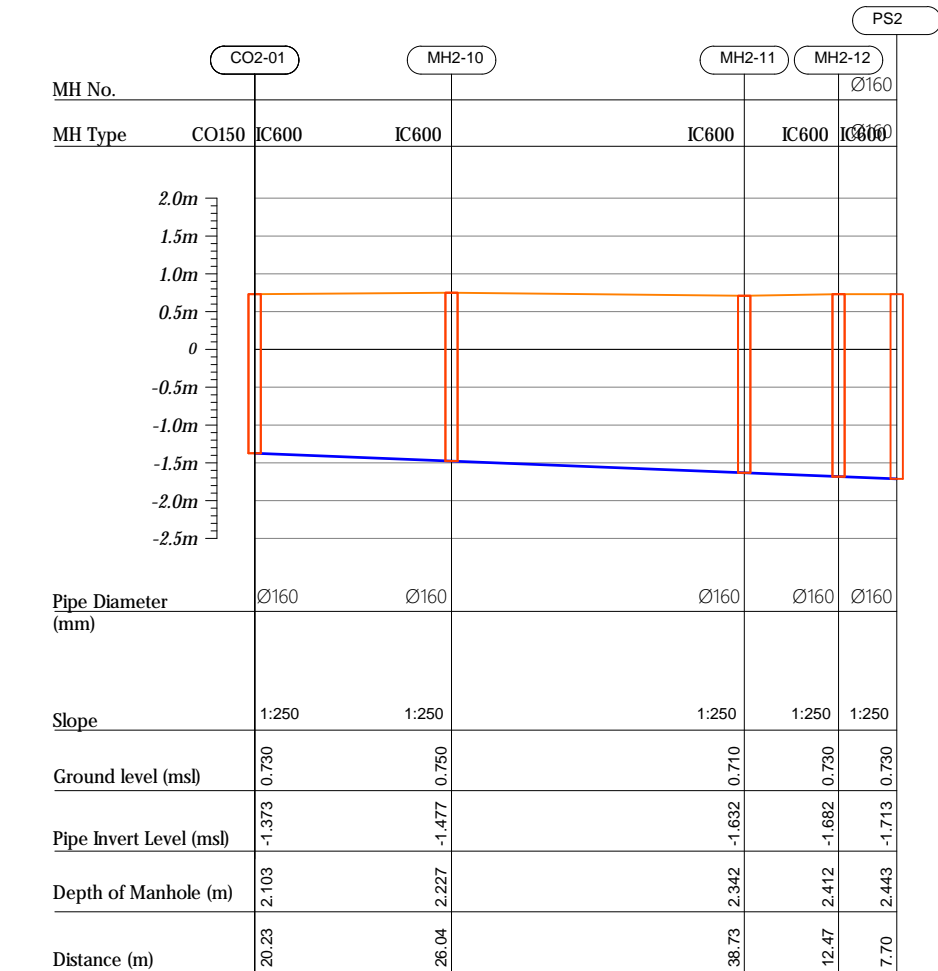
Date: Aug 2020	SCALE (A3): 1:100
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Project No: 01010101

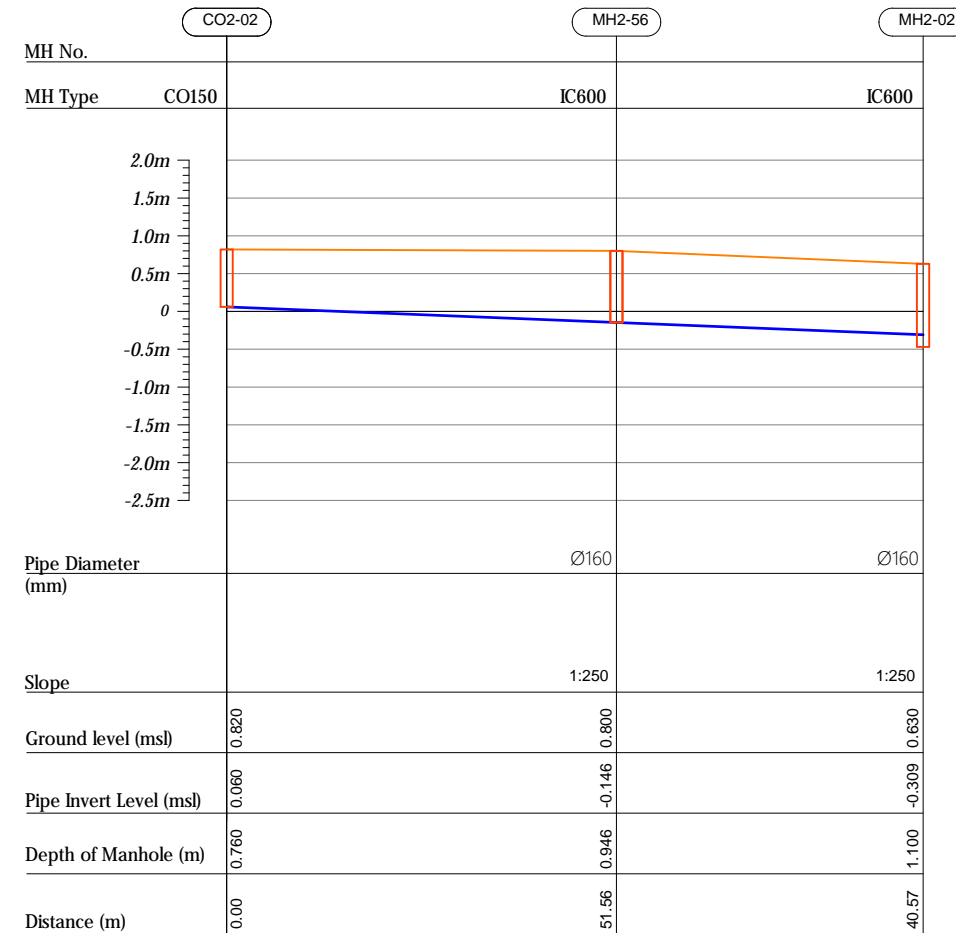
Rev: <i>R-01</i>	Page: <i>PS3-01</i>
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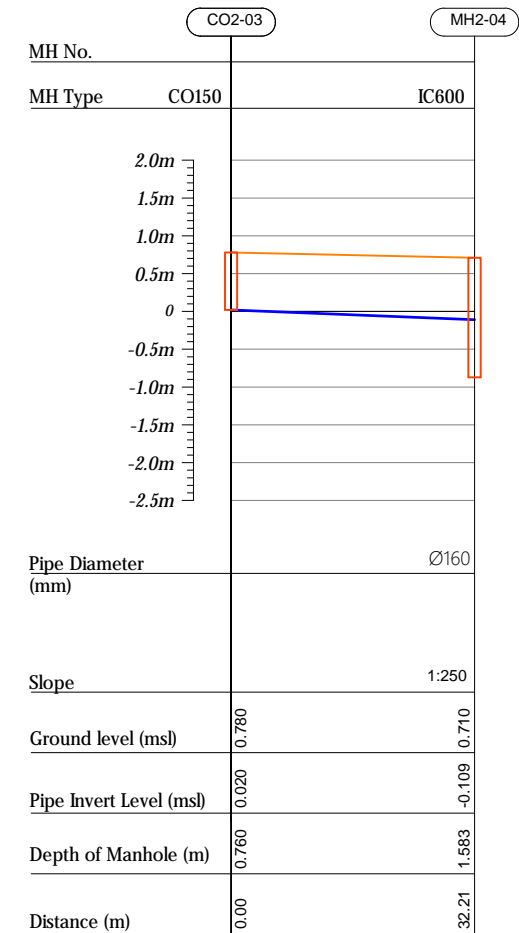
## Profile 01



## 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*



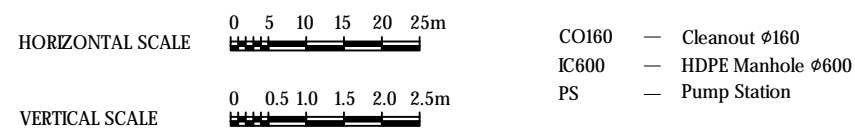
Drawn: Pratik.S.D	Checked: S.B.Chapale
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Designed: V.Muske	Approved: LW
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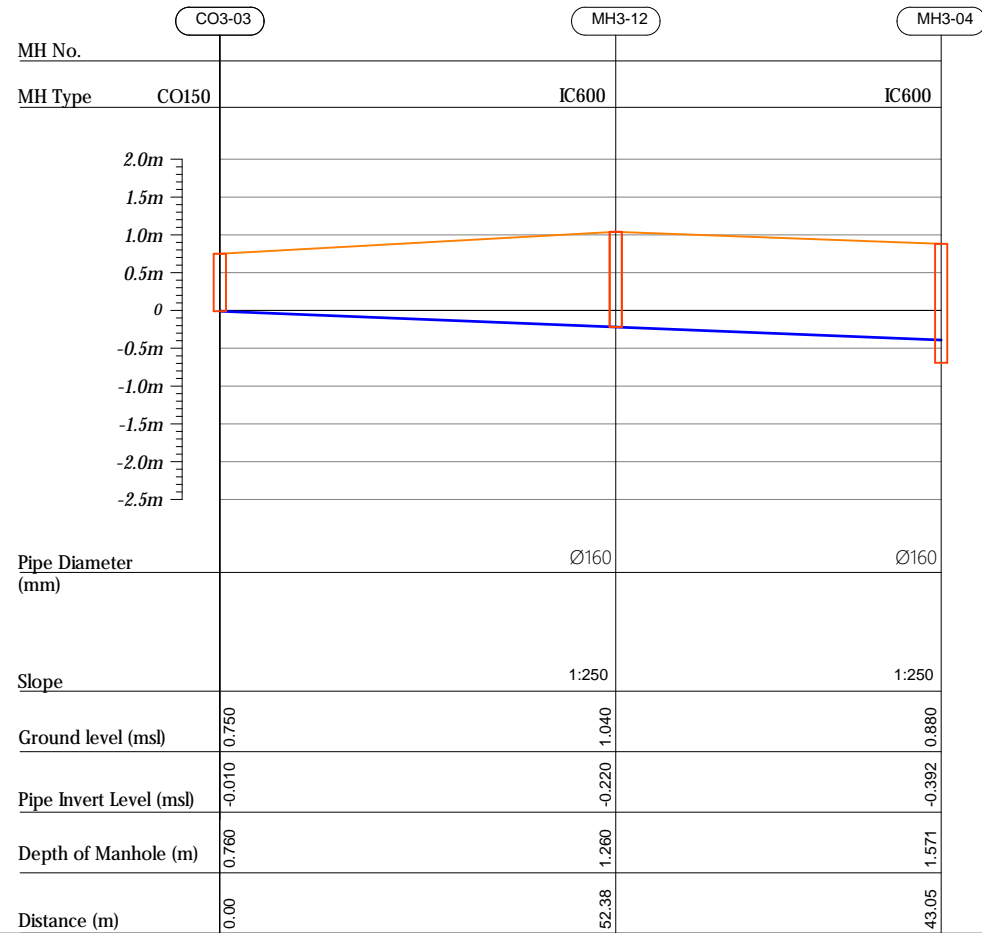
Date: Aug 2020 SCALE (A3): 1:100

Project No: 01010101

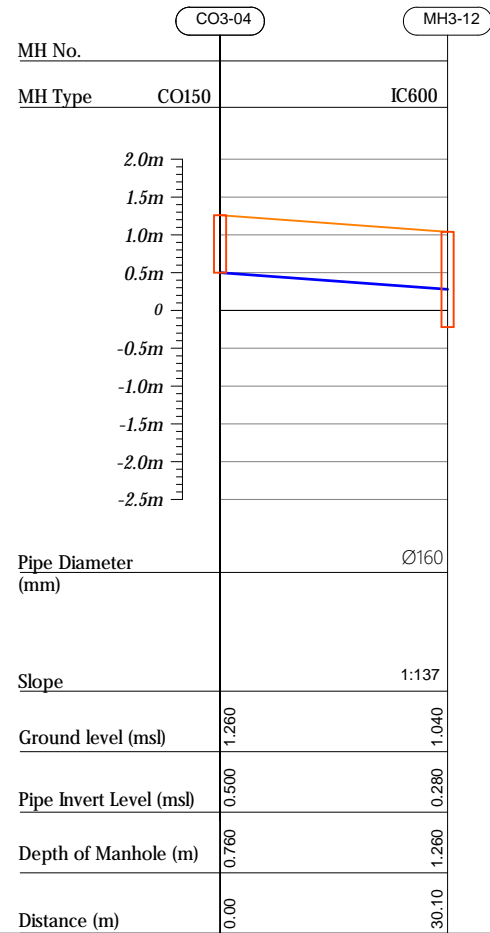
Rev:	Page:
R-01	PS3-02



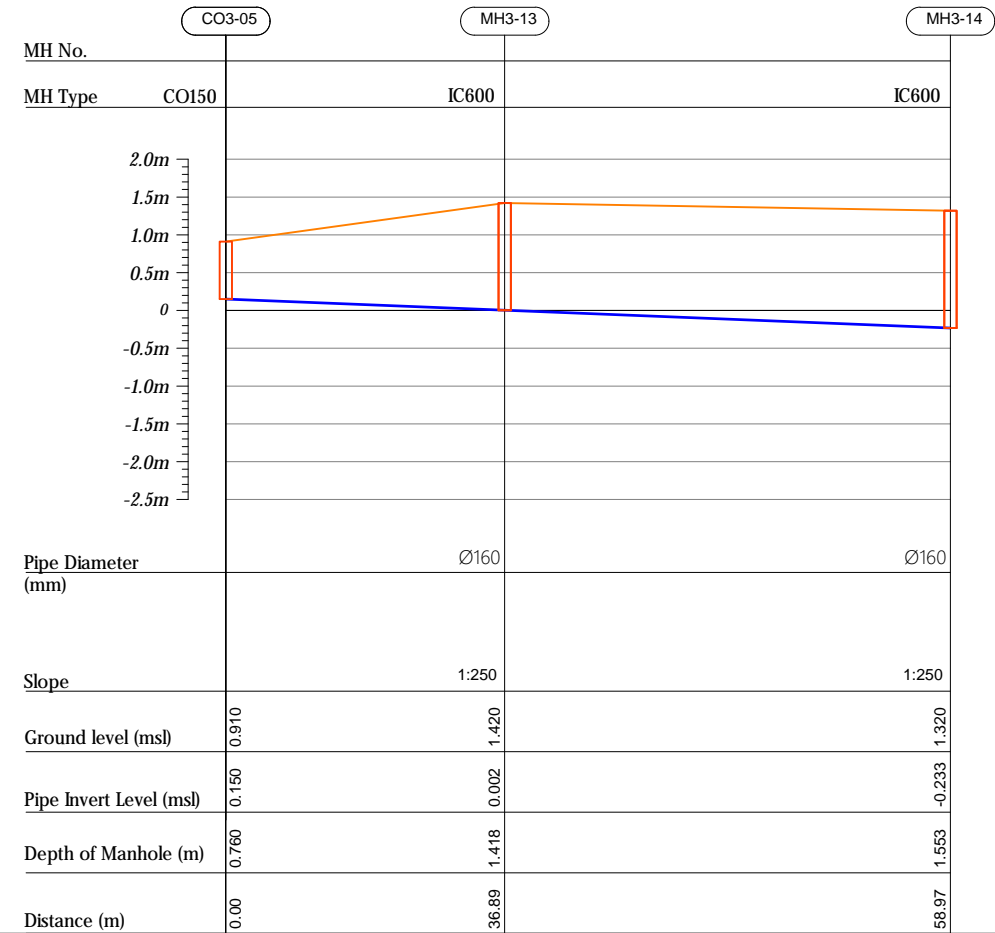
## Profile 03



## Profile 04



## Profile 05



R00	JUNE 2020	STAGE -I	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: Pratik.S.D	Checked: S.B.Chapale
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Designed: V. Muske	Approved: J.W
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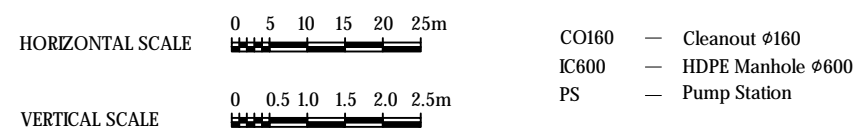
Date: Aug 2020	SCALE (A3): 1:100
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Project No: 01010101

Rev:	Page:
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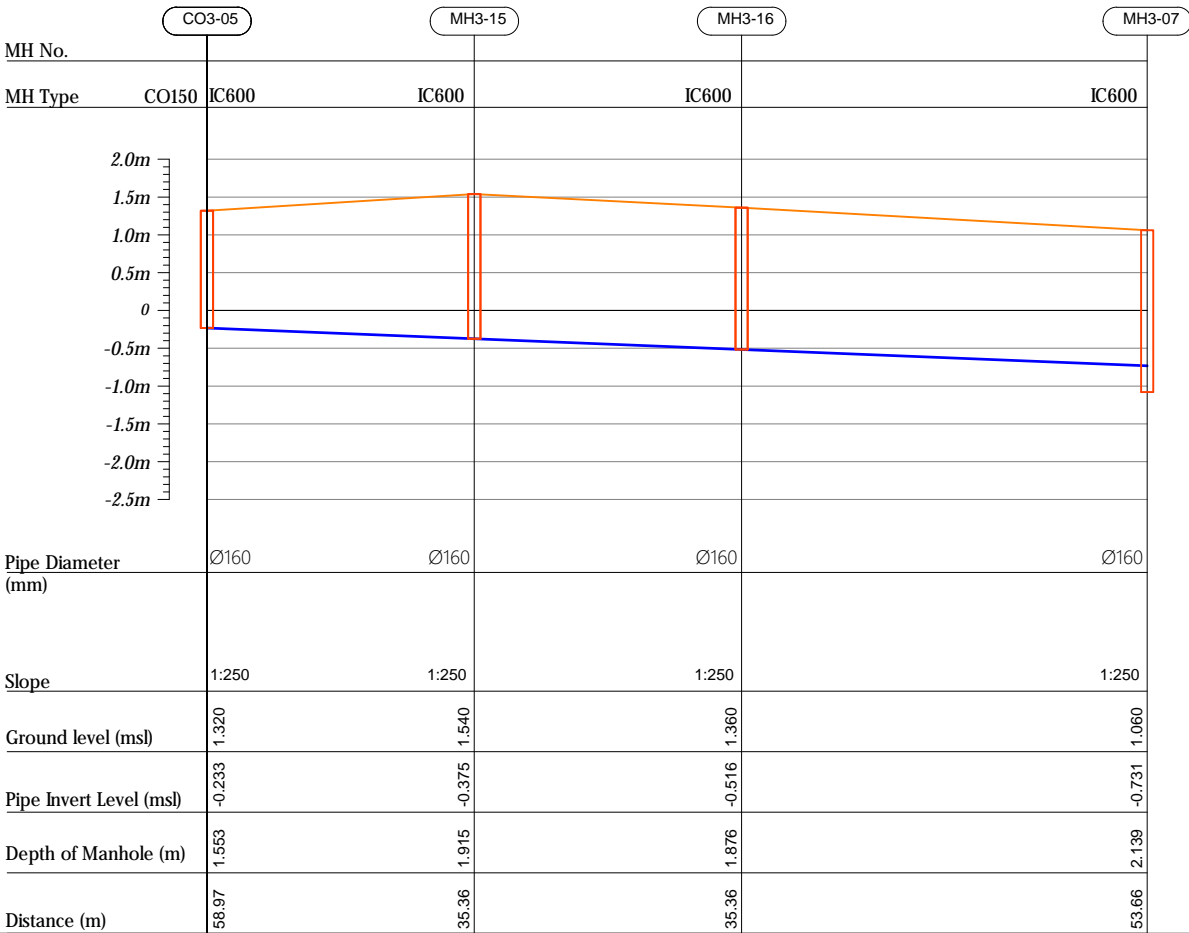
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PS3-03

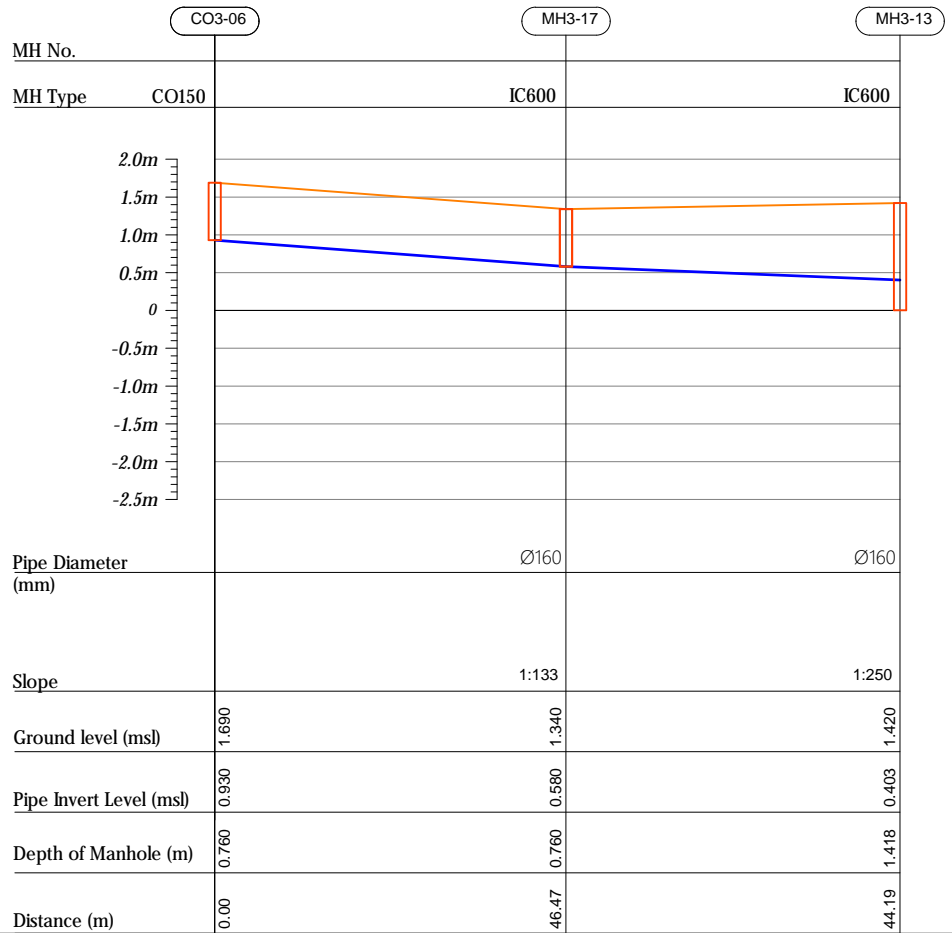




## Profile 05



## Profile 06



R00	JUNE 2020	STAGE -1	PD	SEC	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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W: www.epoch.associates  
A: G. Rosary West,  
Husnuheenaa Magu, Male', Maldives




Drawn: Pratik.S.D	Checked: S.B.Chapale
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Designed: V.Muske	Approved: LW
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Date: Aug 2020	SCALE (A3): 1:100
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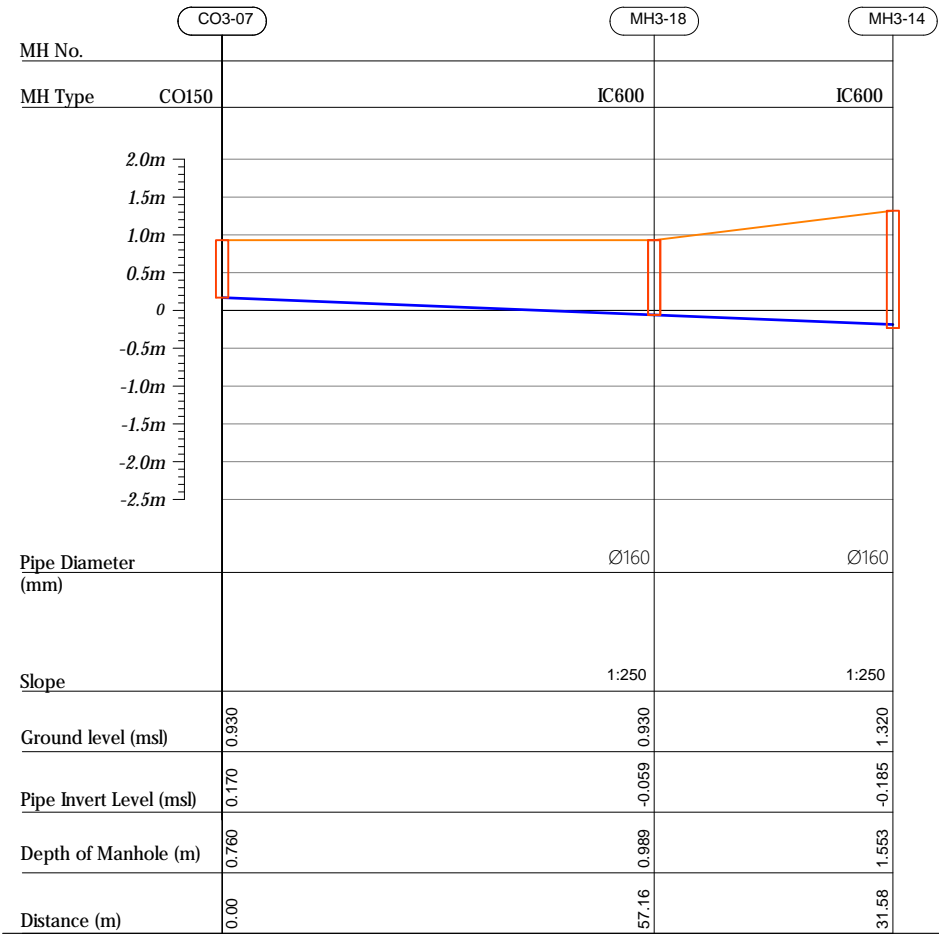
Project No: 01010101

Rev: <i>R-01</i>	Page: <i>PS3-04</i>
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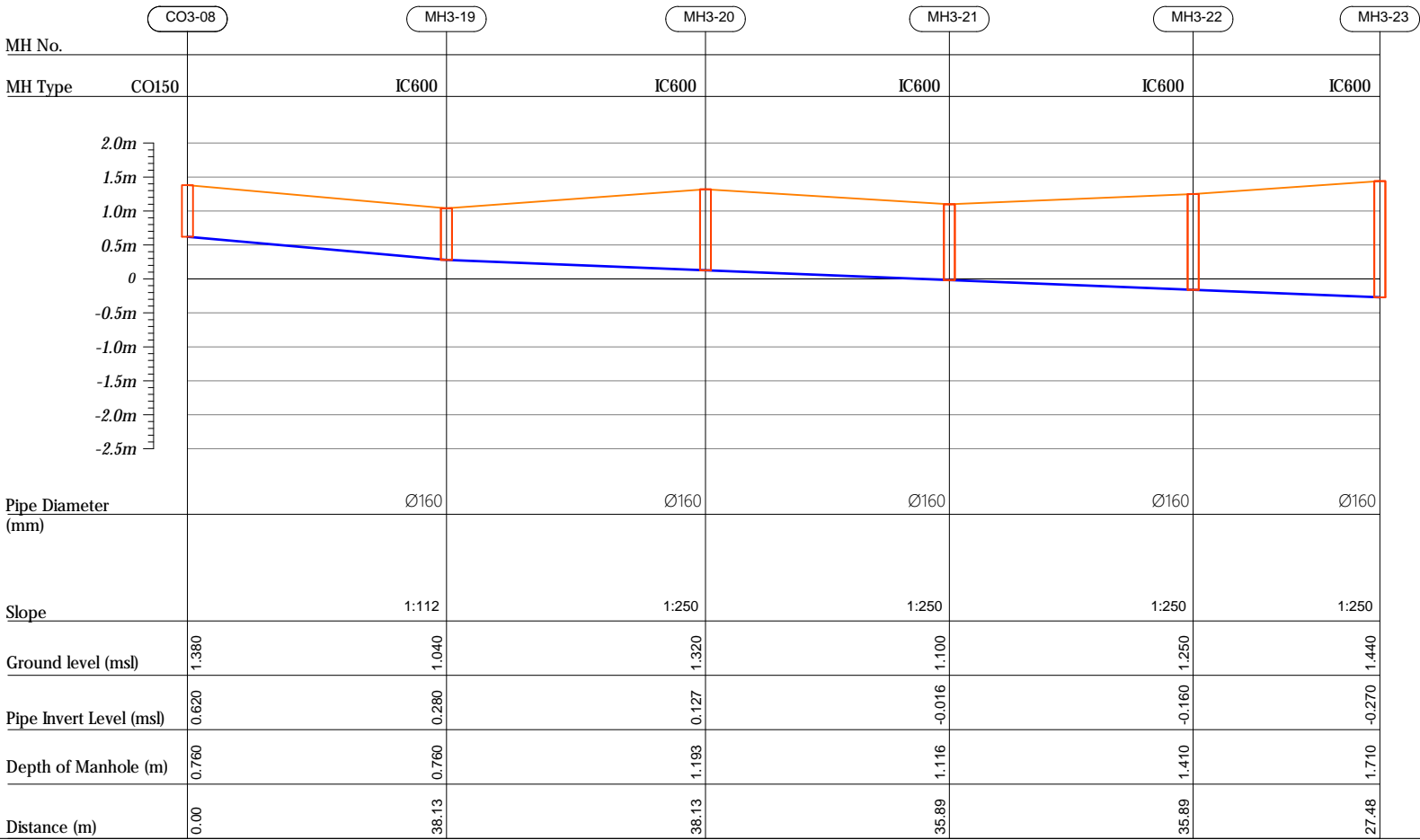
HORIZONTAL SCALE  CO160 — Cleanout  $\phi$ 160  
IC600 — HDPE Manhole  $\phi$ 600  
PS — Pump Station

VERTICAL SCALE 

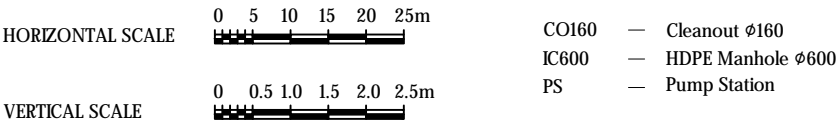
Profile 07



Profile 08



R00	JUNE 2020	STAGE -I	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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W: www.epoch.associates  
A: G. Rosary West,  
Husnuheemaa Magu, Male', Maldives

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Drawn: Pratik.S.D

Checked: S.B.Chapale

Designed: V.Muske

Approved: LW

Date: Aug 2020

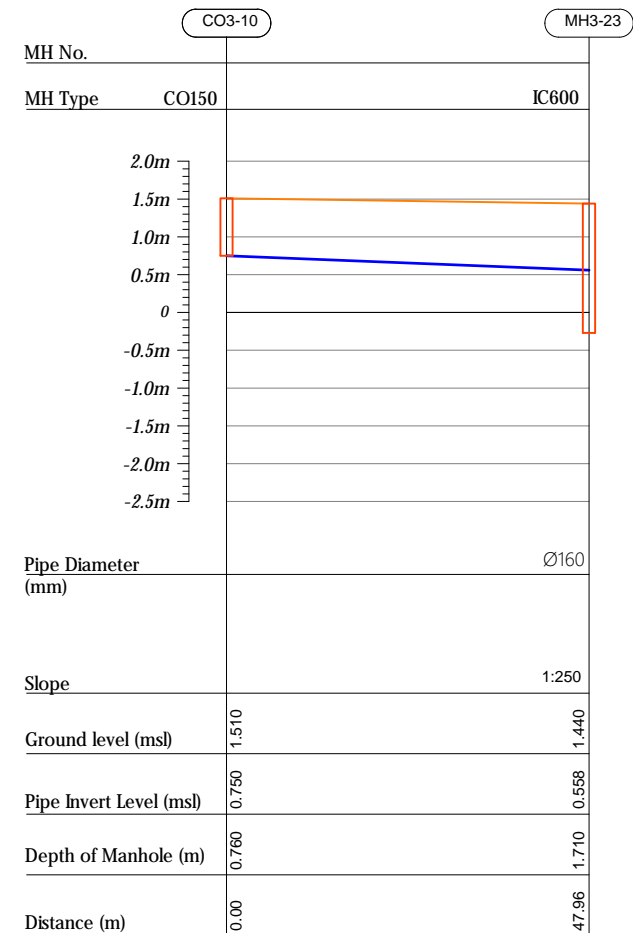
SCALE (A3): 1:100

Project No: 01010101

Rev:  
R-01

Page:  
PS3-05

## Profile 10



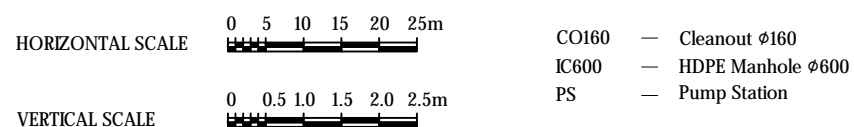
**Title:**  
*Consultancy Services for Survey,  
Design and EIA works of Water  
Supply and Sewerage Facilities in  
5 islands, Maldives - Package 6*

**Sub Title:**  
*Sewerage System in Gdh.Nadella*

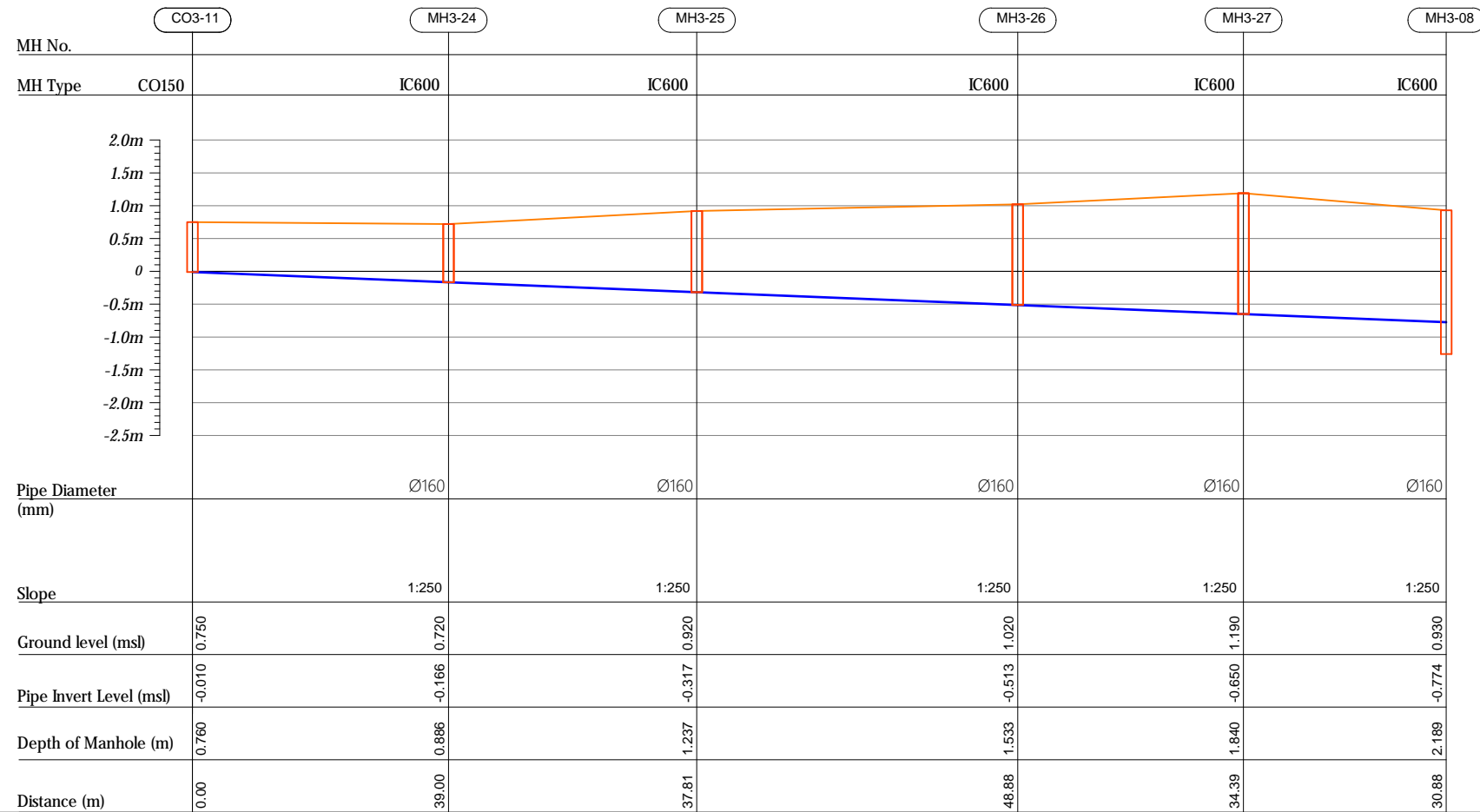
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**Client:**  
*Ministry of National Planning, Housing and  
Infrastructure, Republic of Maldives*

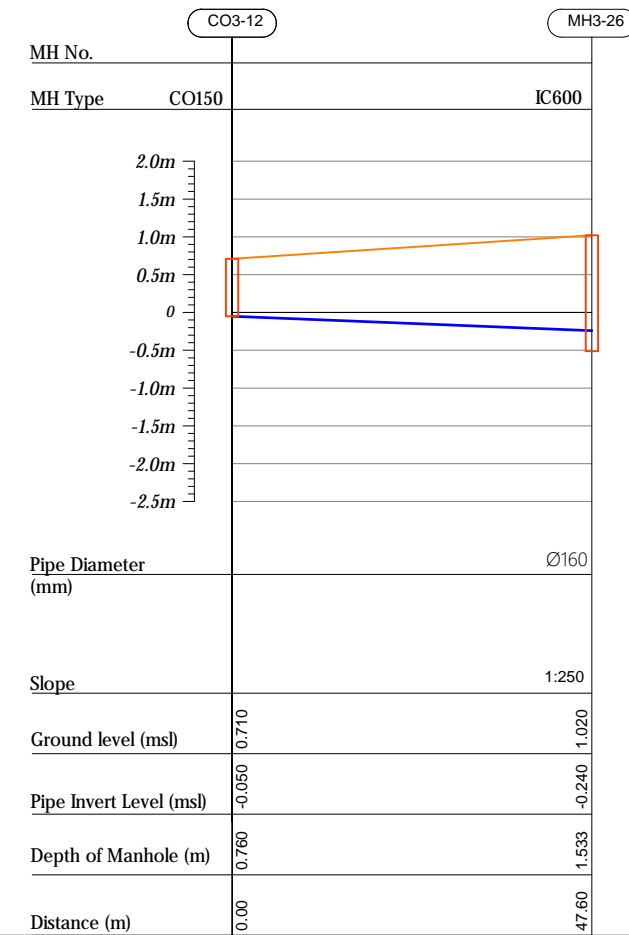
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Designed: V.Muske	Approved: LW
Date: Aug 2020	SCALE (A3): 1:100
Project No: 01010101	
Rev: R-01	Page: PS3-06



## 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  
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



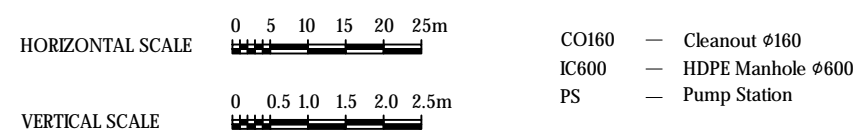
Drawn: Pratik.S.D	Checked: S.B.Chapale
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Designed: V.Muske	Approved: LW
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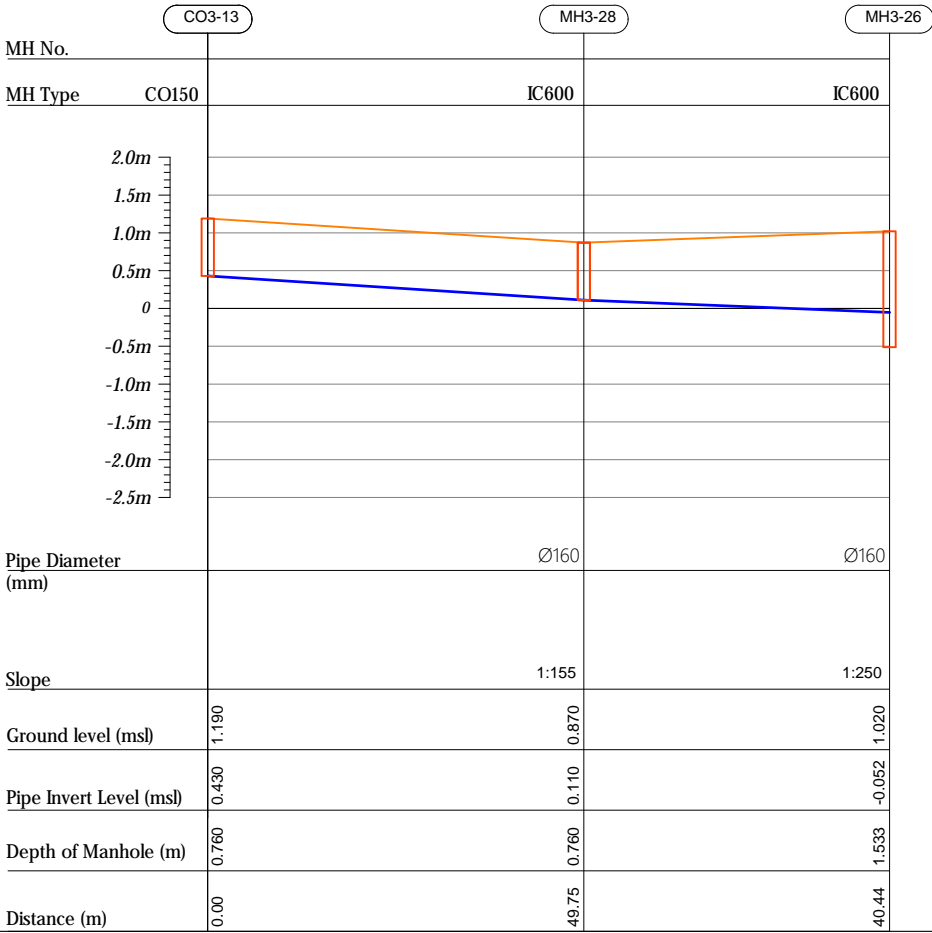
Date: Aug 2020	SCALE (A3): 1:100
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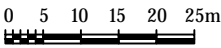


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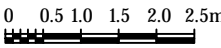


R00	JUNE 2020	STAGE -I	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

HORIZONTAL SCALE



VERTICAL SCALE



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

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Maldivuq Infrastructure Happaq

Drawn: Pratik.S.D Checked: S.B.Chapale

Designed: V.Muske Approved: LW

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

Project No: 01010101

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