

FENCE CO - ORDINATES		
PEG No.	Y	X
F1	12729.00	-3269308.11
F2	12719.38	-3269306.76
F3	12705.55	-3269315.02
F4	12711.45	-3269324.84
F5	12727.45	-3269314.67

GRAVITY SEWER PIPE CO - ORDINATES		
PEG No.	Y	X
EXMH8	12745.52	-3269311.16
MH1	12725.97	-3269319.91
MH2	12783.09	-3269525.98
PS	12719.62	-3269314.20

PUMP STATION CO - ORDINATES		
PEG No.	Y	X
P1	12714.92	-3269314.22
P2	12712.36	-3269318.81
P3	12709.68	-3269315.56
P4	12717.48	-3269309.63
P5	12720.17	-3269313.85

STORM WATER CO - ORDINATES		
PEG No.	Y	X
SWI 1	12726.35	-3269314.83
SWI 2	12720.98	-3269318.24
SWI 3	12715.74	-3269321.58
SW MH1	12709.72	-3269325.41
HW 1	12706.49	-3269320.34

ACCESS ROAD CO - ORDINATES		
PEG No.	Y	X
R1	12710.51	-3269324.91
R2	12715.74	-3269321.58
R3	12720.98	-3269318.24
R4	12726.35	-3269314.83
R5	12707.36	-3269319.98
R6	12707.36	-3269319.98



Pump Station Site Layout
Scale 1: 100

FOR TENDER PURPOSES ONLY

NOTES:

- Manholes to be in accordance with DWG No. 38570 and 38574.
- Pipe bedding to be in accordance with departmental specification DB 5.5.
- All dimensions are to be checked on site prior to any fabrication and commencement to work.
- Positions and levels of all services in the vicinity of the new sewer to be checked and proved prior to commencement of construction.
- Sewer pipe shall be heavy duty uPVC 150mm Ø on flexible bedding unless otherwise stated.
- All invert levels to be confirmed by contractor on site.
- All manholes within road carriageway to have H.D. cast iron cover and frame unless otherwise indicated.
- All existing services to be proven by contractor on site prior to works proceeding.
- For engineering services layout refer to DRG. No. 10266/5000.
- The minimum cover to all pipes shall be :
A) Midblock - 800mm
B) Sidewalk - 1000mm
C) Roadway - 1200mm
- Sewer manholes shall be 1000mm Ø precast ring manholes with light duty cover and frame unless otherwise indicated.

N.G.L. - Natural Ground Level
F.G.L. - Finish Ground level

Any discrepancies are to be confirmed with the engineer on site prior to work proceeding.

REVISIONS		
Revision	Date	Description
A	MAR 2022	FOR TENDER PURPOSES

DATE: SIGN:

REDUCED PLAN USE SCALE BELOW

LEGEND OF EXISTING UNDERGROUND SERVICES

- PROPOSED SEWERS AND M.H.'S
- EXISTING SEWERS AND M.H.'S
- ABANDONED SEWERS AND M.H.'S
- STORM WATER DRAIN AND M.H.'S
- WATER MAINS AND VALVES
- ELECTRICITY CABLES
- TELEPHONE CABLES
- SPOORNET LINE
- OIL PIPELINE

UNDERGROUND SERVICES CHECKED

SERVICE	DATE	SIGNATURE
S.W. DRAINS		
SEWERS		
WATER MAINS		
TELKOM CABLES		
ELECTRIC CABLES		
SPOORNET CABLES		
E.S.G. CABLES		
OIL PIPE LINE		

NOTE: Only underground services affected by new construction work are shown. Care must be taken during excavations for road foundations, trenches etc. to avoid damage to underground services such as sewers, drains, cables, water mains and conduits. Wherever possible these must be located before work proceeds.

NOTE: No construction work to commence until land and servitude applications have been approved by the relevant authorities.

Date: _____ Engineer: _____ **NORTH POINT**

ENGINEERING WASTEWATER DESIGN
ETHEKWINI MUNICIPALITY

ETHEKWINI WATER & SANITATION

Contract No. **WS 7201**

Project Title **NORTDALE PUMP STATION AND RISING MAIN REPLACEMENT**

Project No. (Y 8612)

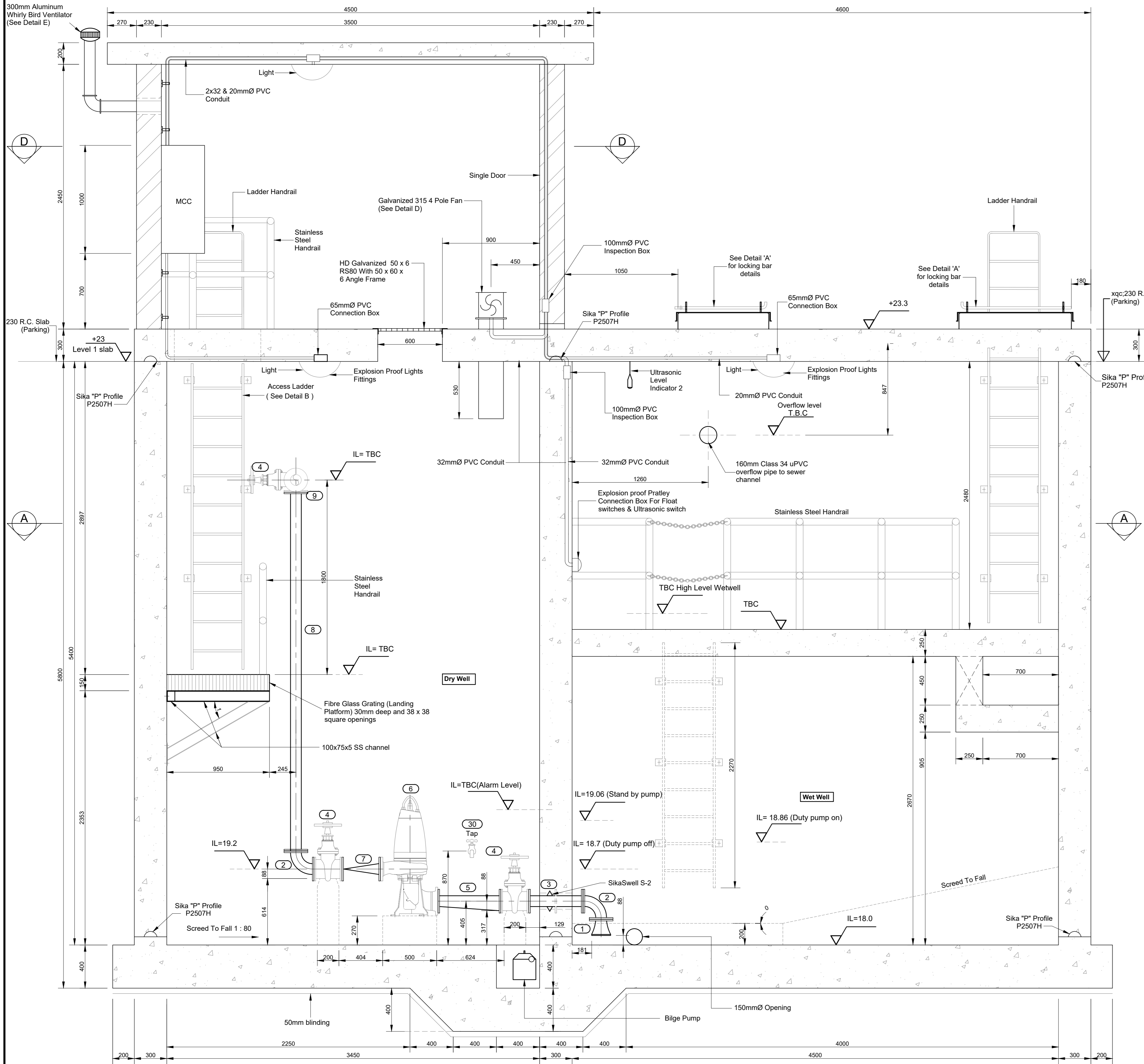
Drawing Title **PUMP STATION SITE LAYOUT**

Reference Drgs.

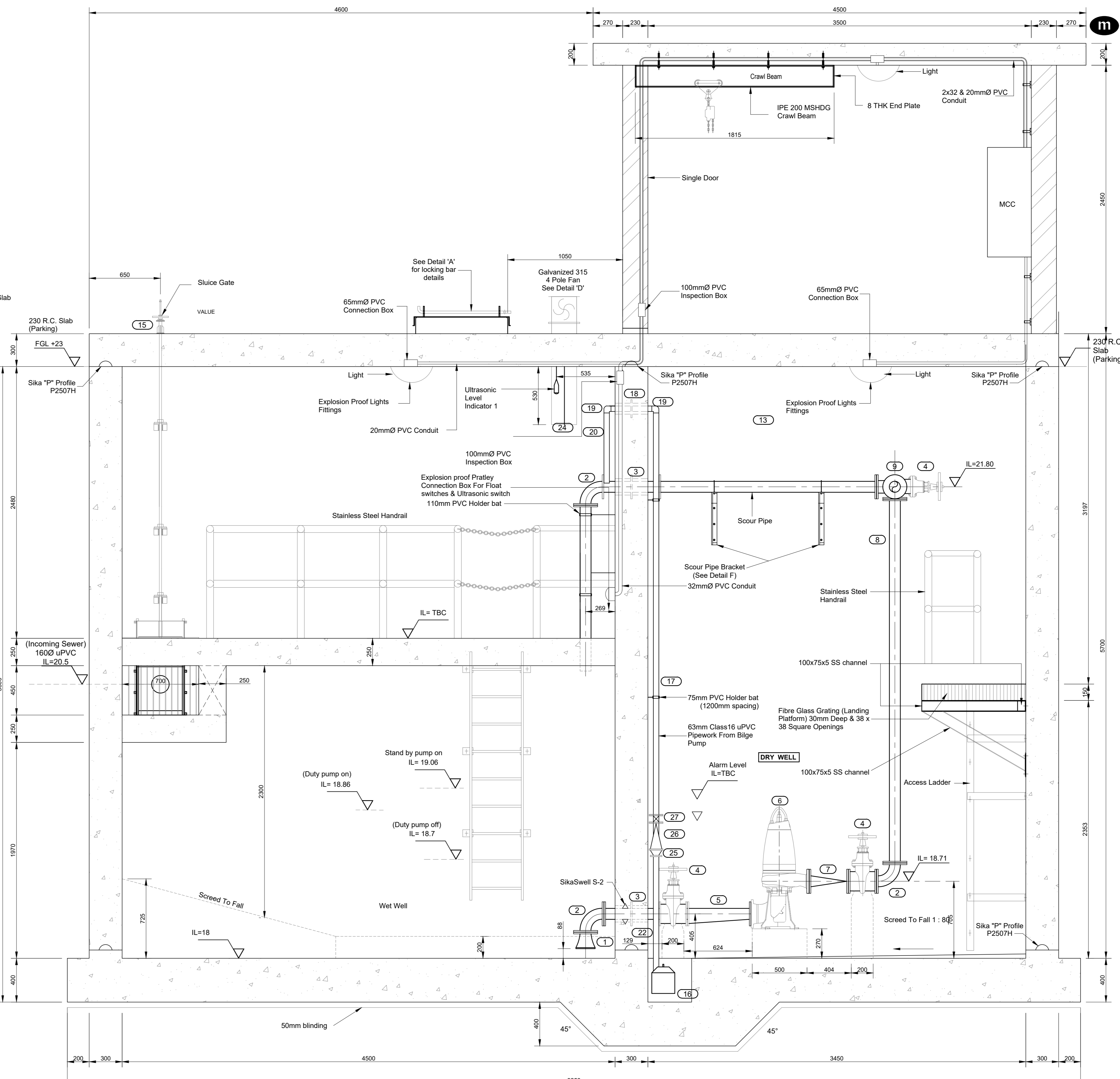
Scale	Dwg.	Date
As Shown		
Surveyed	S. MANGOLE	MAR 2022
Drawn	P. ZONDI	MAR 2022
Designed	R. NIEL	MAR 2022
Checked	P. MBHELE	MAR 2022

Area Manager
Manager: D. LARKIN (Design)
Deputy Head: B. SONI (Engineering)
Head: (Water & Sanitation) **E. MSWELI**

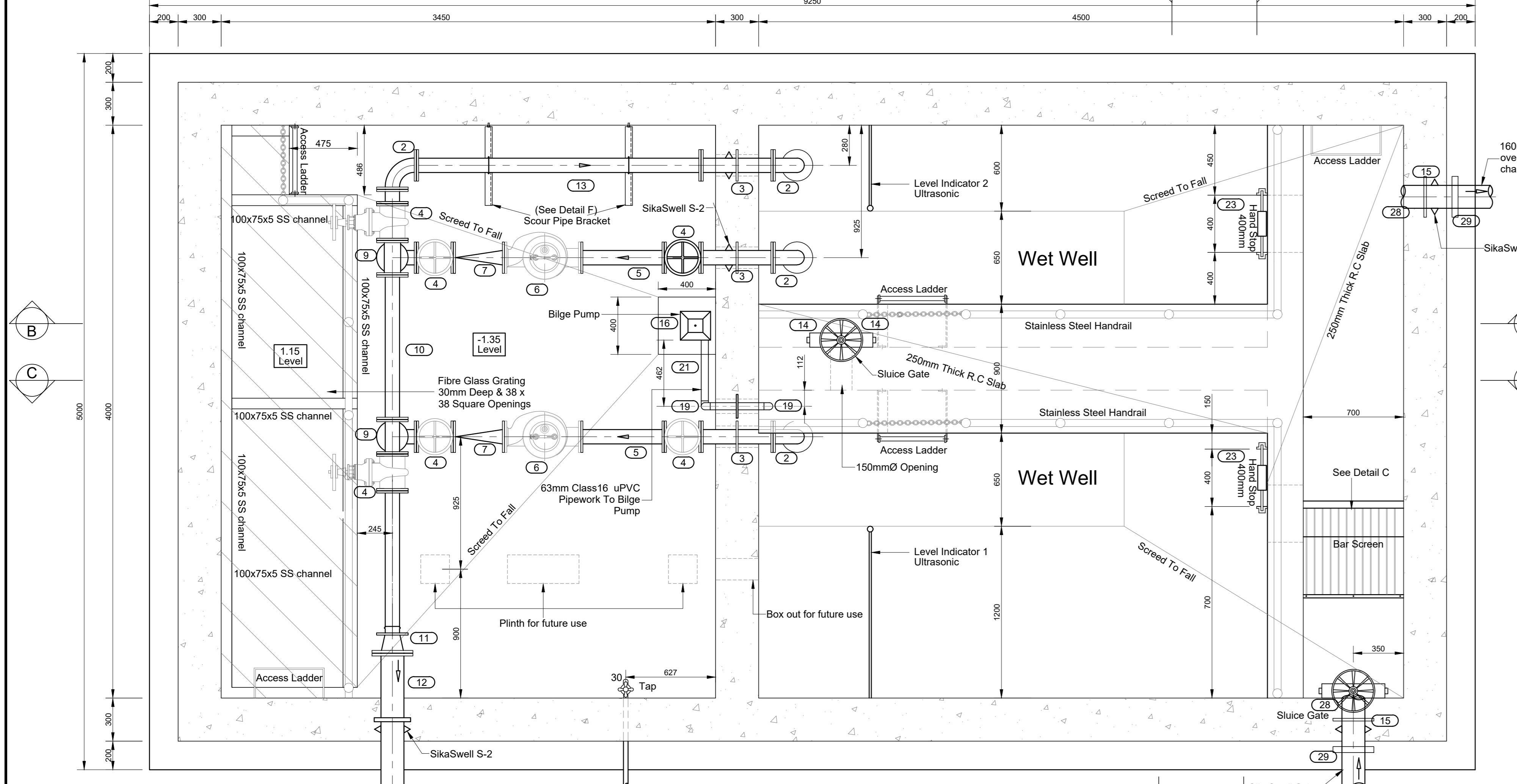
Drawing No.	Sheet	Rev.
59106	1/1	



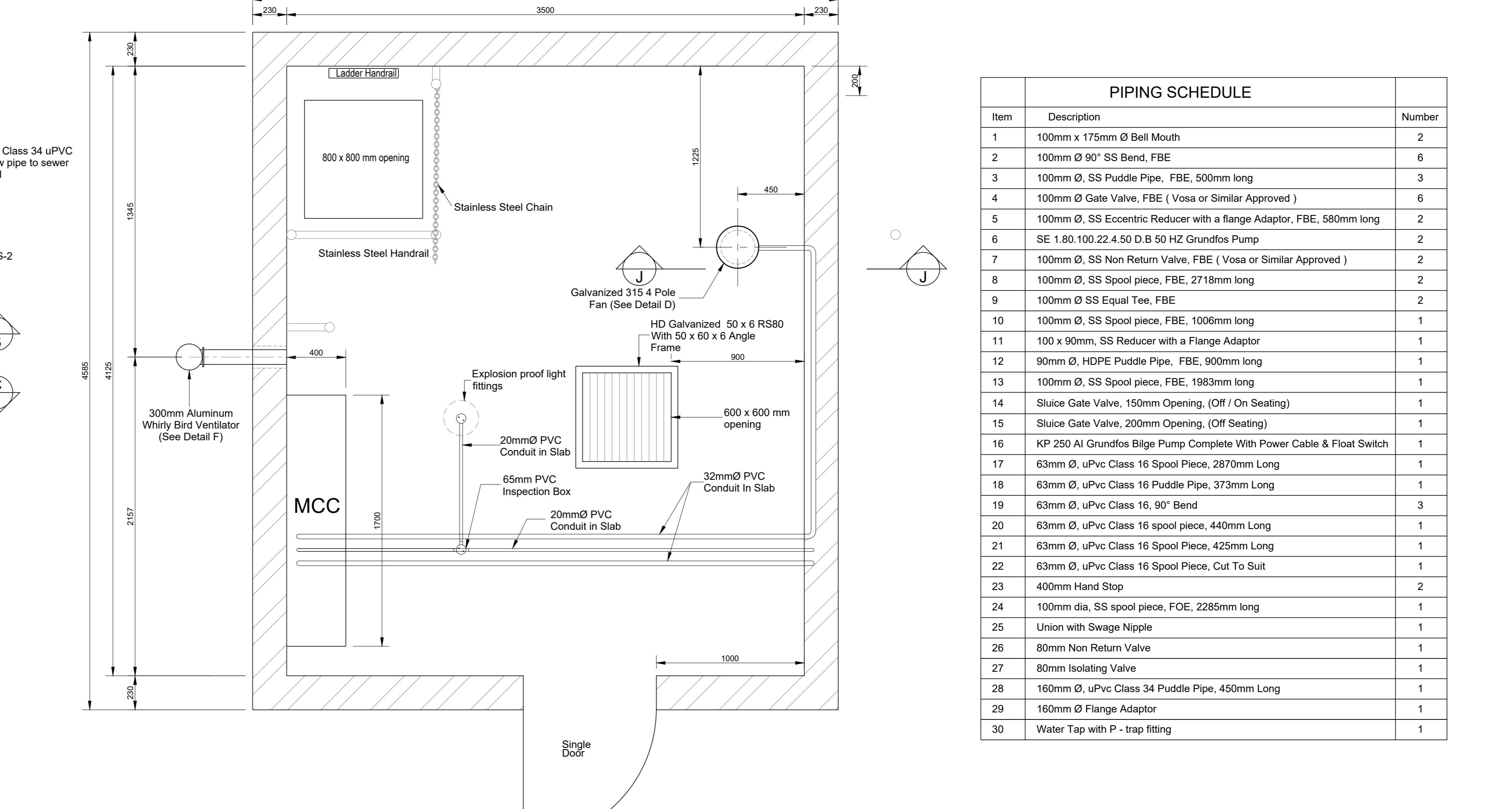
SECTION B - B
SCALE 1:20



SECTION C - C
SCALE 1:20



SECTIONAL PLAN VIEW A - A
SCALE 1:20



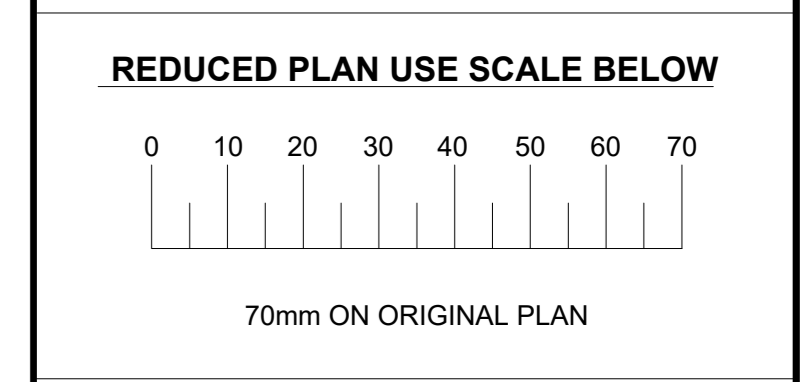
SECTIONAL PLAN VIEW D - D
SCALE 1:20

PIPING SCHEDULE		
Item	Description	Number
1	100mm x 175mm Ø Bell Mouth	2
2	100mm Ø 90° SS Bend, FBE	6
3	100mm Ø, SS Puddle Pipe, FBE, 500mm long	3
4	100mm Ø Gate Valve, FBE (Vosa or Similar Approved)	6
5	100mm Ø, SS Eccentric Reducer with a Flange Adaptor, FBE, 580mm long	2
6	SE 1.80.100.22.4.50 D.B 50 HZ Grundfos Pump	2
7	100mm Ø, SS Non Return Valve, FBE (Vosa or Similar Approved)	2
8	100mm Ø, SS Spool piece, FBE, 2718mm long	2
9	100mm Ø SS Equal Tee, FBE	2
10	100mm Ø, SS Spool piece, FBE, 1006mm long	1
11	100 x 90mm, SS Reducer with a Flange Adaptor	1
12	90mm Ø, HDPE Puddle Pipe, FBE, 900mm long	1
13	100mm Ø, SS Spool piece, FBE, 1983mm long	1
14	Sluice Gate Valve, 150mm Opening, (Off / On Seating)	1
15	Sluice Gate Valve, 200mm Opening, (Off Seating)	1
16	KP 250 AI Grundfos Bilge Pump Complete With Power Cable & Float Switch	1
17	63mm Ø, uPVC Class 16 Spool Piece, 2670mm Long	1
18	63mm Ø, uPVC Class 16 Puddle Pipe, 373mm Long	1
19	63mm Ø, uPVC Class 16, 90° Bend	3
20	63mm Ø, uPVC Class 16 spool piece, 440mm Long	1
21	63mm Ø, uPVC Class 16 Spool Piece, 425mm Long	1
22	63mm Ø, uPVC Class 16 Spool Piece, Cut To Suit	1
23	400mm Hand Stop	2
24	100mm dia, SS spool piece, FOE, 2285mm long	1
25	Union with Swage Nipple	1
26	80mm Non Return Valve	1
27	80mm Isolating Valve	1
28	160mm Ø, uPVC Class 34 Puddle Pipe, 450mm Long	1
29	160mm Ø Flange Adaptor	1
30	Water Tap with P - trap fitting	1

- NOTES:**
- Manholes to be in accordance with DWG No. 38570 and 38574
 - Pipe bedding to be in accordance with departmental specification DB 5.5
 - All dimensions are to be checked on site prior to any fabrication and commencement to work
 - Positions and levels of all services in the vicinity of the new sewer to be checked and proved prior to commencement of construction
 - Sewer pipe shall be heavy duty uPVC 150mmØ on flexible bedding unless otherwise stated
 - All invert levels to be confirmed by contractor on site
 - All manholes within road carriageway to have H.D. cast iron cover and frame unless otherwise indicated
 - All existing services to be proven by contractor on site prior to works proceeding
 - For engineering services layout refer to DRG. No. 10266/5000
 - The minimum cover to all pipes shall be :
A) Midblock - 400mm
B) Sidewalk - 1000mm
C) Roadway - 1200mm
 - Sewer manholes shall be 1000mmØ precast ring manholes with light duty cover and frame unless otherwise indicated
- N.G.L. - Natural Ground Level
F.G.L. - Finish Ground Level
- Any discrepancies are to be confirmed with the engineer on site prior to work proceeding

REVISIONS

Revision	Date	FOR TENDER PURPOSES Description
A	OCT 2019	

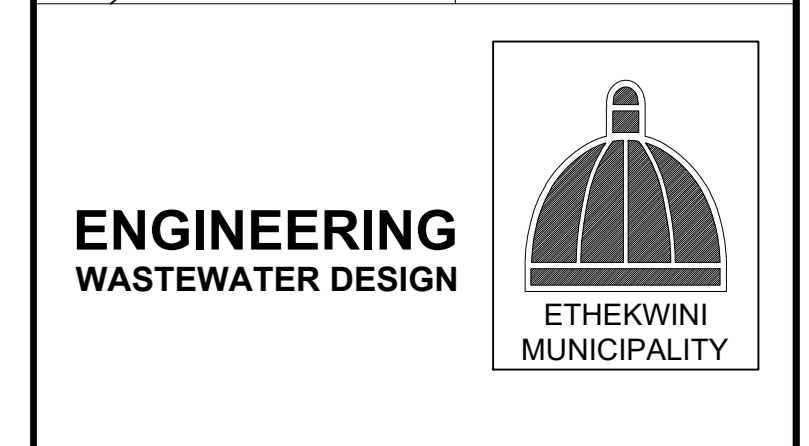
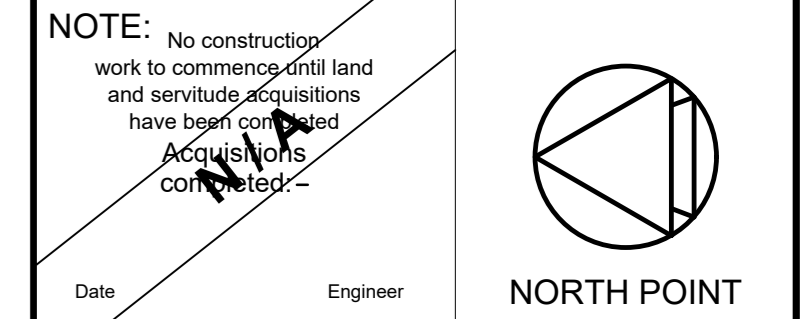


- LEGEND OF EXISTING UNDERGROUND SERVICES**
- PROPOSED SEWERS AND M.H.'S
 - EXISTING SEWERS AND M.H.'S
 - ABANDONED SEWERS AND M.H.'S
 - STORM WATER DRAIN AND M.H.'S
 - WATER MAINS AND VALVES
 - ELECTRICITY CABLES
 - TELEPHONE CABLES
 - SPOONNET LINE
 - OIL PIPELINE

UNDERGROUND SERVICES CHECKED

SERVICE	DATE	SIGNATURE
S.W DRAINS		
SEWERS		
WATER MAINS		
TELKOM CABLES		
ELECTRIC CABLES		
SPOONNET CABLES		
E.S.C. CABLES		
OIL PIPE LINE		

NOTE: Only underground services affected by new construction work are shown.
Care must be taken during excavations for road foundations, trenches etc. to avoid damage to underground services such as sewers, electric cables, water mains and connections. Whenever possible these must be located before work proceeds.



ETHEKWINI WATER & SANITATION

Contract No. **WS 7201**

NORTDALE PUMP STATION AND RISING MAIN REPLACEMENT

Project No. (Y 8612)

PUMP STATION SECTION DETAILS PART 1

Reference Drgs.

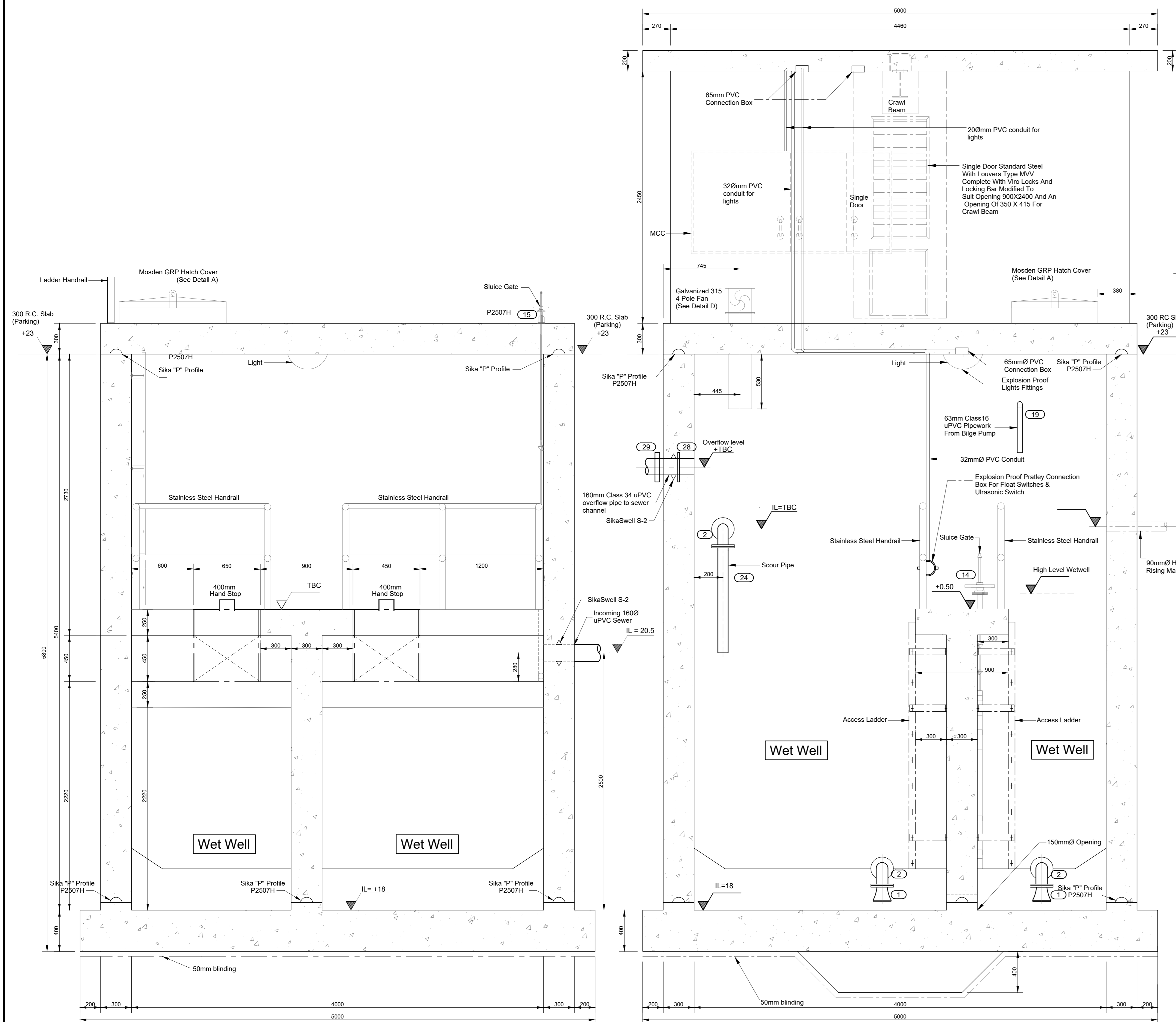
Scale	AS SHOWN
Surveyed	S MANGELE
Drawn	P. ZONDI
Designed	R.NEL
Checked	P.MBHELE

Date: MAR 2022

Area Manager
Manager: P.MBHELE (Respon.)
Head: (Water & Sanitation) **E. MSWELI**

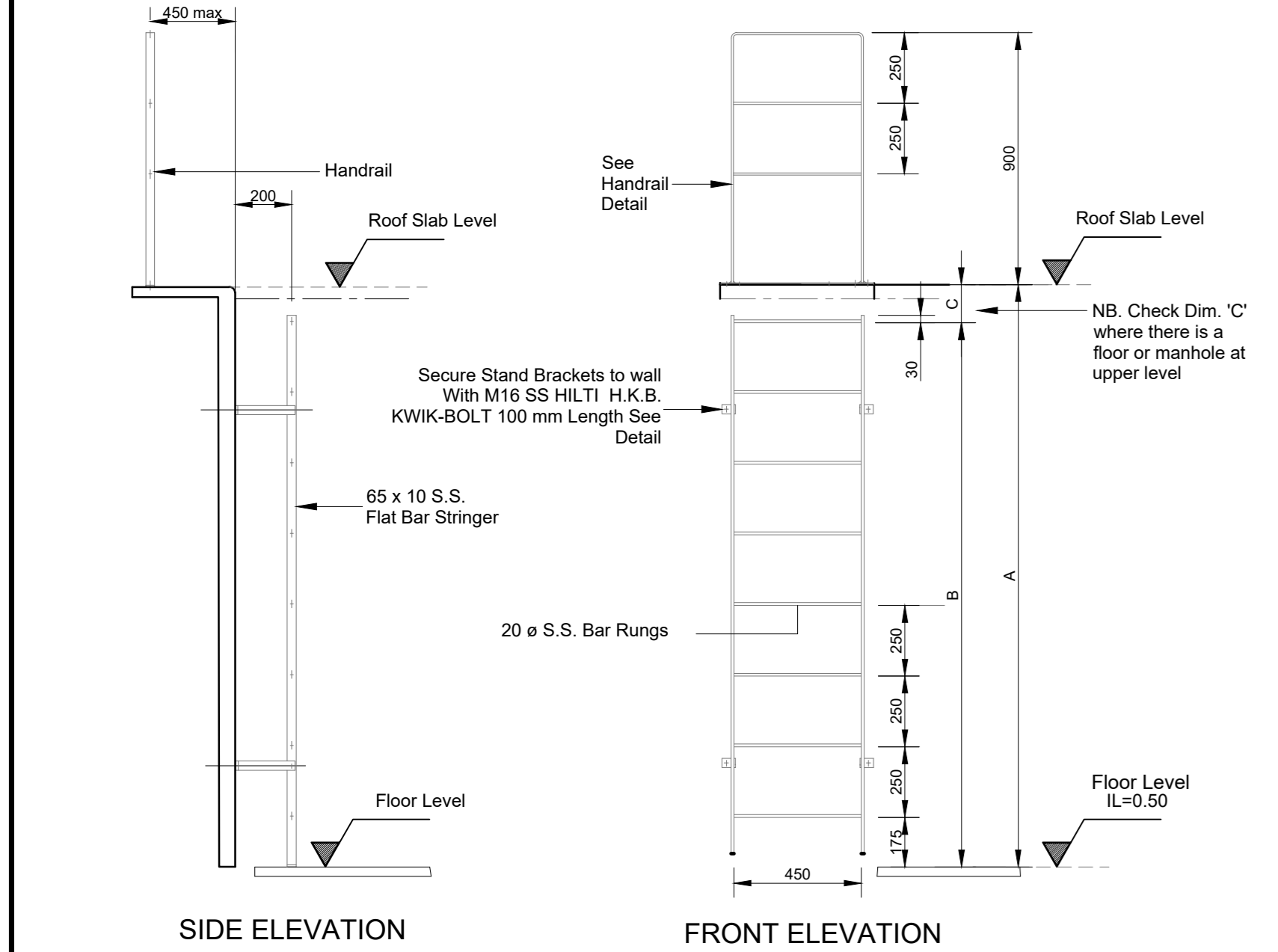
Drawing No. **59106** Sheet **5/6** Rev. _____

FOR TENDER PURPOSES ONLY

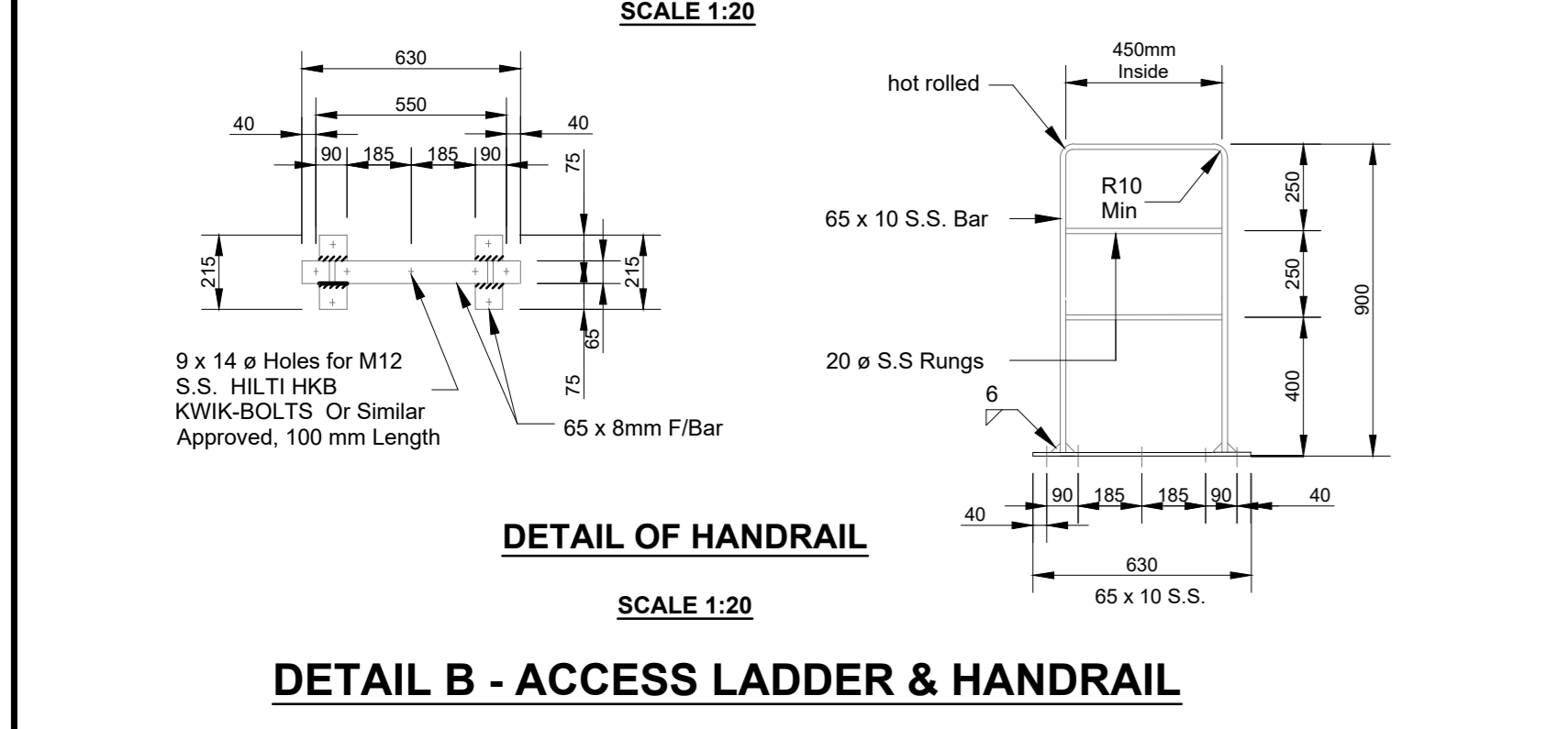


SECTION F - F
SCALE 1:20

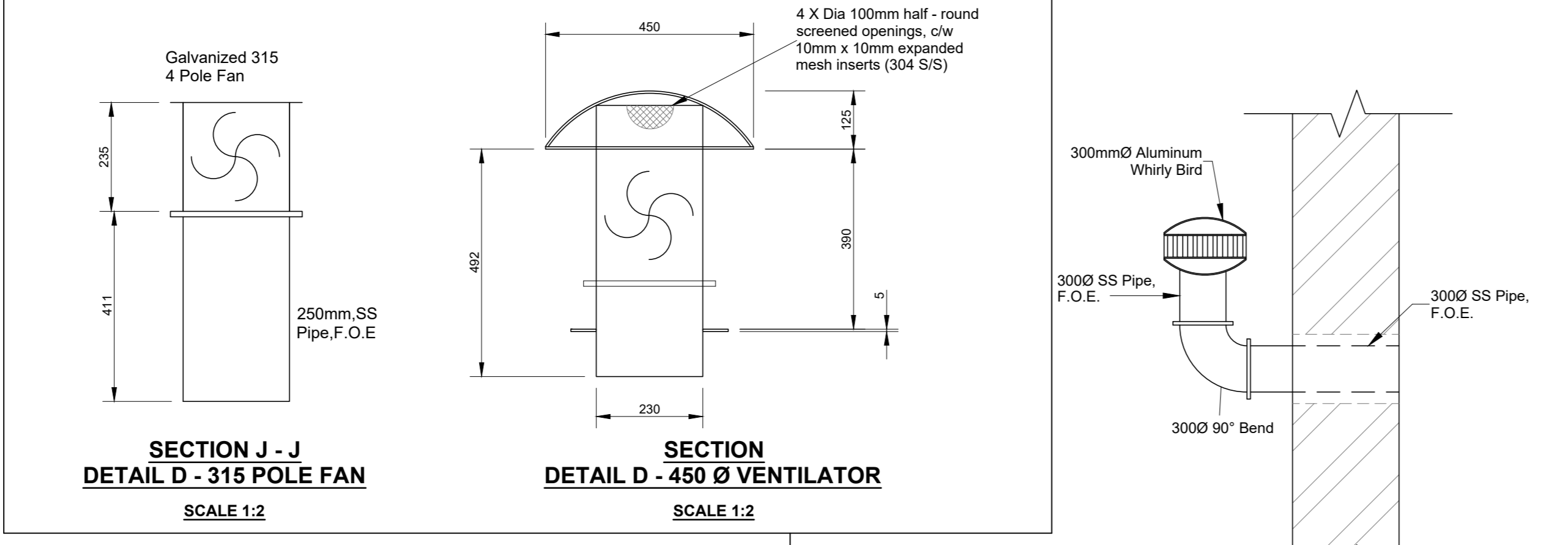
SECTION E - E
SCALE 1:20



STAINLESS STEEL LADDER FOR PERMANENT INTERNAL ACCESS
SCALE 1:20



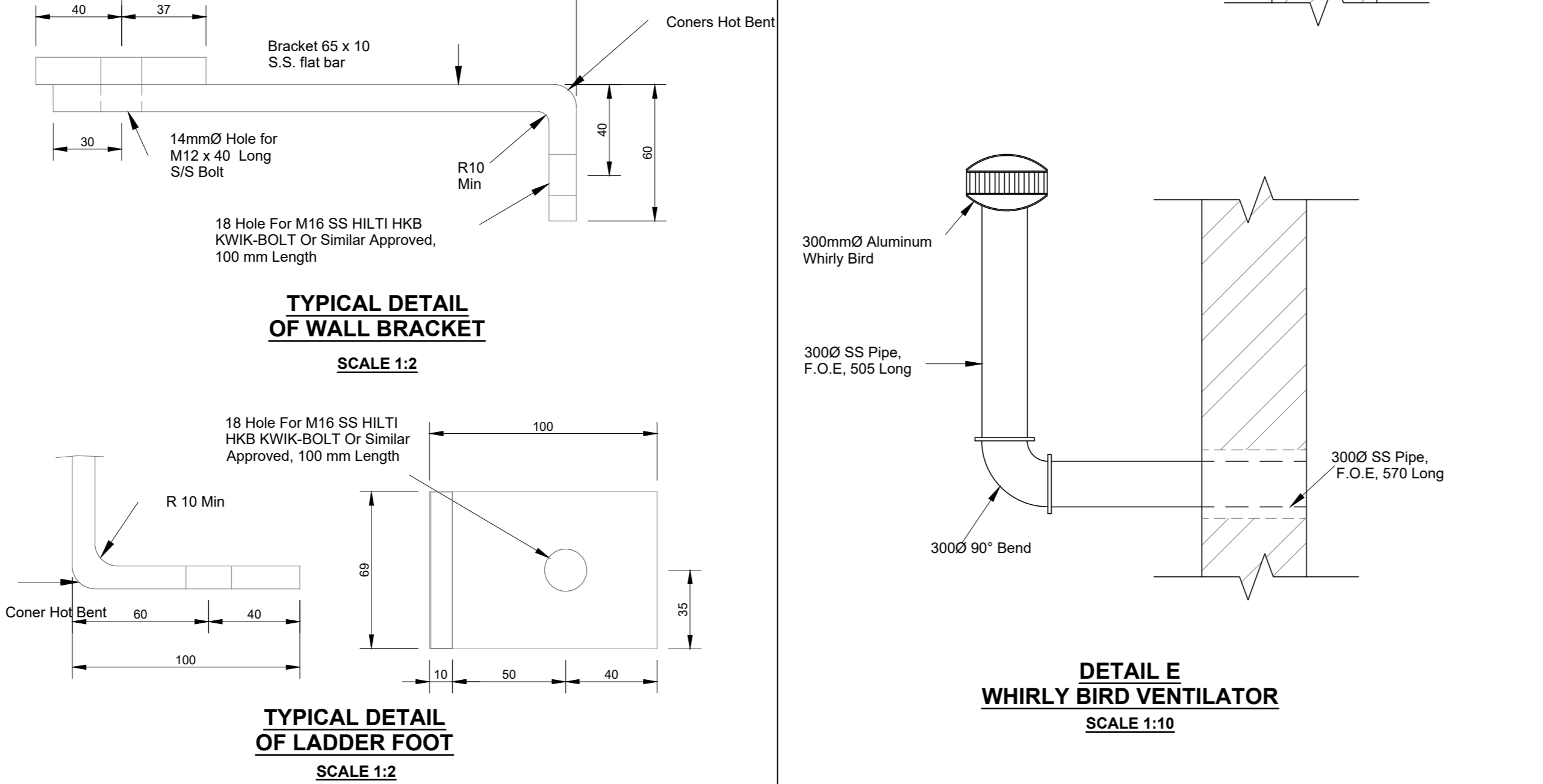
DETAIL B - ACCESS LADDER & HANDRAIL
SCALE 1:20



SECTION J - J
DETAIL D - 315 POLE FAN
SCALE 1:2

SECTION D - 450 Ø VENTILATOR
SCALE 1:2

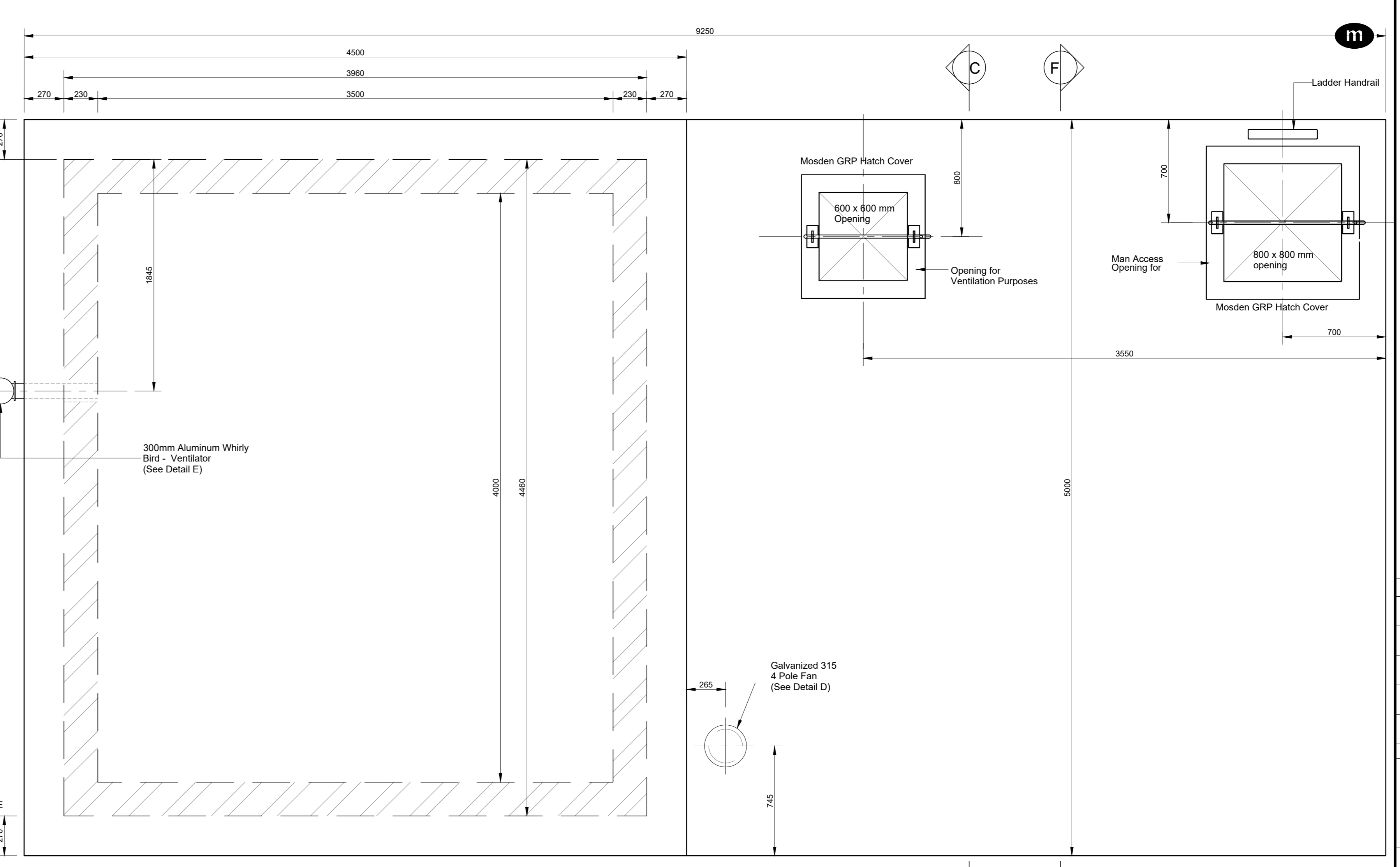
TYPICAL DETAIL OF WALL BRACKET
SCALE 1:2



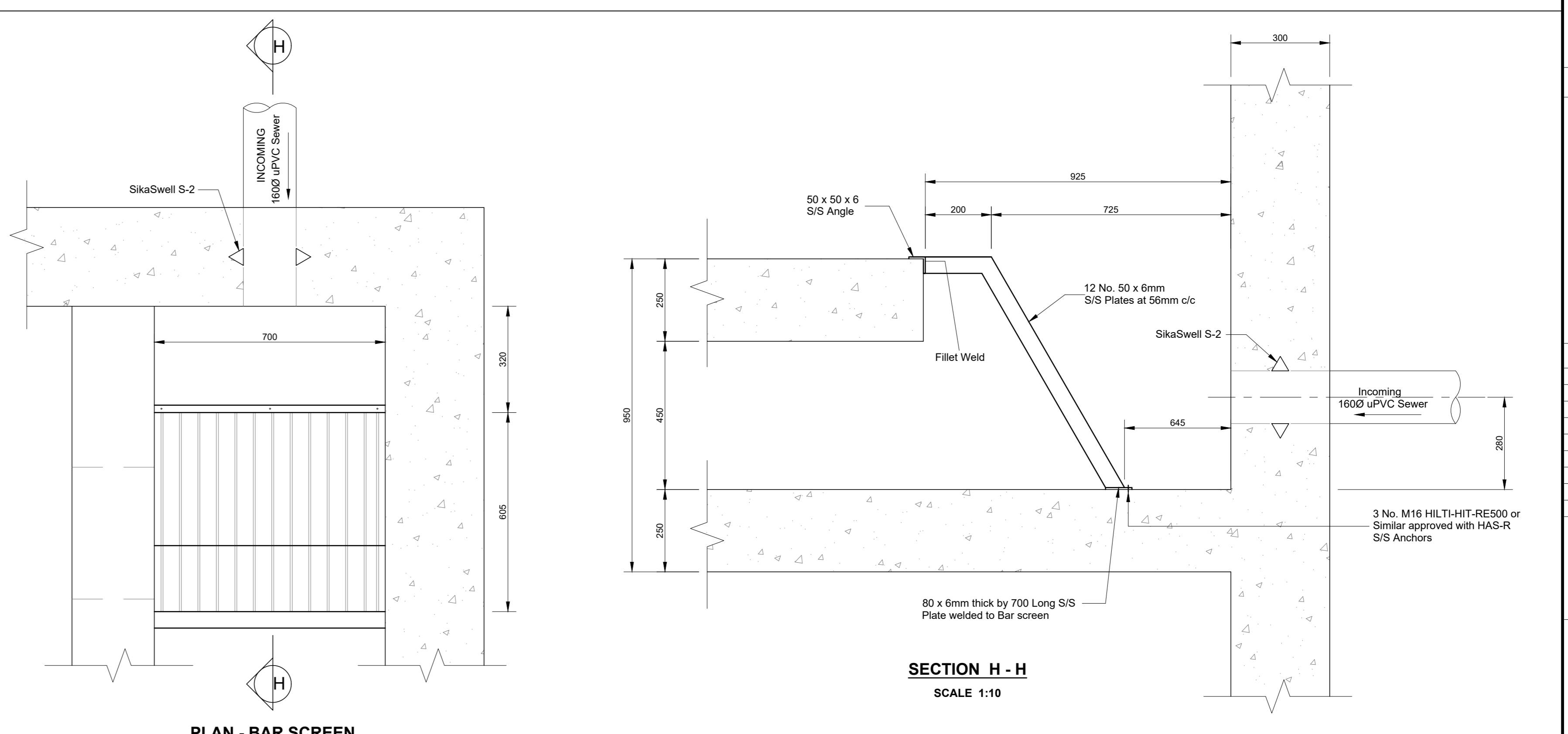
TYPICAL DETAIL OF LADDER FOOT
SCALE 1:2

DETAIL E
WHIRLY BIRD VENTILATOR
SCALE 1:10

DETAIL F
SCOUR PIPE SUPPORT BRACKET
SCALE 1:10

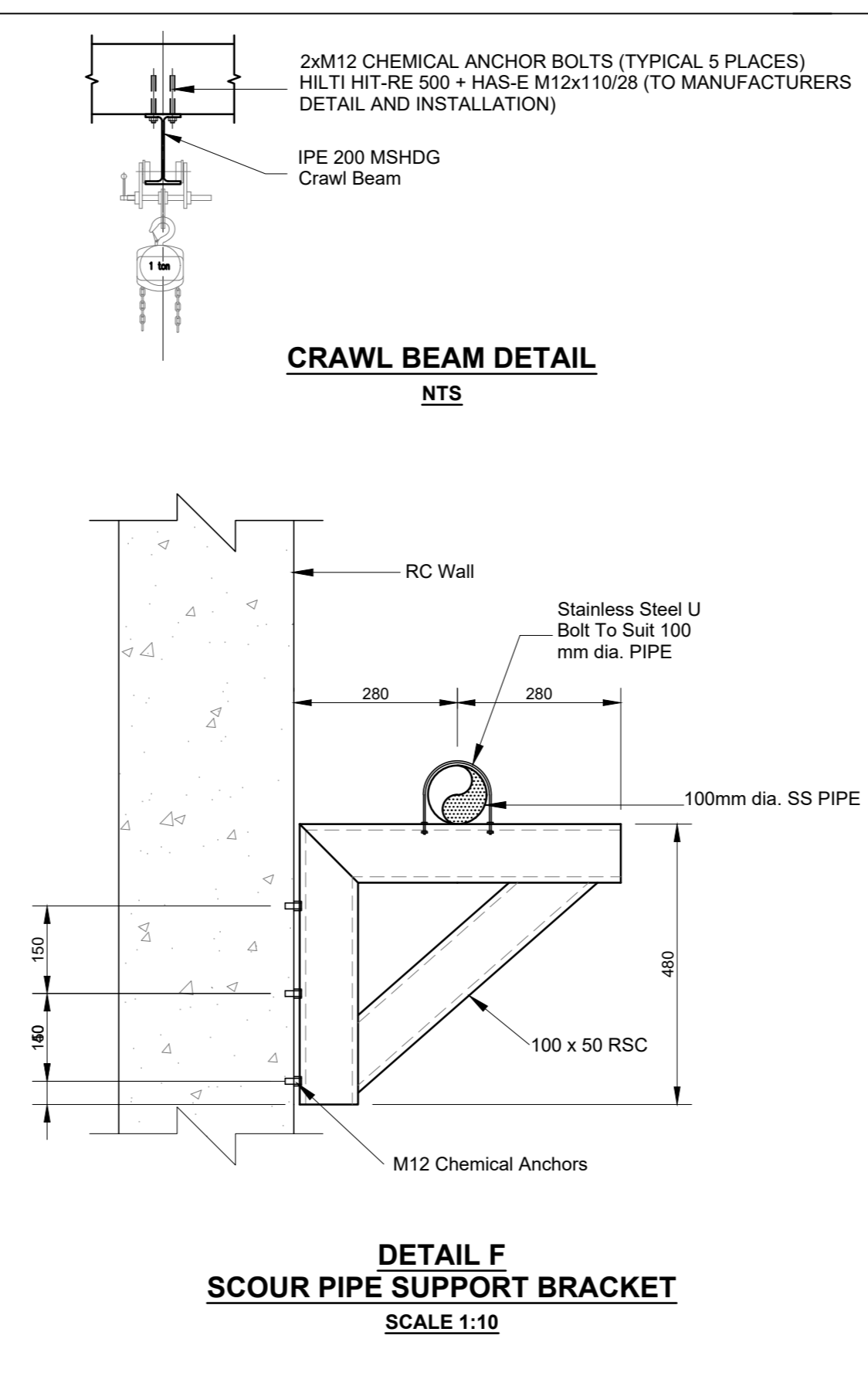


ROOF PLAN
SCALE 1:20



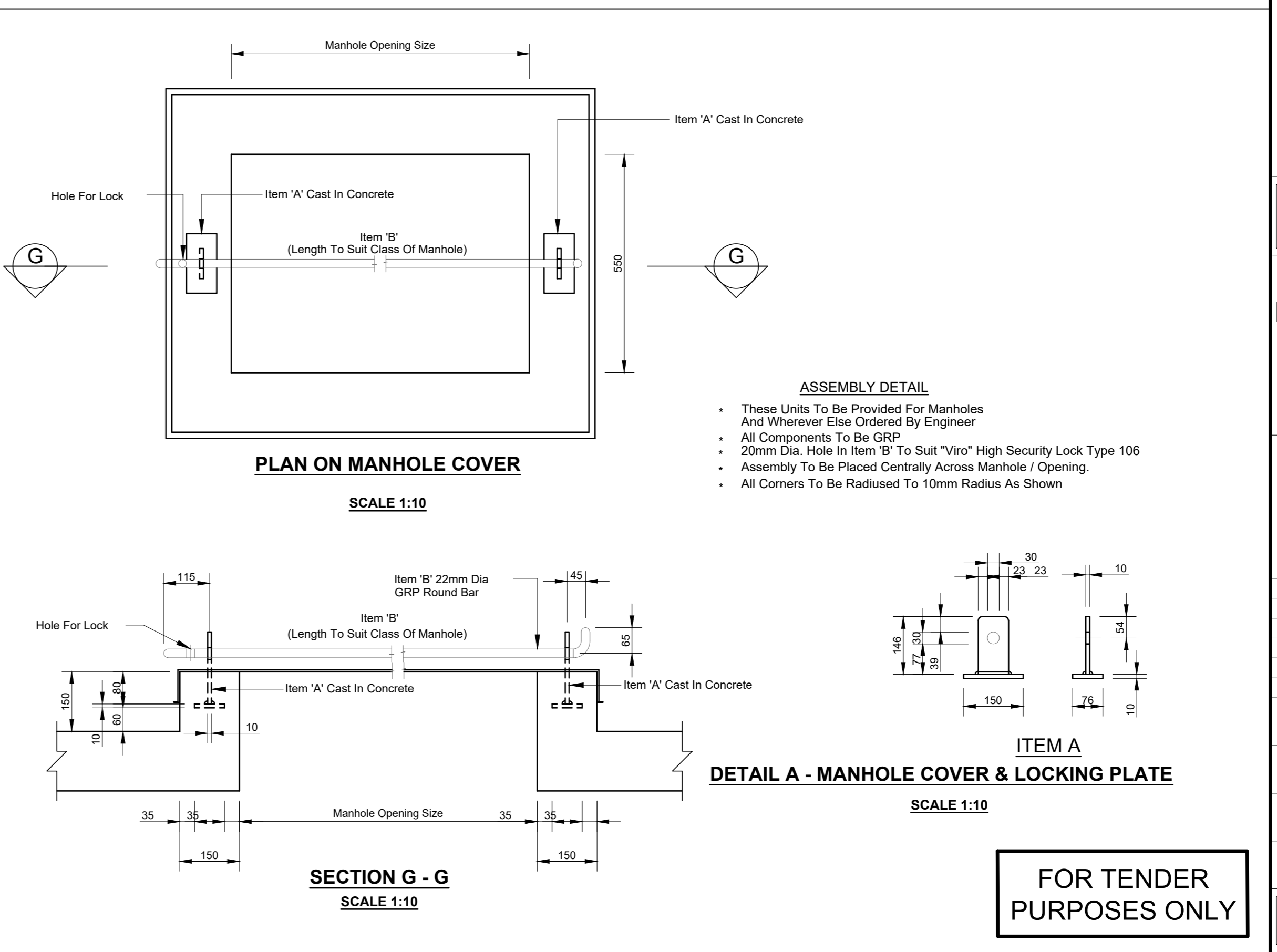
PLAN - BAR SCREEN
SCALE 1:10

DETAIL C - BAR SCREEN
SCALE 1:10



CRAWL BEAM DETAIL
M12

DETAIL F
SCOUR PIPE SUPPORT BRACKET
SCALE 1:10



PLAN ON MANHOLE COVER
SCALE 1:10

ASSEMBLY DETAIL
SCALE 1:10

SECTION G - G
SCALE 1:10

FOR TENDER PURPOSES ONLY

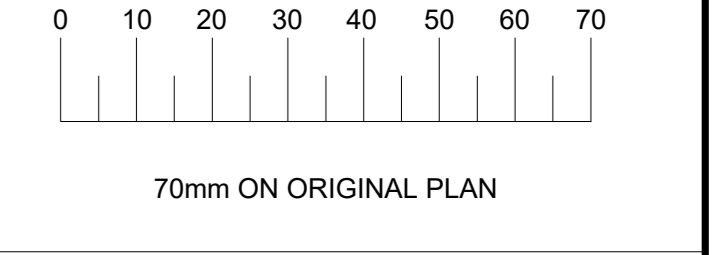
- NOTES**
- Manholes to be in accordance with DWG No. 38570 and 38574.
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F.G.L. - Finish Ground Level
- Any discrepancies are to be confirmed with the engineer on site prior to work proceeding.

REVISIONS

Revision	Date	FOR TENDER PURPOSES Description
A	OCT 2019	

DATE : SIGN :

REDUCED PLAN USE SCALE BELOW



LEGEND OF EXISTING UNDERGROUND SERVICES

- PROPOSED SEWERS AND M.H.'S
- EXISTING SEWERS AND M.H.'S
- ABANDONED SEWERS AND M.H.'S
- STORM WATER DRAIN AND M.H.'S
- WATER MAINS AND VALVES
- ELECTRICITY CABLES
- TELEPHONE CABLES
- SPOONNET LINE
- OIL PIPELINE

UNDERGROUND SERVICES CHECKED

SERVICE	DATE	SIGNATURE
S.W DRAINS		
SEWERS		
WATER MAINS		
TELKOM CABLES		
ELECTRIC CABLES		
SPOONNET CABLES		
E.S.C. CABLES		
OIL PIPE LINE		

NOTE: Only underground services affected by new construction work are shown.
Care must be taken during excavations for road underground services such as sewers, electric, telephone, water mains and connections. Whenever possible these must be located before work proceeds.

NOTE: No construction work to commercial land and services excavations have been conducted.
Date: _____ Engineer: _____



ETHEKWINI WATER & SANITATION

Contract No. **WS 7201**

Project Title
NORTHDALE PUMP STATION AND RISING MAIN REPLACEMENT

Project No. (Y 8612)

PUMPSTATION SECTION DETAILS PART 2

Reference Drgs.	Surveys	Date
AS SHOWN	S MANGELE	AUG 2019
P. ZONDI		MAR 2022
R NEL		MAR 2022
P MBHELE		MAR 2022

Area Manager
Manager : P MBHELE
(Engineering)
Head: (Water & Sanitation)
E. MSWELI

Drawing No. **59106** Sheet **6/6** Rev. _____