

SLAB DEPTH (D)mm	(A)	(B)	(C)	(E)
100	37	3	20	10
125	47	3	25	13
150	56	4	30	15
175	66	4	35	18
200	75	5	40	20
225	85	5	45	23
250	94	6	50	25

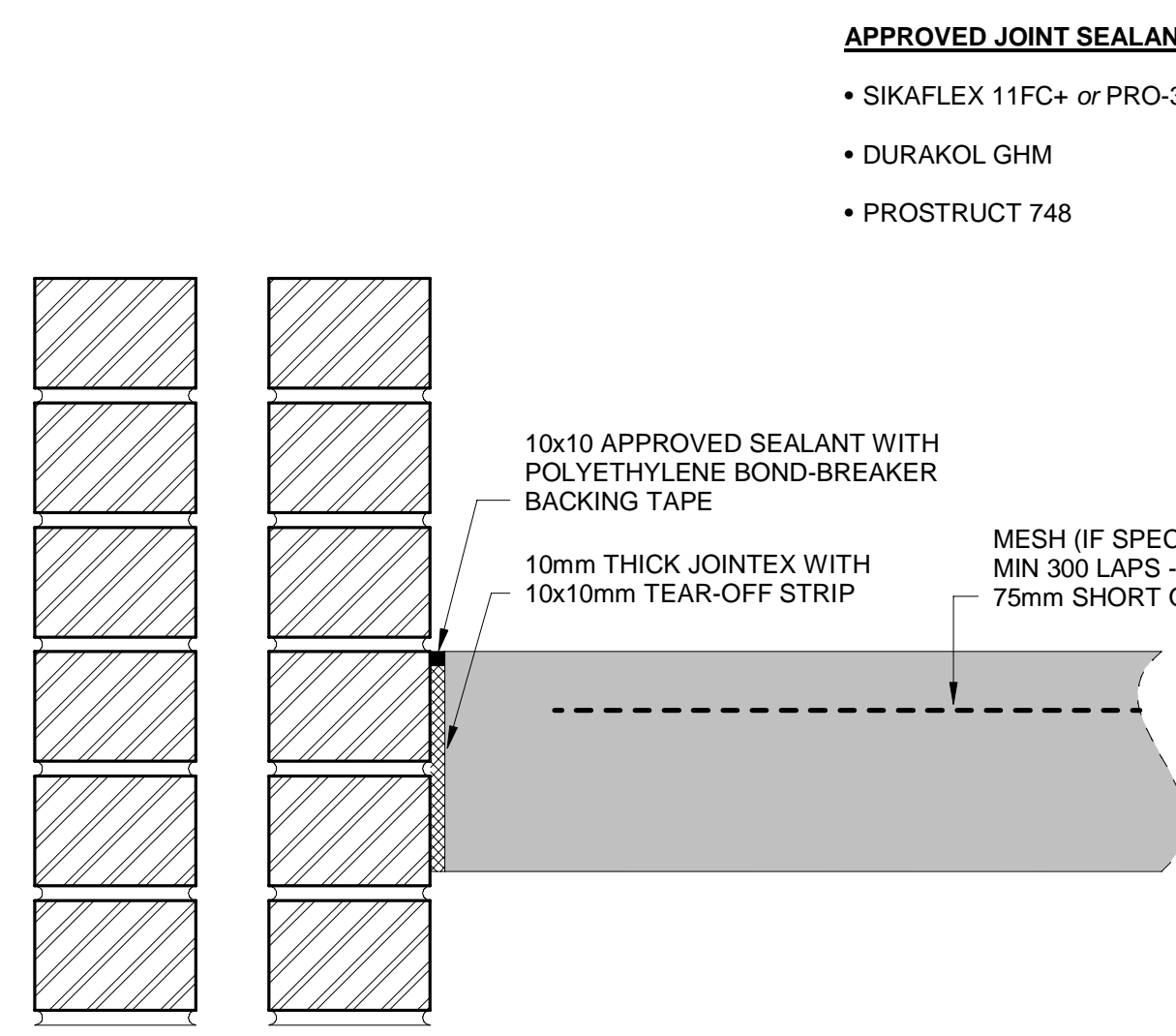
APPROVED JOINT SEALANTS:

- SIKAFLEX 11FC+ or PRO-3
- DURAKOL GHM
- PROSTRUCT 748

SLAB DEPTH (D)mm	(A)mm
100	25
125	35
150	40
175	45
200	50
225	55
250	65

APPROVED JOINT SEALANTS:

- SIKAFLEX 11FC+ or PRO-3
- DURAKOL GHM
- PROSTRUCT 748

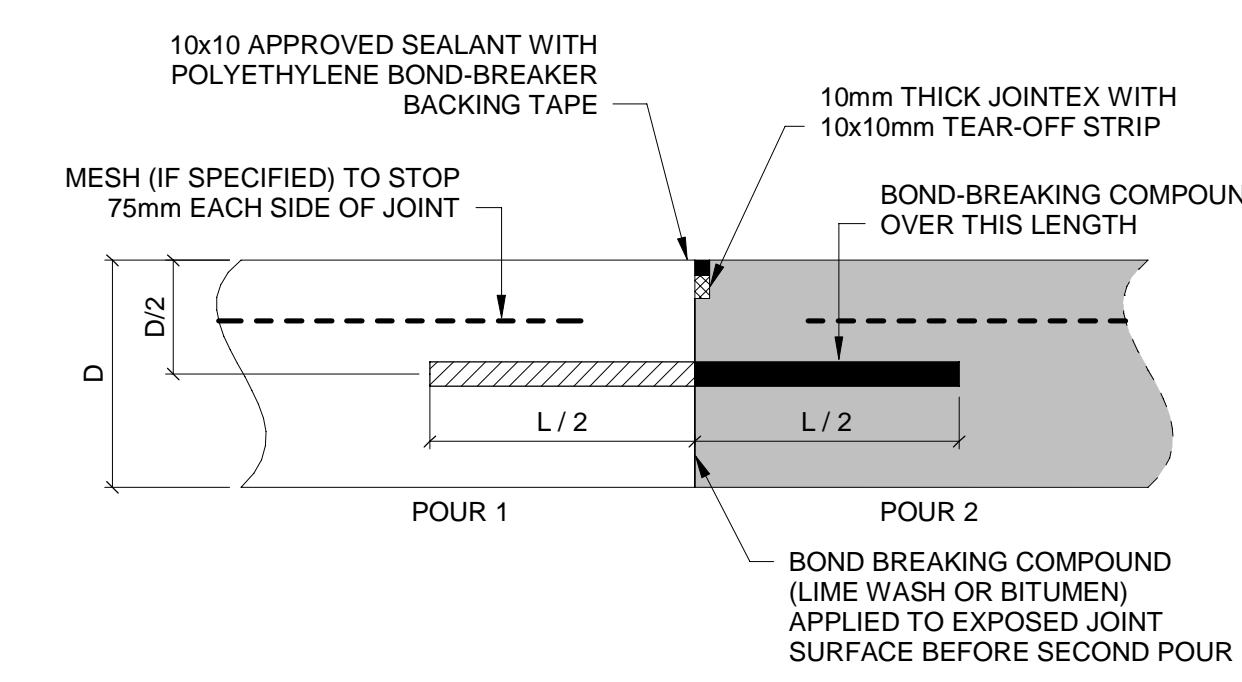


J1 SEALED ISOLATION JOINT - COLUMNS & WALLS
B-DE-0015-01 SCALE 1:5

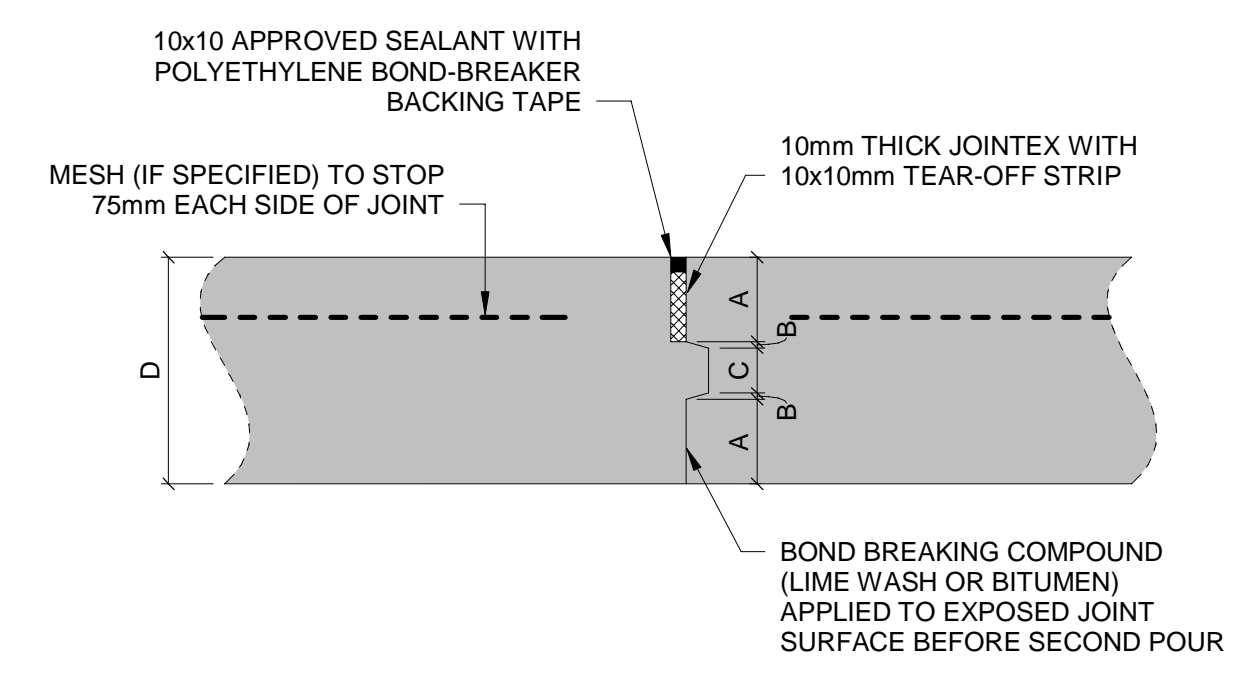
SLAB DEPTH (D)mm	LENGTH (L)	DIAMETER (Ø)
100	300	R16
125	300	R16
150	350	R20
175	350	R25
200	450	R25
225	450	R32
250	450	R32

APPROVED JOINT SEALANTS:

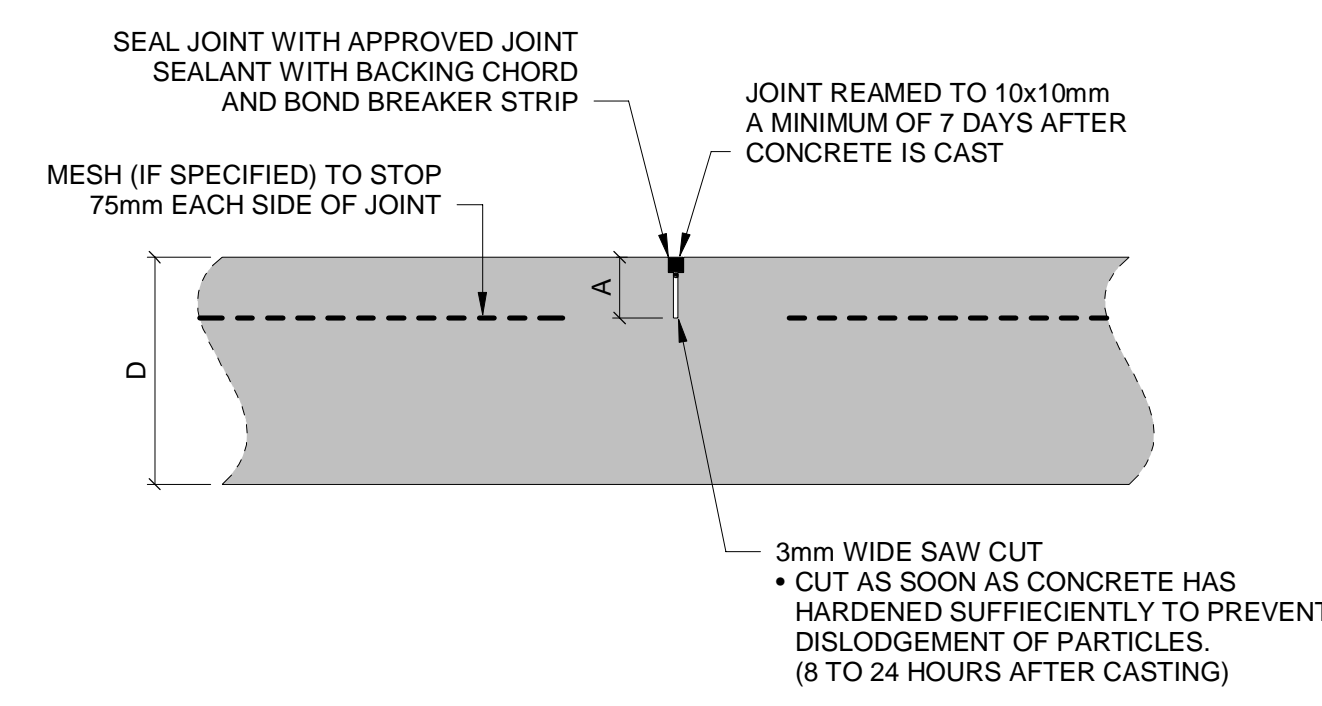
- SIKAFLEX 11FC+ or PRO-3
- DURAKOL GHM
- PROSTRUCT 748



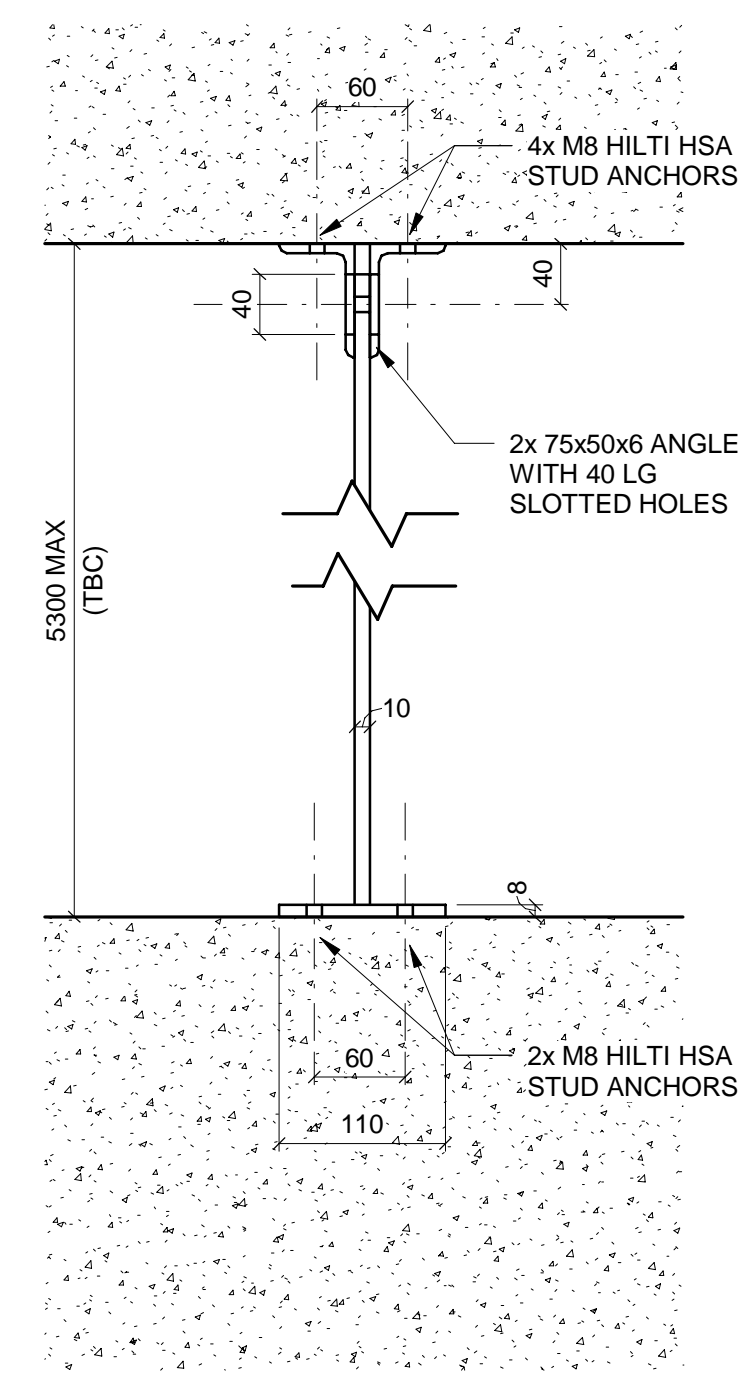
C2 SEALED DOWELED CONSTRUCTION JOINT
B-DE-0015-01 SCALE N.T.S.



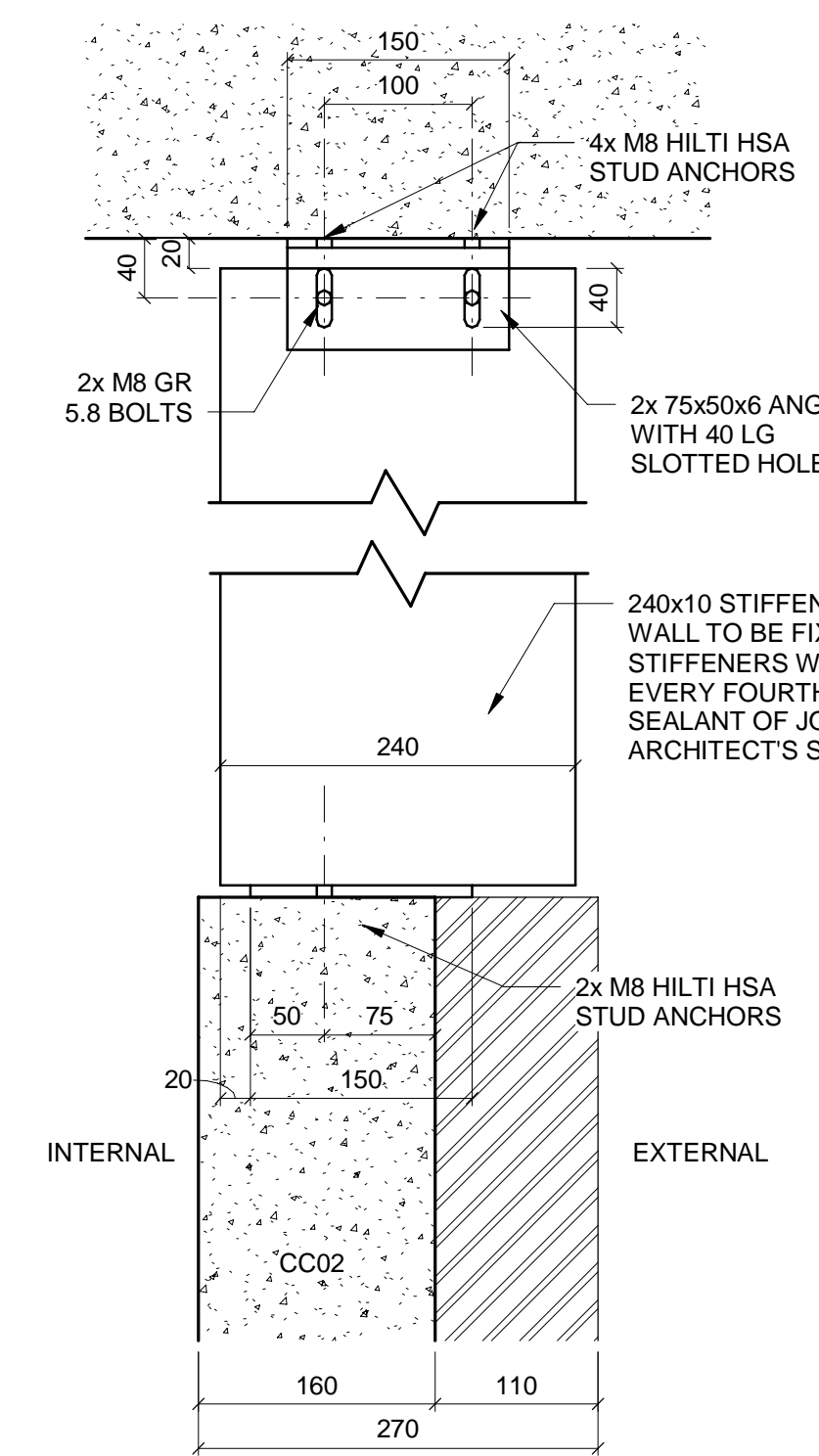
C1 SEALED KEYED CONSTRUCTION JOINT
B-DE-0015-01 SCALE 1:5



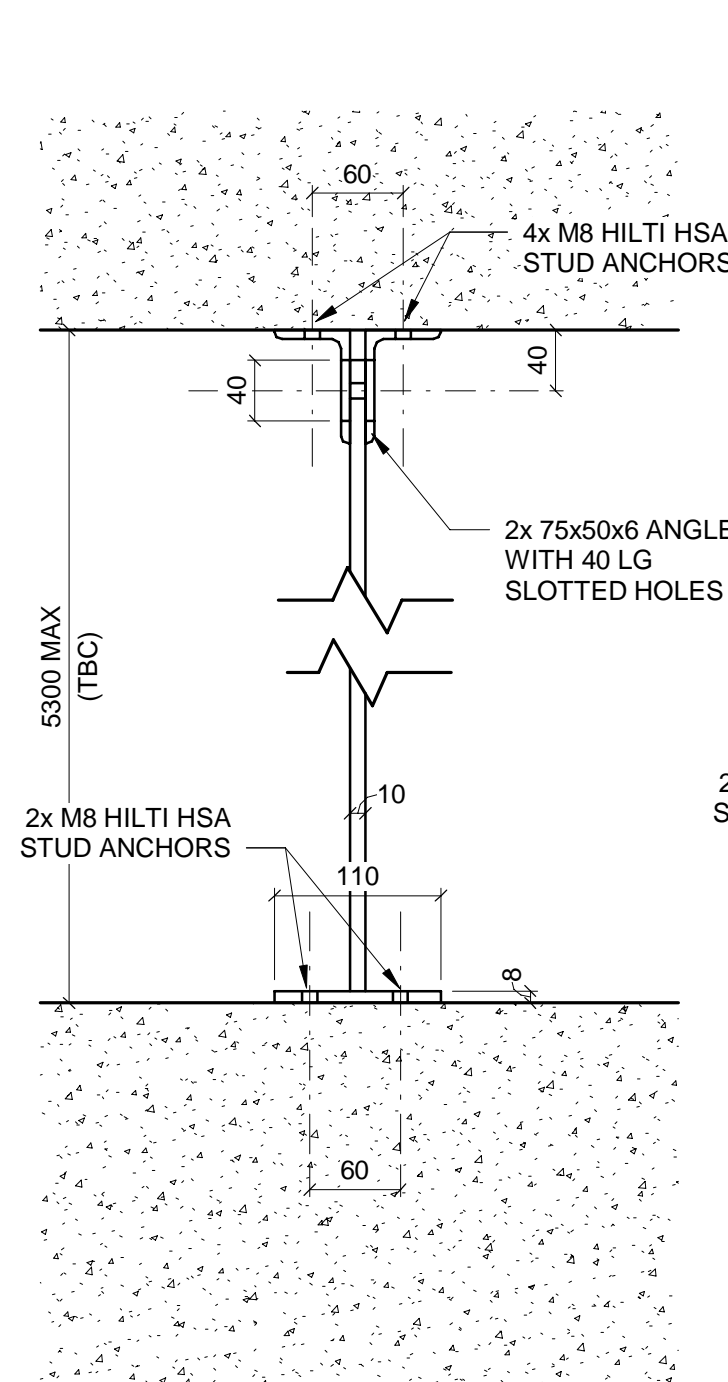
S1 SEALED SAW CUT JOINT
B-DE-0015-01 SCALE 1:5



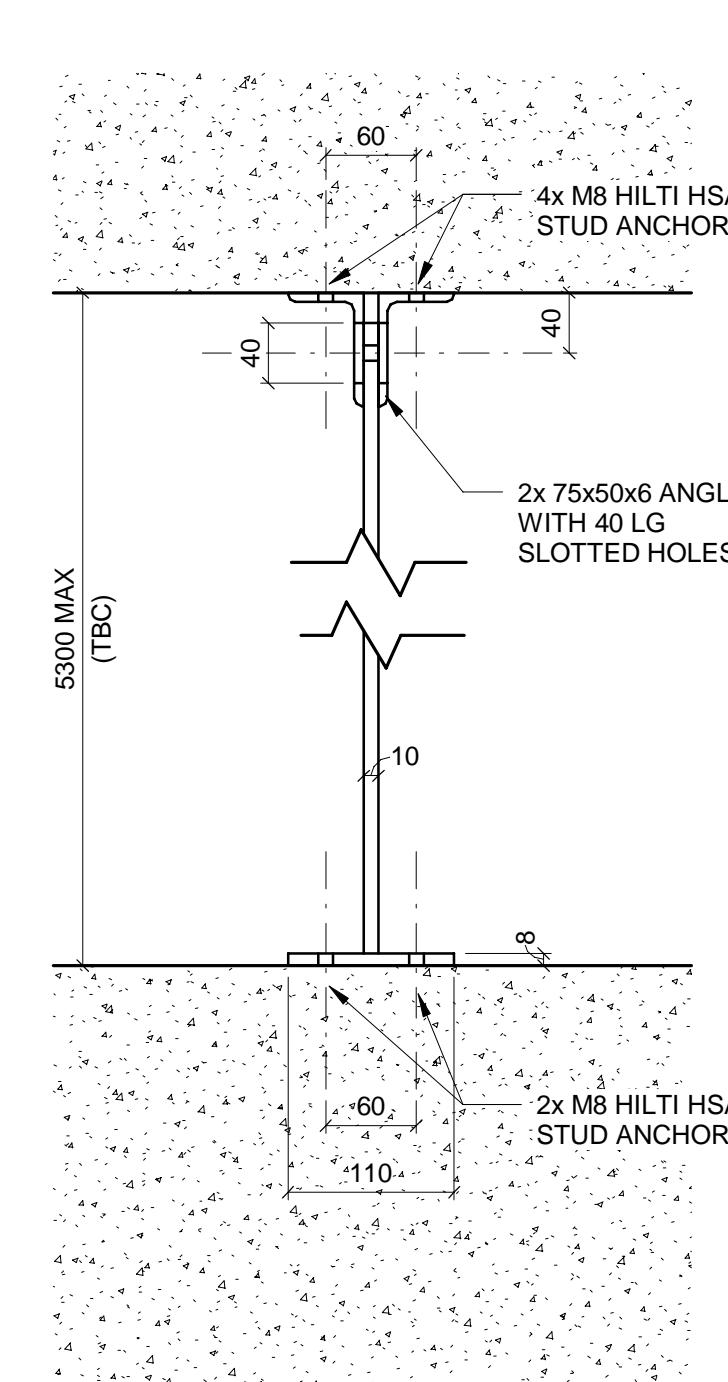
1 WALL STIFFENER 1
B-DE-0015-01 SCALE 1:5



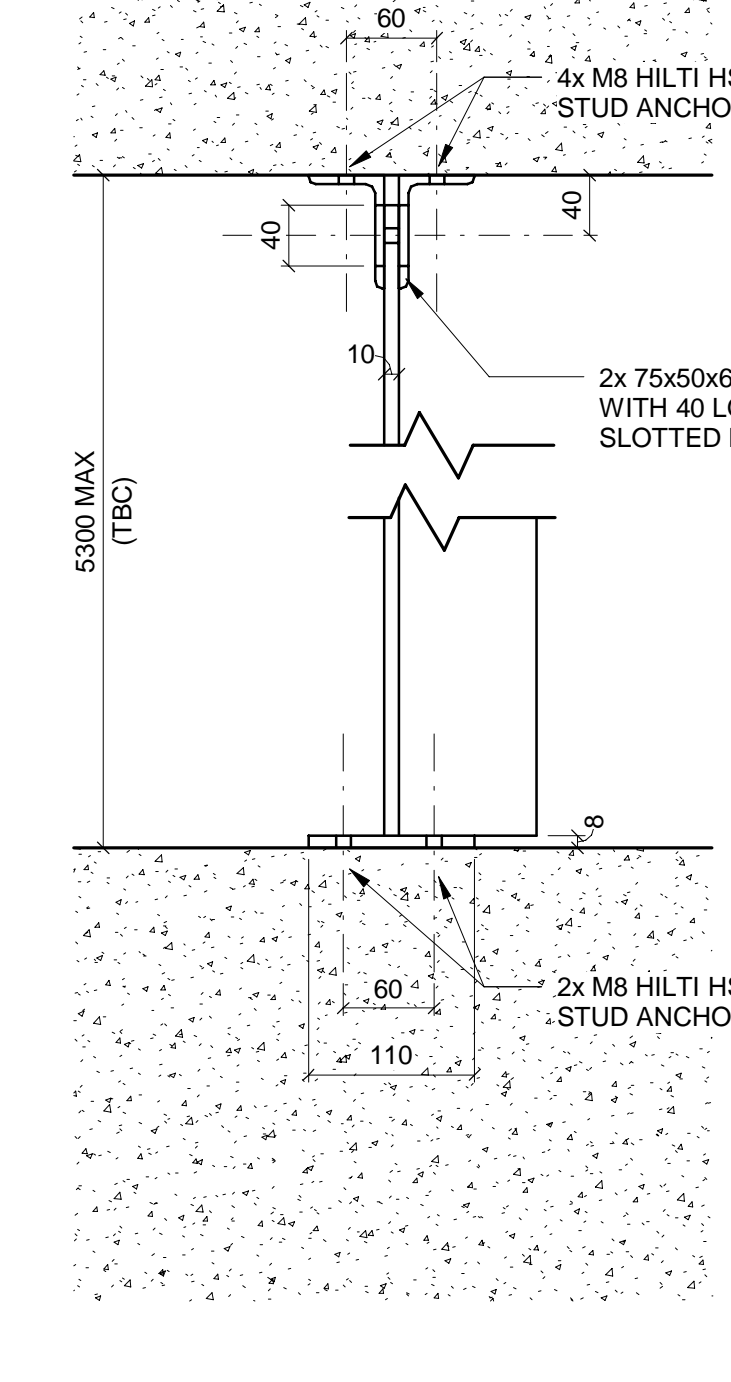
2 WALL STIFFENER 2
B-DE-0015-01 SCALE 1:5



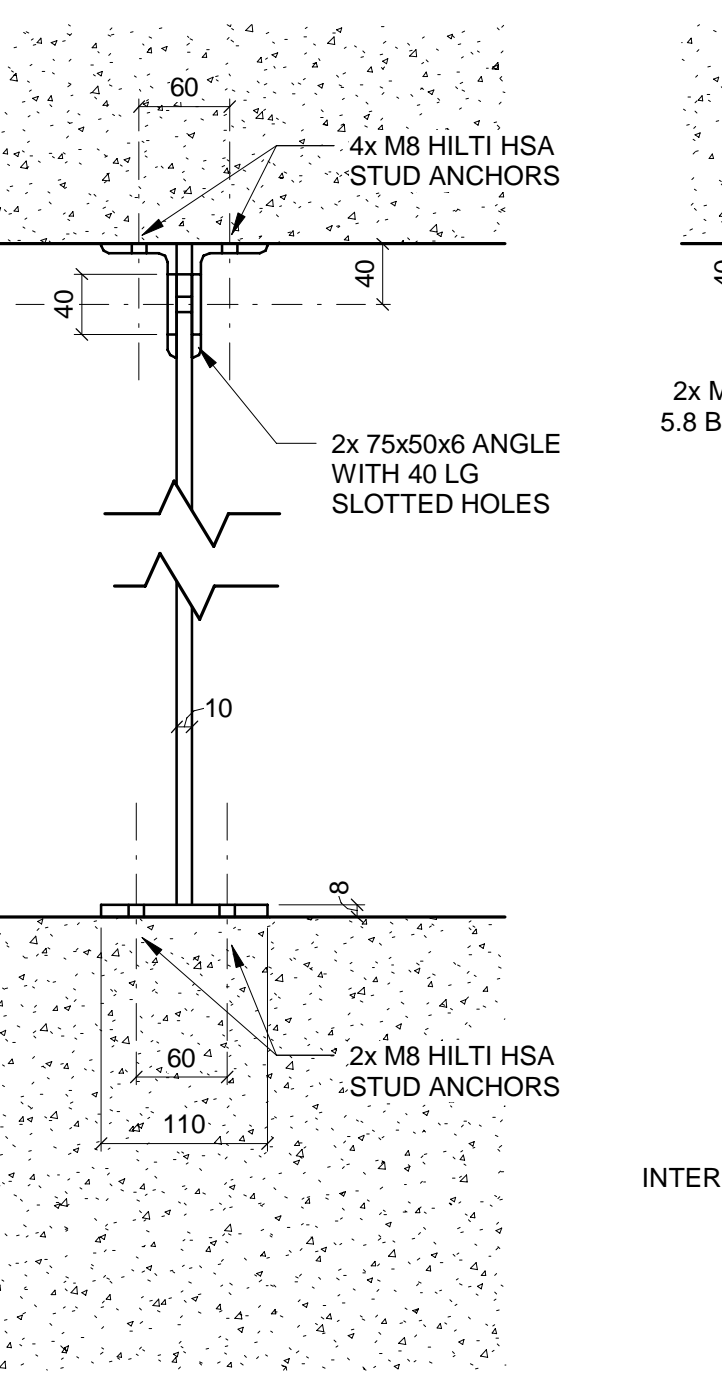
3 WALL STIFFENER 3
B-DE-0015-01 SCALE 1:5



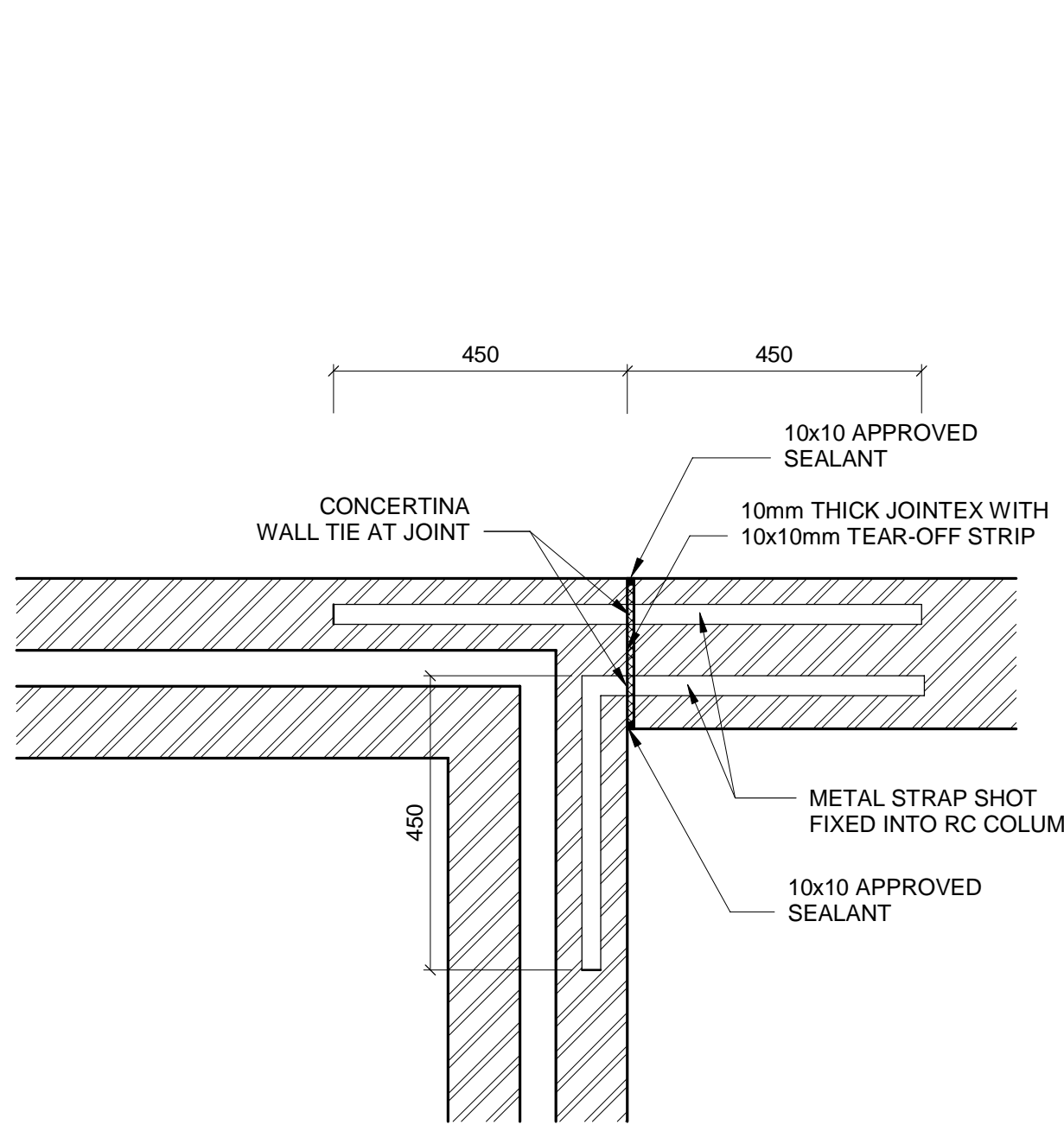
4 WALL STIFFENER 4
B-DE-0015-01 SCALE 1:5



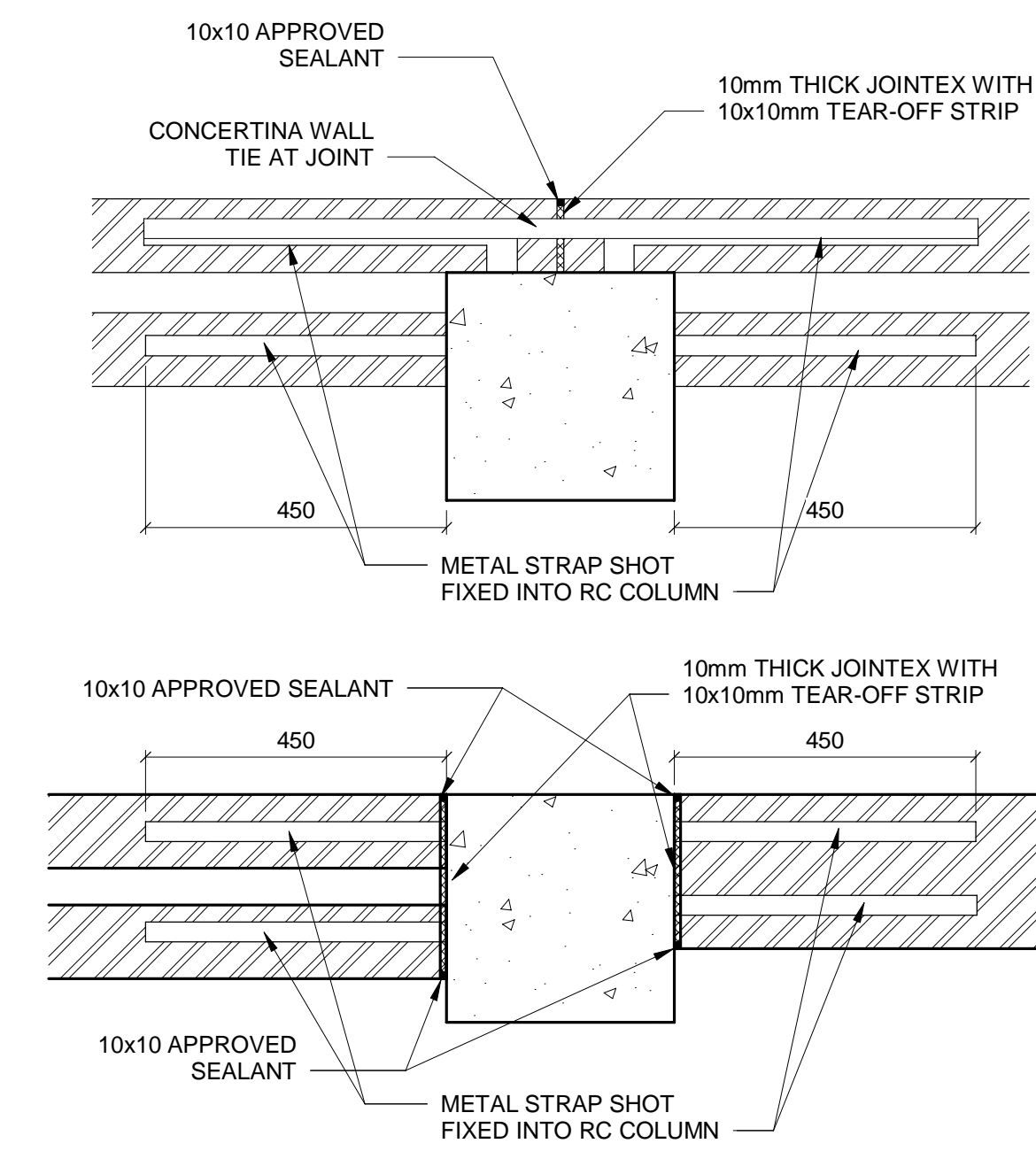
5 WALL STIFFENER 5
B-DE-0015-01 SCALE 1:5



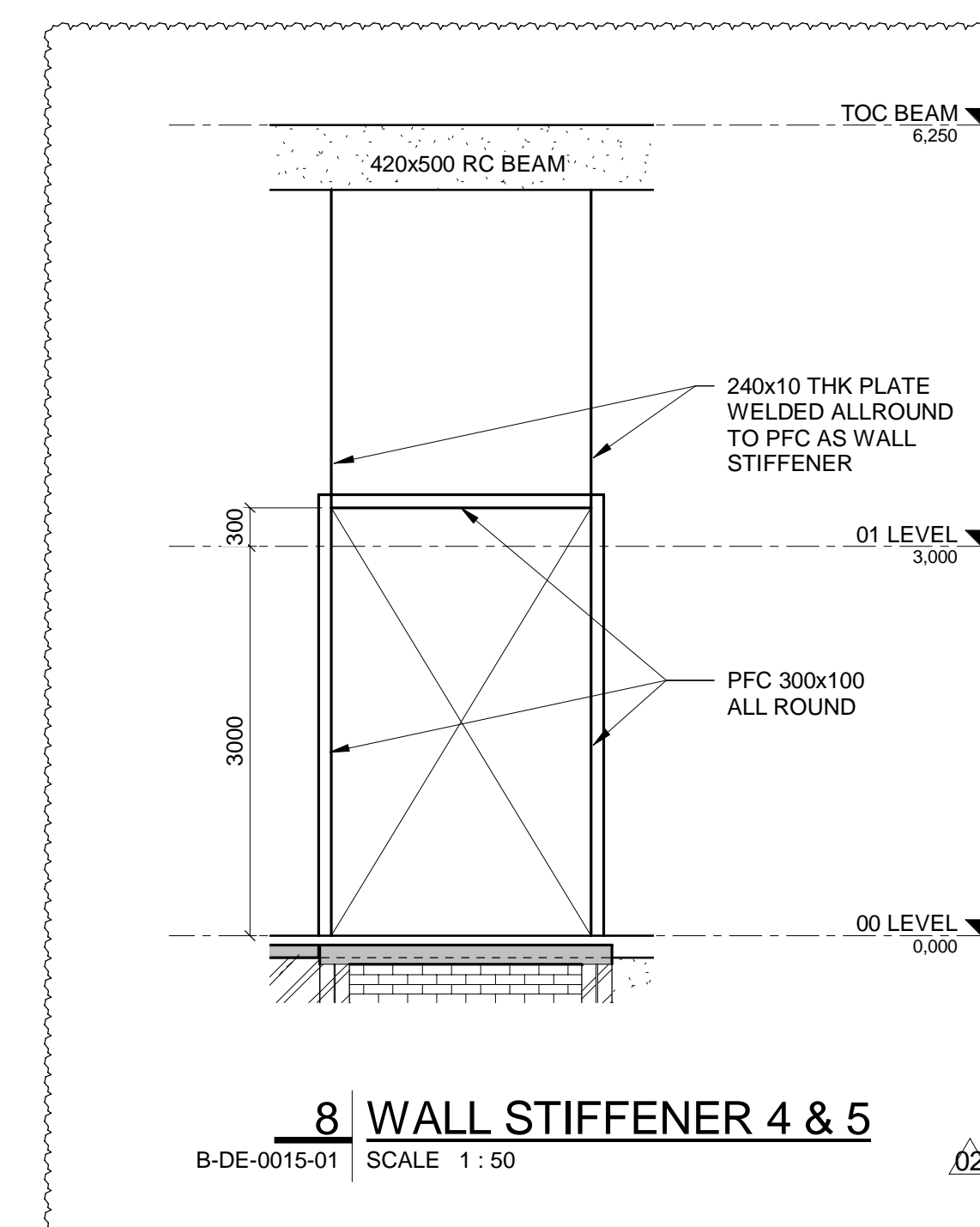
6 BRICKWALL EXPANSION JOINT (EJ1)
B-DE-0015-01 SCALE 1:10



7 RC COLUMN / BRICKWALL JOINT
B-DE-0015-01 SCALE 1:10



8 WALL STIFFENER 4 & 5
B-DE-0015-01 SCALE 1:50



NOTES

- DO NOT SCALE DRAWING - ONLY DIMENSIONS SHOWN TO BE USED
- THE CONTRACTOR SHALL VERIFY ALL CONDITIONS, DIMENSIONS AND LEVELS ON THE SITE AND NOTIFY THE NEC SUPERVISOR OF ANY VARIATIONS BEFORE CONSTRUCTION.



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FAX: +27 (0)21 950 7502
REG. NO. 1966/006628/07

NO	DESCRIPTION	DATE	BY	CHKD	APPD
01	DOOR SIZE AMENDED	01/07/20	AH	HW	SWM
02	NOTES REVISED	21/06/19	CH	HW	SWM
03	ISSUED FOR CONSTRUCTION	13/06/19	CH	HW	SWM

CONTRACTOR/CONSULTANT				TRANSNET CAPITAL PROJECTS			
TITLE	NAME	SIGN	DATE	TITLE	NAME	SIGN	DATE
DRAWN	AH		01/07/20				
CHECKED	HW		01/07/20				
DESIGNED	IC		01/07/20				
CHECKED	SWM		01/07/20				

OPERATING DIVISIONS							
TITLE	NAME	SIGN	DATE				
PR. ENG./PR. TECH./PR. ARCH							
SIGNATURE							
REG. NUMBER							
SCALE							

TRANSNET CAPITAL PROJECTS							
IRON ORE TIPLER 3 PROJECT BULK POWER UPGRADE SUBSTATION M TYPICAL DETAILS - SHEET 1							
PROJECT NUMBER	DO	FBS	DHS	TYPE	DRAWING NO.	SHEET	REV ID
19	2	4	7	01	B	E	01
2	5	10					02

DRAWING NO.	REFERENCE
1	REFERENCE DRAWINGS

1 2 3 4 5 6 7 8

SLAB DEPTH (D)mm	(A)	(B)	(C)	(E)
100	37	3	20	10
125	47	3	25	13
150	56	4	30	15
175	66	4	35	18
200	75	5	40	20
225	85	5	45	23
250	94	6	50	25

APPROVED JOINT SEALANTS:
 • SIKAFLEX 11FC+ or PRO-3
 • DURAKOL GHM
 • PROSTRUCT 748

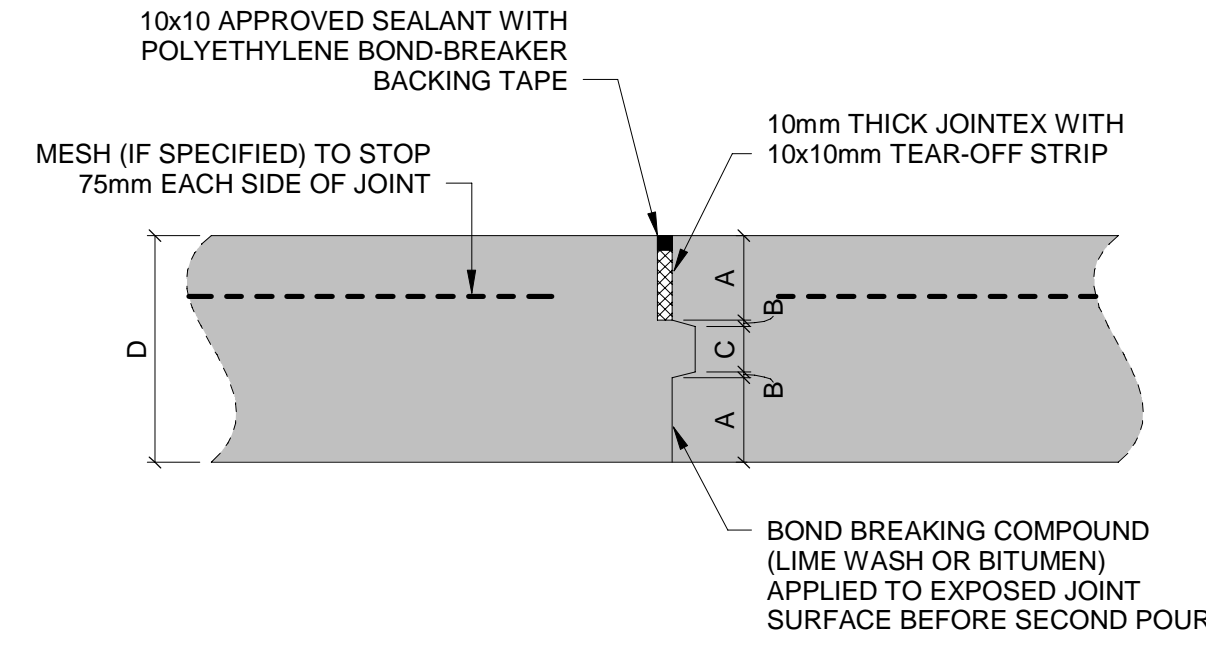
SLAB DEPTH (D)mm	(A)mm
100	25
125	35
150	40
175	45
200	50
225	55
250	65

APPROVED JOINT SEALANTS:
 • SIKAFLEX 11FC+ or PRO-3
 • DURAKOL GHM
 • PROSTRUCT 748

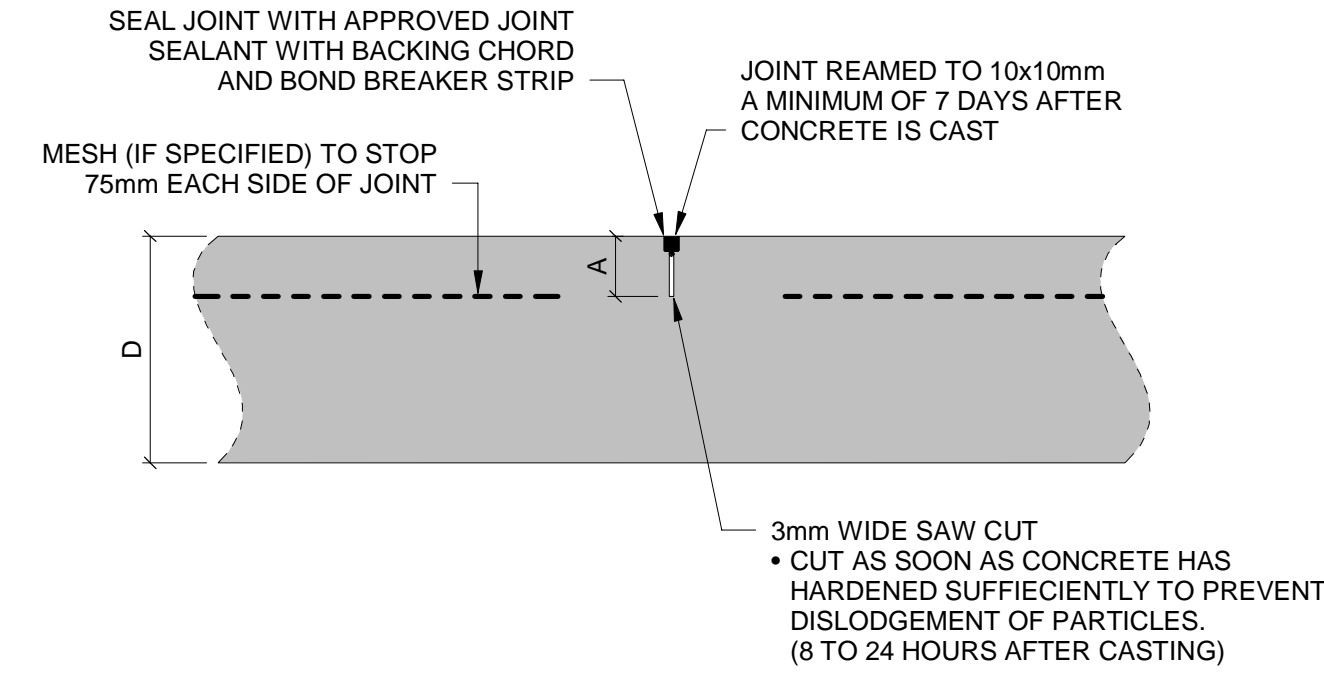
APPROVED JOINT SEALANTS:
 • SIKAFLEX 11FC+ or PRO-3
 • DURAKOL GHM
 • PROSTRUCT 748

SLAB DEPTH (D)mm	LENGTH (L)	DIAMETER (Ø)
100	300	R16
125	300	R16
150	350	R20
175	350	R25
200	350	R25
225	450	R32
250	450	R32

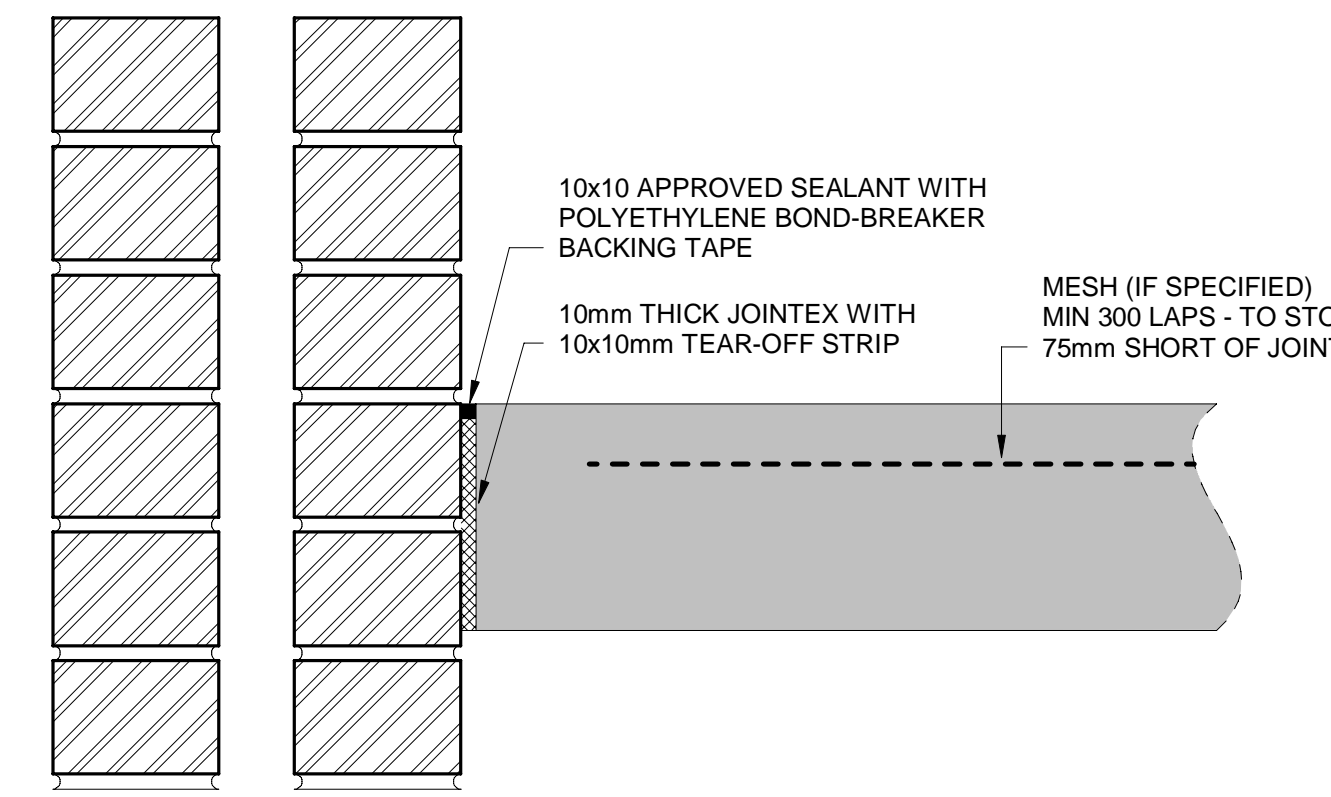
APPROVED JOINT SEALANTS:
 • SIKAFLEX 11FC+ or PRO-3
 • DURAKOL GHM
 • PROSTRUCT 748



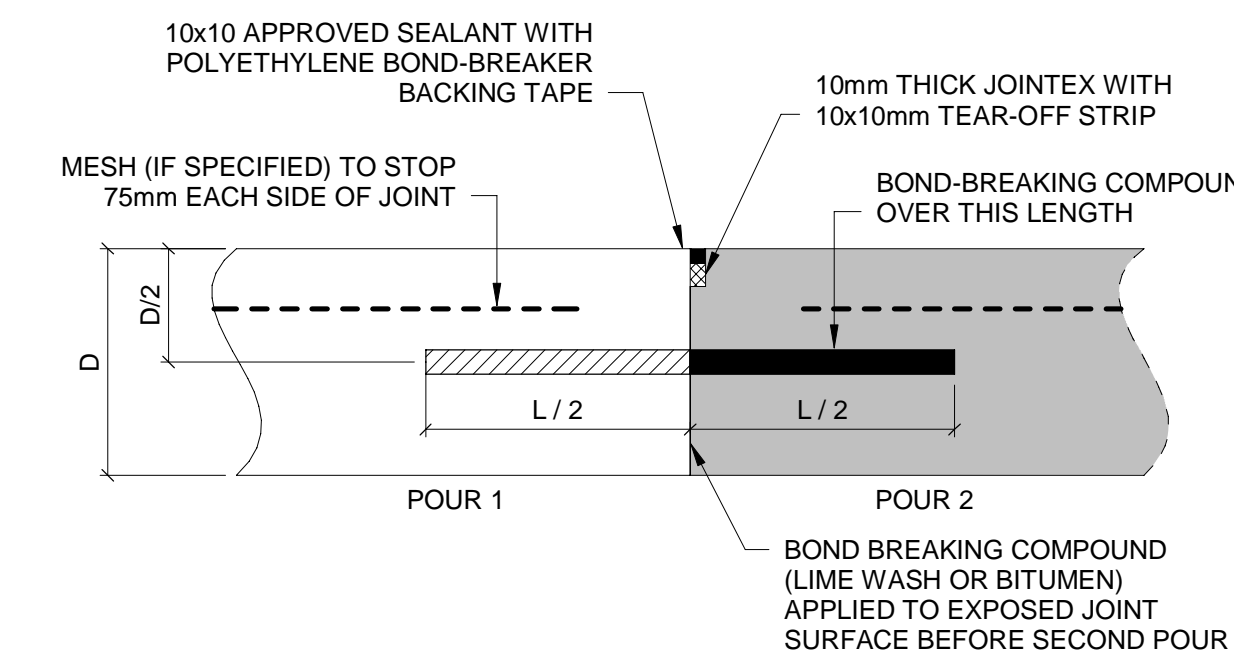
C.J1 SEALED KEYED CONSTRUCTION JOINT
 B-DE-0016-01 SCALE 1:5



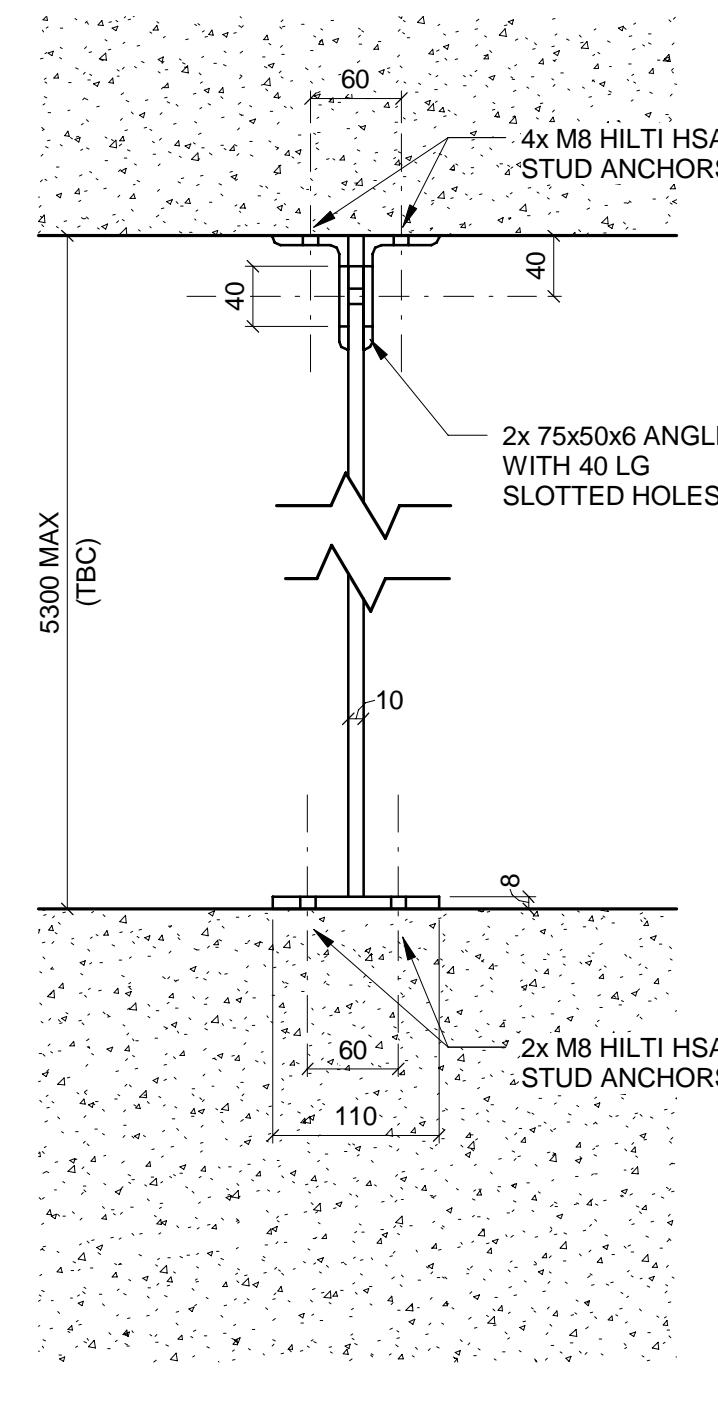
S.J1 SEALED SAW CUT JOINT
 B-DE-0016-01 SCALE 1:5



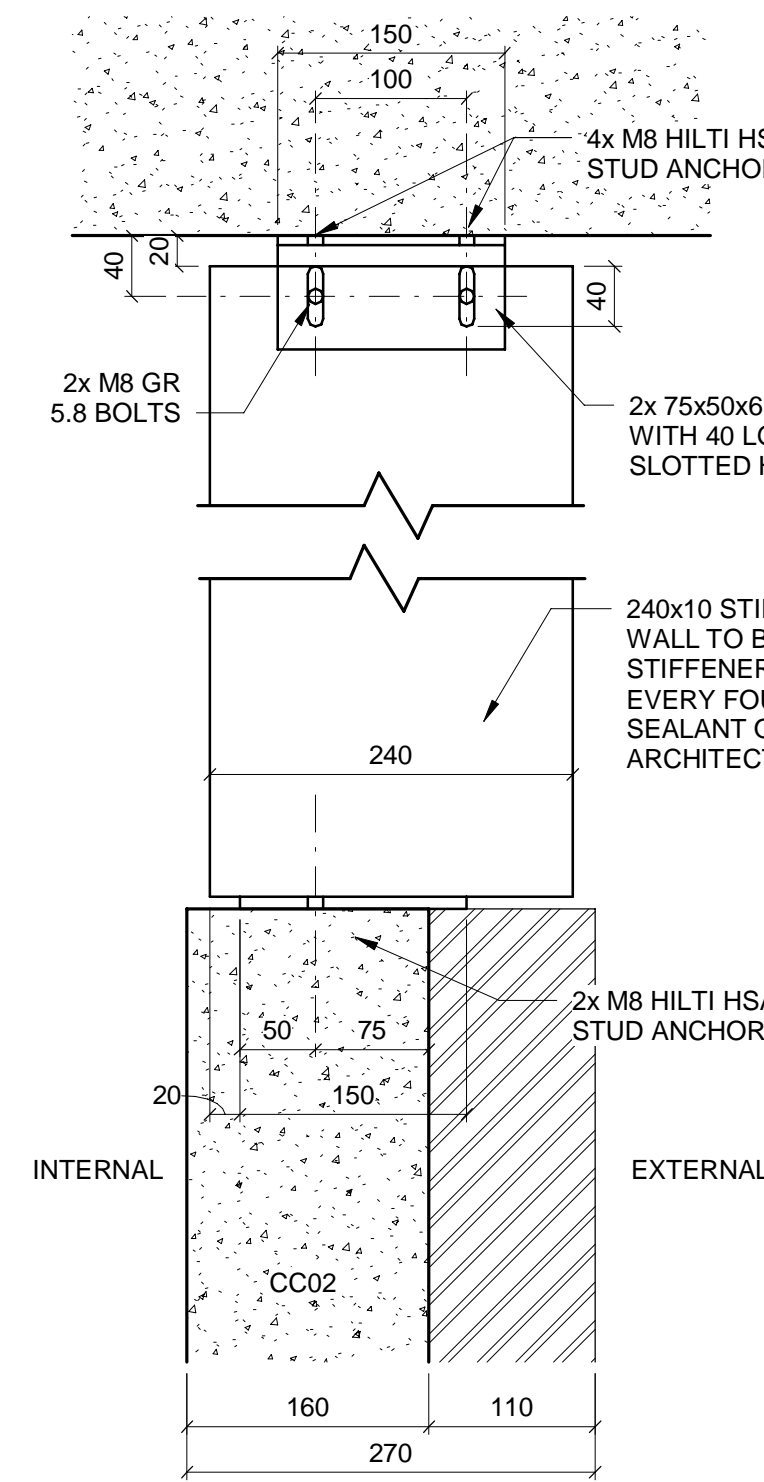
I.J1 SEALED ISOLATION JOINT - COLUMNS & WALLS
 B-DE-0016-01 SCALE 1:5



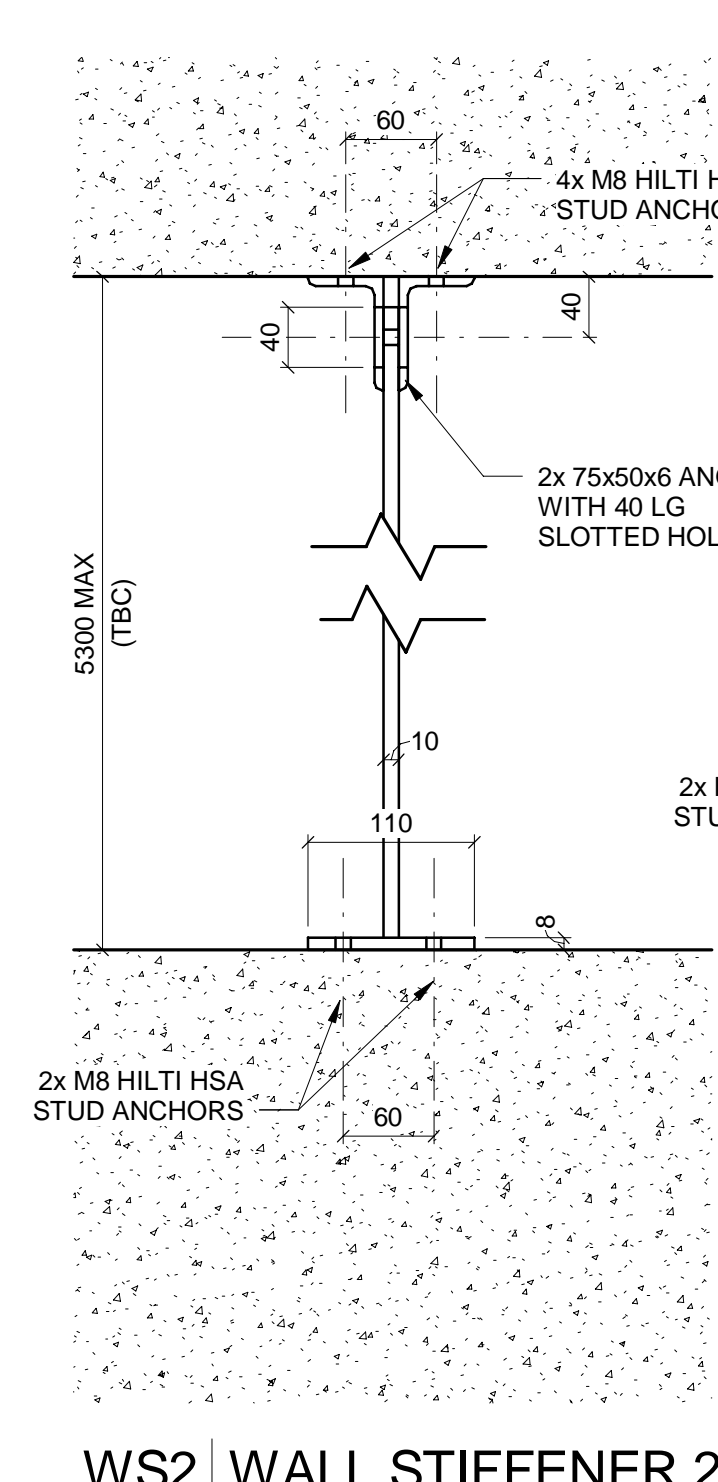
C.J2 SEALED DOWELED CONSTRUCTION JOINT
 B-DE-0016-01 SCALE N.T.S



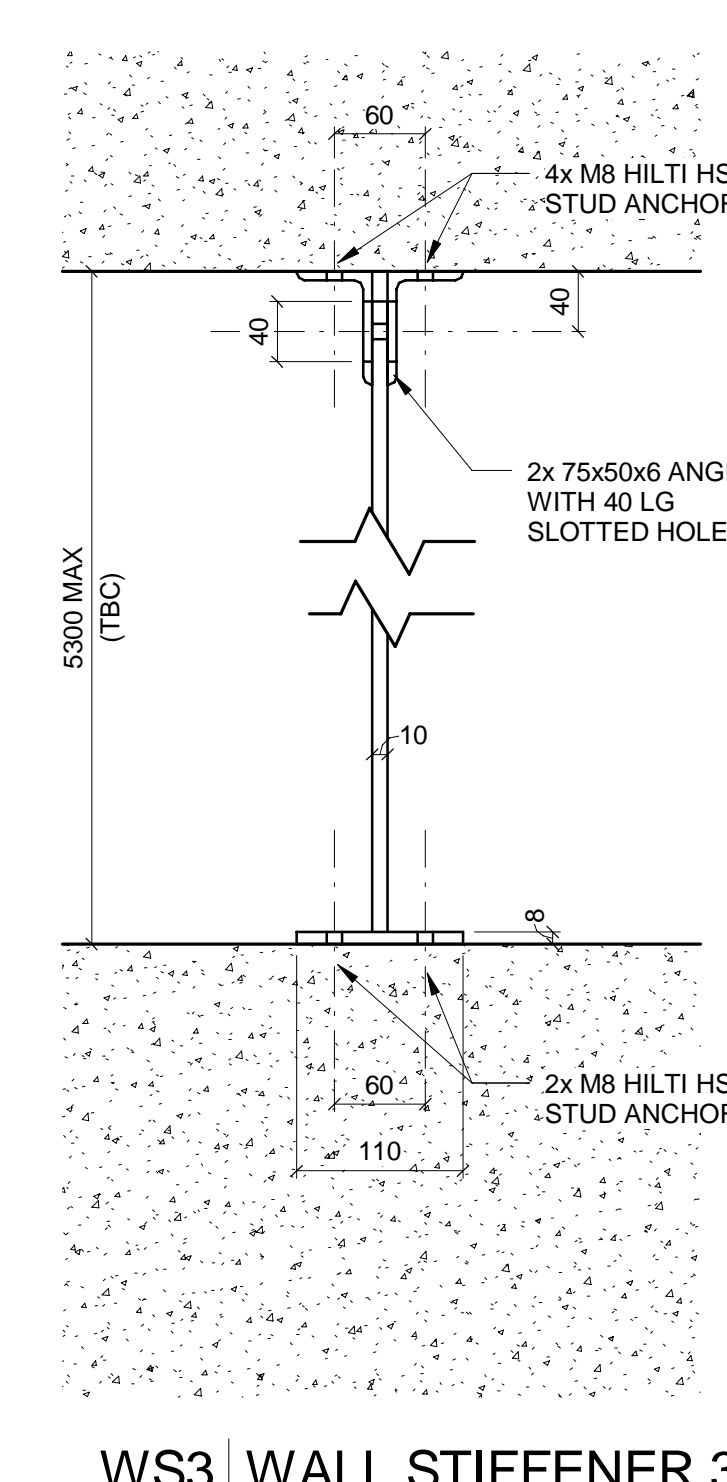
WS1 WALL STIFFENER 1
 B-DE-0016-01 SCALE 1:5



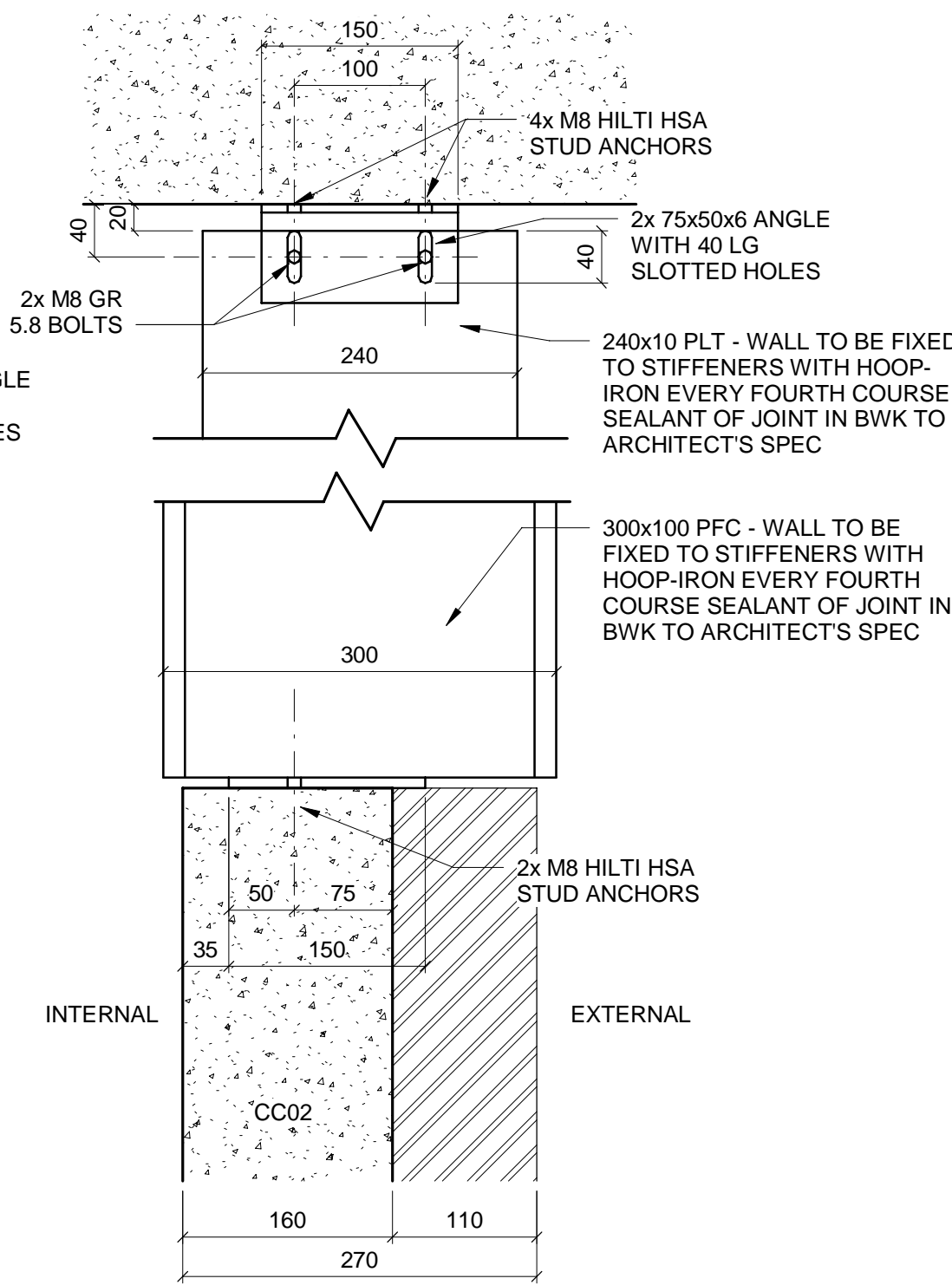
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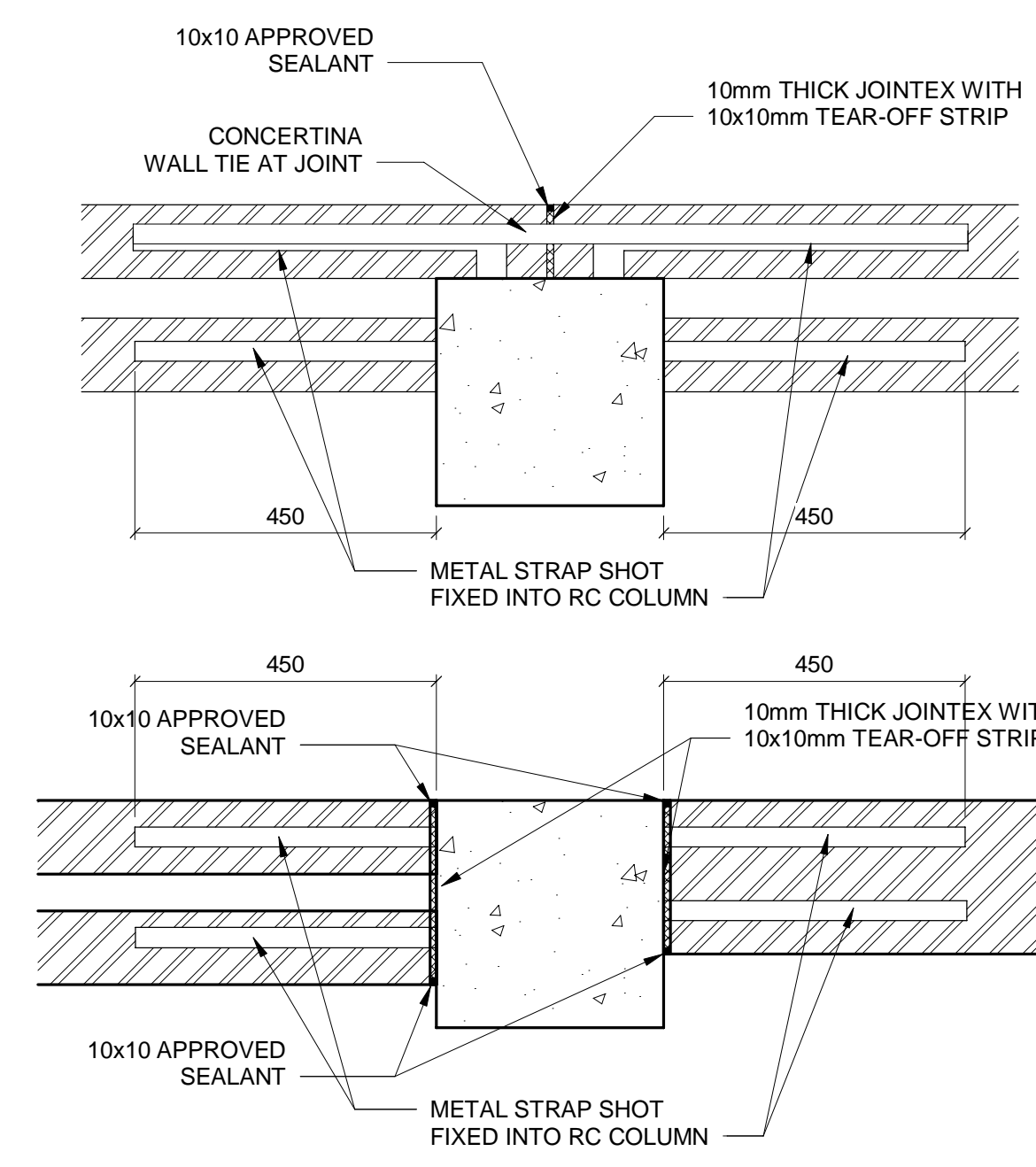
WS3 WALL STIFFENER 3
 B-DE-0016-01 SCALE 1:5



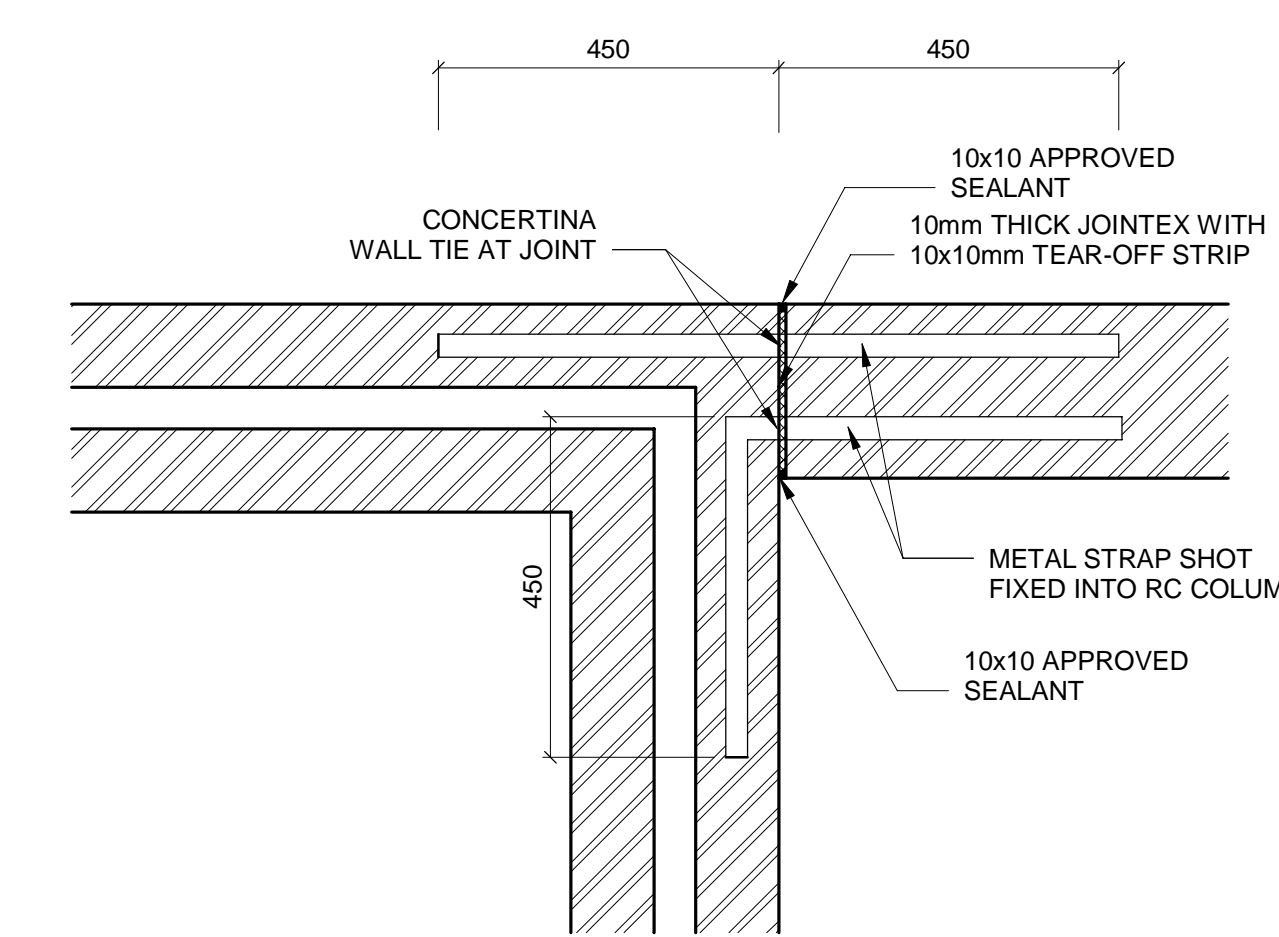
WS4 WALL STIFFENER 4
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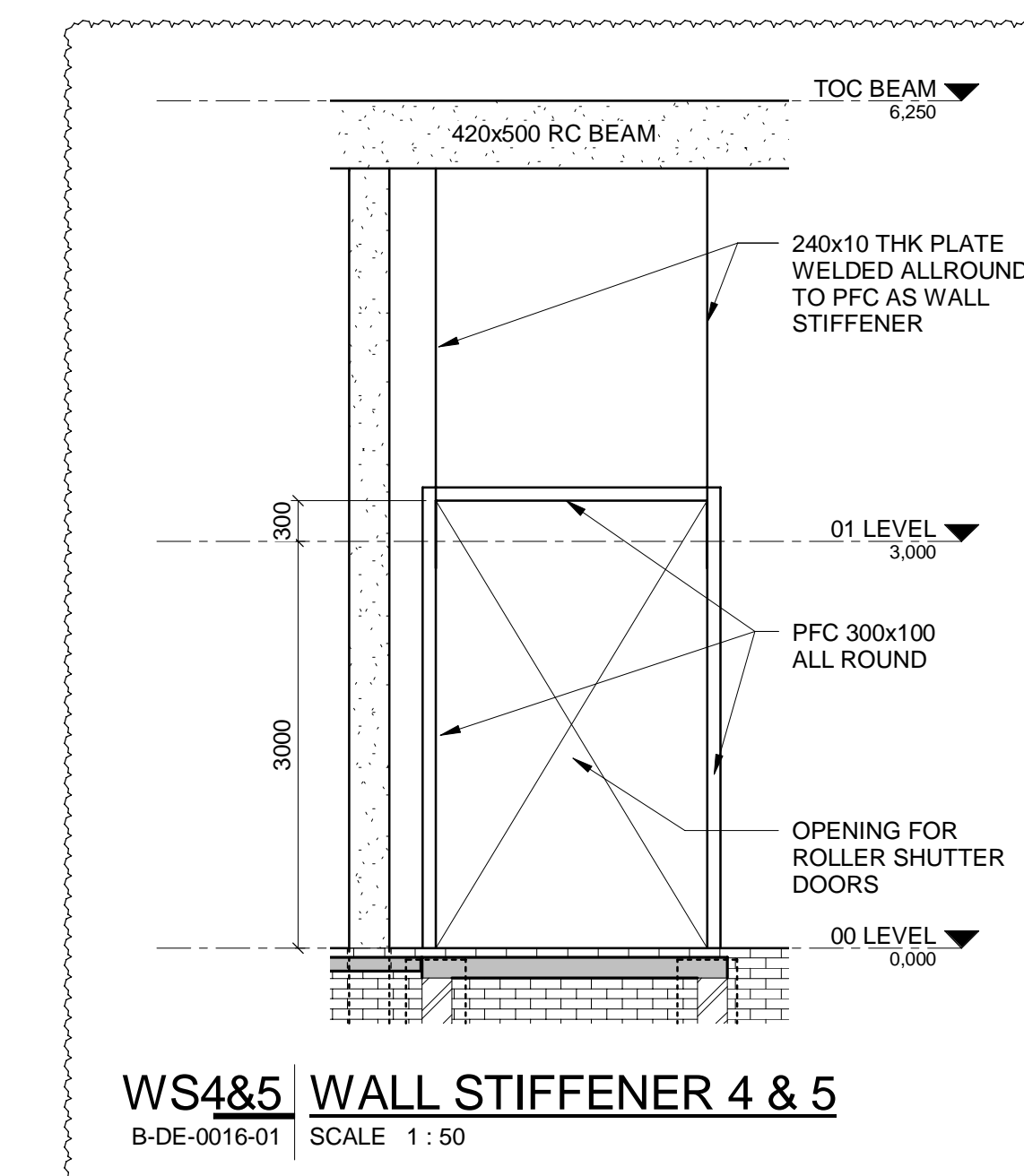
WS5 WALL STIFFENER 5
 B-DE-0016-01 SCALE 1:5



C.BJ RC COLUMN / BRICKWALL JOINT
 B-DE-0016-01 SCALE 1:10



E.J1 BRICKWALL EXPANSION JOINT (EJ1)
 B-DE-0016-01 SCALE 1:10



WS4&5 WALL STIFFENER 4 & 5
 B-DE-0016-01 SCALE 1:50

MASTER
 03-07-2020
 AECOM

NOTES
 1. DO NOT SCALE DRAWING - ONLY DIMENSIONS SHOWN TO BE USED
 2. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS, DIMENSIONS AND LEVELS ON THE SITE AND NOTIFY THE NEC SUPERVISOR OF ANY VARIATIONS BEFORE CONSTRUCTION.

AECOM

CAPE TOWN OFFICE
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 TYGER WATERFRONT
 CARL CRONJE DRIVE
 TEL: +27 (0)21 950 7500
 FAX: +27 (0)21 950 7502
 REG. NO. 1966/006628/07

NO	DESCRIPTION	BY	CHKD	APPD	DATE
02	DOOR SIZE AMENDED	AH	HW	SWM	01.07.20
03	NOTES REVISED	CH	HW	SWM	21.06.19
04	ISSUED FOR CONSTRUCTION	AH	HW	SWM	13.06.18

CONTRACTOR/CONSULTANT				TRANSNET CAPITAL PROJECTS			
TITLE	NAME	SIGN	DATE	TITLE	NAME	SIGN	DATE
DRAWN	AH		01.07.20				
CHECKED	HW		01.07.20				
DESIGNED	IG		01.07.20				
CHECKED	SWM		01.07.20				

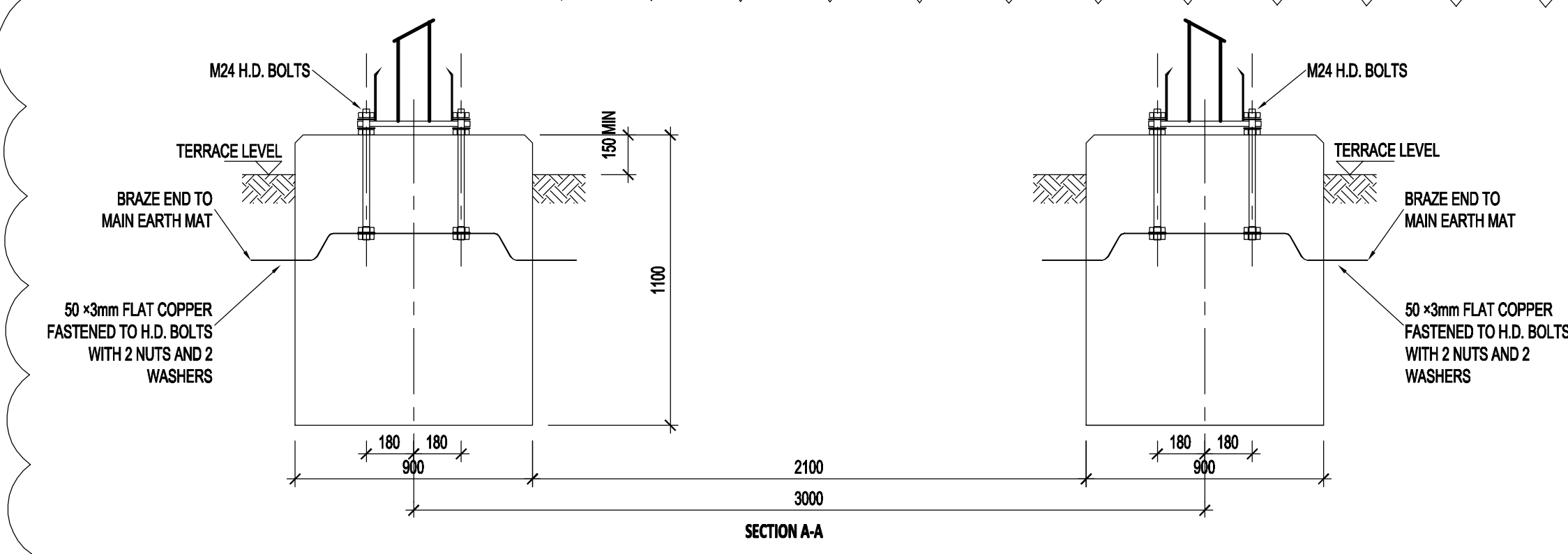
OPERATING DIVISIONS							
TITLE	NAME	SIGN	DATE	PR. ENG./PR. TECH./PR. ARCH			
				NAME	SWM	MARKERS	DATE
				SIGNATURE			01.07.20
				REG. NUMBER	20090106		
				SCALE:	AS SHOWN		

Transnet Capital Projects
 TRANSNET LTD (TRADING AS TRANSNET CAPITAL PROJECTS) REG. NO. 1966/006628/07
 TABLE W/ BUILDING, TYGERSBERG PARK
 163 LYS KRIGE DRIVE, PLATTEKLOOF, 8001
 TEL: 021 940 1999
 FAX: 021 940 2455

PORT OF SALDANHA

**IRON ORE TIPLER 3 PROJECT
 BULK POWER UPGRADE:
 SUBSTATION N
 TYPICAL DETAILS - SHEET 1**

PROJECT NUMBER	ISS	FBS	DHS	TYPE	DRAWING NO.	SHEET	REV	ID
A	1	9	2	4	7	01	2	AE

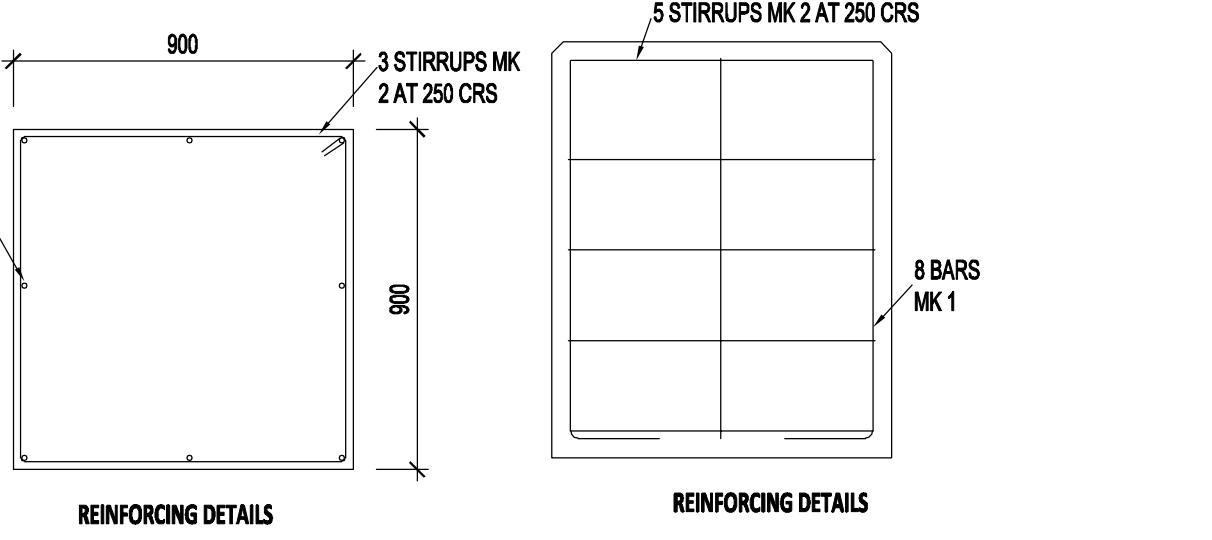


- NOTES:**
1. CONCRETE WORK TO BE IN ACCORDANCE WITH SANS 1200.
 2. CONCRETE STRENGTH AT 28 DAYS, 28MPA.
 3. CONCRETE STRENGTH FOR BLINDING LAYER AT 28 DAYS, 15MPA.
 4. ALL TOP EDGES OF FOUNDATION TO HAVE 25-35mm CHAMFER.
 5. FOR HEIGHT OF FOUNDATION SEE FOUNDATION LAYOUT.
 6. COMPACTION OF THE BOTTOM OF FOUNDATIONS SHALL BE COMPACTED TO 95% MOD AASHTO.
 7. GROUT UNDER SUPPORT BASE PLATE.
 8. OFF SHUTTER FINISH TO UPPER SIDES OF FOUNDATION TO EXTEND TO 100mm BELOW GROUND LEVEL.
 9. ONLY STEEL SHUTTERING MAY BE USED.
 10. ONLY STEEL TEMPLATE MAY BE USED FOR SETTING H.D. BOLTS.
 11. H.D. BOLTS AND NUTS TO PROTRUDE 150mm ABOVE FINISHED FOUNDATION LEVEL.
 12. NON OXIDE IS TO BE USED ON ALL EARTH CONNECTIONS TO H.D. BOLTS.
 13. REINFORCING TO HAVE A MIN CONCRETE COVER OF 50mm.
 14. ALL REINFORCING SPLICES TO HAVE A LAPPED LENGTH OF 42 x DIAMETER OF REINFORCING BAR.
 15. ALL REINFORCING BARS TO BE MEASURED AND SENT IN ACCORDANCE TO SANS 1478.
 16. IF THE FOUNDATION HEIGHT IS TO BE LIFTED, THE REINFORCING (MK1 AND MK2) MUST BE ADJUSTED ACCORDINGLY.
 17. FOR PRICING THE AVERAGE LENGTH OF 15m FLAT COPPER INCLUDES THE COPPER BETWEEN FOUNDATION AND MAIN EARTH GRID AND 2 x 3m TALS. FLAT COPPER TO HAVE A MINIMUM DEPTH OF 500mm.
 18. NO CONCRETE TO BE POURED WHERE THE AIR TEMPERATURE WILL DROP TO BELOW 4 DEG CELSIUS IN 8 HOURS AFTER POURING OF CONCRETE UNLESS A SUITABLE APPROVED ADDITIVE IS ADDED TO THE CONCRETE MIX.

H.D. BOLT SCHEDULE						
BOLT SIZE	MILD STEEL GRADE	PITCH mm	LENGTH mm	NO OFF H.D. BOLTS	NO OFF NUTS	NO OFF WASHERS
24	4.8	3	500	8	32	32
TOTAL MASS						
TORQUE Nm						
18.42						
339-407						

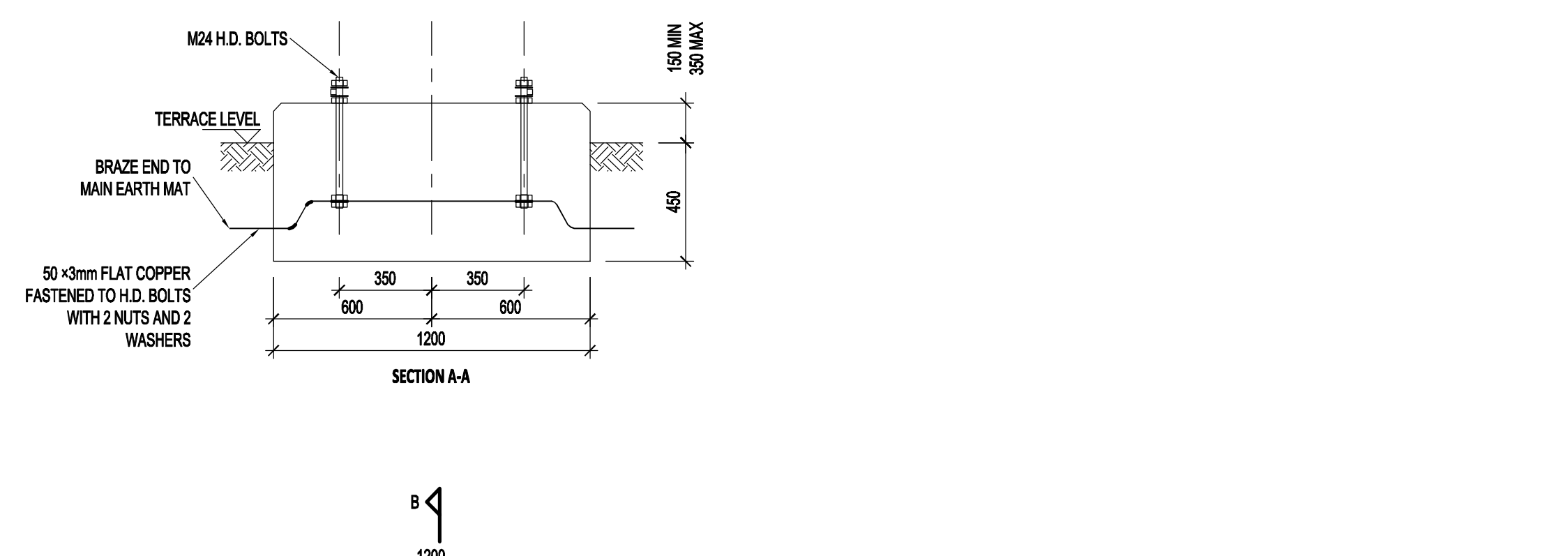
REINFORCING SCHEDULE @ 150mm					
MK	TYPE & SIZE	No REQUIRED TOTAL PER ITEM	CUTTING LENGTH (m)	WEIGHT (kg)	SENDING REMARKS
1	Y16	16	1150	17.78	150 1000
2	Y10	10	3300	33.30	22.06 800 (ALL SIDES)

SCHEDULE OF QUANTITIES @ 150mm		BEARING CAPACITY	
EXCAVATIONS	0.73m³	FOUNDATION	150kPa
CONCRETE	0.97m³		
SHUTTERING	1.8m²		
50 x 3mm FLAT COPPER	20.25kg		



THREADED ROD (H.D. BOLT)
 MASS OF BOLT COMPLETE WITH 4 NUTS AND 4 WASHERS = 2.17kg
 8 OFF

TWIN TUBULAR BUSBAR - 132KV TUBULAR SUPPORT FOUNDATION DETAILS
 SCALE 1:20



- NOTES:**
1. CONCRETE WORK TO BE IN ACCORDANCE WITH SANS 1200.
 2. CONCRETE STRENGTH AT 28 DAYS, 28MPA.
 3. CONCRETE STRENGTH FOR BLINDING LAYER AT 28 DAYS, 15MPA.
 4. ALL TOP EDGES OF FOUNDATION TO HAVE 25-35mm CHAMFER.
 5. FOR HEIGHT OF FOUNDATION SEE FOUNDATION LAYOUT.
 6. COMPACTION OF THE BOTTOM OF FOUNDATIONS SHALL BE COMPACTED TO 95% MOD AASHTO.
 7. GROUT UNDER SUPPORT BASE PLATE.
 8. OFF SHUTTER FINISH TO UPPER SIDES OF FOUNDATION TO EXTEND TO 100mm BELOW GROUND LEVEL.
 9. ONLY STEEL SHUTTERING MAY BE USED.
 10. ONLY STEEL TEMPLATE MAY BE USED FOR SETTING H.D. BOLTS.
 11. H.D. BOLTS AND NUTS TO PROTRUDE 150mm ABOVE FINISHED FOUNDATION LEVEL.
 12. NON OXIDE IS TO BE USED ON ALL EARTH CONNECTIONS TO H.D. BOLTS.
 13. REINFORCING TO HAVE A MIN CONCRETE COVER OF 50mm.
 14. ALL REINFORCING SPLICES TO HAVE A LAPPED LENGTH OF 42 x DIAMETER OF REINFORCING BAR.
 15. ALL REINFORCING BARS TO BE MEASURED AND SENT IN ACCORDANCE TO SANS 1478.
 16. IF THE FOUNDATION HEIGHT IS TO BE LIFTED, THE REINFORCING (MK1 AND MK2) MUST BE ADJUSTED ACCORDINGLY.
 17. FOR PRICING THE AVERAGE LENGTH OF 15m FLAT COPPER INCLUDES THE COPPER BETWEEN FOUNDATION AND MAIN EARTH GRID AND 2 x 3m TALS. FLAT COPPER TO HAVE A MINIMUM DEPTH OF 500mm.
 18. NO CONCRETE TO BE POURED WHERE THE AIR TEMPERATURE WILL DROP TO BELOW 4 DEG CELSIUS IN 8 HOURS AFTER POURING OF CONCRETE UNLESS A SUITABLE APPROVED ADDITIVE IS ADDED TO THE CONCRETE MIX.

H.D. BOLT SCHEDULE						
BOLT SIZE	MILD STEEL GRADE	PITCH mm	LENGTH mm	NO OFF H.D. BOLTS	NO OFF NUTS	NO OFF WASHERS
24	4.8	3	500	4	16	16
TOTAL MASS						
TORQUE Nm						
9.21						
390						

SCHEDULE OF QUANTITIES @ 150mm		BEARING CAPACITY	
EXCAVATIONS	0.38m³	FOUNDATION	150kPa
CONCRETE	0.58m³		
SHUTTERING	0.96m²		
50 x 3mm FLAT COPPER	20.25kg		

THREADED ROD (H.D. BOLT)
 MASS OF BOLT COMPLETE WITH 4 NUTS AND 4 WASHERS = 2.17kg
 8 OFF

YARD AC DISTRIBUTION BOARD SUPPORT FOUNDATION
 SCALE 1:20

- NOTES:**
1. DO NOT SCALE DRAWING - ONLY DIMENSIONS SHOWN TO BE USED.
 2. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS, DIMENSIONS AND LEVELS ON THE SITE AND NOTIFY THE MEC SUPERVISOR OF ANY VARIATIONS BEFORE CONSTRUCTION.
 3. ALL DIMENSIONS & FOUNDING LEVELS TO BE CHECKED & APPROVED BY ENGINEER PRIOR TO CAST OF CONCRETE.



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 FAX: +27 (0)21 950 7502
 REG. No. 1966/006628/07

CONTRACTOR / CONSULTANT		TRANSNET CAPITAL PROJECTS	
TITLE	NAME	SIGN	DATE
DRAWN	AH	[Signature]	20 07 01
CHECKED	CK	[Signature]	20 07 01
DESIGNED	CK	[Signature]	20 07 01
CHECKED	SWM	[Signature]	20 07 01

OPERATING DIVISIONS		PR. ENG. / PR. TECH./PR. ARCH	
TITLE	NAME	SIGN	DATE
	SW MARAS	[Signature]	20 07 01

REVISIONS	
NO.	DESCRIPTION
01	TUBULAR SUPPORT FOUNDATION AMENDED
02	ISSUED FOR CONSTRUCTION

TRANSNET
 Transnet Capital Projects
 TRANSNET LTD (TRADING AS TRANSNET CAPITAL PROJECTS) REG. NO. 1966/006628/07
 TABLE BAY BUILDING, TYGERSBERG PARK, TEL: 021 940 1999
 163 LYN KRIGE DRIVE, PLATTEKLOOF, FAX: 086 677 3405
 8001

PORT OF SALDANHA
 IRON ORE TIPPLER 3 PROJECT
 BULK POWER UPGRADE:
 NEW MAIN INTAKE SUBSTATION
 EQUIPMENT FOUNDATION DETAILS

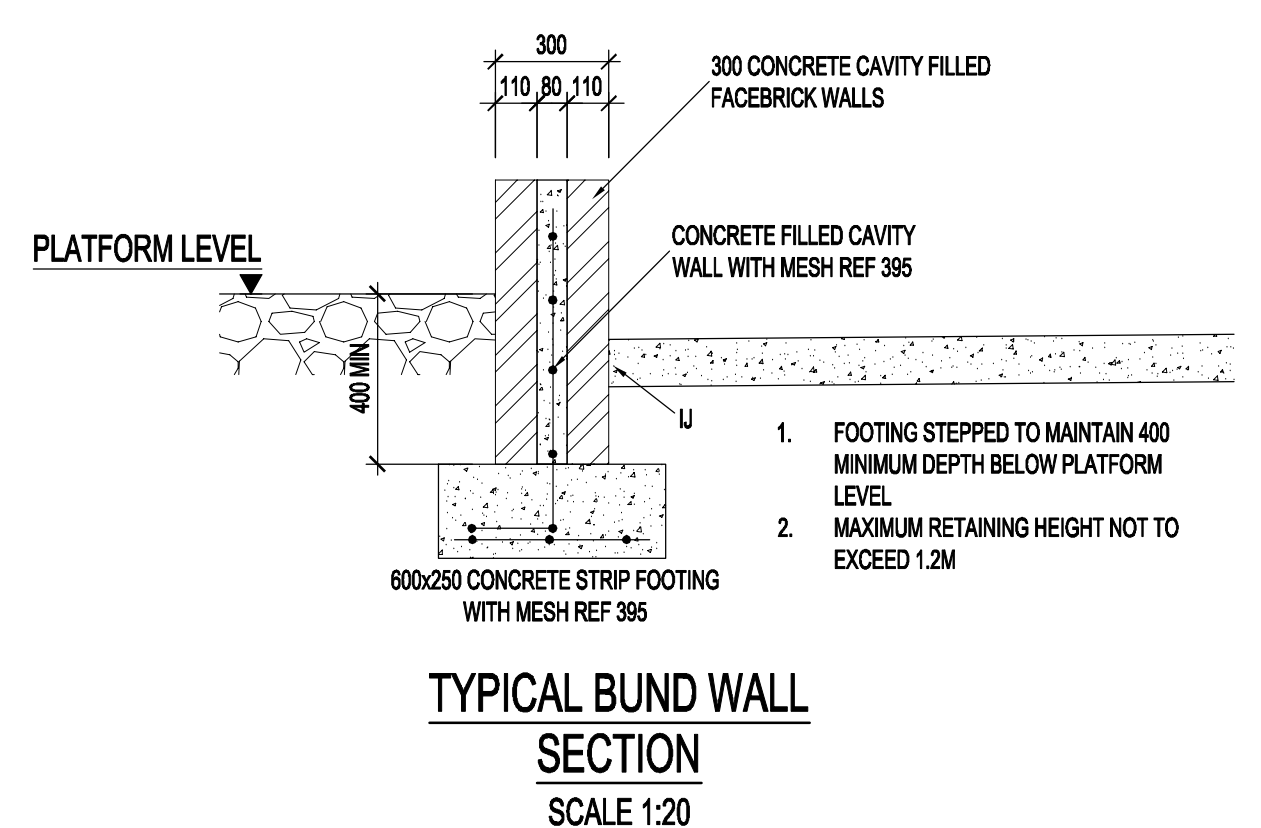
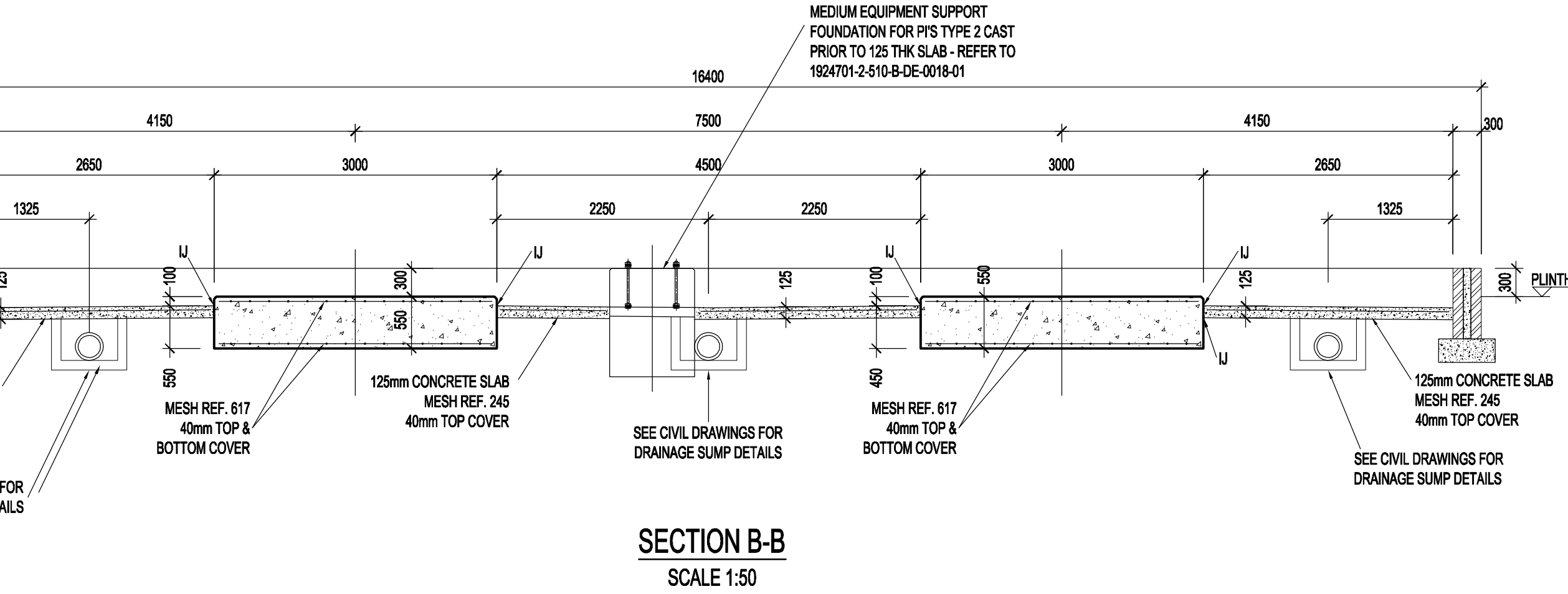
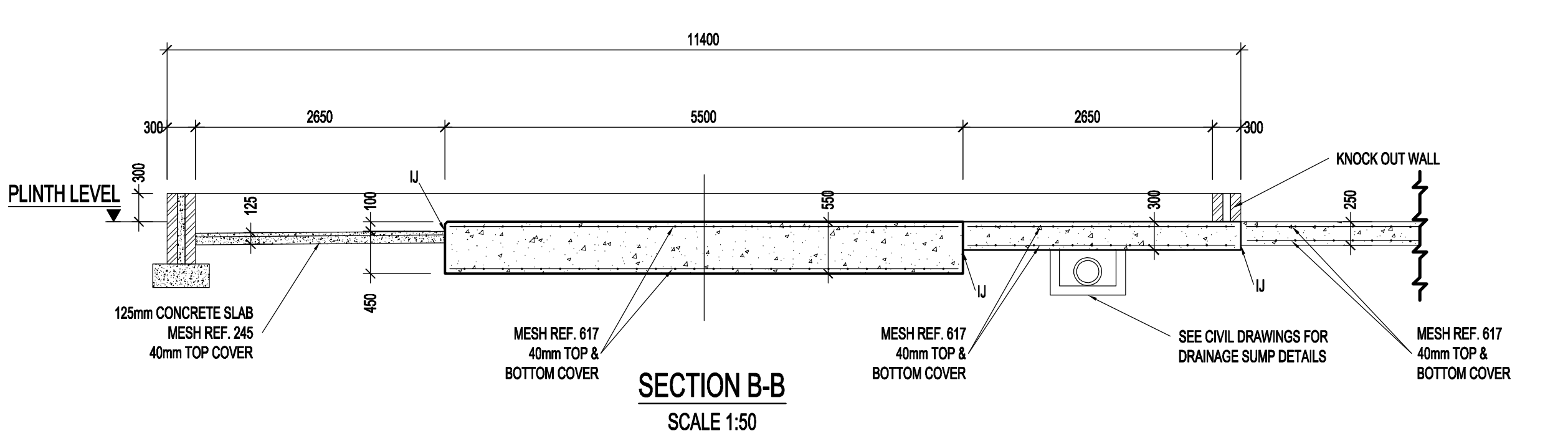
PROJECT NUMBER: 20000105
 SCALE: AS SHOWN
 DRAWING NO: 19 2 4 7 0 1 - 2 - 5 1 0 - B - D E - 0 1 2 1 - 0 1 - 0 1 AE



NOTES:
 ALL CONCRETE WORK SHALL COMPLY WITH SANS 1200 (A MINIMUM 28 DAYS COMPRESSION STRENGTH SHALL BE 20MPa. NOMINAL AGGREGATE SIZE SHALL BE 19mm.
 THE REINFORCING MESH (W/ 617) MUST BE PLACED 50mm FROM THE TOP AND 50mm FROM THE BOTTOM OF THE SLAB.
 THE REINFORCING MESH (W/ 617) SHALL BE PLACED IN THE TOP AND BOTTOM OF THE PLINTH AND RUNWAY SLABS WITH A COVER OF 40mm. WHERE THE GROUND CONDITIONS ARE POOR, A 50mm THICK MASS CONCRETE BUILDING LAYER SHALL BE CAST PRIOR TO THE MESH BEING PLACED. ALL REINFORCING COVERS SHALL HAVE A LAP OF 300mm. THE SUB-GRADE MATERIAL UNDER THE TRANSFORMER PLINTH AND SLIPWAY SHALL BE COMPACTED TO 95% OF MOD AASH TO MAXIMUM DENSITY.
 ALL CONSTRUCTION (CJ) EXPANSION JOINTS AND CABLE ENTRY POINTS SHALL BE SEALED USING EXPANSHIBLE INSERTS OR COMPOUND SYSTEM. SEALING SHALL HAVE A MINIMUM 2 HOUR SETTING IN ACCORDANCE WITH SANS 1077. RECOMMENDED SYSTEM ARE CSD SYSTEMS FROM MERIDIAN TECHNOLOGIES AND INTUMAX FROM P & H PROTECTIVE PLASTER SYSTEMS.
 BUND WALLS TO BE CONSTRUCTED FROM FACEROCK COMPLYING WITH SANS 227 AND APPROVED BY AFCON. ALL JOINTS SHALL BE CONSTRUCTED WITH 18mm THICK MORTAR (1:4) CEMENT: SAND, RAKED FINISH. ALL JOINTS TO BE IN STRAIGHT HORIZONTAL AND VERTICAL LINES. WALLS TO BE CAPPED WITH A ROLL COURSE.
 STAIR TREADS TO BE RIBBED FOR GRIP.
 PLASTER TO BE 1:4 (CEMENT: SAND), MIN 15mm THICK, SMOOTH FINISH.
 LEVEL OF TOP OF PLINTH TO RELATE TO THE CENTRE OF ADJACENT ROAD LEVEL FOR EACH SITE.
 GRATINGS TO BE HOT DIP GALVANISED TO SANS 121.
 1 | 100mm Ø PVC SLEEVE FOR CABLES. SLEEVE TO BE CORNER AFTER.
 * CABLES ARE LAID. FINAL POSITION TO BE DETERMINED ON SITE.

MVA RATING	MASS Tons	PLINTH slab thickness	MESH TYPE top & bottom	SLIPWAY slab thickness	MESH TYPE
40	45-110	550	617	300 & 250	617

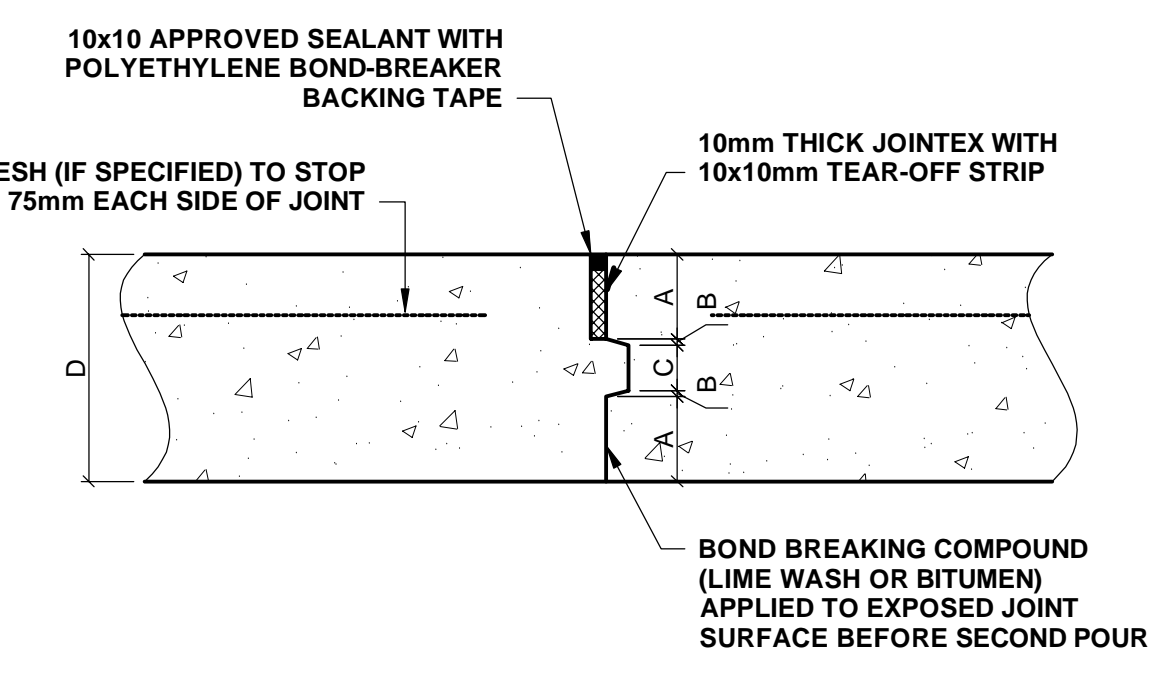
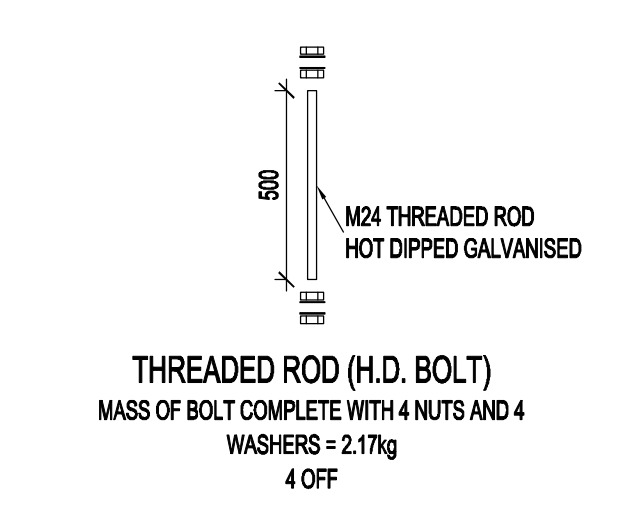
SLIPWAY DIMENSIONS:
 SLIPWAY DIMENSIONS TO BE DETERMINED BY THE SITE LAYOUT. REFER TO SUBSTATION LAYOUT DRAWINGS.



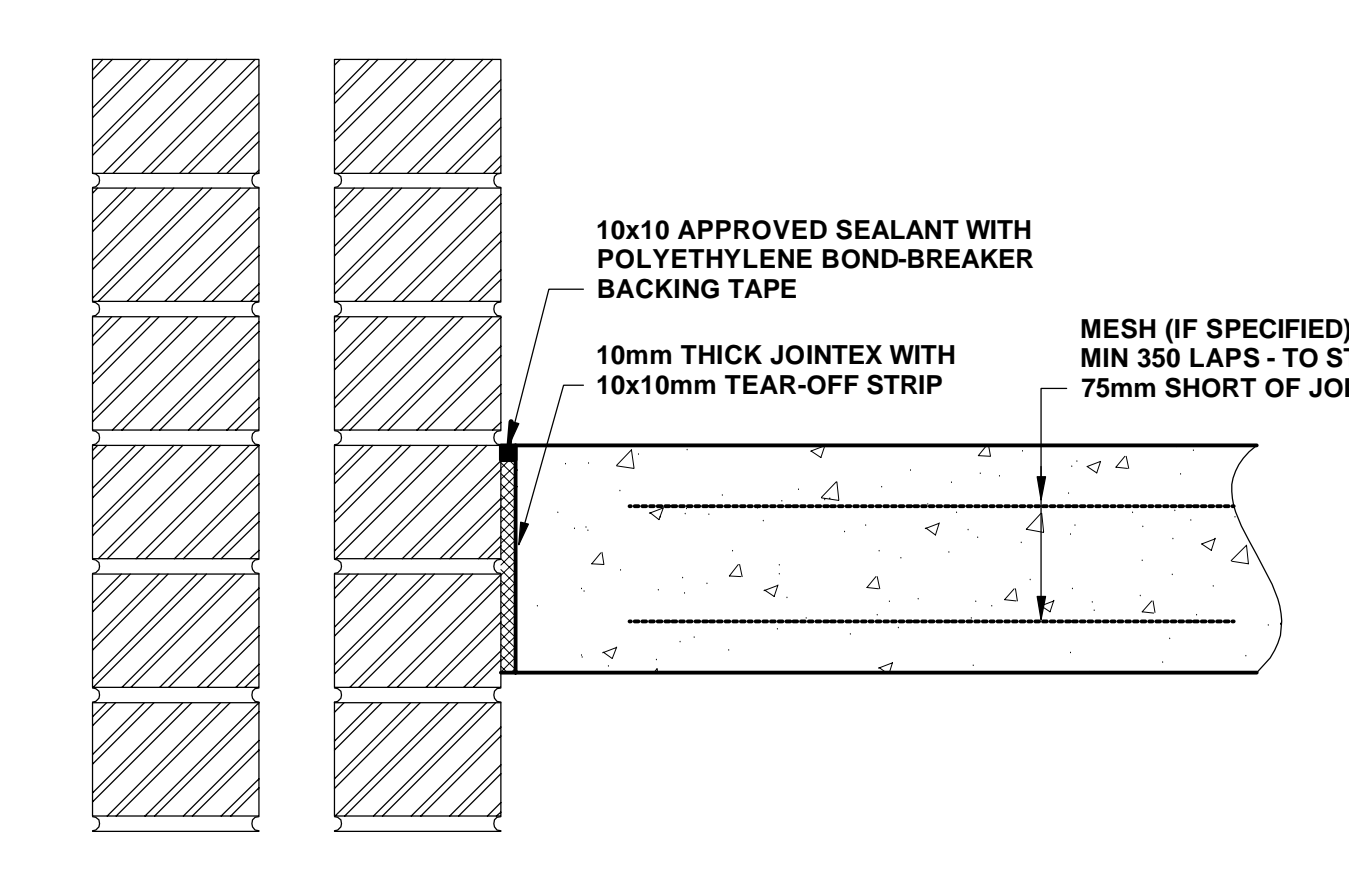
SLAB DEPTH (D)mm	(A)	(B)	(C)	(E)
100	37	3	20	10
125	47	3	25	13
150	56	4	30	15
175	66	4	35	18
200	75	5	40	20
225	85	5	45	23
250	94	6	50	25

SLAB DEPTH (D)mm	(A)mm
100	25
125	35
150	40
175	45
200	50
225	55
250	65

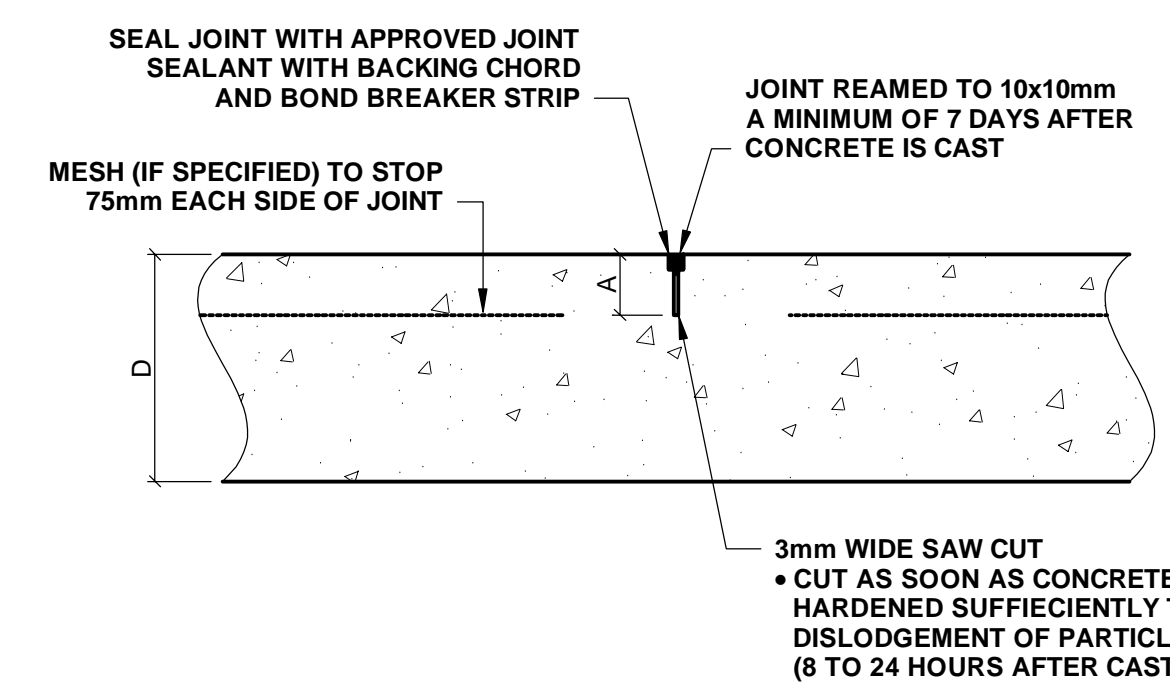
BOLTS SIZE mm	PITCH mm	MILD STEEL BOLTS GRADE	TORQUE mm
24	3	4.8	300



SEALED KEYED CONSTRUCTION JOINT - CJ SCALE 1:5



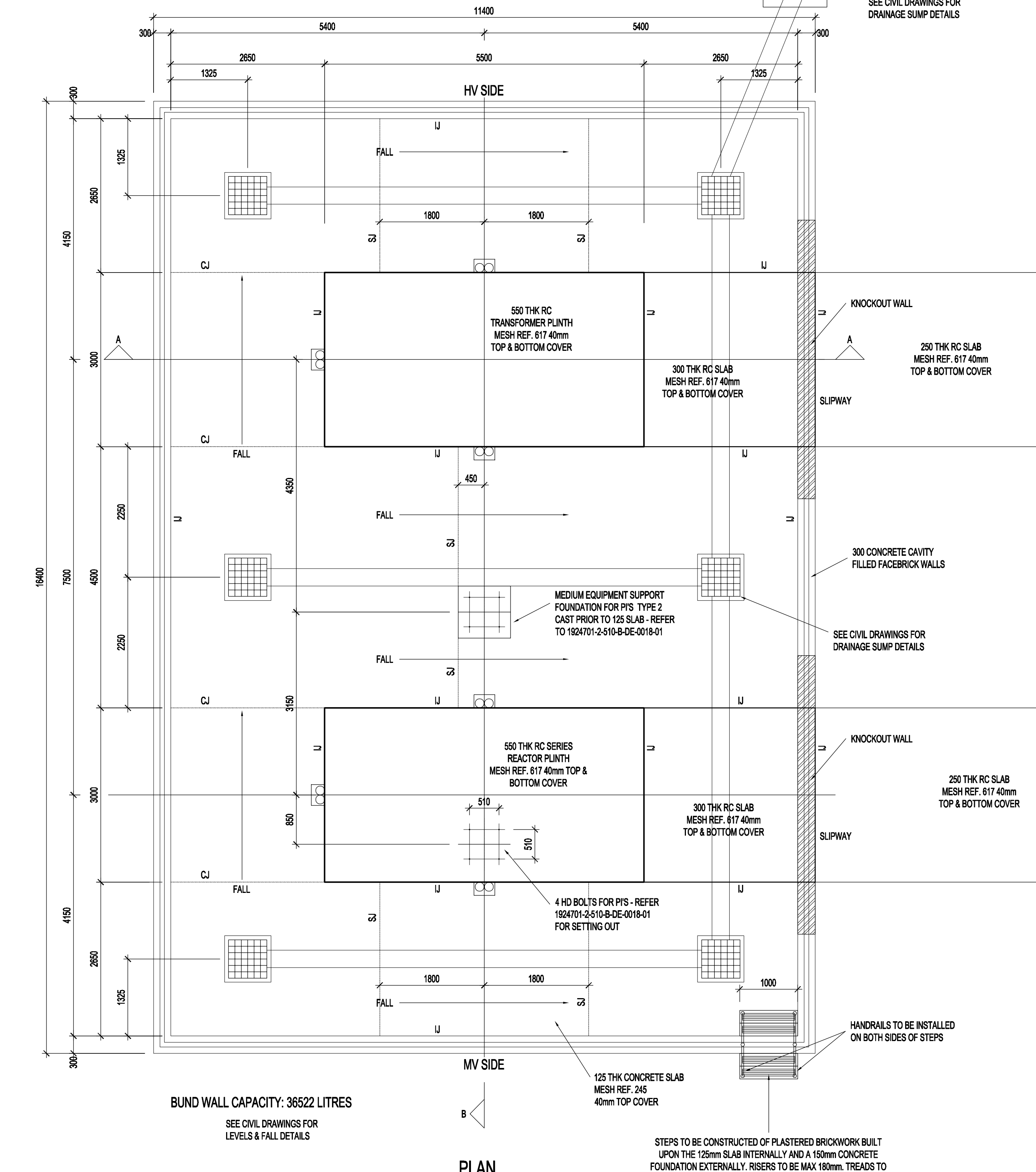
SEALED ISOLATION JOINT - IJ SCALE 1:5



SEALED SAW CUT JOINT - SJ SCALE 1:5



40MVA (DESIGNED TO 80MVA) TRANSFORMER AND SERIES REACTOR PLINTH (SIDE ENTRANCE DETAILS) SCALE 1:50



NOTES:
 1. DO NOT SCALE DRAWING - ONLY DIMENSIONS SHOWN TO BE USED.
 2. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS, DIMENSIONS AND LEVELS ON THE SITE AND NOTIFY THE MEC SUPERVISOR OF ANY VARIATIONS BEFORE CONSTRUCTION.
 3. ALL DIMENSIONS & FOUNDING LEVELS TO BE CHECKED & APPROVED BY ENGINEER PRIOR TO CAST OF CONCRETE.



CAPT TOWN OFFICE
 WATERSIDE PLACE, SOUTH GATE
 TYGER WATERFRONT
 CARL CRONJE DRIVE
 TEL: +27 (0)21 950 7500
 FAX: +27 (0)21 950 7502
 REG. No. 1966/006628/07

NO.	DESCRIPTION	BY	CHKD	APPD	DATE
01	PLINTH DETAILS AMENDED	AH	CK	SWM	2020-07-01
02	DRAWING REVISIONS	AH	CK	SWM	2018-06-19
03	ISSUED FOR CONSTRUCTION	AH	CK	SWM	2018-06-14

CONTRACTOR / CONSULTANT				TRANSNET CAPITAL PROJECTS			
TITLE	NAME	SIGN	DATE	TITLE	NAME	SIGN	DATE
DRAWN	AH	[Signature]	20 07 01				
CHECKED	CK	[Signature]	20 07 01				
DESIGNED	CK	[Signature]	20 07 01				
CHECKED	SWM	[Signature]	20 07 01				

Transnet Capital Projects

TRANSNET

TRANSNET LTD, TRAFALGAR SQUARE, TRANSNET CAPITAL PROJECTS, REG. NO. 1966/006628/07
 TABLE WAY BUILDING, TYGERSBERG PARK, TEL: 021 940 1999
 163 LUYSKRIG DRIVE, PLATTEKLOOF, FAX: 086 677 2405
 8001

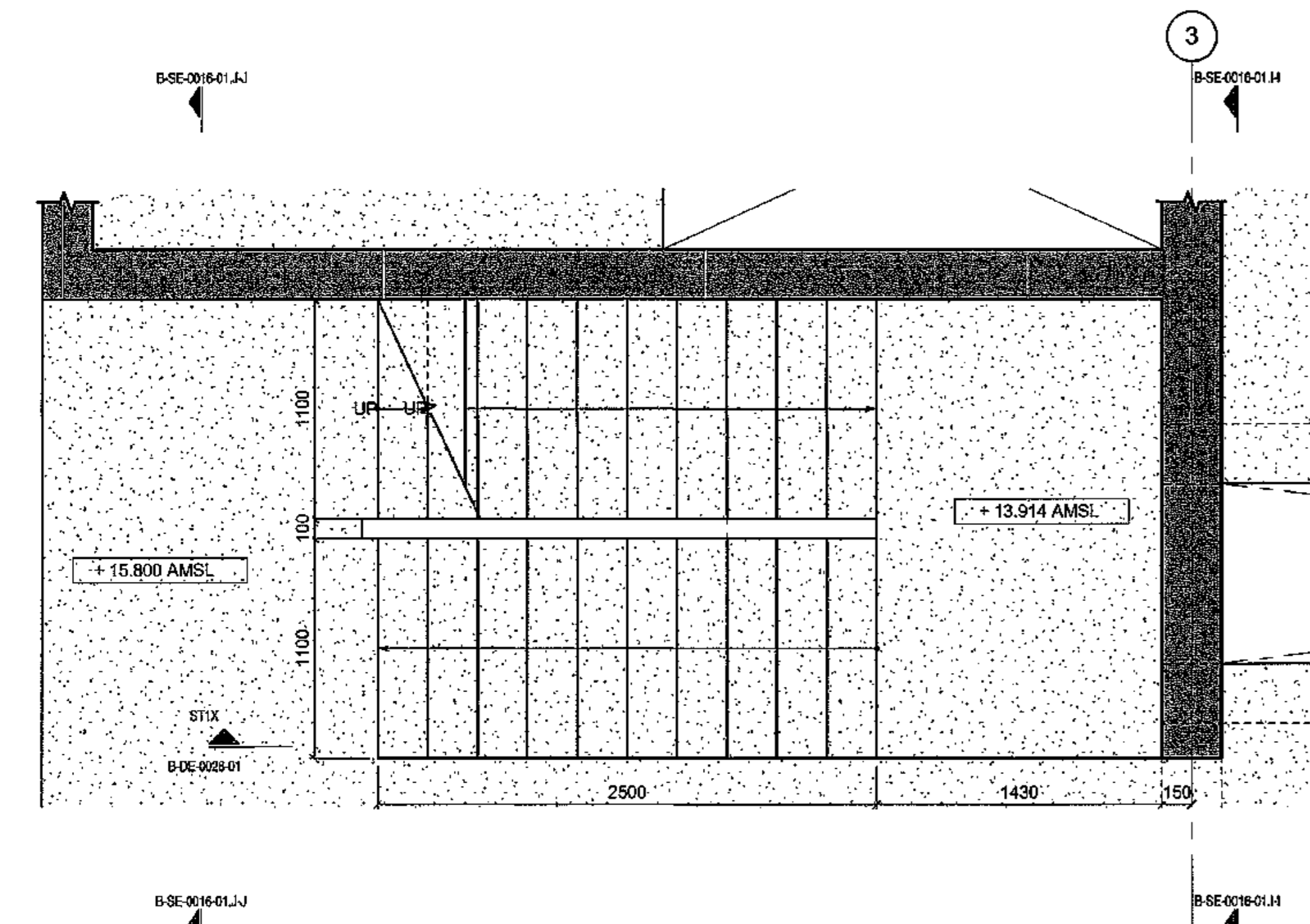
PORT OF SALDANHA

IRON ORE TIEPLER 3 PROJECT
 BULK POWER UPGRADE:
 NEW MAIN INTAKE SUBSTATION
 40MVA TRANSFORMER PLINTH

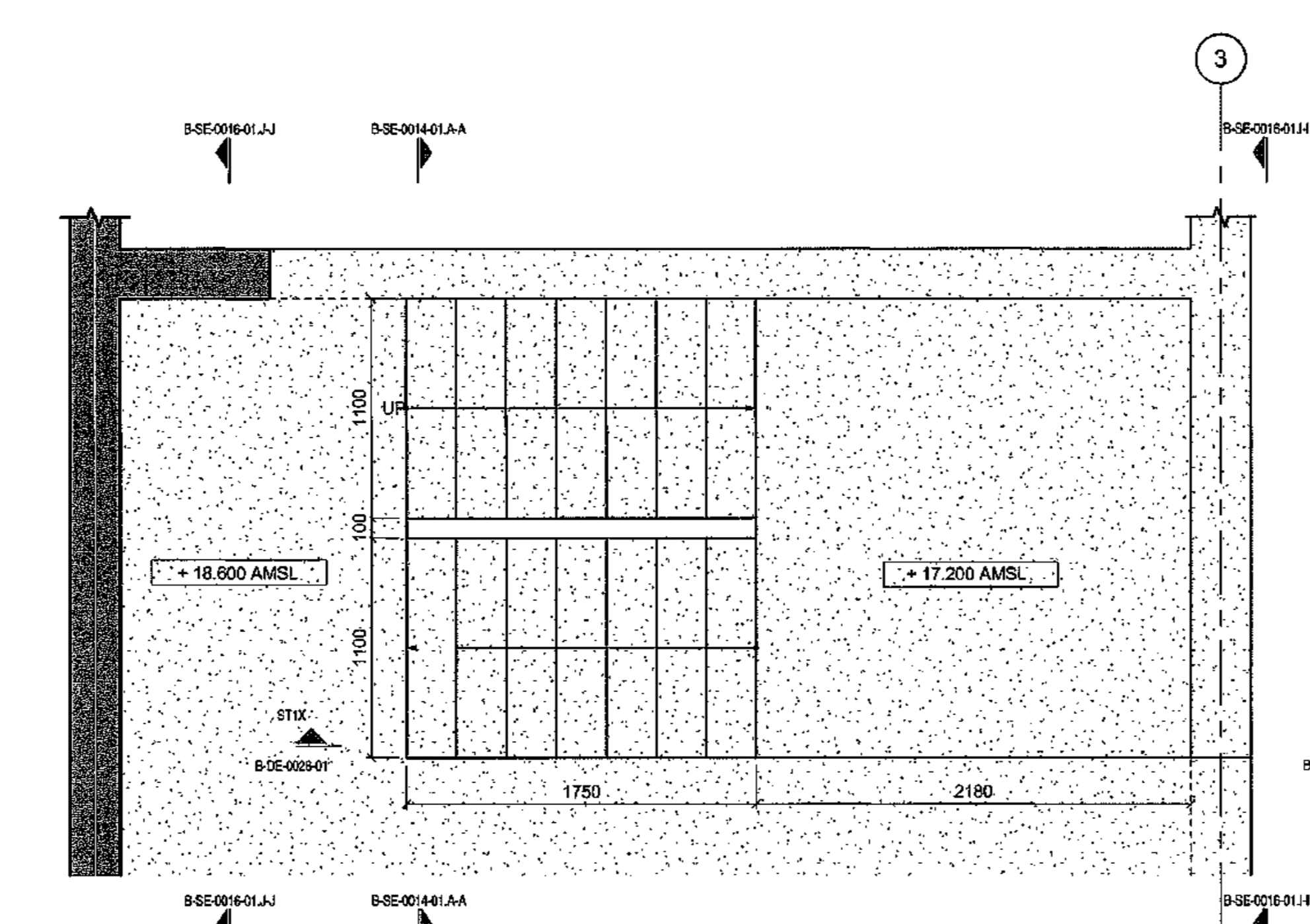
PR. ENG. / PR. TECH./PR. ARCH
 NAME: SW MARAS DATE: 20 07 01
 SIGNATURE: [Signature]

REG. NUMBER: 20000106 SCALE: AS SHOWN

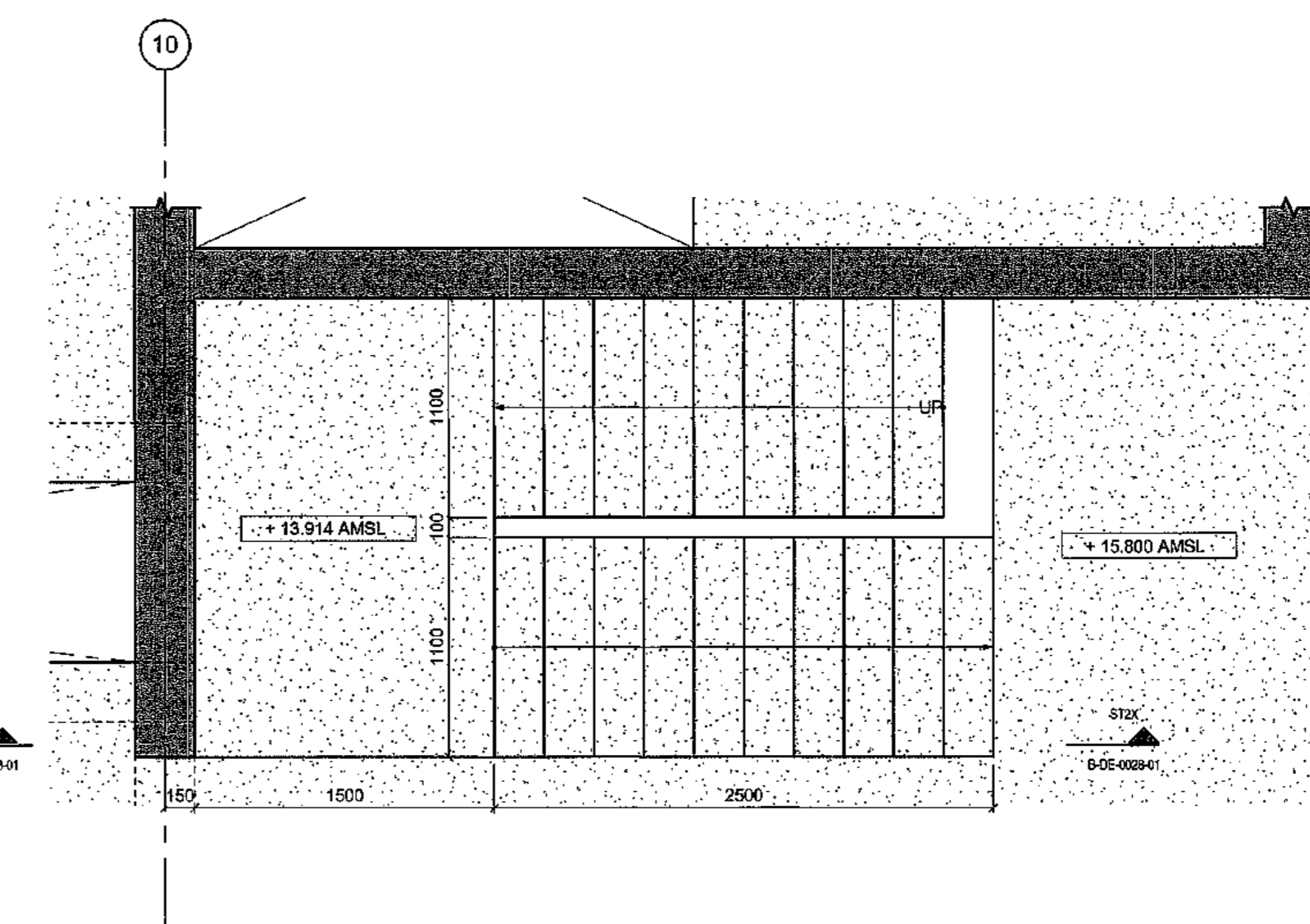
PROJECT NUMBER	DD	FBS	DHS	TYPE	DRAWING NO.	SHEET	REV	ID
19 2 4 7 0 1	2	5	10	B	DE	0 2 7	01	02



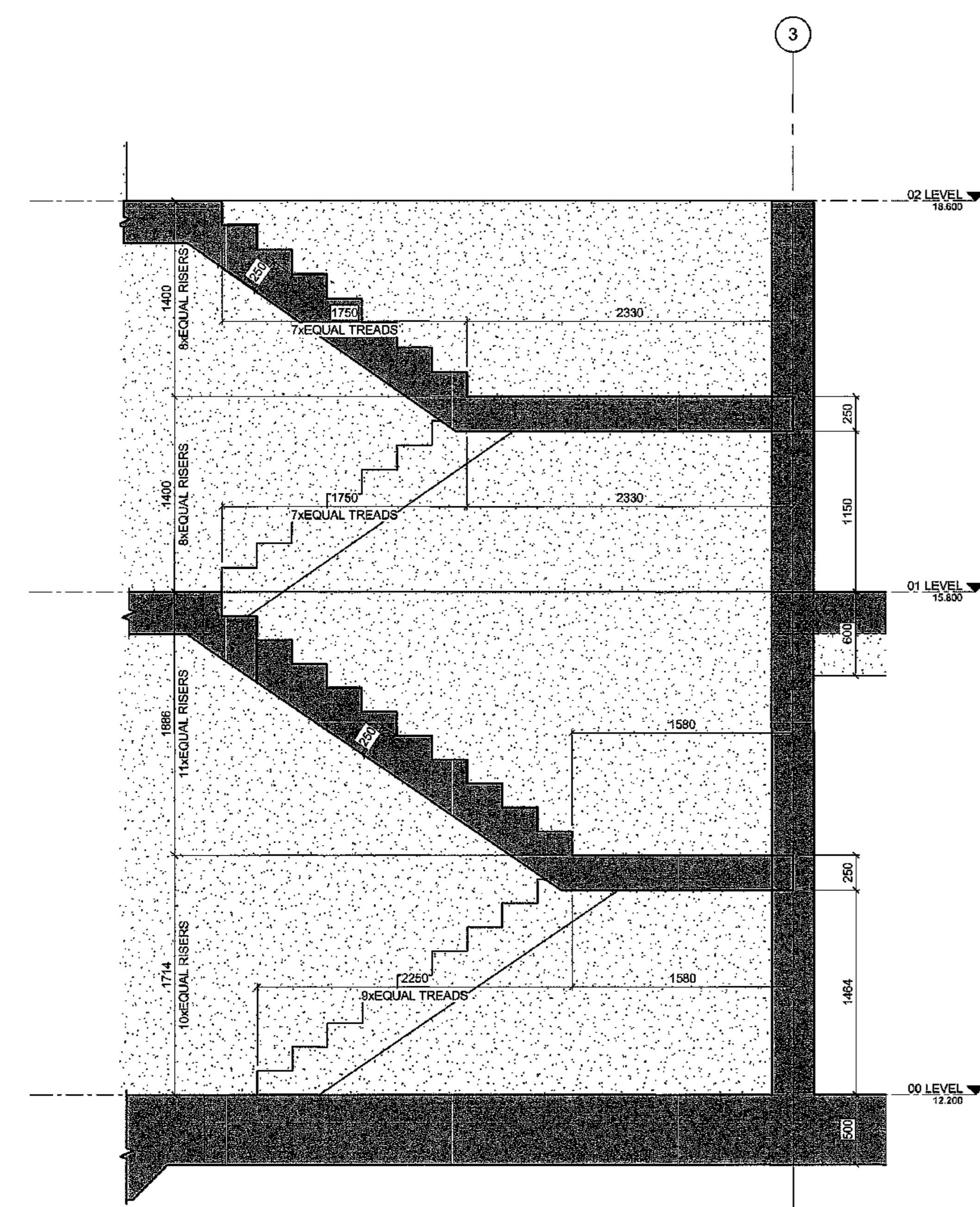
ST1-1 STAIR LAYOUT
ST1X/B-DE-0028-01 SCALE 1:25



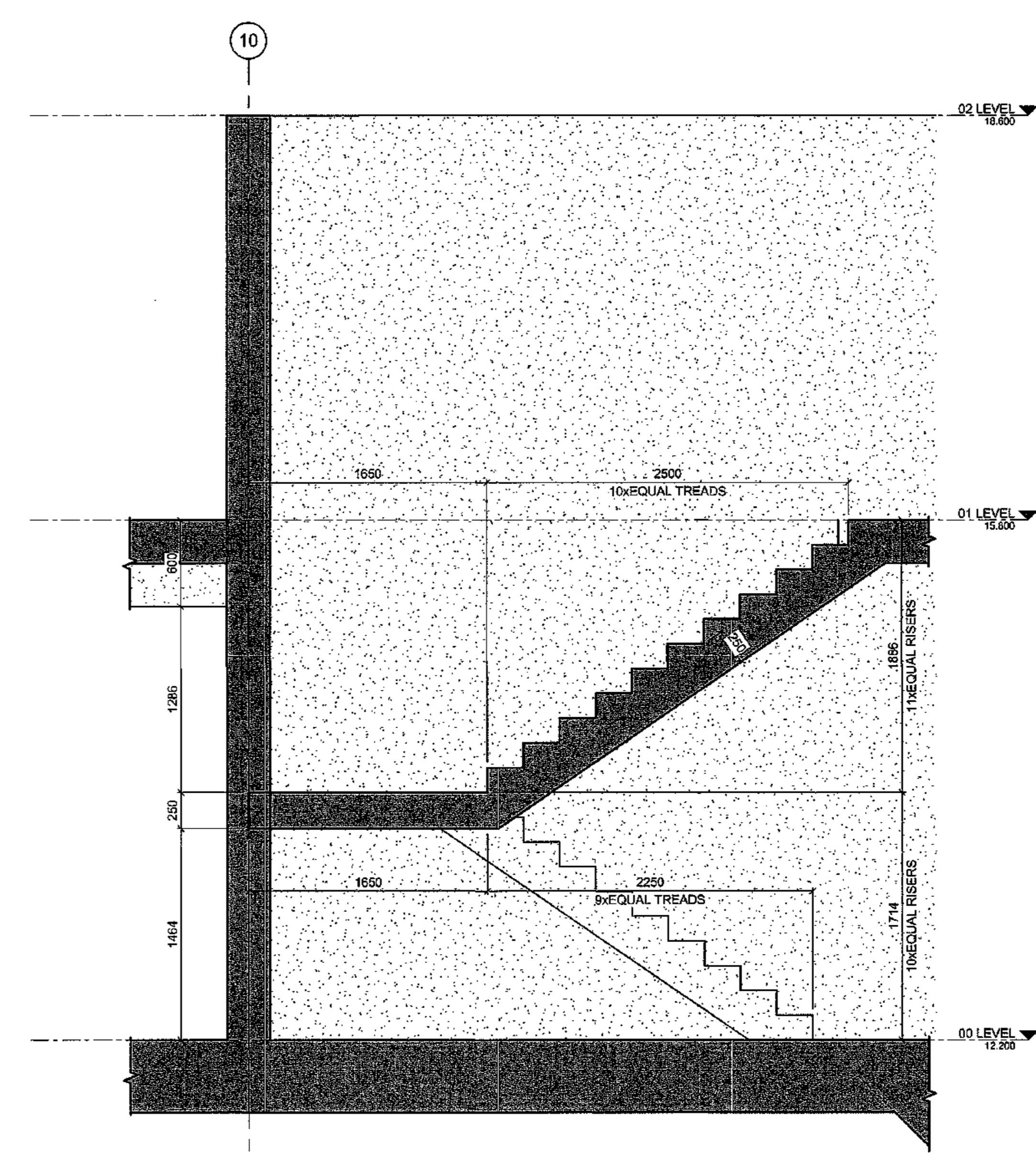
ST1-2 STAIR LAYOUT
ST1X/B-DE-0028-01 SCALE 1:25



ST2-1 STAIR LAYOUT
ST1X/B-DE-0028-01 SCALE 1:25



ST1X STAIR SECTION
ST1-1/B-DE-0028-01 SCALE 1:25



ST2X STAIR SECTION
ST2-1/B-DE-0028-01 SCALE 1:25

REFER TO RESPECTIVE ELECTRICAL DOCUMENTATION & DRAWINGS. AWAITING DETAILS OF FINAL OFFERED STRIP LIGHTS TO BE INSTALLED RECESSED IN STAIRS

MASTER
27 JUN 2018
AECOM

- NOTES**
- DO NOT SCALE DRAWING - ONLY DIMENSIONS SHOWN TO BE USED
 - THE CONTRACTOR SHALL VERIFY ALL CONDITIONS, DIMENSIONS AND LEVELS ON THE SITE AND NOTIFY THE NEC SUPERVISOR OF ANY VARIATIONS BEFORE CONSTRUCTION.

DRAWING NO.	REFERENCE
1	REFERENCE DRAWINGS



CAPE TOWN OFFICE
WATERSIDE PLACE, SOUTH GATE
TYGER WATERFRONT
CARRIAGE DRIVE
TEL: +27 (0)21 850 7500
FAX: +27 (0)21 850 7502
REG. NO. 1966/06628/07

NO	DESCRIPTION	BY	CHKD	APPD	DATE
01	NOTE ADDED	AH			27/06/18
02	ISSUED FOR CONSTRUCTION	OZ	HW	BWM	14/06/18

CONTRACTOR/CONSULTANT				TRANSNET CAPITAL PROJECTS			
TITLE	NAME	SIGN	DATE	TITLE	NAME	SIGN	DATE
OPERATING DIVISIONS				PR. ENG./PR. TECH./PR. ARCH			
				NAME: S.M. MARAIS			
				SIGNATURE: [Signature]			
				DATE: 27/06/18			
				REG. NUMBER: 20090108			
				SCALE: AS SHOWN			

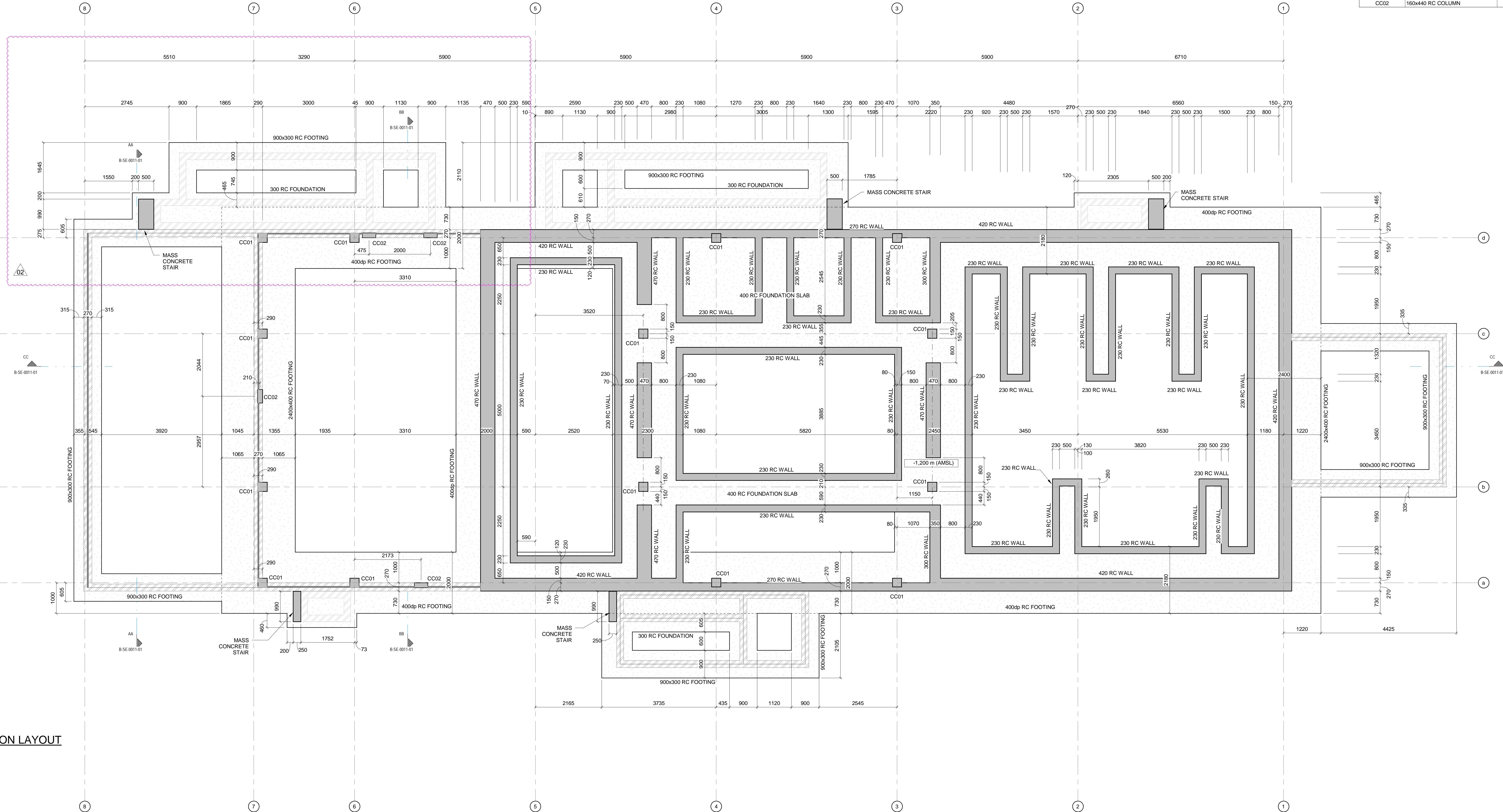
PROJECT NUMBER		DD	FBS	DIB	TYPE	DRAWING NO.	SHEET	REV	ID
1	924701	2	510	B	DE	0028	01	01	AE

TRANSNET CAPITAL PROJECTS
TABLE BAY BUILDING, TYGERBERG PARK,
163 USF-KRONE DRIVE, PLATTEKLIP,
801
TEL: 021 946 1928
FAX: 021 946 2455

PORT OF SALDANHA

IRON ORE TIPPLER 3 PROJECT
BULK POWER UPGRADE:
MAIN INTAKE SUBSTATION
STAIR LAYOUT & DETAILS

COLUMN SCHEDULE		
TYPE MARK	TYPE	NO. OFF
CC01	300x300 RC COLUMN	26
CC02	160x440 RC COLUMN	4



-01 FOUNDATION LAYOUT
B-LA-0033-01 SCALE 1:50

REFER TO RESPECTIVE ELECTRICAL DOCUMENTATION AND DRAWINGS, AWAITING DETAILS ON FINAL OFFERED MV AND LV ELECTRICAL EQUIPMENT DIMENSIONS AND WEIGHTS



- NOTES**
- DO NOT SCALE DRAWING - ONLY DIMENSIONS SHOWN TO BE USED
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CAPE TOWN OFFICE
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TYGER WATERFRONT
CARL CRONJE DRIVE
TEL: +27 (0)21 950 7500
FAX: +27 (0)21 950 7502
REG. No. 1966/006628/07

CONTRACTOR/CONSULTANT		TRANSNET CAPITAL PROJECTS	
TITLE	NAME SIGN DATE	TITLE	NAME SIGN DATE
DRAWN	AH 17 11 21		
CHECKED	C K 17 11 21		
DESIGNED	C K 17 11 21		
CHECKED	SWM 17 11 21		

OPERATING DIVISIONS		PR. ENG./PR. TECH./PR. ARCH	
TITLE	NAME SIGN DATE	NAME	DATE
		SW MARAIS	17 11 21

REVISIONS	
NO	DESCRIPTION

PROJECT NUMBER	DD	FBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
A	19	2	4	7	0	1	02	AE

Transnet Capital Projects
TRANSNET LTD (TRADING AS TRANSNET CAPITAL PROJECTS) REG. NO. 1966/006628/07
TABLE BAY BUILDING, TYGERSBERG PARK, 163 LYS KRIGE DRIVE, PLATTEKLOOF, 8001
TEL: 021 940 1999
FAX: 021 940 2455

PORT OF SALDANHA

**IRON ORE TIPPLER 3 PROJECT
BULK POWER UPGRADE
SUBSTATION M
FOUNDATION LAYOUT**

DRAWING NO.	REFERENCE
1	REFERENCE DRAWINGS

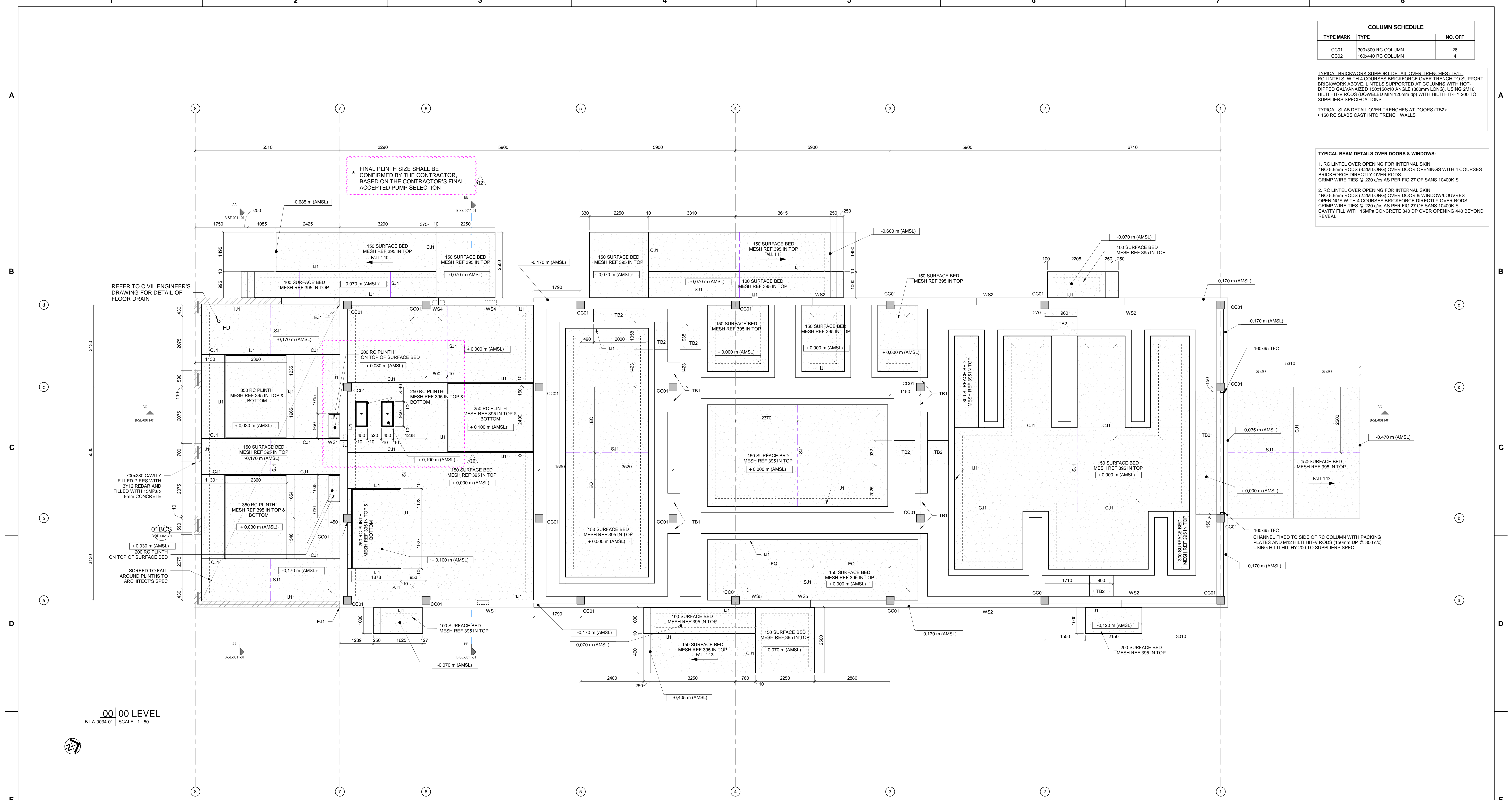
COLUMN SCHEDULE		
TYPE MARK	TYPE	NO. OFF
CC01	300x300 RC COLUMN	26
CC02	160x440 RC COLUMN	4

TYPICAL BRICKWORK SUPPORT DETAIL OVER TRENCHES (TB1):
RC LINTELS WITH 4 COURSES BRICKWORK OVER TRENCH TO SUPPORT BRICKWORK ABOVE. LINTELS SUPPORTED AT COLUMNS WITH HOT-DIPPED GALVANIZED 150x150x10 ANGLE (300mm LONG), USING 2M16 HLTI HIT-V RODS (DOVEILED MIN 120mm dp) WITH HLTI HIT-HY 200 TO SUPPLIERS SPECIFICATIONS.

TYPICAL SLAB DETAIL OVER TRENCHES AT DOORS (TB2):
150 RC SLABS CAST INTO TRENCH WALLS

TYPICAL BEAM DETAILS OVER DOORS & WINDOWS:

- RC LINTEL OVER OPENING FOR INTERNAL SKIN AND 5.6mm RODS (3.2M LONG) OVER DOOR OPENINGS WITH 4 COURSES BRICKWORK DIRECTLY OVER RODS
CRIMP WIRE TIES @ 220 c/c AS PER FIG 27 OF SANS 10400K-S
- RC LINTEL OVER OPENING FOR INTERNAL SKIN AND 5.6mm RODS (2.2M LONG) OVER DOOR & WINDOW/LOUVER OPENINGS WITH 4 COURSES BRICKWORK DIRECTLY OVER RODS
CRIMP WIRE TIES @ 220 c/c AS PER FIG 27 OF SANS 10400K-S
CAVITY FILL WITH 15MPa CONCRETE 340 DP OVER OPENING 440 BEYOND REVEAL.



* FINAL PLINTH SIZE SHALL BE CONFIRMED BY THE CONTRACTOR, BASED ON THE CONTRACTOR'S FINAL ACCEPTED PUMP SELECTION

REFER TO CIVIL ENGINEER'S DRAWING FOR DETAIL OF FLOOR DRAIN

700x280 CAVITY FILLED PIERS WITH 3/12 REBAR AND FILLED WITH 15MPa 9mm CONCRETE

ON TOP OF SURFACE BED

00 00 LEVEL
B-LA-0034-01 SCALE 1:50

REFER TO RESPECTIVE ELECTRICAL DOCUMENTATION AND DRAWINGS, AWAITING DETAILS ON FINAL OFFERED MV AND LV ELECTRICAL EQUIPMENT DIMENSIONS AND WEIGHTS

MASTER
23-11-2021
AECOM

- NOTES**
- DO NOT SCALE DRAWING - ONLY DIMENSIONS SHOWN TO BE USED
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CAPE TOWN OFFICE
WATERLOO PLACE, SOUTH GATE
TYGER WATERFRONT
CARL CRONJE DRIVE
TEL: +27 (0)21 950 7500
FAX: +27 (0)21 950 7502
REG. No. 1966/00626/07

CONTRACTOR/CONSULTANT		TRANSNET CAPITAL PROJECTS	
TITLE	NAME	DATE	TITLE
DRAWN	AH	17 11 21	
CHECKED	C.K.	17 11 21	
DESIGNED	C.K.	17 11 21	
CHECKED	SWM	17 11 21	

OPERATING DIVISIONS		PR. ENG./PR. TECH./PR. ARCH	
TITLE	NAME	DATE	TITLE
	SW MARAIS	17 11 21	

REVISIONS	
NO	DESCRIPTION
01	PLINTHS ADDED - DNS ADD/DAMAGED
02	HOLD POINT ADDED & STEEL POSTS ADDED
03	ISSUED FOR CONSTRUCTION

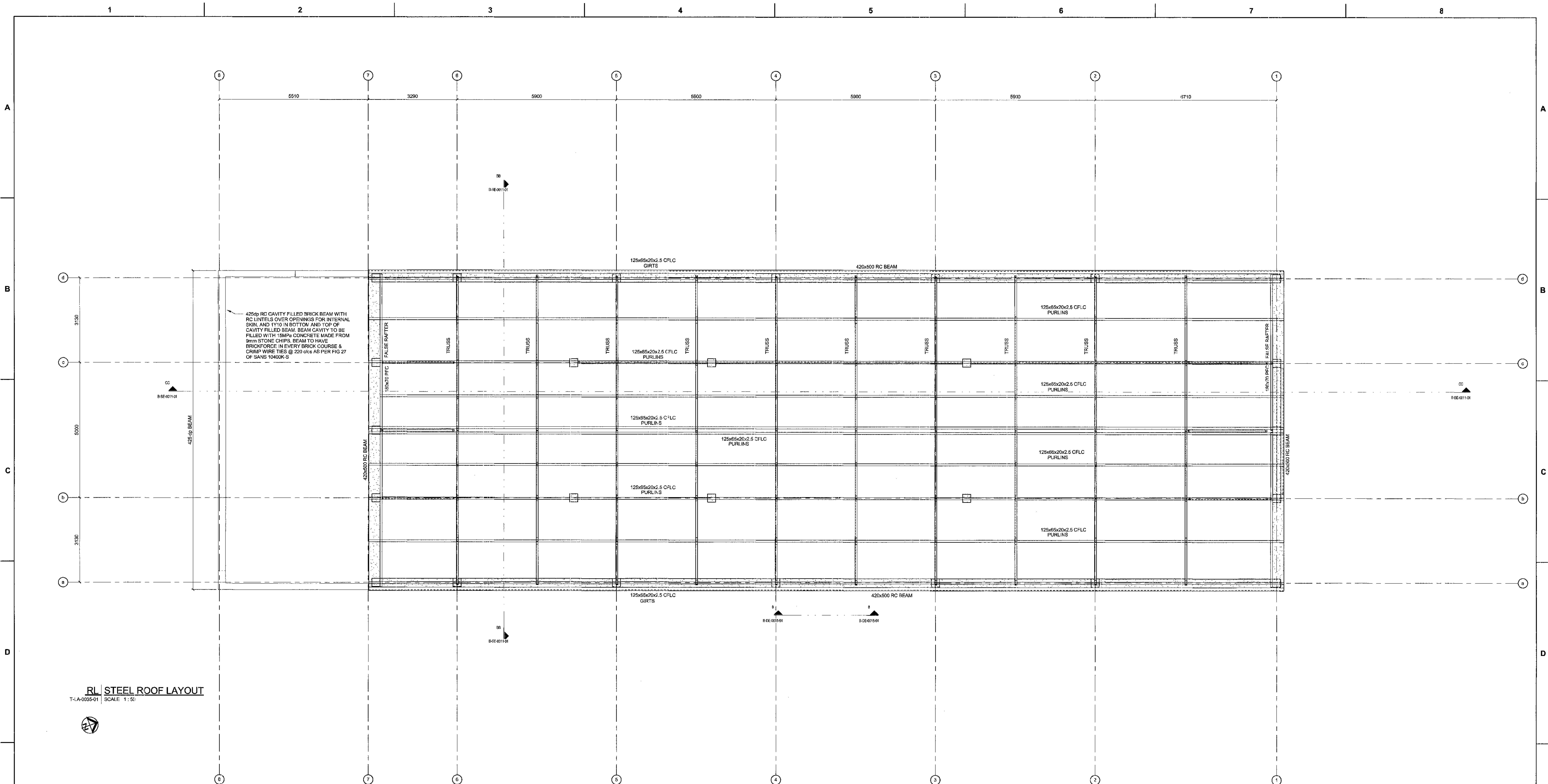
PROJECT NUMBER	DD	FBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
19 2 4 7 0 1	2	5 1 0	B	L A	0 0 3 4	0 1	02	AE

Transnet Capital Projects
TRANSNET
TABLE BAY BUILDING, TYGERSBERG PARK
163 LYS KRIGE DRIVE, PLATTEKLOOF, 8001
TEL: 021 940 1999
FAX: 021 940 2455

PORT OF SALDANHA

**IRON ORE TIPPLER 3 PROJECT
BULK POWER UPGRADE
SUBSTATION M
SURFACE BED LAYOUT**

DRAWING NO.	REFERENCE
1	REFERENCE DRAWINGS



RL STEEL ROOF LAYOUT
 T-A-0035-01 SCALE: 1:50



MASTER
 15 JUN 2018

AECOM

DRAWING NO.	REFERENCE
1	REFERENCE DRAWINGS

NOTES

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AECOM

CAPE TOWN OFFICE
 WATERSIDE PLACE, SOUTH GATE
 TYGER WATERFRONT
 CARL CRONJE DRIVE

TEL: +27 (0)21 950 7500
 FAX: +27 (0)21 350 7502
 REG. No. 1969/06628/07

NO.	DESCRIPTION	BY	CHKD	APPD	DATE

CONTRACTOR/CONSULTANT				TRANSNET CAPITAL PROJECTS			
TITLE	NAME	SIGN	DATE	TITLE	NAME	SIGN	DATE

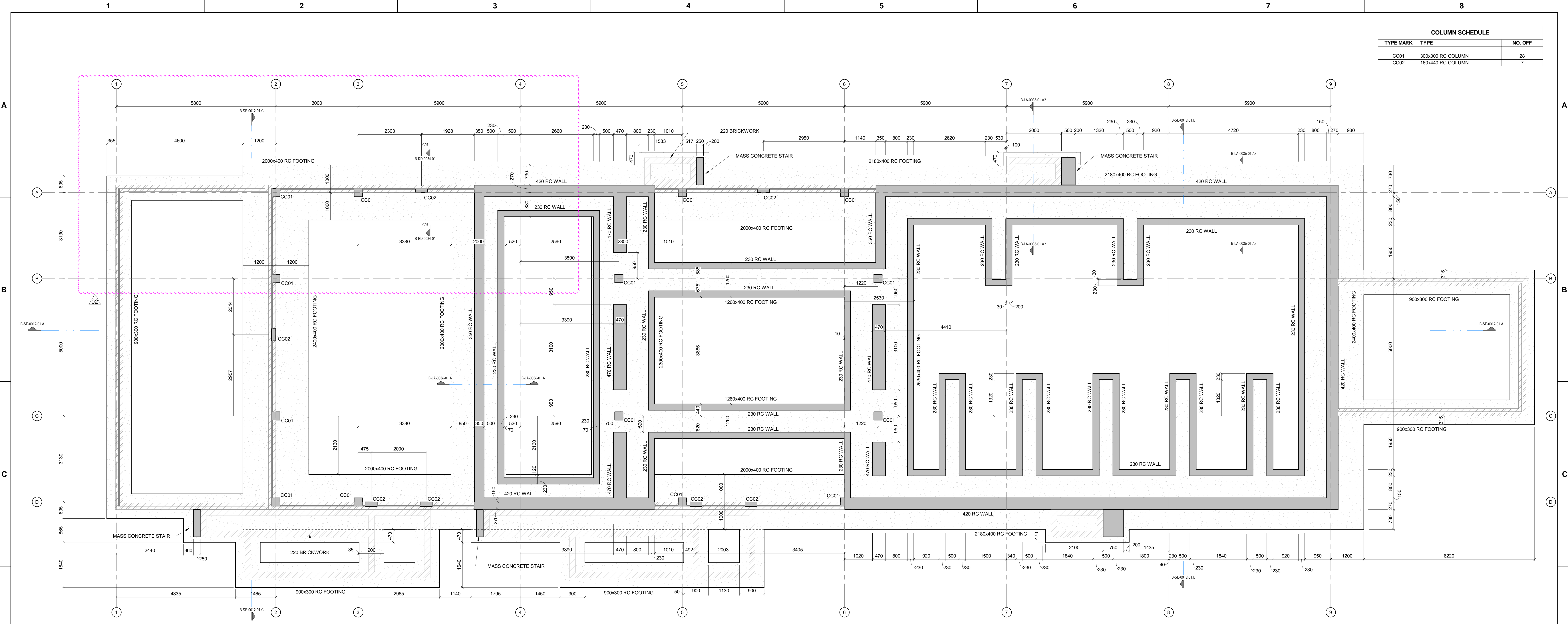
OPERATING DIVISIONS									
TITLE	NAME	SIGN	DATE	PR. ENG./PR. TECH./PR. ARCH	NAME	SIGN	DATE	REG. NUMBER	SCALE

PORT OF SALDANHA

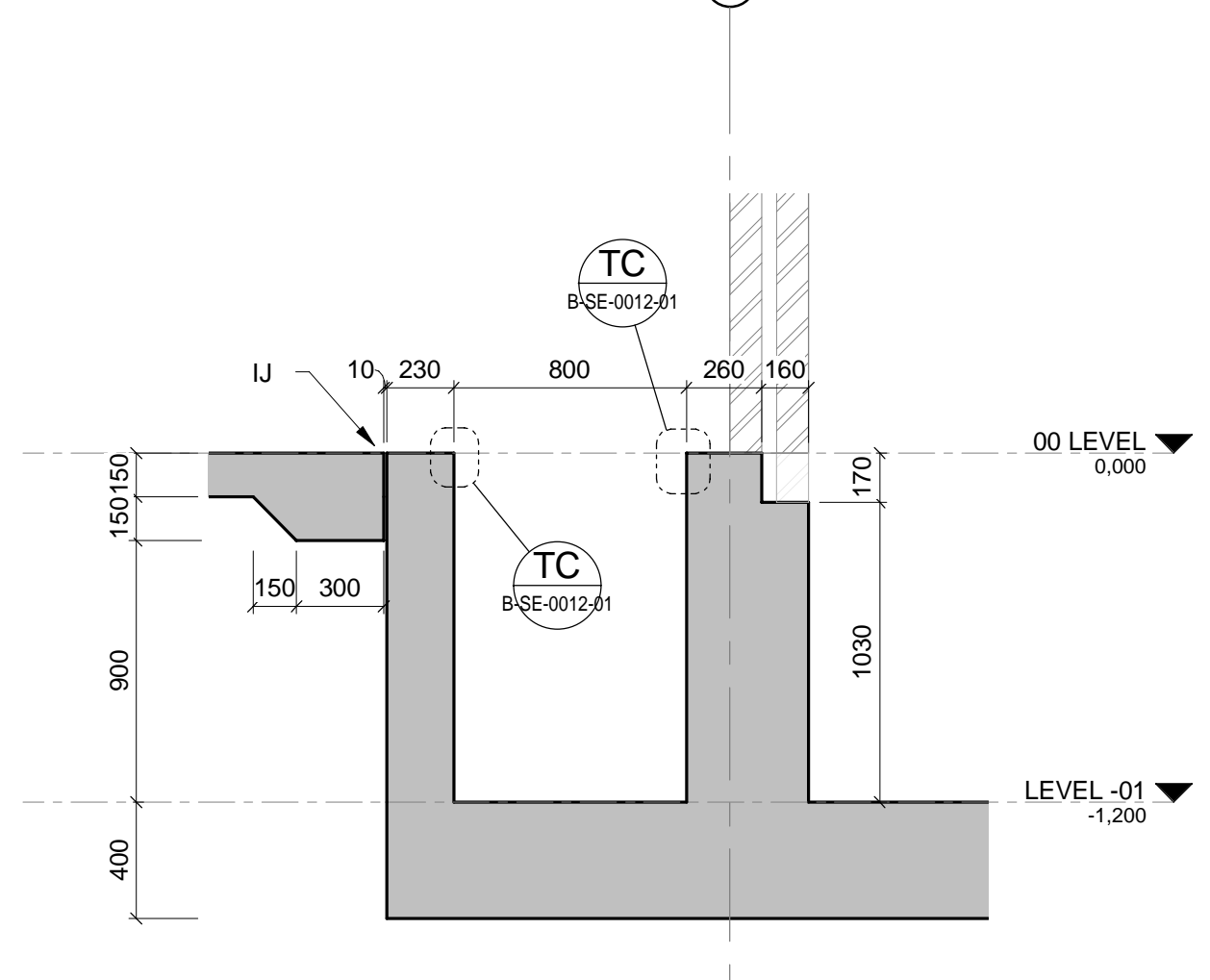
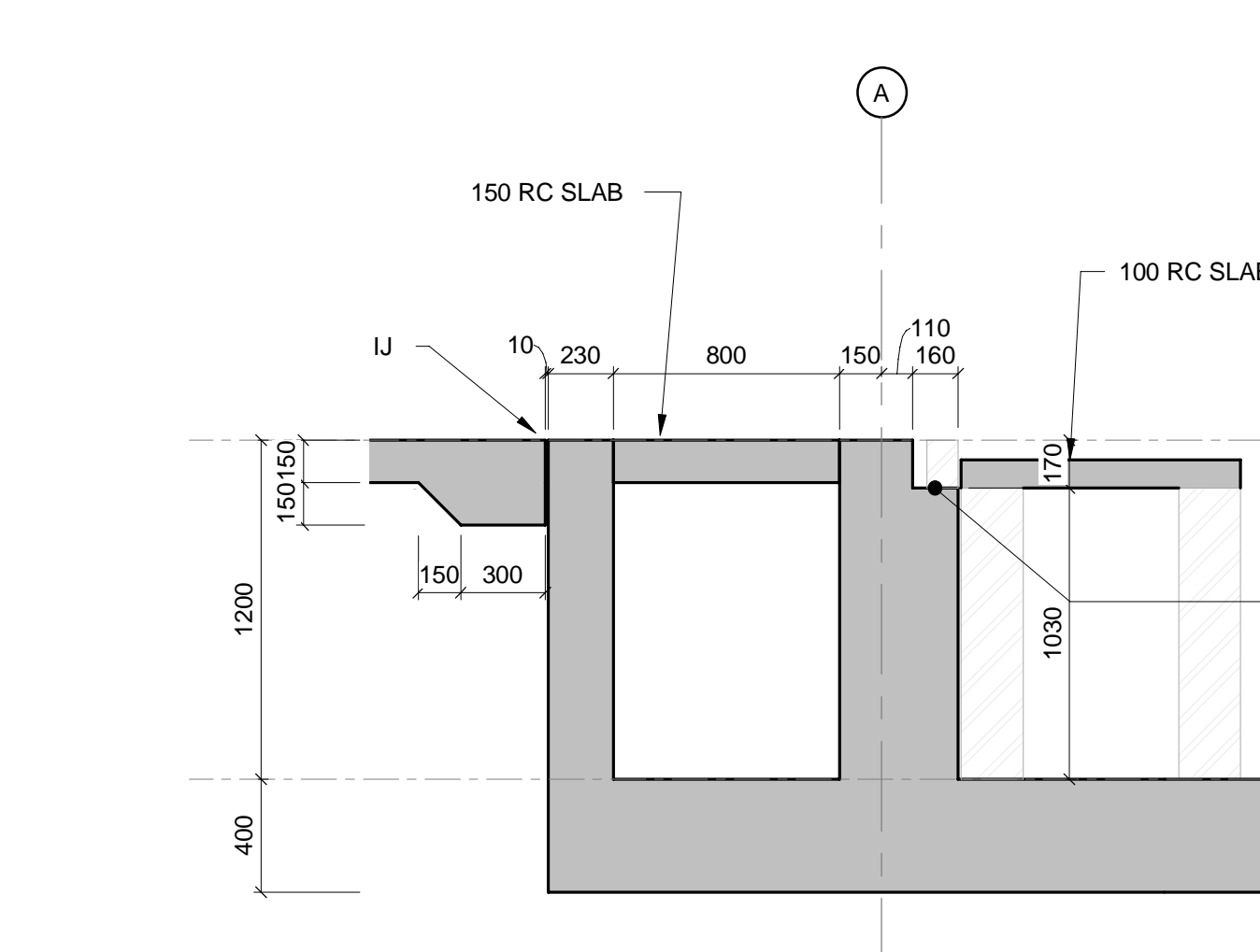
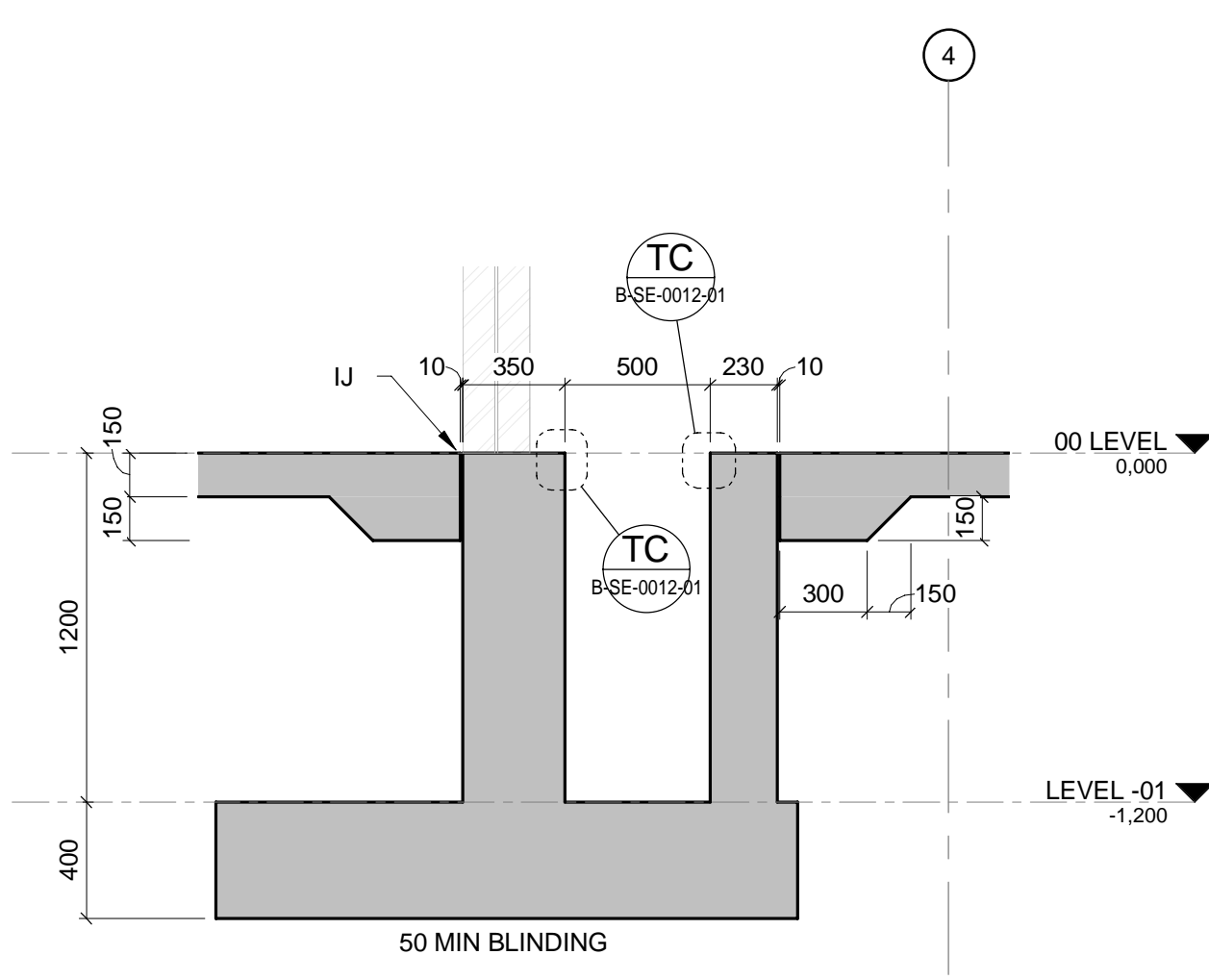
IRON ORE TIPPLER 3 PROJECT
BULK POWER UPGRADE
SUBSTATION M
STEEL ROOF

PROJECT NUMBER	CD	FBS	DUS	TYPE	DRAWING NO.	SHEET	REV.	E
19247011	2	510	B	LA	0035	01	00	AE

COLUMN SCHEDULE		
TYPE MARK	TYPE	NO. OFF
CC01	300x300 RC COLUMN	28
CC02	160x440 RC COLUMN	7



-01 FOUNDATION LAYOUT
 B-LA-0036-01 SCALE 1:50



REFER TO RESPECTIVE ELECTRICAL DOCUMENTATION AND DRAWINGS.
 AWAITING DETAILS ON FINAL OFFERED MV AND LV ELECTRICAL EQUIPMENT
 DIMENSIONS AND WEIGHTS.



- NOTES**
- DO NOT SCALE DRAWING - ONLY DIMENSIONS SHOWN TO BE USED
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CAPE TOWN OFFICE
 WATERSIDE PLACE SOUTH GATE
 TYGER WATERFRONT
 CARL CRONJE DRIVE
 TEL: +27 (0)21 950 7500
 FAX: +27 (0)21 950 7502
 REG. No. 1966/006628/07

CONTRACTOR/CONSULTANT		TRANSNET CAPITAL PROJECTS	
TITLE	NAME	SIGN	DATE
DRAWN	AH		17 11 21
CHECKED	CK		17 11 21
DESIGNED	IG		17 11 21
CHECKED	SWM		17 11 21

OPERATING DIVISIONS		PR. ENG./PR. TECH./PR. ARCH	
TITLE	NAME	SIGN	DATE
	SW MARAIS		17 11 21

REVISIONS	
NO	DESCRIPTION
01	PLINTHS ADDED - DNS ADDENDUM 02
02	HOLD POINT ADDED
03	ISSUED FOR CONSTRUCTION

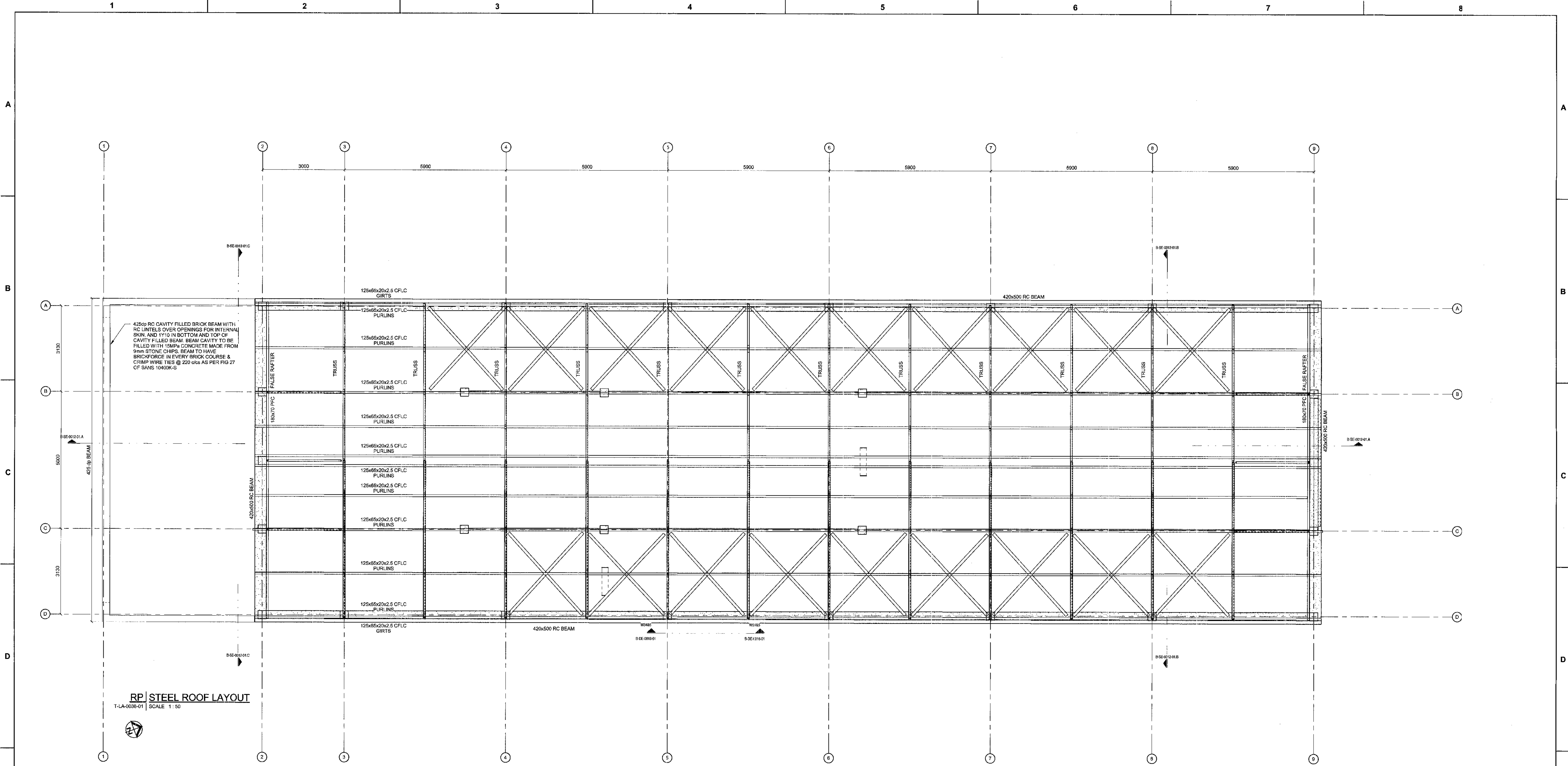
PROJECT NUMBER	DD	FBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
1924701	2	510	B	LA	0036	01	02	AE

Transnet Capital Projects
 TRANSNET LTD (TRANSNET) TRANSNET CAPITAL PROJECTS: REG. NO. 1966/006628/07
 TABLE BAY BUILDING, TYGERSBERG PARK, TEL: 021 940 1999
 163 LYS KRIGE DRIVE, PLATTEKLOOF, FAK: 086 677 2455
 8001

PORT OF SALDANHA

IRON ORE TIPPLER 3 PROJECT
BULK POWER UPGRADE:
SUBSTATION N
FOUNDATION LAYOUT

DRAWING NO.	REFERENCE



RP STEEL ROOF LAYOUT
T-LA-0038-01 SCALE 1:50

MASTER
15 JUN 2018

AECOM

DRAWING NO.	REFERENCE
1	REFERENCE DRAWINGS

NOTES

- DO NOT SCALE DRAWING - ONLY DIMENSIONS SHOWN TO BE USED.
- THE CONTRACTOR SHALL VERIFY ALL CONDITIONS, DIMENSIONS AND LEVELS ON THE SITE AND NOTIFY THE NEC SUPERVISOR OF ANY VARIATIONS BEFORE CONSTRUCTION.

AECOM

CAPE TOWN OFFICE
WATERSIDE PLACE, SOUTH GATE
TYGER WATERFRONT
CARL OUDRE DRIVE

TEL: +27 (0)21 950 7500
FAX: +27 (0)21 850 7502
REG. NO. 19668/066628/07

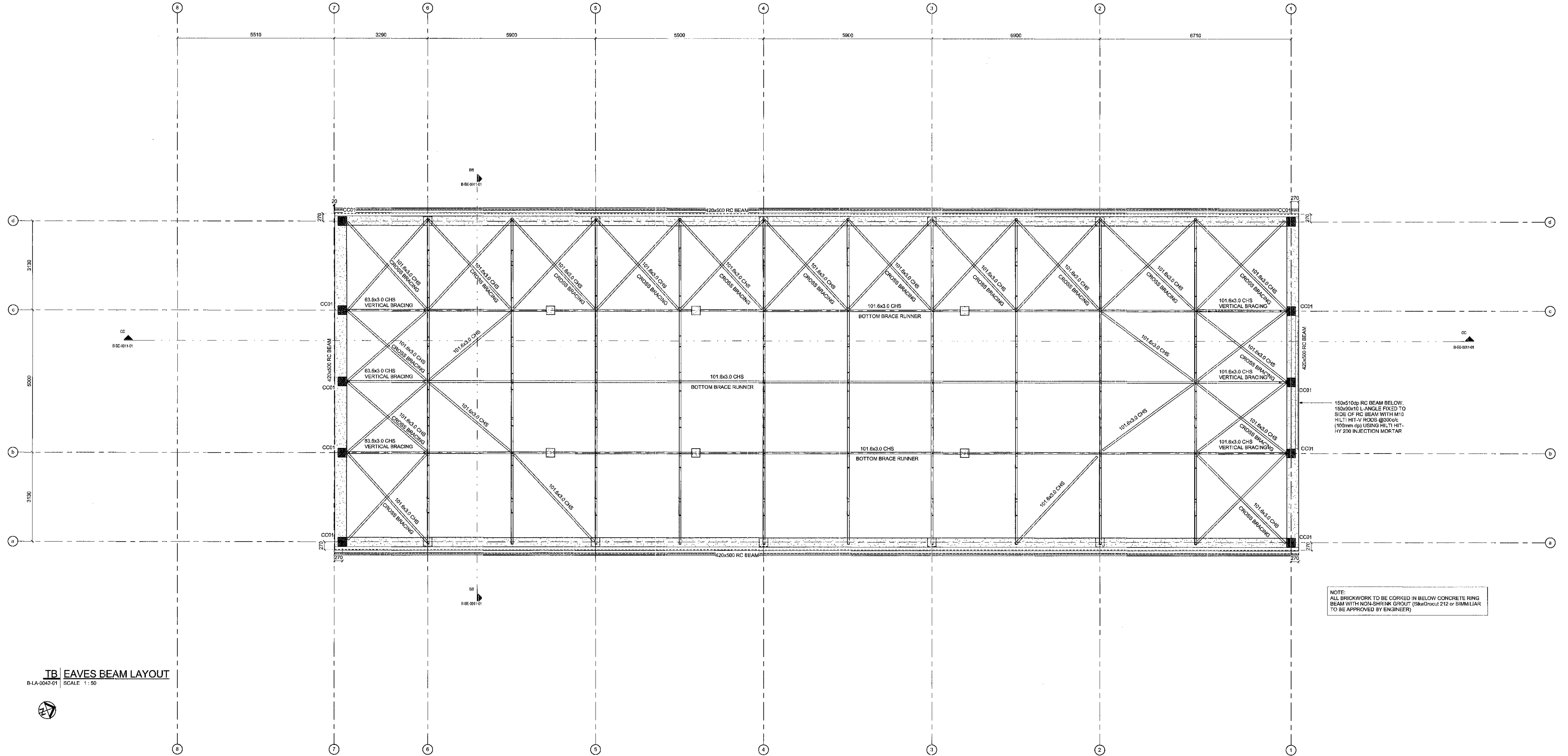
NO.	DESCRIPTION	DATE	BY	CHKD	APPD

CONTRACTOR/CONSULTANT		TRANSNET CAPITAL PROJECTS	
TITLE	NAME	SIGN	DATE

OPERATING DIVISIONS		FR.ENG./PR.TECH./PR.ARCH	
TITLE	NAME	SIGN	DATE

PROJECT NUMBER	CD	FB	DIS	TYPE	DRAWING NO.	SHEET	REV.	DATE
1924701	2	510	B	LA	0038	01	00	AE

COLUMN SCHEDULE		
TYPE MARK	TYPE	NO. OFF
CC01	300x300 RC COLUMN	26
CC02	150x40 RC COLUMN	4



TB EAVES BEAM LAYOUT
B-LA-0042-01 SCALE: 1:50

NOTE: ALL BRICKWORK TO BE CORDED IN BELOW CONCRETE RING BEAM WITH NON-SHRINK GROUT (SikaGrout 212 or SIMILAR) TO BE APPROVED BY ENGINEER

MASTER
15 JUN 2018

AECOM

- NOTES**
- DO NOT SCALE DRAWING - ONLY DIMENSIONS SHOWN TO BE USED.
 - THE CONTRACTOR SHALL VERIFY ALL CONDITIONS, DIMENSIONS AND LEVELS ON THE SITE AND NOTIFY THE NEC SUPERVISOR OF ANY VARIATIONS BEFORE CONSTRUCTION.



CAPE TOWN OFFICE
WATERSIDE PLACE, SOUTH GATE
TYDER WATERFRONT
CARL CRONJE DRIVE
TEL: +27 (0)21 950 7600
FAX: +27 (0)21 360 7602
REG. NO. 1906/06628/07

NO.	DESCRIPTION	BY	CHKD	APPD	DATE

CONTRACTOR/CONSULTANT		TRANSNET CAPITAL PROJECTS	
TITLE	NAME	NAME	DATE

OPERATING DIVISIONS		PR. ENG./PR. TECH./PR. ARCH	
TITLE	NAME	NAME	DATE

Transnet Capital Projects
TRANSNET

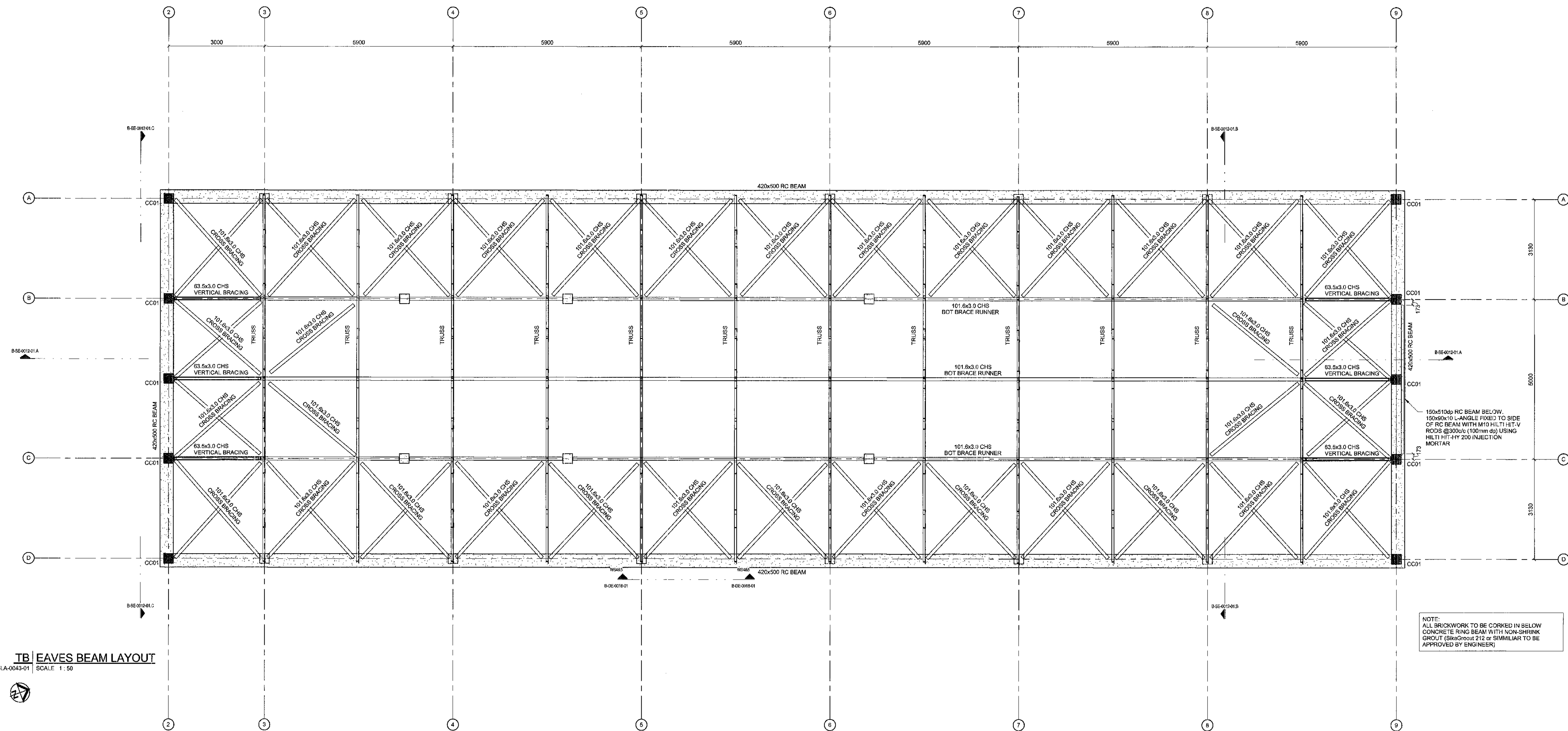
PORT OF SALDANHA

**IRON ORE TIPPLER 3 PROJECT
BULK POWER UPGRADE
SUBSTATION M
EAVES BEAM LAYOUT**

PROJECT NUMBER	CD	FBS	DIS	TYPE	DRAWING NO.	SHEET	REV.	IC
AQ19247011	2	5	10	B	LA	0042	01	00 AE

DRAWING NO.	REFERENCE

COLUMN SCHEDULE		
TYPE MARK	TYPE	NO. OFF
CC01	900x300 RC COLUMN	28
CC02	160x440 RC COLUMN	7



NOTE:
ALL BRICKWORK TO BE CORKED IN BELOW
CONCRETE RING BEAM WITH NON-SHRINK
GROUT (SikaGrout 212 or SIMILAR) TO BE
APPROVED BY ENGINEER

TB EAVES BEAM LAYOUT
B-LA-0043-01 SCALE 1:50

MASTER
15 JUN 2018

AECOM TRANSNET

- NOTES**
- DO NOT SCALE DRAWING - ONLY DIMENSIONS SHOWN TO BE USED.
 - THE CONTRACTOR SHALL VERIFY ALL CONDITIONS, DIMENSIONS AND LEVELS ON THE SITE AND NOTIFY THE NEC SUPERVISOR OF ANY VARIATIONS BEFORE CONSTRUCTION.

AECOM

CAPE TOWN OFFICE
WATERBURY PLACE, SOUTH GATE
TYGER WATERFRONT
CAR: CRONJE DRIVE

TEL: +27 (0)21 950 7500
FAX: +27 (0)21 950 7502
REG. No. 1985006920/07

NO	DESCRIPTION	BY	CHKD/APPD	DATE

CONTRACTOR/CONSULTANT				TRANSNET CAPITAL PROJECTS			
TITLE	NAME	SIGN	DATE	TITLE	NAME	SIGN	DATE

OPERATING DIVISIONS	
TITLE	NAME SIGN DATE

Transnet Capital Projects
TRANSNET

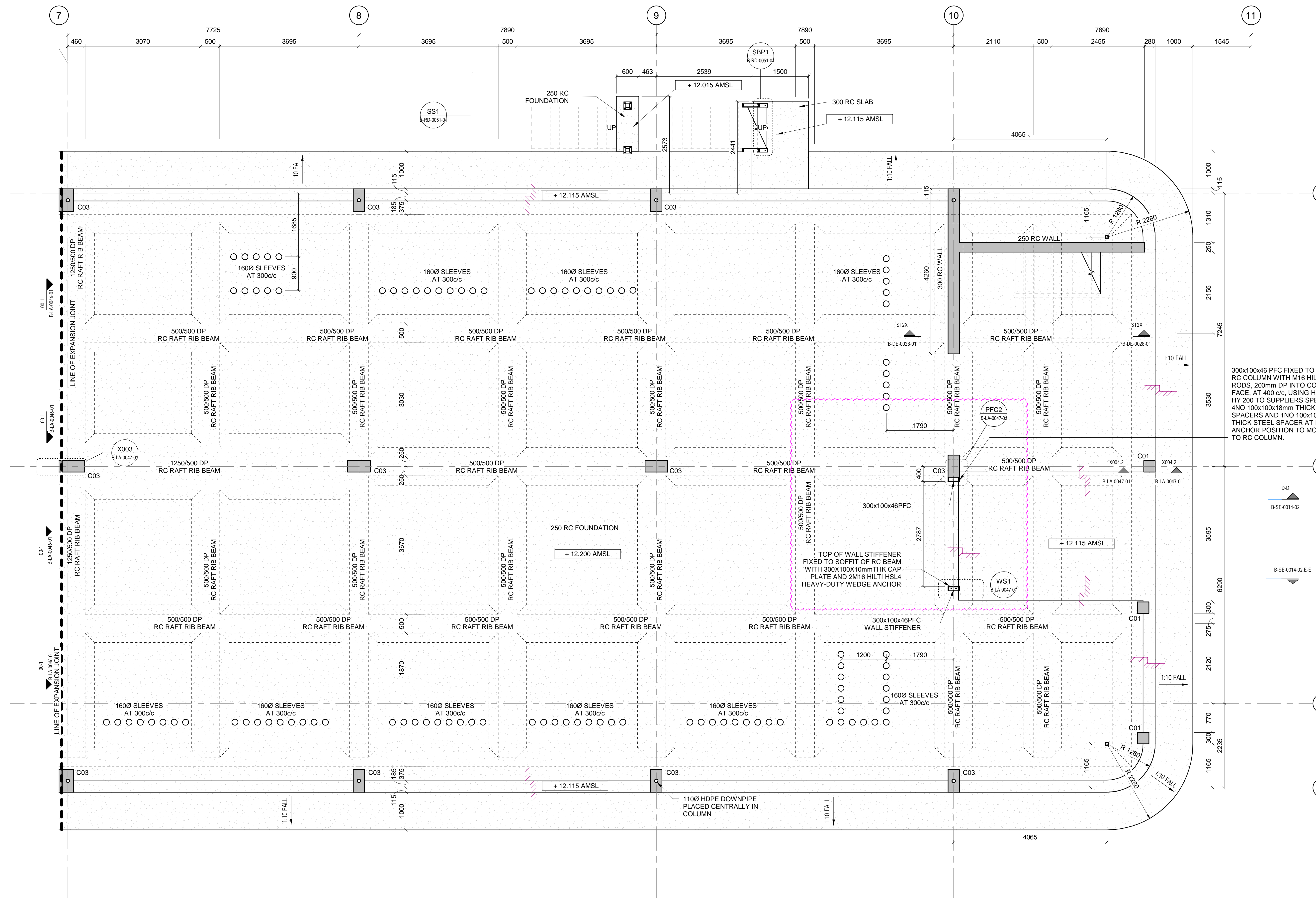
PORT OF SALDANHA

IRON ORE TIPPLER 3 PROJECT
BULK POWER UPGRADE:
SUBSTATION N
EAVES BEAM LAYOUT

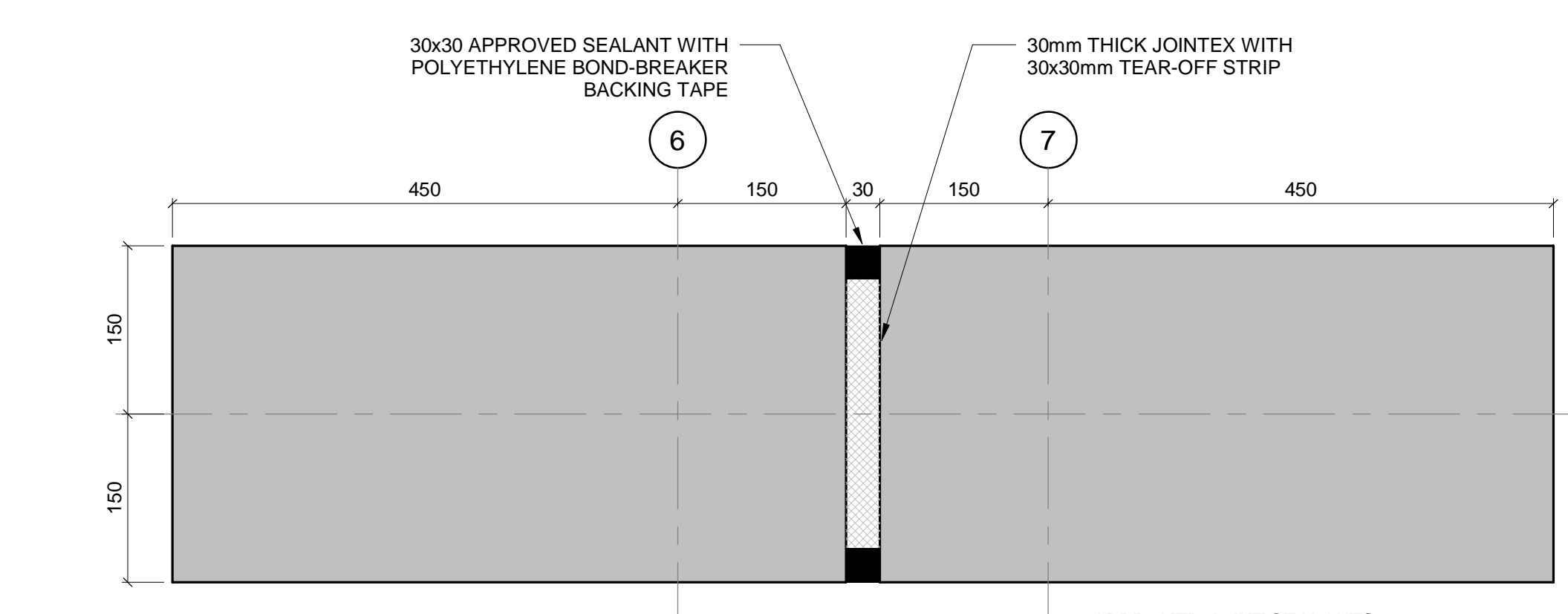
DRAWING NO.	REFERENCE

COLUMN SCHEDULE		
TYPE MARK	TYPE	NO. OFF
C01	300x300 RC COLUMN	6
C03	300x600 RC COLUMN	21
C04	300x1000 RC COLUMN	1
C05	300x600x300x1209 SHAPED RC COLUMN	13
C06	300x1300x300x1775 SHAPED RC COLUMN	1
SC02	100x180x4 @ SHS	6

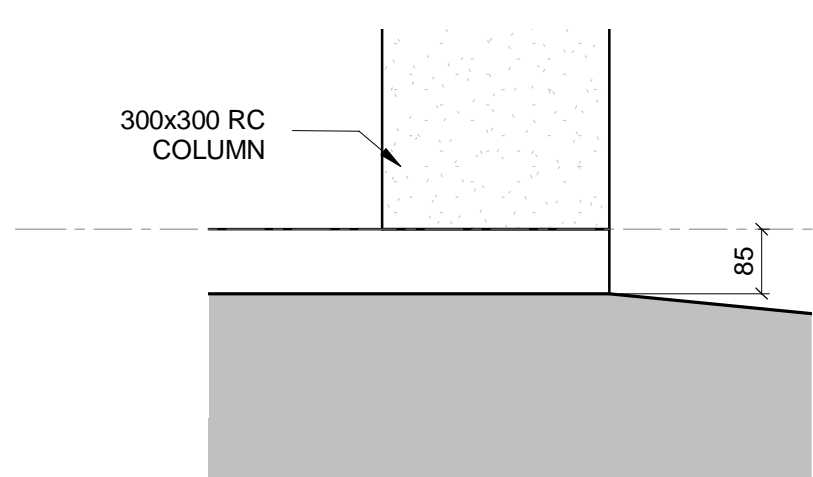
NOTE:
- ALL BOLTS AND ANCHORS TO BE GRADE 8.8 U.N.O



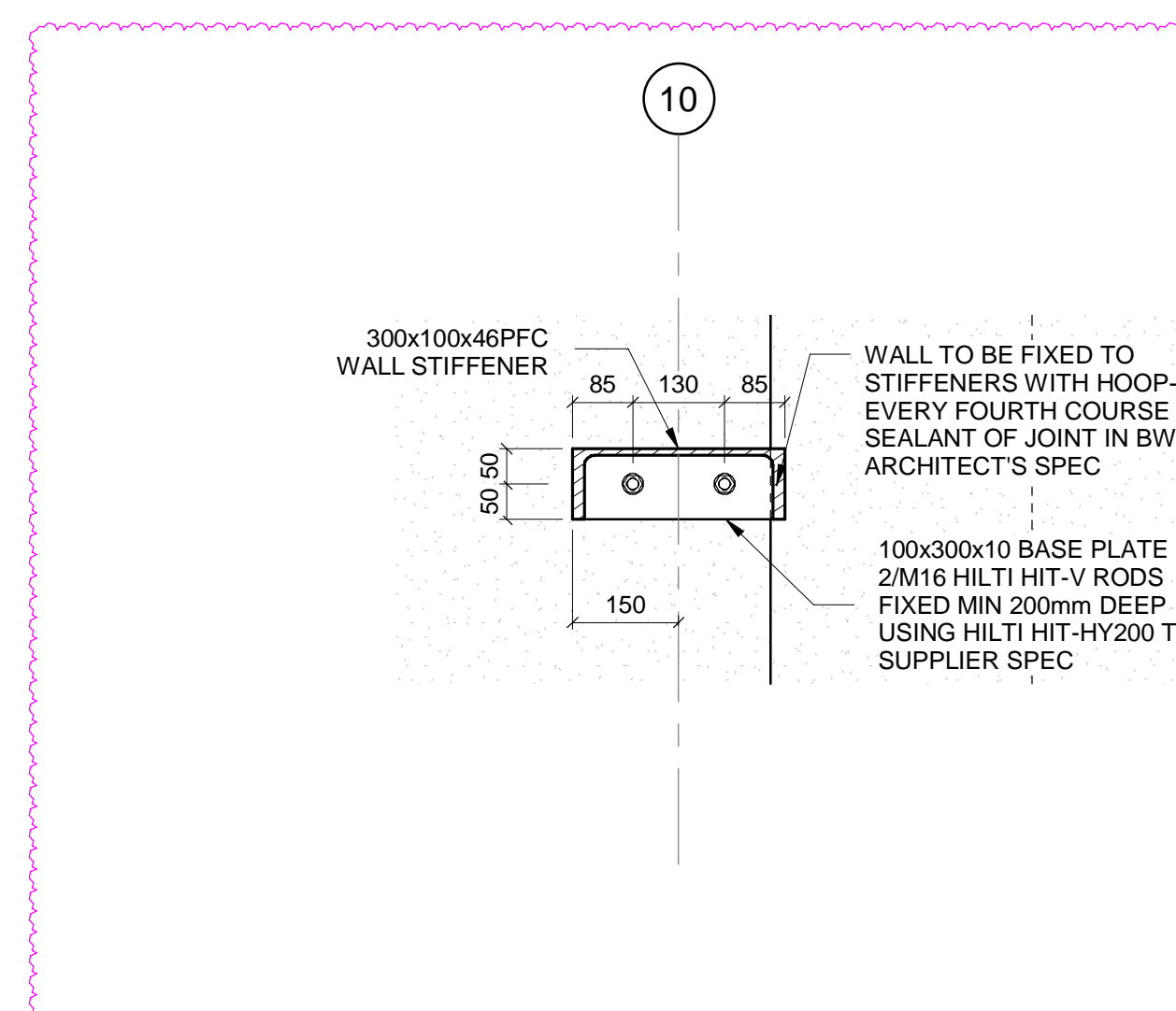
00 LEVEL - PART 2
SCALE 1:50



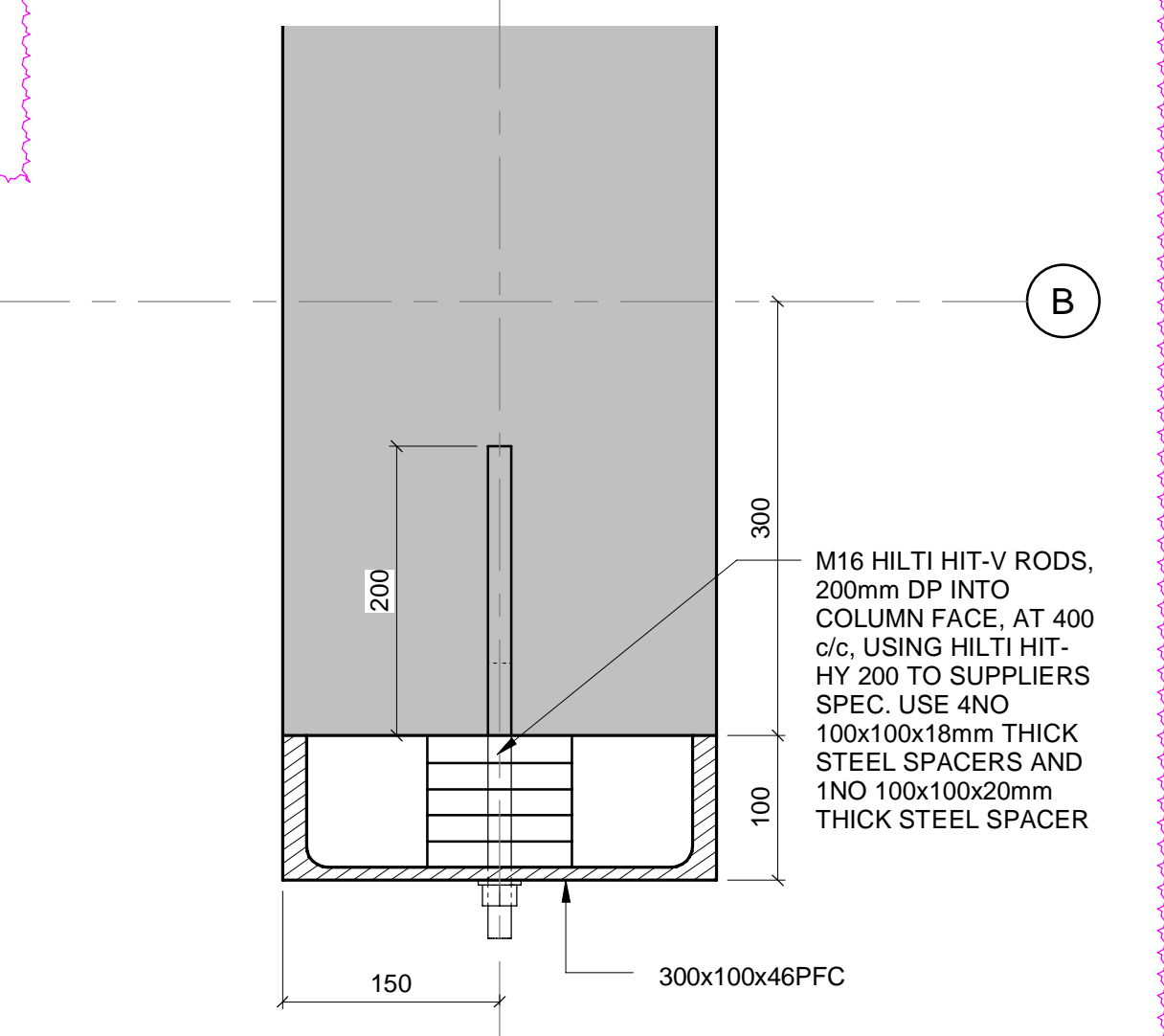
XQ03 DETAIL CALLOUT
00-1/ B-LA-0046-01 SCALE 1:5



X004.2 DETAIL SECTION
00-2/ B-LA-0047-01 SCALE 1:10



WS1 WALL STIFFENER BASE PLATE 1
00-2/ B-LA-0047-01 SCALE 1:10



PFC2 PFC TO RC COLUMN
00-2/ B-LA-0047-01 SCALE 1:5

- NOTES**
- DO NOT SCALE DRAWING - ONLY DIMENSIONS SHOWN TO BE USED
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CAPE TOWN OFFICE
WATERSIDE PLACE, SOUTH GATE
TYGER WATERFRONT
CARL CRONJE DRIVE
TEL: +27 (0)21 950 7500
FAX: +27 (0)21 950 7502
REG. No. 1966/00626/07

CONTRACTOR/CONSULTANT		TRANSNET CAPITAL PROJECTS	
TITLE	NAME	DATE	DATE
DRAWN	AH	29	03
CHECKED	H/W	29	03
DESIGNED	IG	29	03
CHECKED	SWM	29	03

OPERATING DIVISIONS		PR. ENG./PR. TECH./PR. ARCH	
TITLE	NAME	DATE	DATE
PR. ENG.	SWM	29	03
PR. TECH.	SWM	29	03
PR. ARCH	SWM	29	03

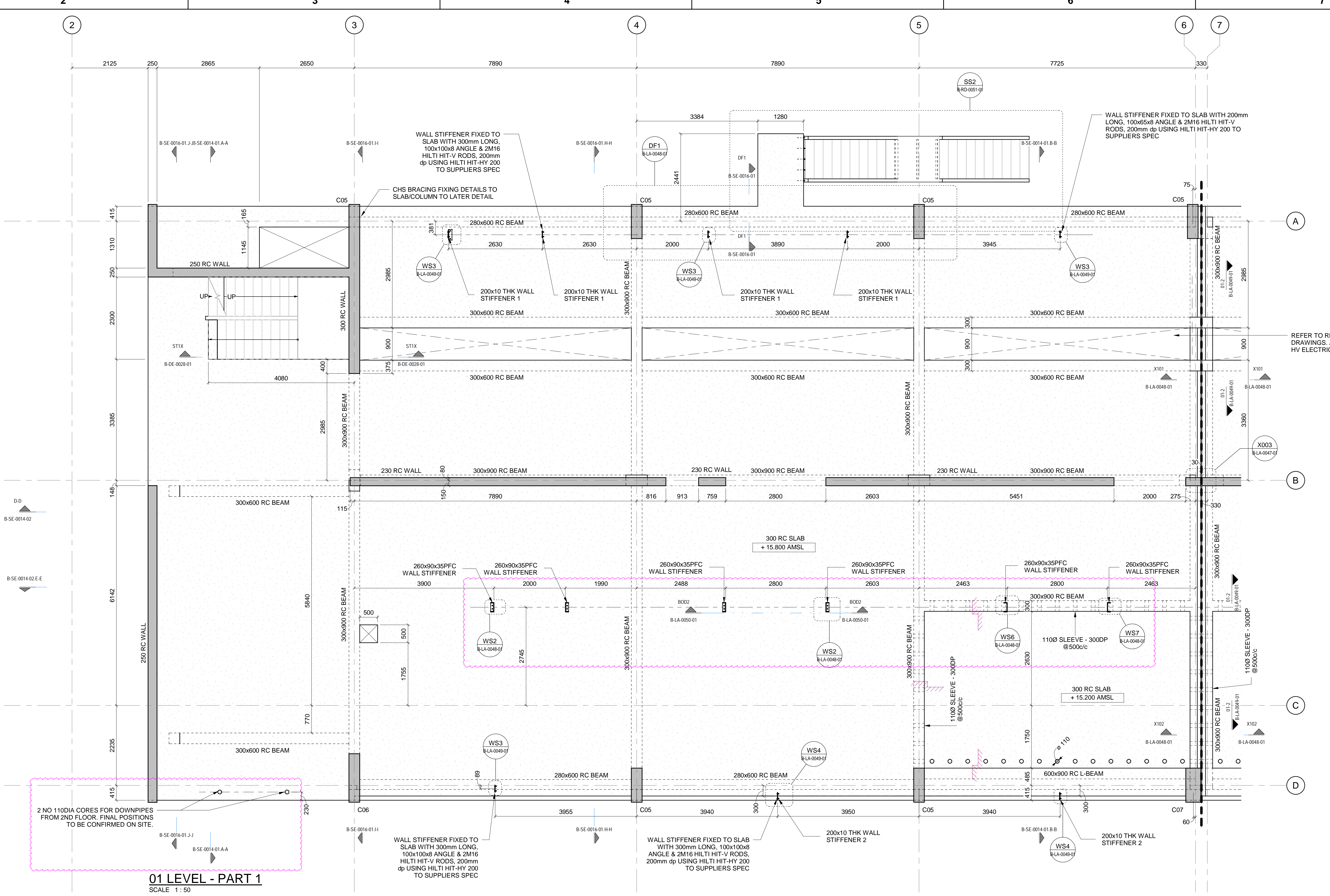
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PROJECT NUMBER	FBS	DIS	DWG NO. SHEET
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03	AE		

DRAWING NO.	REFERENCE
1	REFERENCE DRAWINGS

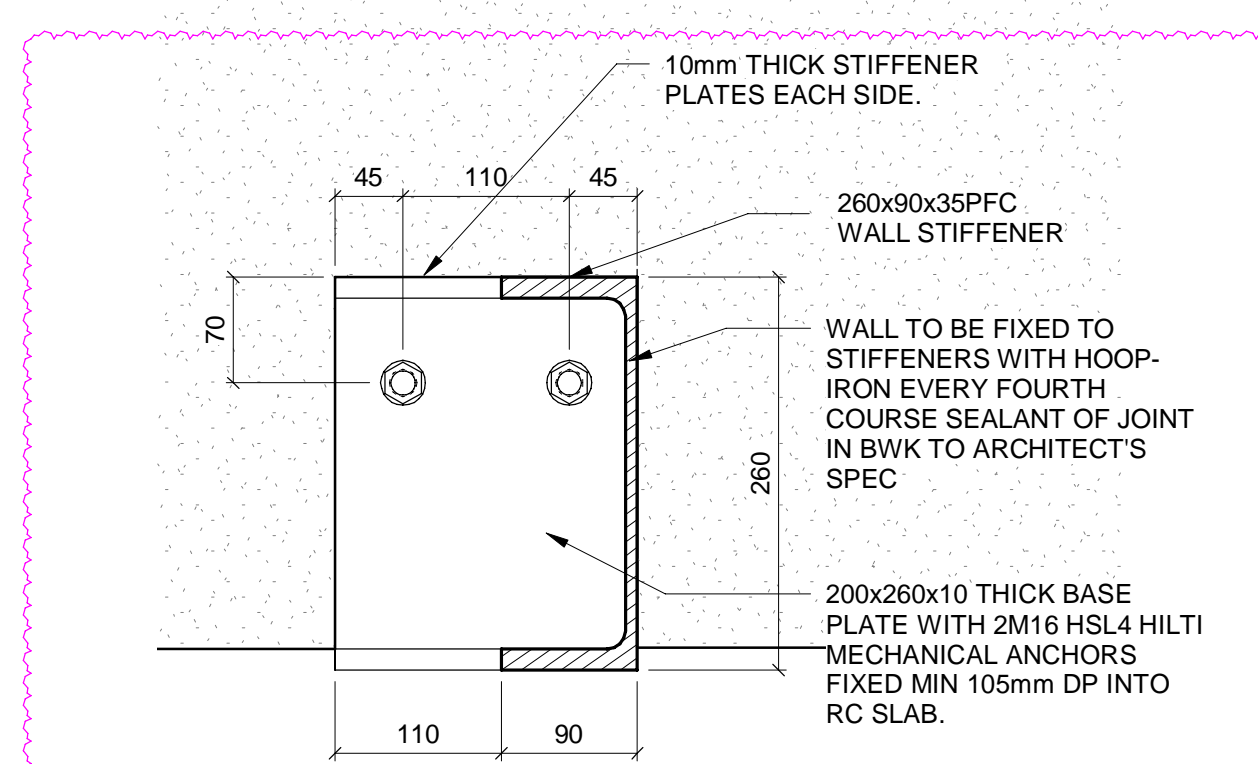
COLUMN SCHEDULE		
TYPE MARK	TYPE	NO. OFF
C01	300x300 RC COLUMN	6
C03	300x600 RC COLUMN	21
C04	300x1000 RC COLUMN	1
C05	300x600x300x1209 SHAPED RC COLUMN	12
C06	300x1300x300x1775 SHAPED RC COLUMN	1
C07	420x900x420x1209 SHAPED RC COLUMN	1
SC02	100x100x4.0 SHS	6

NOTE:

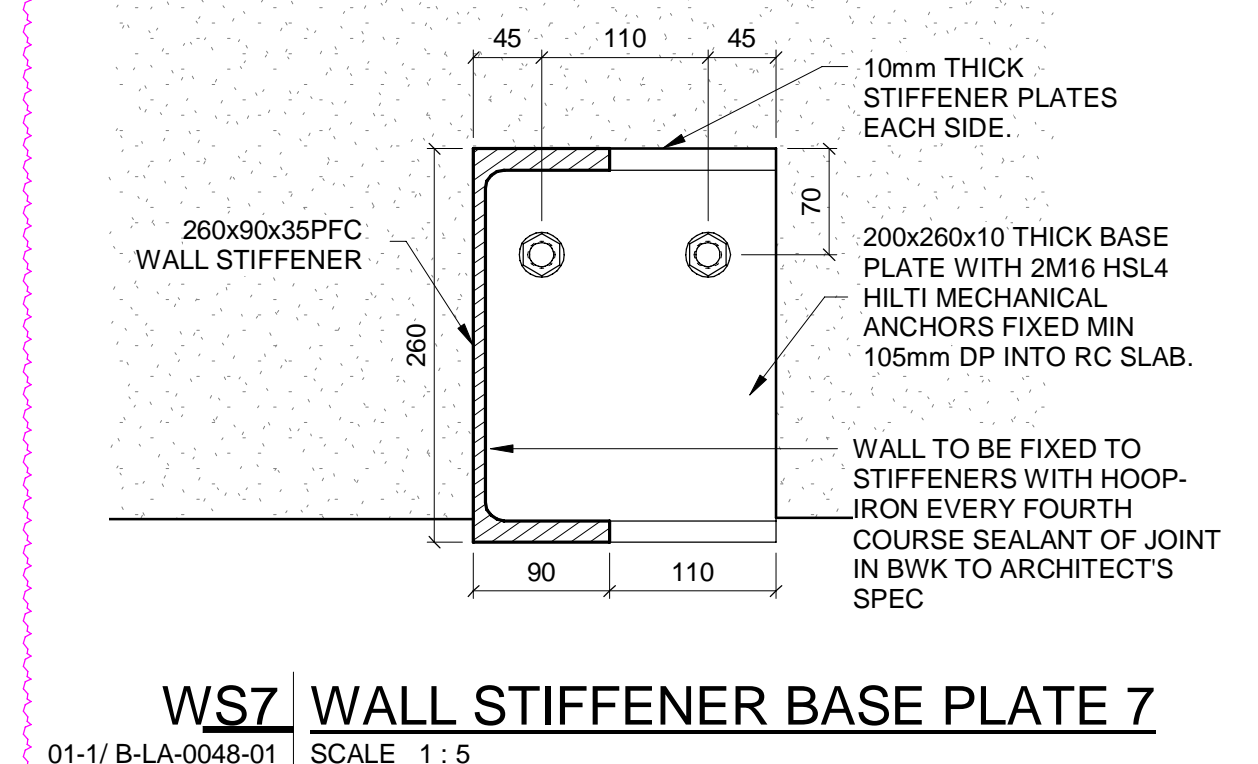
- THE SIZE AND POSITION OF SLAB OPENING FOR SWITCHGEAR CABLING TO BE FINALISED UPON RECEIPT OF MV SWITCH GEAR SHOP DRAWINGS
- ALL BOLTS AND ANCHORS TO BE GRADE 8.8 U.N.O.
- ALL STRUCTURAL STEEL ELEMENTS BETWEEN GL-B-C TO HAVE AN INTUMESCENT PAINT COATING APPLIED ALLROUND TO IT TO ACHIEVE A MINIMUM FIRE REQUIREMENT OF 60 MINUTES. INTUMESCENT PAINT ACCORDING TO FIRE ENGINEER'S SPECIFICATION.



01 LEVEL - PART 1
SCALE 1:50

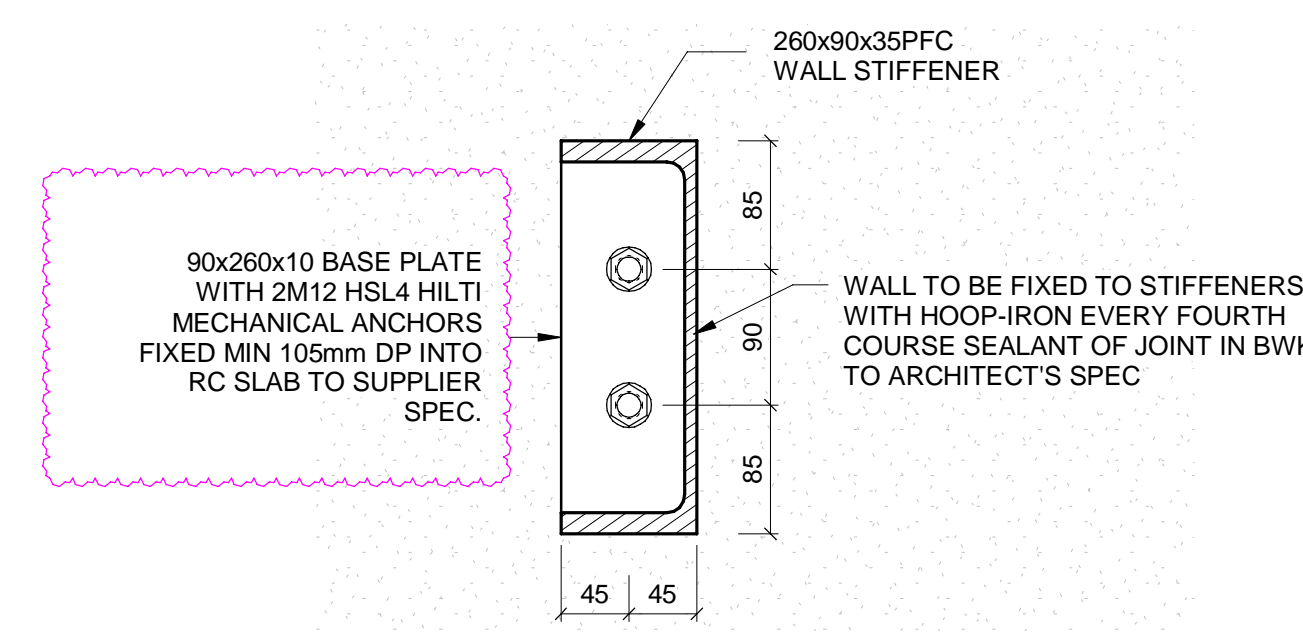


WS6 WALL STIFFENER BASE PLATE 6
01-1/B-LA-0048-01 SCALE 1:5

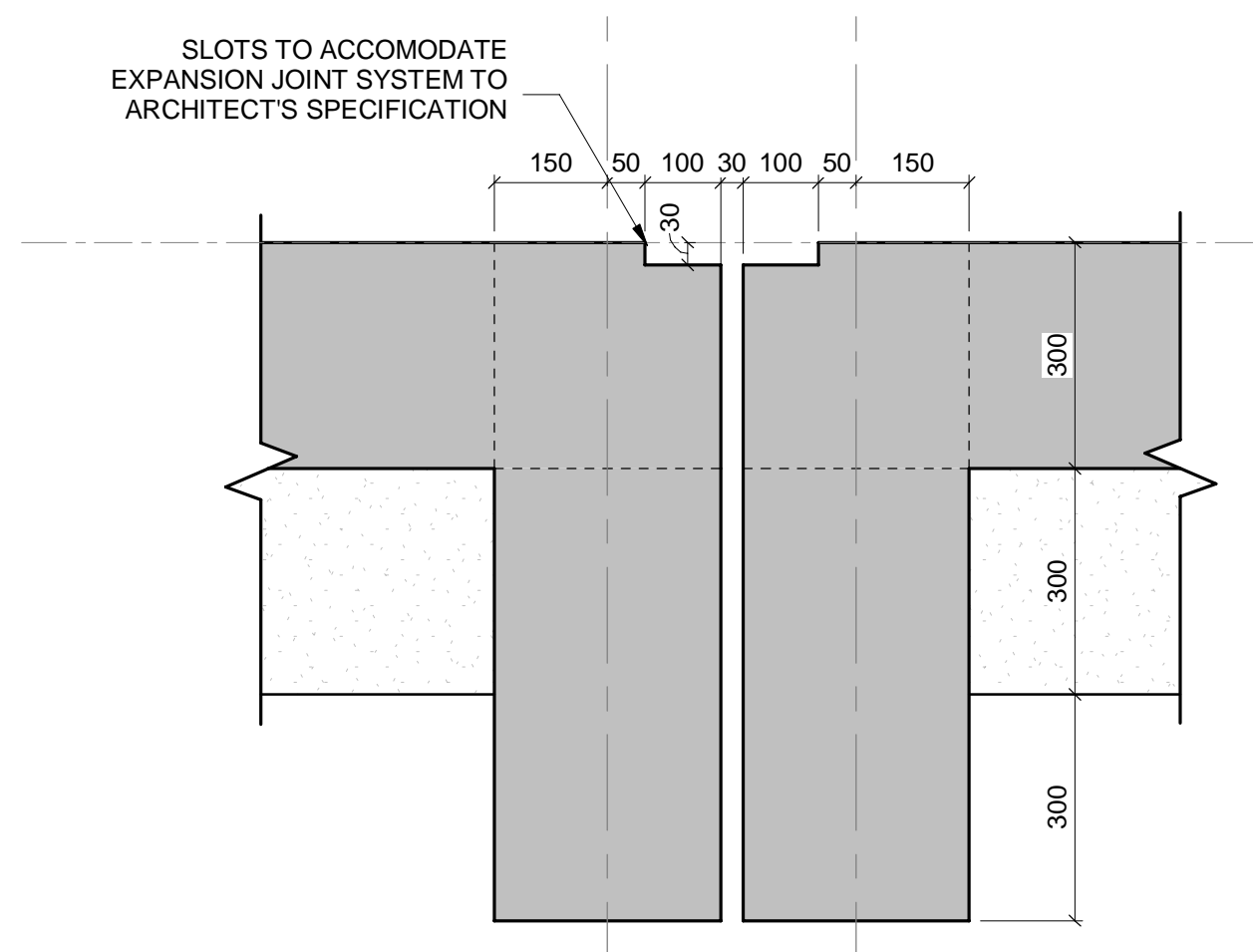


WS7 WALL STIFFENER BASE PLATE 7
01-1/B-LA-0048-01 SCALE 1:5

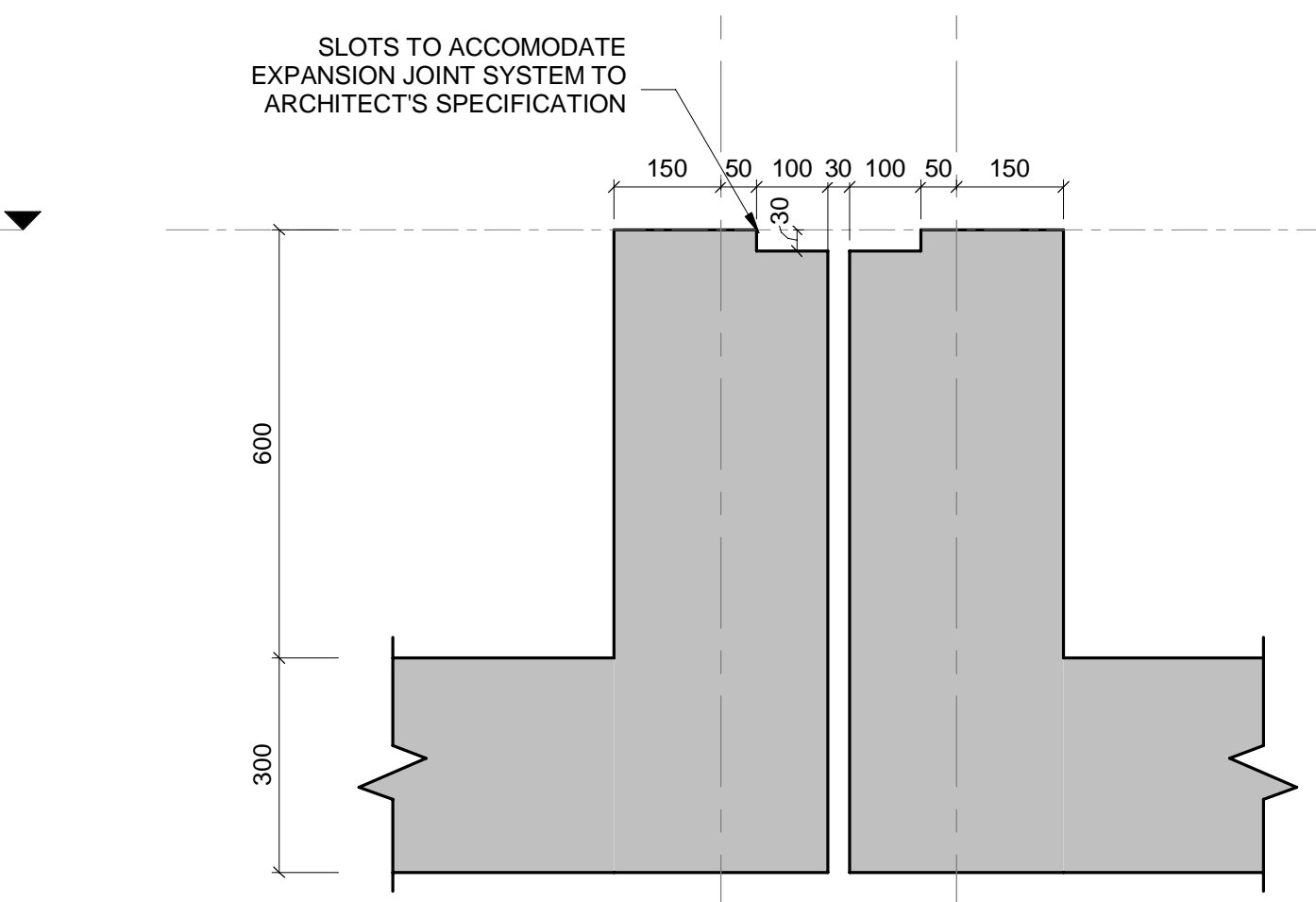
MASTER
27-07-2023
AECOM



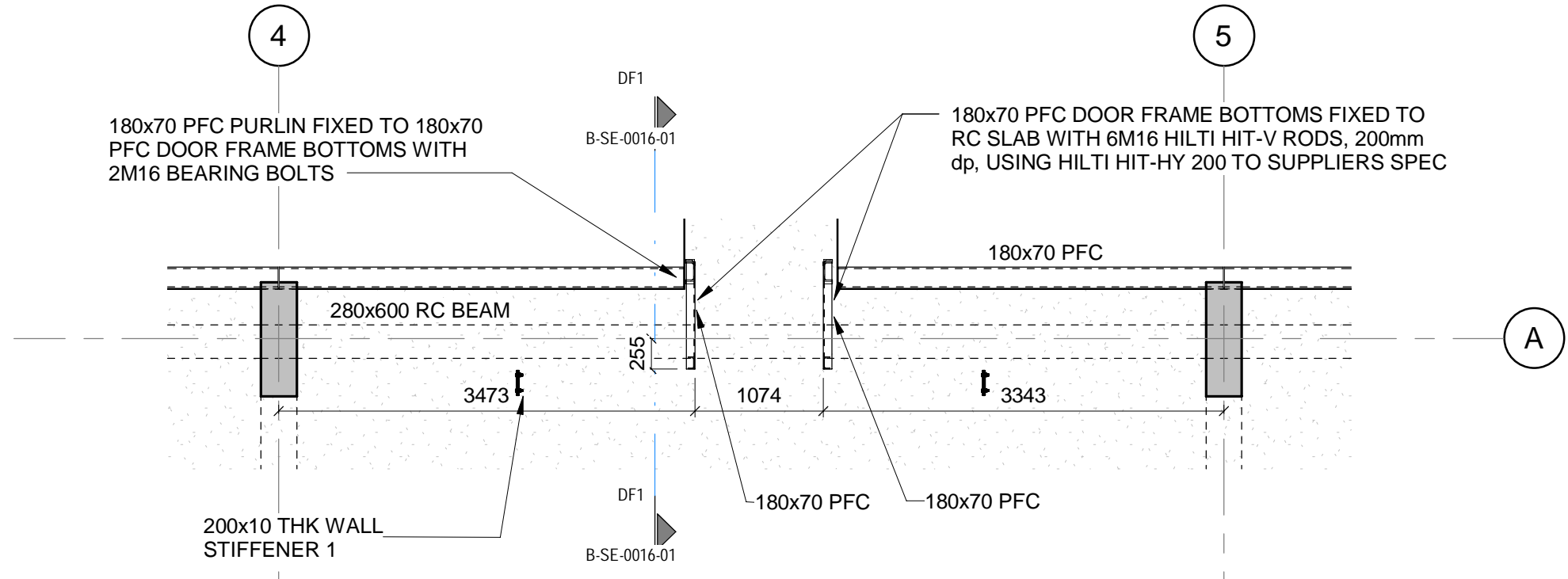
WS2 WALL STIFFENER BASE PLATE 2
01-1/B-LA-0048-01 SCALE 1:5



X101 DETAIL SECTION
01-1/B-LA-0048-01 SCALE 1:10



X102 DETAIL SECTION
01-1/B-LA-0048-01 SCALE 1:10



DF1 EXTERNAL DOOR FRAME 1
01-1/B-LA-0048-01 SCALE 1:50

NOTES

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AECOM

CAPE TOWN OFFICE
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TYGER WATERFRONT
CARL CRONJE DRIVE
TEL: +27 (0)21 950 7500
FAX: +27 (0)21 950 7502
REG. No. 1966/00628/07

NO	DESCRIPTION	BY	CHKD	DATE
05	CONNECTION DETAILS UPDATED, FIRE SPECIFICATIONS ADDED	AH	JDM	24/07/23
04	UPDATE IS BASED ON THE AS BUILT CONDITIONS	AH	JDM	07/06/23
03	WALL STIFFENERS ADDITIONAL	AH	JDM	24/07/23
02	FLOOR SLOT POSITION AMENDED, WALLS EXTENDED - DOOR SIZE AMENDED	AH	C.K.	07/07/20
01	SLAB & STEEL STAIRS REVISED - BEAMS & OPENINGS MOVED - NOTES ADDED	AH	C.K.	27/06/19

CONTRACTOR/CONSULTANT				TRANSNET CAPITAL PROJECTS			
FILE	NAME	SIGN	DATE	TITLE	NAME	SIGN	DATE
DRAWN	AH		24/07/23				
CHECKED	H.W.		24/07/23				
DESIGNED	IG		24/07/23				
CHECKED	SWM		24/07/23				

OPERATING DIVISIONS			
TITLE	NAME	SIGN	DATE
PR. ENG./PR. TECH./PR. ARCH			
NAME	SWI MARAIS		24/07/23
SIGNATURE			
REG. NUMBER	20090106		
SCALE:	AS SHOWN		

TRANSNET CAPITAL PROJECTS
Transnet Capital Projects
TRANSNET LTD (TRANSNET CAPITAL PROJECTS) REG. NO. 1966/00628/07
TABLE BAY BUILDING, TYGERSBERG PARK
163 LYS KRIGE DRIVE, PLATTEKLOOF, 8001
TEL: 021 940 1999
FAX: 021 940 2455

PORT OF SALDANHA

IRON ORE TIPPLER 3 PROJECT
BULK POWER UPGRADE:
MAIN INTAKE SUBSTATION
LEVEL 01 - LAYOUT PART 1

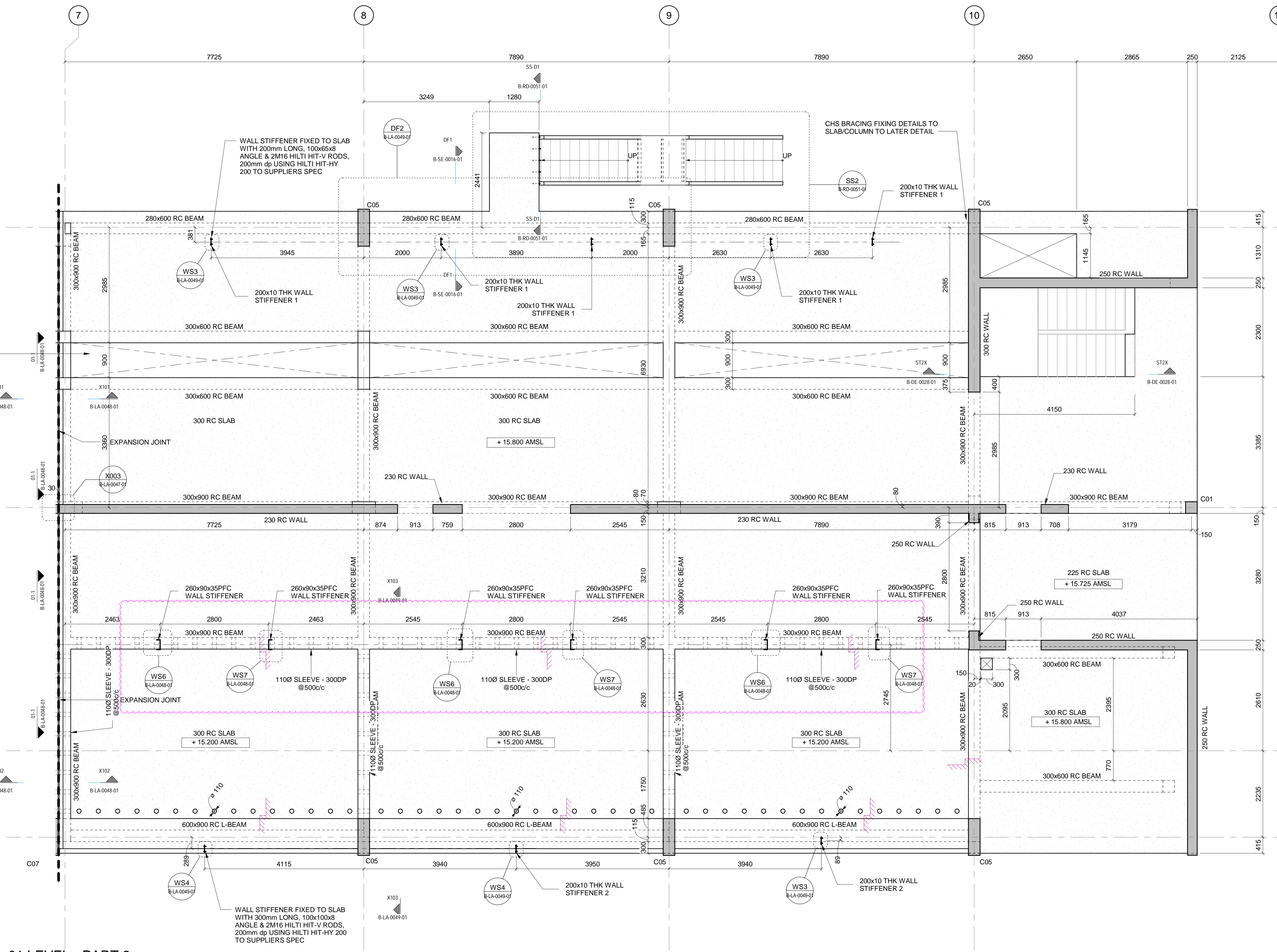
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COLUMN SCHEDULE		
TYPE MARK	TYPE	NO. OFF
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C03	300x600 RC COLUMN	21
C04	300x1000 RC COLUMN	1
C05	300x600/300x1209 SHAPED RC COLUMN	12
C06	300x1300/300x1775 SHAPED RC COLUMN	1
C07	420x600/420x1209 SHAPED RC COLUMN	1
SC02	100x100x4.0 SHS	6

NOTE:

- THE SIZE AND POSITION OF SLAB OPENING FOR SWITCHGEAR CABLING TO BE FINALISED UPON RECEIPT OF MV SWITCH GEAR SHOP DRAWINGS
- ALL BOLTS AND ANCHORS TO BE GRADE 8.8 U.N.O.
- ALL STRUCTURAL STEEL ELEMENTS BETWEEN GL-B-C TO HAVE AN INTUMESCENT PAINT COATING ALL AROUND IT TO ACHIEVE A MINIMUM FIRE REQUIREMENT OF 60 MINUTES. INTUMESCENT PAINT ACCORDING TO FIRE ENGINEER'S SPECIFICATION.

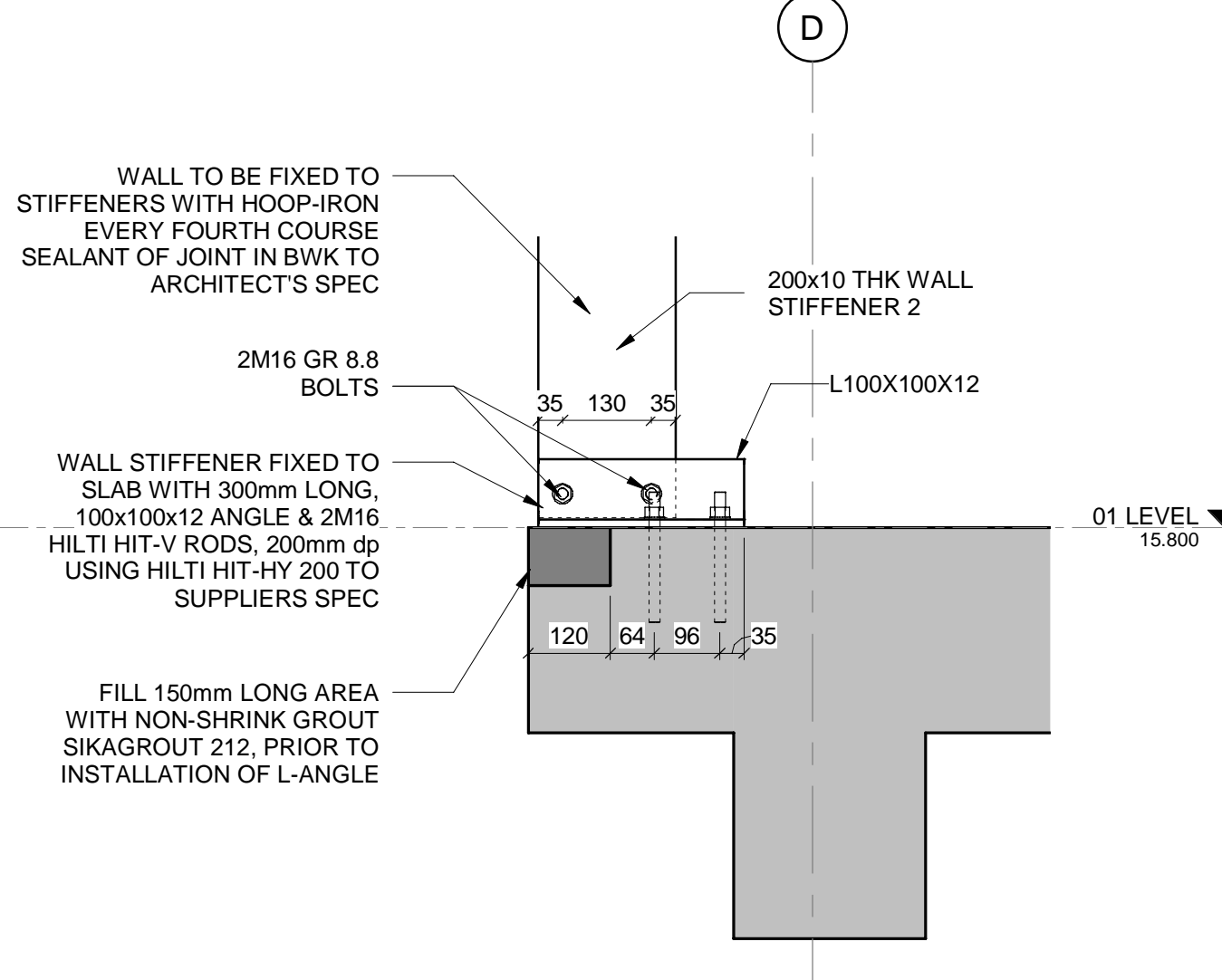
REFER TO RESPECTIVE ELECTRICAL DOCUMENTATION & DRAWINGS. AWAITING DETAILS ON FINAL OFFERED MV & HV ELECTRICAL EQUIPMENT DIMENSIONS & WEIGHTS



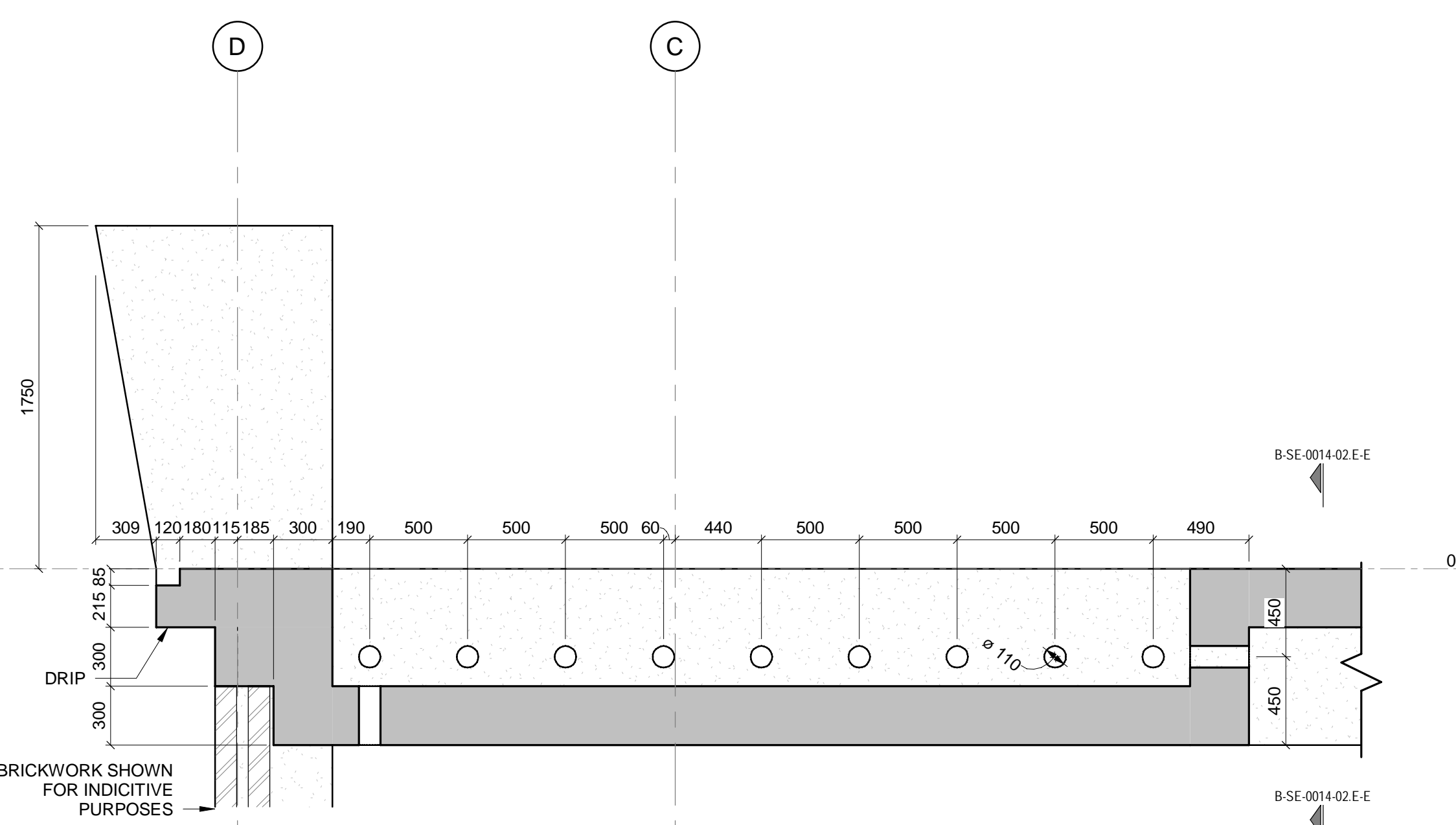
01 LEVEL - PART 2
SCALE 1:50

REFER TO RESPECTIVE ELECTRICAL DOCUMENTATION & DRAWINGS. AWAITING DETAILS ON FINAL OFFERED MV & HV ELECTRICAL EQUIPMENT DIMENSIONS & WEIGHTS

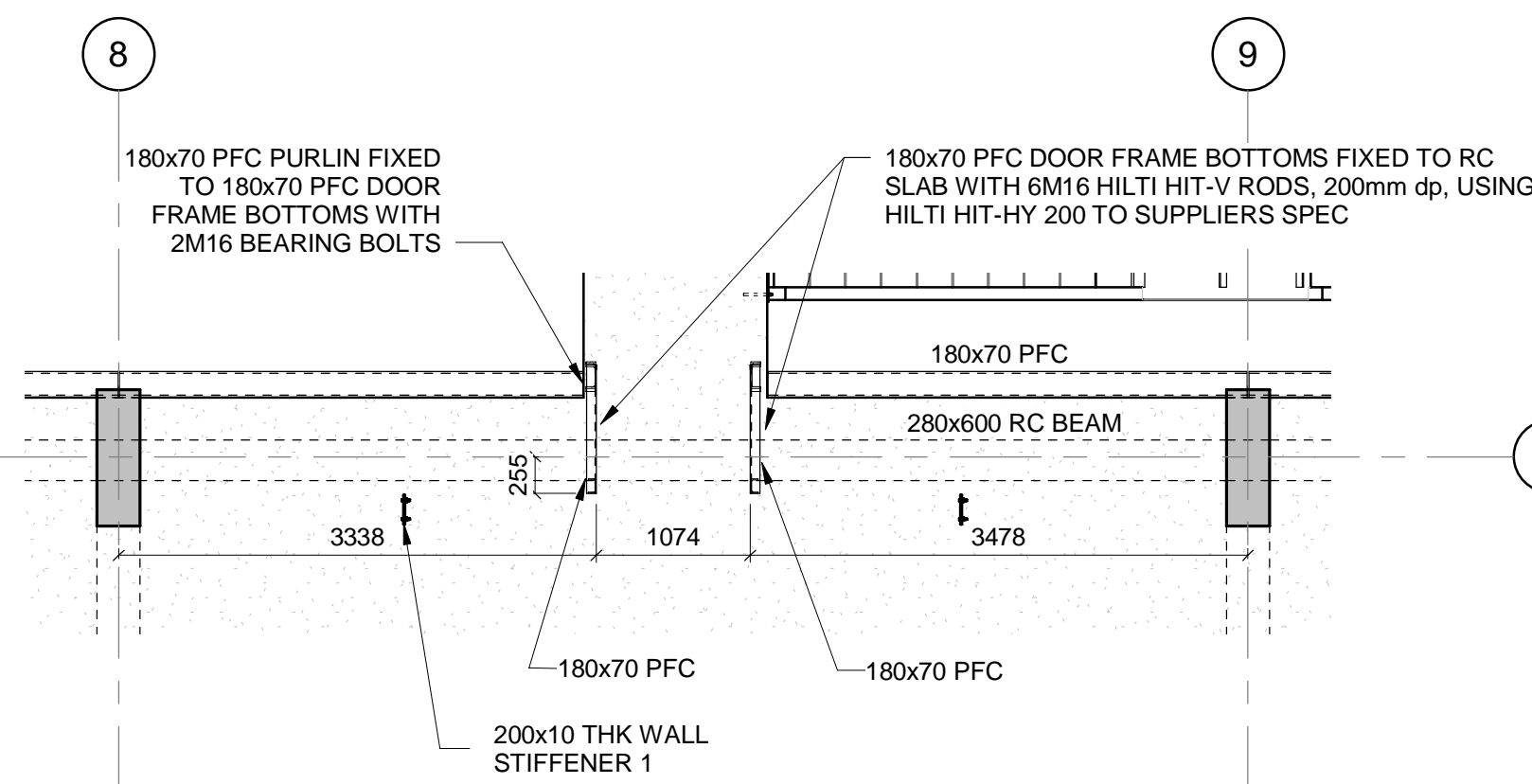
MASTER
27-07-2023
AECOM **TRANSNET**



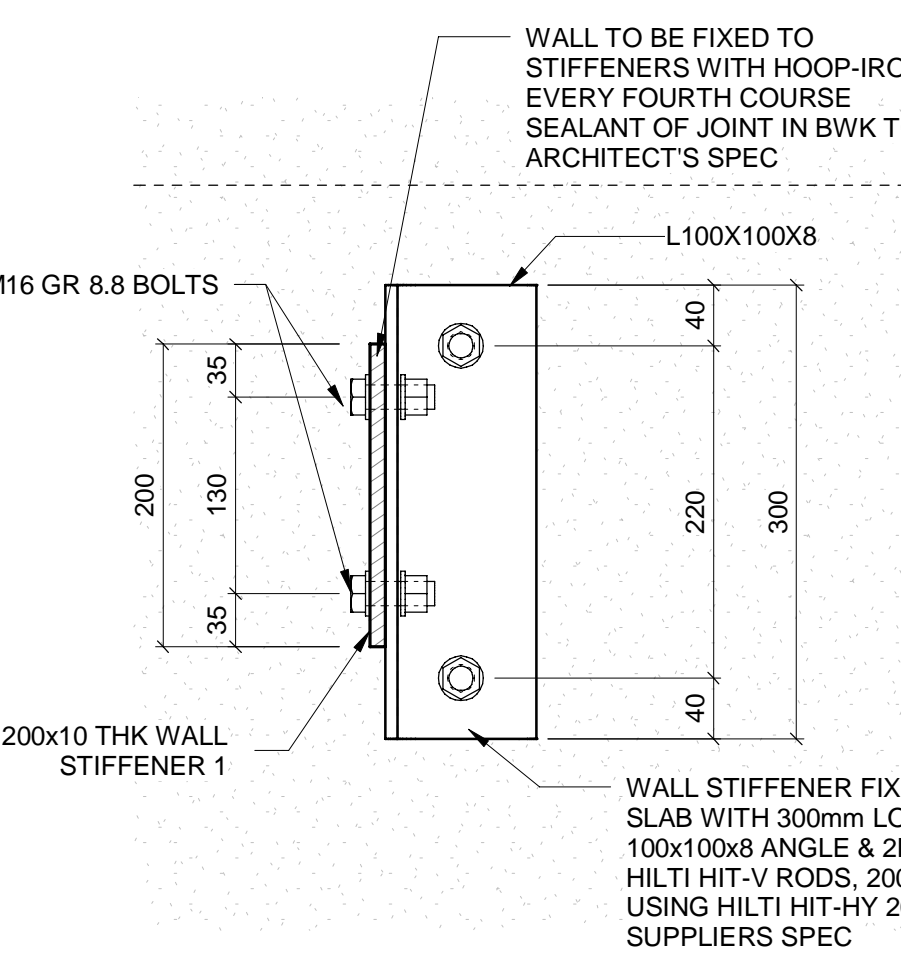
WS4-S WALL STIFFENER BASE PLATE 4 SECTION
SCALE 1:10



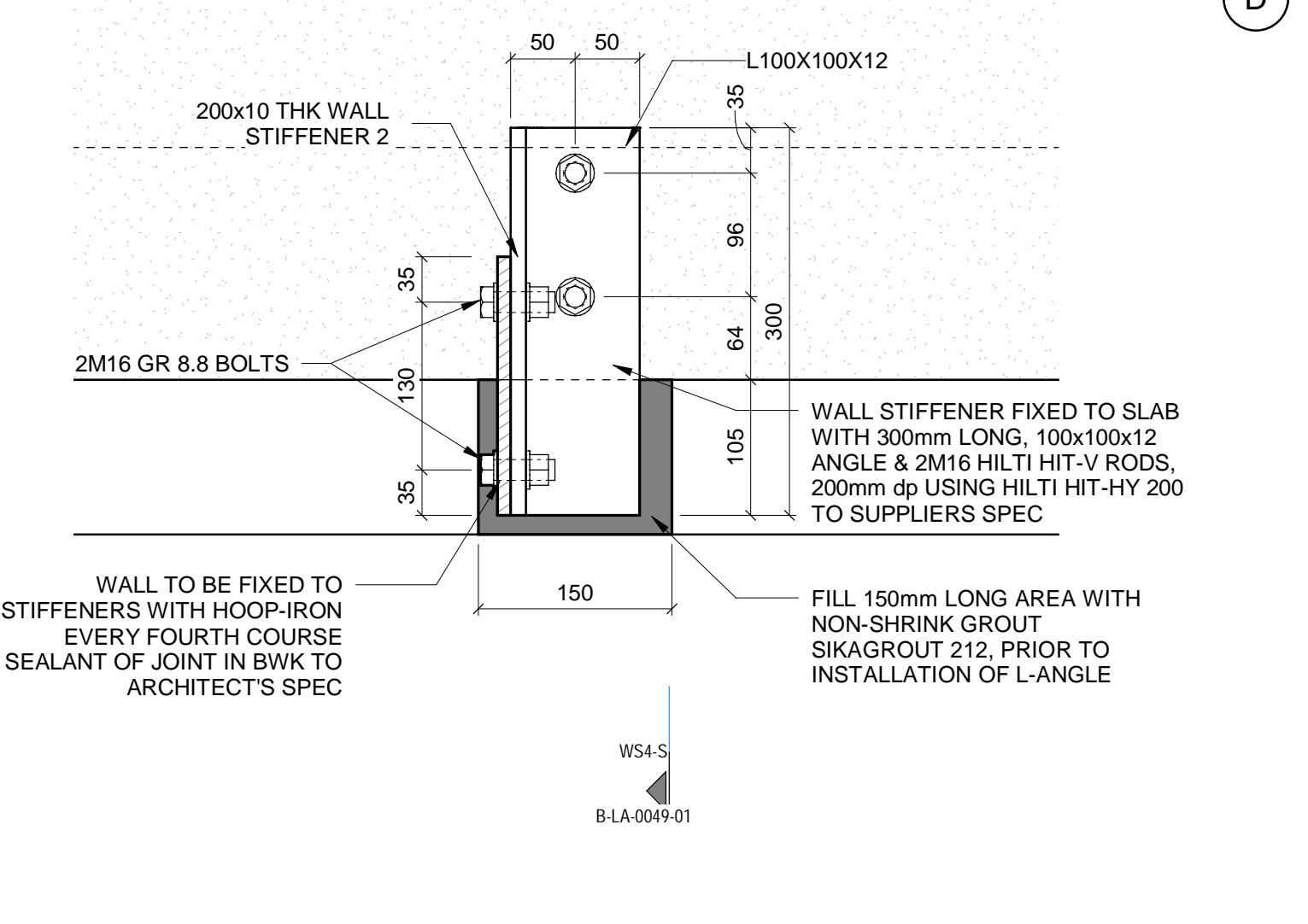
X103 DETAIL SECTION
REV1/B-DE-0030-01 SCALE 1:25



DF2 EXTERNAL DOOR FRAME 2
01-2/B-LA-0049-01 SCALE 1:50



WS3 WALL STIFFENER BASE PLATE 3
01-1/B-LA-0048-01 SCALE 1:5



WS4 WALL STIFFENER BASE PLATE 4
01-1/B-LA-0048-01 SCALE 1:5

NOTES

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CAPE TOWN OFFICE
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TYGER WATERFRONT
CARL CRONJE DRIVE
TEL: +27 (0)21 950 7500
FAX: +27 (0)21 950 7502
REG. NO. 1966/00626/07

NO	DESCRIPTION	BY	CHKD	DATE
05	CONNECTION DETAILS UPDATED, FIRE SPECIFICATIONS ADDED	AH	JDW	24/07/23
04	WALL STIFFENERS ADDED/AMENDED	AH	JDW	28/03/23
03	OPENINGS FOR SERVICES ADDED/AMENDED	AH	C.K.	08/09/23
02	FLOOR SLOT POSITION ADDED - WALLS EXTENDED - DOOR SIZE AMENDED	AH	C.K.	07/07/20
01	SLAB & STEEL STAIRS REVISIONS - BEAMS & OPENINGS MOVED - STEEL COLUMNS CHANGED TO RC COLUMNS - NOTES ADDED	AH	C.K.	27/06/11
00	ISSUED FOR CONSTRUCTION	GA	H-W	14/06/10

CONTRACTOR/CONSULTANT			
TITLE	NAME	SIGN	DATE
DRAWN	AH	[Signature]	24/07/23
CHECKED	C.K.	[Signature]	24/07/23
DESIGNED	IG	[Signature]	24/07/23
CHECKED	SWM	[Signature]	24/07/23

TRANSNET CAPITAL PROJECTS			
TITLE	NAME	SIGN	DATE
PR. ENG./PR. TECH./PR. ARCH			
NAME	SW MARAIS	[Signature]	24/07/23
SIGNATURE	[Signature]	[Signature]	24/07/23
REG. NUMBER	20090106		
SCALE	AS SHOWN		

TRANSNET CAPITAL PROJECTS

TRANSNET LTD (TRANSNET AS TRANSNET CAPITAL PROJECTS) REG. NO. 1966/00626/07
TABLE BAY BUILDING, TYGERSBERG PARK
163 LYS KRIGE DRIVE, PLATTEKLOOF, 8001
TEL: 021 940 1999
FAX: 086 677 2455

PORT OF SALDANHA

IRON ORE TIPPLER 3 PROJECT
BULK POWER UPGRADE:
MAIN INTAKE SUBSTATION
LEVEL 01 - LAYOUT PART 2

PROJECT NUMBER	DO	FBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
19	2	4	7	0	1	2	5	10

DRAWING NO.	REFERENCE
1	REFERENCE DRAWINGS

COLUMN SCHEDULE		
TYPE MARK	TYPE	NO. OFF
C01	300x300 RC COLUMN	6
C03	300x600 RC COLUMN	21
C04	300x1000 RC COLUMN	1
C05	300x900x300x1209 SHAPED RC COLUMN	12
C06	300x1300x300x1775 SHAPED RC COLUMN	1
C07	420x900x420x1209 SHAPED RC COLUMN	1
SC02	100x100x4.0 SHS	6

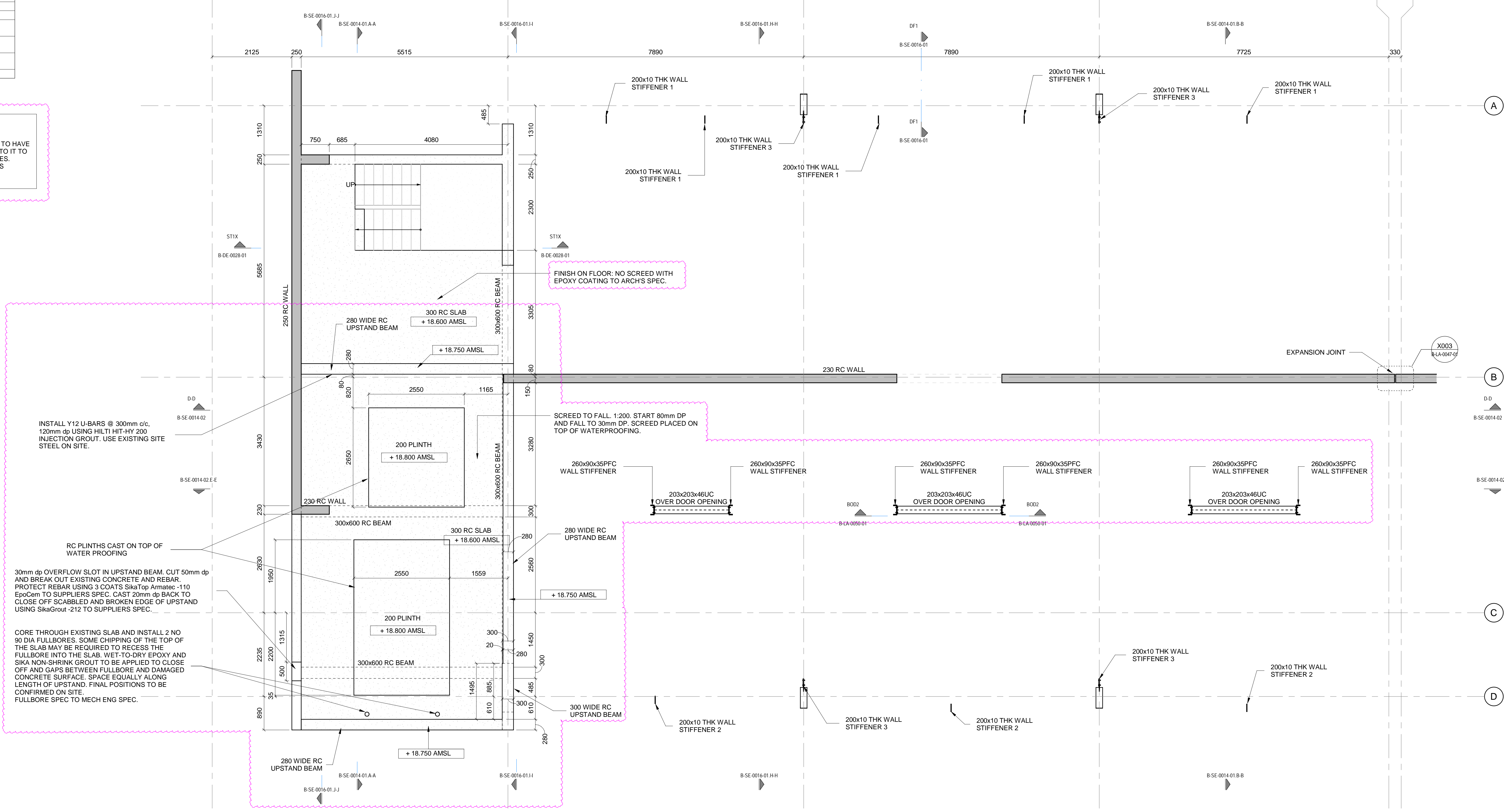
NOTE:
 • ALL BOLTS AND ANCHORS TO BE GRADE 8.8 U.N.O.
 • ALL STRUCTURAL STEEL ELEMENTS BETWEEN GL-B-C TO HAVE AN INTUMESCENT PAINT COATING APPLIED ALLROUND TO IT TO ACHIEVE A MINIMUM FIRE REQUIREMENT OF 60 MINUTES INTUMESCENT PAINT ACCORDING TO FIRE ENGINEERS SPECIFICATION.

INSTALL Y12 U-BARS @ 300mm c/c. 120mm dp USING HILT HIT-HY 200 INJECTION GROUT. USE EXISTING SITE STEEL ON SITE.

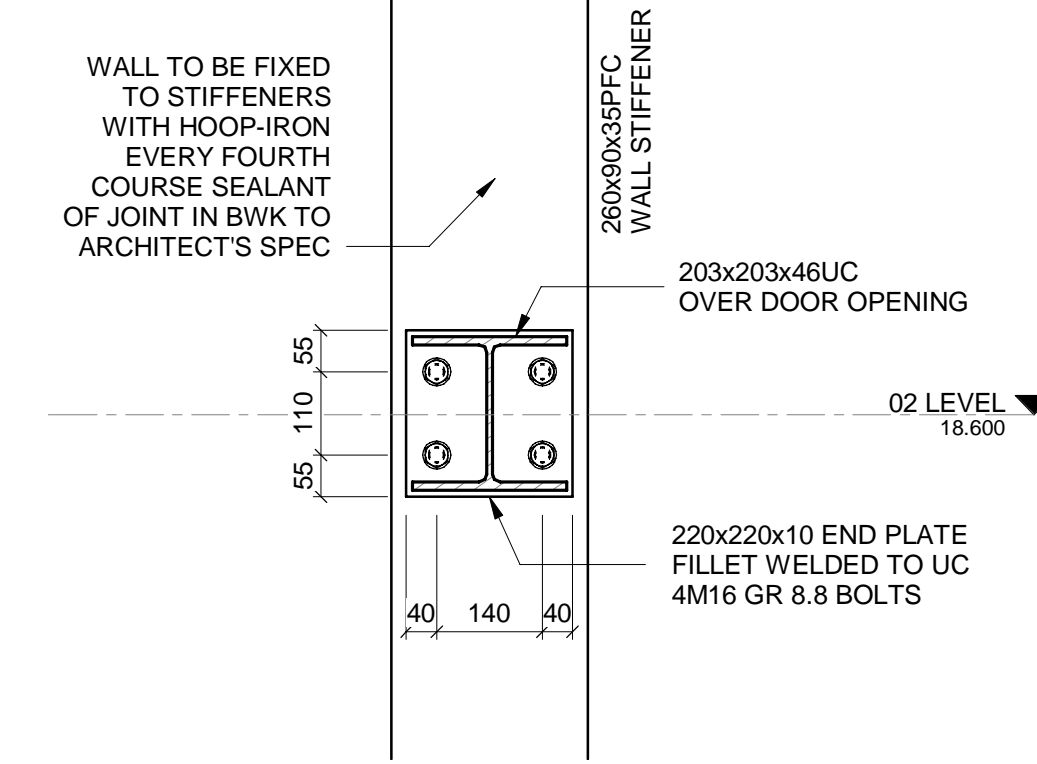
RC PLINTHS CAST ON TOP OF WATER PROOFING

30mm dp OVERFLOW SLOT IN UPSTAND BEAM. CUT 50mm dp AND BREAK OUT EXISTING CONCRETE AND REBAR. PROTECT REBAR USING 3 COATS Sikatop Armatec -110 EpoCam 10 SUPPLIERS SPEC. CAST 20mm dp BACK TO CLOSE OFF SCABBLED AND BROKEN EDGE OF UPSTAND USING Sikagrout -212 TO SUPPLIERS SPEC.

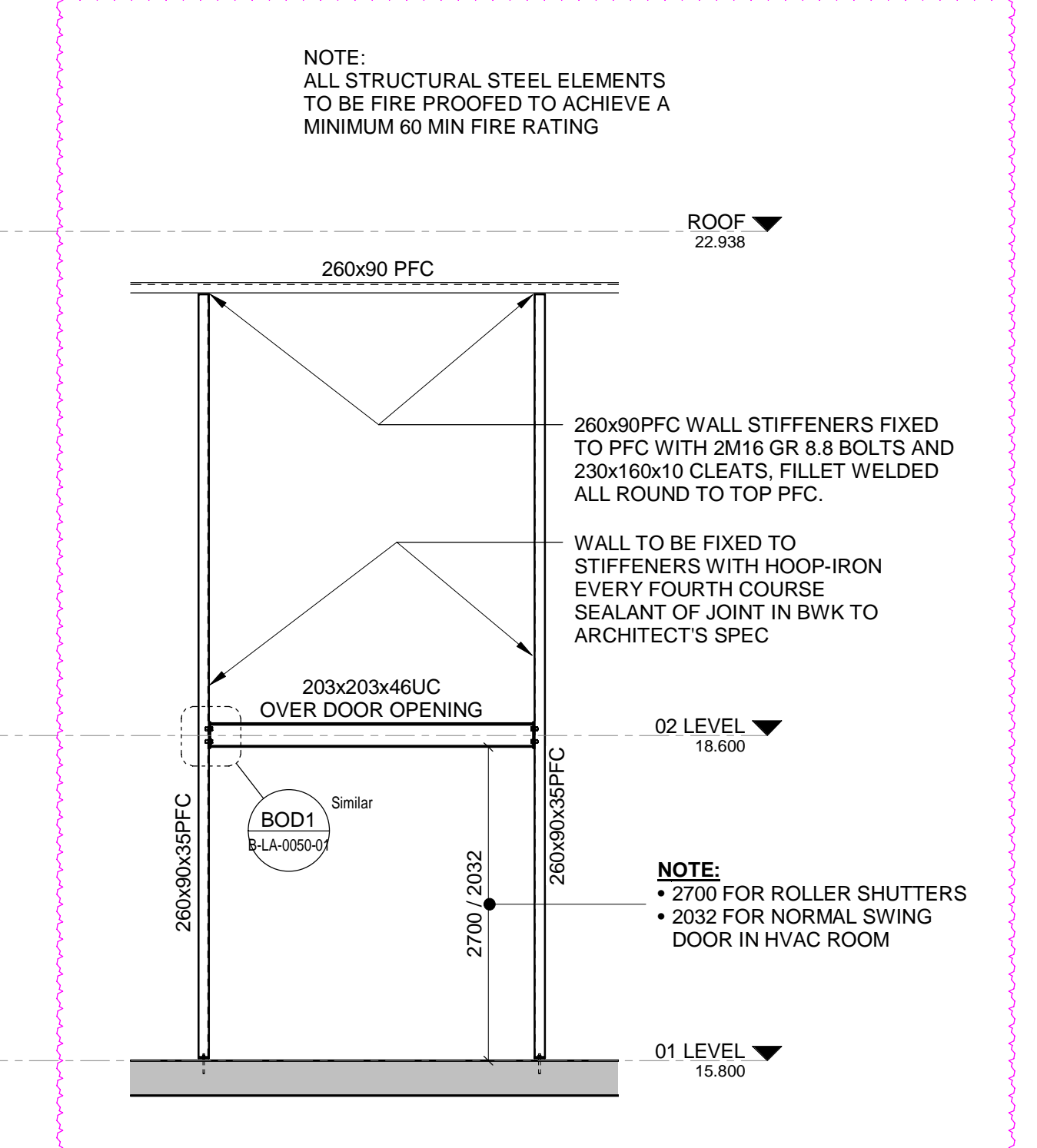
CORE THROUGH EXISTING SLAB AND INSTALL 2 NO 90 DIA FULLBORES. SOME CHIPPING OF THE TOP OF THE SLAB MAY BE REQUIRED TO RECESS THE FULLBORE INTO THE SLAB. WET-TO-DRY EPOXY AND SIKA NON-SHRINK GROUT TO BE APPLIED TO CLOSE OFF AND GAPS BETWEEN FULLBORE AND DAMAGED CONCRETE SURFACE. SPACE EQUALLY ALONG LENGTH OF UPSTAND. FINAL POSITIONS TO BE CONFIRMED ON SITE. FULLBORE SPEC TO MECH ENG SPEC.



02 LEVEL - PART 1
 SCALE 1:50



BOD1 BEAM OVER DOOR OPENING
 REV2/ B-DE-0000-01 SCALE 1:10



BOD2 TYPICAL WALL STIFFENERS AT DOOR OPENING
 01-1/B-LA-0048-01 SCALE 1:50

MASTER
 27-07-2023
 AECOM

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 REG. No. 1966/00626/07

CONTRACTOR/CONSULTANT		TRANSNET CAPITAL PROJECTS	
TITLE	NAME	DATE	TITLE
07 PLINTH DETAILS AND UPSTANDS (UPDATED FIRE SPECIFICATIONS)	AH	JDM	SWM
01 WALL STIFFENERS (ADDED)	AH	JDM	SWM
FOR ISSUED FOR CONSTRUCTION	QA	HLR	SWM

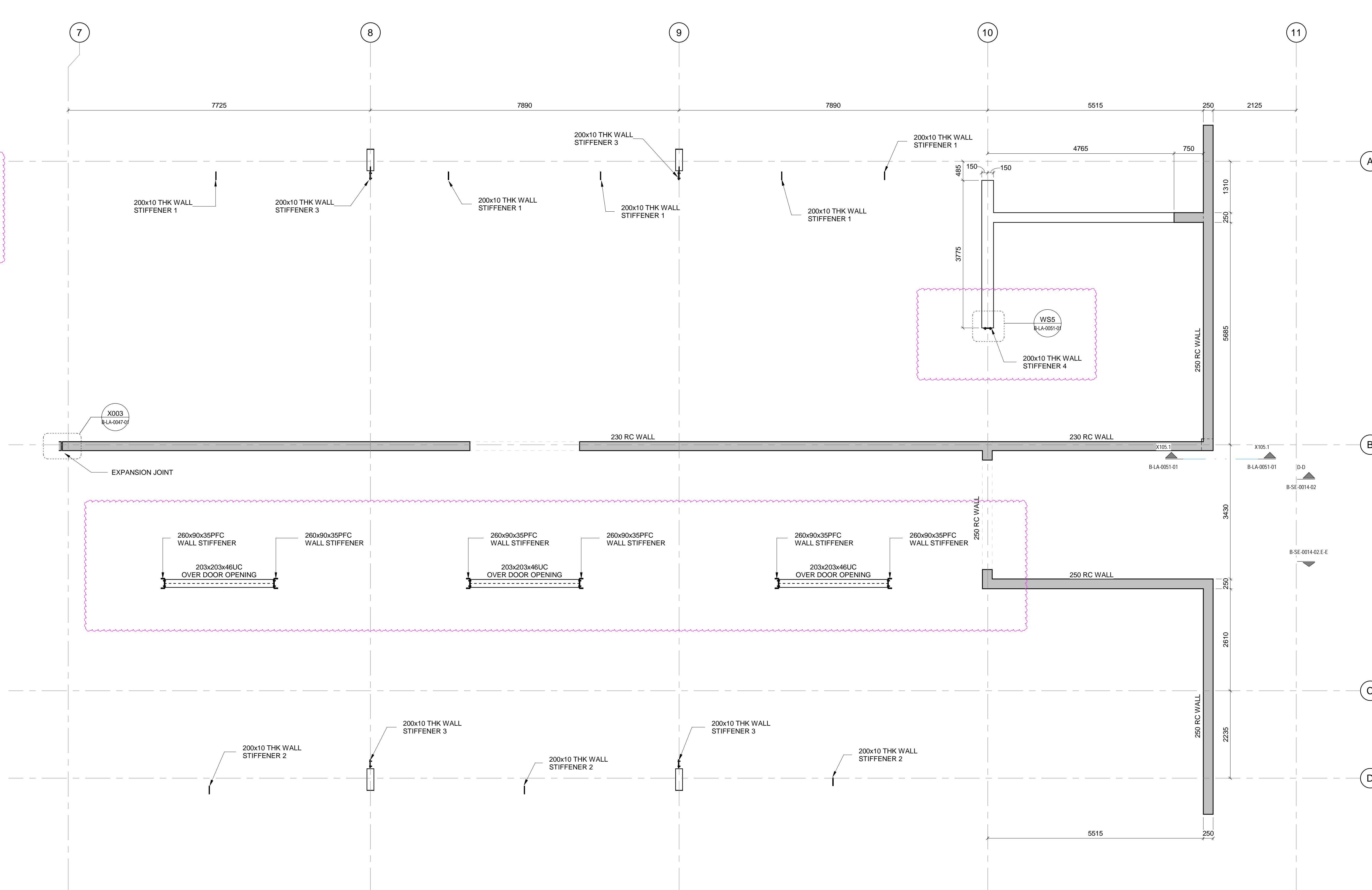
OPERATING DIVISIONS		PR. ENG./PR. TECH./PR. ARCH	
TITLE	NAME	DATE	TITLE
	SW MARAIS	24/07/23	

PROJECT NUMBER		DIS		TYPE		DRAWING NO.		SHEET		REV		ID		
NO	DESCRIPTION	BY	CHKD	APPD	DATE	NO	DIS	TYPE	NO	SHEET	REV	ID		
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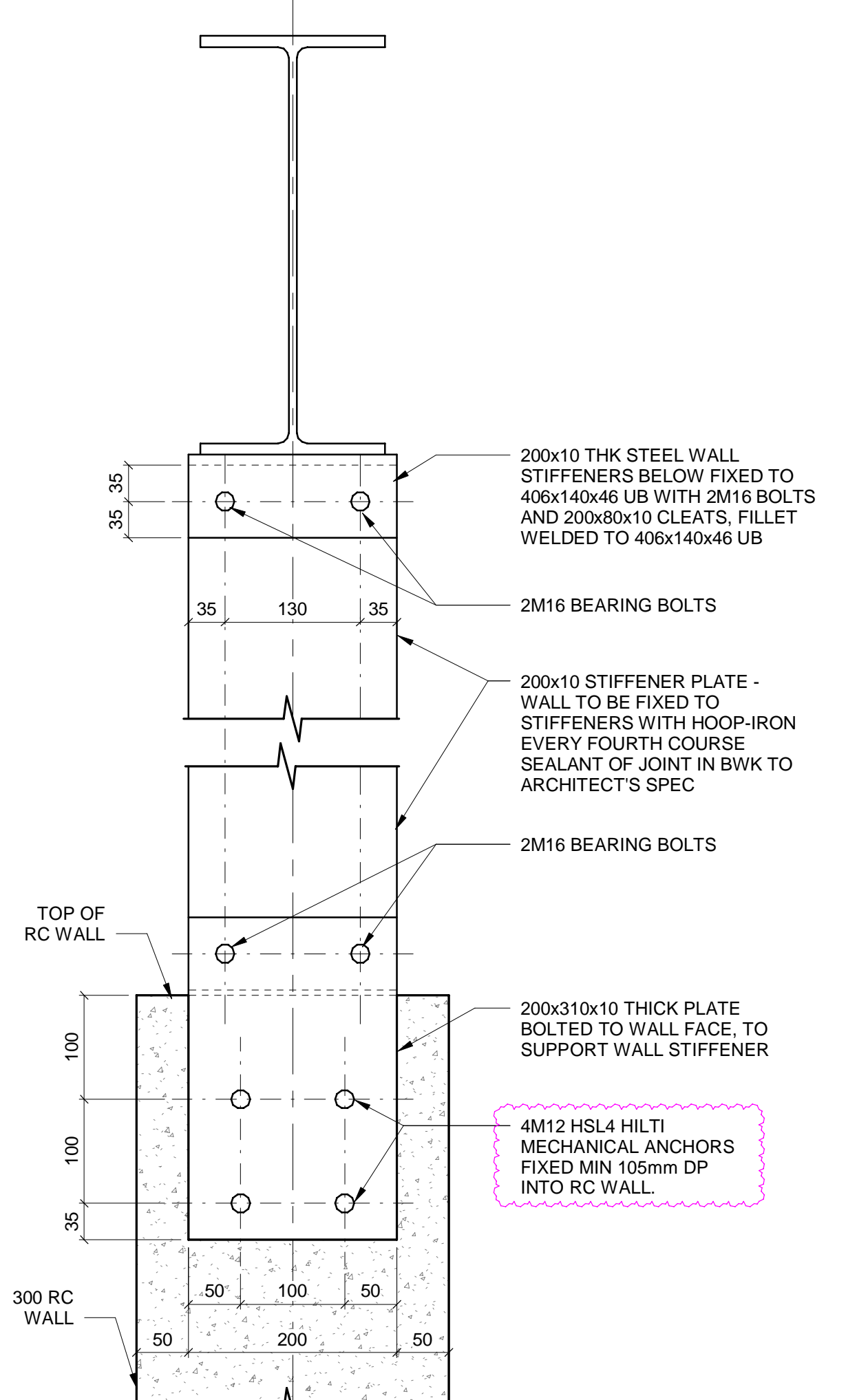
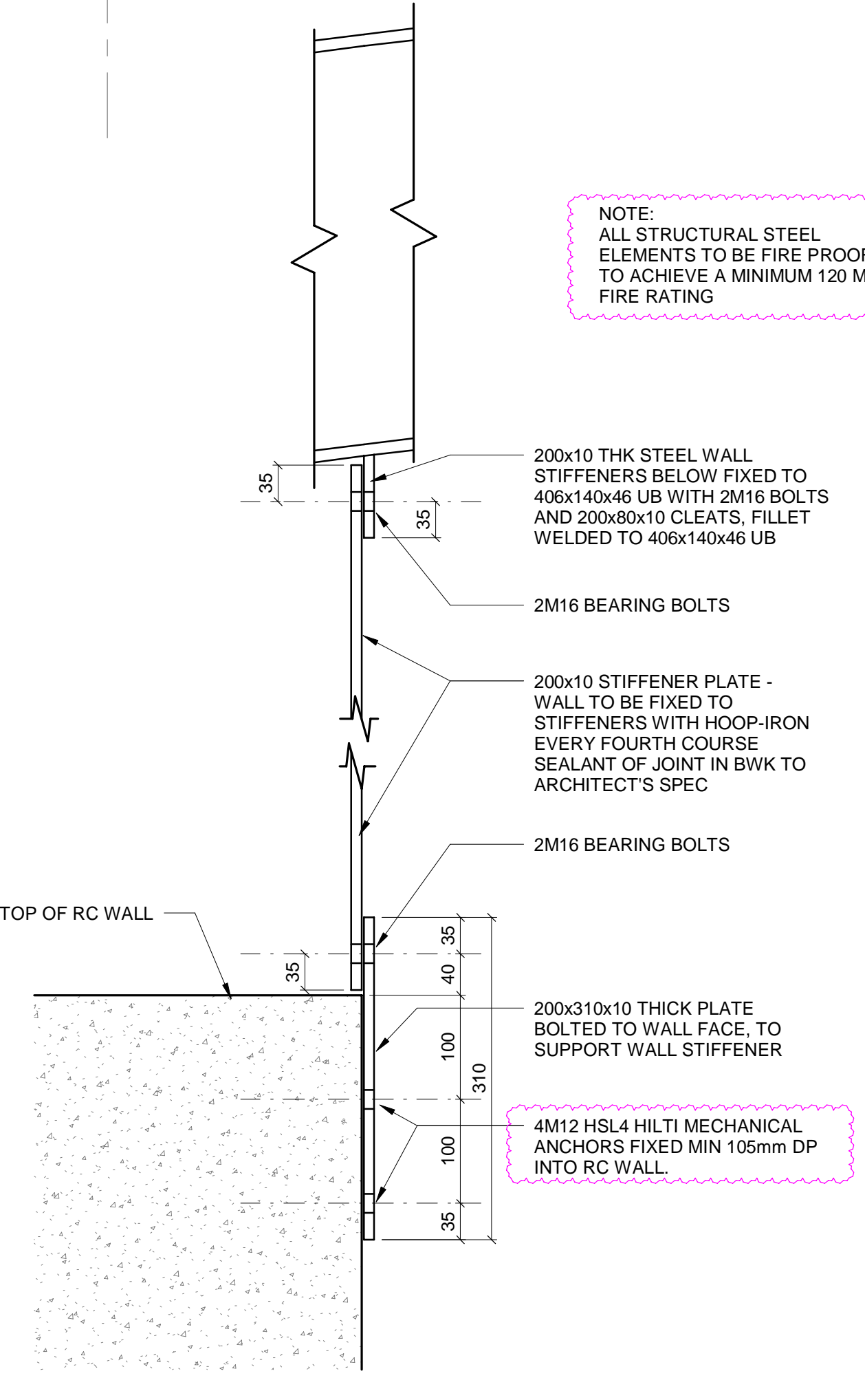
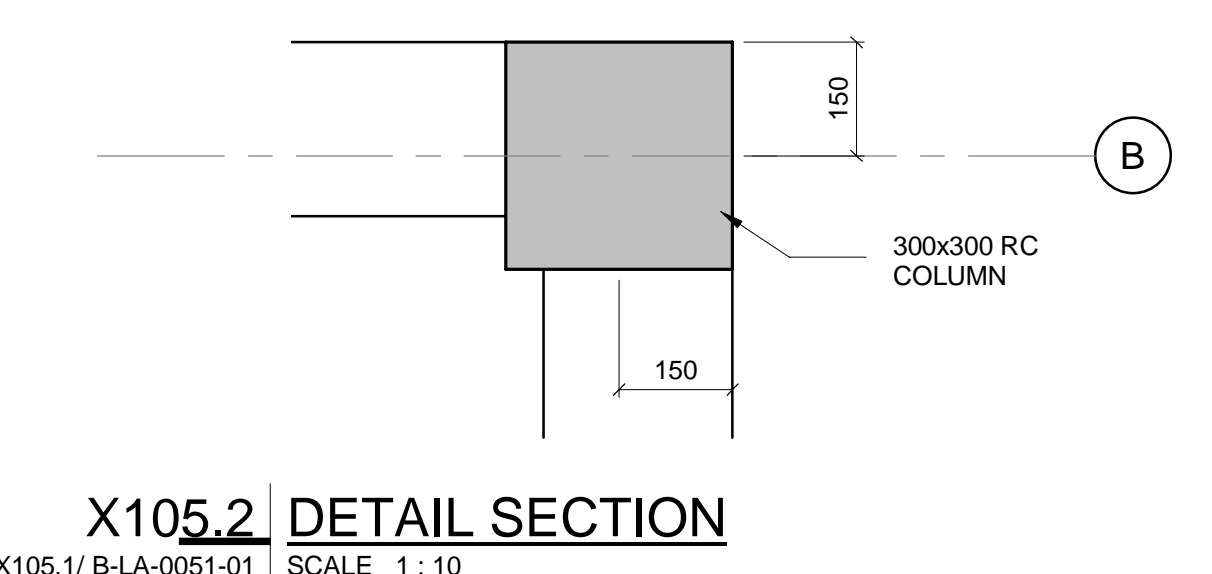
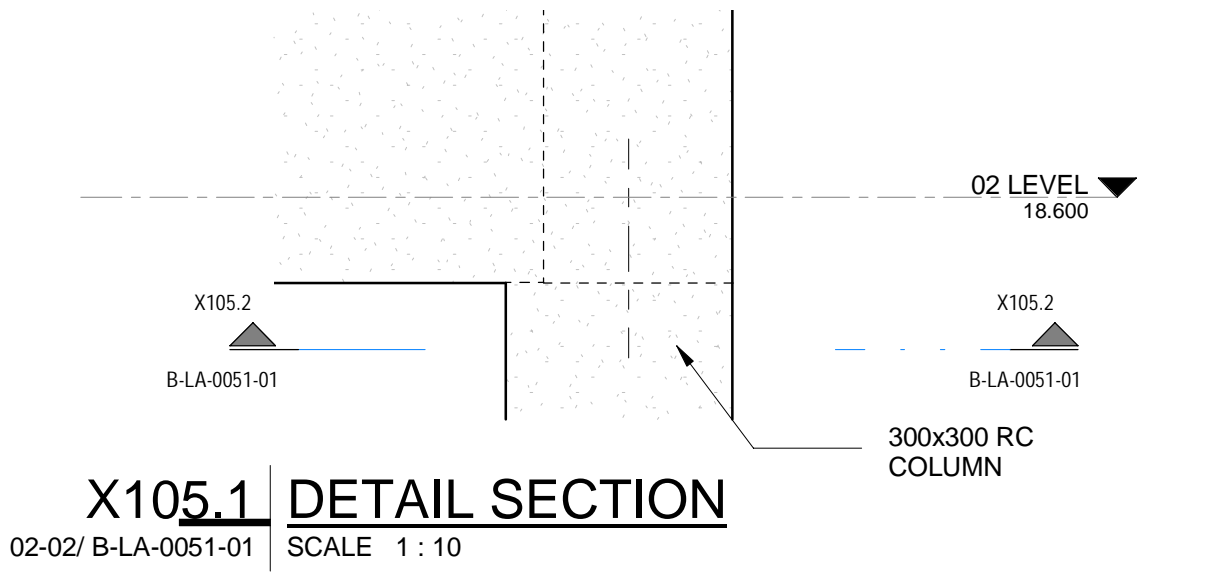
COLUMN SCHEDULE		
TYPE MARK	TYPE	NO. OFF
C01	300x300 RC COLUMN	6
C03	300x600 RC COLUMN	21
C04	300x1000 RC COLUMN	1
C05	300x600x300x1209 SHAPED RC COLUMN	12
C06	300x1300x300x1775 SHAPED RC COLUMN	1
C07	420x600x420x1209 SHAPED RC COLUMN	1
SC02	100x100x4.0 SHS	6

NOTE:

- ALL BOLTS AND ANCHORS TO BE GRADE 8.8 U.N.O.
- ALL STRUCTURAL STEEL ELEMENTS BETWEEN GL B-C TO HAVE AN INTUMESCENT PAINT COATING APPLIED ALLROUND TO IT TO ACHIEVE A MINIMUM FIRE REQUIREMENT OF 60 MINUTES.
- ALL STRUCTURAL STEEL ELEMENTS ON GL 10x8 TO HAVE AN INTUMESCENT PAINT COATING APPLIED ALLROUND TO IT TO ACHIEVE A MINIMUM FIRE REQUIREMENT OF 120 MINUTES.
- INTUMESCENT PAINT ACCORDING TO FIRE ENGINEER'S SPECIFICATION.



02 LEVEL - PART 2
SCALE 1:50



MASTER
27-07-2023
AECOM

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TYGER WATERFRONT
CARL CRONJE DRIVE
TEL: +27 (0)21 950 7500
FAX: +27 (0)21 950 7502
REG. No. 1966/006628/07

TITLE	NAME	SIGN	DATE
CONTRACTOR/CONSULTANT			
DRAWN	AH		24 07 23
CHECKED	H/W		24 07 23
DESIGNED	IG		24 07 23
CHECKED	SW/M		24 07 23

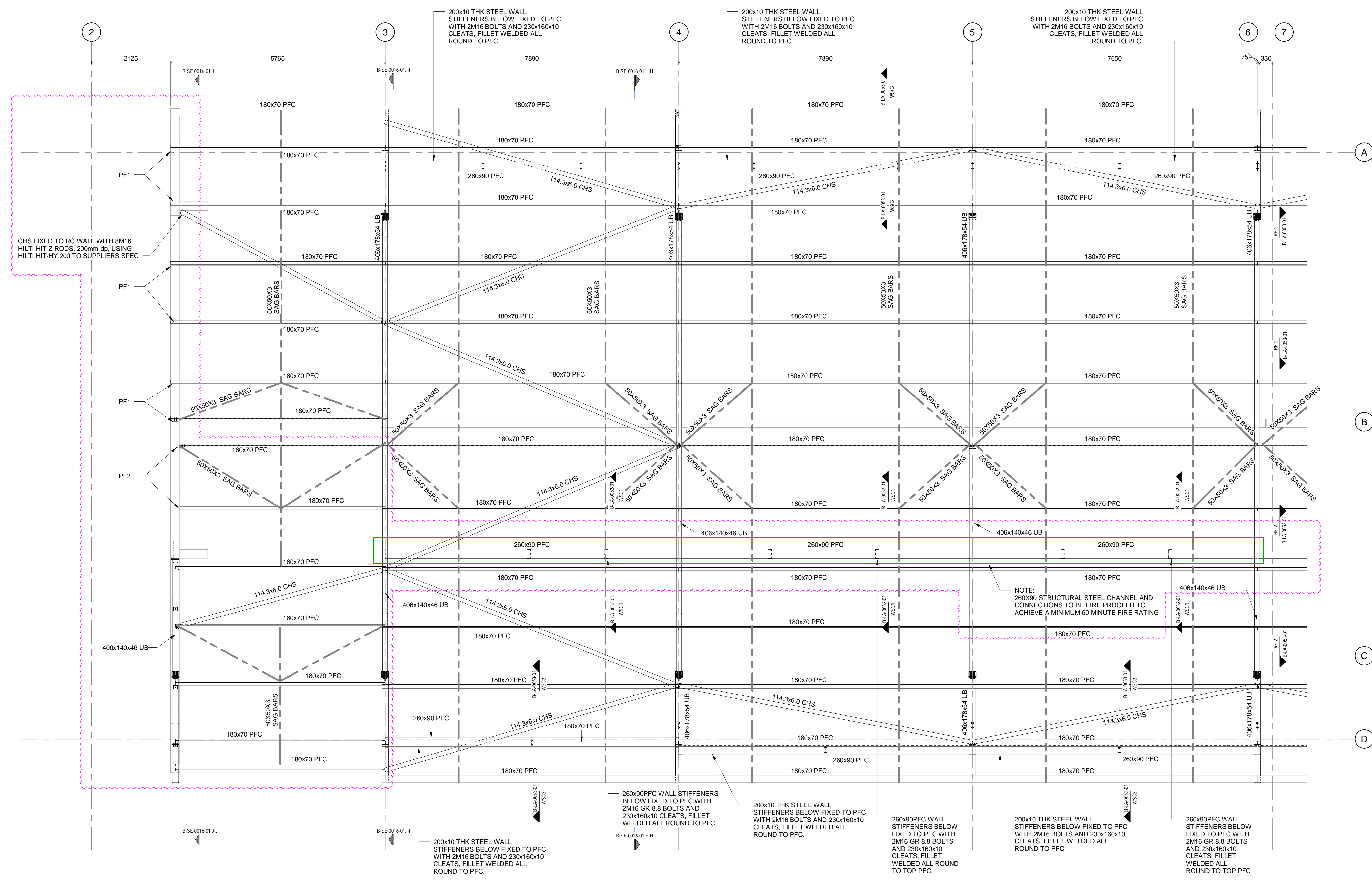
TITLE	NAME	SIGN	DATE
OPERATING DIVISIONS			
PR. ENG./PR. TECH./PR. ARCH			
NAME	SW/MARRAS		24 07 23
SIGNATURE			
REG. NUMBER	20090106		
SCALE	AS SHOWN		

TITLE	NAME	SIGN	DATE
CONTRACTOR/CONSULTANT			
DRAWN	AH		24 07 23
CHECKED	H/W		24 07 23
DESIGNED	IG		24 07 23
CHECKED	SW/M		24 07 23

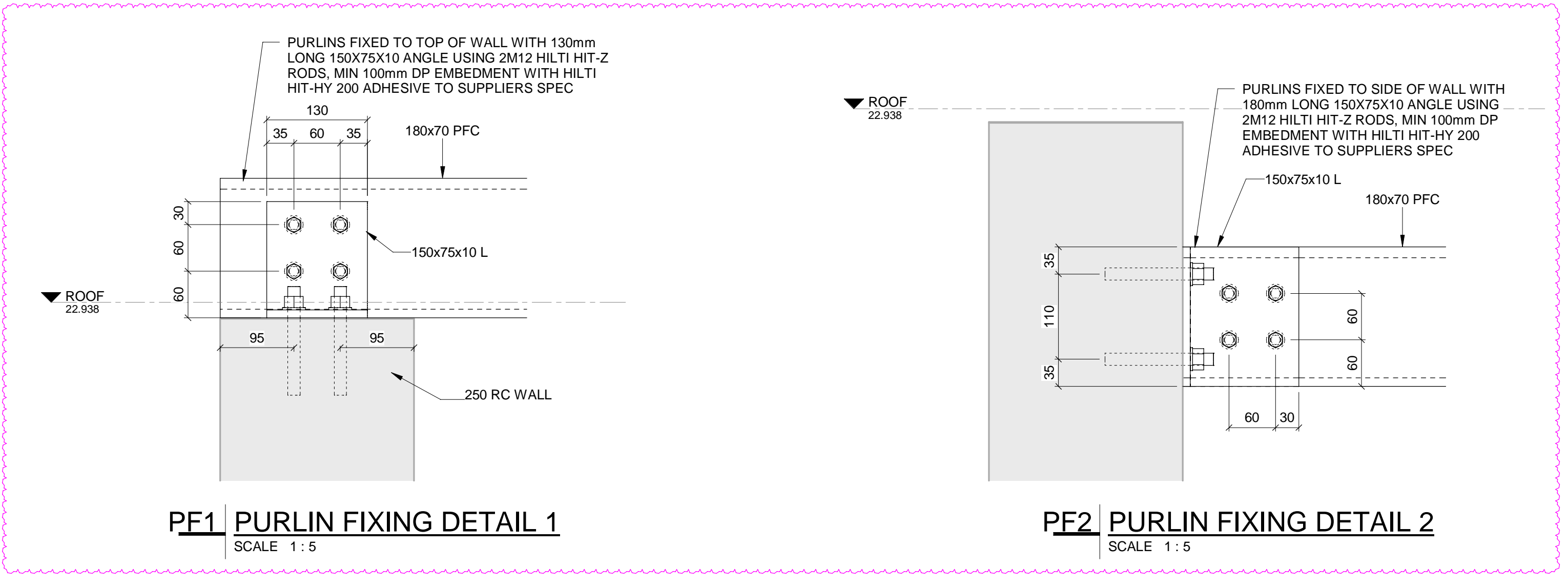
PROJECT NUMBER	DD	FBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
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2	5	10			B	L	A	0
0	5	1	0	1	0	1	0	3
A								

PORT OF SALDANHA
IRON ORE TIPPLER 3 PROJECT
BULK POWER UPGRADE:
MAIN INTAKE SUBSTATION
LEVEL 02 - LAYOUT PART 2

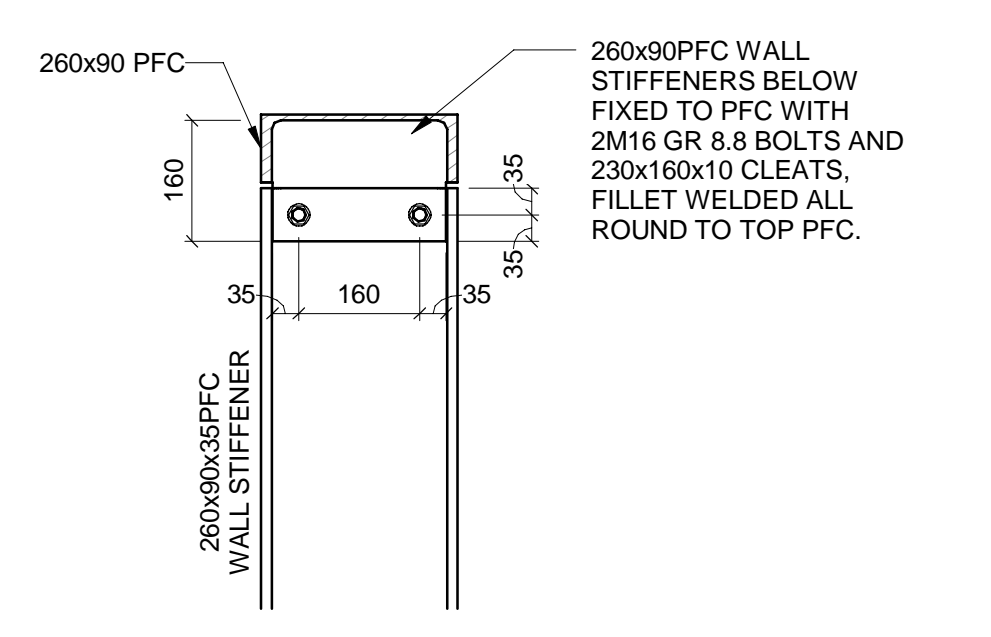
NOTE:
 • ALL BOLTS AND ANCHORS TO BE GRADE 8.8 U.N.O
 • 260X90 STRUCTURAL STEEL CHANNEL AND CONNECTIONS BETWEEN GL-B-C TO HAVE A INTUMESCENT PAINT COATING APPLIED ALLROUND TO IT TO ACHIEVE A MINIMUM FIRE REQUIREMENT OF 60 MINUTES. INTUMESCENT PAINT ACCORDING TO FIRE ENGINEER'S SPECIFICATION.



RE-1 ROOF PLAN - PART 1
 B002/B-LA-0050-01 SCALE 1:50



MASTER
 27-07-2023
 AECOM



WSC1 WALL STIFFENER CONNECTION PLATE 1
 SCALE 1:10

- NOTES**
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AECOM

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 TYGER WATERFRONT
 CARL CRONJE DRIVE
 TEL: +27 (0)21 950 7500
 FAX: +27 (0)21 950 7502
 REG. No. 1966/00626/07

NO	DESCRIPTION	BY	CHKD	APPD	DATE
01	ROOF LAYOUT UPDATED TO LATEST NEW PLANTROOM REQUIREMENTS.	AH	JDM	SWM	24/07/23
02	UPDATE FIRE RISK ASSESSMENT AND ADDITIONAL FIRE SPECIFICATIONS ADDED.	AH	JDM	SWM	07/06/23
03	WALL STIFFENERS ADDED/AMENDED.	AH	JDM	SWM	29/02/23
04	REVISED FOR CONSTRUCTION.	CA	HLR	SWM	13/06/23

CONTRACTOR/CONSULTANT				TRANSNET CAPITAL PROJECTS			
TITLE	NAME	SIGN	DATE	TITLE	NAME	SIGN	DATE
DRAWN	AH		24/07/23				
CHECKED	H.W.		24/07/23				
DESIGNED	IG		24/07/23				
CHECKED	SWM		24/07/23				

OPERATING DIVISIONS	
TITLE	DATE
PR. ENG./PR. TECH./PR. ARCH	
NAME	DATE
SIGNATURE	
REG. NUMBER	24/07/23
SCALE:	AS SHOWN

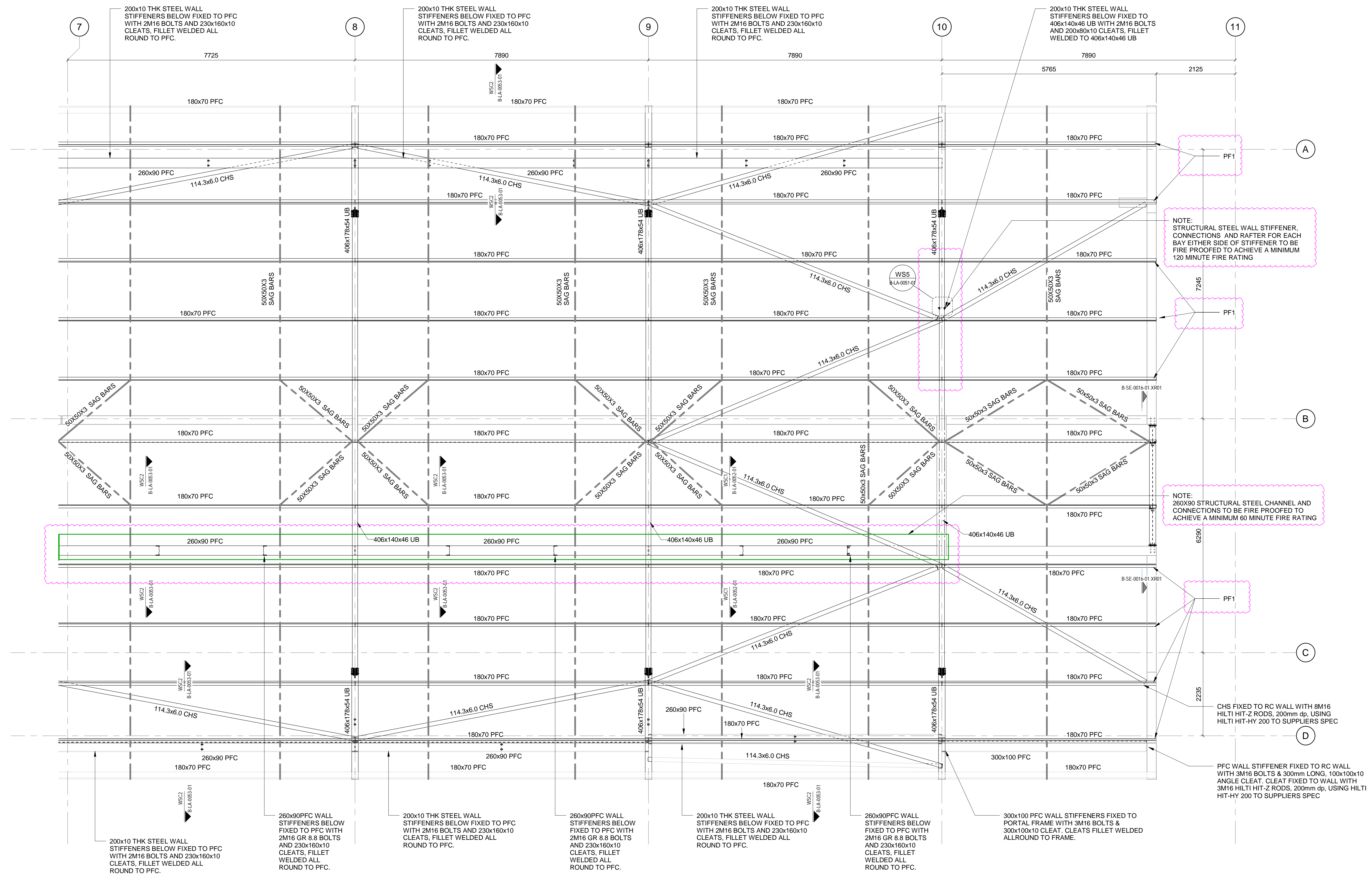
Transnet Capital Projects
 TRANSNET LTD (TRANSNET) 47 TRANSNET DRIVE, PROJECTS, REG. NO. 1966/00626/07
 TABLE BAY BUILDING, TYGERSBURG PARK, TEL: 021 940 1999
 183 LYS KRIGE DRIVE, PLATTEKLOOF, FAX: 086 677 2455
PORT OF SALDANHA
IRON ORE TIPPLER 3 PROJECT
BULK POWER UPGRADE:
MAIN INTAKE SUBSTATION
ROOF LAYOUT PART 1

DRAWING NO.	REFERENCE
1	REFERENCE DRAWINGS

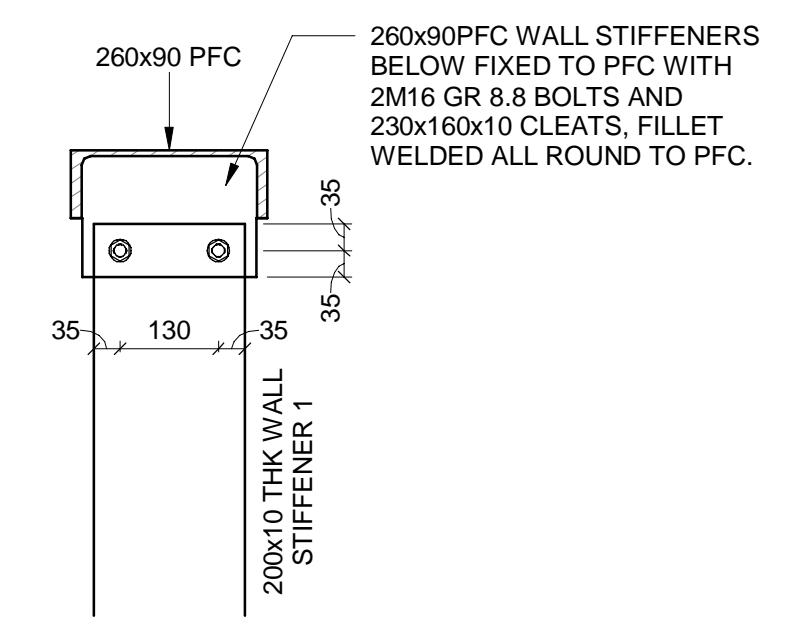
PROJECT NUMBER	DD	FBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
1924701	2	510	B	LA	0052	01	03	AE

NOTE:

- ALL BOLTS AND ANCHORS TO BE GRADE 8.8 U.N.O.
- 260X90 STRUCTURAL STEEL CHANNEL AND CONNECTIONS BETWEEN GL B-C TO HAVE AN INTUMESCENT PAINT COATING APPLIED ALLROUND TO IT TO ACHIEVE A MINIMUM FIRE REQUIREMENT OF 60 MINUTES.
- ALL STRUCTURAL STEEL ELEMENTS BETWEEN GL 10A-B TO HAVE AN INTUMESCENT PAINT COATING APPLIED ALLROUND TO IT TO ACHIEVE A MINIMUM FIRE REQUIREMENT OF 120 MINUTES.
- ALL STRUCTURAL STEEL ELEMENTS ON GL 10A-B TO HAVE AN INTUMESCENT PAINT COATING APPLIED ALLROUND TO IT TO ACHIEVE A MINIMUM FIRE REQUIREMENT OF 120 MINUTES.
- INTUMESCENT PAINT ACCORDING TO FIRE ENGINEER'S SPECIFICATION.



RE-2 ROOF PLAN - PART 2
BODZ/B-LA-0050-01 SCALE 1:50



MASTER
27-07-2023
AECOM

WSC2 WALL STIFFENER CONNECTION PLATE 2
SCALE 1:10

NOTES

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CARL CRONJE DRIVE
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FAX: +27 (0)21 950 7502
REG. NO. 1966/006628/07

CONTRACTOR/CONSULTANT		TRANSNET CAPITAL PROJECTS	
TITLE	NAME	SIGN	DATE
DRAWN	A.H.	[Signature]	24 07 23
CHECKED	H.W.	[Signature]	24 07 23
DESIGNED	I.G.	[Signature]	24 07 23
CHECKED	SW.M.	[Signature]	24 07 23

OPERATING DIVISIONS	
TITLE	NAME
PR. ENG./PR. TECH./PR. ARCH	SW. MARAIS
NAME	DATE
SIGNATURE	24 07 23
REG. NUMBER	20090106
SCALE:	AS SHOWN

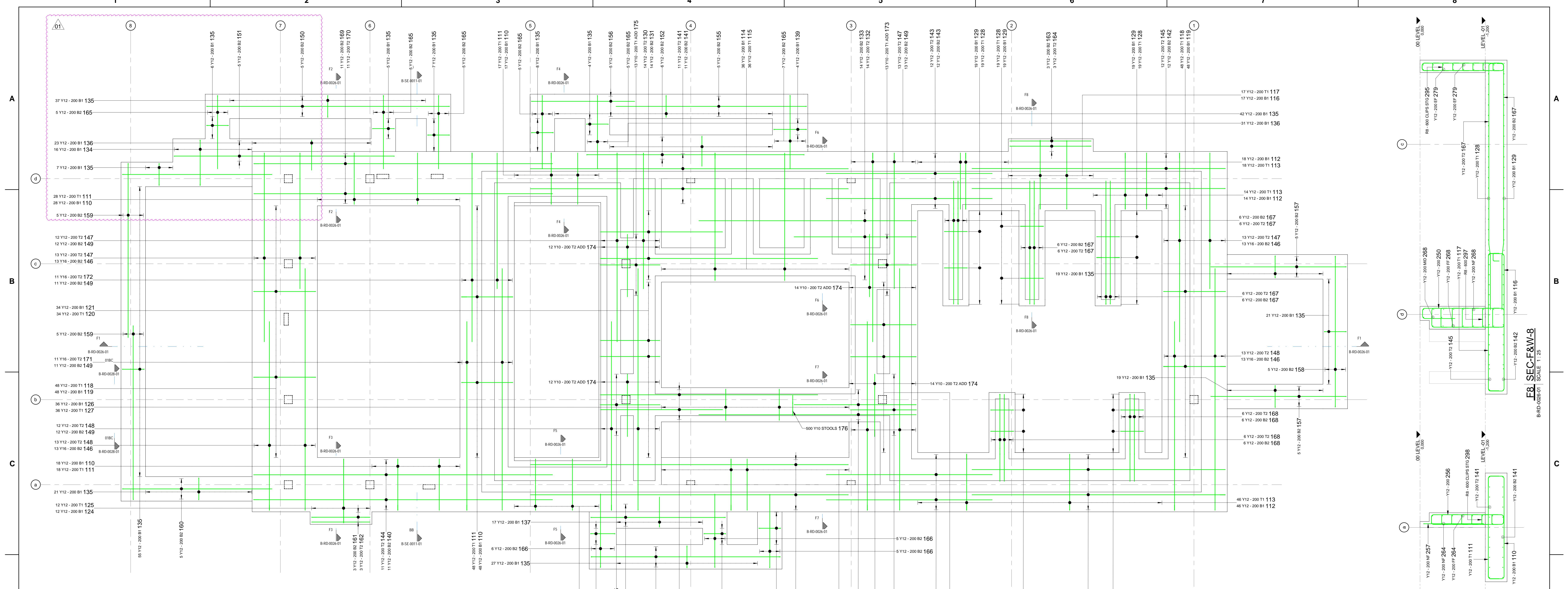
CONTRACTOR/CONSULTANT		TRANSNET CAPITAL PROJECTS	
TITLE	NAME	SIGN	DATE
DRAWN	A.H.	[Signature]	24 07 23
CHECKED	H.W.	[Signature]	24 07 23
DESIGNED	I.G.	[Signature]	24 07 23
CHECKED	SW.M.	[Signature]	24 07 23

OPERATING DIVISIONS	
TITLE	NAME
PR. ENG./PR. TECH./PR. ARCH	SW. MARAIS
NAME	DATE
SIGNATURE	24 07 23
REG. NUMBER	20090106
SCALE:	AS SHOWN

Transnet Capital Projects		TRANSNET	
TRANSNET LTD (TRANSNET AS TRANSNET CAPITAL PROJECTS) REG. NO. 1966/006628/07			
TABLE BAY BUILDING, TYGERSBERG PARK, TEL: 021 940 1999			
163 LYS KRIGE DRIVE, PLATTEKLOOF, FAX: 086 677 2455			
8001			
PORT OF SALDANHA			
IRON ORE TIPPLER 3 PROJECT			
BULK POWER UPGRADE:			
MAIN INTAKE SUBSTATION			
ROOF LAYOUT PART 2			
PROJECT NUMBER	00	FBS	DIS
19 2 4 7 0 1	2	5 1 0	B L A
DRAWING NO.	0 0 5 3	SHEET	0 1
REV	0 2	DATE	24 07 23

DRAWING NO.	REFERENCE
1	REFERENCE DRAWINGS

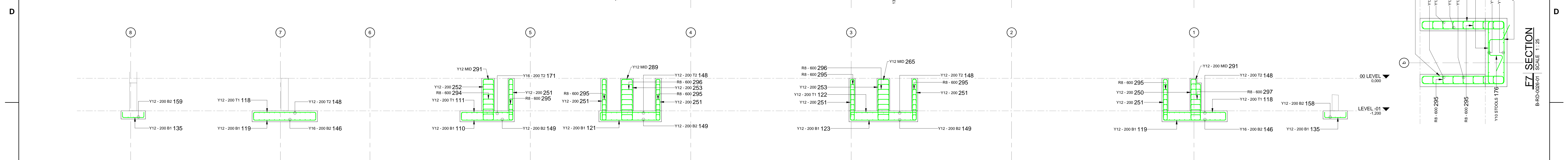
NO	DESCRIPTION	BY	CHKD	APPD	DATE
07	ROOF LAYOUT UPDATED TO SUITE NEW PLANTROOM REQUIREMENTS.	AH	JDM	SWM	24-07-23
01	WALL STIFFENERS ADDED/AMENDED	AH	JDM	SWM	29-02-23
02	REVISED FOR CONSTRUCTION	GA	H.W.	SWM	13-04-23



FR FOUNDATION REBAR LAYOUT
B-RD-0026-01 SCALE 1:50

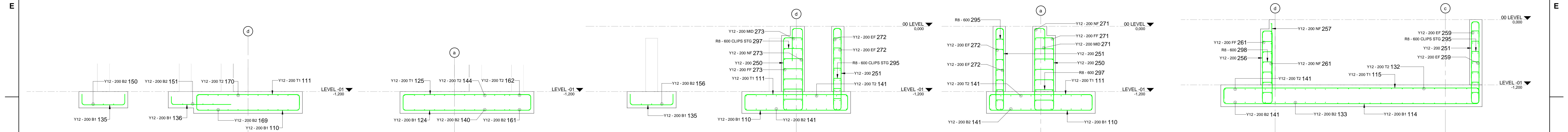
SEE DRG B-RD-0028-01 FOR COLUMN STARTER REBAR

FOR TYPICAL STOOLS DETAIL REFER TO SECTION F7. ALL STOOL TO BE STANDING ON B1 SUPPORTING T2 @ 600CS.



F1 SECTION
B-RD-0026-01 SCALE 1:50

F7 SECTION
B-RD-0026-01 SCALE 1:25



F2 SECTION
B-RD-0026-01 SCALE 1:25

F3 SECTION
B-RD-0026-01 SCALE 1:25

F4 SECTION
B-RD-0026-01 SCALE 1:25

F5 SECTION
B-RD-0026-01 SCALE 1:25

F6 SECTION
B-RD-0026-01 SCALE 1:25

DRAWING NO.	REFERENCE
1	REFERENCE DRAWINGS

- NOTES**
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FAX: +27 (0)21 950 7502
REG. No. 1966/006626/07

REVISIONS	
NO	DESCRIPTION
01	REBAR SCHEDULE & TAGS ADDED/AMENDED
02	ISSUED FOR CONSTRUCTION

CONTRACTOR/CONSULTANT				TRANSNET CAPITAL PROJECTS			
TITLE	NAME	SIGN	DATE	TITLE	NAME	SIGN	DATE
DRAWN	AH	[Signature]	17 11 21				
CHECKED	CK	[Signature]	17 11 21				
DESIGNED	CK	[Signature]	17 11 21				
CHECKED	SWM	[Signature]	17 11 21				

OPERATING DIVISIONS			
TITLE	NAME	SIGN	DATE

PR. ENG./PR. TECH./PR. ARCH

NAME	DATE
SW MARAIS	17 11 21

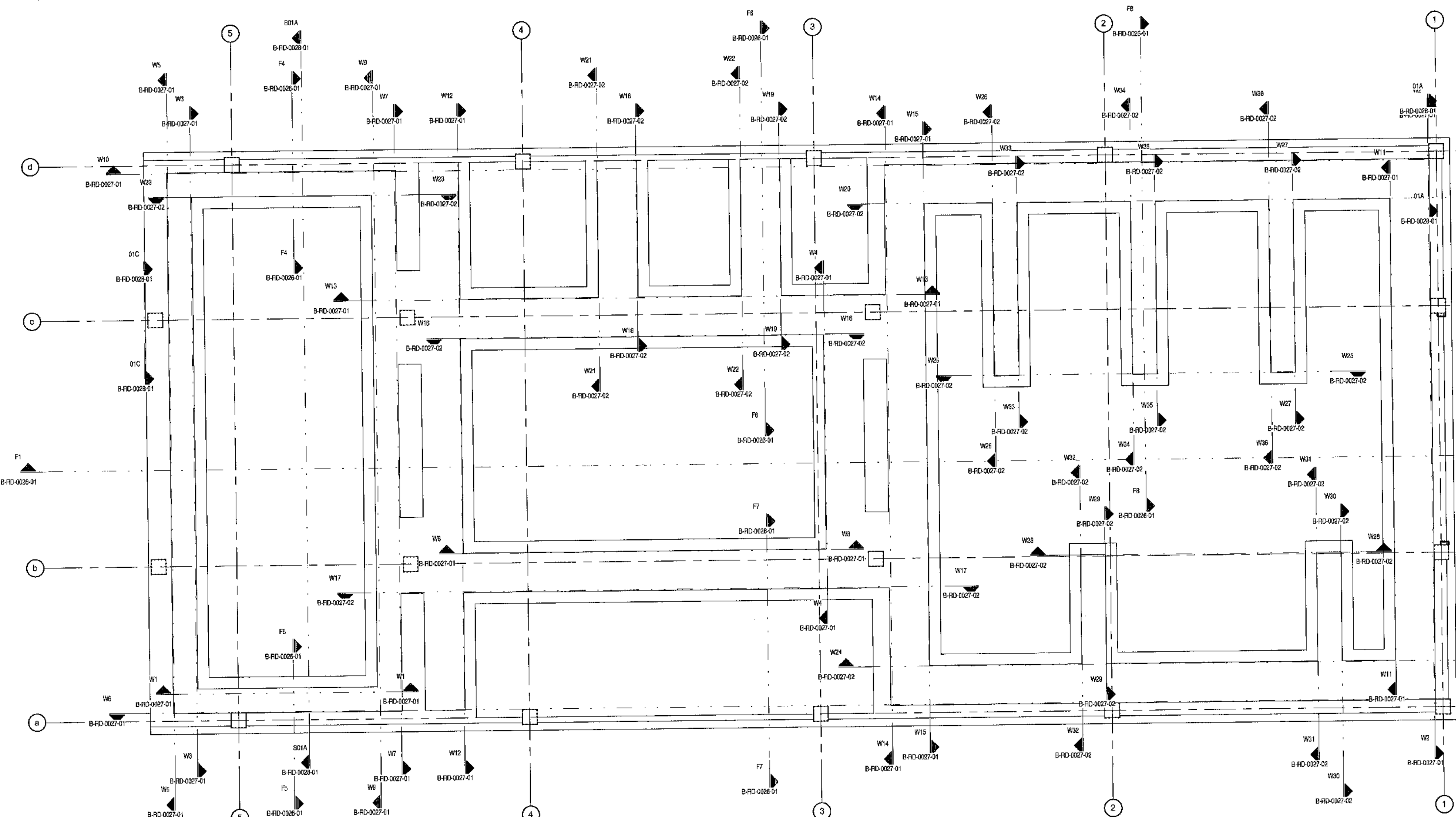
REG. NUMBER: 2009010
SCALE: AS SHOWN

PROJECT NUMBER	DD	FBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
A	19	2	4	7	0	1	1	AE

Transnet Capital Projects
TRANSNET LTD (Pty) Ltd, Transnet Capital Projects, REG. NO. 1966/006626/07
TABLE BAY BUILDING, TYGERSBERG PARK, TEL: 021 940 1999
163 LYS KRIGE DRIVE, PLATTELOOF, FAX: 021 677 2455
8001

PORT OF SALDANHA

**IRON ORE TIPPLER 3 PROJECT
BULK POWER UPGRADE
SUBSTATION M
FOUNDATION REBAR LAYOUT**



TWR TRENCH WALL REBAR LAYOUT
B-RD-0027-01 SCALE 1:50

W1 WALL ELEVATION
B-RD-0027-01 SCALE 1:50

W2 WALL ELEVATION
B-RD-0027-01 SCALE 1:50

W3 WALL ELEVATION
B-RD-0027-01 SCALE 1:50

W4 WALL ELEVATION
B-RD-0027-01 SCALE 1:50

W5 WALL ELEVATION
B-RD-0027-01 SCALE 1:50

CD1 CORNER DETAILS
B-RD-0027-01 SCALE 1:20

W6 WALL ELEVATION
B-RD-0027-01 SCALE 1:50

W7 WALL ELEVATION
B-RD-0027-01 SCALE 1:50

W8 WALL ELEVATION
B-RD-0027-01 SCALE 1:50

W9 WALL ELEVATION
B-RD-0027-01 SCALE 1:50

W10 WALL ELEVATION
B-RD-0027-01 SCALE 1:50

W11 WALL ELEVATION
B-RD-0027-01 SCALE 1:50

W12 WALL ELEVATION
B-RD-0027-01 SCALE 1:50

W13 WALL ELEVATION
B-RD-0027-01 SCALE 1:50

W14 WALL ELEVATION
B-RD-0027-01 SCALE 1:50

W15 WALL ELEVATION
B-RD-0027-01 SCALE 1:50

NOTES
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MASTER
22 JUN 2018
AECOM TRANSNET

AECOM

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TEL: +27 (0)21 950 7500
FAX: +27 (0)21 950 7552
REG. NO. 19668/000628/07

REVISIONS	
NO.	DESCRIPTION

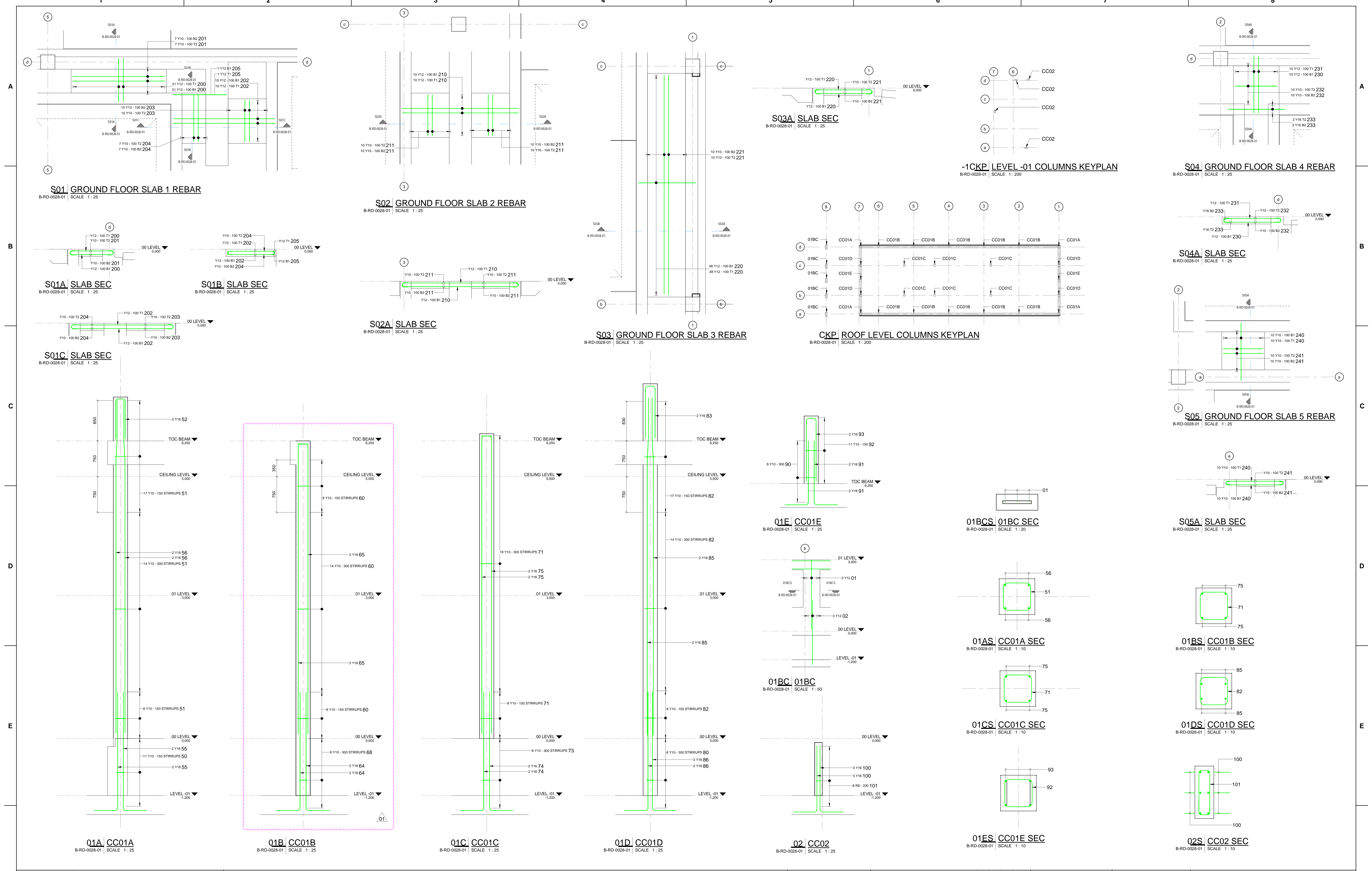
CONTRACTOR/CONSULTANT			TRANSNET CAPITAL PROJECTS		
TITLE	NAME	DATE	TITLE	NAME	DATE

OPERATING DIVISIONS										
TITLE	NAME	DATE	PR. ENG./PR. TECH./PR. ARCH							
			NAME	SW	MARAS	DATE				

DRAWING NO.	REFERENCE

TRANSNET
TRANSNET CAPITAL PROJECTS
IRON ORE TIPPLER 3 PROJECT
BULK POWER UPGRADE
SUBSTATION M
TRENCH WALL REBAR LAYOUT - SHEET 1

PROJECT NUMBER	REV	DATE	BY	CHKD	APPD	DATE
1924701	2	5/10/18	RD	01	01	01



DRAWING NO.	REFERENCE
1	REFERENCE DRAWINGS

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REG. No. 1966/006628/07

TITLE	NAME	SIGN	DATE
REBAR SCHEDULE & TAGS ADDED/AMENDED	AH	C/K	17/11/21
TOSSED FOR CONSTRUCTION	AH	C/K	31/08/20

REVISIONS

NO	DESCRIPTION	BY	CHKD	DATE

CONTRACTOR/CONSULTANT				TRANSNET CAPITAL PROJECTS			
TITLE	NAME	SIGN	DATE	TITLE	NAME	SIGN	DATE
DRAWN	AH		17/11/21				
CHECKED	C/K		17/11/21				
DESIGNED	C/K		17/11/21				
CHECKED	SWM		17/11/21				

OPERATING DIVISIONS

TITLE	NAME	SIGN	DATE

PR. ENG./PR. TECH./PR. ARCH

NAME	SW	MAR/AIS	DATE

SIGNATURE: *[Signature]* DATE: 17/11/21

REG. NUMBER: 2099010

SCALE: AS SHOWN

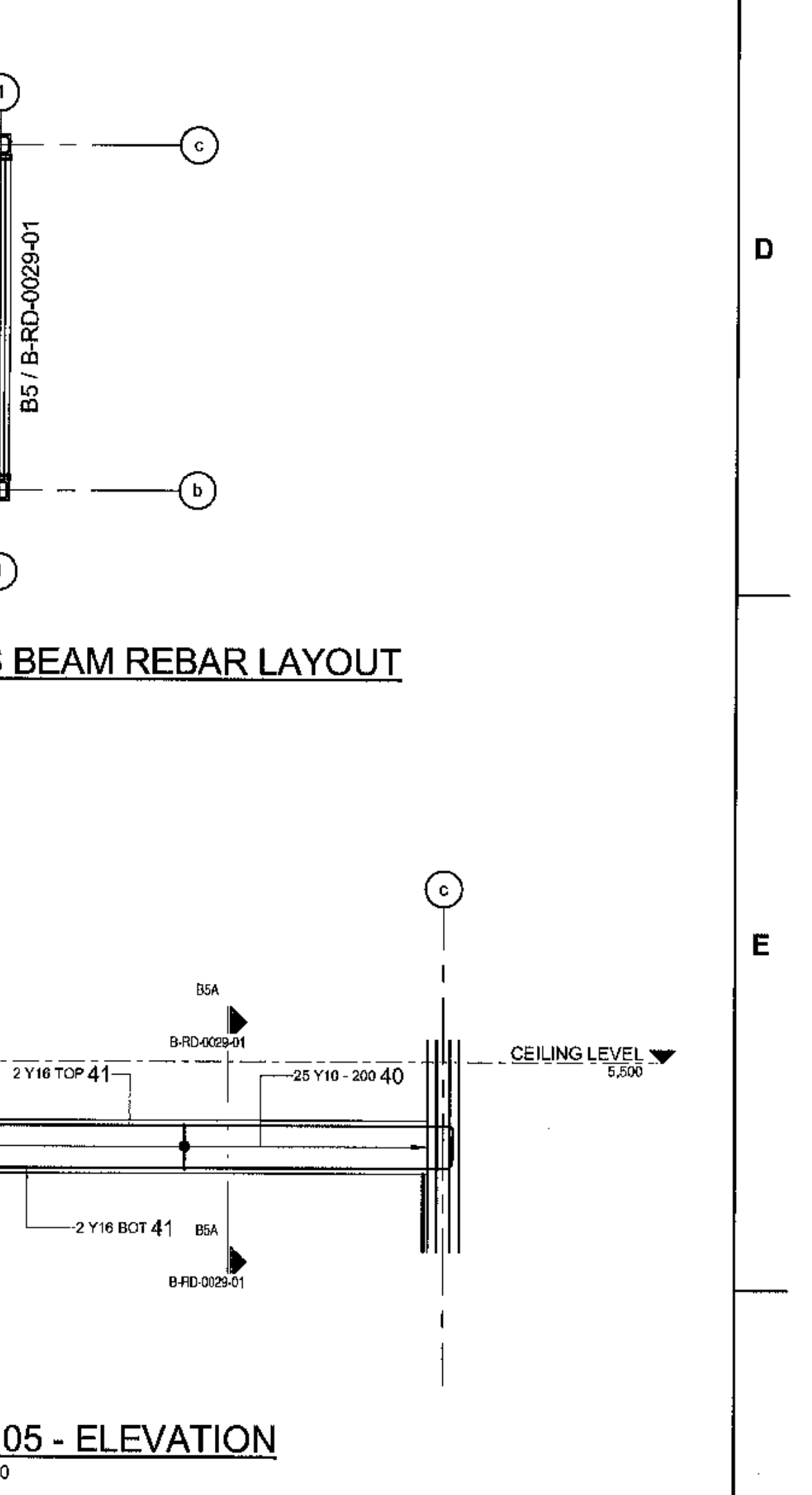
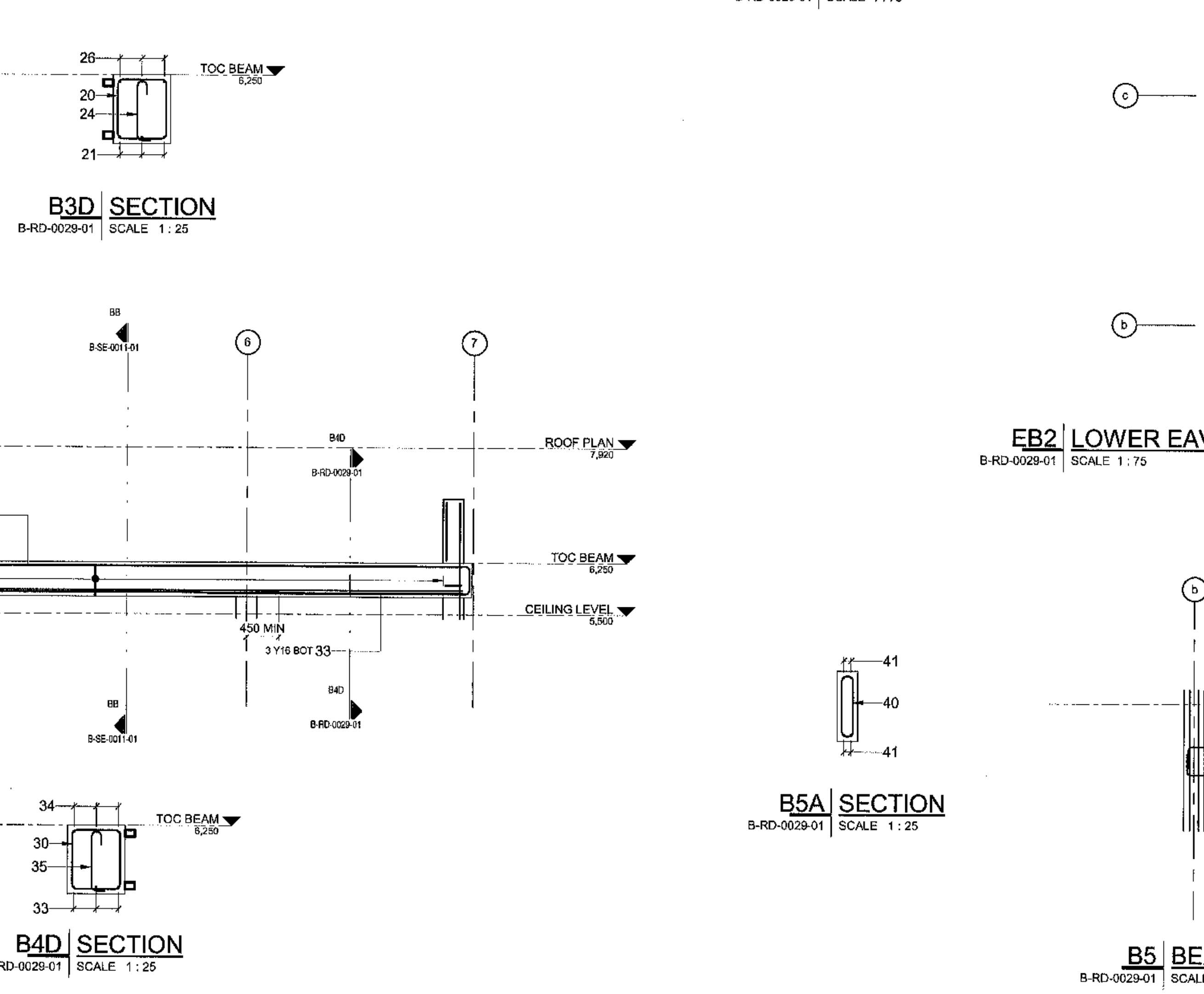
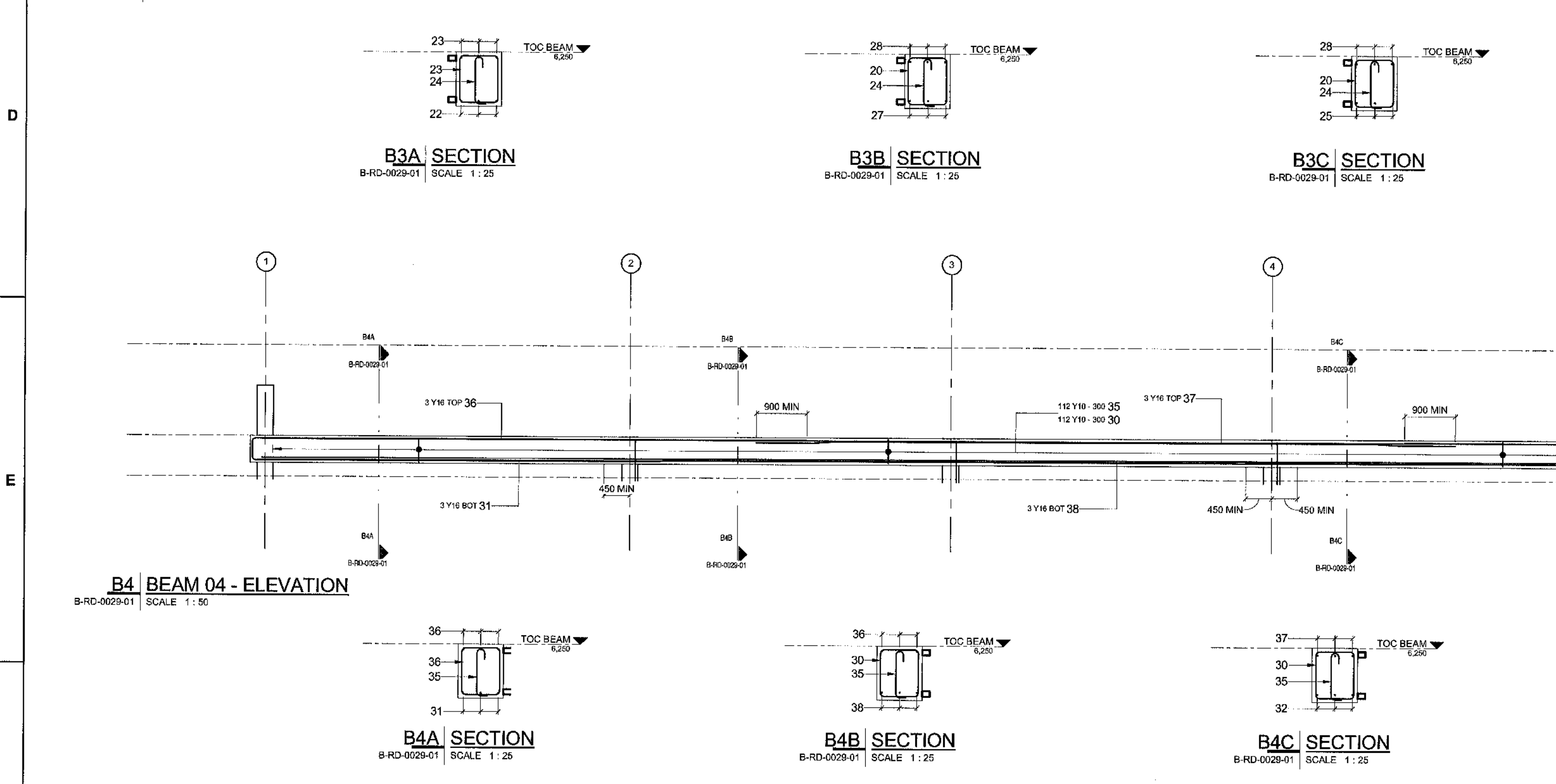
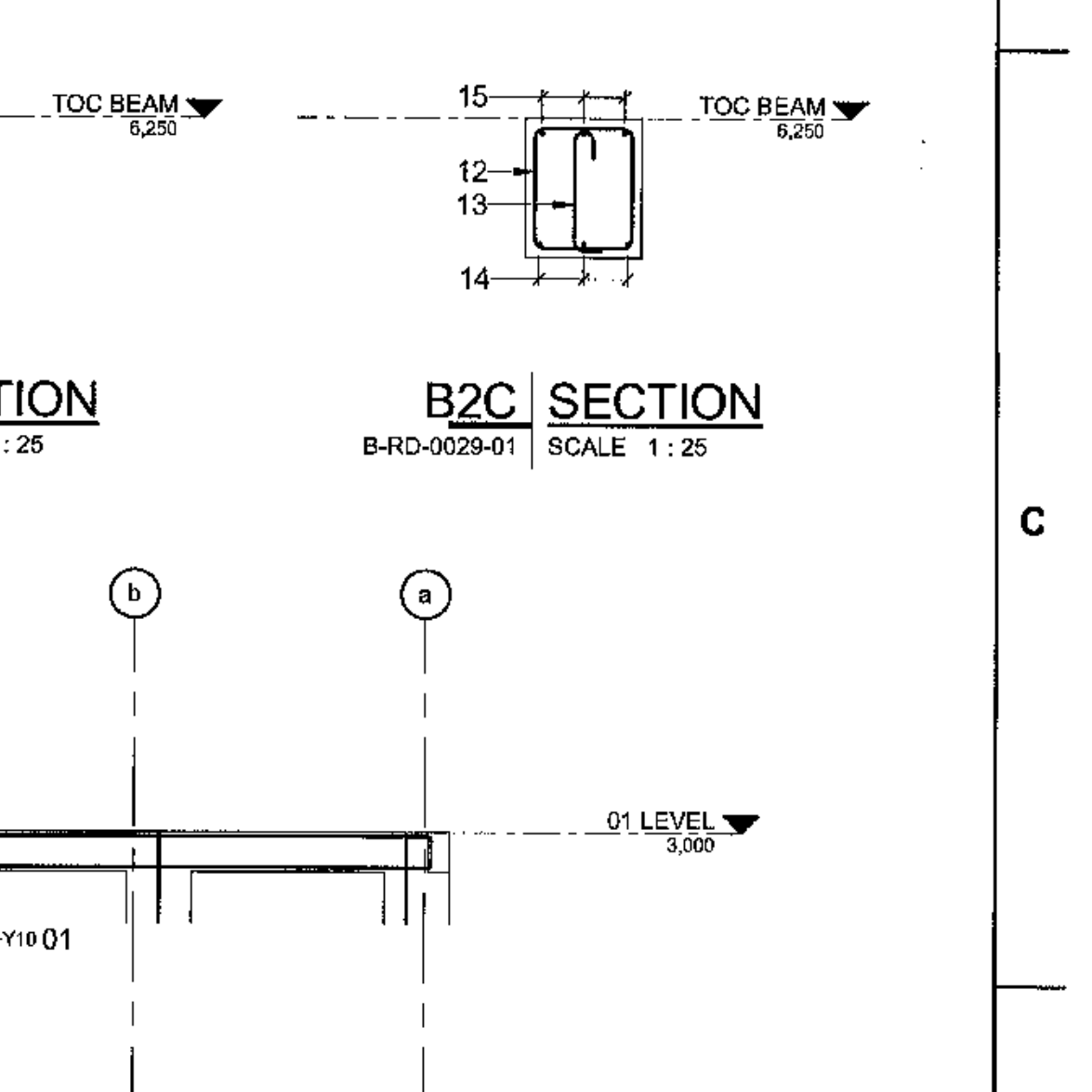
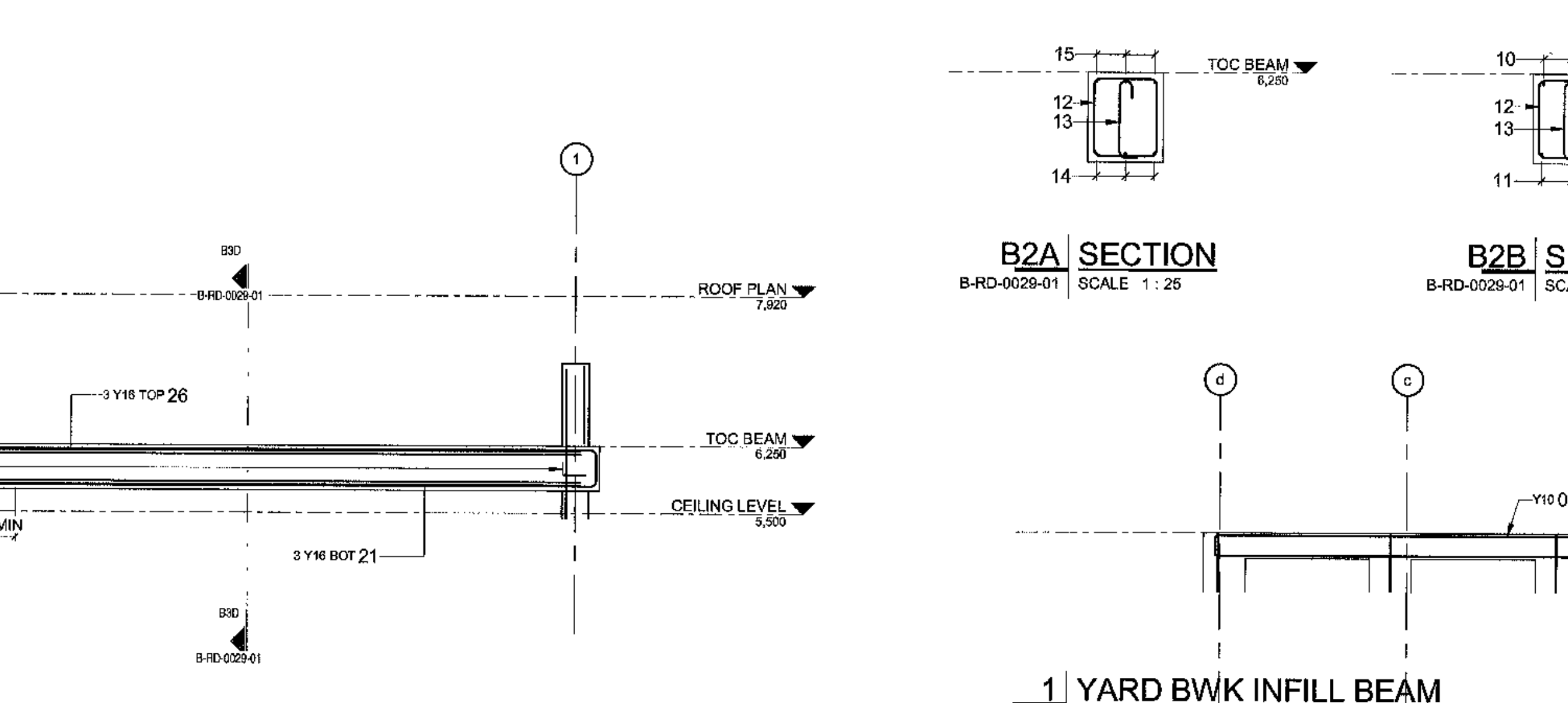
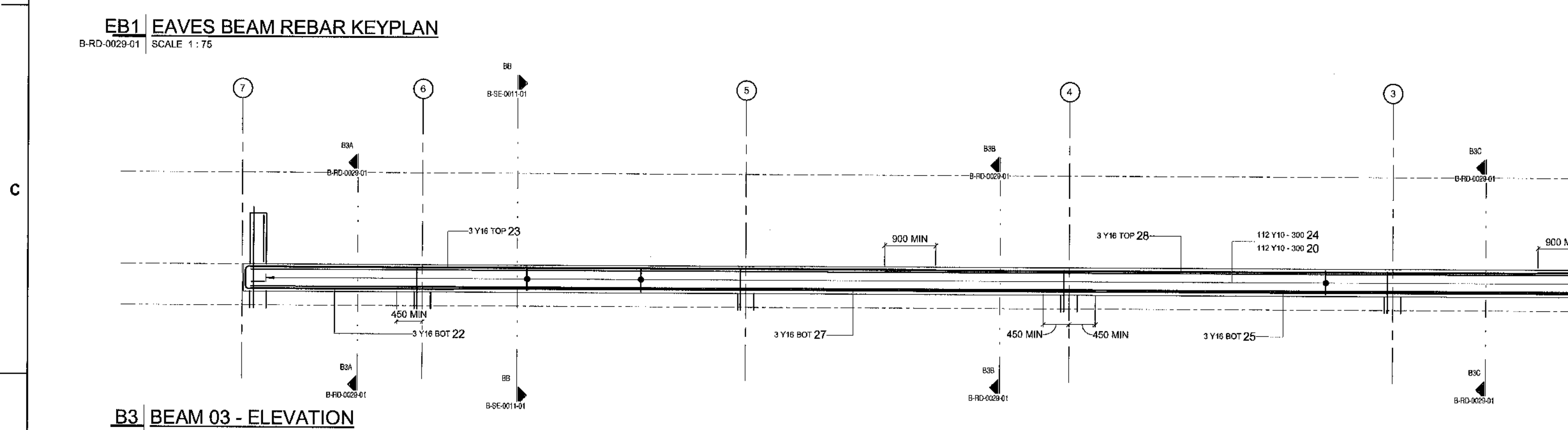
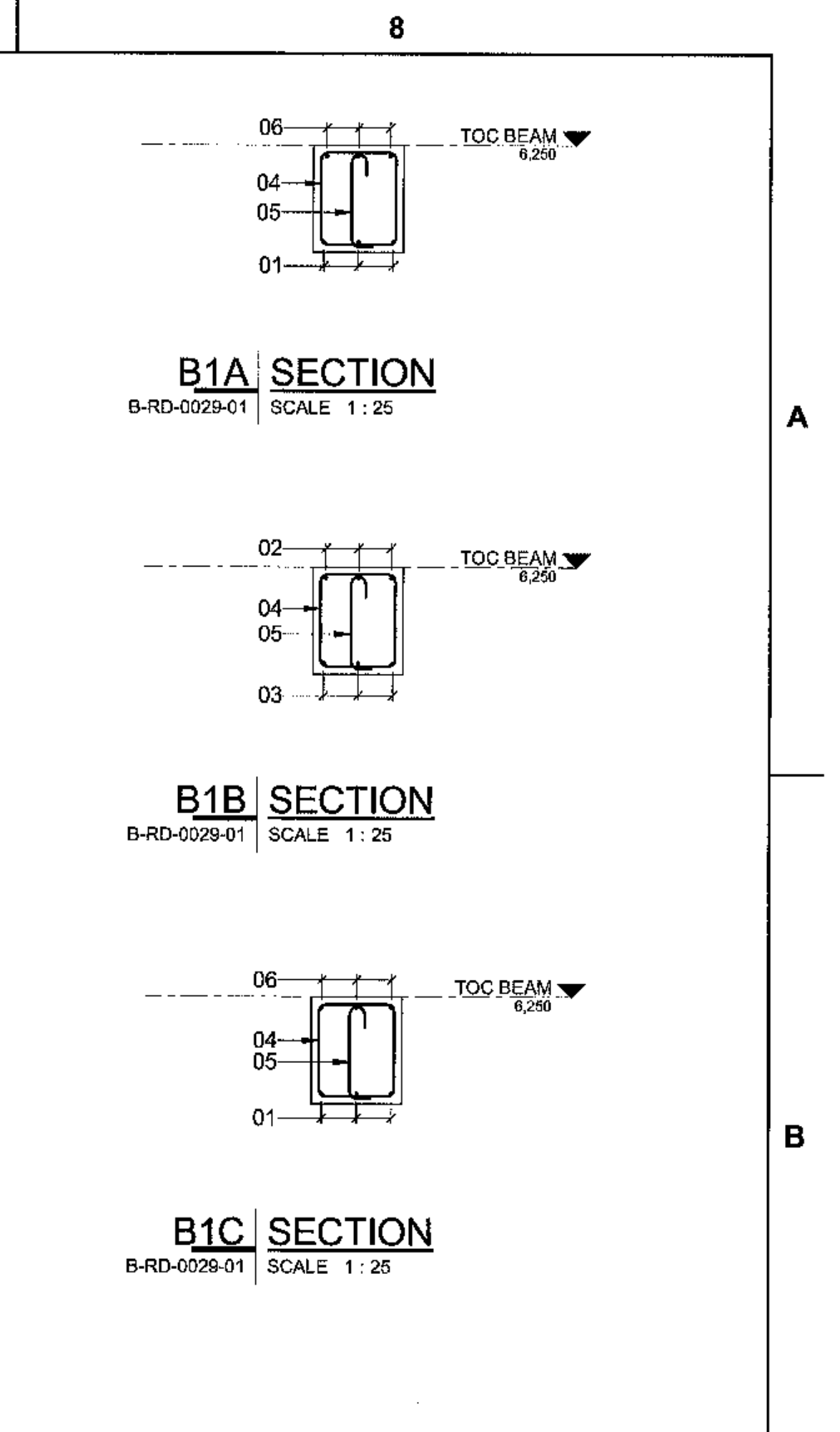
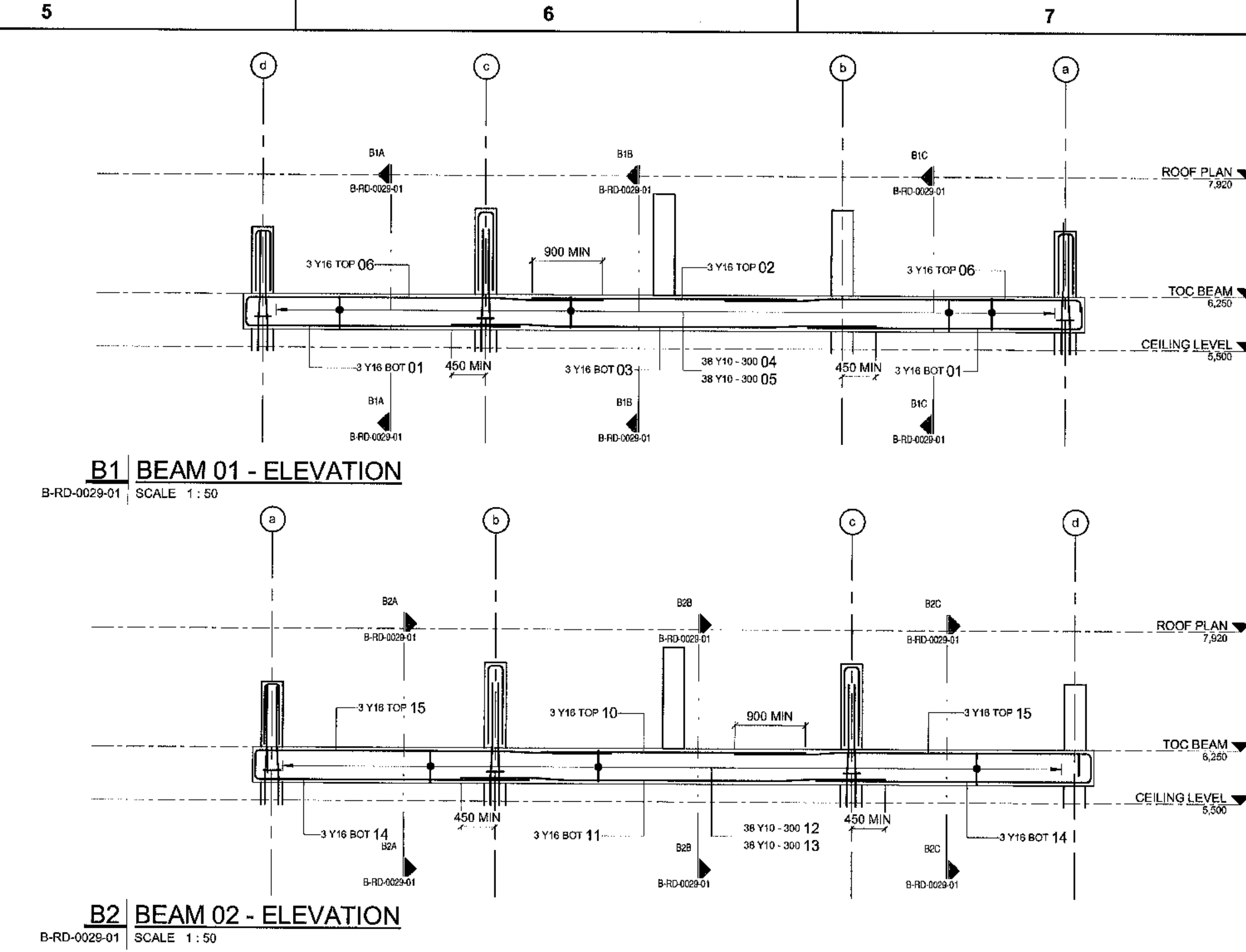
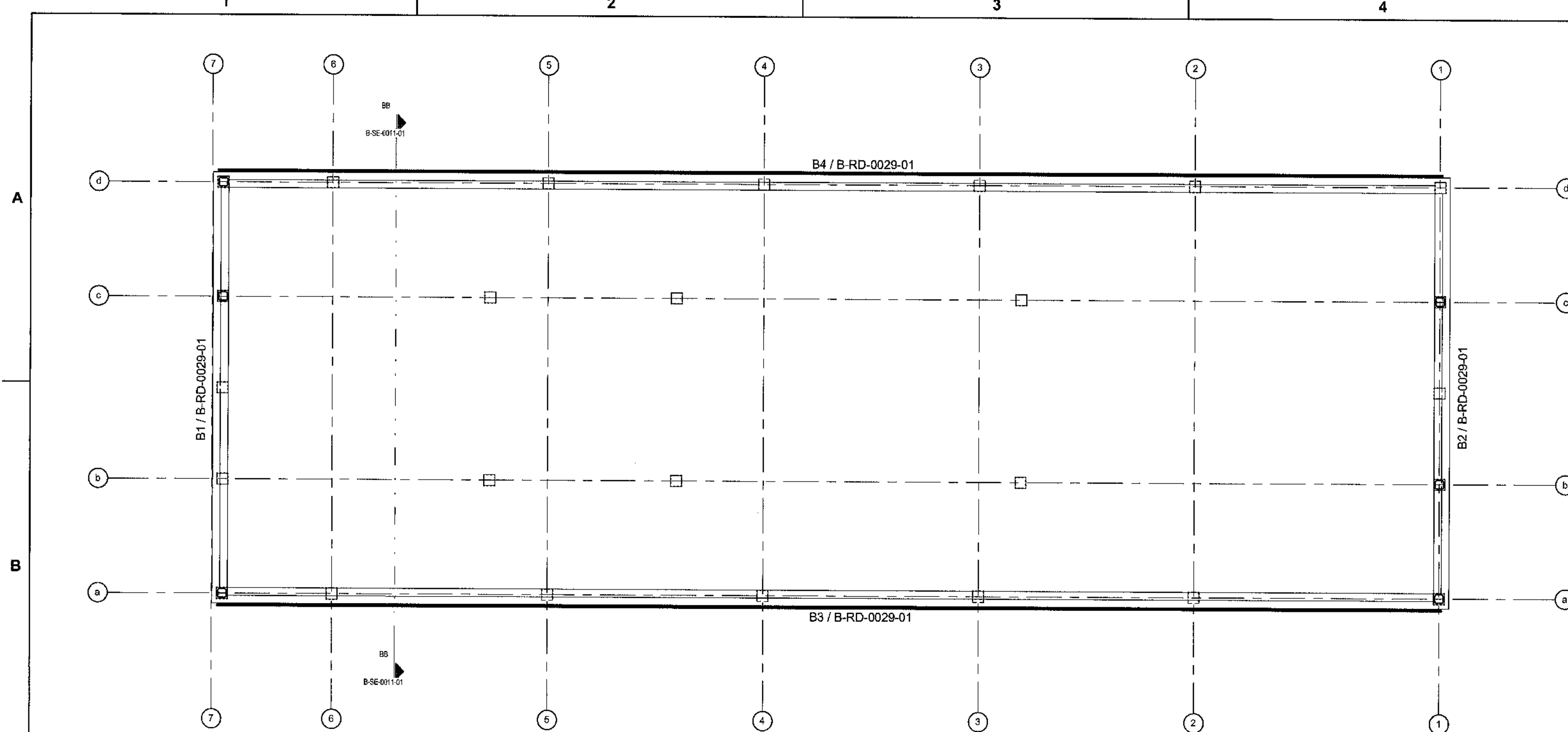
Transnet Capital Projects

TRANSNET

PORT OF SALDANHA

IRON ORE TIPPLER 3 PROJECT
BULK POWER UPGRADE
SUBSTATION M
GROUND FLOOR SLABS & COLUMN REBAR
LAYOUTS

PROJECT NUMBER	00	FBS	DES	TYPE	DRAWING NO.	SHEET	REV	ID
19	2	4	7	0	1	2	5	10



DRAWING NO.	REFERENCE
1	REFERENCE DRAWINGS

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MASTER

22 JUN 2018

NO.	ISSUED FOR CONSTRUCTION	DESCRIPTION	A.H.	BY	DATE

CONTRACTOR/CONSULTANT				TRANSNET CAPITAL PROJECTS			
TITLE	NAME	SIGN	DATE	TITLE	NAME	SIGN	DATE

Transnet Capital Projects

IRON ORE TIPPLER 3 PROJECT
BULK POWER UPGRADE
SUBSTATION M
EAVES BEAM REBAR LAYOUT

PROJECT NUMBER: 1924701
ISSUE: 2
DATE: 21/06/18

REBAR COLUMN SCHEDULE												
MEMBER	NUMBER	SHAPE	NUMBER	LENGTH	SHAPE	A (mm)	B (mm)	C (mm)	D (mm)	ER (mm)		
NAME	NUM	MARK	TYPE	ELEMENT	TOTAL							
CO01A	4	50	Y10	11	14	278	38	200	1900	300	200	0
CO01A	4	51	Y10	39	156	1090	60	240	240	0	0	0
CO01A	4	52	Y16	2	8	1840	38	850	220	850	0	0
CO01A	4	55	Y16	4	16	2960	37	2500	500	0	0	0
CO01A	4	56	Y16	4	16	6950	41	850	440	5700	40	0
CO01B	10	60	Y10	31	310	1090	60	240	240	0	0	0
CO01B	10	64	Y16	4	16	2960	37	2500	500	0	0	0
CO01B	10	65	Y16	4	16	6280	37	6100	220	0	0	0
CO01B	10	68	Y10	6	60	831	38	190	170	0	0	0
CO01C	6	71	Y10	27	162	1090	60	240	240	0	0	0
CO01C	6	73	Y16	6	36	890	60	180	0	0	0	0
CO01C	6	74	Y16	4	24	2960	37	2500	500	0	0	0
CO01C	6	75	Y16	4	24	6440	37	6280	220	0	0	0
CO01D	4	80	Y10	6	60	831	38	190	170	0	0	0
CO01D	4	82	Y10	39	156	1090	60	240	240	0	0	0
CO01D	4	83	Y16	2	8	2340	38	1100	220	1100	0	0
CO01D	4	86	Y16	4	16	2960	37	2500	500	0	0	0
CO01E	2	90	Y10	6	60	831	37	180	180	0	0	0
CO01E	2	91	Y16	4	8	1810	37	1350	500	0	0	0
CO01E	2	92	Y10	11	22	1090	60	240	240	0	0	0
CO01E	2	93	Y16	2	4	2900	38	1330	220	1330	0	0
CO02	4	100	Y16	6	24	1860	37	1400	500	0	0	0
CO02	4	101	R8	6	32	7200	74	280	100	0	0	0

REBAR COLUMN WEIGHT SUMMARY		
MEMBER NAME	TYPE	WEIGHT
CO02	R8	15 kg
Y10		633 kg
Y16		1600 kg
TOTAL		2247 kg

REBAR BRICKWORK COLUMN SCHEDULE												
MEMBER	NUMBER	SHAPE	NUMBER	LENGTH	SHAPE	A (mm)	B (mm)	C (mm)	D (mm)	ER (mm)		
NAME	NUM	MARK	TYPE	ELEMENT	TOTAL							
OTBC	5	02	Y12	3	15	2970	37	300	2700	0	0	0

REBAR BRICKWORK COLUMN WEIGHT SUMMARY		
MEMBER NAME	TYPE	WEIGHT
OTBC	Y12	78 kg
TOTAL		78 kg

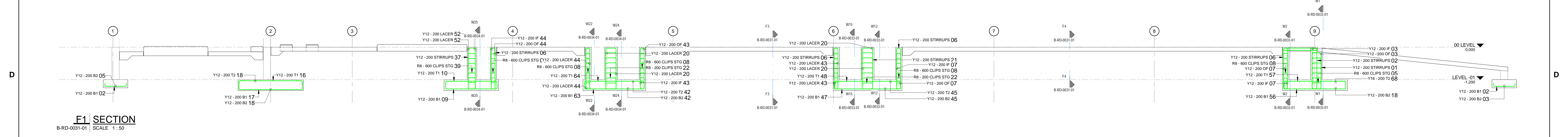
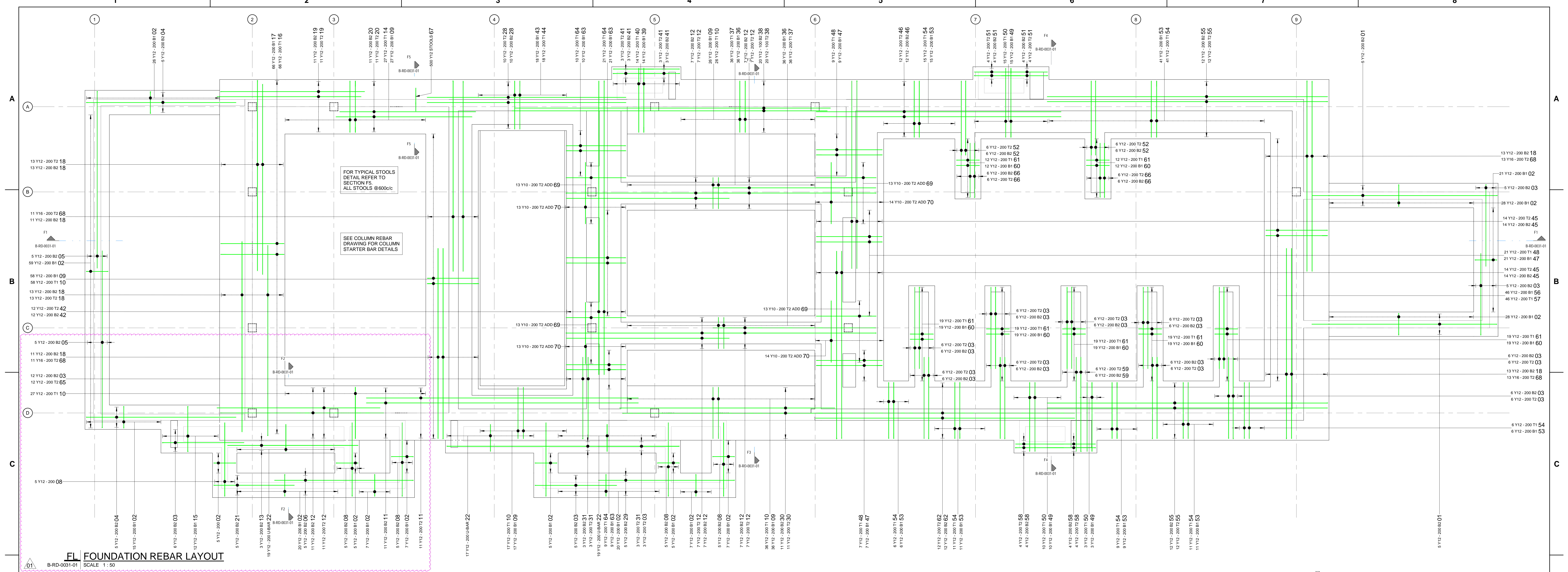
REBAR BEAM SCHEDULE												
MEMBER	NUMBER	SHAPE	NUMBER	LENGTH	SHAPE	A (mm)	B (mm)	C (mm)	D (mm)	ER (mm)		
NAME	NUM	MARK	TYPE	ELEMENT	TOTAL							
BEAM 01	1	01	Y16	6	6	4130	37	500	3800	0	0	0
BEAM 01	1	02	Y16	3	3	3700	37	3700	0	0	0	0
BEAM 01	1	03	Y16	3	3	5950	43	1650	400	3050	40	1050
BEAM 01	1	04	Y10	38	38	640	85	100	440	360	0	0
BEAM 01	1	05	Y10	38	38	640	85	100	440	80	100	0
BEAM 01	1	06	Y16	6	6	5100	42	1650	400	3500	40	0
BEAM 01	1	10	Y16	3	3	3700	37	3700	0	0	0	0
BEAM 02	1	11	Y16	3	3	5950	43	1650	400	3050	40	1050
BEAM 02	1	15	Y16	3	3	5120	42	1650	400	3500	40	0
BEAM 02	1	13	Y10	38	38	640	85	100	440	80	100	0
BEAM 02	1	14	Y16	6	6	4130	37	500	3800	0	0	0
BEAM 02	1	15	Y16	6	6	5120	42	1650	400	3500	40	0
BEAM 03	1	20	Y10	112	112	1730	60	360	440	0	0	0
BEAM 03	1	21	Y16	3	3	10480	37	10000	320	0	0	0
BEAM 03	1	22	Y16	3	3	4080	37	3800	320	0	0	0
BEAM 03	1	23	Y16	3	3	12880	37	12880	320	0	0	0
BEAM 03	1	24	Y10	112	112	1730	60	360	440	80	100	0
BEAM 03	1	25	Y16	3	3	12750	43	1650	400	8500	40	1050
BEAM 03	1	26	Y16	3	3	10480	37	10000	320	0	0	0
BEAM 03	1	27	Y16	3	3	12750	43	1650	400	1050	40	0
BEAM 03	1	28	Y16	3	3	12880	43	1650	400	950	40	1050
BEAM 04	1	30	Y10	112	112	1730	60	360	440	0	0	0
BEAM 04	1	31	Y16	3	3	7780	37	7500	320	0	0	0
BEAM 04	1	32	Y16	3	3	12750	43	1650	400	1050	40	0
BEAM 04	1	33	Y16	3	3	4080	37	3800	320	0	0	0
BEAM 04	1	34	Y16	3	3	12880	37	12880	320	0	0	0
BEAM 04	1	34	Y10	112	112	1730	60	360	440	80	100	0
BEAM 04	1	36	Y16	3	3	10480	37	10000	320	0	0	0
BEAM 04	1	37	Y16	3	3	12880	43	1650	400	950	40	1050
BEAM 04	1	38	Y16	3	3	12750	43	1650	400	850	40	1050
BEAM 05	1	40	Y10	25	25	1270	74	450	30	0	0	0
BEAM 05	1	41	Y16	4	4	2760	38	400	8200	320	0	0
YARD BRK INFILL BEAM	1	01	Y10	2	2	11770	38	200	11425	200	0	0

REBAR BEAM WEIGHT SUMMARY		
MEMBER NAME	TYPE	WEIGHT
Y10		472 kg
Y16		1000 kg
TOTAL		1472 kg

REBAR SLAB SCHEDULE												
MEMBER	NUMBER	SHAPE	NUMBER	LENGTH	SHAPE	A (mm)	B (mm)	C (mm)	D (mm)	ER (mm)		
NAME	NUM	MARK	TYPE	ELEMENT	TOTAL							
SLAB 1	200	Y12	0	42	140	33	950	0	0	0	0	0
SLAB 1	201	Y10	0	14	2180	33	1540	0	0	0	0	0
SLAB 1	202	Y12	0	20	2470	33	2150	0	0	0	0	0
SLAB 1	203	Y10	0	20	1120	33	875	0	0	0	0	0
SLAB 1	204	Y10	0	14	1230	33	990	0	0	0	0	0
SLAB 1	205	Y12	0	2	1480	33	1130	0	0	0	0	0
SLAB 1	210	Y12	0	20	2770	33	2450	0	0	0	0	0
SLAB 2	211	Y10	0	40	1110	33	870	0	0	0	0	0
SLAB 3	220	Y12	0	96	1530	33	1210	0	0	0	0	0
SLAB 3	221	Y10	0	20	4860	33	4620	0	0	0	0	0
SLAB 4	230	Y12	0	10	1540	33	1210	0	0	0	0	0
SLAB 4	231	Y12	0	10	1530	33	1210	0	0	0	0	0
SLAB 4	232	Y10	0	20	1140	33	900	0	0	0	0	0
SLAB 4	233	Y16	0	4	1810	33	1210	0	0	0	0	0
SLAB 5	240	Y10	0	20	1450	33	1210	0	0	0	0	0
SLAB 5	241	Y10	0	20	1070	33	830	0	0	0	0	0

REBAR SLAB WEIGHT SUMMARY		
MEMBER NAME	TYPE	WEIGHT
Y10		176 kg
Y12		300 kg
Y16		15 kg
TOTAL		490 kg

REBAR FOUNDATION SCHEDULE												
MEMBER	NUMBER	SHAPE	NUMBER	LENGTH	SHAPE	A (mm)	B (mm)	C (mm)	D (mm)	ER (mm)		
NAME	NUM	MARK	TYPE	ELEMENT	TOTAL							
FOUNDATION	100	Y12	0	164	2780	38	200	1900	300	200	0	0
FOUNDATION	111	Y12	0	164	2240	38	200	1900	200	0	0	0
FOUNDATION	112	Y12	0	78	2960	55	200	300	2080	300	200	0
FOUNDATION	113	Y12	0	48	2960	38	200	2080	200	0	0	0
FOUNDATION	114	Y12	0	36	5580	55	200	300	4700	300	200	0
FOUNDATION	115	Y12	0	36	5580	55	200	300	4700	300	200	0
FOUNDATION	116	Y12	0	17	3420	55	200	300	2540	300	200	0
FOUNDATION	117	Y12	0	17	2890	38	200	2540	200	0	0	0
FOUNDATION	118	Y12	0	96	2460	38	200	2300	200	0	0	0
FOUNDATION	119	Y12	0	96	3180	55	200	300	2300	300	200	0
FOUNDATION	120	Y12	0	34	2540	38	200	2300	200	0	0	0
FOUNDATION	121	Y12	0	34	3080	55	200	300	2200	300	200	0
FOUNDATION	122	Y12	0	33	2770	38	200	2430	200	0	0	0
FOUNDATION	123	Y12	0	33	3310	55	200	300	2430	300	200	0
FOUNDATION	124	Y12	0	12	3240	55	200	300	2360	300	200	0
FOUNDATION	125	Y12	0	12	3240	55	200	300	2360	300	200	0
FOUNDATION	126	Y12	0	36	2040	55	200	300	1160	300	200	0
FOUNDATION	127	Y12	0	36	1500	38	200	1160	200	0	0	0
FOUNDATION	128	Y12	0	81	1500	38	200	860	200	0	0	0
FOUNDATION	129	Y12	0	81	1740	55	200	300	860	300	200	0
FOUNDATION	130	Y12	0	21	4670	37	200	4500	0	0	0	0
FOUNDATION	131	Y12	0	21	8410	38	200	270	8000	0	0	0
FOUNDATION	132	Y12	0	21	8170	37	200	8000	0	0	0	0
FOUNDATION	133	Y12	0	21	4910	38	200	270	4500	0	0	0
FOUNDATION	134	Y12	0	16	2000	38	200	1660	200	0	0	0
FOUNDATION	135	Y12	0	209	1140	38	200	800	200	0	0	0
FOUNDATION	136	Y12	0	54	1220	37	1100	150	0	0	0	0
FOUNDATION	137	Y12	0	17	1220	37	150	1100	0	0	0	0
FOUNDATION	138	Y12	0	4	1240	38	200	900	200	0	0	0
FOUNDATION	139	Y12	0	4	1500	38	180	1200	180	0	0	



REBAR FOUNDATION SCHEDULE												
MEMBER NAME	MARK	TYPE	NUMBER	TOTAL	LENGTH	SHAPE CODE	A (mm)	B (mm)	C (mm)	D (mm)	ER (mm)	ER (mm)
FOUNDATION 01	Y12	0	10	8000	34	6500	0	0	0	0	0	0
FOUNDATION 02	Y12	0	265	1000	35	800	0	0	0	0	0	0
FOUNDATION 03	Y12	0	147	3100	34	3000	0	0	0	0	0	0
FOUNDATION 04	Y12	0	10	5500	34	5500	0	0	0	0	0	0
FOUNDATION 05	Y12	0	10	6900	34	6900	0	0	0	0	0	0
FOUNDATION 06	Y12	0	5	2160	34	5505	0	0	0	0	0	0
FOUNDATION 07	Y12	0	30	2800	34	2700	0	0	0	0	0	0
FOUNDATION 08	Y12	27	191	2760	55	200	300	1980	300	200	0	0
FOUNDATION 09	Y12	0	184	2100	35	1900	0	0	0	0	0	0
FOUNDATION 10	Y12	0	22	10000	20	10000	0	0	0	0	0	0
FOUNDATION 11	Y12	0	22	10000	20	10000	0	0	0	0	0	0
FOUNDATION 12	Y12	0	78	8100	34	8000	0	0	0	0	0	0
FOUNDATION 13	Y12	0	6	4700	20	4705	0	0	0	0	0	0
FOUNDATION 14	Y12	27	191	2760	55	200	300	1980	300	200	0	0
FOUNDATION 15	Y12	0	12	1800	35	1665	0	0	0	0	0	0
FOUNDATION 16	Y12	0	66	2540	35	2340	0	0	0	0	0	0
FOUNDATION 17	Y12	0	66	3300	55	200	340	2200	340	200	0	0
FOUNDATION 18	Y12	0	100	7100	34	7000	0	0	0	0	0	0
FOUNDATION 19	Y12	0	5	2160	34	5500	0	0	0	0	0	0
FOUNDATION 20	Y12	0	22	5000	20	5000	0	0	0	0	0	0
FOUNDATION 21	Y12	0	5	3000	34	2955	0	0	0	0	0	0
FOUNDATION 22	Y12	0	5	2160	34	1000	200	1000	0	0	0	0
FOUNDATION 23	Y12	0	20	7310	20	7310	0	0	0	0	0	0
FOUNDATION 24	Y12	0	5	2160	34	5000	0	0	0	0	0	0
FOUNDATION 25	Y12	0	22	8020	34	7920	0	0	0	0	0	0
FOUNDATION 26	Y12	0	6	8640	34	8545	0	0	0	0	0	0
FOUNDATION 27	Y12	0	66	3300	55	200	340	1160	30	200	0	0
FOUNDATION 28	Y12	0	72	1360	35	1160	0	0	0	0	0	0
FOUNDATION 29	Y12	0	40	1600	20	1160	0	0	0	0	0	0
FOUNDATION 30	Y12	0	14	3200	55	200	300	2370	300	200	0	0
FOUNDATION 31	Y12	0	14	2670	35	2370	0	0	0	0	0	0
FOUNDATION 32	Y12	0	12	1800	34	1500	0	0	0	0	0	0

REBAR FOUNDATION SCHEDULE												
MEMBER NAME	MARK	TYPE	NUMBER	TOTAL	LENGTH	SHAPE CODE	A (mm)	B (mm)	C (mm)	D (mm)	ER (mm)	ER (mm)
FOUNDATION 33	Y12	0	24	10000	34	10000	0	0	0	0	0	0
FOUNDATION 34	Y12	0	18	2600	55	200	300	1780	300	200	0	0
FOUNDATION 35	Y12	0	18	1980	35	1780	0	0	0	0	0	0
FOUNDATION 36	Y12	0	56	7000	34	6900	0	0	0	0	0	0
FOUNDATION 37	Y12	0	24	9000	20	9000	0	0	0	0	0	0
FOUNDATION 38	Y12	0	37	2630	35	2430	0	0	0	0	0	0
FOUNDATION 39	Y12	0	28	3430	55	200	300	2560	300	200	0	0
FOUNDATION 40	Y12	0	28	2750	35	2550	0	0	0	0	0	0
FOUNDATION 41	Y12	0	16	1800	34	1700	0	0	0	0	0	0
FOUNDATION 42	Y12	0	24	2800	34	2700	0	0	0	0	0	0
FOUNDATION 43	Y12	0	99	2900	55	200	300	2080	300	200	0	0
FOUNDATION 44	Y12	0	99	2900	55	200	300	2080	300	200	0	0
FOUNDATION 45	Y12	0	48	10410	34	10310	0	0	0	0	0	0
FOUNDATION 46	Y12	0	46	3160	55	200	300	2280	300	200	0	0
FOUNDATION 47	Y12	0	46	2460	35	2260	0	0	0	0	0	0
FOUNDATION 48	Y12	0	16	1870	34	1775	0	0	0	0	0	0
FOUNDATION 49	Y12	0	12	3570	34	3470	0	0	0	0	0	0
FOUNDATION 50	Y12	0	99	2900	55	200	300	2080	300	200	0	0
FOUNDATION 51	Y12	0	48	10410	34	10310	0	0	0	0	0	0
FOUNDATION 52	Y12	0	46	3160	55	200	300	2280	300	200	0	0
FOUNDATION 53	Y12	0	16	1870	34	1775	0	0	0	0	0	0
FOUNDATION 54	Y12	0	12	3570	34	3470	0	0	0	0	0	0
FOUNDATION 55	Y12	0	40	3080	55	200	300	2200	300	200	0	0
FOUNDATION 56	Y12	0	40	3080	55	200	300	2200	300	200	0	0
FOUNDATION 57	Y12	0	12	3000	34	2900	0	0	0	0	0	0
FOUNDATION 58	Y12	0	24	2100	34	2000	0	0	0	0	0	0
FOUNDATION 59	Y12	0	48	7120	34	7000	0	0	0	0	0	0
FOUNDATION 60	Y12	0	52	2200	20	2200	0	0	0	0	0	0
FOUNDATION 61	Y10	0	54	2280	20	2255	0	0	0	0	0	0

REBAR FOUNDATION WEIGHT SUMMARY		
MEMBER NAME	TYPE	WEIGHT
FOUNDATION Y10		146 kg
FOUNDATION Y12		6900 kg
FOUNDATION Y16		539 kg
TOTAL		9285 kg



DRAWING NO.	REFERENCE
1	REFERENCE DRAWINGS
2	
3	
4	
5	
6	
7	
8	

NOTES

- DO NOT SCALE DRAWING - ONLY DIMENSIONS SHOWN TO BE USED
- THE CONTRACTOR SHALL VERIFY ALL CONDITIONS, DIMENSIONS AND LEVELS ON THE SITE AND NOTIFY THE NEC SUPERVISOR OF ANY VARIATIONS BEFORE CONSTRUCTION.

AECOM

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CONTRACTOR/CONSULTANT

TRANSNET CAPITAL PROJECTS

TRANSNET LTD (Pty) Ltd
TABLE BAY BUILDING, TYGERSBERG PARK
183 LYS KRIGE DRIVE, PLATTEKLOOF, 8001

TEL: 021 940 1999
FAX: 021 677 2455

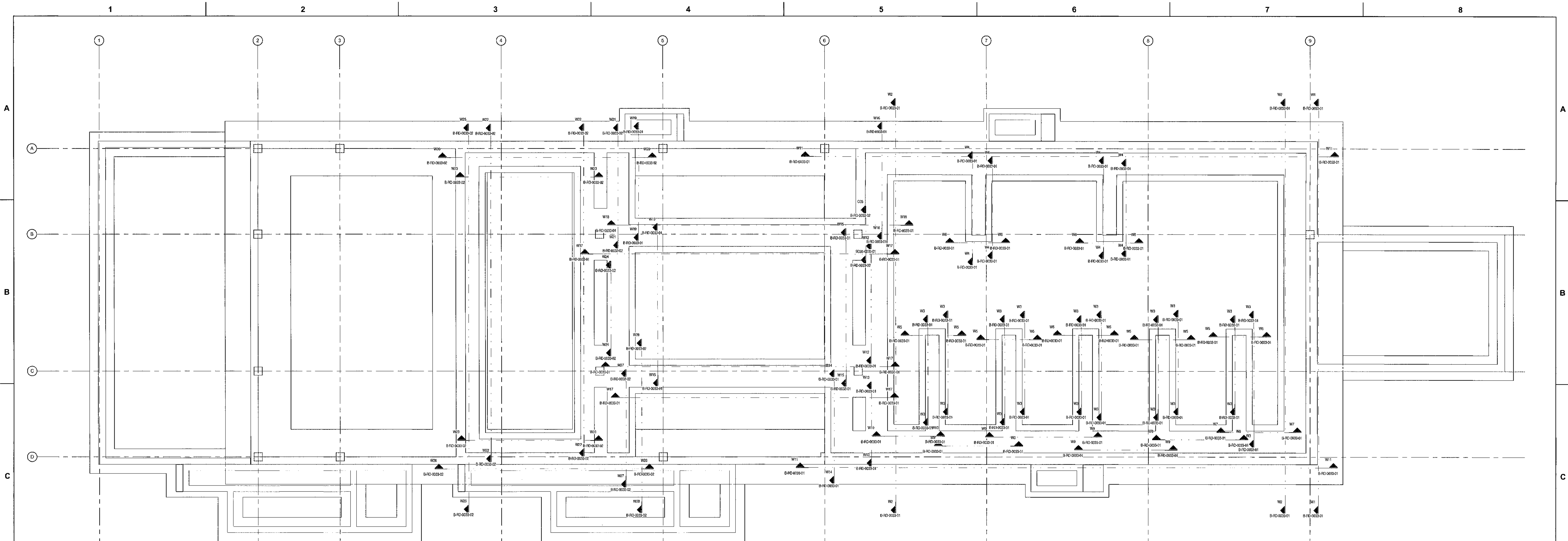
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IRON ORE TIPPLER 3 PROJECT
BULK POWER UPGRADE:
SUBSTATION N
FOUNDATION REBAR LAYOUT

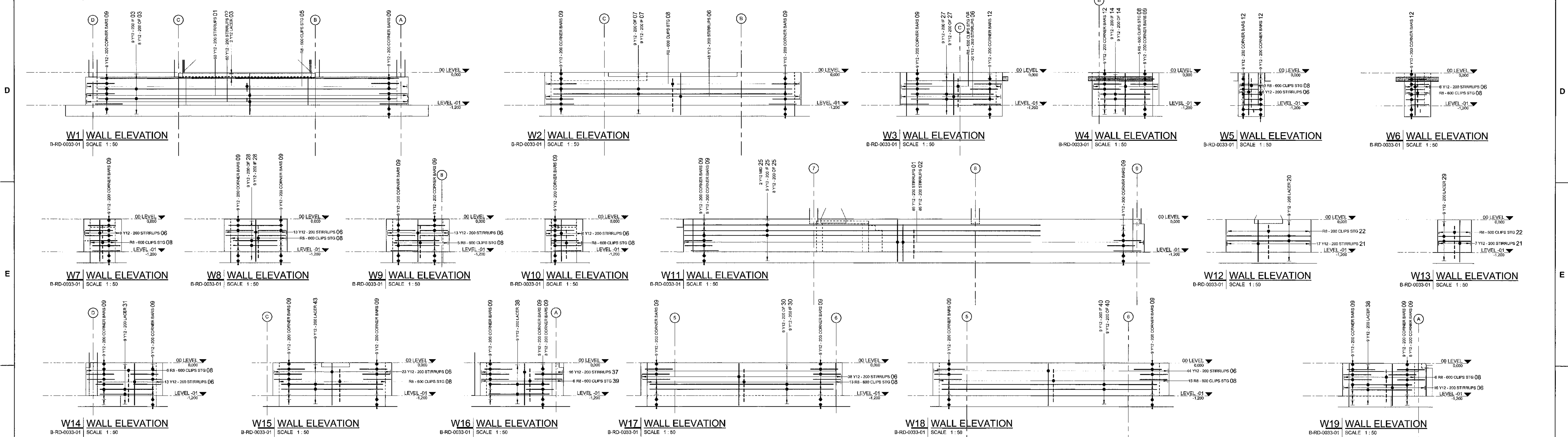
OPERATING DIVISIONS

PR. ENG./PR. TECH./PR. ARCH

SCALE: A 1:2 4:7 0:1 2:5 1:0 B R D 0:0 3:1 0:1 0:1 A E



TW TRENCH WALLS REBAR
B-RD-0033-01 SCALE 1:50



NOTES
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2. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS, DIMENSIONS AND LEVELS ON THE SITE AND NOTIFY THE NEC SUPERVISOR OF ANY VARIATIONS BEFORE CONSTRUCTION.

MASTER
22 JUN 2018
AECOM TRANSNET

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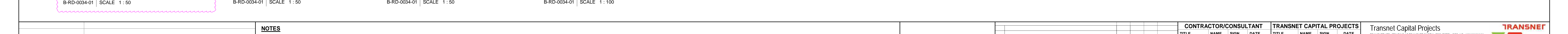
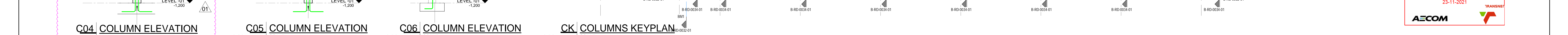
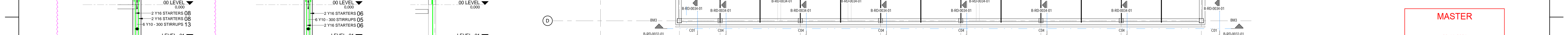
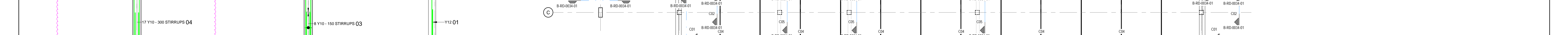
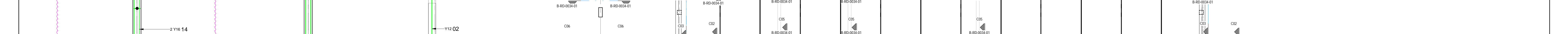
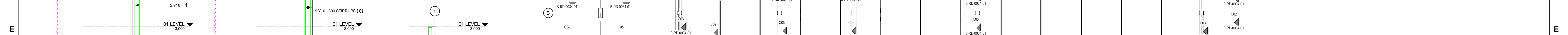
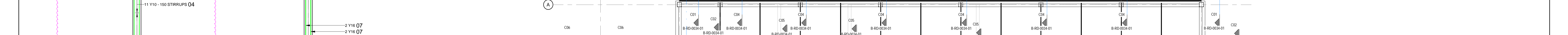
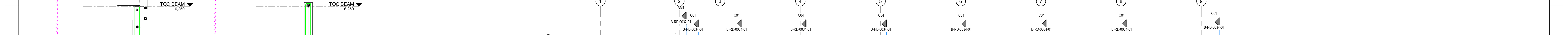
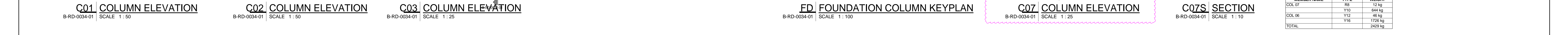
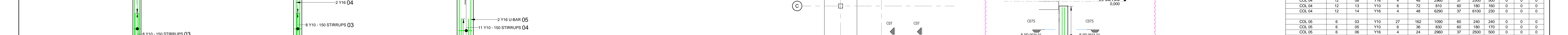
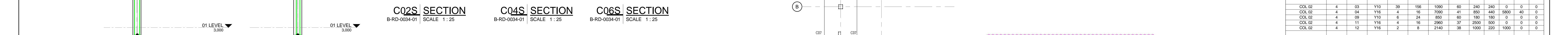
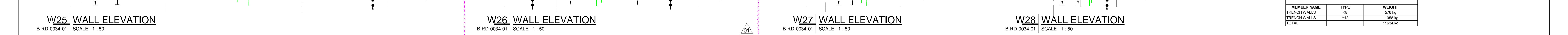
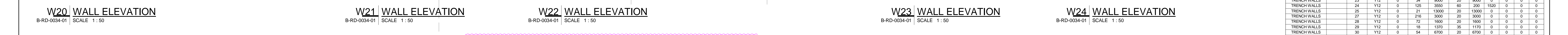
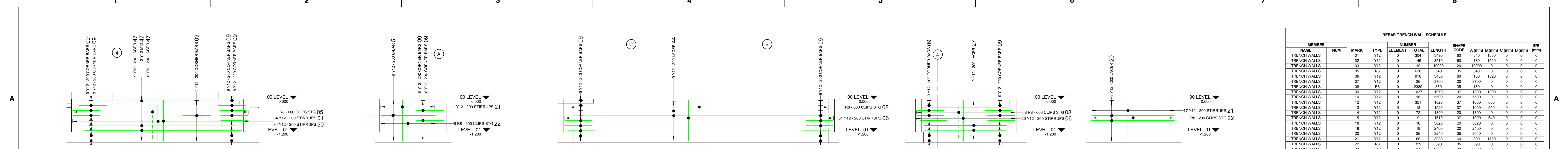
REVISIONS	
NO	DESCRIPTION

CONTRACTOR/CONSULTANT				TRANSNET CAPITAL PROJECTS			
TITLE	NAME	SIGN	DATE	TITLE	NAME	SIGN	DATE

Transnet Capital Projects
TRANSNET
IRON ORE TIPPLER 3 PROJECT
BULK POWER UPGRADE:
SUBSTATION N
TRENCH WALL REBAR LAYOUT - SHEET 1

PROJECT NUMBER	19247011	DIS	510	DIS	0033	SHEET	01	REV	00	BY	AE
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DRAWING NO.	REFERENCE



REBAR TRENCH WALL SCHEDULE														
MEMBER	NAME	NUM	MARK	TYPE	ELEMENT	TOTAL	LENGTH	SHAPE	CODE	A (mm)	B (mm)	C (mm)	D (mm)	ERR
TRENCH WALLS	01	Y12	0	304	3490	60	340	1350	0	0	0	0	0	0
TRENCH WALLS	02	Y12	0	145	2510	60	180	1520	0	0	0	0	0	0
TRENCH WALLS	03	Y12	0	19	10960	20	10960	0	0	0	0	0	0	0
TRENCH WALLS	05	R8	0	600	340	35	340	0	0	0	0	0	0	0
TRENCH WALLS	06	Y12	0	816	1460	60	1520	1520	0	0	0	0	0	0
TRENCH WALLS	07	Y12	0	38	8700	20	8700	0	0	0	0	0	0	0
TRENCH WALLS	08	R8	0	2380	350	35	150	0	0	0	0	0	0	0
TRENCH WALLS	09	Y12	0	1037	1970	37	1000	1000	0	0	0	0	0	0
TRENCH WALLS	10	Y12	0	18	5500	20	5500	0	0	0	0	0	0	0
TRENCH WALLS	12	Y12	0	351	3560	37	1000	660	0	0	0	0	0	0
TRENCH WALLS	13	Y12	0	18	1520	37	1000	590	0	0	0	0	0	0
TRENCH WALLS	14	Y12	0	72	1800	20	1800	0	0	0	0	0	0	0
TRENCH WALLS	15	Y12	0	9	1610	37	1000	640	0	0	0	0	0	0
TRENCH WALLS	16	Y12	0	18	3620	20	3620	0	0	0	0	0	0	0
TRENCH WALLS	19	Y12	0	18	6900	20	6900	0	0	0	0	0	0	0
TRENCH WALLS	20	Y12	0	38	3240	35	3040	0	0	0	0	0	0	0
TRENCH WALLS	21	Y12	0	65	3000	60	360	1520	0	0	0	0	0	0
TRENCH WALLS	22	R8	0	320	590	35	300	0	0	0	0	0	0	0
TRENCH WALLS	23	Y12	0	34	9000	20	9000	0	0	0	0	0	0	0
TRENCH WALLS	24	Y12	0	129	3560	37	1000	1520	0	0	0	0	0	0
TRENCH WALLS	25	Y12	0	21	13000	20	13000	0	0	0	0	0	0	0
TRENCH WALLS	27	Y12	0	216	3000	20	3000	0	0	0	0	0	0	0
TRENCH WALLS	28	Y12	0	72	1600	20	1600	0	0	0	0	0	0	0
TRENCH WALLS	29	Y12	0	18	1370	35	1170	0	0	0	0	0	0	0
TRENCH WALLS	30	Y12	0	54	6700	60	200	1520	0	0	0	0	0	0
TRENCH WALLS	31	Y12	0	18	1960	20	1950	0	0	0	0	0	0	0
TRENCH WALLS	32	Y12	0	9	1070	37	1000	3000	0	0	0	0	0	0
TRENCH WALLS	37	Y12	0	76	3690	60	270	1520	0	0	0	0	0	0
TRENCH WALLS	38	Y12	0	36	2200	20	2200	0	0	0	0	0	0	0
TRENCH WALLS	39	R8	0	162	470	35	270	0	0	0	0	0	0	0
TRENCH WALLS	40	Y12	0	18	7850	20	7845	0	0	0	0	0	0	0
TRENCH WALLS	43	Y12	0	38	3700	20	3700	0	0	0	0	0	0	0
TRENCH WALLS	44	Y12	0	36	9000	20	9000	0	0	0	0	0	0	0
TRENCH WALLS	46	R8	0	2	6480	20	6480	0	0	0	0	0	0	0
TRENCH WALLS	47	Y12	0	18	6900	20	6900	0	0	0	0	0	0	0
TRENCH WALLS	48	Y12	0	18	2000	20	2000	0	0	0	0	0	0	0
TRENCH WALLS	49	Y12	0	48	2900	38	2900	2900	0	0	0	0	0	0
TRENCH WALLS	50	Y12	0	34	3610	60	1520	180	0	0	0	0	0	0
TRENCH WALLS	51	Y12	0	9	4310	38	2000	365	2000	0	0	0	0	0
TRENCH WALLS	52	Y12	0	18	10760	20	10760	0	0	0	0	0	0	0

REBAR TRENCH WALLS WEIGHT SUMMARY		
MEMBER NAME	TYPE	WEIGHT
TRENCH WALLS	R8	576 kg
TRENCH WALLS	Y12	11058 kg
TOTAL		11634 kg

REBAR COLUMN SCHEDULE														
MEMBER	NAME	NUM	MARK	TYPE	ELEMENT	TOTAL	LENGTH	SHAPE	CODE	A (mm)	B (mm)	C (mm)	D (mm)	ERR
COL 01	4	09	Y10	39	156	1000	60	240	240	0	0	0	0	0
COL 01	4	09	Y16	4	16	8190	41	655	625	6900	50	0	0	0
COL 01	4	12	Y16	6	24	4310	60	180	180	0	0	0	0	0
COL 01	4	13	Y16	2	8	2140	38	1000	220	1000	0	0	0	0
COL 02	4	03	Y10	39	156	1000	60	240	240	0	0	0	0	0
COL 02	4	09	Y16	4	16	7990	41	650	440	5900	40	0	0	0
COL 02	4	11	Y16	4	16	2960	37	2500	500	0	0	0	0	0
COL 02	4	12	Y16	2	8	2140	38	1000	220	1000	0	0	0	0
COL 03	2	02	Y10	6	12	850	60	180	180	0	0	0	0	0
COL 03	2	03	Y16	4	8	1810	37	1350	500	0	0	0	0	0
COL 03	2	04	Y10	11	22	1090	60	240	240	0	0	0	0	0
COL 03	2	05	Y16	2	4	2740	38	1300	220	1300	0	0	0	0
COL 04	12	04	Y10	28	336	1000	60	240	240	0	0	0	0	0
COL 04	12	08	Y16	4	48	2960	37	2500	500	0	0	0	0	0
COL 04	12	13	Y10	6	72	810	60	180	180	0	0	0	0	0
COL 04	12	14	Y16	4	48	6290	37	8100	220	0	0	0	0	0
COL 05	6	03	Y10	27	162	1000	60	240	240	0	0	0	0	0
COL 05	6	05	Y10	6	36	530	60	180	170	0	0	0	0	0
COL 05	6	06	Y16	4	24	2960	37	2500	500	0	0	0	0	0
COL 05	6	07	Y16	4	24	6390	34	6260	0	0	0	0	0	0
COL 06	3	01	Y12	3	9	2770	37	300	2500	0	0	0	0	0
COL 06	3	02	Y12	3	9	3040	34	2840	0	0	0	0	0	0
COL 07	4	01	R8	7	28	1100	60	90	380	0	0	0	0	0
COL 07	4	02	Y16	4	16	1660	37	300	1400	0	0	0	0	0

REBAR COLUMNS WEIGHT SUMMARY		
MEMBER NAME	TYPE	WEIGHT
COL 07	R8	12 kg
COL 06	Y12	48 kg
COL 05	Y16	1720 kg
TOTAL		2420 kg

DRAWING NO.	REFERENCE
1	REFERENCE DRAWINGS

NOTES

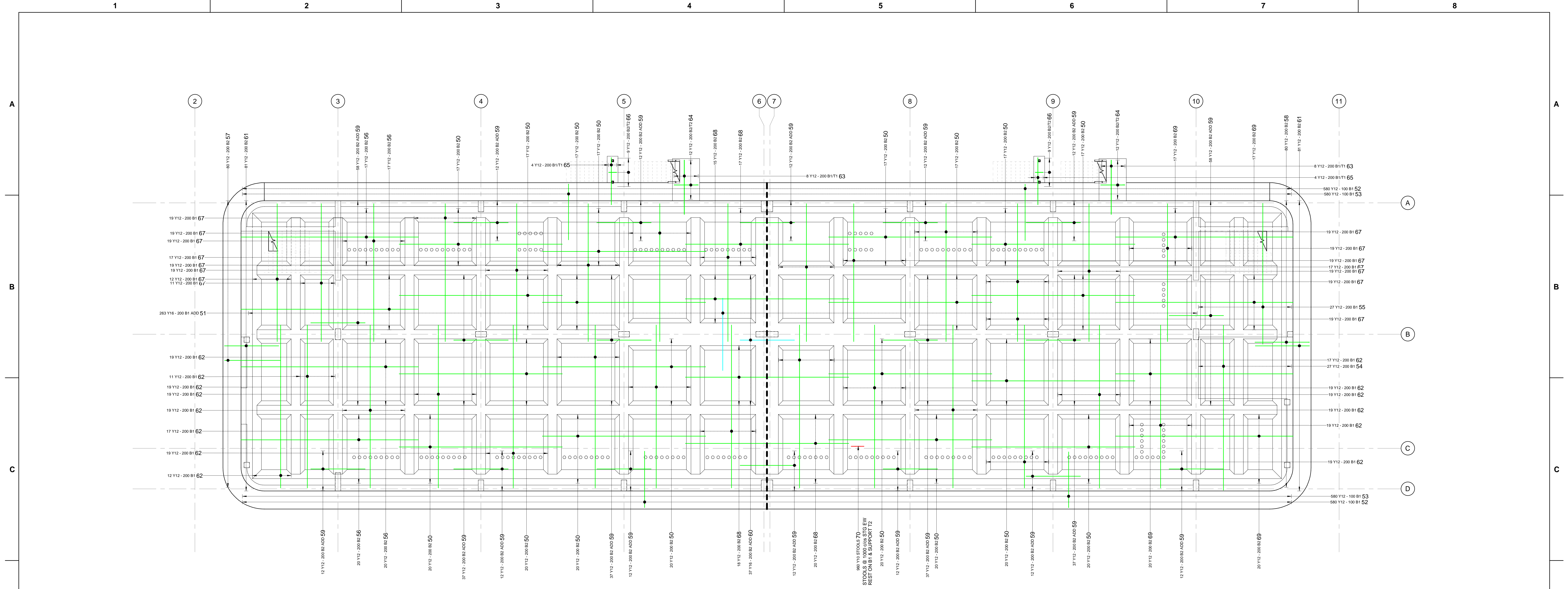
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AECOM

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REG. No. 1966/006628/07

CONTRACTOR/CONSULTANT		TRANSNET CAPITAL PROJECTS	
TITLE	NAME	TITLE	NAME
DRAWN	A.H.		



00 LEVEL RAFT SLAB BOT REBAR
SCALE: 1:75

REBAR RAFT SLAB BOT SCHEDULE												
MEMBER	NUM	MARK	TYPE	ELEMENT	TOTAL	LENGTH	SHAPE CODE	A (mm)	B (mm)	C (mm)	D (mm)	EUR
RAFT SLAB BOT	1	50	Y12	206	206	9000	20	9000	0	0	0	0
RAFT SLAB BOT	1	51	Y16	263	263	3990	20	3990	0	0	0	0
RAFT SLAB BOT	1	52	Y12	1160	1160	3440	42	3550	800	1560	620	0
RAFT SLAB BOT	1	53	Y12	1160	1160	3440	48	2200	800	390	90	0
RAFT SLAB BOT	1	54	Y12	27	27	6000	20	6000	0	0	0	0
RAFT SLAB BOT	1	55	Y12	27	27	7760	20	7760	0	0	0	0
RAFT SLAB BOT	1	56	Y12	74	74	9800	20	9800	0	0	0	0
RAFT SLAB BOT	1	57	Y12	80	80	3410	42	1020	840	1470	690	0
RAFT SLAB BOT	1	58	Y12	80	80	3300	42	1020	730	1470	520	0
RAFT SLAB BOT	1	59	Y12	408	408	3000	20	3000	0	0	0	0
RAFT SLAB BOT	1	60	Y16	37	37	3000	20	3000	0	0	0	0
RAFT SLAB BOT	1	61	Y12	162	162	3330	48	2000	1000	360	100	0
RAFT SLAB BOT	1	62	Y12	247	247	6990	20	6990	0	0	0	0
RAFT SLAB BOT	1	63	Y12	16	16	6110	38	3000	175	3000	0	0
RAFT SLAB BOT	1	64	Y12	24	24	3170	74	1340	140	0	0	0
RAFT SLAB BOT	1	65	Y12	8	8	5260	38	2600	125	2600	0	0
RAFT SLAB BOT	1	66	Y12	19	19	1280	74	450	100	0	0	0
RAFT SLAB BOT	1	67	Y12	247	247	7000	20	7000	0	0	0	0
RAFT SLAB BOT	1	68	Y12	70	70	9020	20	9015	0	0	0	0
RAFT SLAB BOT	1	69	Y12	74	74	9790	20	9785	0	0	0	0
RAFT SLAB BOT	1	70	Y10	960	960	960	63	250	90	250	250	0

REBAR RAFT SLAB BOT WEIGHT SUMMARY		
MEMBER NAME	TYPE	WEIGHT
RAFT SLAB BOT	Y12	509 kg
RAFT SLAB BOT	Y12	17564 kg
RAFT SLAB BOT	Y16	1631 kg
TOTAL		19935 kg



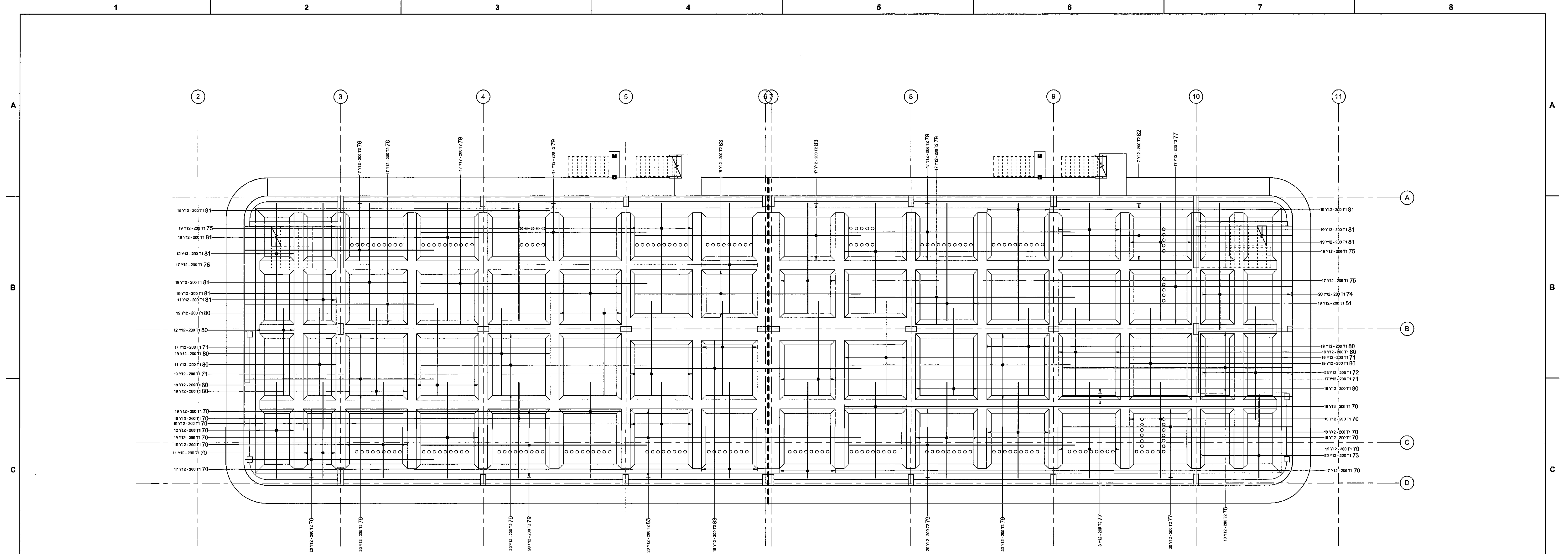
- NOTES**
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AECOM

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REG. No. 1966/006628/07

CONTRACTOR/CONSULTANT				TRANSNET CAPITAL PROJECTS																							
TITLE	NAME	SIGN	DATE	TITLE	NAME	SIGN	DATE																				
DRAWN	AH	[Signature]	21 08 21																								
CHECKED	C.K	[Signature]	21 08 21																								
DESIGNED	C.K	[Signature]	21 08 21																								
CHECKED	SWM	[Signature]	21 08 21																								
OPERATING DIVISIONS				PR. ENG./PR. TECH./PR. ARCH																							
TITLE	NAME	SIGN	DATE	NAME	SIGN	DATE																					
				PR. ENG.	SW MARAIS	[Signature]	21 08 21																				
<small>01: SCHEDULE REVISED AS PERMITTED BY RESPONSE <small>02: ISSUED FOR CONSTRUCTION</small></small>				<small>01: SCHEDULE REVISED AS PERMITTED BY RESPONSE <small>02: ISSUED FOR CONSTRUCTION</small></small>																							
REVISIONS				REVISIONS																							
NO	DESCRIPTION	BY	CHKD/APPD DATE	NO	DESCRIPTION	BY	CHKD/APPD DATE																				
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<table border="1"> <tr> <th>PROJECT NUMBER</th> <th>DD</th> <th>FBS</th> <th>DIS</th> <th>TYPE</th> <th>DRAWING NO.</th> <th>SHEET</th> <th>REV</th> <th>ID</th> </tr> <tr> <td>19</td> <td>2</td> <td>4</td> <td>7</td> <td>0</td> <td>1</td> <td>2</td> <td>5</td> <td>10</td> </tr> </table>				PROJECT NUMBER	DD	FBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID	19	2	4	7	0	1	2	5	10	<table border="1"> <tr> <th>SCALE</th> <th>AS SHOWN</th> </tr> </table>				SCALE	AS SHOWN
PROJECT NUMBER	DD	FBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID																			
19	2	4	7	0	1	2	5	10																			
SCALE	AS SHOWN																										



00 LEVEL RAFT SLAB TOP REBAR
SCALE 1:75

REBAR RAFT SLAB TOP SCHEDULE										
MEMBER	NUM	MARK	TYPE	NUMBERS	ELEMENT	TOTAL	LENGTH	SHAPE	SPACING	ERL
								A (mm)	B (mm)	C (mm)
RAFT SLAB TOP	70	Y12	0	247	5470	37	5300	200	0	0
RAFT SLAB TOP	71	Y12	0	72	5200	20	5200	0	0	0
RAFT SLAB TOP	72	Y12	0	38	6240	43	1000	500	3200	50
RAFT SLAB TOP	73	Y12	0	28	5040	38	250	4800	250	0
RAFT SLAB TOP	74	Y12	0	28	7480	38	250	7130	250	0
RAFT SLAB TOP	75	Y12	0	72	6200	37	6050	200	0	0
RAFT SLAB TOP	76	Y12	0	74	10400	20	10400	0	0	0
RAFT SLAB TOP	77	Y12	0	40	15700	20	15700	0	0	0
RAFT SLAB TOP	78	Y12	0	18	12800	41	700	590	3180	0
RAFT SLAB TOP	79	Y12	0	148	12500	20	12500	0	0	0
RAFT SLAB TOP	80	Y12	0	176	4800	20	4800	0	0	0
RAFT SLAB TOP	81	Y12	0	176	6070	27	6000	200	0	0
RAFT SLAB TOP	82	Y12	0	17	12800	20	12800	0	0	0
RAFT SLAB TOP	83	Y12	0	70	12800	20	12815	0	0	0

REBAR RAFT SLAB TOP WEIGHT SUMMARY			
MEMBER NAME	TYPE	WEIGHT	
RAFT SLAB TOP	Y12	8600 kg	
TOTAL		8600 kg	

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REG. No. 19695/06628/07

CONTRACTOR/CONSULTANT				TRANSNET CAPITAL PROJECTS			
TITLE	NAME	SIGN	DATE	TITLE	NAME	SIGN	DATE
				DRAWN	AH		27 05 18
				CHECKED	CK		27 05 18
				DESIGNED	CK		27 05 18
				CHECKED	SWM		27 05 18

OPERATING DIVISIONS			
TITLE	NAME	SIGN	DATE

REVISIONS			
NO	DESCRIPTION	BY	CHKD/APPR/ DATE
03	ISSUED FOR CONSTRUCTION	AH	CK SWM 27-05-18

TRANSNET CAPITAL PROJECTS
TRANSNET LTD TRADING AS TRANSNET CAPITAL PROJECTS, REG. NO. 19695/06628/07
TABLE BAY BUILDING, TYGERBERG PARK, TYGER WATERFRONT, CARL CRONJE DRIVE, PLATTENKOP, CAPE TOWN 7801
TEL: 021 946 1800
FAX: 021 946 1805

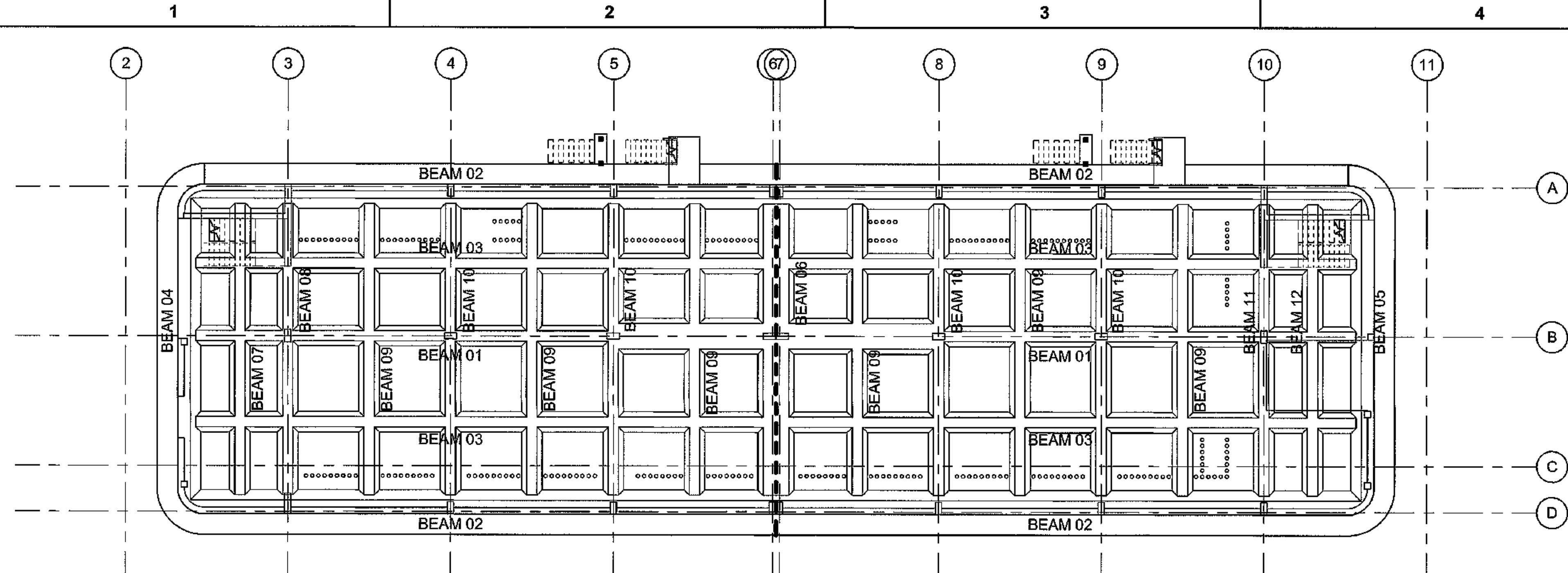
PORT OF SALDANHA

**IRON ORE TIPPLER 3 PROJECT
BULK POWER UPGRADE:
MAIN INTAKE REBAR LAYOUT - SHEET 2**

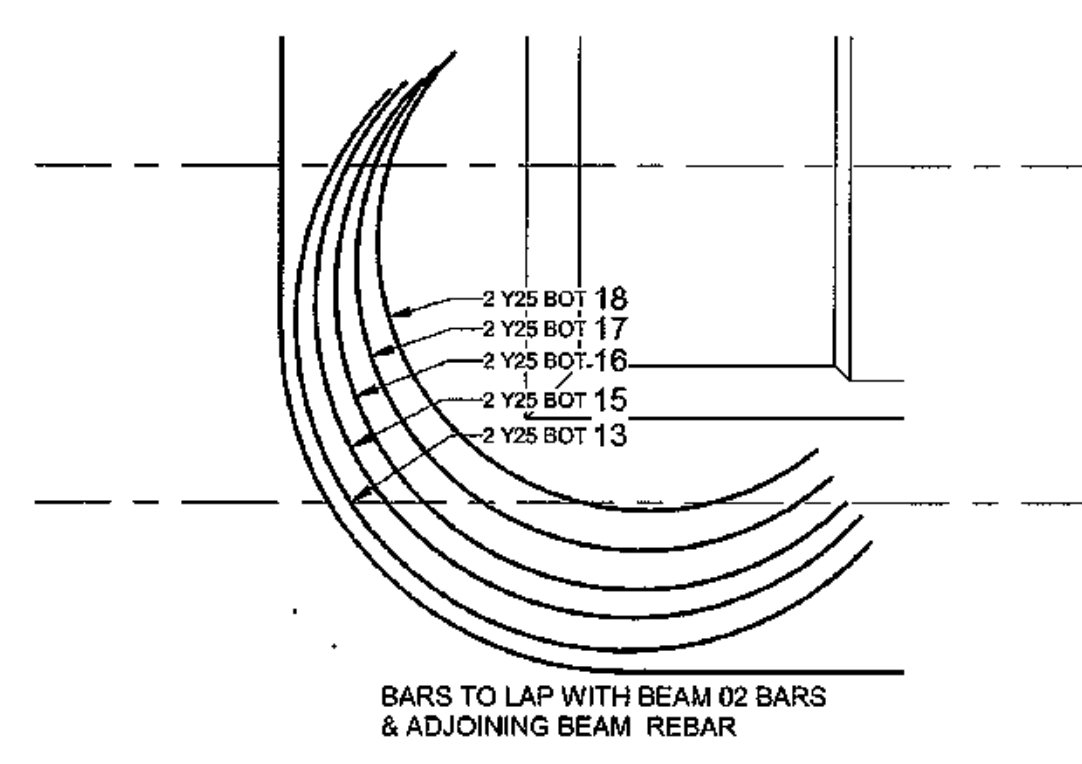
MASTER
27 JUN 2018

PROJECT NUMBER: 20080165
SCALE: AS SHOWN

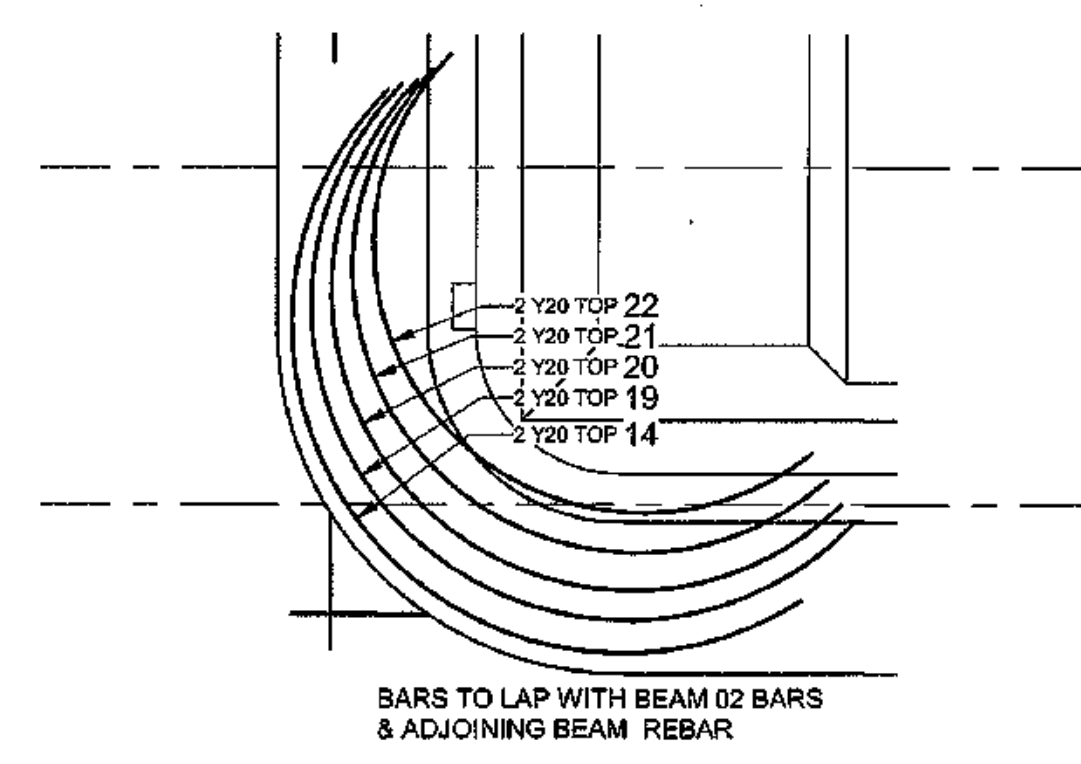
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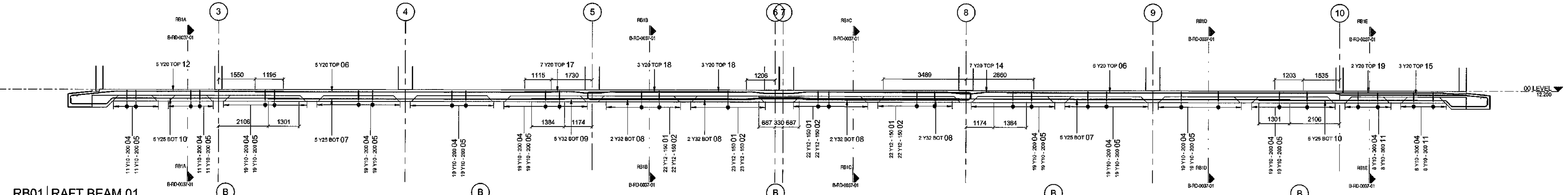
00 LEVEL RAFT BEAM REBAR KEYPLAN
SCALE 1:150



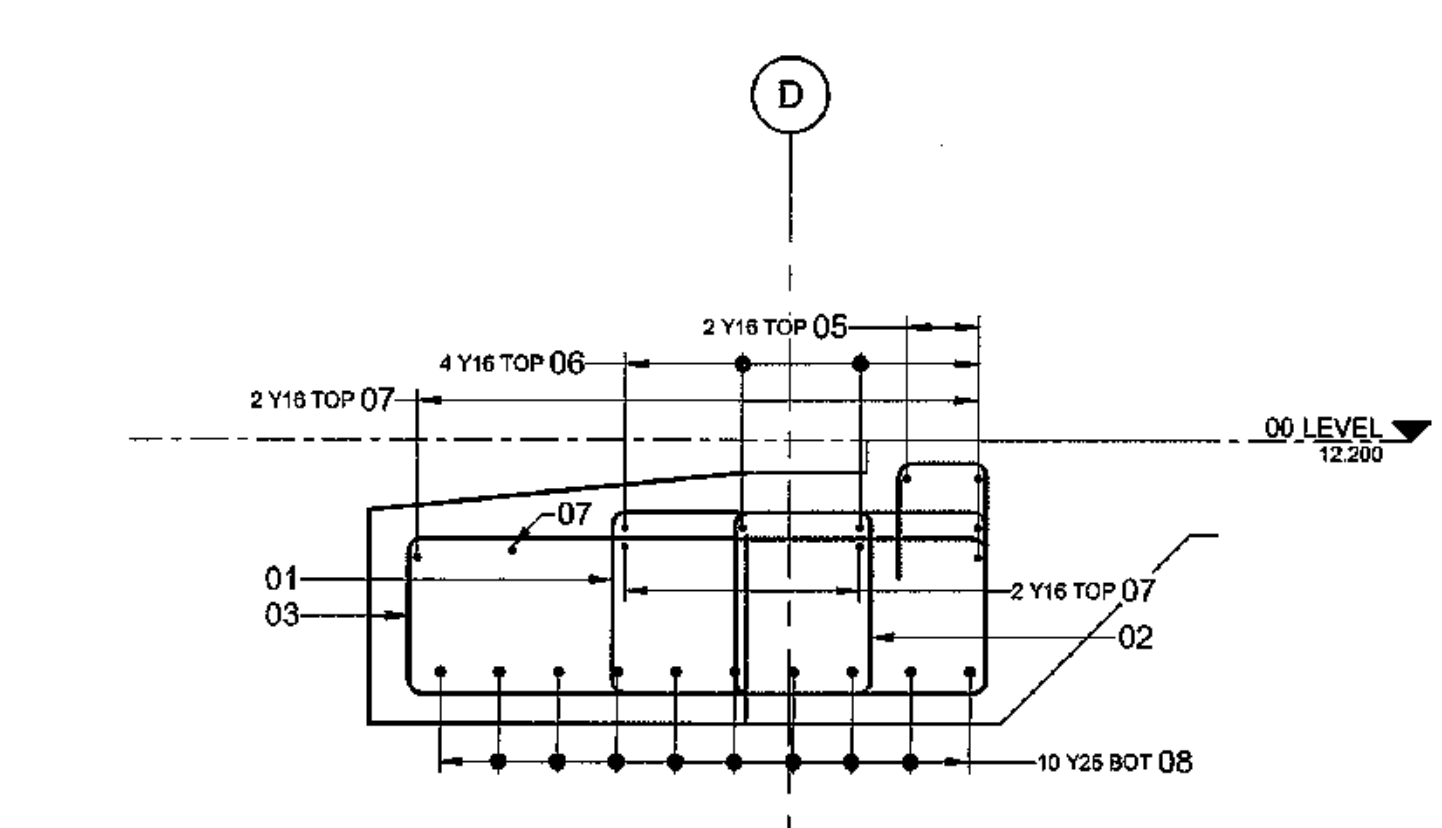
RB2-B RAFT BEAM 02 CORNER BARS BOT
SCALE 1:50



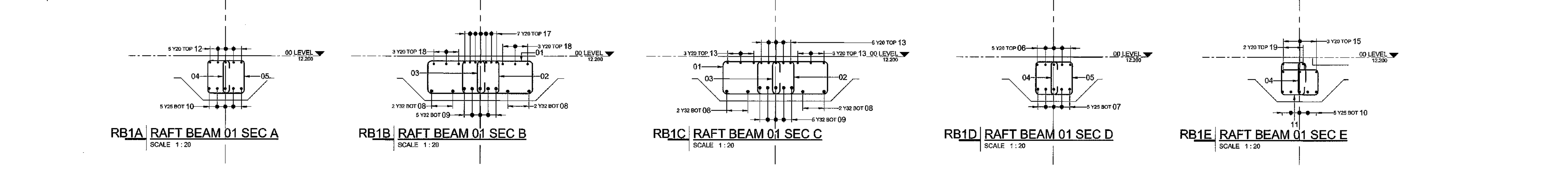
RB2-T RAFT BEAM 02 CORNER BARS TOP
SCALE 1:50



RB01 RAFT BEAM 01
SCALE 1:75



RB2A RAFT BEAM 02 SEC A
SCALE 1:20



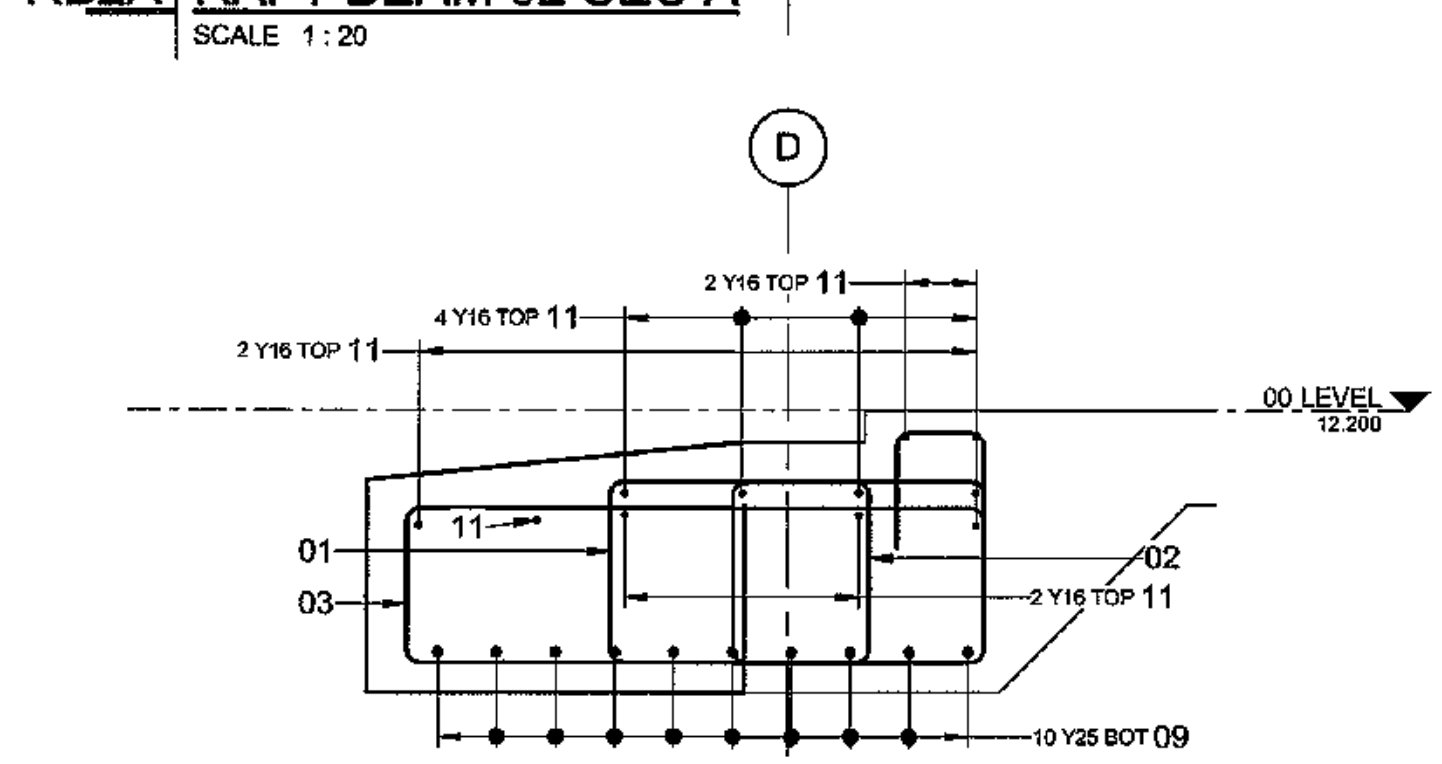
RB1A RAFT BEAM 01 SEC A
SCALE 1:20

RB1B RAFT BEAM 01 SEC B
SCALE 1:20

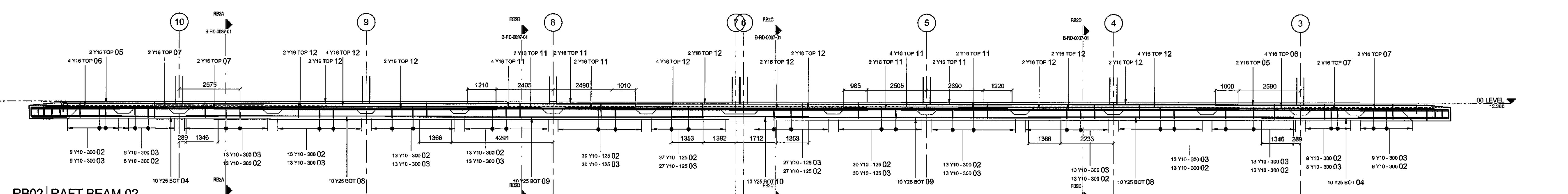
RB1C RAFT BEAM 01 SEC C
SCALE 1:20

RB1D RAFT BEAM 01 SEC D
SCALE 1:20

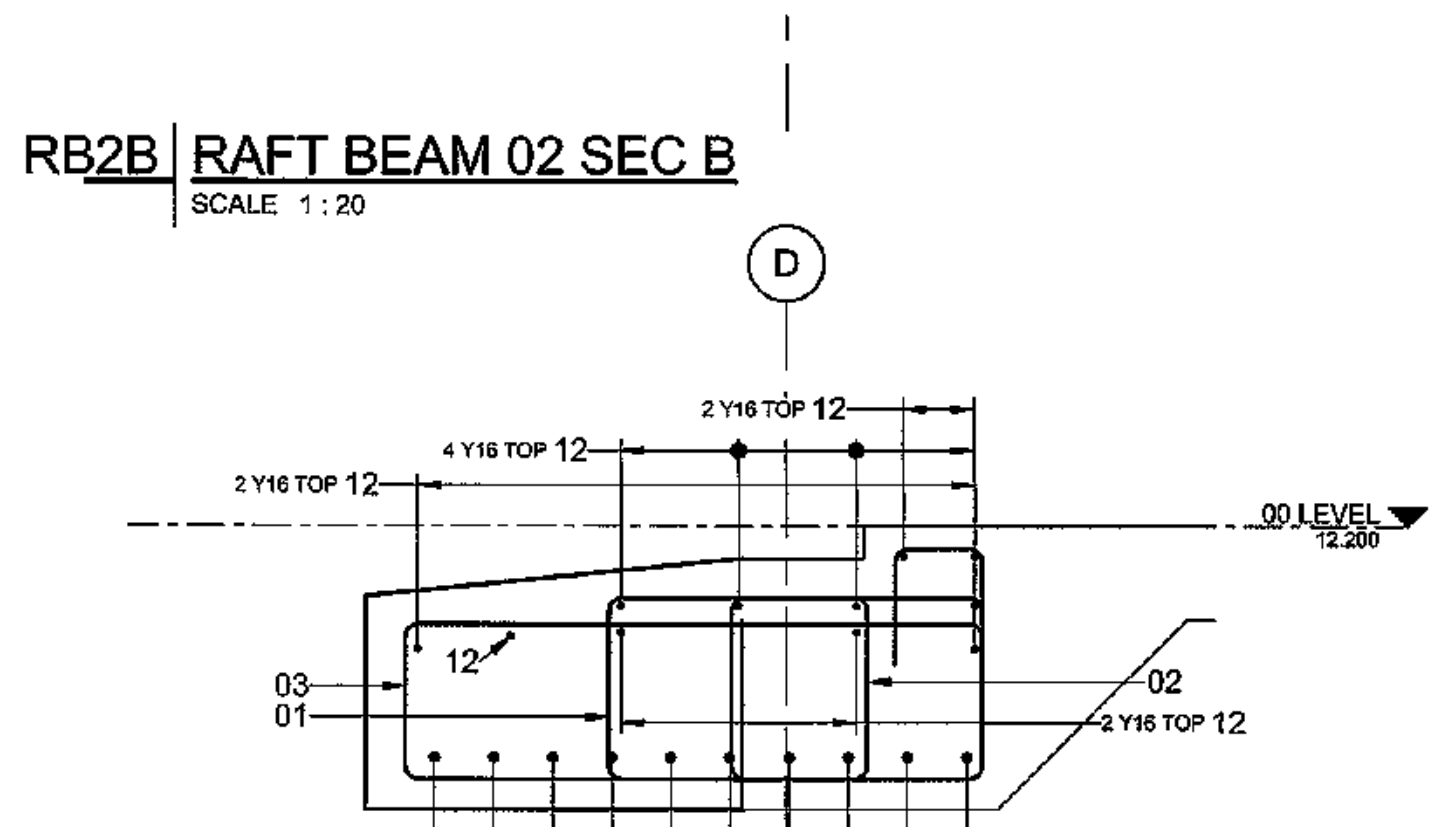
RB1E RAFT BEAM 01 SEC E
SCALE 1:20



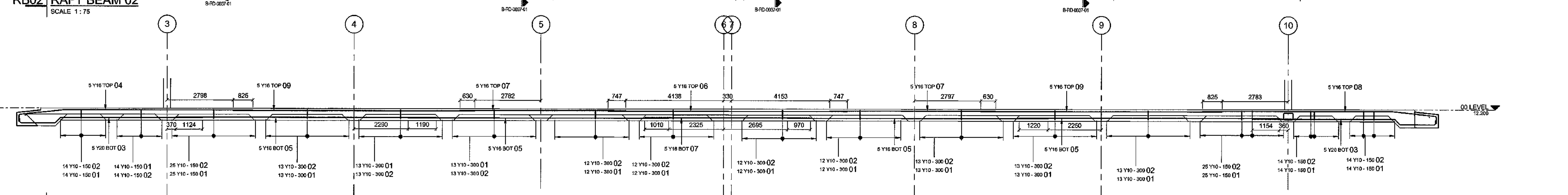
RB2B RAFT BEAM 02 SEC B
SCALE 1:20



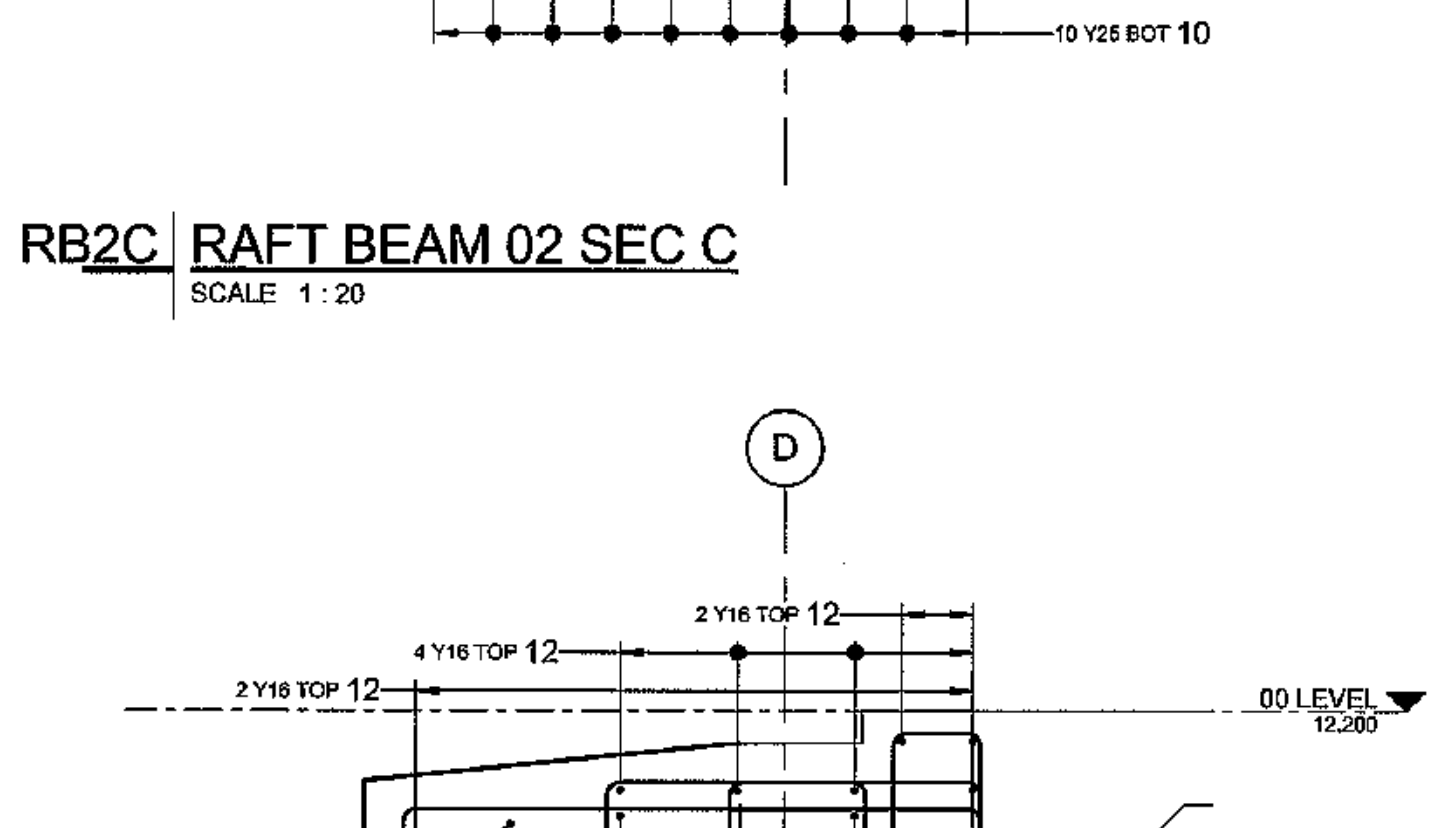
RB02 RAFT BEAM 02
SCALE 1:75



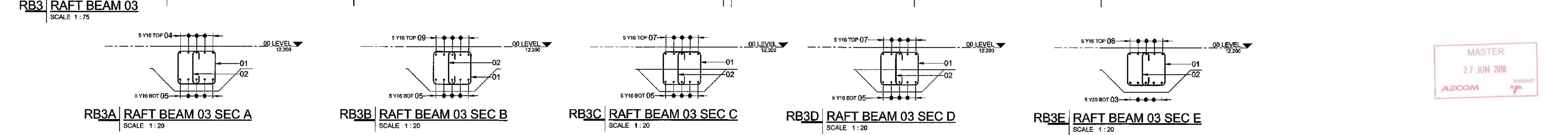
RB2C RAFT BEAM 02 SEC C
SCALE 1:20



RB03 RAFT BEAM 03
SCALE 1:75



RB2D RAFT BEAM 02 SEC D
SCALE 1:20



RB3A RAFT BEAM 03 SEC A
SCALE 1:20

RB3B RAFT BEAM 03 SEC B
SCALE 1:20

RB3C RAFT BEAM 03 SEC C
SCALE 1:20

RB3D RAFT BEAM 03 SEC D
SCALE 1:20

RB3E RAFT BEAM 03 SEC E
SCALE 1:20

MASTER
27 JUN 2018
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CONTRACTOR/CONSULTANT		TRANSNET CAPITAL PROJECTS	
TITLE	NAME	SIGN	DATE
DRAWN	AH	27	06
CHECKED	CK	27	06
DESIGNED	CK	27	06
CHECKED	SWM	27	06

OPERATING DIVISIONS		PRE-ENGR/PR.TECH./PR.ARCH	
TITLE	NAME	SIGN	DATE
NO	DESCRIPTION	BY	CHKD/APP/ DATE

CONTRACTOR/CONSULTANT		TRANSNET CAPITAL PROJECTS	
TITLE	NAME	SIGN	DATE
DRAWN	AH	27	06
CHECKED	CK	27	06
DESIGNED	CK	27	06
CHECKED	SWM	27	06

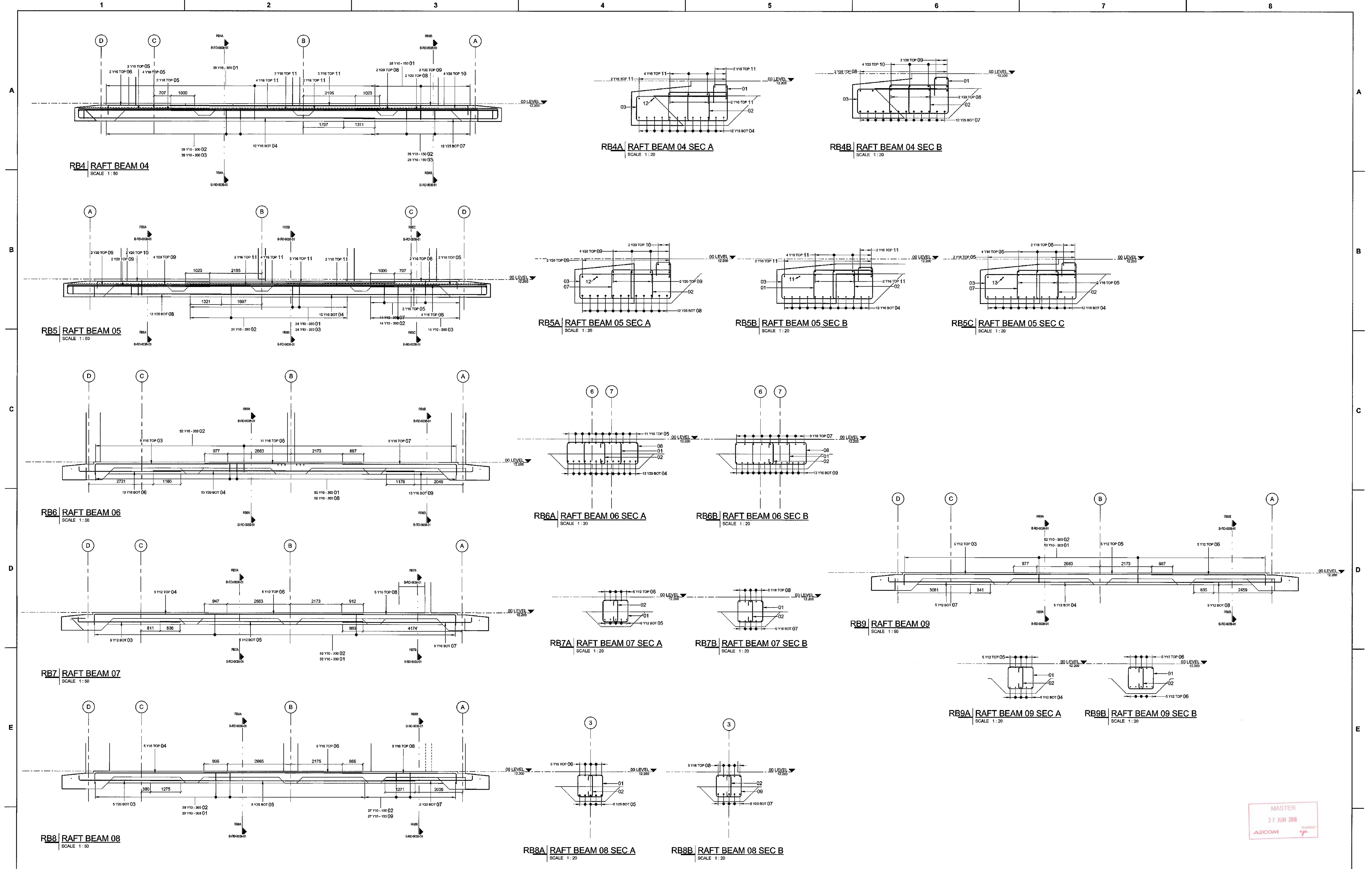
Transnet Capital Projects
TRANSNET 125 DRIVE AT TRANSNET CAPITAL PROJECTS - 104 NO. WINDHOLM
TABLE BAY BUILDING, TYGERSBERG PARK,
162 073 VORDE DRIVE, FLATTERLOOP,
8001
TEL: 031 645 1000
FAX: 086 677 2465

PORT OF SALDANHA

**IRON ORE TIPPLER 3 PROJECT
BULK POWER UPGRADE:
MAIN INTAKE BEAM SUBSTATION
LEVEL 00 - RAFT BEAM REBAR SHEET 1**

PROJECT NUMBER	00	FBS	03	TYPE	DRAWING NO	SHEET	REV	ID
11924701	2	5	1	0	0	3	7	01

DRAWING NO.	REFERENCE
1	REFERENCE DRAWINGS



DRAWING NO.	REFERENCE
1	REFERENCE DRAWINGS

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TYGERS WATERFRONT
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FAX: +27 (0)21 950 7502
REG. NO. 1996/006628/07

NO	ISSUED FOR	DESCRIPTION	BY	CHKD	DATE
05	ISSUED FOR CONSTRUCTION		AH	CK	27-06-18

CONTRACTOR/CONSULTANT				TRANSNET CAPITAL PROJECTS			
TITLE	NAME	SIGN	DATE	TITLE	NAME	SIGN	DATE
				DRAWN	AH		27/06/18
				CHECKED	CK		27/06/18
				DESIGNED	CK		27/06/18
				CHECKED	SWM		27/06/18

TRANSNET

TRANSNET CAPITAL PROJECTS
TABLE BAY BUILDING, TYGERSBURG PARK,
150 VON STROBE DRIVE, FLETTERFLOOF,
6001

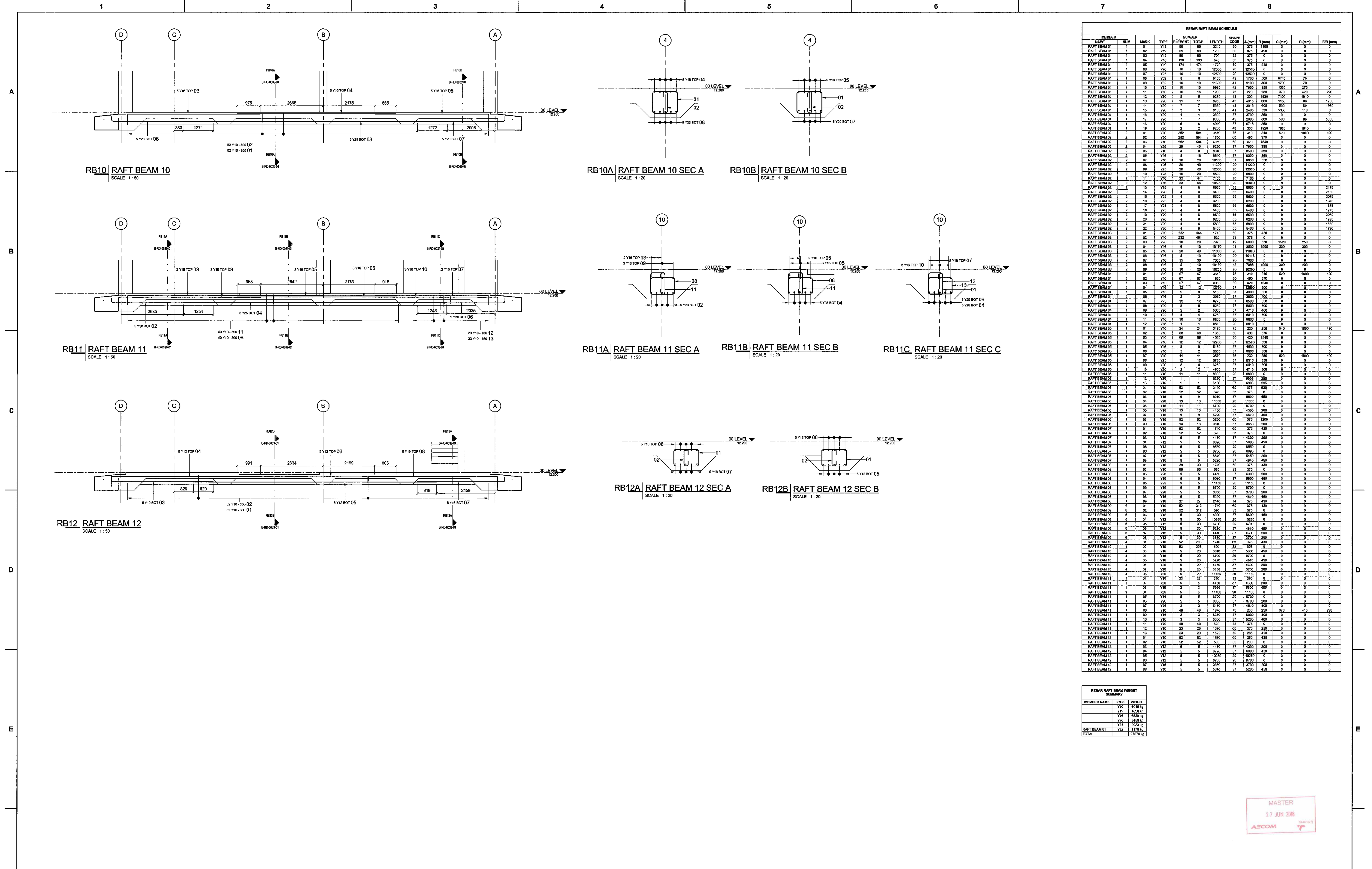
TEL: 021 953 1930
FAX: 021 957 2455

PORT OF SALDANHA

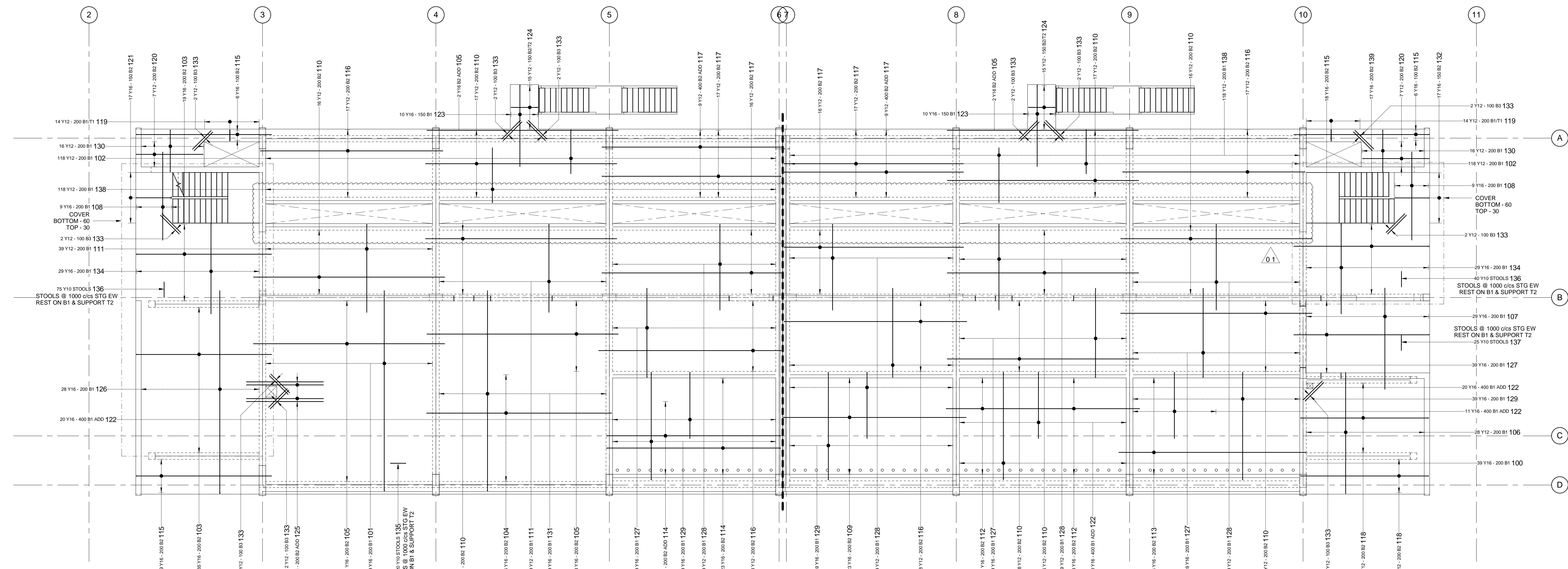
IRON ORE TIPPLER 3 PROJECT
BULK POWER UPGRADE:
MAIN INTAKE SUBSTATION
LEVEL 00 - RAFT BEAM REBAR SHEET 2

PROJECT NUMBER: 118247011
CD: 5110
SIS: 8
RTO: 01038
SHEET: 011
REV: 01
ID: AE

MASTER
27 JUN 2018
AECOM



MEMBER	NUM	MARK	TYPE	ELEMENT	TOTAL	LENGTH	Q (mm)	A (mm)	B (mm)	C (mm)	D (mm)	BAR (mm)
RAFT BEAM 01	1	01	Y12	09	09	3200	60	375	1700	0	0	0
RAFT BEAM 01	1	02	Y12	09	09	1700	60	375	1700	0	0	0
RAFT BEAM 01	1	03	Y12	09	09	700	33	375	0	0	0	0
RAFT BEAM 01	1	04	Y12	09	09	1000	33	375	0	0	0	0
RAFT BEAM 01	1	05	Y10	174	174	1720	60	375	430	0	0	0
RAFT BEAM 01	1	06	Y10	10	10	12500	0	0	0	0	0	0
RAFT BEAM 01	1	07	Y10	10	10	12500	0	0	0	0	0	0
RAFT BEAM 01	1	08	Y12	8	8	9160	42	1700	500	6740	70	0
RAFT BEAM 01	1	09	Y12	41	41	11500	41	600	600	1700	70	0
RAFT BEAM 01	1	10	Y25	10	10	9930	42	7900	330	1530	270	0
RAFT BEAM 01	1	11	Y25	10	10	180	21	180	21	180	21	0
RAFT BEAM 01	1	12	Y25	5	5	5290	48	300	1530	370	180	0
RAFT BEAM 01	1	13	Y25	11	11	8960	43	4915	600	1530	60	1700
RAFT BEAM 01	1	14	Y25	7	7	7460	43	2915	600	300	60	1800
RAFT BEAM 01	1	15	Y25	3	3	8100	41	2435	330	5300	110	0
RAFT BEAM 01	1	16	Y25	4	4	3960	37	3000	400	0	0	0
RAFT BEAM 01	1	17	Y25	4	4	3960	37	3000	400	0	0	0
RAFT BEAM 01	1	18	Y25	6	6	6930	37	6715	250	0	0	0
RAFT BEAM 01	1	19	Y25	2	2	6260	37	3000	300	1800	10	0
RAFT BEAM 02	2	01	Y10	282	904	3640	78	310	243	820	1000	490
RAFT BEAM 02	2	02	Y10	282	904	1850	60	480	370	0	0	0
RAFT BEAM 02	2	03	Y10	282	904	4050	60	430	1500	0	0	0
RAFT BEAM 02	2	04	Y25	20	40	8220	37	7900	380	0	0	0
RAFT BEAM 02	2	05	Y18	4	8	8480	37	6500	380	0	0	0
RAFT BEAM 02	2	06	Y18	8	16	6810	37	6300	380	0	0	0
RAFT BEAM 02	2	07	Y18	20	20	10160	37	6300	380	0	0	0
RAFT BEAM 02	2	08	Y25	20	40	11500	20	11500	0	0	0	0
RAFT BEAM 02	2	09	Y25	20	40	12000	20	12000	0	0	0	0
RAFT BEAM 02	2	10	Y25	20	40	9900	20	9900	0	0	0	0
RAFT BEAM 02	2	11	Y18	22	44	7100	20	7100	0	0	0	0
RAFT BEAM 02	2	12	Y18	22	44	10000	20	10000	0	0	0	0
RAFT BEAM 02	2	13	Y18	4	8	6900	40	6900	0	0	0	2170
RAFT BEAM 02	2	14	Y20	4	8	6100	68	6100	0	0	0	2180
RAFT BEAM 02	2	15	Y20	4	8	6100	68	6100	0	0	0	2075
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RAFT BEAM 02	2	17	Y20	4	8	6300	65	6300	0	0	0	1875
RAFT BEAM 02	2	18	Y20	4	8	6500	65	6500	0	0	0	1775
RAFT BEAM 02	2	19	Y20	4	8	6500	65	6500	0	0	0	2080
RAFT BEAM 02	2	20	Y20	4	8	6300	65	6300	0	0	0	1900
RAFT BEAM 02	2	21	Y20	4	8	6300	65	6300	0	0	0	1850
RAFT BEAM 02	2	22	Y20	4	8	6400	65	6400	0	0	0	1780
RAFT BEAM 03	3	01	Y10	232	464	1740	60	375	1700	0	0	0
RAFT BEAM 03	3	02	Y10	232	464	620	33	375	0	0	0	0
RAFT BEAM 03	3	03	Y25	10	20	7910	40	6300	380	1500	280	0
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RAFT BEAM 03	3	05	Y18	20	40	11000	20	11000	0	0	0	0
RAFT BEAM 03	3	06	Y18	20	40	10110	20	10110	0	0	0	0
RAFT BEAM 03	3	07	Y18	16	32	7000	20	7000	0	0	0	0
RAFT BEAM 03	3	08	Y18	16	32	10100	48	7300	1500	300	280	0
RAFT BEAM 03	3	09	Y18	10	20	10200	20	10200	0	0	0	0
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RAFT BEAM 04	1	02	Y10	67	67	4300	60	420	1540	0	0	0
RAFT BEAM 04	1	03	Y12	1210	1210	12500	0	0	0	0	0	0
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RAFT BEAM 04	1	07	Y18	2	4	2960	37	3000	400	0	0	0
RAFT BEAM 04	1	08	Y20	3	6	6200	37	6000	300	0	0	0
RAFT BEAM 04	1	09	Y20	3	6	6200	37	6000	300	0	0	0
RAFT BEAM 04	1	10	Y20	4	8	6200	37	6010	330	0	0	0
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RAFT BEAM 04	1	12	Y18	1	2	6910	20	6910	0	0	0	0
RAFT BEAM 05	1	01	Y10	24	24	3450	75	250	540	1000	490	0
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RAFT BEAM 05	1	04	Y10	12	12	10700	37	10600	300	0	0	0
RAFT BEAM 05	1	05	Y10	8	8	5160	37	4800	300	0	0	0
RAFT BEAM 05	1	06	Y10	2	4	2860	37	3000	300	0	0	0
RAFT BEAM 05	1	07	Y10	14	14	5310	37	5310	300	0	0	0
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RAFT BEAM 05	1	09	Y20	8	8	6260	37	6010	300	0	0	0
RAFT BEAM 05	1	10	Y20	2	4	4900	37	4710	300	0	0	0
RAFT BEAM 05	1	11	Y18	11	11	8000	20	8000	0	0	0	0
RAFT BEAM 05	1	12	Y18	1	2	6350	20	6350	280	0	0	0
RAFT BEAM 05	1	13	Y18	1	2	5100	37	4900	280	0	0	0
RAFT BEAM 06	1	01	Y10	52	52	2140	60	375	600	0	0	0
RAFT BEAM 06	1	02	Y18	9	18	6000	37	5800	300	0	0	0
RAFT BEAM 06	1	03	Y18	9	18	6000	37	5800	300	0	0	0
RAFT BEAM 06	1	04	Y18	11	11	6700	20	6700	0	0	0	0
RAFT BEAM 06	1	05	Y18	11	11	6700	20	6700	0	0	0	0
RAFT BEAM 06	1	06	Y18	13	13	4480	37	4300	200	0	0	0
RAFT BEAM 06	1	07	Y18	9	18	5200	37	4800	490	0	0	0
RAFT BEAM 06	1	08	Y18	52	52	3200	60	375	1000	0	0	0
RAFT BEAM 06	1	09	Y18	13	13	3810	37	3650	280	0	0	0
RAFT BEAM 07	1	01	Y10	52	52	1740	60	375	430	0	0	0
RAFT BEAM 07	1	02	Y10	52	52	600	33	375	0	0	0	0
RAFT BEAM 07	1	03	Y12	5	5	4470	37	4300	200	0	0	0
RAFT BEAM 07	1	04	Y12	5	5	6000	37	5800	450	0	0	0
RAFT BEAM 07	1	05	Y12	5	5	6500	20	6500	0	0	0	0
RAFT BEAM 07	1	06	Y12	5	5	6700	20	6695	0	0	0	0
RAFT BEAM 07	1	07	Y18	5	5	5810	37	5490	200	0	0	0
RAFT BEAM 07	1	08	Y18	5	5	5200	37	4800	490	0	0	0
RAFT BEAM 08	1	01	Y10	39	39	1740	60	375	430	0	0	0
RAFT BEAM 08	1	02	Y18	65	65	600	33	375	0	0	0	0
RAFT BEAM 08	1	03	Y20	5	5	4450	37	4300	200	0	0	0
RAFT BEAM 08	1	04	Y18	5	5	6910	37	6690	450	0	0	0
RAFT BEAM 08	1	05	Y18	5	5	11500	20	11500	0	0	0	0
RAFT BEAM 08	1	06	Y18	5	5	6700	20	6700	0	0	0	0
RAFT BEAM 08	1	07	Y18	5	5	6700	20	6700	0	0	0	0
RAFT BEAM 08	1	08	Y18	5	5	6200	37	4810	450	0	0	0
RAFT BEAM 08	1	09	Y18	27	27	2140	74	375	430	0	0	0
RAFT BEAM 08	1	10	Y18	52	52	1740	60	375	430	0	0	0
RAFT BEAM 09	6	01	Y20	5	5	3650	37	3700	200	0	0	0
RAFT BEAM 09	6	02	Y18	52	52	600	33	375	0	0	0	0
RAFT BEAM 09	6	03	Y12	5	5	6000	37	5800	400	0	0	0
RAFT BEAM 09	6	04	Y12	5	5	10040	20	10040	0	0	0	0
RAFT BEAM 09	6	05	Y12	5	5	6700	20	6700	0	0	0	0
RAFT BEAM 09	6	06	Y12	5	5	6200	37	4810	450	0	0	0
RAFT BEAM 09	6	07	Y12	5	5	4470	37	4300	200	0	0	0
RAFT BEAM 09	6	08	Y18	5	5	3810	37	3650	280	0	0	0
RAFT BEAM 10	4	01	Y10	52	52	208	60	375	430	0	0	0
RAFT BEAM 10	4	02	Y10	52	52	600	33	375	0	0	0	0
RAFT BEAM 10	4	03	Y18	5	5	6910	37	6690	450	0	0	0
RAFT BEAM 10	4	04	Y18	5	5	6700	20	6700	0	0	0	0
RAFT BEAM 10	4	05	Y18	5	5	6200	37	4810	450	0	0	0
RAFT BEAM 10	4	06	Y20	5	5	4450	37	4300	200	0	0	0
RAFT BEAM 10	4	07	Y20	5	5	3850	37	3700	200	0	0	0
RAFT BEAM 10	4	08	Y25	5	5	11500	20	11500	0	0	0	0
RAFT BEAM 11	1	01	Y10	23								



01 LEVEL SLAB BOT REBAR
SCALE: 1:75

REBAR LEVEL 01 SLAB BOT SCHEDULE											
MEMBER	NUM	MARK	TYPE	ELEMENT	TOTAL	LENGTH	SHAPE CODE	A (mm)	B (mm)	C (mm)	ER (mm)
SLAB 01 BOT	1	100	Y16	39	39	5400	37	330	4800	300	0
SLAB 01 BOT	1	101	Y16	39	39	9300	37	9100	240	0	0
SLAB 01 BOT	1	102	Y12	236	236	2190	37	2000	220	0	0
SLAB 01 BOT	1	103	Y16	54	54	6200	37	6150	190	0	0
SLAB 01 BOT	1	104	Y16	26	26	8550	37	8400	190	0	0
SLAB 01 BOT	1	105	Y16	63	63	4700	37	4700	0	0	0
SLAB 01 BOT	1	106	Y12	28	28	5590	37	5500	220	0	0
SLAB 01 BOT	1	107	Y16	29	29	4600	37	4600	0	0	0
SLAB 01 BOT	1	108	Y16	18	18	4000	37	4000	0	0	0
SLAB 01 BOT	1	109	Y16	23	23	8450	37	8300	190	0	0
SLAB 01 BOT	1	110	Y12	134	134	8700	37	8700	0	0	0
SLAB 01 BOT	1	111	Y12	78	78	4190	37	4200	4000	0	0
SLAB 01 BOT	1	112	Y16	23	23	8900	37	8900	0	0	0
SLAB 01 BOT	1	113	Y16	23	23	8650	37	8600	190	0	0
SLAB 01 BOT	1	114	Y16	41	41	8200	38	190	7600	190	0
SLAB 01 BOT	1	115	Y16	39	39	8300	37	8150	190	0	0
SLAB 01 BOT	1	116	Y12	70	70	8460	37	8300	190	0	0
SLAB 01 BOT	1	117	Y12	84	84	8310	37	8150	190	0	0
SLAB 01 BOT	1	118	Y12	26	26	6150	38	190	5930	190	0
SLAB 01 BOT	1	119	Y12	28	28	1540	74	520	240	0	0
SLAB 01 BOT	1	120	Y12	14	14	3380	38	190	3030	190	0
SLAB 01 BOT	1	121	Y16	17	17	1890	38	190	1600	190	0
SLAB 01 BOT	1	122	Y16	71	71	3310	37	3000	350	0	0
SLAB 01 BOT	1	123	Y16	20	20	3850	37	3700	190	0	0
SLAB 01 BOT	1	124	Y12	30	30	3150	74	1220	210	0	0
SLAB 01 BOT	1	125	Y16	4	4	3500	37	3500	0	0	0
SLAB 01 BOT	1	126	Y16	28	28	9400	37	9220	220	0	0
SLAB 01 BOT	1	127	Y16	156	156	4250	37	4050	220	0	0
SLAB 01 BOT	1	128	Y12	156	156	4000	37	3900	220	0	0
SLAB 01 BOT	1	129	Y16	117	117	5500	38	350	4880	350	0
SLAB 01 BOT	1	130	Y12	32	32	2280	38	220	1980	220	0
SLAB 01 BOT	1	131	Y16	39	39	9280	37	9100	220	0	0
SLAB 01 BOT	1	132	Y16	17	17	1830	38	180	1550	180	0
SLAB 01 BOT	1	133	Y12	22	22	1200	39	1200	0	0	0
SLAB 01 BOT	1	134	Y16	58	58	4270	37	4100	210	0	0
SLAB 01 BOT	1	135	Y10	800	800	1060	83	250	180	250	250
SLAB 01 BOT	1	136	Y10	115	115	1000	83	250	180	250	250
SLAB 01 BOT	1	137	Y10	25	25	900	83	250	120	250	250
SLAB 01 BOT	1	138	Y12	236	236	2600	37	2600	220	0	0
SLAB 01 BOT	1	139	Y16	17	17	6310	37	6150	195	0	0

REBAR LEVEL 01 SLAB BOT WEIGHT SUMMARY		
MEMBER NAME	TYPE	WEIGHT (kg)
SLAB 01 BOT	Y10	821 kg
SLAB 01 BOT	Y12	4602 kg
SLAB 01 BOT	Y16	5903 kg
TOTAL		14286 kg

- NOTES**
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REG. NO. 1966/006628/07

CONTRACTOR/CONSULTANT				TRANSNET CAPITAL PROJECTS			
TITLE	NAME	SIGN	DATE	TITLE	NAME	SIGN	DATE
DRAWN	AH	[Signature]	01/07/20				
CHECKED	C.K	[Signature]	01/07/20				
DESIGNED	C.K	[Signature]	01/07/20				
CHECKED	SWM	[Signature]	01/07/20				

OPERATING DIVISIONS			
TITLE	NAME	SIGN	DATE

PR. ENG./PR. TECH./PR. ARCH	
NAME	DATE

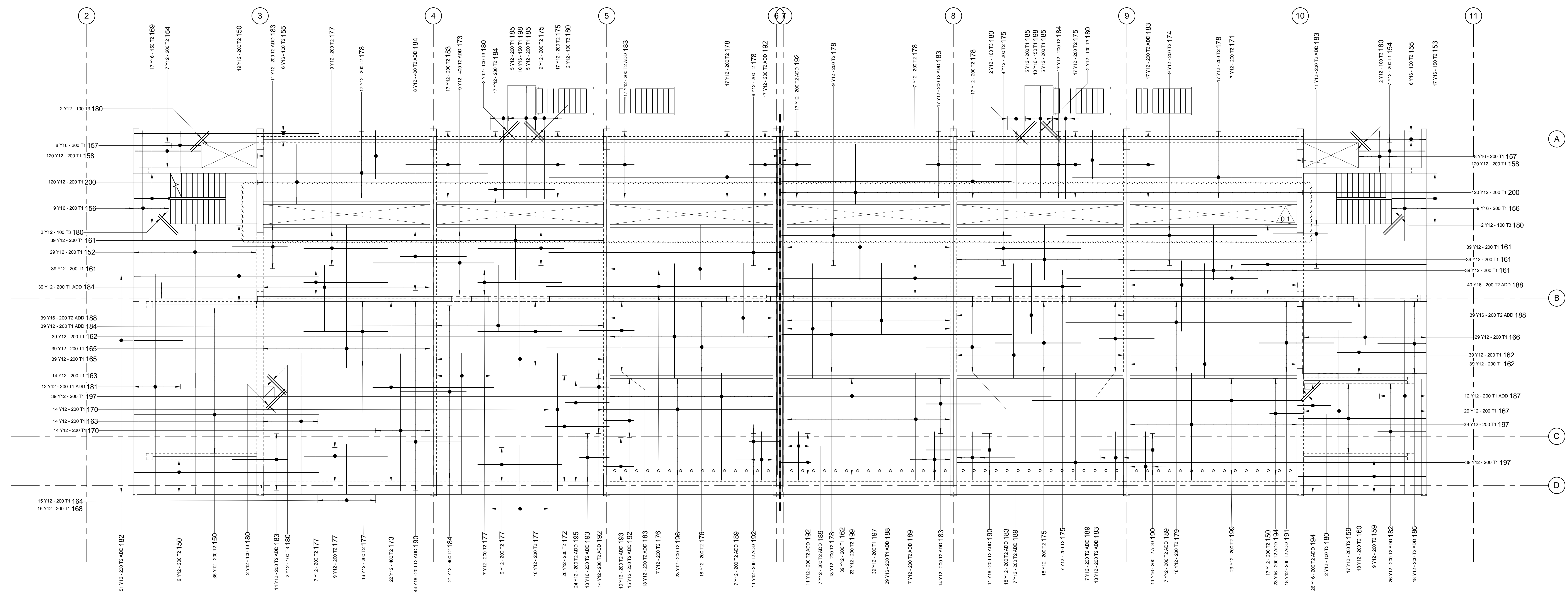
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Transnet Capital Projects
TRANSNET LTD (TRANSNET CAPITAL PROJECTS) REG. NO. 1966/006628/07
TABLE W/ BUILDING, TYERSBERG PARK
163 LYS KRIGE DRIVE, PLATTEKLOOF, 8001
TEL: 021 940 1999
FAX: 021 940 2655

PORT OF SALDANHA
IRON ORE TIPLER 3 PROJECT
BULK POWER UPGRADE:
MAIN INTAKE SUBSTATION
LEVEL 01 - SLAB REBAR LAYOUT - SHEET 1

DRAWING NO.	REFERENCE

REFERENCE DRAWINGS



01 LEVEL SLAB TOP REBAR
SCALE: 1:75

REBAR LEVEL 01 SLAB TOP SCHEDULE												
MEMBER	NUM	MARK	TYPE	ELEMENT	TOTAL	LENGTH	SHAPE CODE	A (mm)	B (mm)	C (mm)	D (mm)	GR
SLAB 01 TOP	1	150	Y12	80	80	8850	38	5400	210	300	0	0
SLAB 01 TOP	1	151	Y12	28	28	5900	38	5600	240	300	0	0
SLAB 01 TOP	1	152	Y12	29	29	7900	38	7450	240	300	0	0
SLAB 01 TOP	1	153	Y16	17	17	2410	55	300	210	1500	210	300
SLAB 01 TOP	1	154	Y12	14	14	3900	55	300	210	3000	210	300
SLAB 01 TOP	1	155	Y16	12	12	8800	38	8600	210	300	0	0
SLAB 01 TOP	1	156	Y16	18	18	5400	38	5000	240	300	0	0
SLAB 01 TOP	1	157	Y16	16	16	2820	55	300	240	1900	240	300
SLAB 01 TOP	1	158	Y12	28	28	2460	38	2200	240	300	0	0
SLAB 01 TOP	1	159	Y12	26	26	6700	55	300	210	5800	210	300
SLAB 01 TOP	1	160	Y12	18	18	4170	37	158	4650	0	0	0
SLAB 01 TOP	1	161	Y12	224	224	2660	37	190	2500	0	0	0
SLAB 01 TOP	1	162	Y12	156	156	5360	37	190	5200	0	0	0
SLAB 01 TOP	1	163	Y12	28	28	6580	37	220	6400	0	0	0
SLAB 01 TOP	1	164	Y12	15	15	2440	37	220	2250	0	0	0
SLAB 01 TOP	1	165	Y12	78	78	4600	20	4600	0	0	0	0
SLAB 01 TOP	1	166	Y12	29	29	5500	42	2240	500	2750	80	0
SLAB 01 TOP	1	167	Y12	29	29	7500	42	2320	500	4630	80	0
SLAB 01 TOP	1	168	Y12	15	15	2290	37	220	2100	0	0	0
SLAB 01 TOP	1	169	Y16	17	17	2460	55	300	210	1600	210	300
SLAB 01 TOP	1	170	Y12	28	28	6440	37	220	6250	0	0	0
SLAB 01 TOP	1	171	Y12	7	7	8700	20	8700	0	0	0	0
SLAB 01 TOP	1	172	Y12	26	26	3020	37	150	2900	0	0	0
SLAB 01 TOP	1	173	Y12	31	31	5500	30	5500	0	0	0	0
SLAB 01 TOP	1	174	Y12	9	9	8660	20	8660	0	0	0	0
SLAB 01 TOP	1	175	Y12	77	77	3900	20	3900	0	0	0	0
SLAB 01 TOP	1	176	Y12	26	26	10710	37	10560	190	0	0	0
SLAB 01 TOP	1	177	Y12	73	73	3800	20	3800	0	0	0	0
SLAB 01 TOP	1	178	Y12	111	111	19010	37	18450	190	0	0	0
SLAB 01 TOP	1	179	Y12	18	18	13000	41	10000	500	2500	80	0
SLAB 01 TOP	1	180	Y12	22	22	1200	20	1200	0	0	0	0
SLAB 01 TOP	1	181	Y12	12	12	10190	37	220	10000	0	0	0
SLAB 01 TOP	1	182	Y12	77	77	2380	37	210	2200	0	0	0
SLAB 01 TOP	1	183	Y12	211	211	2900	30	2500	0	0	0	0
SLAB 01 TOP	1	184	Y12	141	141	3000	20	3000	0	0	0	0
SLAB 01 TOP	1	185	Y12	20	20	3570	38	3000	240	300	0	0
SLAB 01 TOP	1	186	Y12	18	18	2310	37	140	2200	0	0	0
SLAB 01 TOP	1	187	Y12	12	12	8930	42	3680	520	4630	80	0
SLAB 01 TOP	1	188	Y16	157	157	3900	20	3900	0	0	0	0
SLAB 01 TOP	1	189	Y12	42	42	2390	37	220	2200	0	0	0
SLAB 01 TOP	1	190	Y16	66	66	2500	20	2500	0	0	0	0
SLAB 01 TOP	1	191	Y12	18	18	3400	41	1500	500	1700	80	0
SLAB 01 TOP	1	192	Y12	85	85	1470	37	1350	150	0	0	0
SLAB 01 TOP	1	193	Y16	23	23	1460	37	1350	150	0	0	0
SLAB 01 TOP	1	194	Y16	49	49	1610	37	1500	150	0	0	0
SLAB 01 TOP	1	195	Y12	24	24	2120	37	2000	150	0	0	0
SLAB 01 TOP	1	196	Y12	23	23	8200	38	190	7800	190	0	0
SLAB 01 TOP	1	197	Y12	156	156	5200	38	190	4880	190	0	0
SLAB 01 TOP	1	198	Y16	20	20	5440	38	300	230	5100	0	0
SLAB 01 TOP	1	199	Y12	46	46	12490	37	12300	190	0	0	0
SLAB 01 TOP	1	200	Y12	240	240	3180	38	2700	240	305	0	0

REBAR LEVEL 01 SLAB TOP WEIGHT SUMMARY		
MEMBER NAME	TYPE	WEIGHT
SLAB 01 TOP	Y12	10523 kg
SLAB 01 TOP	Y16	1800 kg
TOTAL		12323 kg

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REG. NO. 1966/006628/07

CONTRACTOR/CONSULTANT		TRANSNET CAPITAL PROJECTS	
TITLE	NAME	TITLE	NAME
DRAWN	AH		
CHECKED	C.K		
DESIGNED	C.K		
CHECKED	SWM		

OPERATING DIVISIONS	
TITLE	NAME
01 FLOORS SLOT POSITION AMENDED - WALLS EXTENDED - DOOR SIZE AMENDED	AH C.K. SWM 01/07/20
01 FLOORS FOR CONSTRUCTION	AH C.K. SWM 31/06/18

REVISIONS	
NO	DESCRIPTION

PR. ENG./PR. TECH./PR. ARCH	
NAME	DATE

PROJECT NUMBER	ISS	FBS	DHS	TYPE	DRAWING NO.	SHEET	REV	ID
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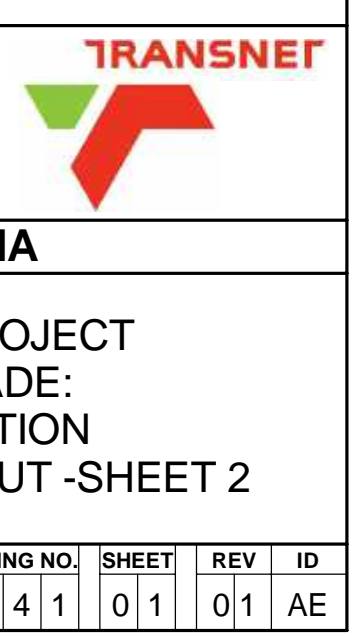


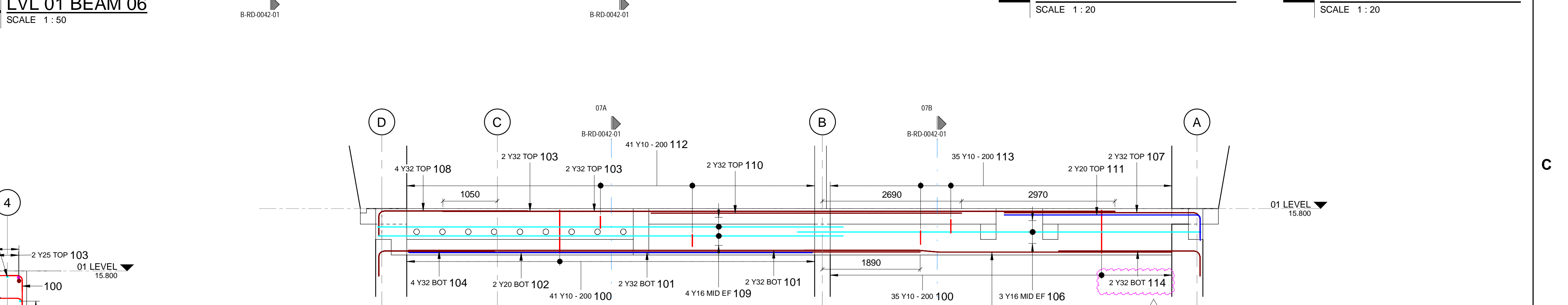
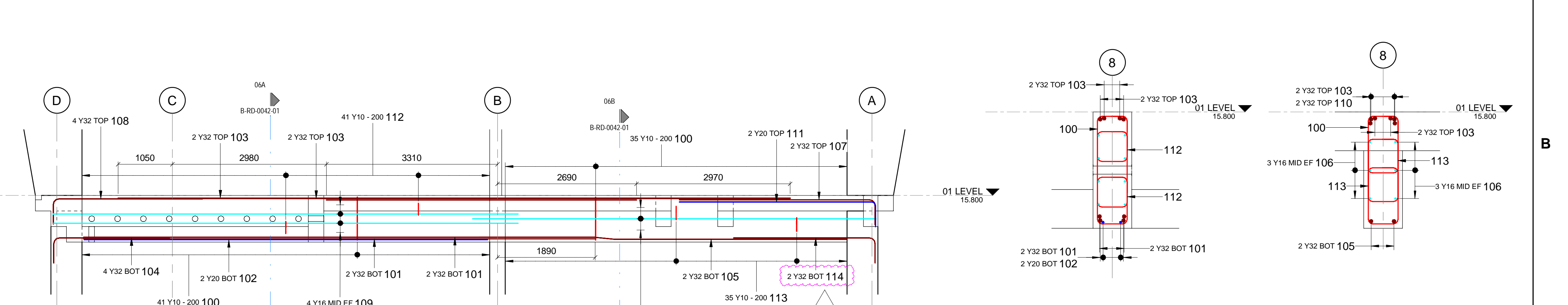
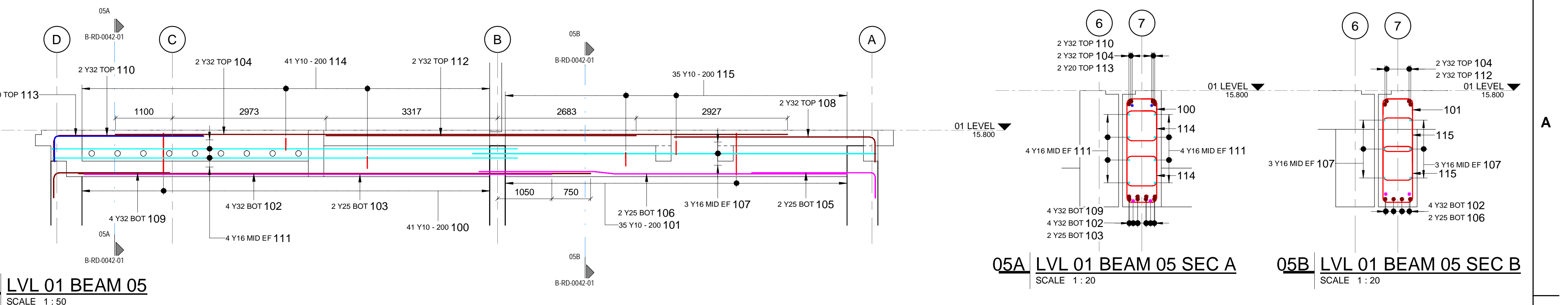
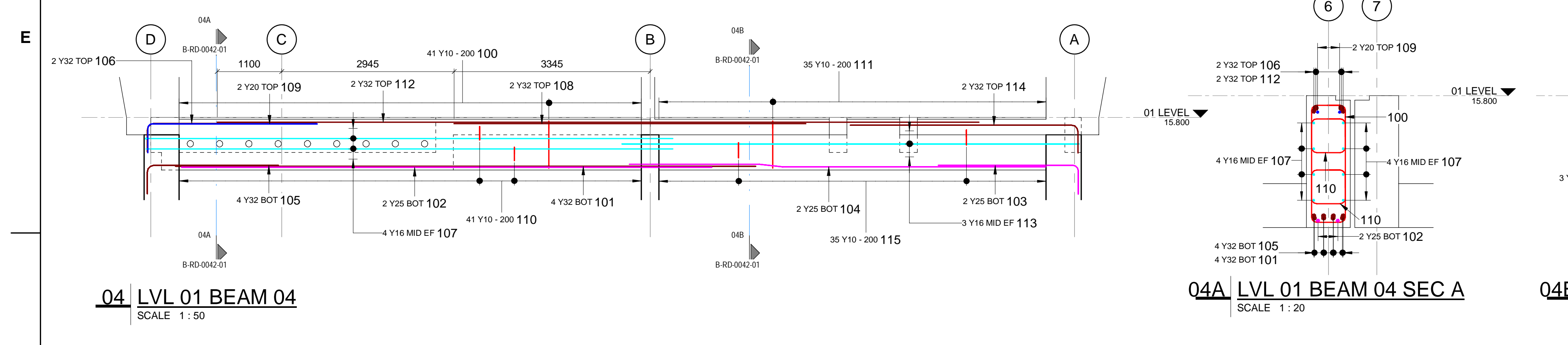
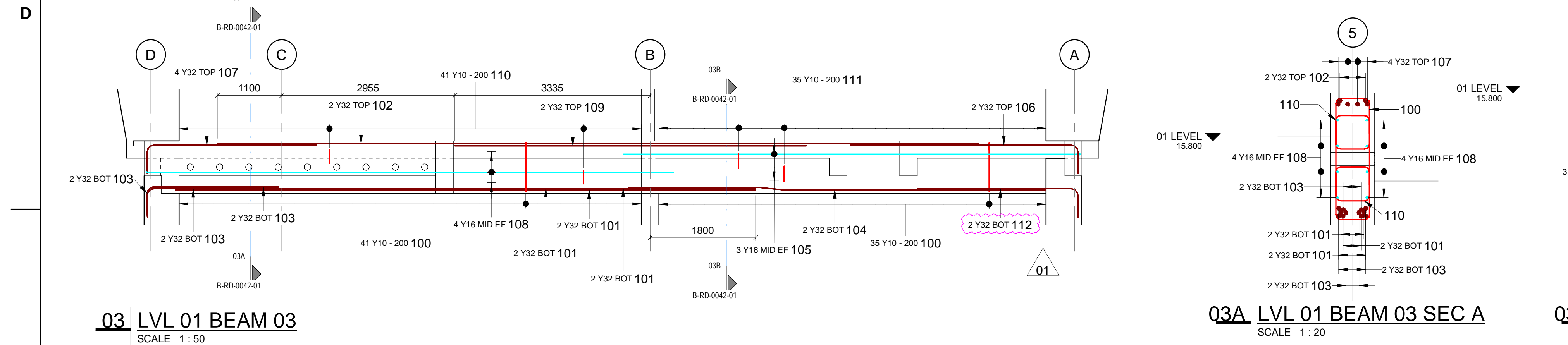
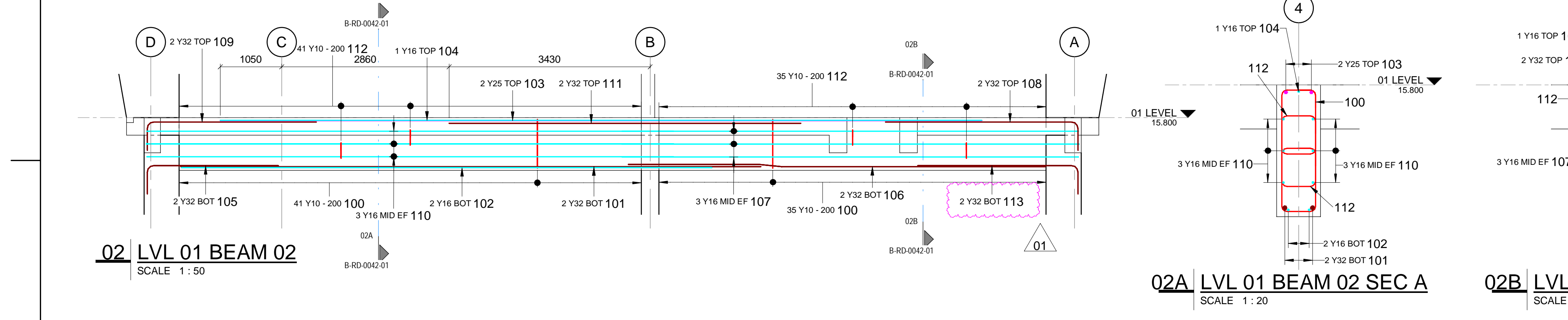
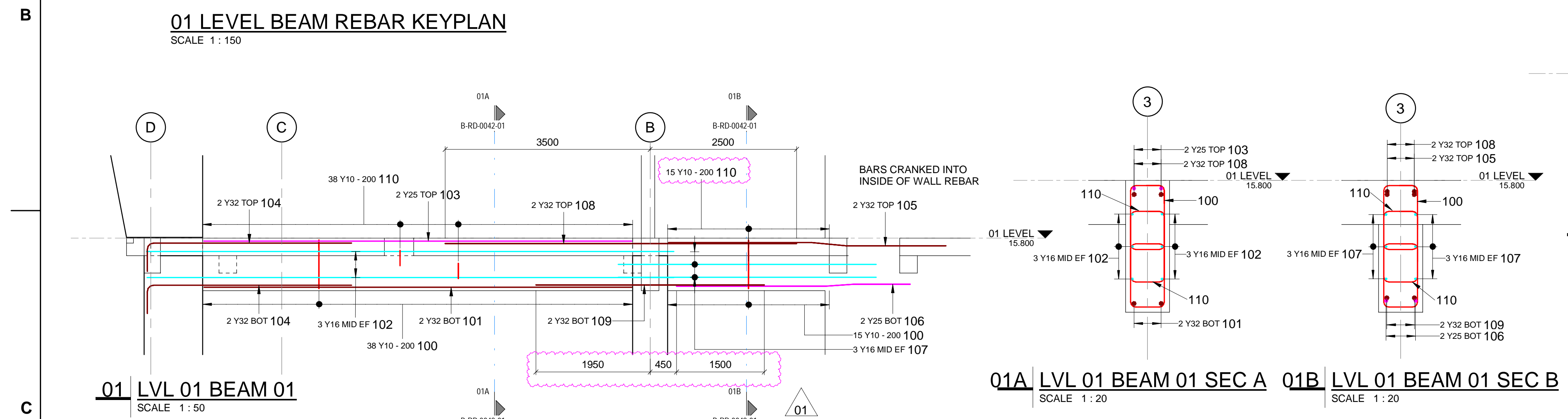
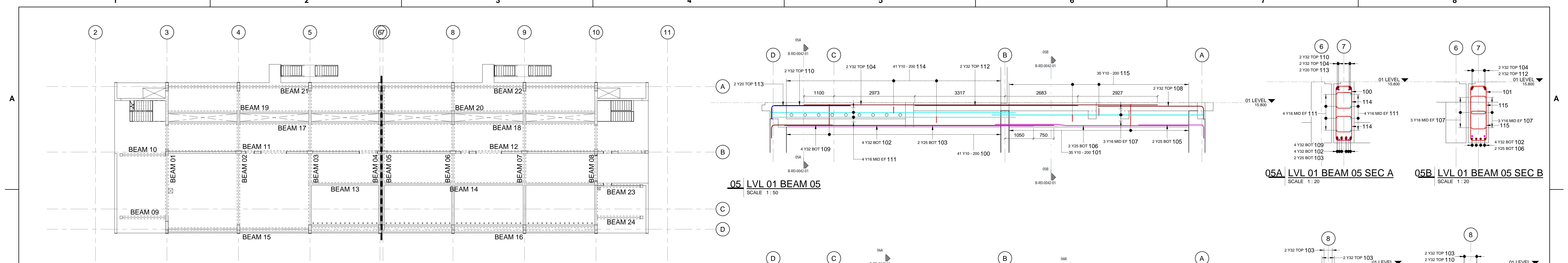
MASTER
03/07/2020
AECOM

TRANSNET CAPITAL PROJECTS
TRANSNET LTD (TRANSNET) TRANSNET CAPITAL PROJECTS REG. NO. 1966/006628/07
TABLE BAY BUILDING, TYGERSBERG PARK
163 LYS KRIGER DRIVE, PLATTEKLOOF, 8001
TEL: 021 940 1999
FAX: 021 940 2455

PORT OF SALDANHA

IRON ORE TIPLER 3 PROJECT
BULK POWER UPGRADE:
MAIN INTAKE SUBSTATION
LEVEL 01 - SLAB REBAR LAYOUT - SHEET 2





NOTES

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REG. NO. 1966/006628/07

NO	DESCRIPTION	BY	CHKD	DATE
01	REBAR BAR TAGS ARE NEEDED	AH	CK	24.11.21
02	ISSUED FOR CONSTRUCTION	AH	CK	24.11.21

CONTRACTOR/CONSULTANT				TRANSNET CAPITAL PROJECTS			
TITLE	NAME	DATE	SIGN	TITLE	NAME	DATE	SIGN
DRAWN	AH	24.11.21					
CHECKED	CK	24.11.21					
DESIGNED	CK	24.11.21					
CHECKED	SWM	24.11.21					

OPERATING DIVISIONS			
TITLE	NAME	DATE	SIGN

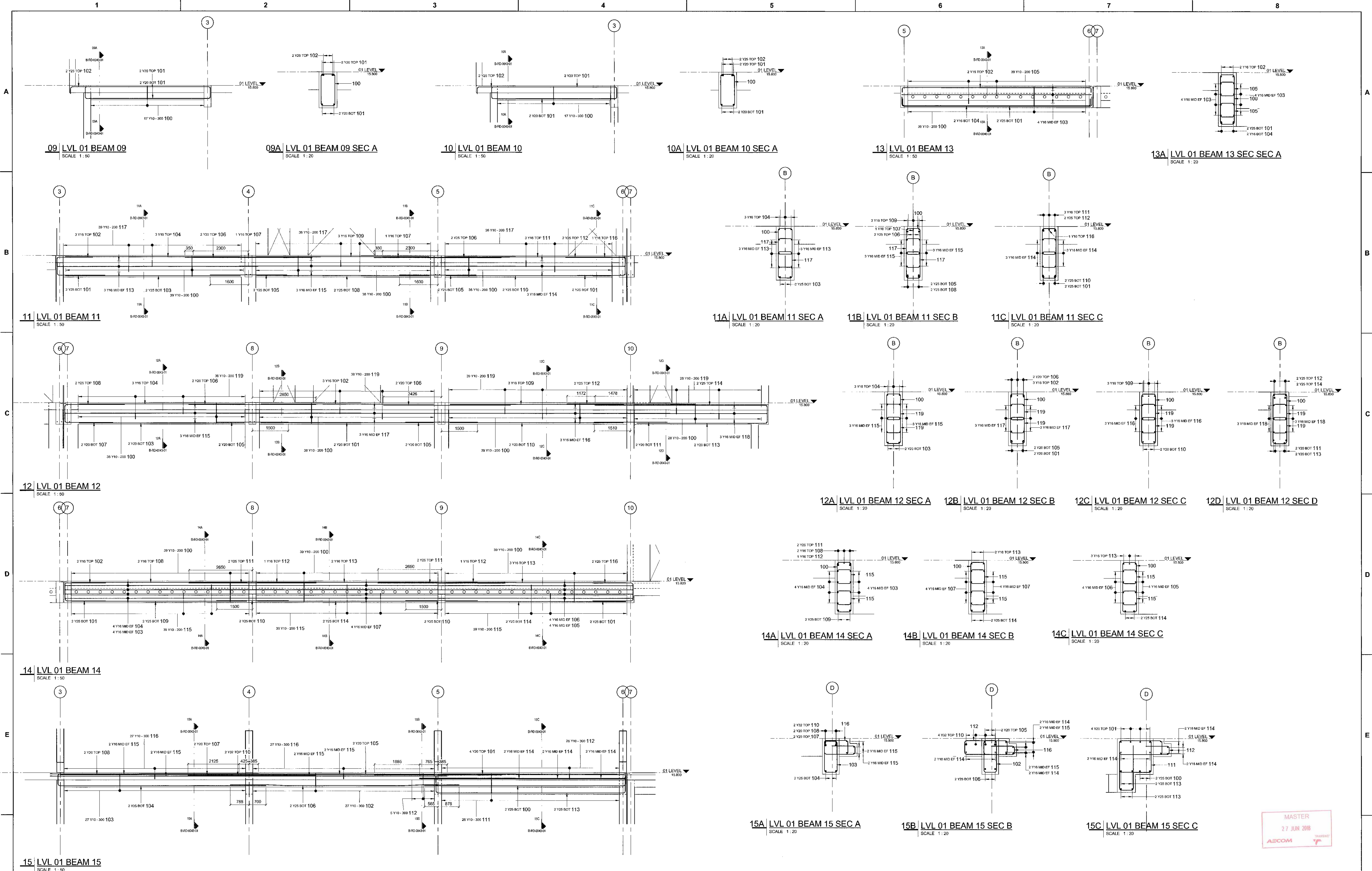
PR. ENG./PR. TECH./PR. ARCH

NAME	SIGNATURE	DATE
SW MARAIS		24.11.21

REG. NUMBER: 20090106
SCALE: AS SHOWN

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DRAWING NO.	REFERENCE



MASTER
27 JUN 2008
AECOM

DRAWING NO.	REFERENCE
1	
2	
3	
4	
5	
6	
7	
8	

NOTES

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AECOM

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TYGER WATERFRONT
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REG. No. 19566/00628/07

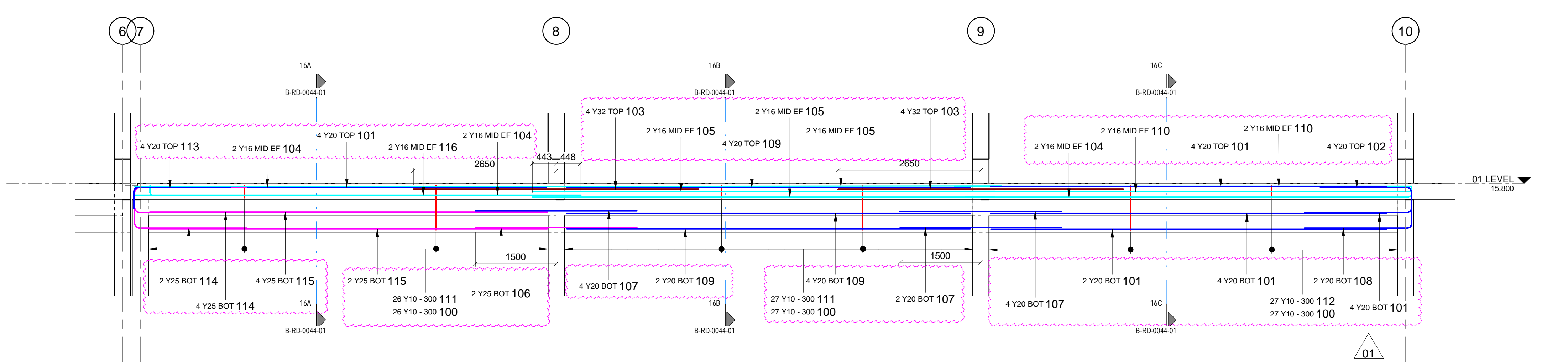
CONTRACTOR/CONSULTANT				TRANSET CAPITAL PROJECTS			
TITLE	NAME	SIGN	DATE	TITLE	NAME	SIGN	DATE
				DRAWN	AH		27 06 08
				CHECKED	CK		27 06 08
				DESIGNED	CK		27 06 08
				CHECKED	SWW		27 06 08

OPERATING DIVISIONS			
TITLE	NAME	SIGN	DATE

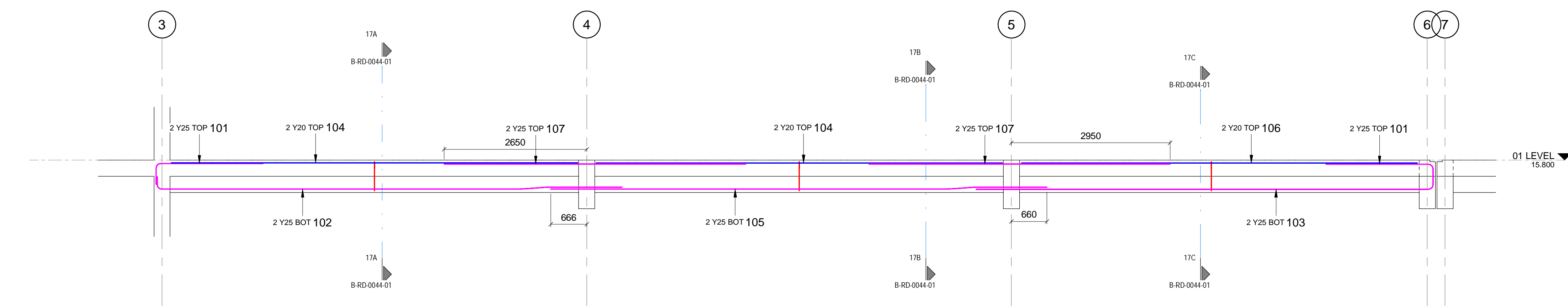
REVISIONS			
NO	DESCRIPTION	BY	CHKD/APPD DATE
01	ISSUED FOR CONSTRUCTION	AH	CK SWW 22/06/08

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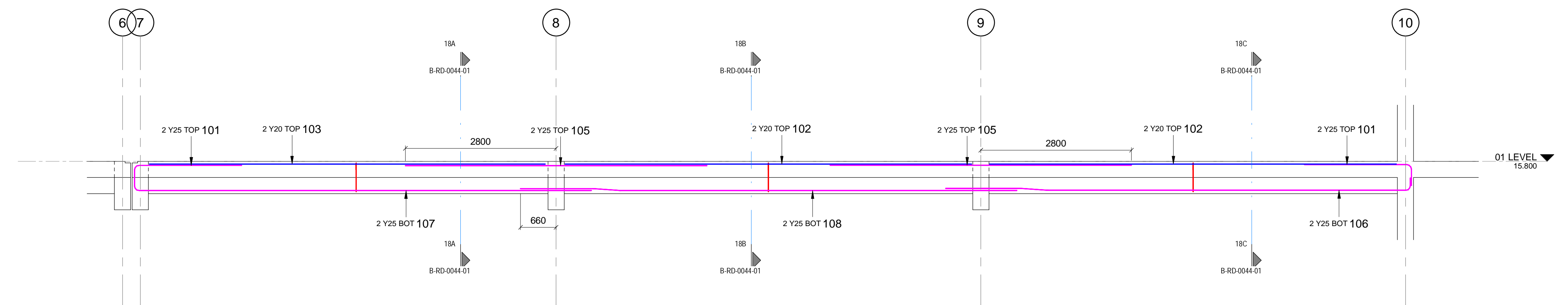
IRON ORE TIPPLER 3 PROJECT
BULK POWER UPGRADE:
MAIN INTAKE SUBSTATION
LEVEL 01 - BEAM REBAR - SHEET 2



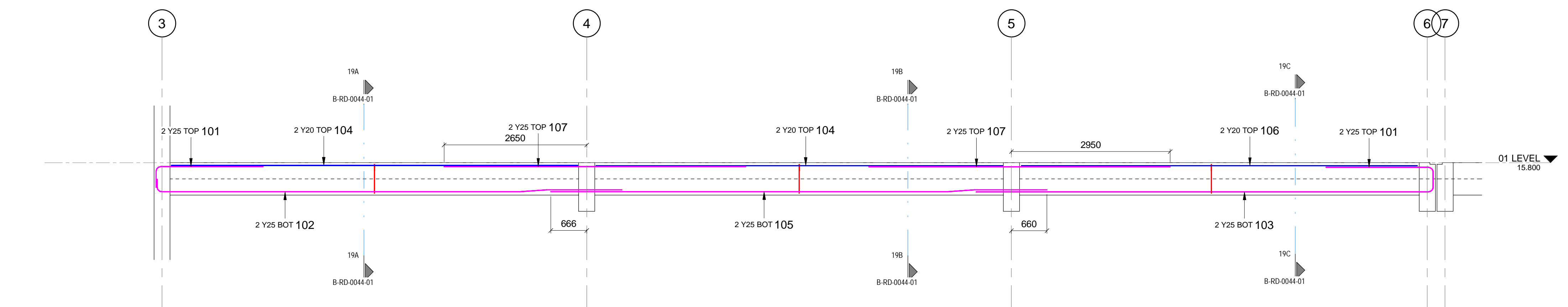
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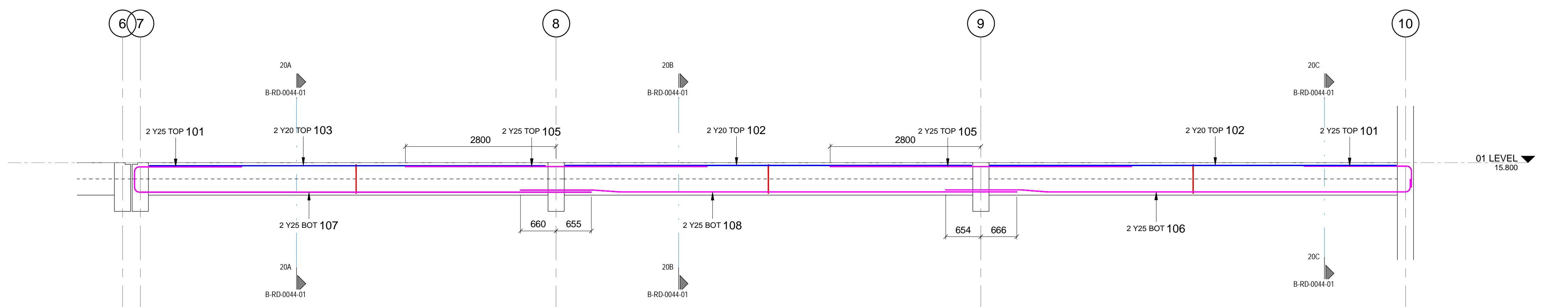
17 LVL 01 BEAM 17
SCALE 1:50



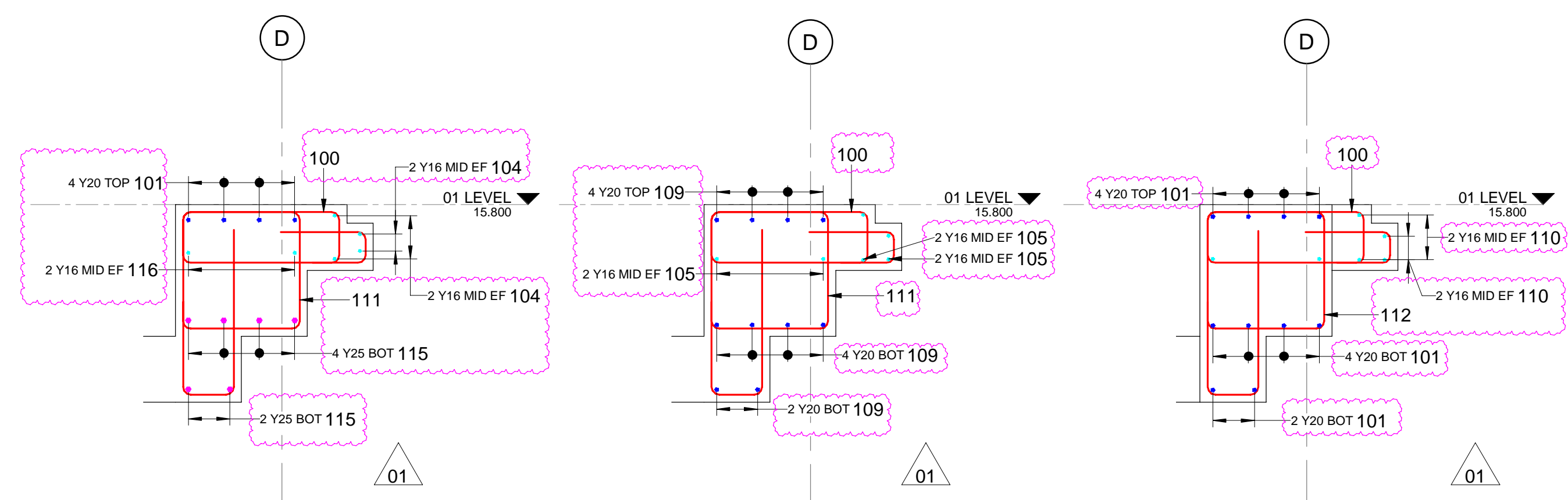
18 LVL 01 BEAM 18
SCALE 1:50



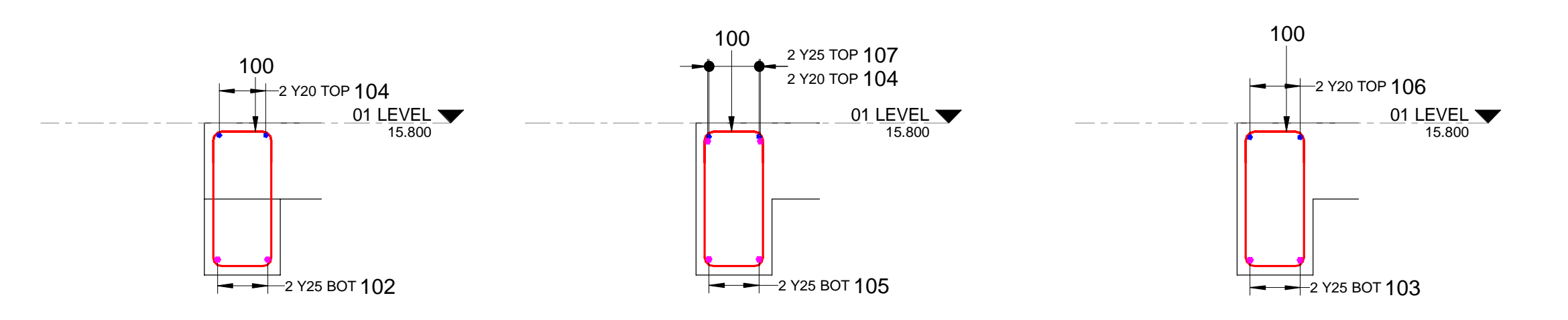
19 LVL 01 BEAM 19
SCALE 1:50



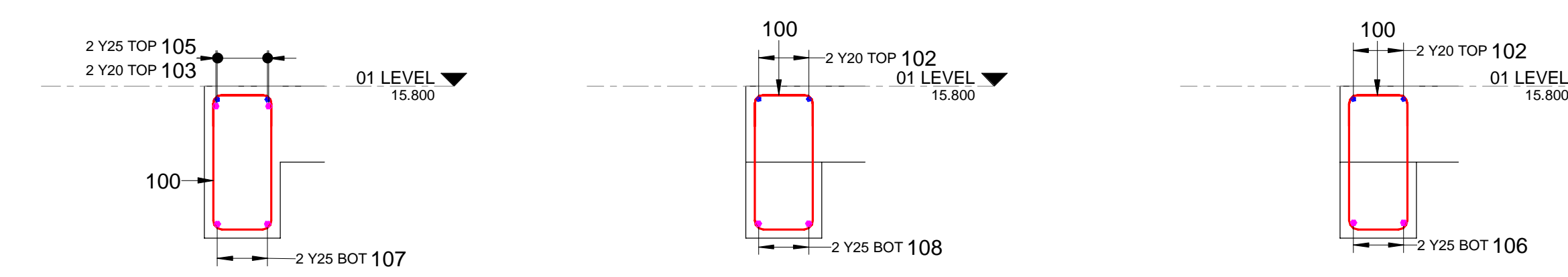
20 LVL 01 BEAM 20
SCALE 1:50



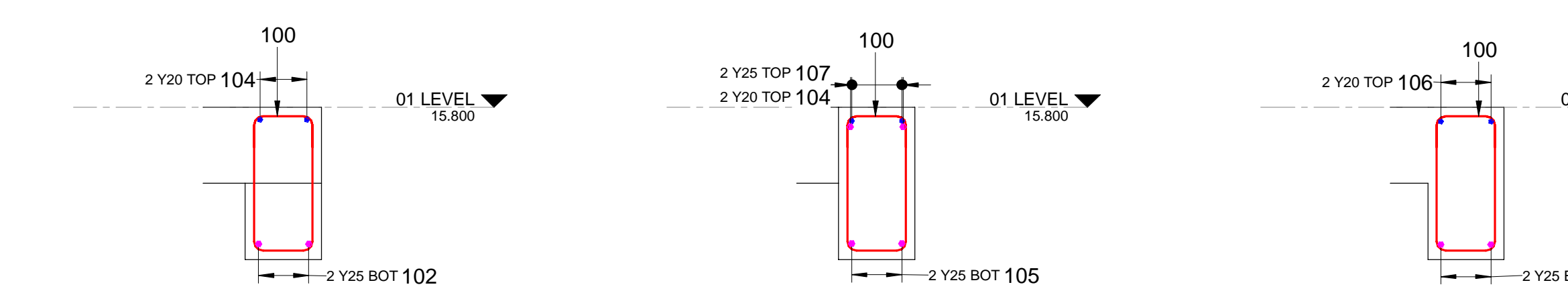
16A LVL 01 BEAM 16 SEC A
SCALE 1:20
16B LVL 01 BEAM 16 SEC B
SCALE 1:20
16C LVL 01 BEAM 16 SEC C
SCALE 1:20



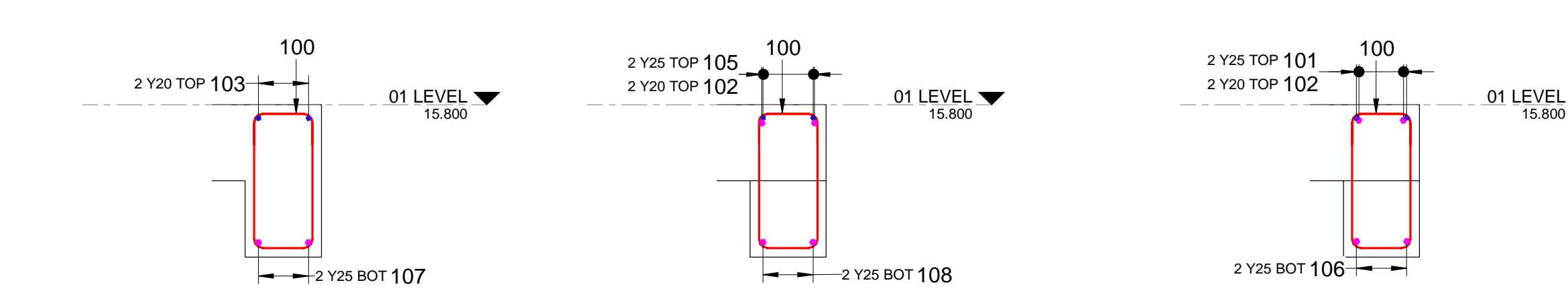
17A LVL 01 BEAM 17 SEC A
SCALE 1:20
17B LVL 01 BEAM 17 SEC B
SCALE 1:20
17C LVL 01 BEAM 17 SEC C
SCALE 1:20



18A LVL 01 BEAM 18 SEC A
SCALE 1:20
18B LVL 01 BEAM 18 SEC B
SCALE 1:20
18C LVL 01 BEAM 18 SEC C
SCALE 1:20



19A LVL 01 BEAM 19 SEC A
SCALE 1:20
19B LVL 01 BEAM 19 SEC B
SCALE 1:20
19C LVL 01 BEAM 19 SEC C
SCALE 1:20



20A LVL 01 BEAM 20 SEC A
SCALE 1:20
20B LVL 01 BEAM 20 SEC B
SCALE 1:20
20C LVL 01 BEAM 20 SEC C
SCALE 1:20

NOTES
1. DO NOT SCALE DRAWING - ONLY DIMENSIONS SHOWN TO BE USED
2. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS, DIMENSIONS AND LEVELS ON THE SITE AND NOTIFY THE NEC SUPERVISOR OF ANY VARIATIONS BEFORE CONSTRUCTION.



CAPE TOWN OFFICE
WATERSIDE PLACE, SOUTH GATE
TYGER WATERFRONT
CARL CRONJE DRIVE
TEL: +27 (0)21 950 7500
FAX: +27 (0)21 950 7502
REG. No. 1966/00626/07

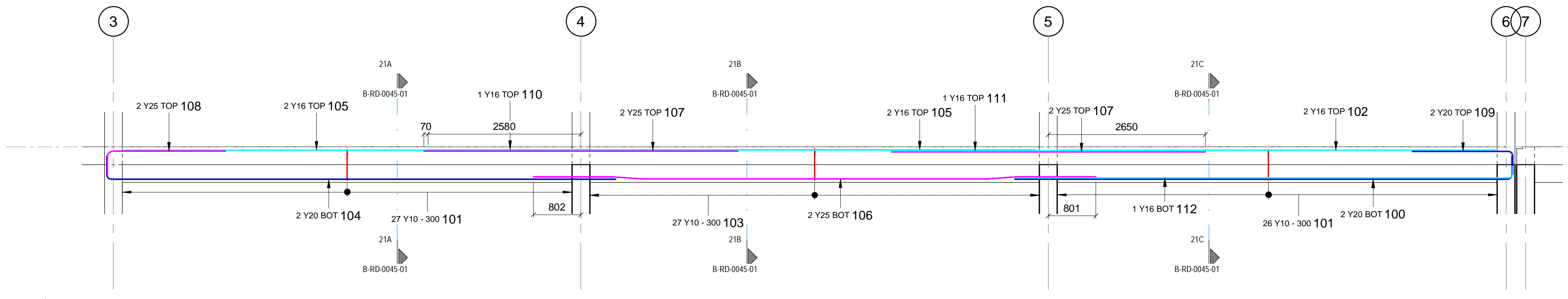
NO	DESCRIPTION	BY	CHKD	DATE
01	BEARER BAR TAGS ARE NEEDED FOR CONSTRUCTION	AH	CK	24.11.21
02		AH	CK	24.11.21
03		AH	CK	24.11.21

CONTRACTOR/CONSULTANT				TRANSNET CAPITAL PROJECTS			
TITLE	NAME	SIGN	DATE	TITLE	NAME	SIGN	DATE
DRAWN	AH	[Signature]	24.11.21				
CHECKED	CK	[Signature]	24.11.21				
DESIGNED	CK	[Signature]	24.11.21				
CHECKED	SWM	[Signature]	24.11.21				

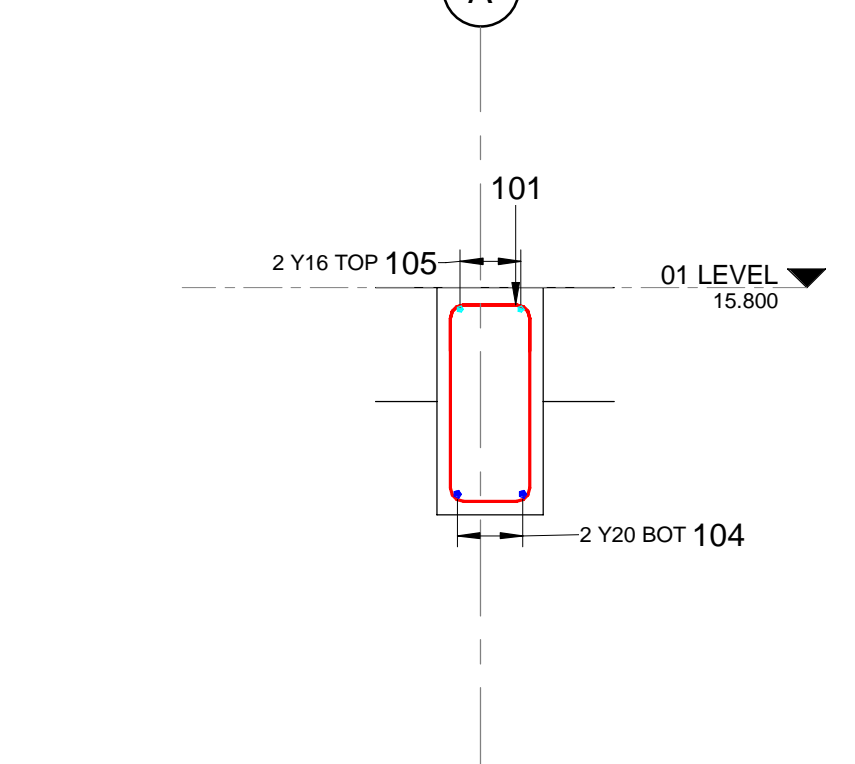
OPERATING DIVISIONS							
TITLE	NAME	SIGN	DATE	PR. ENG./PR. TECH./PR. ARCH			
				PR. ENG.	SW MARAIS	[Signature]	24.11.21
				SIGNATURE			
				REG. NUMBER	20090106		
				SCALE:	AS SHOWN		

DRAWING NO.	REFERENCE
1	REFERENCE DRAWINGS

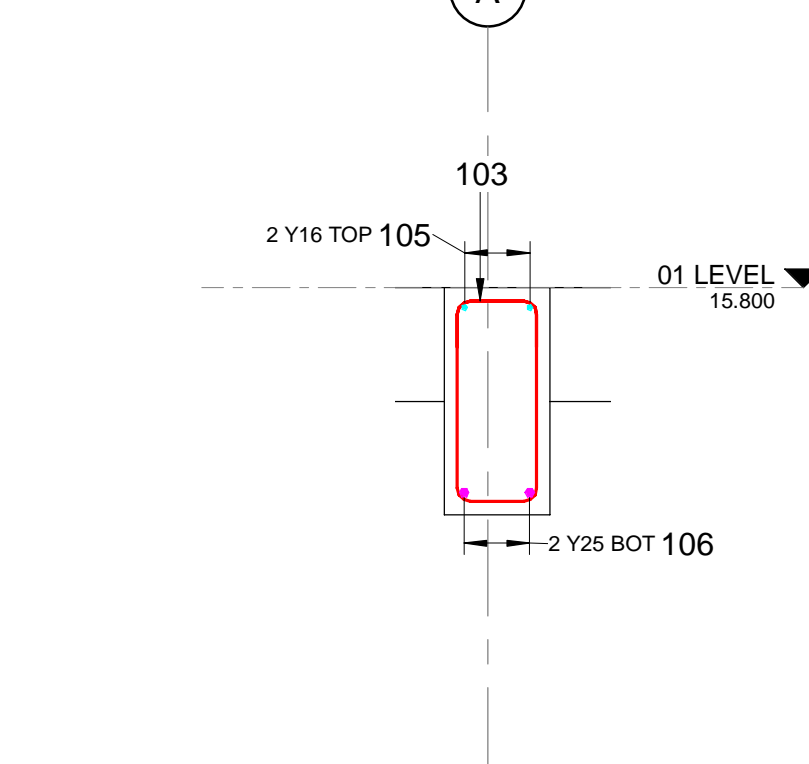
CONTRACTOR/CONSULTANT								TRANSNET CAPITAL PROJECTS							
AECOM								TRANSNET CAPITAL PROJECTS							
CAPE TOWN OFFICE WATERSIDE PLACE, SOUTH GATE TYGER WATERFRONT CARL CRONJE DRIVE TEL: +27 (0)21 950 7500 FAX: +27 (0)21 950 7502 REG. No. 1966/00626/07								TRANSNET LTD (TRANSNET CAPITAL PROJECTS) REG. NO. 1966/00626/07 TABLE BAY BUILDING, TYGERSBERG PARK, TEL: 021 940 1999 163 LUIS KRIGER DRIVE, PLATTEKLOOF, FAX: 021 940 2455 8001							
								PORT OF SALDANHA							
								IRON ORE TIPPLER 3 PROJECT BULK POWER UPGRADE: MAIN INTAKE SUBSTATION LEVEL 01 - BEAM REBAR - SHEET 3							
PROJECT NUMBER		00		FBS		DIS		TYPE		DRAWING NO.		SHEET		REV. ID	
1924701		2		510		B		R D		0044		01		01 AE	



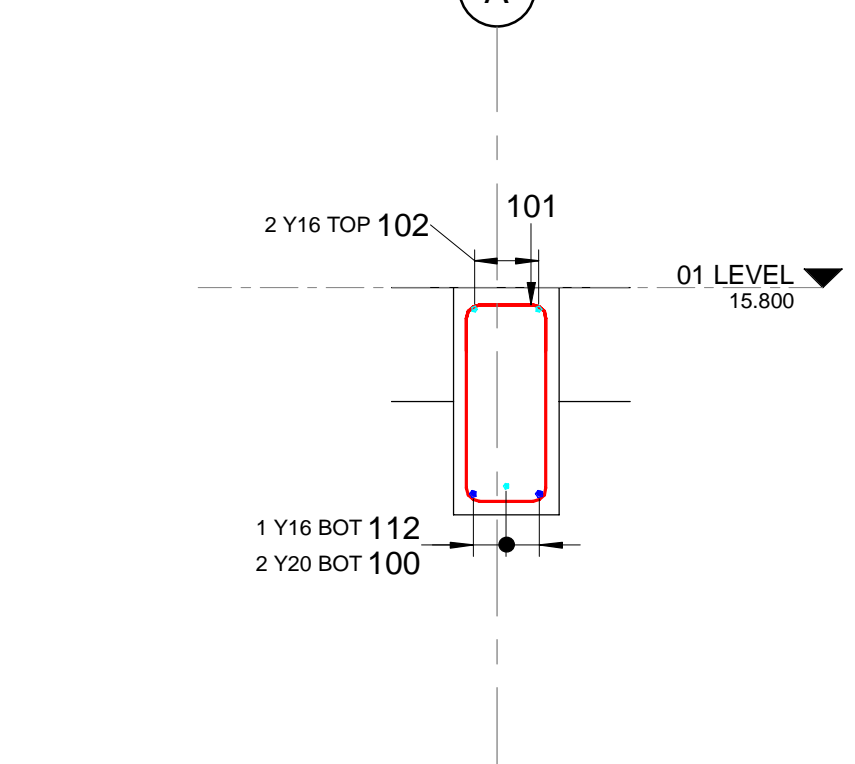
21 LVL 01 BEAM 21
SCALE 1:50



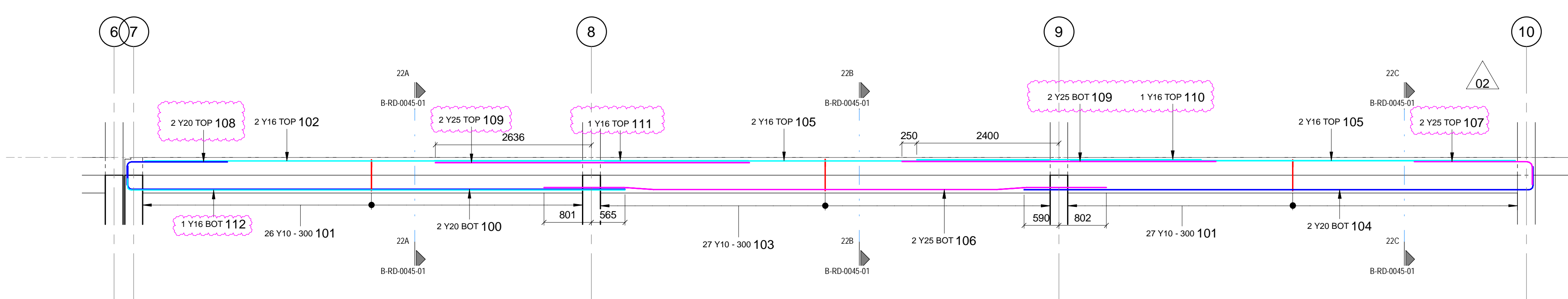
21A LVL 01 BEAM 21 SEC A
SCALE 1:20



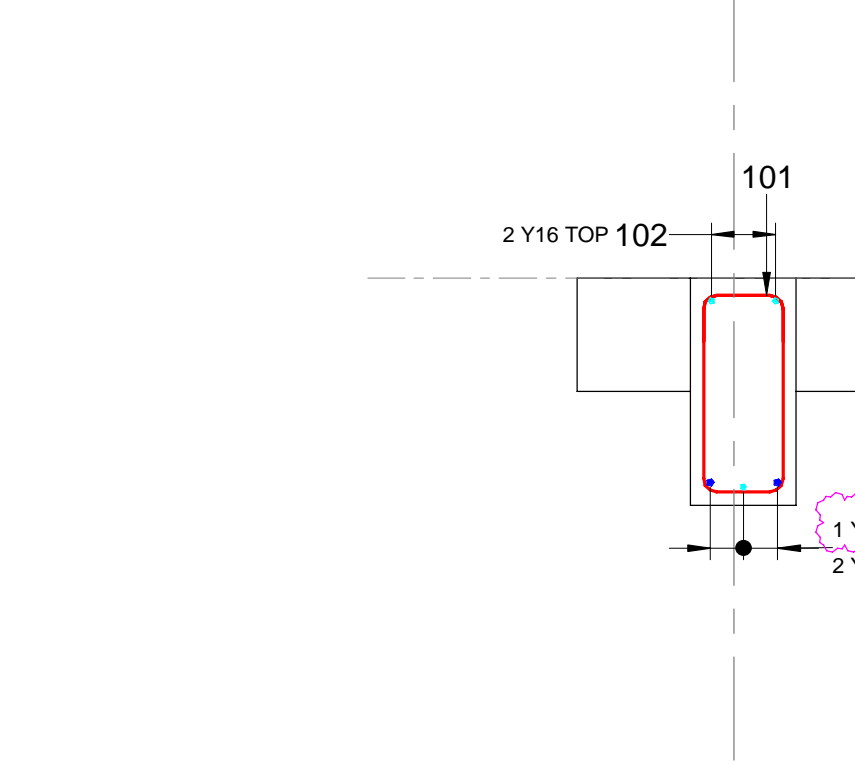
21B LVL 01 BEAM 21 SEC B
SCALE 1:20



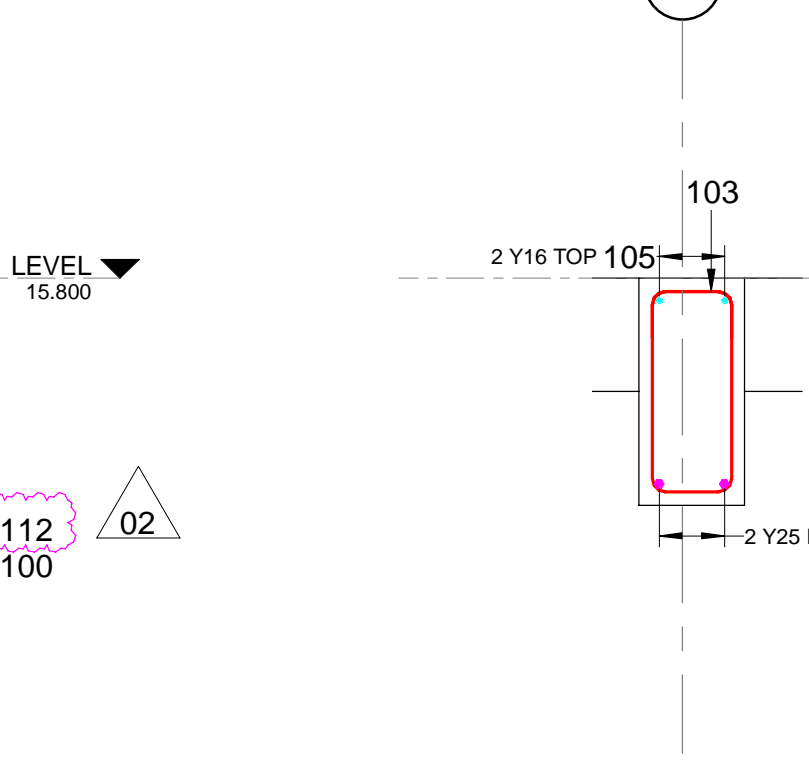
21C LVL 01 BEAM 21 SEC C
SCALE 1:20



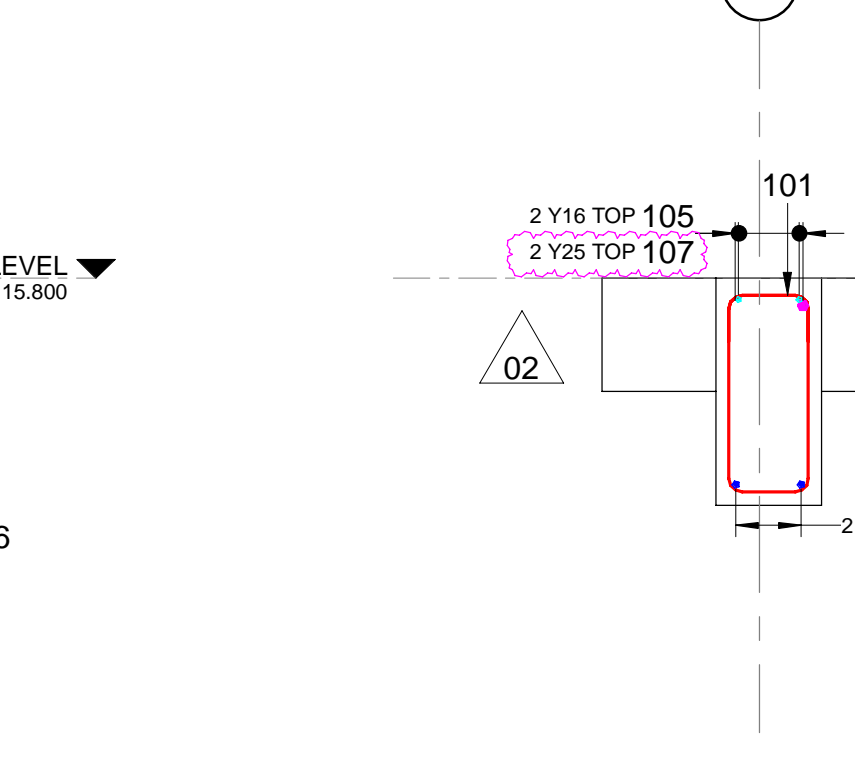
22 LVL 01 BEAM 22
SCALE 1:50



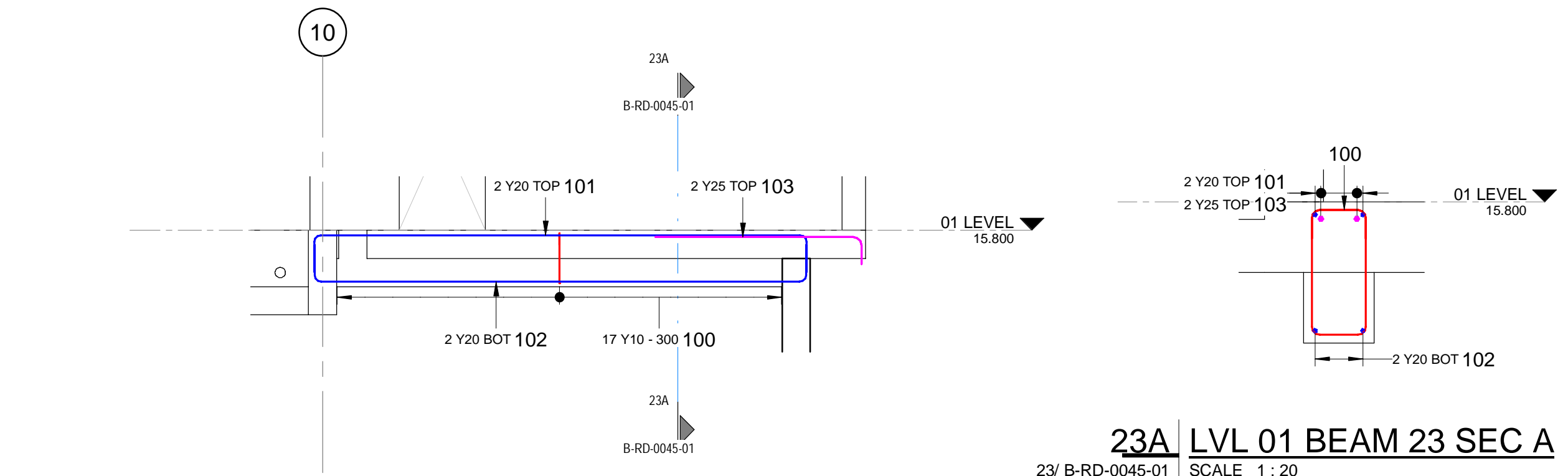
22A LVL 01 BEAM 22 SEC A
SCALE 1:20



22B LVL 01 BEAM 22 SEC B
SCALE 1:20

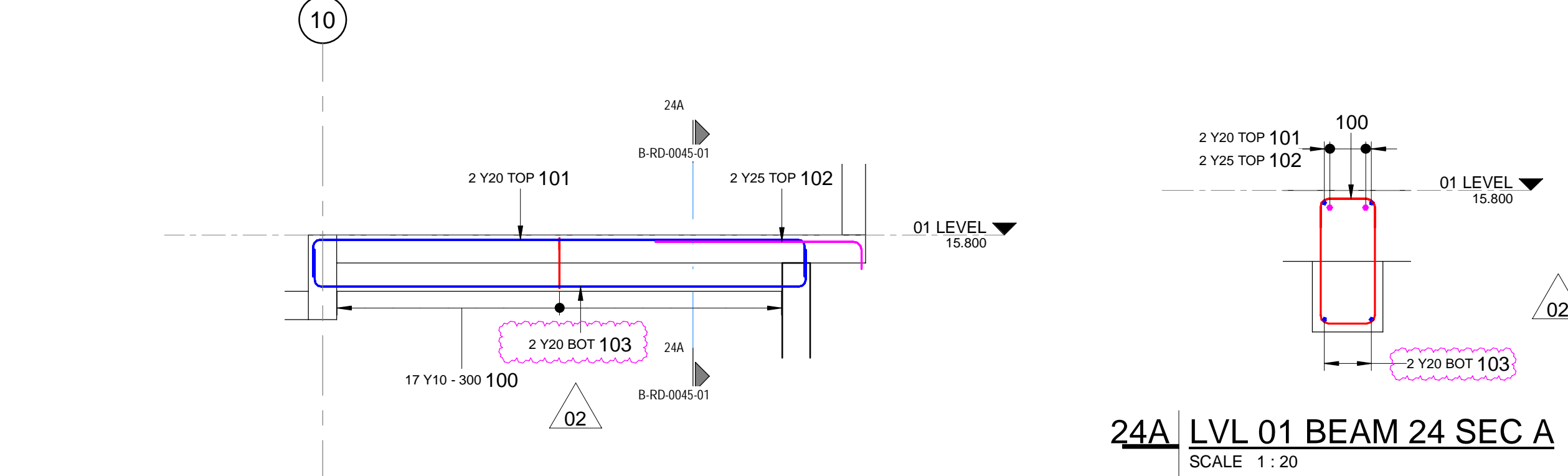


22C LVL 01 BEAM 22 SEC C
SCALE 1:20



23 LVL 01 BEAM 23
SCALE 1:50

23A LVL 01 BEAM 23 SEC A
SCALE 1:20

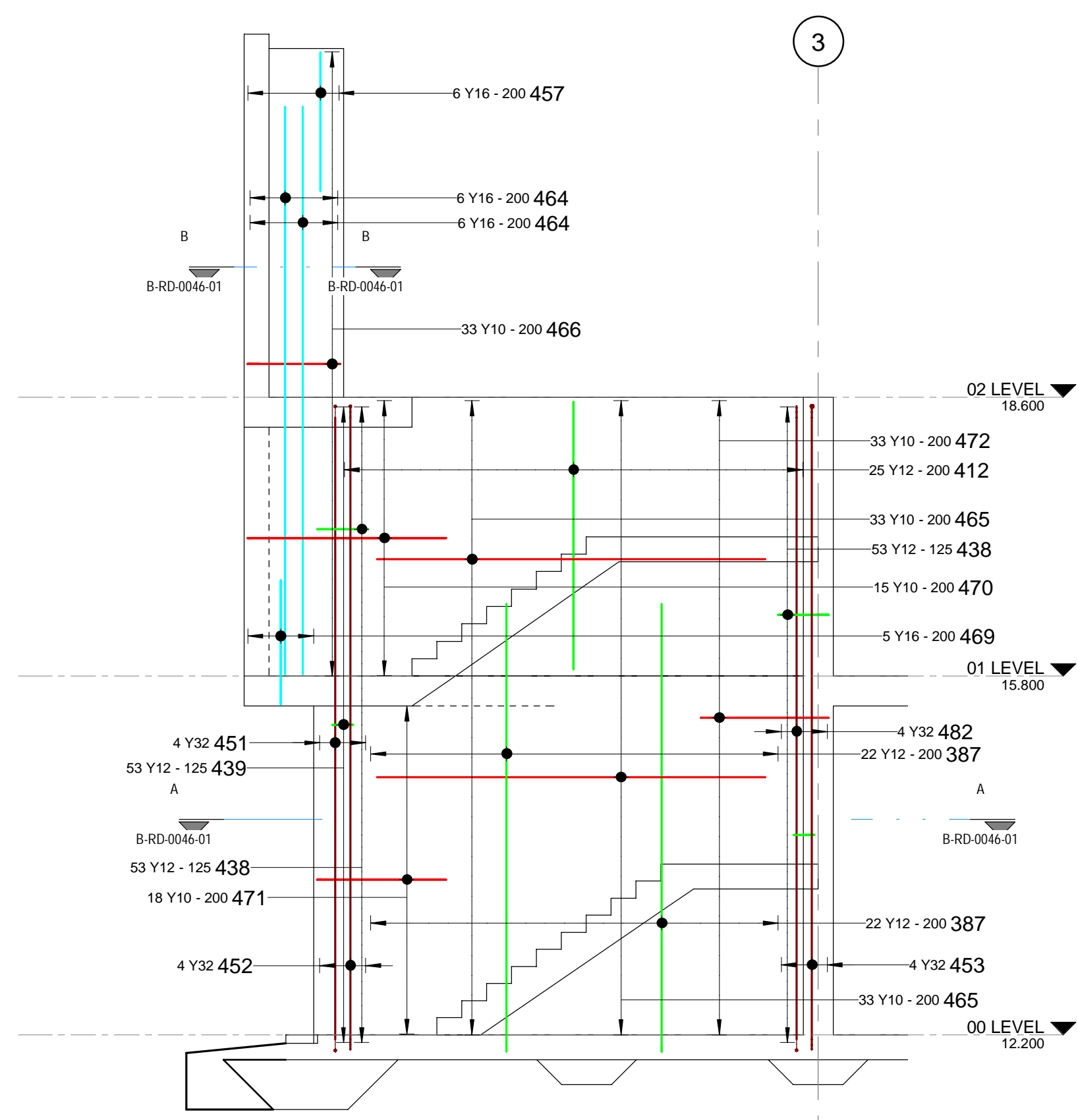


24 LVL 01 BEAM 24
SCALE 1:50

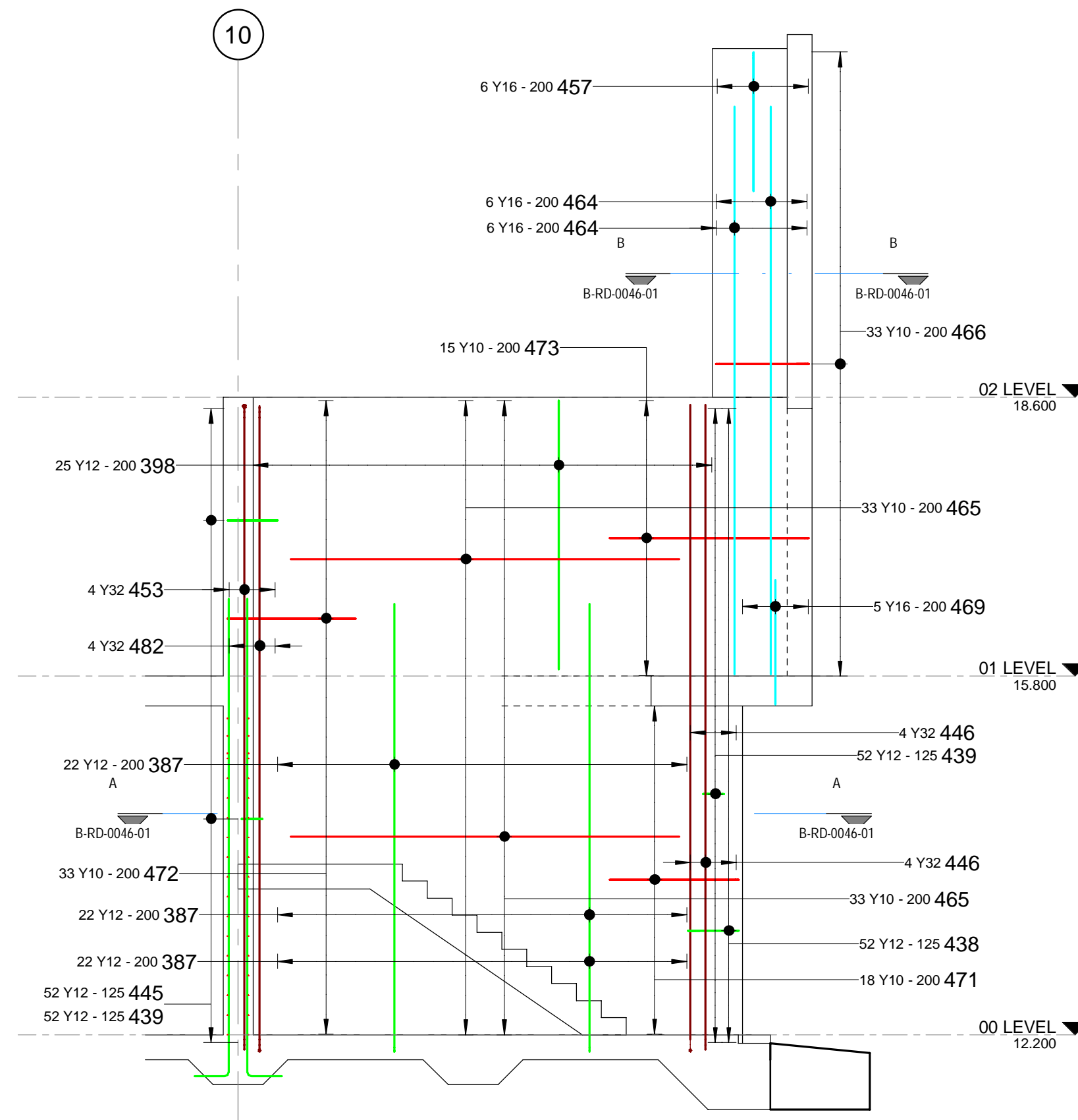
24A LVL 01 BEAM 24 SEC A
SCALE 1:20

REBAR LEVEL 01 BEAM SCHEDULE											
MEMBER	MARK	TYPE	NUMBER	LENGTH	SHAPE	A (mm)	B (mm)	C (mm)	D (mm)	ER	ER (mm)
LVL 01 BEAM 01	100	Y10	35	2290	60	810	240	0	0	0	0
LVL 01 BEAM 01	101	Y32	2	7300	20	7300	0	0	0	0	0
LVL 01 BEAM 01	102	Y16	6	9150	37	2250	500	0	0	0	0
LVL 01 BEAM 01	103	Y25	2	7300	20	7300	0	0	0	0	0
LVL 01 BEAM 01	104	Y32	2	3800	37	3800	500	0	0	0	0
LVL 01 BEAM 01	105	Y25	2	4740	41	2440	600	1700	90	0	0
LVL 01 BEAM 01	106	Y25	2	3990	41	2540	500	950	60	0	0
LVL 01 BEAM 01	107	Y16	6	4400	37	2250	500	0	0	0	0
LVL 01 BEAM 01	108	Y32	2	6000	20	6000	0	0	0	0	0
LVL 01 BEAM 01	109	Y32	2	3900	20	3900	0	0	0	0	0
LVL 01 BEAM 01	110	Y10	106	1150	60	270	240	0	0	0	0
LVL 01 BEAM 02	100	Y10	76	2290	60	840	240	0	0	0	0
LVL 01 BEAM 02	101	Y32	2	9900	20	9900	0	0	0	0	0
LVL 01 BEAM 02	102	Y16	2	9000	37	2250	500	0	0	0	0
LVL 01 BEAM 02	103	Y25	2	13000	20	13000	0	0	0	0	0
LVL 01 BEAM 02	104	Y16	1	13000	20	13000	0	0	0	0	0
LVL 01 BEAM 02	106	Y32	2	7120	41	4500	400	2220	70	0	0
LVL 01 BEAM 02	107	Y16	6	7950	37	190	7800	0	0	0	0
LVL 01 BEAM 02	108	Y32	2	3320	37	3320	500	0	0	0	0
LVL 01 BEAM 02	109	Y32	2	2670	37	2670	500	0	0	0	0
LVL 01 BEAM 02	110	Y10	152	1150	60	270	240	0	0	0	0
LVL 01 BEAM 02	111	Y32	2	6000	20	6000	0	0	0	0	0
LVL 01 BEAM 02	112	Y10	152	1150	60	270	240	0	0	0	0
LVL 01 BEAM 02	113	Y32	2	3170	37	2750	500	0	0	0	0
LVL 01 BEAM 03	100	Y10	76	2290	60	840	240	0	0	0	0
LVL 01 BEAM 03	101	Y32	2	9900	20	9900	0	0	0	0	0
LVL 01 BEAM 03	102	Y32	2	13000	20	13000	0	0	0	0	0
LVL 01 BEAM 03	103	Y32	2	2900	37	2900	500	0	0	0	0
LVL 01 BEAM 03	104	Y32	2	7120	41	4500	400	2220	70	0	0
LVL 01 BEAM 03	105	Y16	6	9150	37	190	7800	0	0	0	0
LVL 01 BEAM 03	106	Y32	2	4320	37	3800	500	0	0	0	0
LVL 01 BEAM 03	107	Y32	2	3320	37	2900	500	0	0	0	0
LVL 01 BEAM 03	108	Y16	6	9150	37	190	7800	0	0	0	0
LVL 01 BEAM 03	109	Y32	2	6000	20	6000	0	0	0	0	0
LVL 01 BEAM 03	110	Y10	82	1090	60	240	240	0	0	0	0
LVL 01 BEAM 03	111	Y10	70	1150	60	270	240	0	0	0	0
LVL 01 BEAM 03	112	Y32	2	3170	37	2750	500	0	0	0	0
LVL 01 BEAM 04	100	Y10	41	2230	60	810	240	0	0	0	0
LVL 01 BEAM 04	101	Y32	4	9900	20	9900	0	0	0	0	0
LVL 01 BEAM 04	102	Y25	2	9050	20	9050	0	0	0	0	0
LVL 01 BEAM 04	103	Y25	2	2940	37	2400	500	0	0	0	0
LVL 01 BEAM 04	104	Y25	2	7120	41	4500	400	2220	70	0	0
LVL 01 BEAM 04	105	Y32	4	2670	37	2250	500	0	0	0	0
LVL 01 BEAM 04	106	Y32	2	3320	37	2900	500	0	0	0	0
LVL 01 BEAM 04	107	Y16	8	9150	37	190	8000	0	0	0	0
LVL 01 BEAM 04	108	Y32	2	6000	20	6000	0	0	0	0	0
LVL 01 BEAM 04	109	Y20	2	3300	37	2900	500	0	0	0	0
LVL 01 BEAM 04	110	Y10	82	1090	60	240	240	0	0	0	0
LVL 01 BEAM 04	111	Y10	35	2440	14	810	240	0	0	0	0
LVL 01 BEAM 04	112	Y32	2	13000	20	13000	0	0	0	0	0
LVL 01 BEAM 04	113	Y16	6	7950	37	190	7800	0	0	0	0
LVL 01 BEAM 04	114	Y32	2	4310	37	3900	400	0	0	0	0
LVL 01 BEAM 04	115	Y10	70	1150	60	270	240	0	0	0	0
LVL 01 BEAM 05	100	Y10	41	2230	60	810	240	0	0	0	0
LVL 01 BEAM 05	101	Y10	35	2440	14	810	240	0	0	0	0
LVL 01 BEAM 05	102	Y20	2	3300	20	6000	0	0	0	0	0
LVL 01 BEAM 05	103	Y25	2	8050	20	8050	0	0	0	0	0
LVL 01 BEAM 05	104	Y25	2	2440	14	810	240	0	0	0	0
LVL 01 BEAM 05	105	Y25	2	2840	37	2400	500	0	0	0	0
LVL 01 BEAM 05	106	Y25	2	13000	20	13000	0	0	0	0	0
LVL 01 BEAM 05	107	Y16	3	7000	20	7000	0	0	0	0	0
LVL 01 BEAM 05	108	Y25	2	3000	20	3000	0	0	0	0	0
LVL 01 BEAM 05	109	Y25	2	7200	20	7200	0	0	0	0	0
LVL 01 BEAM 05	110	Y16	6	8550	37	190	8400	0	0	0	0
LVL 01 BEAM 05	111	Y16	6	8550	37	190	8400	0	0	0	0
LVL 01 BEAM 05	112	Y25	2	6900	20	6900	0	0	0	0	0
LVL 01 BEAM 05	113	Y16	3	2940	37	400	2000	0	0	0	0
LVL 01 BEAM 05	114	Y16	3	2940	37	400	2000	0	0	0	0
LVL 01 BEAM 05	115	Y16	3	2940	37	400	2000	0	0	0	0
LVL 01 BEAM 05	116	Y16	3	2940	37	400	2000	0	0	0	0
LVL 01 BEAM 05	117	Y10	226	1360	74	270	240	0	0	0	0
LVL 01 BEAM 12	100	Y10	141	2500	74	840	240	0	0	0	0
LVL 01 BEAM 12	101	Y20	2	7200	20	7200	0	0	0	0	0
LVL 01 BEAM 12	102	Y16	3	2940	37	400	2000	0	0	0	0
LVL 01 BEAM 12	103	Y20	2	6900	20	6900	0	0	0	0	0
LVL 01 BEAM 12	104	Y16	3	2940	37	400	2000	0	0	0	0
LVL 01 BEAM 12	105	Y10	70	1150	60	270	240	0	0	0	0
LVL 01 BEAM 12	106	Y20	4	3000	20	3000	0	0	0	0	0
LVL 01 BEAM 12	107	Y20	4	3000	20	3000	0	0	0	0	0
LVL 01 BEAM 12	108	Y20	4	3000	20	3000	0	0	0	0	0
LVL 01 BEAM 12	109	Y20	4	3000	20	3000	0	0	0	0	0
LVL 01 BEAM 12	110	Y10	76	2290	60	840	240	0	0	0	0
LVL 01 BEAM 12	101	Y32	4	9900	20	9900	0	0	0	0	0

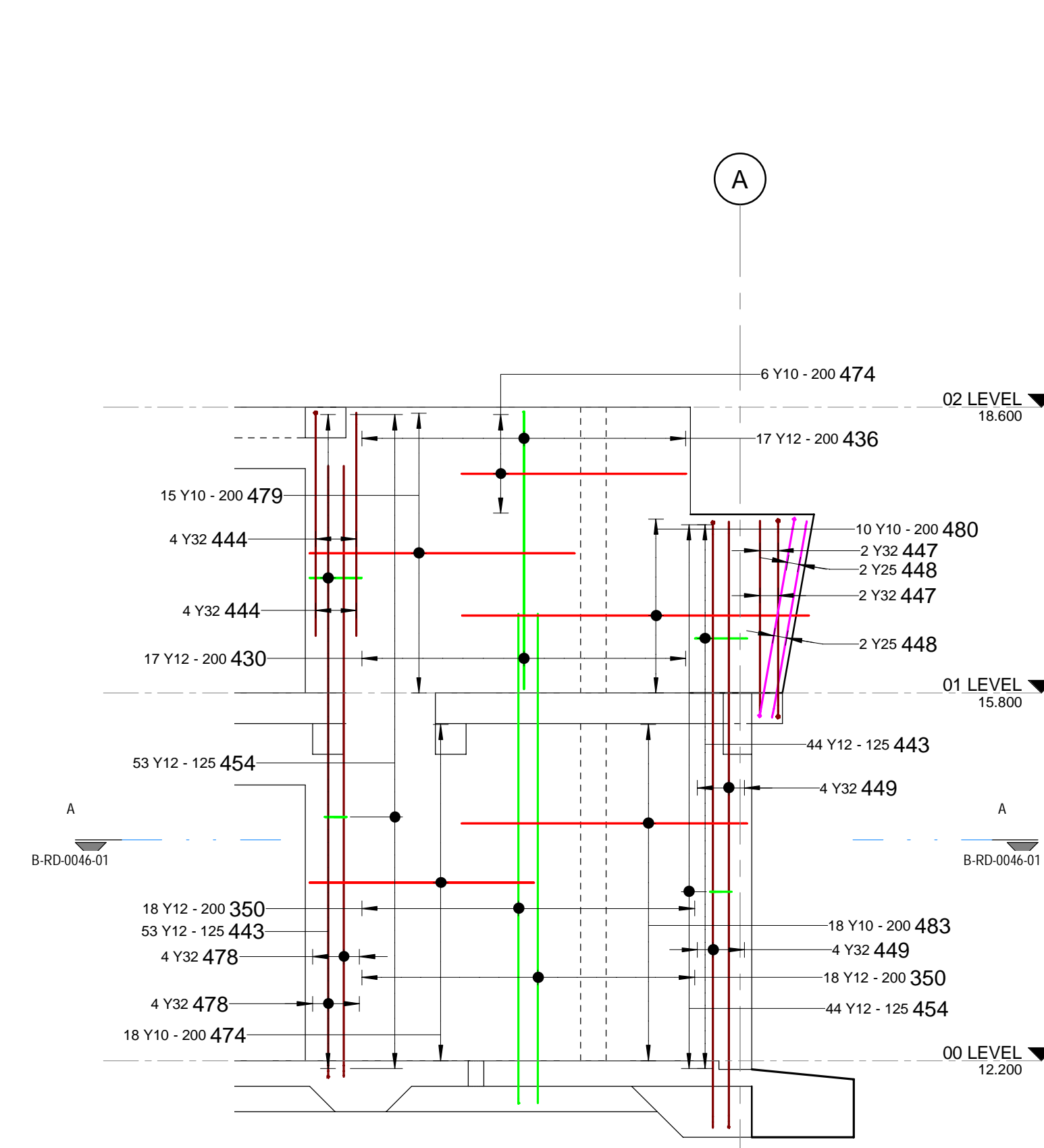
REBAR LEVEL 01 BEAM SCHEDULE											
MEMBER	MARK	TYPE	NUMBER	LENGTH	SHAPE	A (mm)	B (mm)	C (mm)	D (mm)	ER	ER (mm)
LVL 01 BEAM 06	102	Y20	2	7500	20	7500	0	0	0	0	0
LVL 01 BEAM 06	103	Y32	4	13000	20	13000	0	0	0	0	0
LVL 01 BEAM 06	104	Y32	4	2670	37	2250	500	0	0	0	0
LVL 01 BEAM 06	105	Y32	2	7120	41	4500	400	2220	70	0	0
LVL 01 BEAM 06	106	Y16	6	7950	37	190	7800	0	0	0	0
LVL 01 BEAM 06	107	Y32	2	4220	37	3800	500	0	0	0	0
LVL 01 BEAM 06	108	Y32	4	3320	37	2900	500	0	0	0	0
LVL 01 BEAM 06	109	Y16	6	9150	37	190	8000	0	0	0	0
LVL 01 BEAM 06	110	Y32	2	6000	20	6000	0	0	0	0	0
LVL 01 BEAM 06	111	Y20	2	4240	37	3800	490	0	0	0	0
LVL 01 BEAM 06	112	Y10	82	1090	60	240	240	0	0	0	0
LVL 01 BEAM 06	113	Y10	70	1150	60	270	240	0	0	0	0
LVL 01 BEAM 06	114	Y32	2	3170	37	2750	500	0	0	0	0
LVL 01 BEAM 07	100	Y10	76	2290	60	840	240	0	0	0	0
LVL 01 BEAM 07	101	Y32	4	9900	20	9900	0	0	0	0	0
LVL 01 BEAM 07	102	Y20	2	7800	20	7800	0	0	0	0	0
LVL 01 BEAM 07	103	Y32	4	13000	20	13000	0	0	0	0	0
LVL 01 BEAM 07	104	Y32	4	2670	37	2250	500	0	0	0	0
LVL 01 BEAM 07	105	Y32	2	7120	41	4500	400	2220	70	0	0
LVL 01 BEAM 07	106	Y16	6	7950	37	190	7800	0	0	0	0
LVL 01 BEAM 07	107	Y32	2	4220	37	3800	500	0	0	0	0
LVL 01 BEAM 07	108	Y32	4	3320	37	2900	500	0	0	0	0
LVL 01 BEAM 07	109	Y16	6	9150	37	190	8000	0	0	0	0
LVL 01 BEAM 07	110	Y32	2	6000	20	6000	0	0	0	0	0
LVL 01 BEAM 07	111	Y20	2	4240	37	3800	490	0	0	0	0
LVL 01 BEAM 07	112	Y10	82	1090	60	240	240	0	0	0	0
LVL 01 BEAM 07	113	Y10									



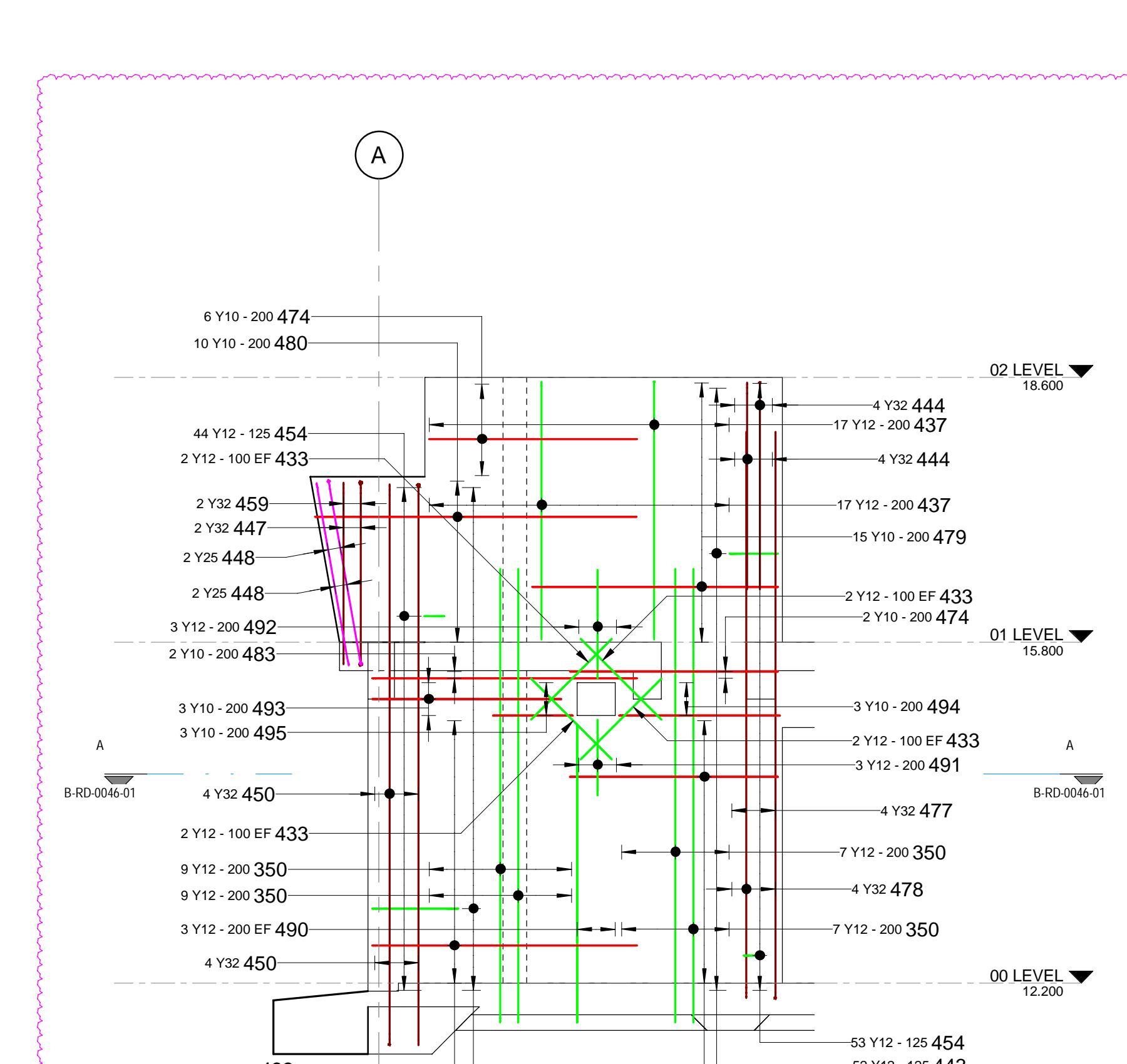
W1 WALL 1
SCALE 1:50



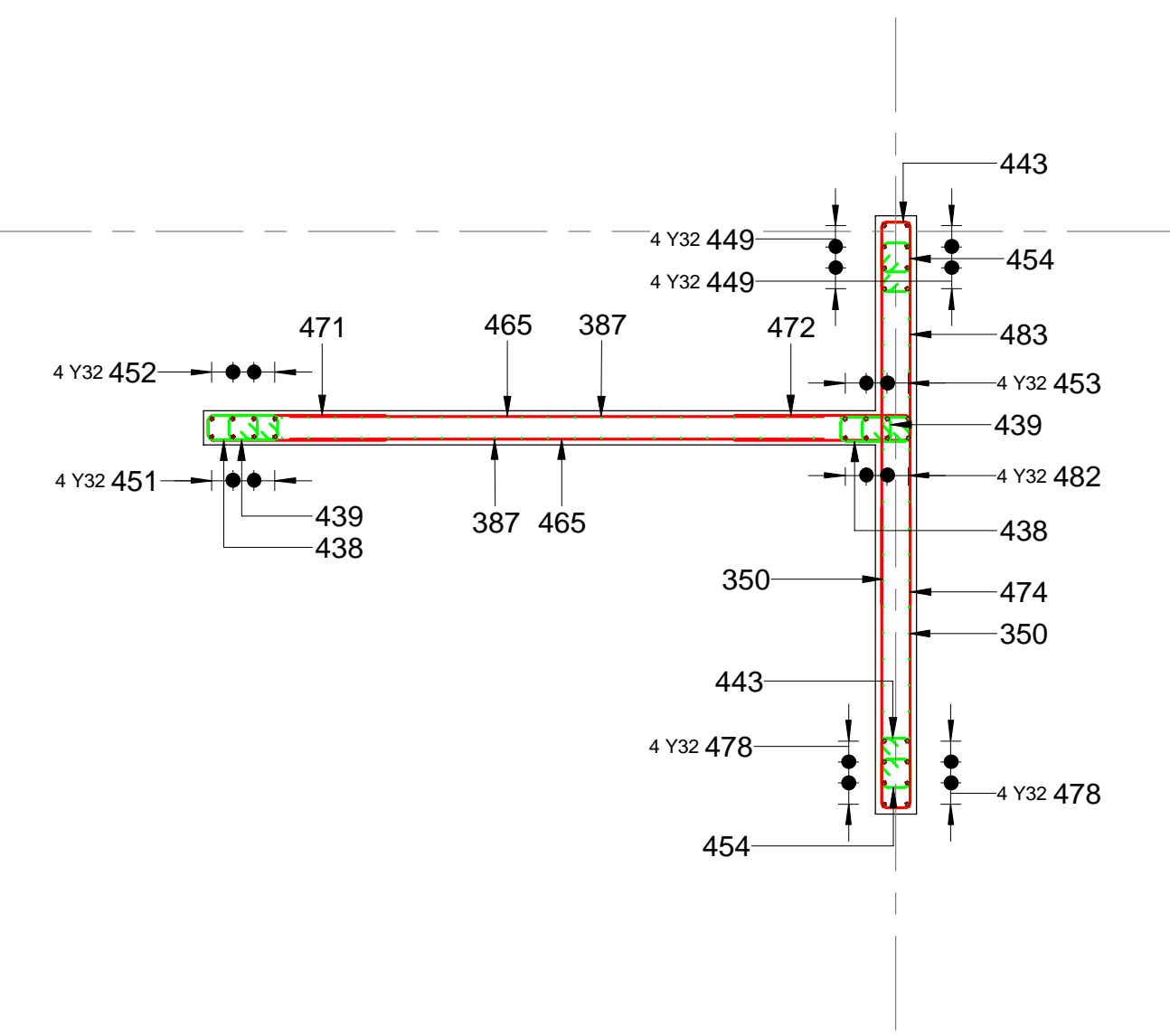
W2 WALL 2
SCALE 1:50



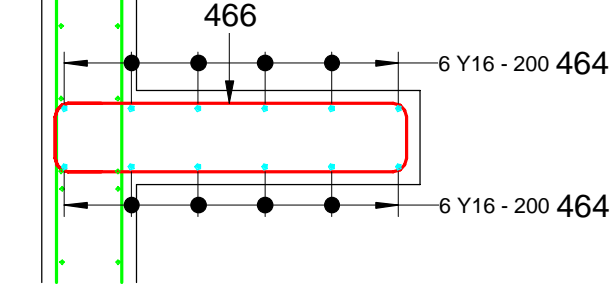
W3 WALL 3
SCALE 1:50



W4 WALL 4
SCALE 1:50

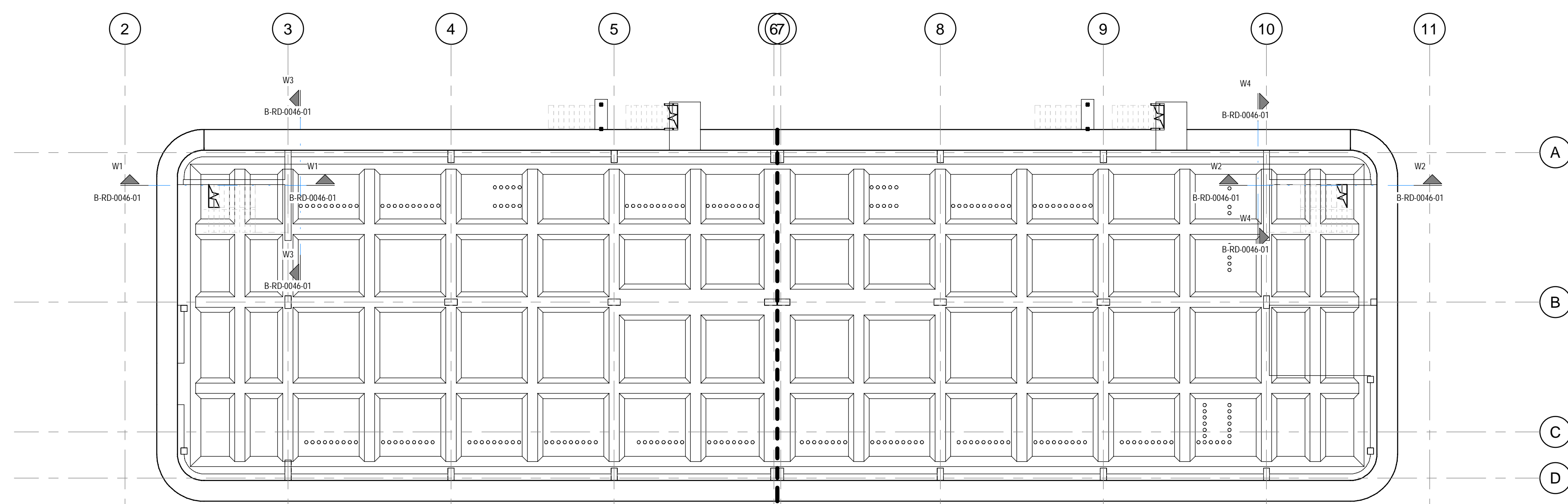


A HOR SEC A
SCALE 1:50

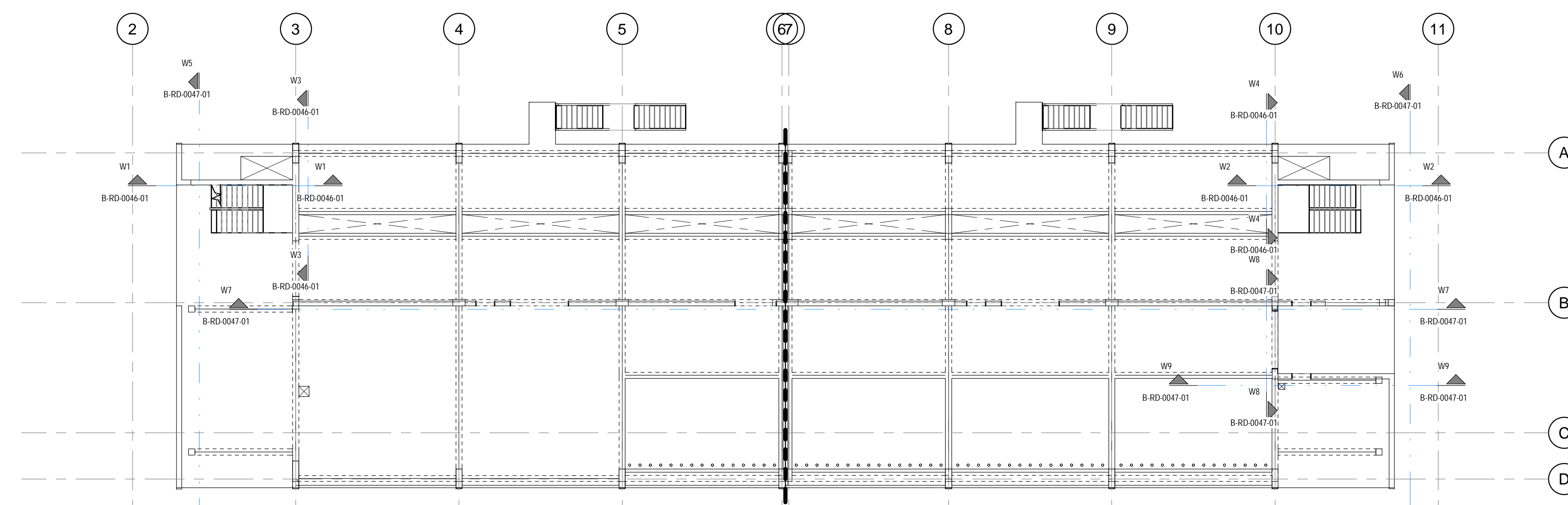


B HOR SEC B
SCALE 1:20

Y10 CLIPS PLACED AROUND VERTICAL BARS @ 400 c/cs STG EW
360 FOR 300 THK WALLS - BM 501
2260 FOR 250 THK WALLS - BM 500
2800 FOR 230 THK WALLS - BM 502



00 00 LEVEL WALL REBAR KEYPLAN
SCALE 1:150



01 01 LEVEL WALL REBAR KEYPLAN
SCALE 1:150

- NOTES**
- DO NOT SCALE DRAWING - ONLY DIMENSIONS SHOWN TO BE USED
 - THE CONTRACTOR SHALL VERIFY ALL CONDITIONS, DIMENSIONS AND LEVELS ON THE SITE AND NOTIFY THE NEC SUPERVISOR OF ANY VARIATIONS BEFORE CONSTRUCTION.



CAPE TOWN OFFICE
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TYGER WATERFRONT
CARL CRONJE DRIVE
TEL: +27 (0)21 950 7500
FAX: +27 (0)21 950 7502
REG. No. 1966/006628/07

CONTRACTOR/CONSULTANT		TRANSNET CAPITAL PROJECTS	
TITLE	NAME	SIGN	DATE
DRAWN	AH	[Signature]	06/09/21
CHECKED	C.K	[Signature]	06/09/21
DESIGNED	C.K	[Signature]	06/09/21
CHECKED	SWM	[Signature]	06/09/21

OPERATING DIVISIONS		PR. ENG./PR. TECH./PR. ARCH		
TITLE	NAME	SIGN	DATE	
02 OPENINGS FOR SERVICES ADD/AMENDED	AH	C.K	SWM	06/09/21
01 TLOOR/SLOT PROGRAM AMENDED WALLS EXTENDED - DOOR SIZE AMENDED	AH	C.K	SWM	01/09/21
03 ISSUED FOR CONSTRUCTION	AH	C.K	SWM	21/06/19

PR. ENG./PR. TECH./PR. ARCH		PROJECT NUMBER	
NAME	SIGNATURE	NO	DATE
SW MARAIS	[Signature]	00 00 21	
REG. NUMBER	20061006	PROJECT NUMBER	00 00 21
SCALE: AS SHOWN		PROJECT NUMBER	00 00 21

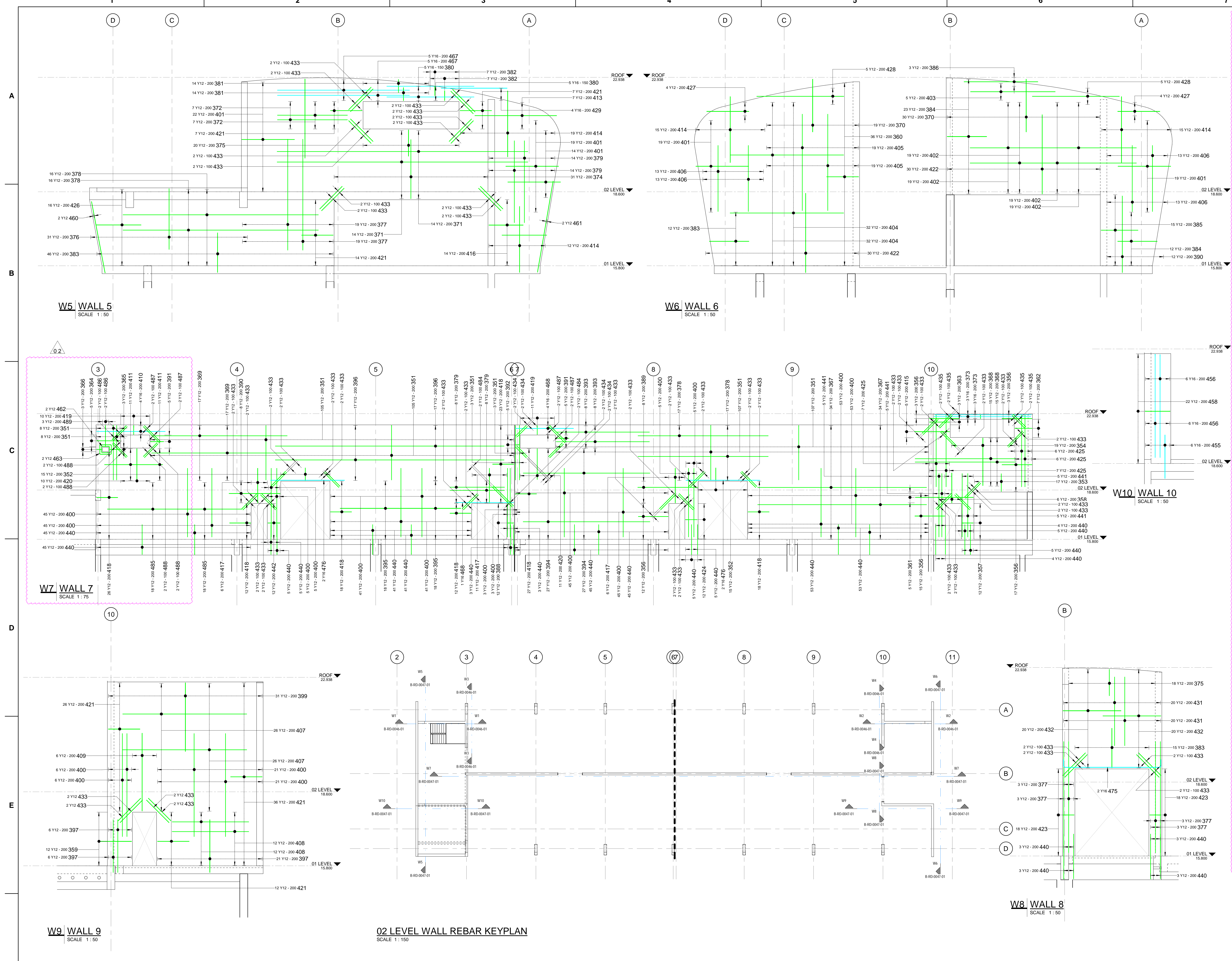
Transnet Capital Projects
TRANSNET LTD (TRANSNET CAPITAL PROJECTS) REG. NO. 1966/006628/07
TABLE VUY BUILDING, TYGERSBERG PARK, TEL: 021 940 1999
163 LUIS KRIGE DRIVE, PLATTEKLOOF, FAX: 021 940 1999
8001

PORT OF SALDANHA

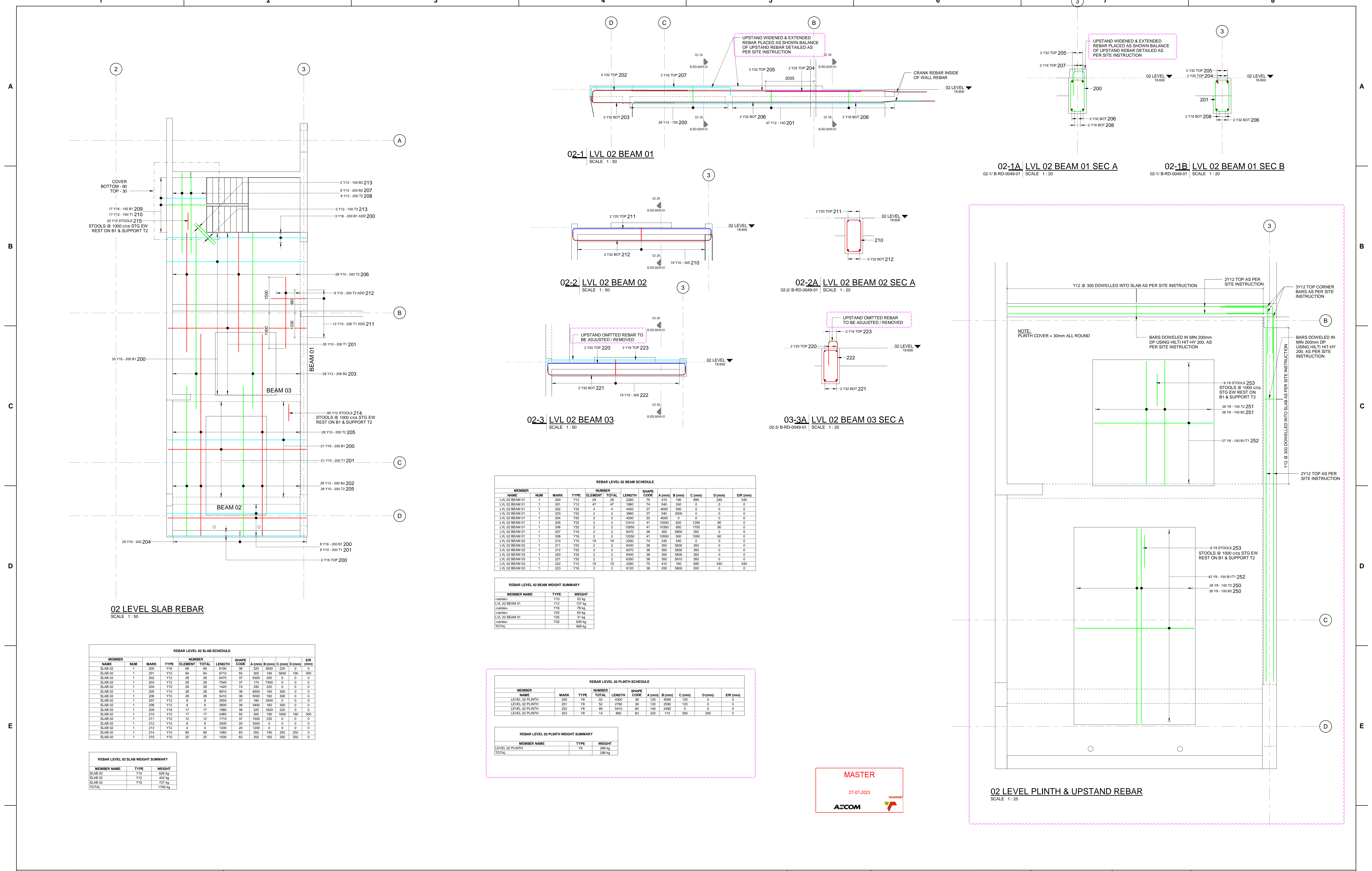
**IRON ORE TIPPLER 3 PROJECT
BULK POWER UPGRADE:
MAIN INTAKE SUBSTATION
WALL REBAR LAYOUTS - SHEET 1**

PROJECT NUMBER	DO	FBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
19 2 4 7 0 1	2	5 1 0	B	R D	0 0 4 6	0 1	0 2	A E

DRAWING NO.	REFERENCE
1	REFERENCE DRAWINGS



REBAR WALL SCHEDULE													
MEMBER	NUM	MARK	TYPE	NUMBER	ELEMENT	TOTAL LENGTH	SHAPE	CODE	A (mm)	B (mm)	C (mm)	D (mm)	BAR
WALL	1	350	Y12	66	68	5120	37	4800	350	0	0	0	0
WALL	1	446	Y12	337	310	337	3100	140	0	0	0	0	0
WALL	1	352	Y12	30	30	1520	38	720	140	720	0	0	0
WALL	1	353	Y12	17	17	2090	38	1000	140	1000	0	0	0
WALL	1	354	Y12	1	1	580	38	2700	140	2700	0	0	0
WALL	1	355	Y12	20	20	960	74	230	140	0	0	0	0
WALL	1	356	Y12	12	12	1870	74	640	170	0	0	0	0
WALL	1	357	Y12	6	6	3480	38	1700	140	1700	0	0	0
WALL	1	358	Y12	6	6	2410	38	1200	140	1200	0	0	0
WALL	1	359	Y12	36	36	2500	38	1200	140	1200	0	0	0
WALL	1	360	Y12	20	20	1700	74	1300	170	1300	0	0	0
WALL	1	361	Y12	7	7	2530	74	970	170	0	0	0	0
WALL	1	362	Y12	3	3	1830	74	620	170	0	0	0	0
WALL	1	363	Y12	3	3	2890	74	1150	170	0	0	0	0
WALL	1	364	Y12	5	5	3270	74	1300	170	1300	0	0	0
WALL	1	365	Y12	3	3	1830	74	620	170	0	0	0	0
WALL	1	366	Y12	3	3	1100	74	300	170	0	0	0	0
WALL	1	367	Y12	68	68	9600	20	9600	0	0	0	0	0
WALL	1	368	Y12	30	30	5700	20	5700	0	0	0	0	0
WALL	1	369	Y12	34	34	7700	20	7700	0	0	0	0	0
WALL	1	370	Y12	49	49	4100	38	2000	160	2000	0	0	0
WALL	1	371	Y12	28	28	9500	20	9500	0	0	0	0	0
WALL	1	372	Y12	14	14	2650	20	2650	0	0	0	0	0
WALL	1	373	Y12	6	6	5500	20	5500	0	0	0	0	0
WALL	1	374	Y12	31	31	4500	20	4500	0	0	0	0	0
WALL	1	375	Y12	38	38	2100	38	1000	160	1000	0	0	0
WALL	1	376	Y12	44	44	2300	38	1100	160	1100	0	0	0
WALL	1	377	Y12	50	50	4200	20	4200	0	0	0	0	0
WALL	1	378	Y12	66	66	7400	20	7400	0	0	0	0	0
WALL	1	379	Y12	20	20	3100	20	3100	0	0	0	0	0
WALL	1	380	Y12	10	10	3300	20	3300	0	0	0	0	0
WALL	1	381	Y12	28	28	1500	74	500	170	500	0	0	0
WALL	1	382	Y12	14	14	1300	74	380	170	0	0	0	0
WALL	1	383	Y12	75	75	3100	38	1500	160	1500	0	0	0
WALL	1	384	Y12	25	25	4300	38	2000	160	2000	0	0	0
WALL	1	385	Y12	15	15	2900	38	1400	160	1400	0	0	0
WALL	1	386	Y12	3	3	6300	38	6300	0	0	0	0	0
WALL	1	387	Y12	68	68	4870	37	4500	400	0	0	0	0
WALL	1	388	Y12	12	12	1310	74	360	170	0	0	0	0
WALL	1	389	Y12	8	8	6800	38	3400	160	3400	0	0	0
WALL	1	390	Y12	20	20	5900	38	2900	160	2900	0	0	0
WALL	1	391	Y12	10	10	1580	38	790	160	790	0	0	0
WALL	1	392	Y12	5	5	990	74	240	140	0	0	0	0
WALL	1	393	Y12	16	16	5300	20	5300	0	0	0	0	0
WALL	1	394	Y12	54	54	7200	20	7200	0	0	0	0	0
WALL	1	395	Y12	38	38	6800	20	6800	0	0	0	0	0
WALL	1	396	Y12	54	54	2370	37	2000	400	0	0	0	0
WALL	1	397	Y12	25	25	5500	38	2700	160	2700	0	0	0
WALL	1	398	Y12	31	31	5300	38	2600	160	2600	0	0	0
WALL	1	400	Y12	448	448	3900	20	3900	0	0	0	0	0
WALL	1	401	Y12	93	93	3800	20	3800	0	0	0	0	0
WALL	1	402	Y12	38	38	6300	38	6300	0	0	0	0	0
WALL	1	403	Y12	10	10	3210	20	3200	0	0	0	0	0
WALL	1	404	Y12	64	64	4300	14	4300	0	0	0	0	0
WALL	1	405	Y12	38	38	3650	20	3650	0	0	0	0	0
WALL	1	406	Y12	52	52	2500	20	2500	0	0	0	0	0
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WALL	1	408	Y12	24	24	2900	20	2900	0	0	0	0	0
WALL	1	409	Y12	51	51	6000	38	2900	160	2900	0	0	0
WALL	1	410	Y12	4	4	7800	38	3900	170	3900	0	0	0
WALL	1	411	Y12	22	22	3300	20	3300	0	0	0	0	0
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WALL	1	413	Y12	7	7	6330	38	3100	190	3100	0	0	0
WALL	1	414	Y12	61	61	5100	38	2500	160	2500	0	0	0
WALL	1	415	Y12	5	5	4110	38	2000	170	2000	0	0	0
WALL	1	416	Y12	14	14	2700	38	1300	140	1300	0	0	0
WALL	1	417	Y12	23	23	4000	38	2700	140	2700	0	0	0
WALL	1	418	Y12	136	136	2510	38	1200	170	1200	0	0	0
WALL	1	419	Y12	21	21	1540	38	770	140	770	0	0	0
WALL	1	420	Y12	21	21	3580	38	1750	140	1750	0	0	0
WALL	1	421	Y12	114	114	2300	38	1200	160	1200	0	0	0
WALL	1	422	Y12	84	84	6100	38	3000	160	3000	0	0	0
WALL	1	423	Y12	38	38	5100	74	430	190	0	0	0	0
WALL	1	424	Y12	12	12	1950	74	480	140	0	0	0	0
WALL	1	425	Y12	26	26	4210	37	4100	140	0	0	0	0
WALL	1	426	Y12	30	30	3800	38	1700	160	1700	0	0	0
WALL	1	427	Y12	8	8	3300	38	1600	160	1600	0	0	0
WALL	1	428	Y12	10	10	6730	38	3300	190	3300	0	0	0
WALL	1	429	Y12	4	4	5100	38	2500	160	2500	0	0	0
WALL	1	430	Y12	17	17	2860	37	2720	170	0	0	0	0
WALL	1	431	Y12	40	40	2800	20	2800	0	0	0	0	0
WALL	1	432	Y12	40	40	4500	38	2200	160	2200	0	0	0
WALL	1	433	Y12	116	116	1200	20	1200	0	0	0	0	0
WALL	1	434	Y12	8	8	800	20	800	0	0	0	0	0
WALL	1	435	Y12	6	6	1000	20	1000	0	0	0	0	0
WALL	1	436	Y12	17	17	2900	37	2720	210	0	0	0	0
WALL	1	437	Y12	24	24	2100	38	1000	160	1000	0	0	0
WALL	1	438	Y12	158	158	1560	99A	190	520	0	0	0	0
WALL	1	439	Y12	210	210	960	190	960	0	0	0	0	0
WALL	1	440	Y12	424	424	1810	37	1700	140	0	0	0	0
WALL	1	441	Y12	20	20	3600	20	3600	0	0	0	0	0
WALL	1	442	Y12	12	12	1870	74	480	140	0	0	0	0
WALL	1	443	Y12	149	149	1630	99A	220	500	0	0	0	0
WALL	1	444	Y12	16	16	2470	37	2300	160	2300	0	0	0
WALL	1	445	Y12	52	52	1540	99A	190	510	0	0	0	0
WALL	1	446	Y12	8	8	7020	37	6500	600	0	0	0	0
WALL	1	447	Y12	4	4	2290	64	250	190	290	0	0	0
WALL	1	448	Y12	8	8	2400	38	250	190	300	0	0	0
WALL	1	449	Y12	8	8	6660	54	250	950	600	0	0	0
WALL	1	450	Y12	8	8	6660	54	250	950	600	0	0	0
WALL	1	451	Y12	4	4	7340	38	600	6500	400	0	0	0
WALL	1	452	Y12	4	4	7340	38	600	6500	400	0	0	0
WALL	1	453	Y12	8	8	1160	54	200	6500	600	0	0	0
WALL	1	454	Y12	194	194	1020	99A	220	0	0	0	0	0
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WALL	1	456	Y12	12	12	4010	37	150	3000	0	0	0	0
WALL	1	457	Y12	12	12	2800	38	1400	1400	0	0	0	0
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WALL	1	461	Y12	2	2	7100	38	3500	160	3500	0	0	0
WALL	1	462	Y12	2	2	1770	60	360	470	0	0	0	0
WALL	1	463	Y12	2	2	2550	60	550	670	0	0	0	0
WALL	1	464	Y12	24	24	5700	20	5700	0	0	0	0	0
WALL	1	465	Y10	132	132	3900	20	3900	0	0			



REBAR LEVEL 02 BEAM SCHEDULE

MEMBER NAME	NUM	MARK	TYPE	ELEMENT	TOTAL	LENGTH	SHAPE CODE	A (mm)	B (mm)	C (mm)	D (mm)	EUR (mm)
LVL 02 BEAM 01	1	201	Y12	47	47	1880	74	540	240	0	0	0
LVL 02 BEAM 01	1	202	Y32	4	4	4400	37	4000	500	0	0	0
LVL 02 BEAM 01	1	203	Y32	2	2	3900	37	540	3500	0	0	0
LVL 02 BEAM 01	1	204	Y25	2	2	4000	20	4000	0	0	0	0
LVL 02 BEAM 01	1	205	Y32	2	2	3240	41	10500	600	1300	80	0
LVL 02 BEAM 01	1	206	Y32	2	2	12650	41	10350	600	1700	80	0
LVL 02 BEAM 01	1	207	Y16	2	2	6470	38	350	5850	350	0	0
LVL 02 BEAM 01	1	208	Y16	2	2	12050	41	10550	500	1000	60	0
LVL 02 BEAM 02	1	210	Y10	19	19	2200	74	240	540	0	0	0
LVL 02 BEAM 02	1	211	Y25	2	2	6400	38	350	5830	350	0	0
LVL 02 BEAM 02	1	212	Y32	2	2	6370	38	350	5830	350	0	0
LVL 02 BEAM 03	1	220	Y20	2	2	6400	38	350	5830	350	0	0
LVL 02 BEAM 03	1	221	Y32	2	2	6350	38	350	5810	350	0	0
LVL 02 BEAM 03	1	222	Y10	19	19	2250	75	410	160	690	240	540
LVL 02 BEAM 03	1	223	Y16	2	2	6100	38	200	5800	200	0	0

REBAR LEVEL 02 BEAM WEIGHT SUMMARY

MEMBER NAME	TYPE	WEIGHT
LVL 02 BEAM 01	Y12	137 kg
LVL 02 BEAM 01	Y16	76 kg
LVL 02 BEAM 01	Y25	31 kg
LVL 02 BEAM 01	Y32	639 kg
TOTAL		909 kg

REBAR LEVEL 02 PLINTH SCHEDULE

MEMBER NAME	MARK	TYPE	TOTAL	LENGTH	SHAPE CODE	A (mm)	B (mm)	C (mm)	D (mm)	EUR (mm)
LEVEL 02 PLINTH	250	Y8	52	4300	38	125	4000	125	0	0
LEVEL 02 PLINTH	251	Y8	52	2790	38	120	2590	120	0	0
LEVEL 02 PLINTH	252	Y8	69	5410	60	140	2480	0	0	0
LEVEL 02 PLINTH	253	Y8	14	880	83	220	110	250	250	0

REBAR LEVEL 02 PLINTH WEIGHT SUMMARY

MEMBER NAME	TYPE	WEIGHT
LEVEL 02 PLINTH	Y8	298 kg
TOTAL		298 kg

REBAR LEVEL 02 SLAB SCHEDULE

MEMBER NAME	NUM	MARK	TYPE	ELEMENT	TOTAL	LENGTH	SHAPE CODE	A (mm)	B (mm)	C (mm)	D (mm)	EUR (mm)
SLAB 02	1	200	Y10	69	69	6190	38	220	5630	220	0	0
SLAB 02	1	201	Y10	64	64	6710	35	300	190	5690	190	300
SLAB 02	1	202	Y12	28	28	6470	37	6300	200	0	0	0
SLAB 02	1	203	Y12	28	28	7240	37	170	7400	0	0	0
SLAB 02	1	204	Y10	29	29	1420	74	330	220	0	0	0
SLAB 02	1	205	Y10	28	28	8910	38	8000	160	300	0	0
SLAB 02	1	206	Y10	28	28	5410	38	2000	160	300	0	0
SLAB 02	1	207	Y12	8	8	3550	37	180	3400	0	0	0
SLAB 02	1	208	Y12	8	8	3800	38	3400	160	300	0	0
SLAB 02	1	209	Y16	17	17	1980	38	220	1620	220	0	0
SLAB 02	1	210	Y12	17	17	2460	55	300	190	1600	190	300
SLAB 02	1	211	Y10	12	12	1710	37	1500	258	0	0	0
SLAB 02	1	212	Y10	6	6	3000	20	3000	0	0	0	0
SLAB 02	1	213	Y12	4	4	1200	20	1200	0	0	0	0
SLAB 02	1	214	Y10	80	80	1060	83	250	190	250	250	0
SLAB 02	1	215	Y10	20	20	1000	83	250	160	250	250	0

REBAR LEVEL 02 SLAB WEIGHT SUMMARY

MEMBER NAME	TYPE	WEIGHT
SLAB 02	Y10	629 kg
SLAB 02	Y12	442 kg
SLAB 02	Y16	727 kg
TOTAL		1798 kg

NOTES

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AECOM

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FAX: +27 (0)21 950 7502
REG. No. 1966/006628/07

CONTRACTOR/CONSULTANT

NAME	SIGN	DATE
DRAWN	AH	24 07 23
CHECKED	C.K	24 07 23
DESIGNED	C.K	24 07 23
CHECKED	SWM	24 07 23

OPERATING DIVISIONS

TITLE	NAME	SIGN	DATE
PR. ENG./PR. TECH./PR. ARCH	NAME	SWM	24 07 23
SIGNATURE			
REG. NUMBER	20090106		
SCALE	AS SHOWN		

REVISIONS

NO	DESCRIPTION	BY	CHKD/APPD	DATE
01	PLINTH REINFORCEMENT ADDED, UPSTANDS REVISED	AH	JRW	24 07 23
02	FOR CONSTRUCTION	AH	C.K	24 07 23

TRANSNET CAPITAL PROJECTS

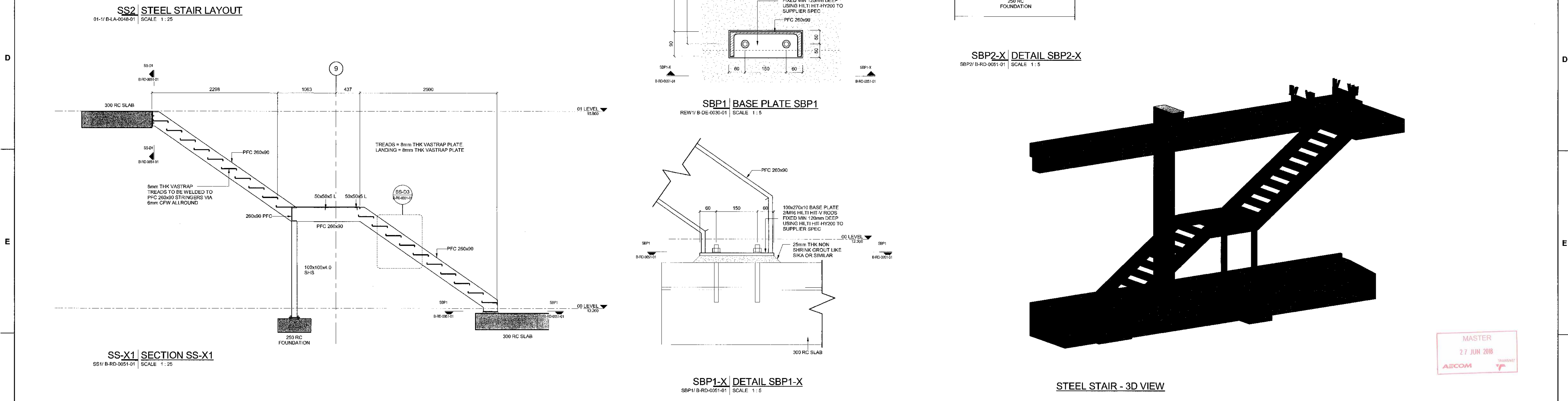
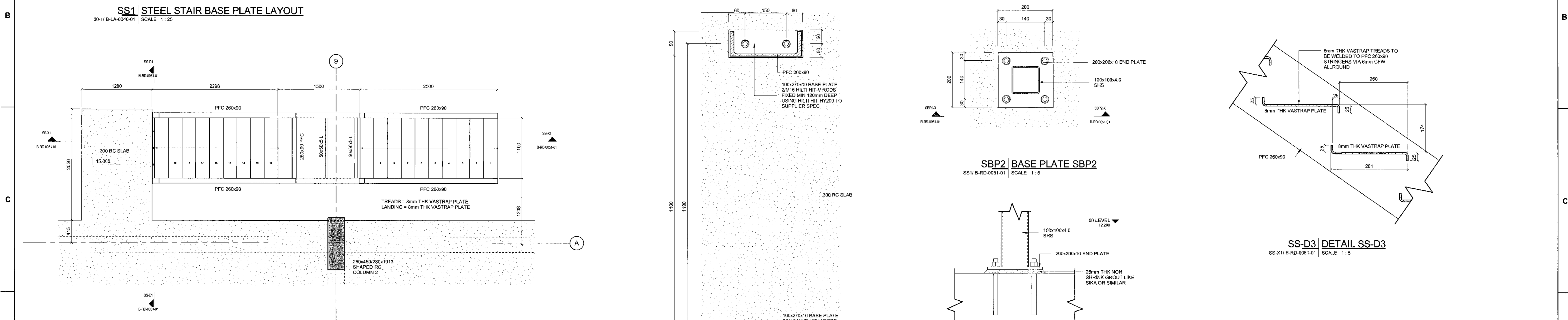
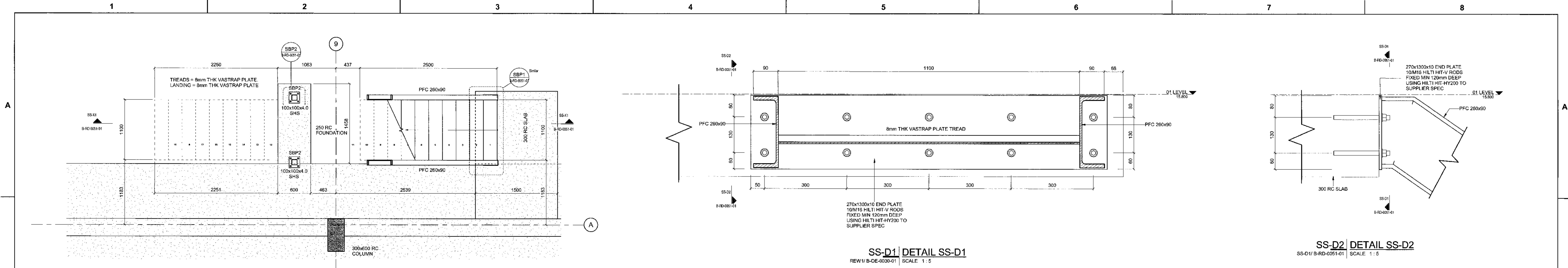
TITLE	NAME	SIGN	DATE
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SIGNATURE			
REG. NUMBER	20090106		
SCALE	AS SHOWN		

Transnet Capital Projects
TRANSNET LTD (TRANSNET CAPITAL PROJECTS) REG. NO. 1966/006628/07
TABLE AV BUILDING, TYGERSBERG PARK, TEL: 021 940 1999
163 LUIS KRIGE DRIVE, PLATTEKLOOF, FAX: 021 677 2455
8001

PORT OF SALDANHA

IRON ORE TIPPLER 3 PROJECT
BULK POWER UPGRADE:
MAIN INTAKE SUBSTATION
LEVEL 02 REBAR LAYOUT

PROJECT NUMBER	00	FBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
19	2	4	7	0	1	2	5	10
B	R	D	0	0	4	9	0	1
0	1	0	1	0	1	0	1	A



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DRAWING NO.	REFERENCE
	REFERENCE DRAWINGS

TITLE	NAME	SIGN	DATE
ISSUED FOR CONSTRUCTION	AK		27-06-18
NO	DESCRIPTION	BY	CHKD/APPRD DATE

REVISIONS

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CONTRACTOR/CONSULTANT				TRANSNET CAPITAL PROJECTS			
TITLE	NAME	SIGN	DATE	TITLE	NAME	SIGN	DATE
				DRAWN	BB		27-06-18
				CHECKED	HWF		27-06-18
				DESIGNED	CK		27-06-18
				CHECKED	SWW		27-06-18

OPERATING DIVISIONS

TITLE	NAME	SIGN	DATE

PR.ENG./PR.TECH./PR.ARCH

NAME	DATE

REG. NUMBER 20000105
SCALE: AS SHOWN

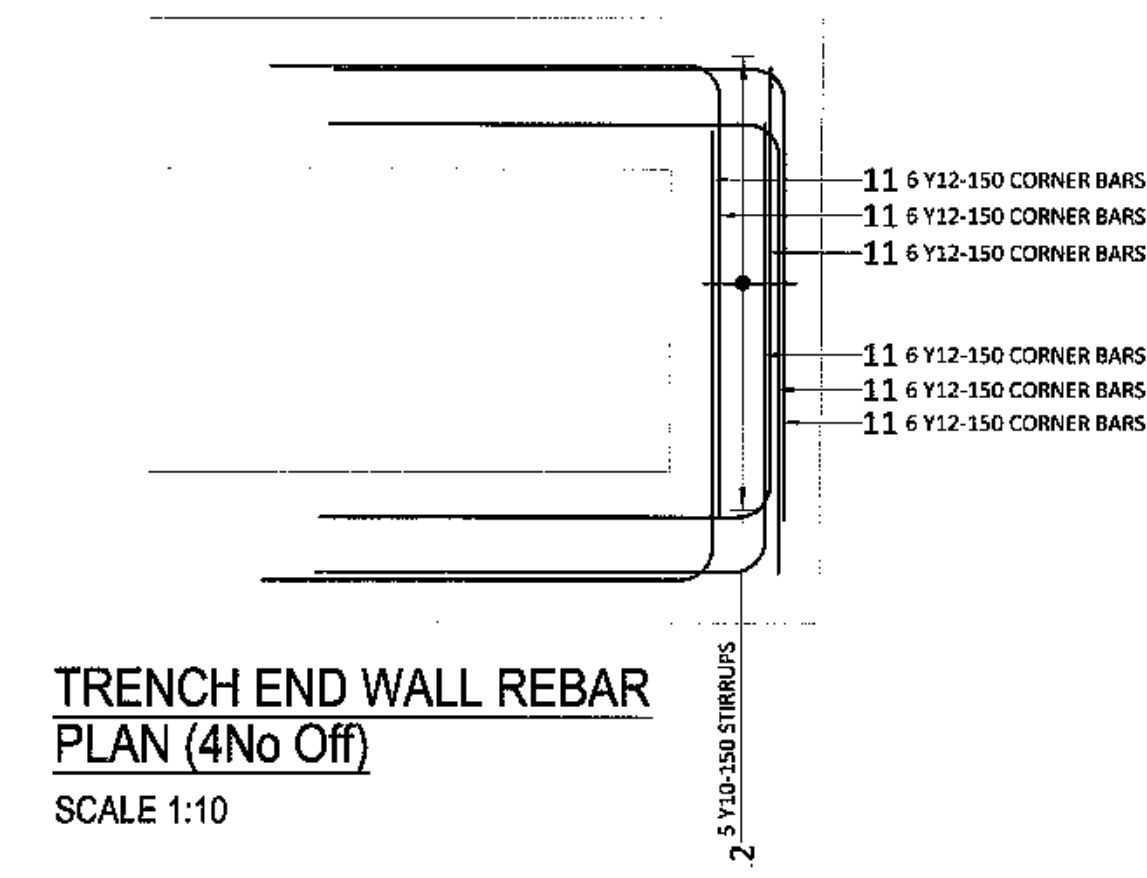
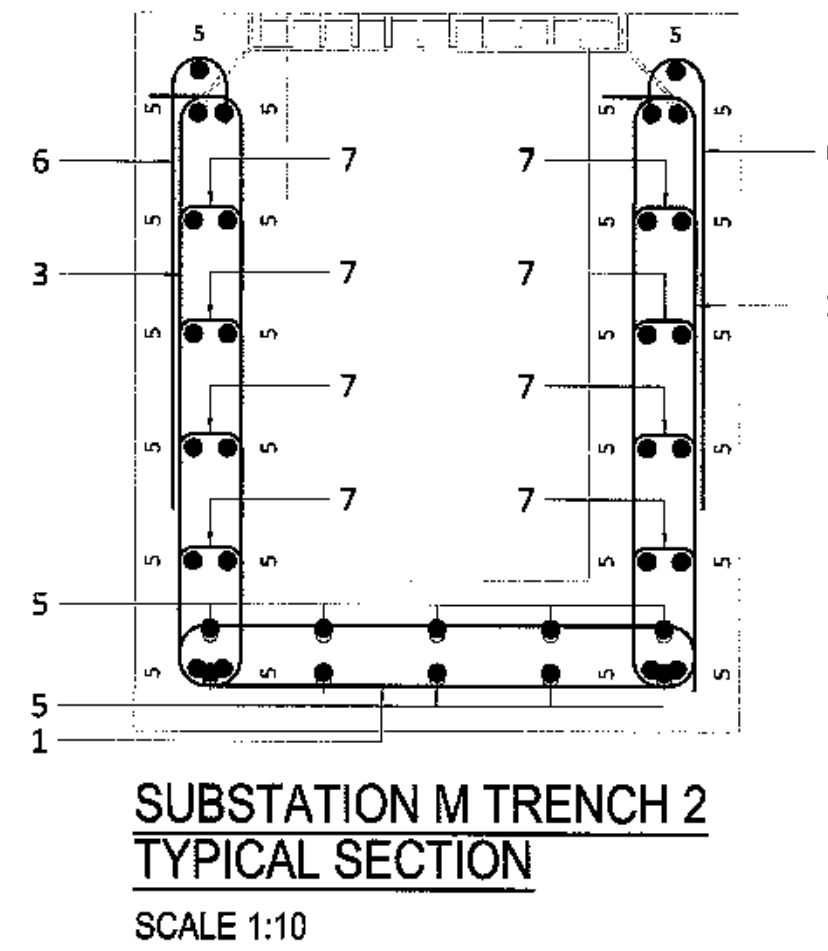
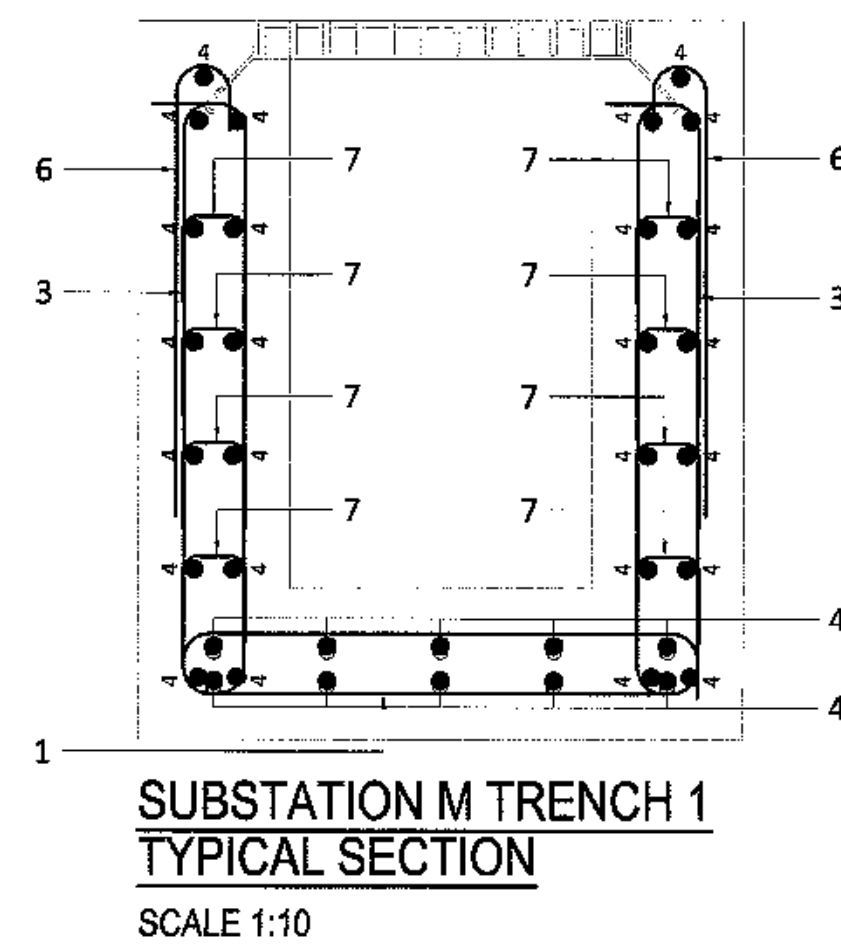
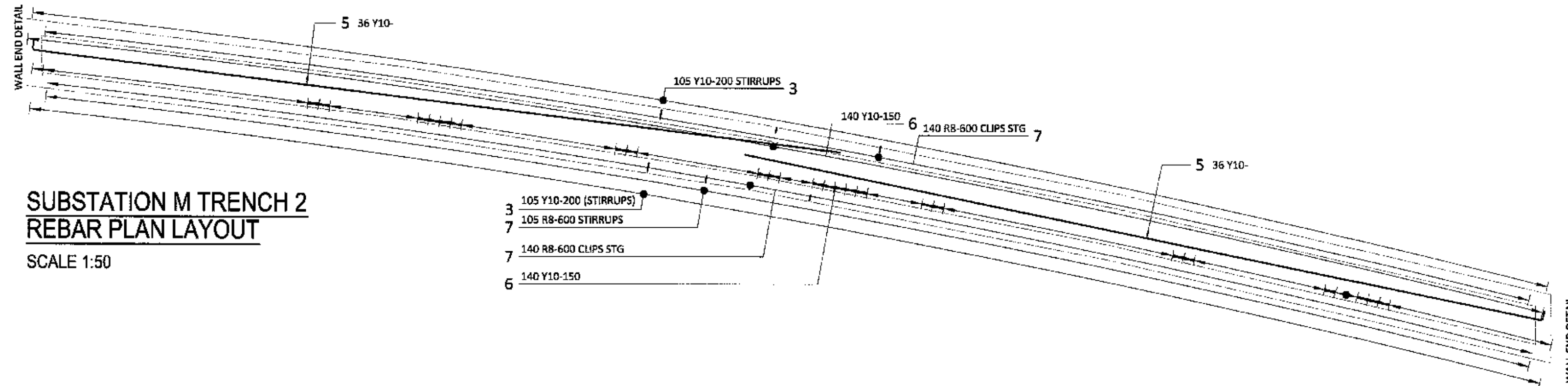
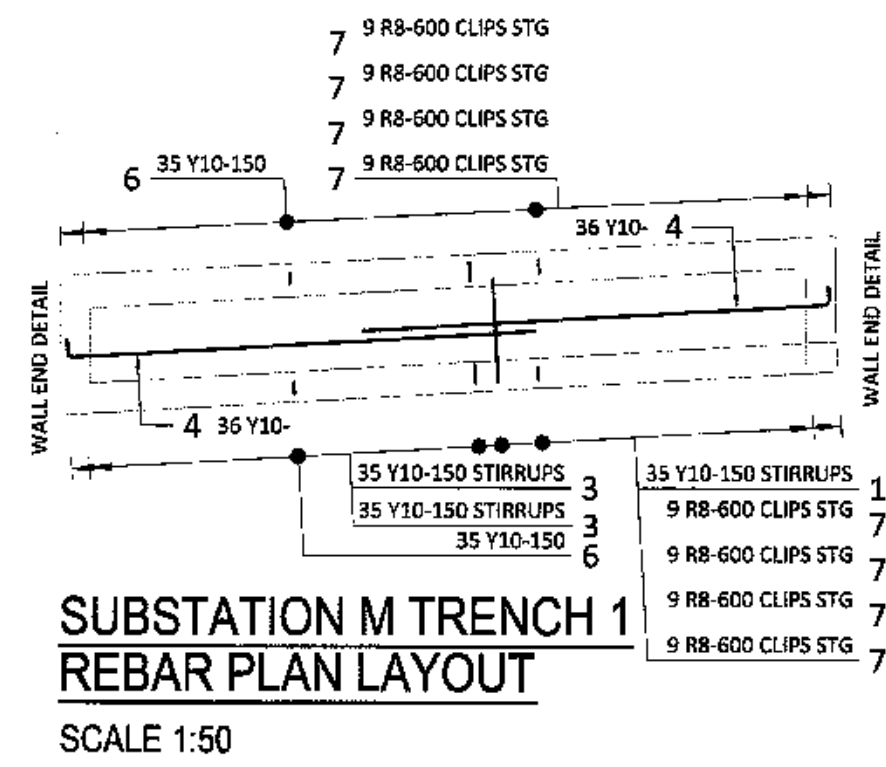
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1924701	2	510	B	R	00511	011	00 AE

Transnet Capital Projects
PROJECT 131 (POWER) TRANSNET CAPITAL PROJECTS, REG. NO. 200000000
TABLE BAY BUILDING, TYGERBERG PARK,
141 LIONS ARCADE DRIVE, PLATTEKLIP,
6001
TEL: 021 943 1000
FAX: 021 943 2005

PORT OF SALDANHA

**IRON ORE TIPLER 3 PROJECT
BULK POWER UPGRADE:
MAIN INTAKE SUBSTATION
STEEL STAIR DETAILS**

AECOM
CAPE TOWN OFFICE
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TYGER WATERFRONT
CARL CRONJE DRIVE
TEL: +27 (0)21 950 7500
FAX: +27 (0)21 950 7502
REG. NO. 19660/0662/2007



MASTER
27 JUN 2018
AECOM TRANSNET

MEMBER	NAME	NUM	MARK	TYPE		NUMBER	LENGTH	SHAPE CODE	A (mm)	B (mm)	REV
				R	Y						
TRENCH 1	1			10	35	35	1050	60	90	600	
	3			10	70	70	1850	60	750	90	
	4			10	72	72	3190	34	3090		
	6			10	70	70	720	32	600		
TRENCH 2	1			10	72	72	290	85	90		
	3			10	1	1	1550	60	90	690	
	10			10	210	210	1890	60	750	90	
	5			10	72	72	1110	34	1110		
TRENCH END	6			10	380	280	720	32	600		
	7			8	385	385	290	35	90		
BAR WEIGHT SUMMARY											
Grade 250		R 8	R 10	R 12							
TOTAL LENGTH (m)		122.53									
TOTAL WEIGHT (kg)		52.35									
Grade 60		Y 10	Y 12								
TOTAL LENGTH (m)		7.8									
TOTAL WEIGHT (kg)		1278.47									

NOTES
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FAX: +27 (0)21 950 7502
REG. No. 1966/006628/07

NO.	DESCRIPTION	BY	CHKD	APPD	DATE
00	ISSUED FOR CONSTRUCTION				18-06-27

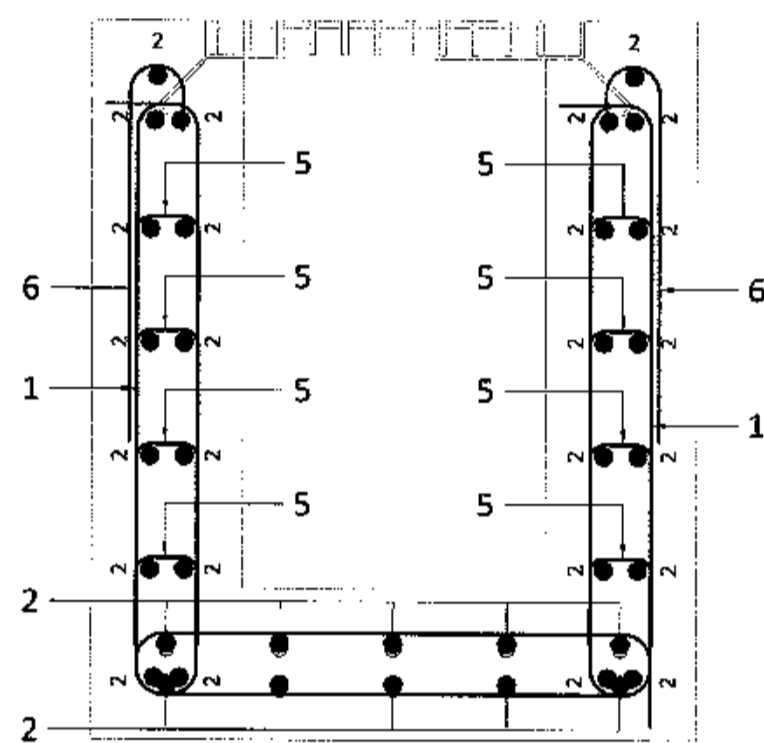
REVISIONS

CONTRACTOR / CONSULTANT				TRANSNET CAPITAL PROJECTS			
TITLE	NAME	SIGN	DATE	TITLE	NAME	SIGN	DATE
				DRAWN	CVH		18 06 27
				CHECKED	CK		18 06 27
				DESIGNED	CK		18 06 27
				CHECKED	SWM		18 06 27
OPERATING DIVISIONS				PR. ENG. / PR. TECH. / PR. ARCH			
TITLE	NAME	SIGN	DATE	NAME	SIGN	DATE	
				PR. ENG.	SW MARAIS		18 06 27
				SIGNATURE			
				REG. NUMBER	20080105		
				SCALE:	AS SHOWN		

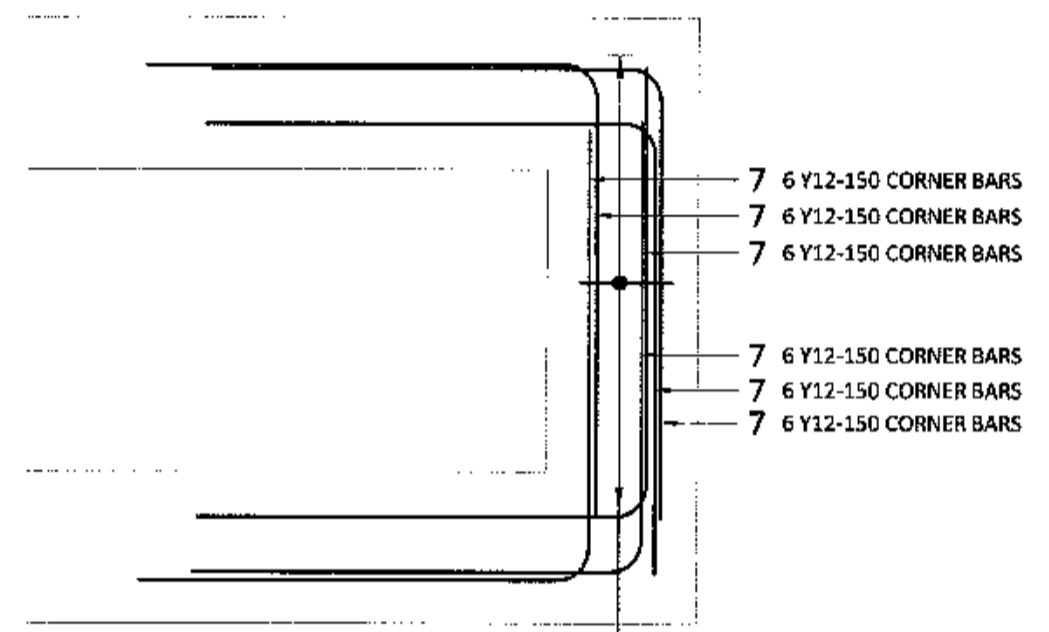
Transnet Capital Projects
TRANSNET
PROJECT NO. 1966/006628
TABLE BAY BUILDING, TYGERBERG PARK
163 UN'S KRIGER DRIVE, PLATTEKLOOF, 8001
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**PORT OF SALDANHA
IRON ORE TIPPLER 3
SUBSTATION M
STORMWATER CHANNELS REINFORCING**

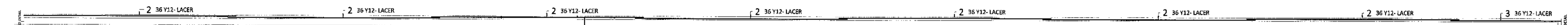
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	5	1	0	B	R	D	0	5
	2	0	1	0	5	2	0	1
	0	0	1	0	0	0	1	0



TRENCH REBAR TYPICAL SECTION
SCALE 1:10



TRENCH END WALL REBAR PLAN (2No Off)
SCALE 1:10



TRENCH REBAR TYPICAL SECTION
SCALE :NTS

629 Y10-150 STIRRUPS	1	629 Y10-150 STIRRUPS	4
629 Y10-150 STIRRUPS	1	629 Y10-150	6
		629 Y10-150	6

MEMBER NAME	NUM	MARK	TYPE		NUMBER	LENGTH	SHAPE CODE	A (mm)	B (mm)	REV
			R	Y						
TRENCH	1	Grade250	1	1258	1258	1800	40	760	90	
			2	12	252	13000	30	13000		
			3	12	36	36	6780	20	6780	
			4	18	629	629	1600	80	90	650
			5	8	8	290	55	90		
			6	10	1258	1258	620	32	500	
TRENCH END	2	Grade450	7	12	36	1270	27	600	600	
			8	10	5	1850	60	840	90	

MASTER
27 JUN 2018
AECOM

NOTES
1. DO NOT SCALE DRAWING - ONLY DIMENSIONS SHOWN TO BE USED.
2. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS, DIMENSIONS AND LEVELS ON THE SITE AND NOTIFY THE NEG SUPERVISOR OF ANY VARIATIONS BEFORE CONSTRUCTION.



CAPE TOWN OFFICE
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TEL: +27 (0)21 950 7500
FAX: +27 (0)21 950 7502
REG. No. 1966/006628/07

NO.	DESCRIPTION	BY	CHKD	APPD	DATE
00	ISSUED FOR CONSTRUCTION	CVH	CK	SWM	18-06-27

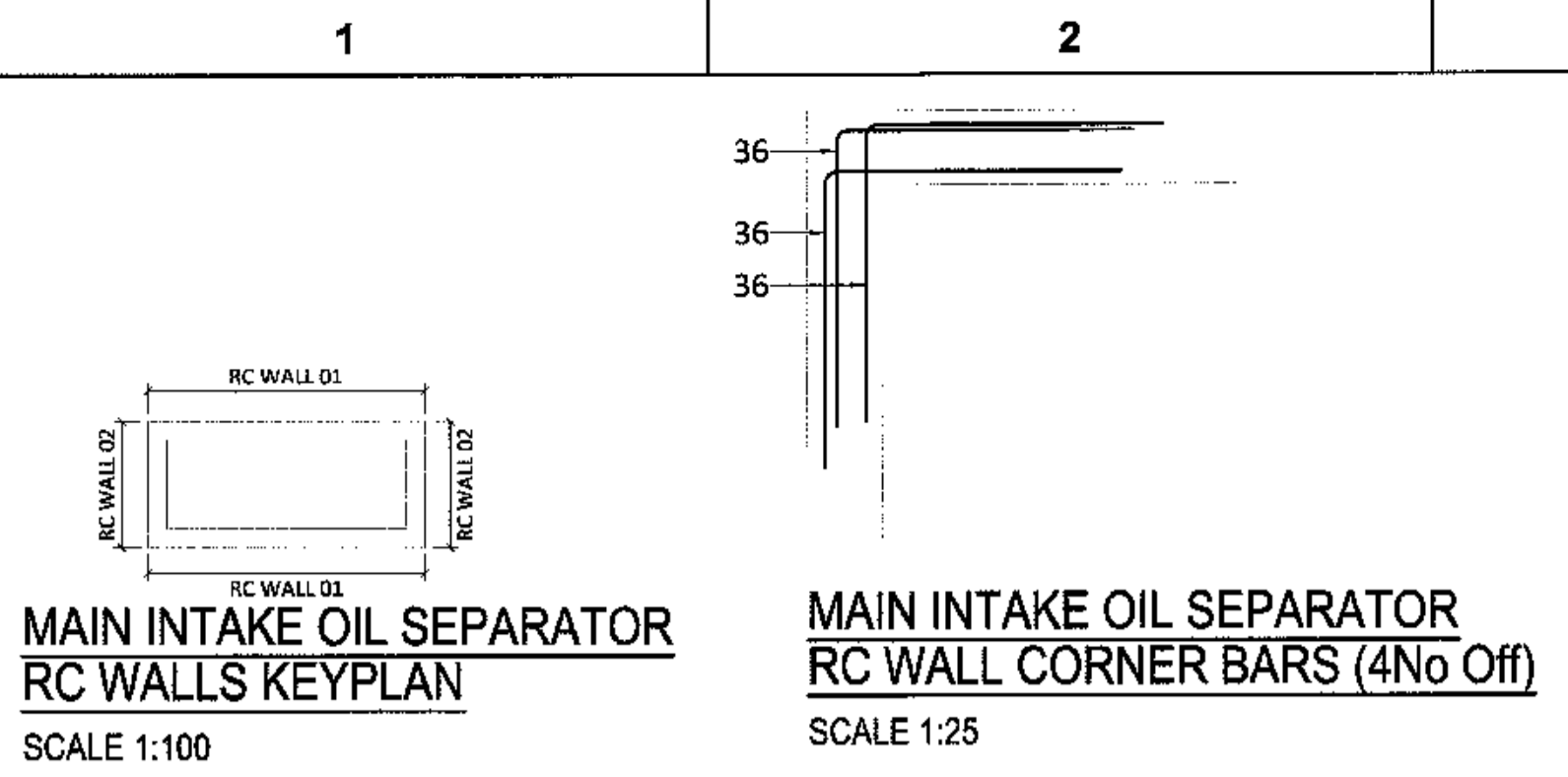
CONTRACTOR / CONSULTANT				TRANSNET CAPITAL PROJECTS			
TITLE	NAME	SIGN	DATE	TITLE	NAME	SIGN	DATE
				DRAWN	CVH		18 06 27
				CHECKED	CK		18 06 27
				DESIGNED	CK		18 06 27
				CHECKED	SWM		18 06 27

Transnet Capital Projects
TRANSNET LTD (TRADING AS TRANSNET CAPITAL PROJECTS) (REGD. NO. 1992/0006000)
TABLE BAY BUILDING, TYGERBERG PARK,
163 UYS KRIGER DRIVE, PLATTEKLOOF, 0001
TEL: 021 940 1999
FAX: 088 677 2455

TRANSNET

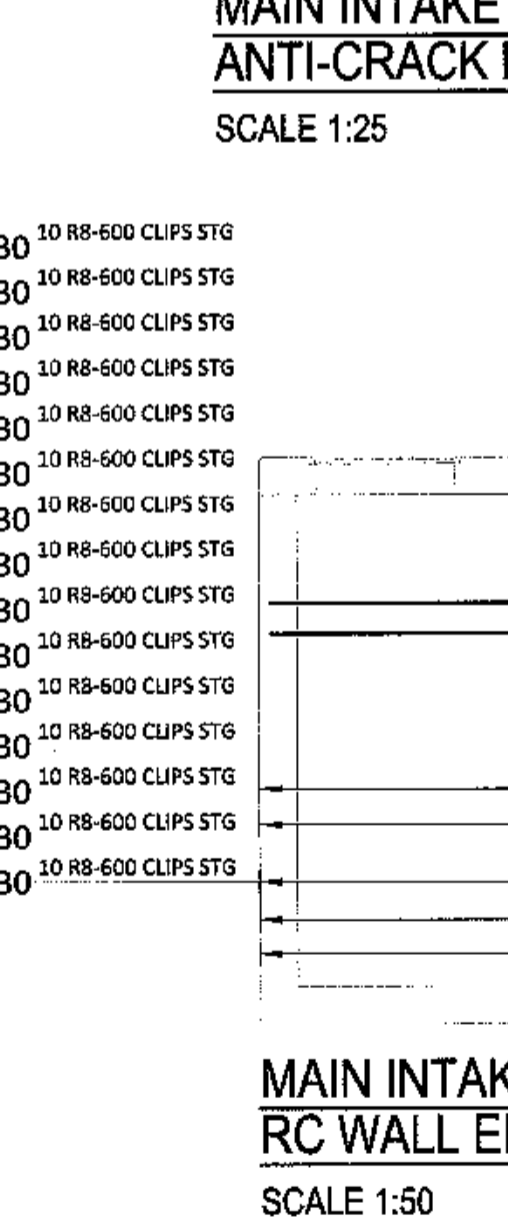
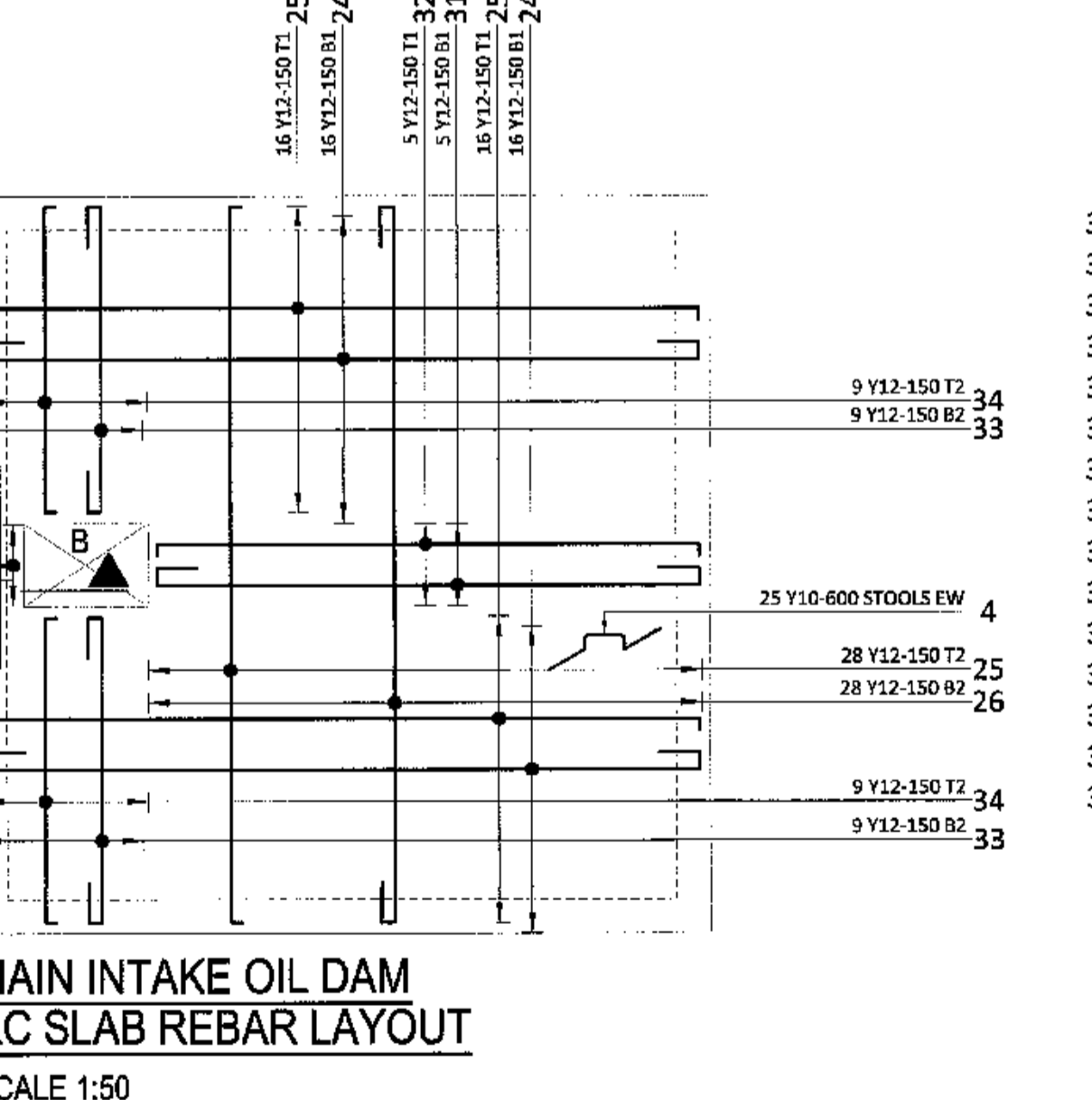
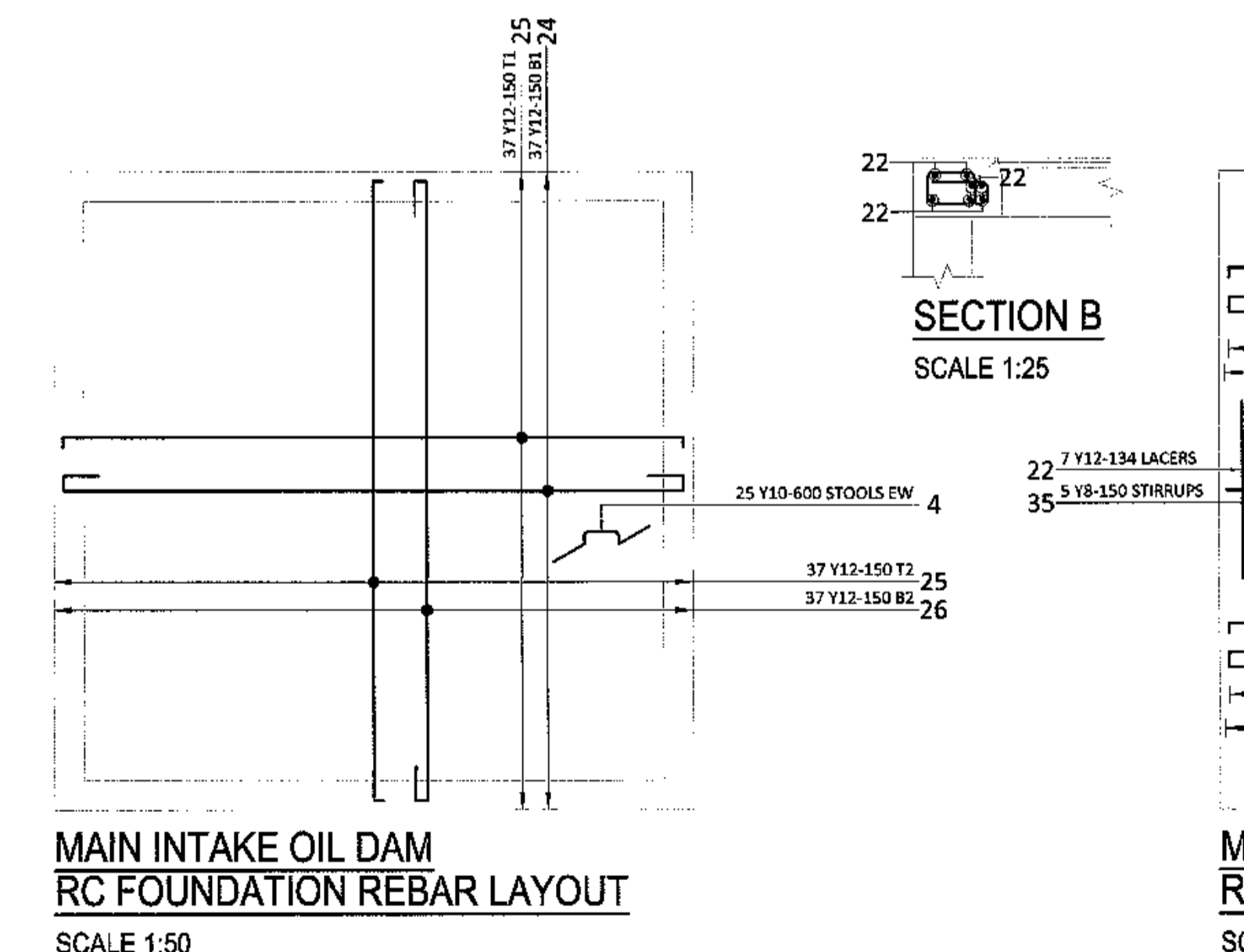
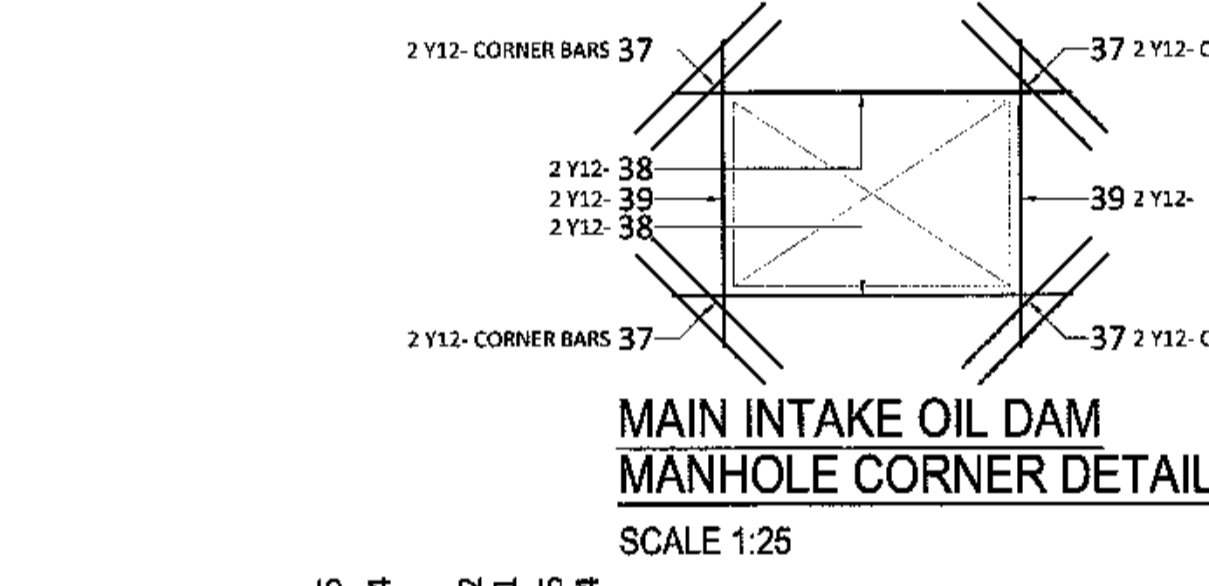
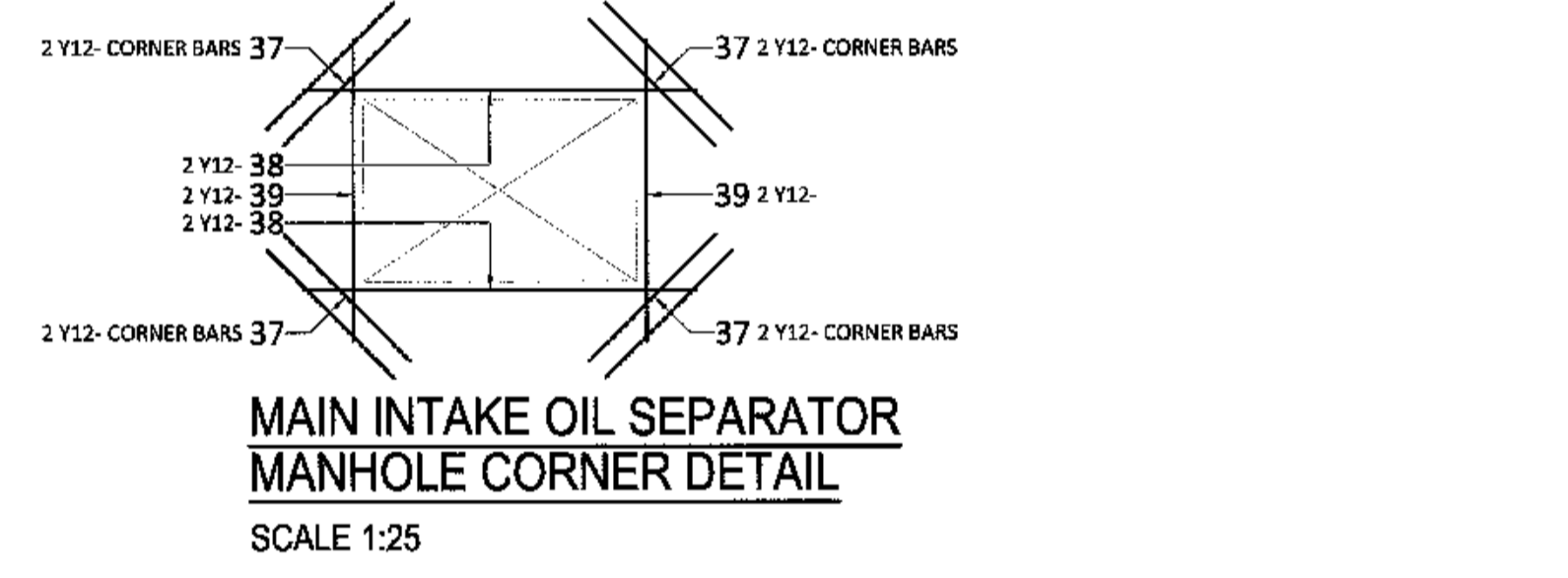
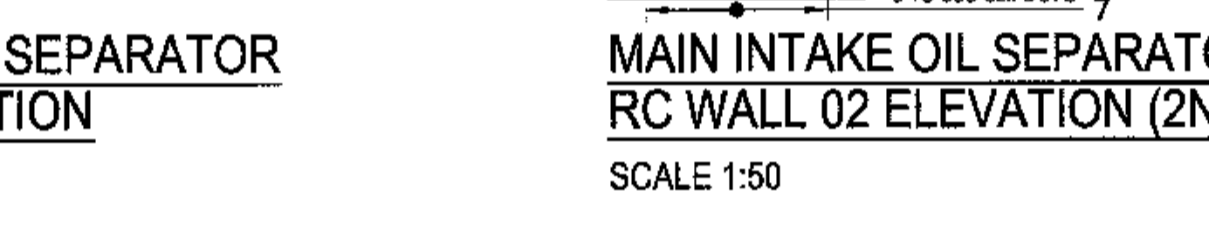
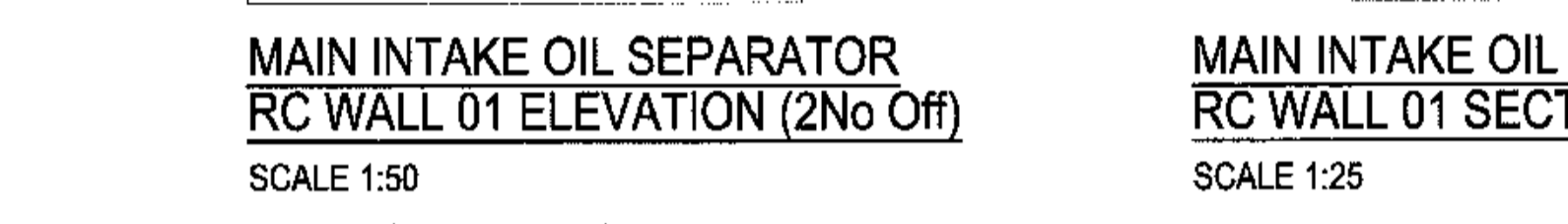
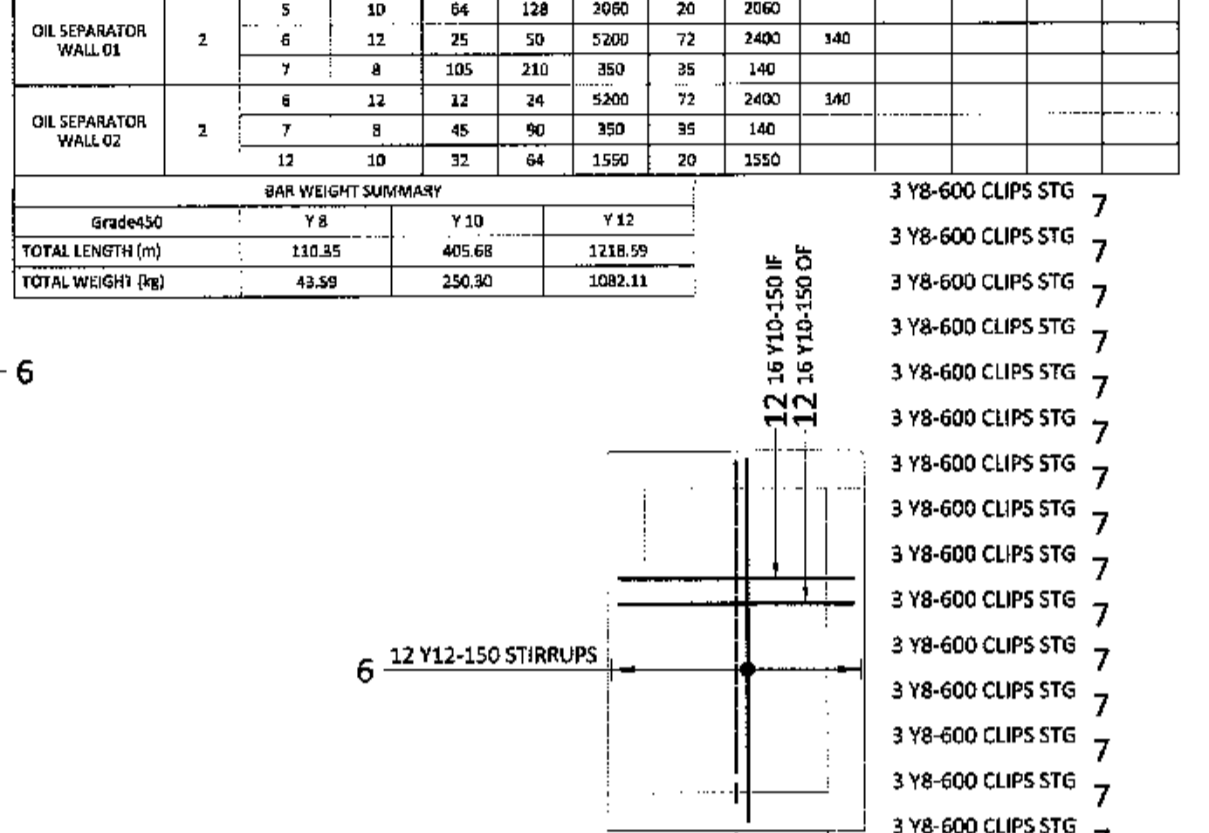
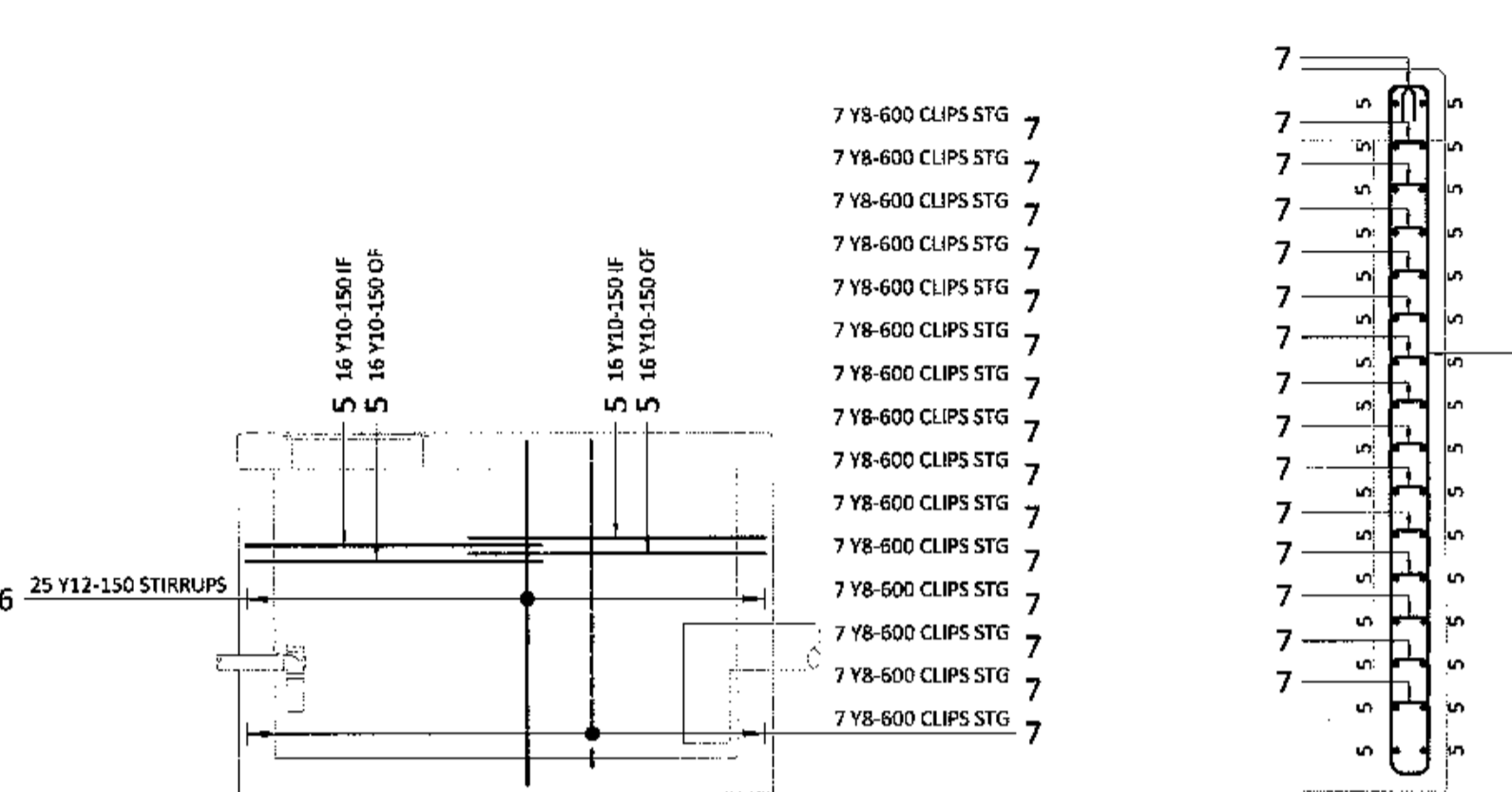
PORT OF SALDANHA
IRON ORE TIPPLER 3
SUBSTATION N
STORMWATER CHANNEL REINFORCEMENT

PROJECT NUMBER	OD	FBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
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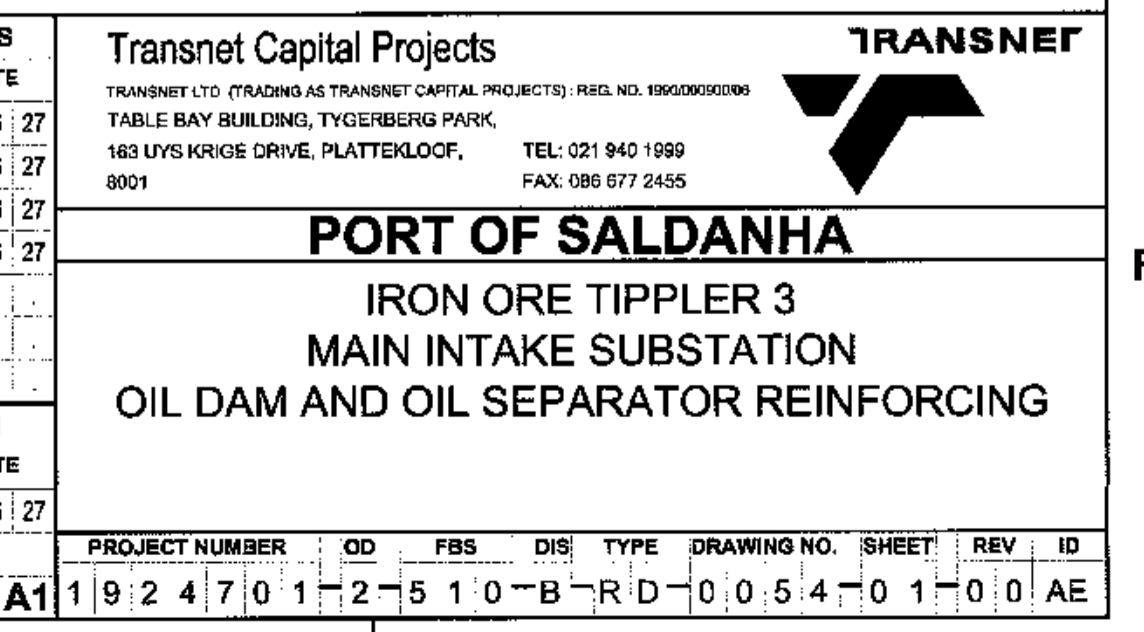
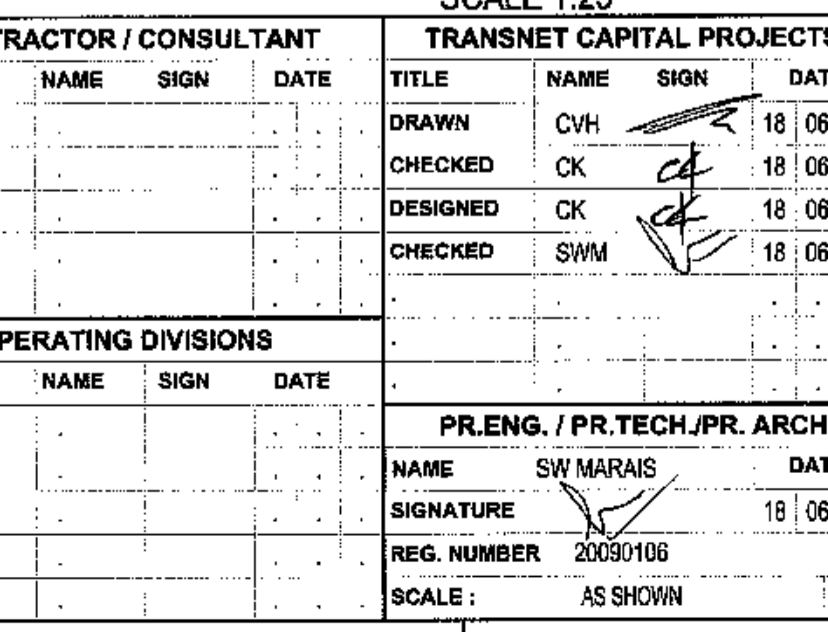
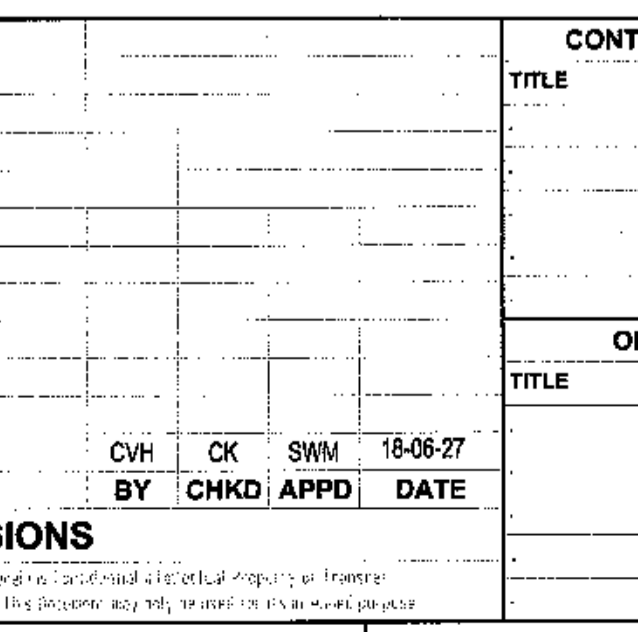
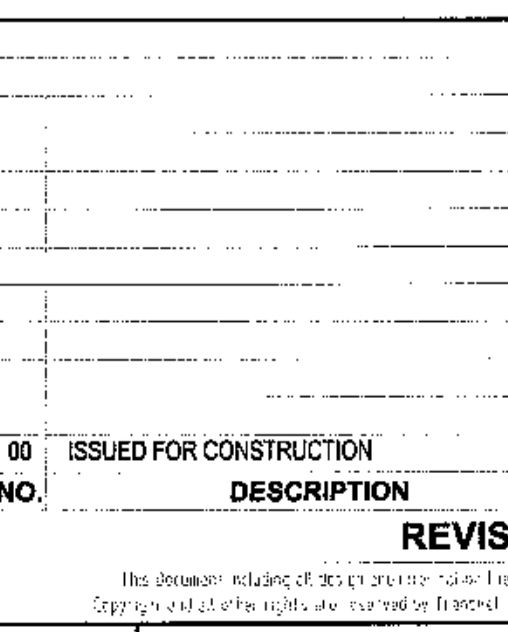
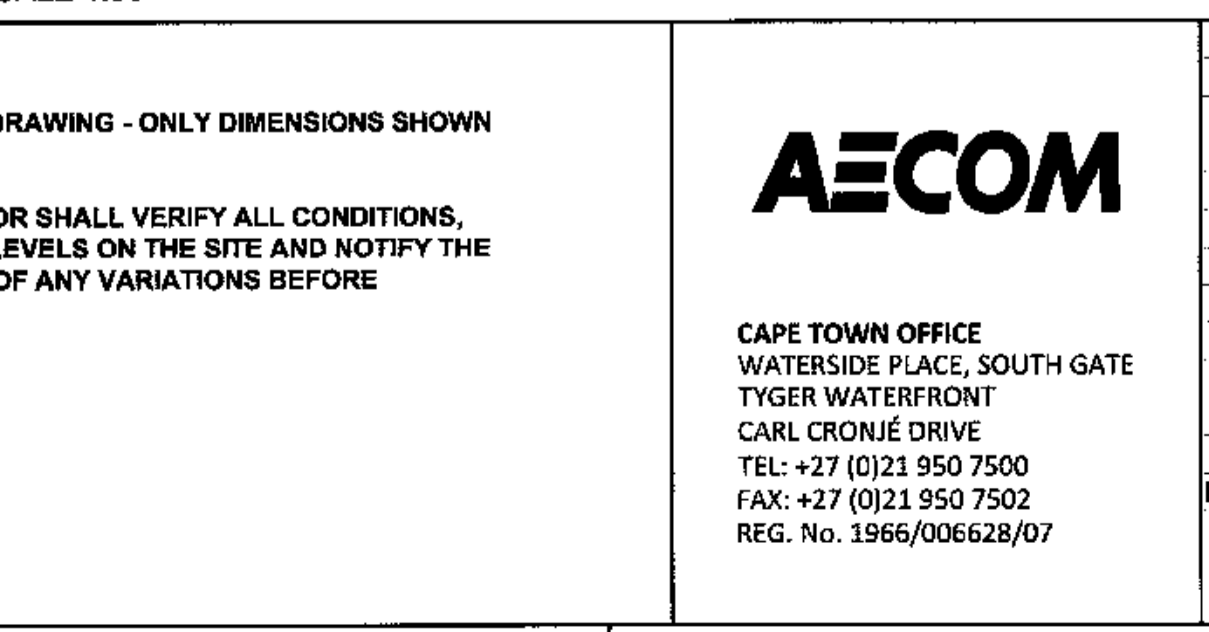
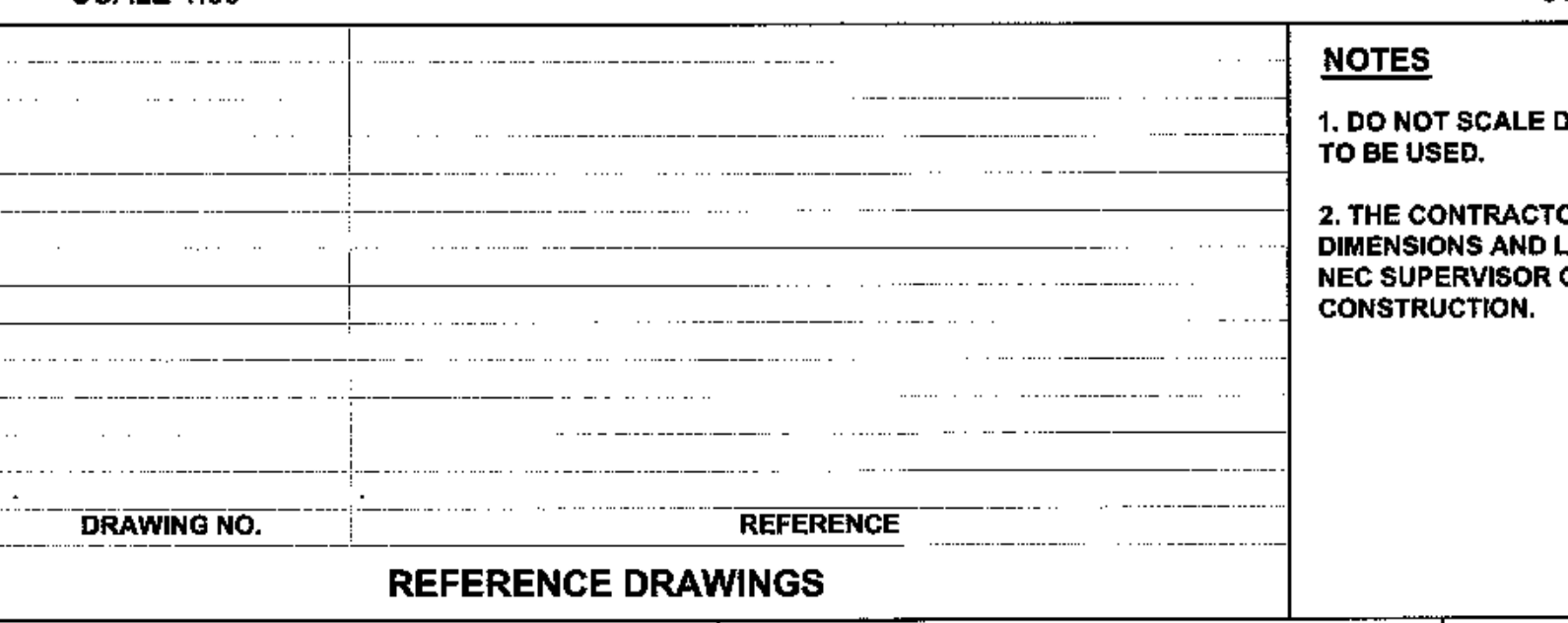
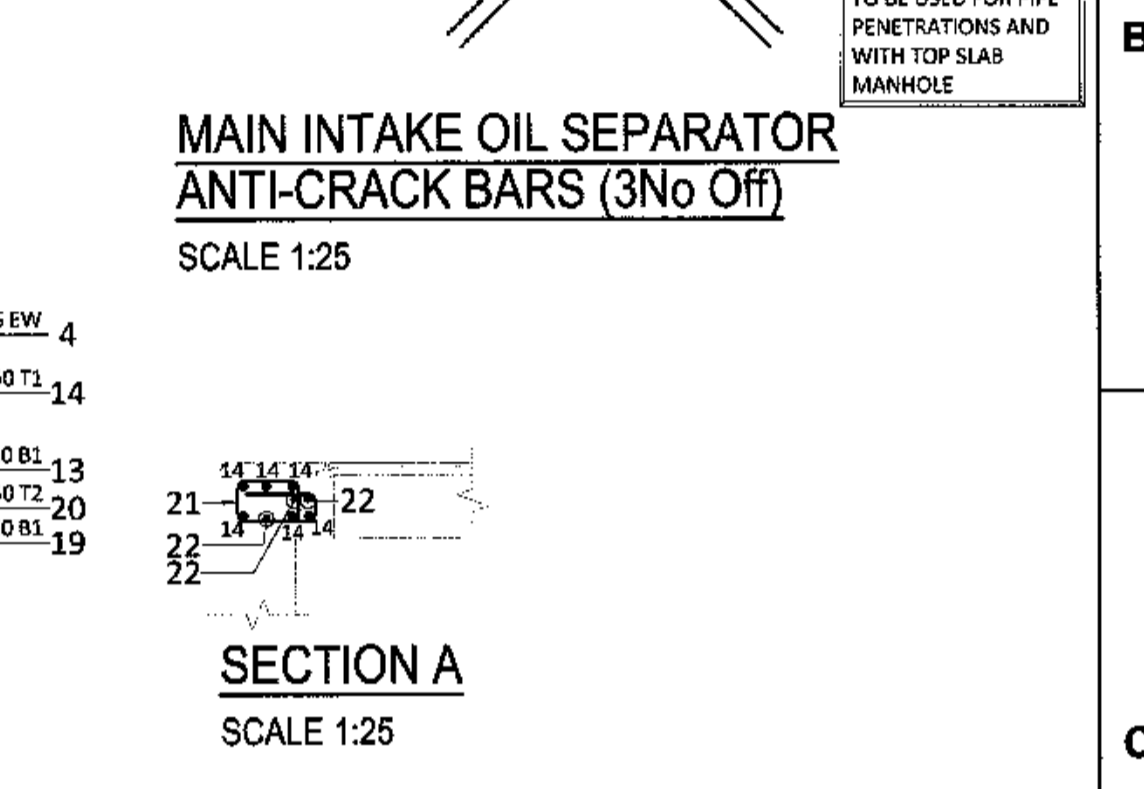
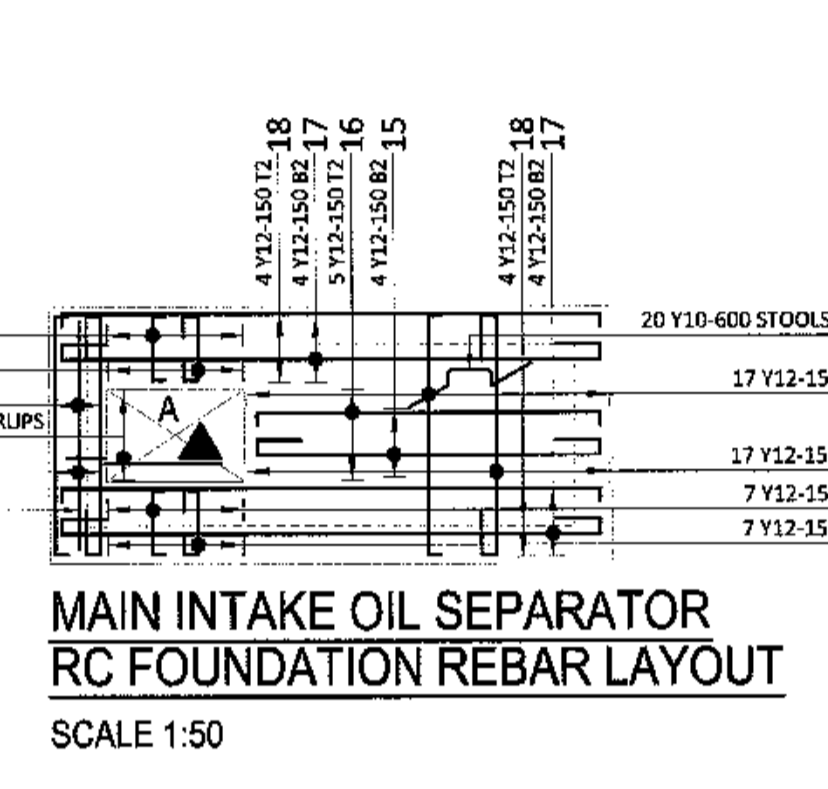
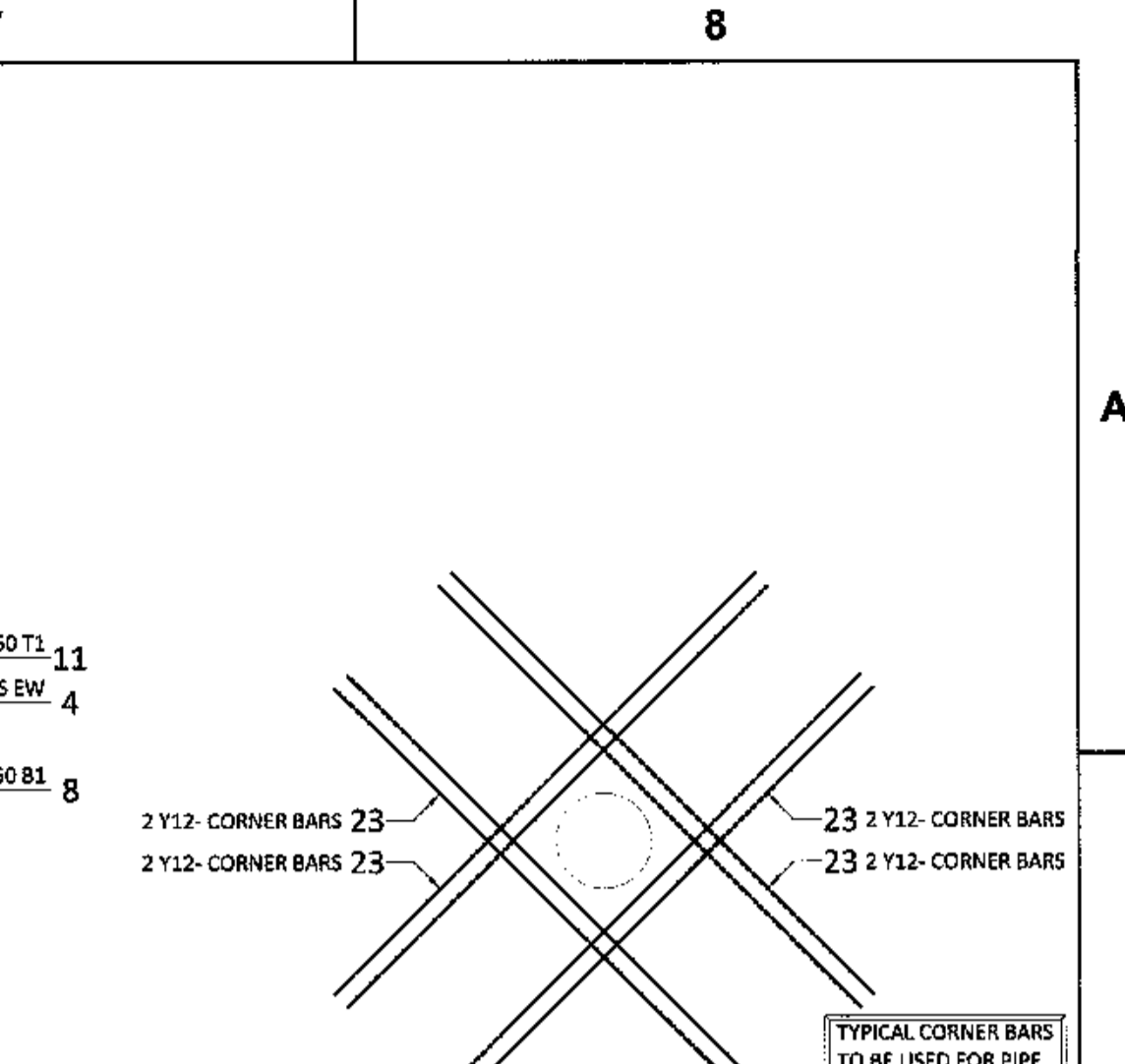
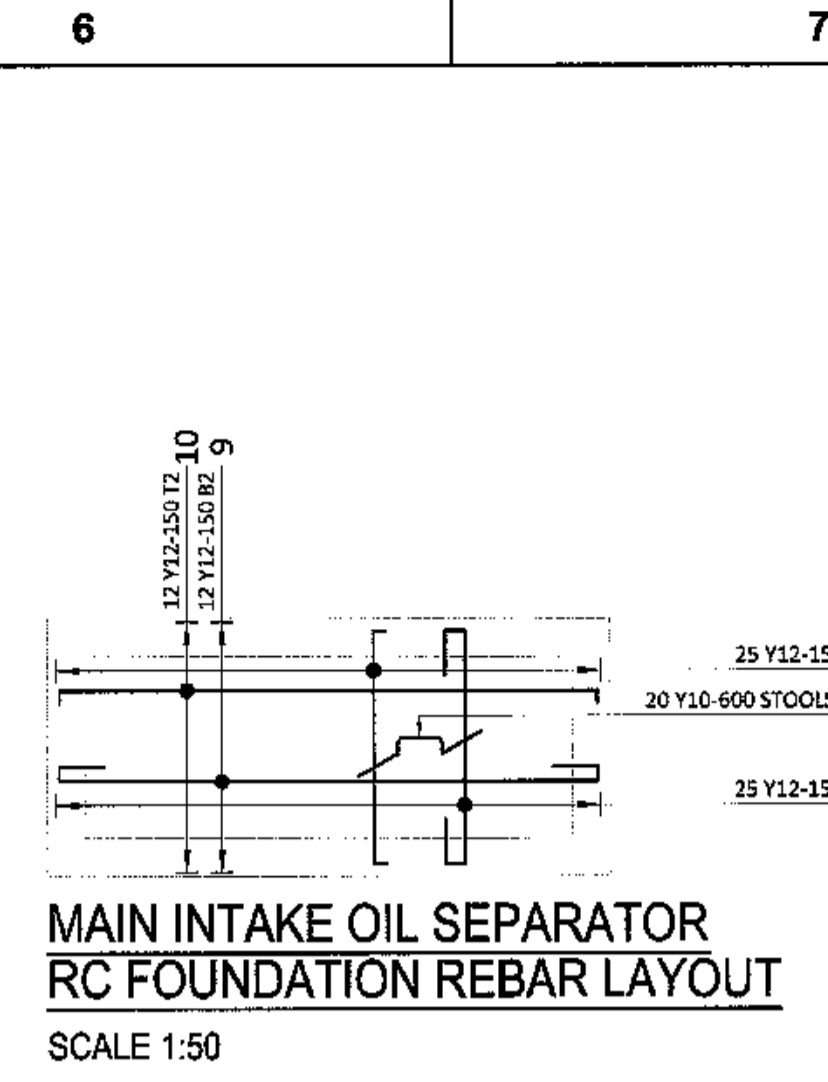


MEMBER	NAME	NUM	MARK	TYPE	NUMBER	LENGTH	SHAPE CODE	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	REV	POSITION	LENGTH	A (mm)	B (mm)	C (mm)	Symbol (mm)	
OIL SEPARATOR FOUNDATION REBAR	OIL SEPARATOR FOUNDATION REBAR	4	36	Grade 500	48	1970	87	1000	1000						4	1070	800	300	110	
		29	12	8	24	2000	20	3000												
		4	10	20	20	1070	59	300	300	110										
		6	12	25	25	2310	55	900	140	1350	140	300								
OIL SEPARATOR FOUNDATION REBAR	OIL SEPARATOR FOUNDATION REBAR	8	12	12	12	4270	55	300	110	3570	110	300								
		10	12	12	12	3770	35	3570												
		11	12	28	25	1750	85	1550												
		37	12	8	8	600	20	600												
		38	12	4	4	1350	20	1350												
		39	12	4	4	1010	20	1010												
		4	30	20	20	1070	99	300	900	110	1350	110	300							
		18	12	20	20	2350	55	300	110	1350	110	300								
		14	12	20	20	1780	35	1590												
		15	12	4	4	2300	55	300	110	2380	110	300								
OIL SEPARATOR SLAB REBAR	OIL SEPARATOR SLAB REBAR	17	12	8	8	4290	55	300	110	3570	110	300								
		18	12	8	8	3760	35	3570												
		19	12	14	14	850	55	250	110	440	110	150								
		20	12	14	14	680	35	440												
		21	8	5	5	1070	75	230	100	270	140	210								
		22	12	3	3	1500	20	1500												
		5	10	64	128	3000	20	3060												
		6	12	25	50	5200	72	1400	140											
		7	8	105	210	350	35	140												
		8	12	12	24	5200	72	2400	140											
OIL SEPARATOR WALL 01	OIL SEPARATOR WALL 01	12	18	52	64	1550	20	1550												
		BAR WEIGHT SUMMARY			Y 8	Y 10	Y 12													
		TOTAL LENGTH (m)	110.25	405.68	1218.59															
TOTAL WEIGHT (kg)	43.99	250.30	1092.11																	

MEMBER	NAME	NUM	MARK	TYPE	NUMBER	LENGTH	SHAPE CODE	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	REV	POSITION	LENGTH	A (mm)	B (mm)	C (mm)	Symbol (mm)
OIL SEPARATOR FOUNDATION REBAR	OIL SEPARATOR FOUNDATION REBAR	4	36	Grade 500	48	1970	87	1000	1000					4	1070	800	300	110	



MEMBER	NAME	NUM	MARK	TYPE	NUMBER	LENGTH	SHAPE CODE	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	REV	POSITION	LENGTH	A (mm)	B (mm)	C (mm)	Symbol (mm)
OIL SEPARATOR FOUNDATION REBAR	OIL SEPARATOR FOUNDATION REBAR	4	36	Grade 500	48	1970	87	1000	1000					4	1070	800	300	110	



DRAWING NO.	REFERENCE
	REFERENCE DRAWINGS

NO.	DESCRIPTION	BY	CHKD	APPD	DATE
00	ISSUED FOR CONSTRUCTION				18-06-27

CONTRACTOR / CONSULTANT	TITLE	NAME	SIGN	DATE
TRANSNET CAPITAL PROJECTS				

OPERATING DIVISIONS	TITLE	NAME	SIGN	DATE

PR.ENG. / PR.TECH./PR. ARCH	NAME	SW	MAIRIS	DATE

PROJECT NUMBER	OD	FBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
19	2	4	7	0	1	2	5	10-B-R-D-0054

NOTES

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AECOM

CAPE TOWN OFFICE
WATERSIDE PLACE, SOUTH GATE
TYGER WATERFRONT
CARL CRONJE DRIVE
TEL: +27 (0)21 950 7500
FAX: +27 (0)21 950 7502
REG. No. 1966/006628/07

TRANSNET CAPITAL PROJECTS

TRANSNET LTD. (TRADING AS TRANSNET CAPITAL PROJECTS) REG. NO. 1992005000
TABLE BAY BUILDING, TYGERBERG PARK
163 UYS KRIGER DRIVE, PLATTEKLOOF, 8001
TEL: 021 940 1999
FAX: 086 077 2455

PORT OF SALDANHA

IRON ORE TIPLER 3
MAIN INTAKE SUBSTATION
OIL DAM AND OIL SEPARATOR REINFORCING

SCALE: AS SHOWN

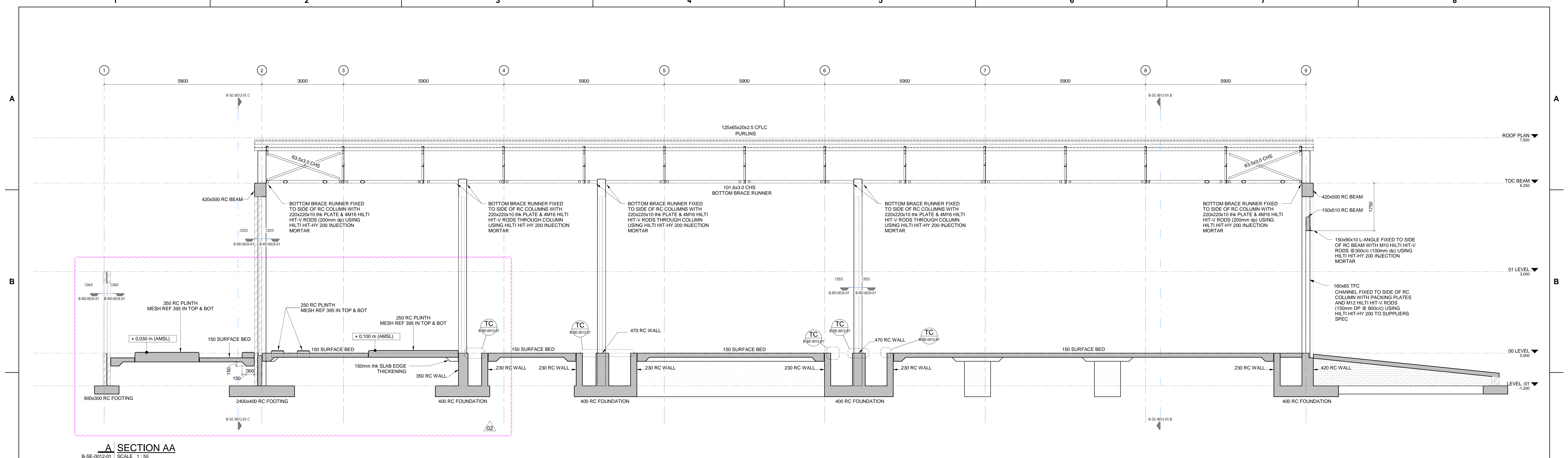
TRANSNET

TRANSNET LTD. (TRADING AS TRANSNET CAPITAL PROJECTS) REG. NO. 1992005000
TABLE BAY BUILDING, TYGERBERG PARK
163 UYS KRIGER DRIVE, PLATTEKLOOF, 8001
TEL: 021 940 1999
FAX: 086 077 2455

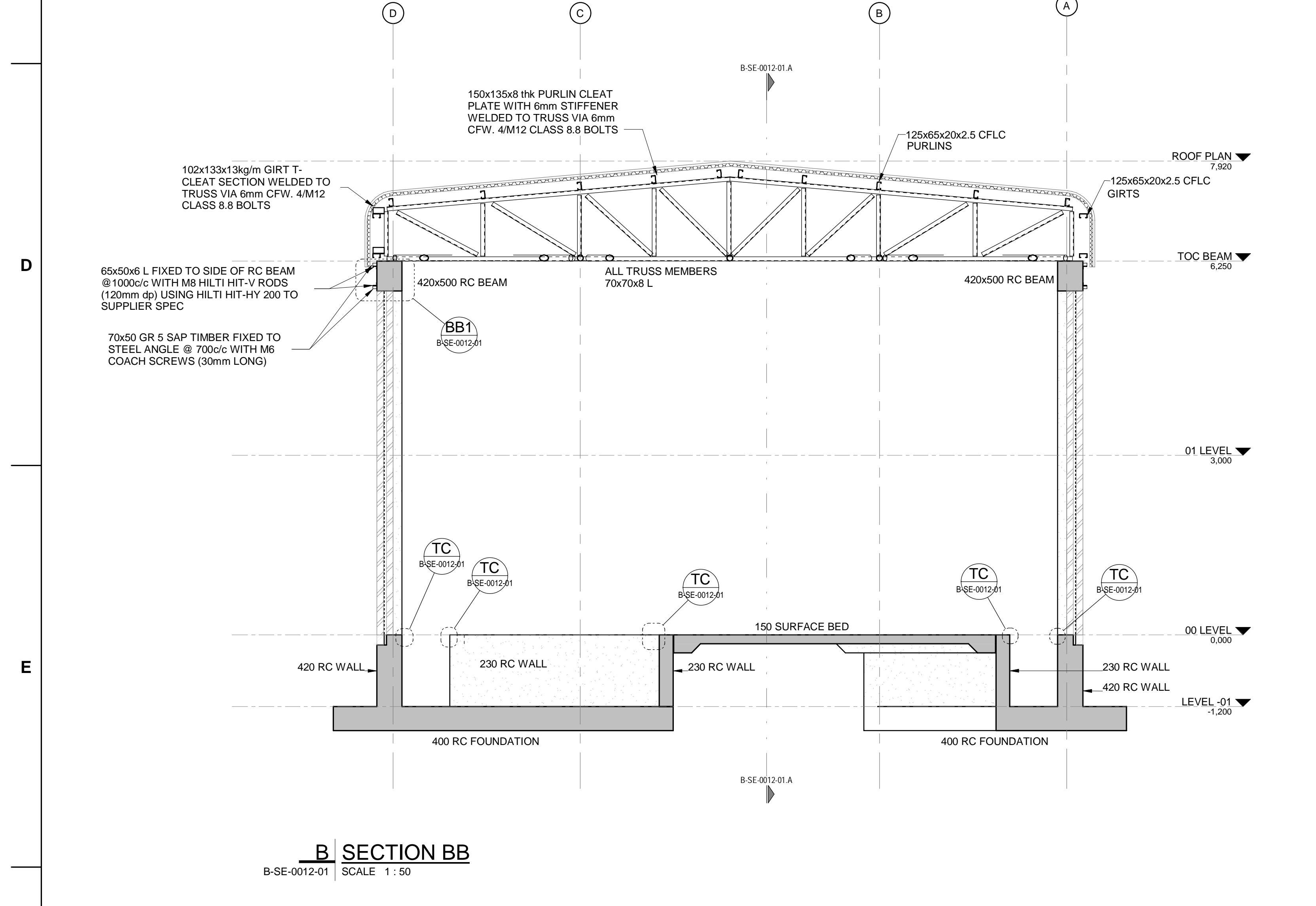
PORT OF SALDANHA

IRON ORE TIPLER 3
MAIN INTAKE SUBSTATION
OIL DAM AND OIL SEPARATOR REINFORCING

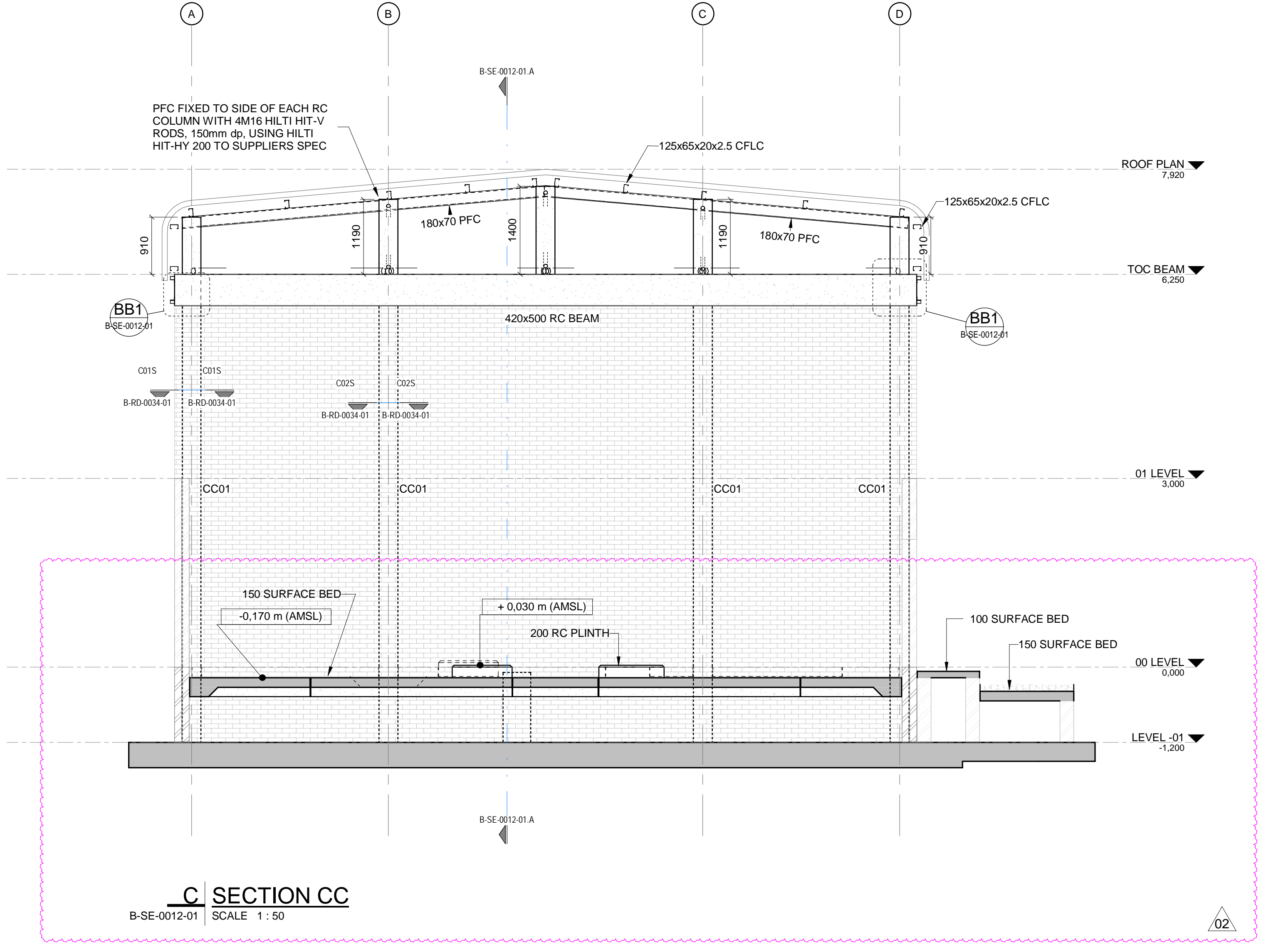
SCALE: AS SHOWN



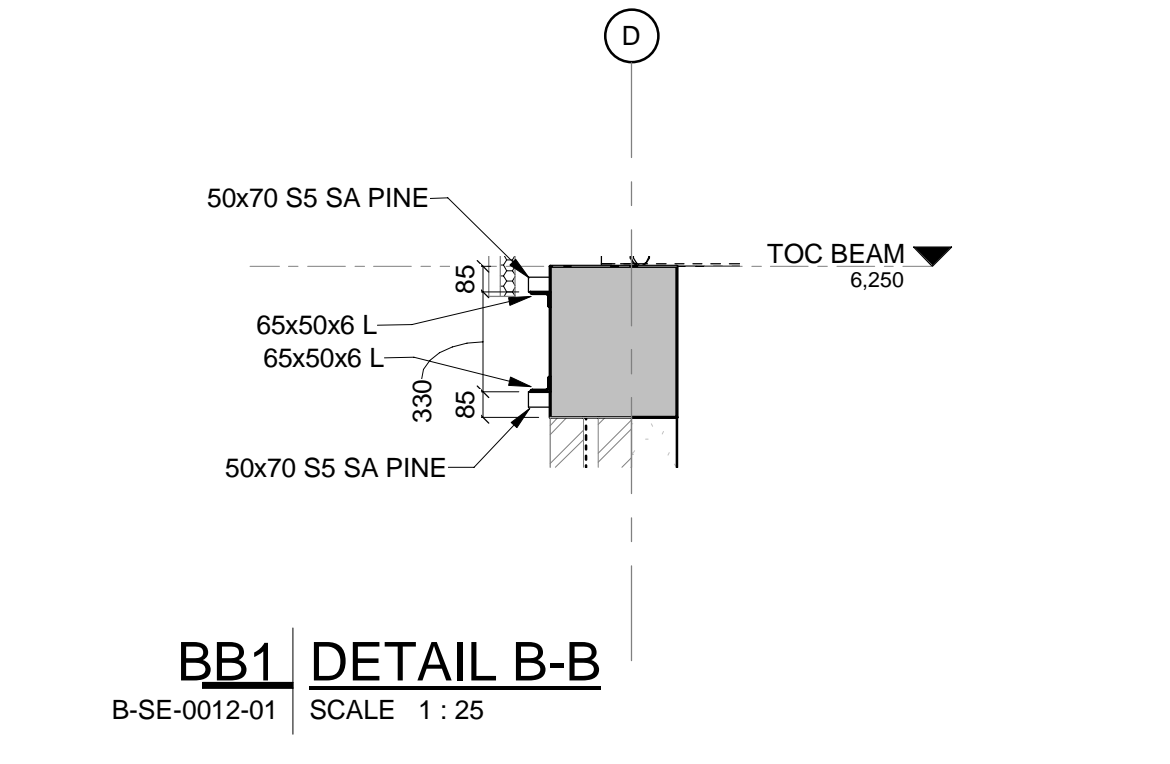
A SECTION AA
B-SE-0012-01 SCALE 1:50



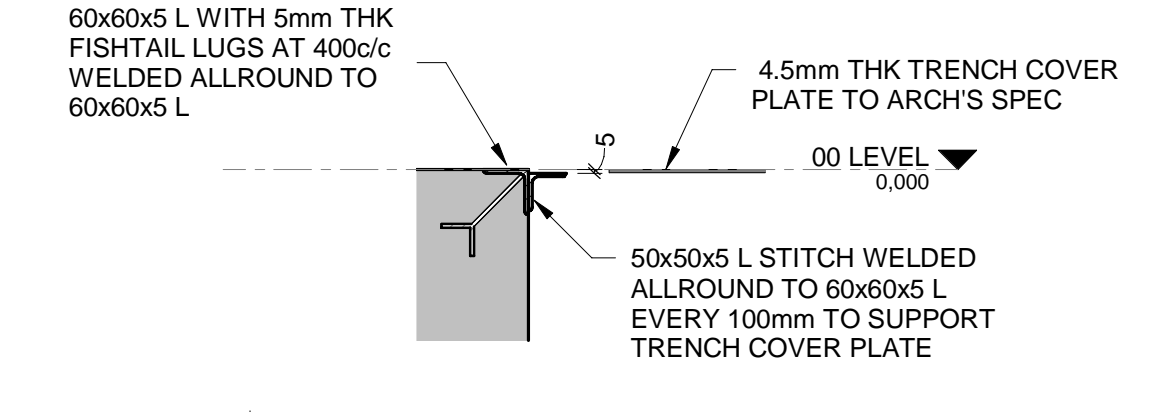
B SECTION BB
B-SE-0012-01 SCALE 1:50



C SECTION CC
B-SE-0012-01 SCALE 1:50



BB1 DETAIL B-B
B-SE-0012-01 SCALE 1:25



TC TRENCH CONNECTION DETAIL
B-SE-0012-01 SCALE 1:10

DRAWING NO.	REFERENCE
1	REFERENCE DRAWINGS

NOTES

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AECOM

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WATERLOO PLACE, SOUTH GATE
TYGER WATERFRONT
CARL CRONJE DRIVE

TEL: +27 (0)21 950 7500
FAX: +27 (0)21 950 7502
REG. No. 1966/006628/07

NO	DESCRIPTION	BY	CHKD	DATE	
01	PLINths ADDED - DNS ADD/AMENDED	AH	C K	SWM	11/11/21
02	HOLD POINT ADDED & DETAILS ADDED	CWH	C K	SWM	21/06/21
03	ISSUED FOR CONSTRUCTION	AH	C K	SWM	13/06/21

CONTRACTOR/CONSULTANT			
TITLE	NAME	SIGN	DATE
DRAWN	AH	[Signature]	11/11/21
CHECKED	C K	[Signature]	11/11/21
DESIGNED	IG	[Signature]	11/11/21
CHECKED	SWM	[Signature]	11/11/21

TRANSNET CAPITAL PROJECTS			
TITLE	NAME	SIGN	DATE
PR. ENG./PR. TECH./PR. ARCH	SWY MARAIS	[Signature]	17/11/21

TRANSNET

TRANSNET LTD (Pty) Ltd, 133 LYNX RD, TAYLORSDALE, JOHANNESBURG, SOUTH AFRICA
133 LYNX RD, TAYLORSDALE, JOHANNESBURG, SOUTH AFRICA
TEL: 021 940 1999
FAX: 021 940 1999

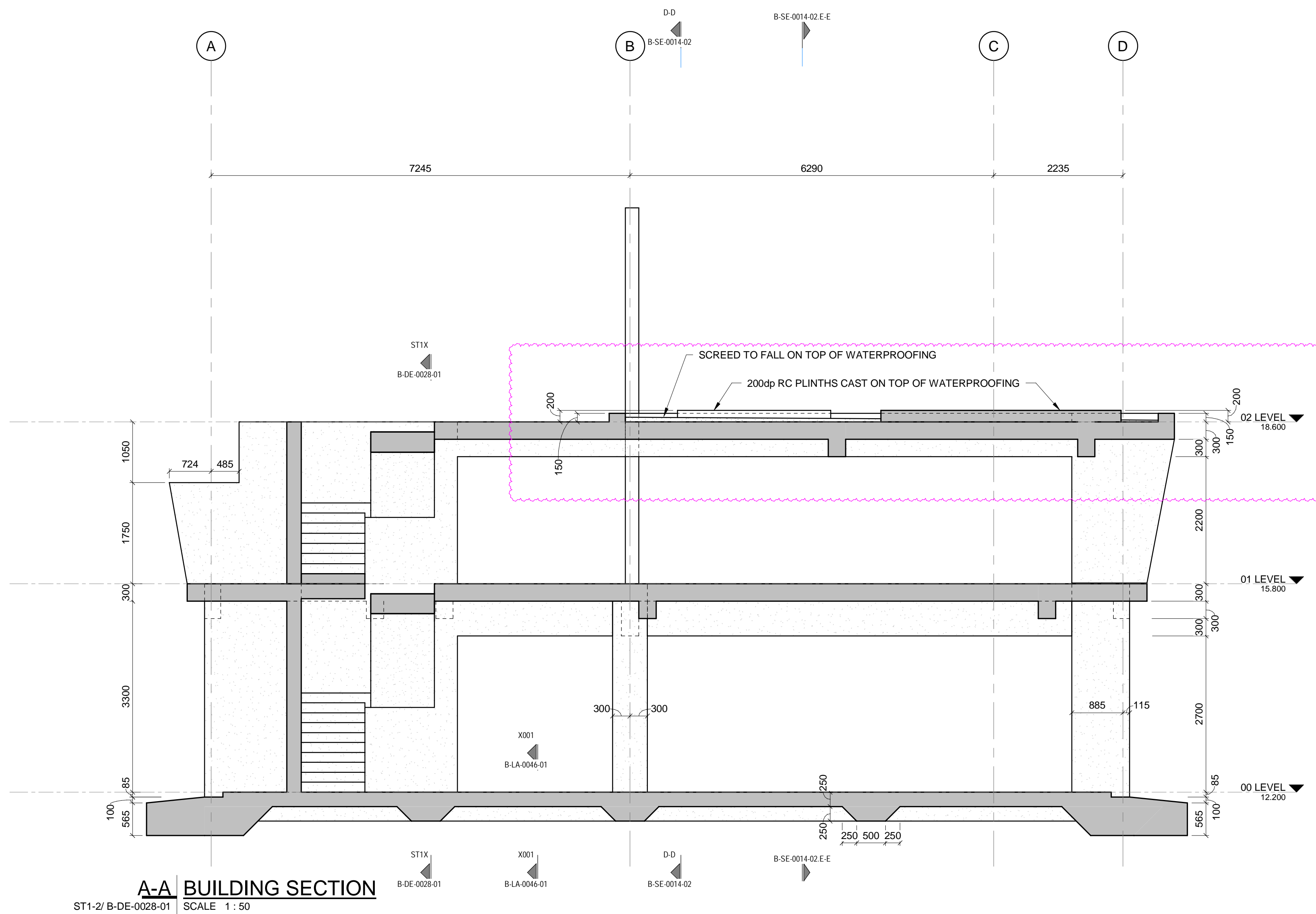
PORT OF SALDANHA

IRON ORE TIPPLER 3 PROJECT
BULK POWER UPGRADE:
SUBSTATION N
BUILDING SECTIONS - SHEET 1

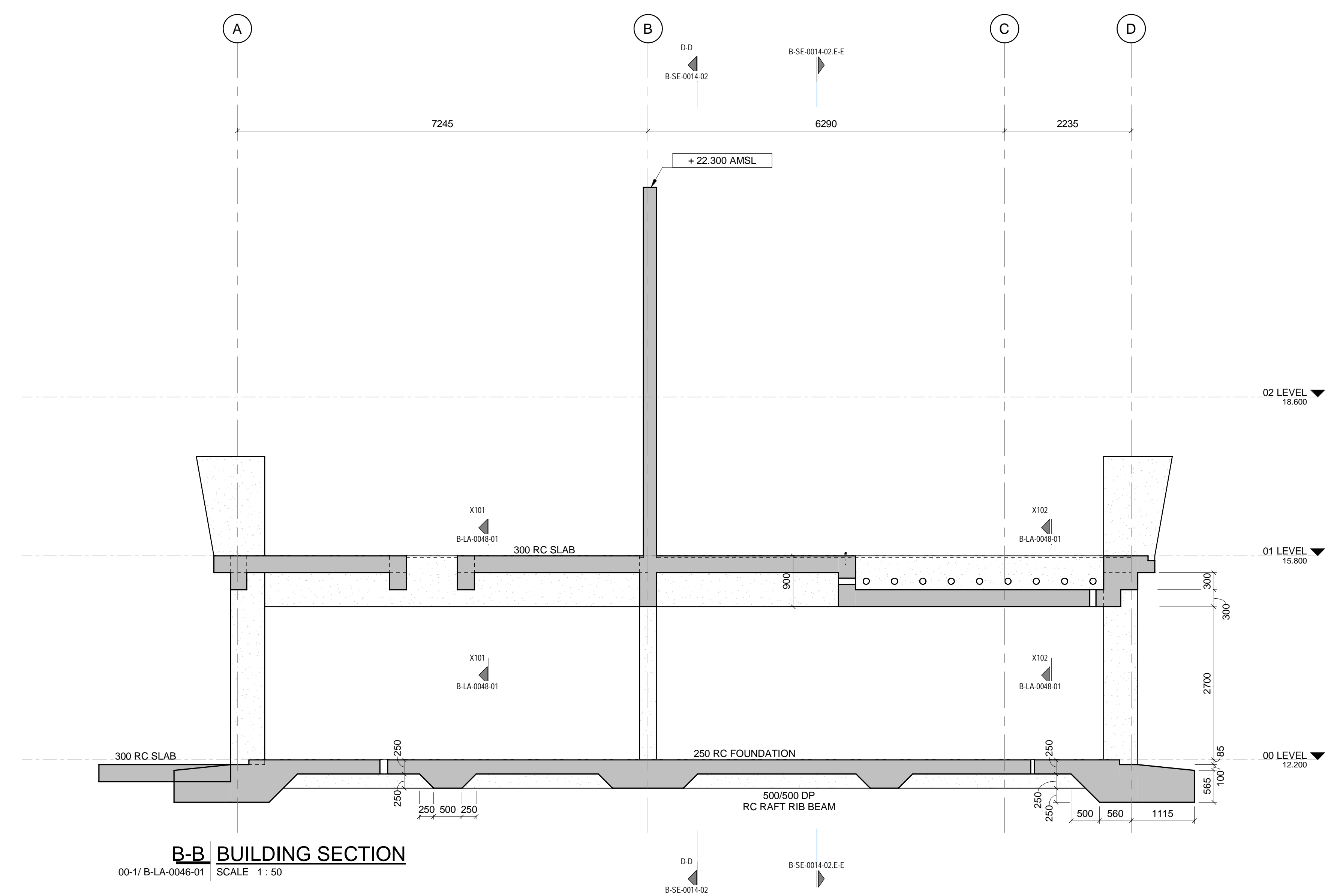
PROJECT NUMBER	00	FBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
19	2	4	7	0	1	2	5	10

SCALE: AS SHOWN

REFER TO RESPECTIVE ELECTRICAL DOCUMENTATION AND DRAWINGS. AWAITING DETAILS ON FINAL OFFERED MV AND LV ELECTRICAL EQUIPMENT DIMENSIONS AND WEIGHTS.



A-A BUILDING SECTION
ST1-2/B-DE-0028-01 SCALE 1:50



B-B BUILDING SECTION
00-11/B-LA-0048-01 SCALE 1:50

REFER TO RESPECTIVE ELECTRICAL DOCUMENTATION & DRAWINGS. CONSTRUCTION OF THE ACTUAL BUILDING MAY NOT COMMENCE UNTIL SUCH TIME THAT THE FINAL EARTH GRID (& ASSOCIATED EQUIPMENT), HAS BEEN INSTALLED, TESTED & ACCEPTED

NOTES

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TYGER WATERFRONT
CARL CRONJE DRIVE
TEL: +27 (0)21 950 7500
FAX: +27 (0)21 950 7502
REG. No. 1966/00628/07

NO	DESCRIPTION	BY	CHKD	DATE
03	PLINTH DETAILS AND UPSTAIRS UPDATED - FIRE SPECIFICATIONS ADDED	AH	JW	SW M 24-07-23
02	FLOOR SLOT POSITION AMENDED - WALLS EXTENDED - DOOR SIZE AMENDED	AH	CK	SW M 01-07-23
01	BEAMS & OPENINGS AMENDED - NOTES ADDED	AH	CK	SW M 27-06-23
	FOR ISSUED FOR CONSTRUCTION	QA	HW	SW M 14-06-23

CONTRACTOR/CONSULTANT				TRANSNET CAPITAL PROJECTS			
TITLE	NAME	SIGN	DATE	TITLE	NAME	SIGN	DATE
DRAWN	AH	[Signature]	24 07 23				
CHECKED	HW	[Signature]	24 07 23				
DESIGNED	IG	[Signature]	24 07 23				
CHECKED	SW M	[Signature]	24 07 23				

OPERATING DIVISIONS			
TITLE	NAME	SIGN	DATE

PR. ENG./PR. TECH./PR. ARCH			
NAME	SIGN	DATE	

MASTER
27-07-2023
AECOM

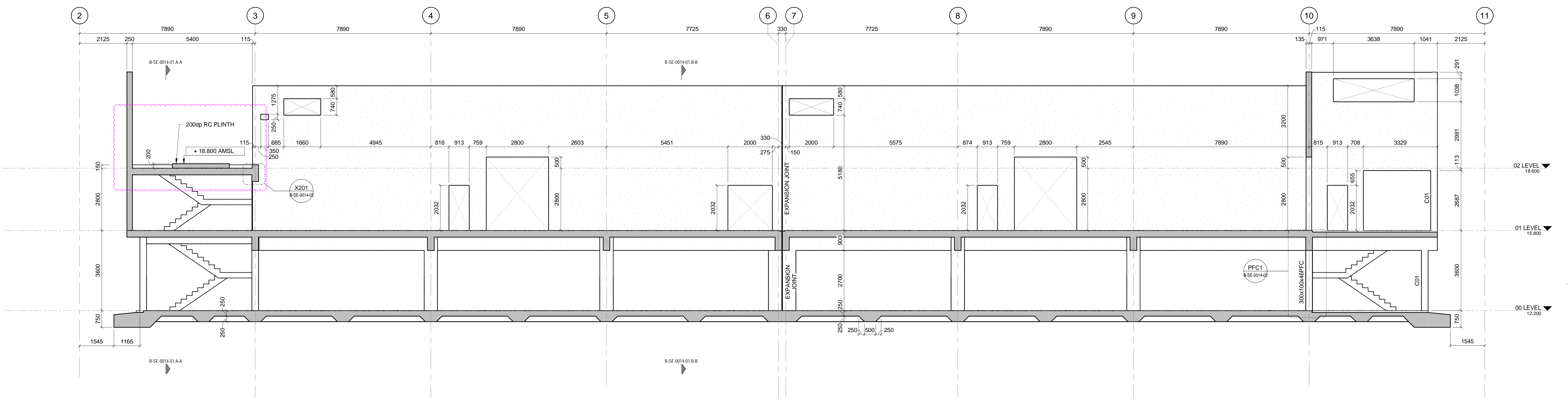
Transnet Capital Projects
TRANSNET LTD (TRADING AS TRANSNET CAPITAL PROJECTS) REG. NO. 1966/00628/07
TABLE BAY BUILDING, TYGERSBERG PARK, TEL: 021 940 1999
163 LYS KRIGE DRIVE, PLATTEKLOOF, FAK: 086 677 2455
8001

PORT OF SALDANHA

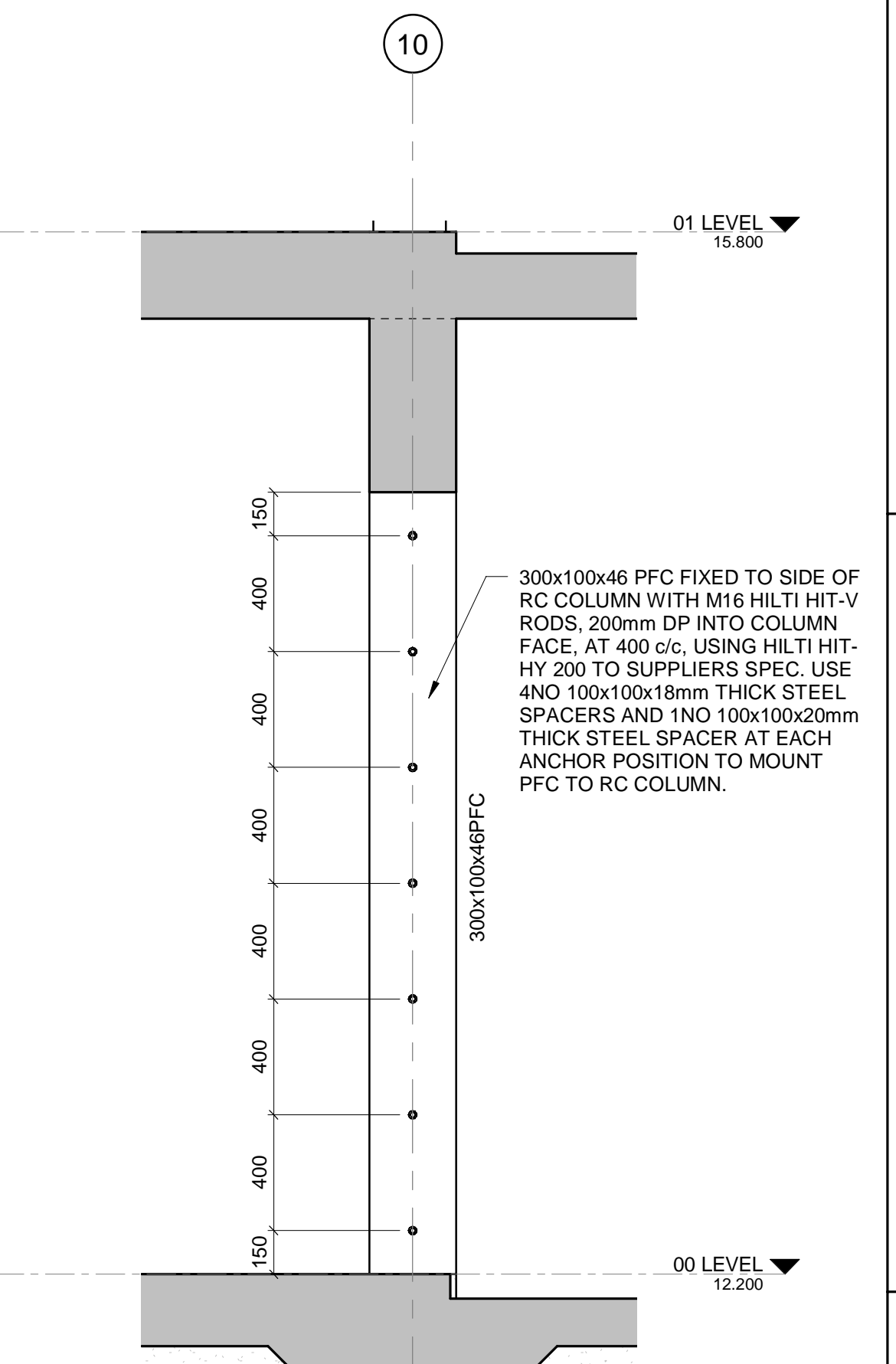
**IRON ORE TIPPLER 3 PROJECT
BULK POWER UPGRADE:
MAIN INTAKE SUBSTATION
BUILDING SECTIONS - SHEET 1**

PROJECT NUMBER	DD	FBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
19 2 4 7 0 1	2	5 1 0	B	S E	0 0 1 4	0 1	0 3	A E

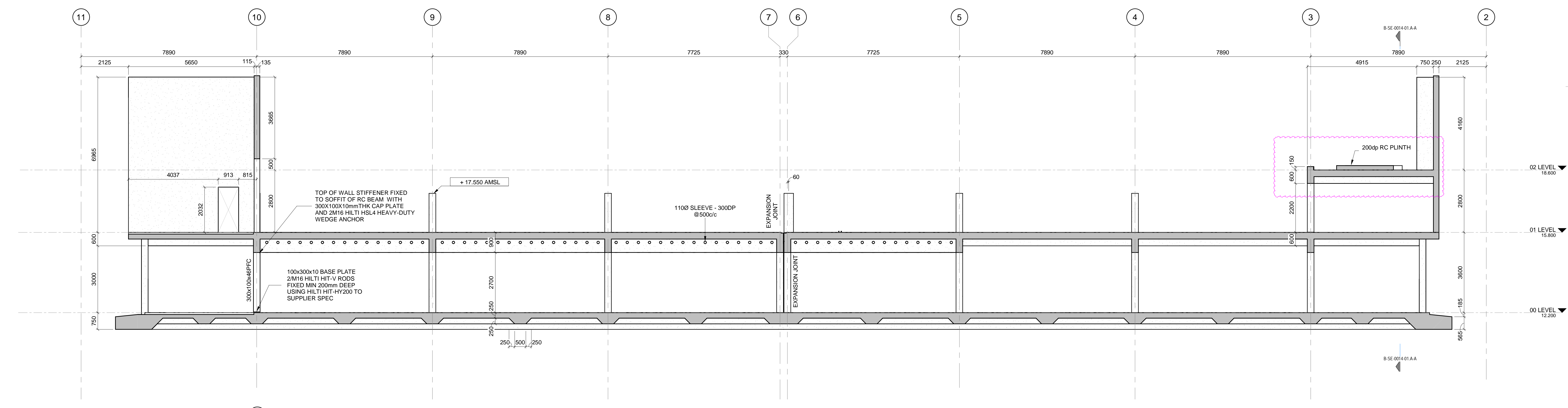
DRAWING NO.	REFERENCE
1	REFERENCE DRAWINGS



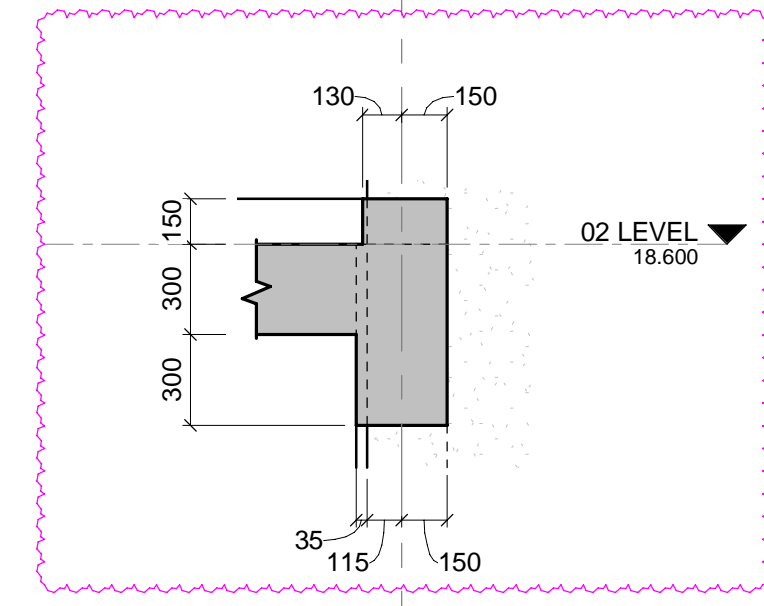
D-D BUILDING SECTION
00-17-B-LA-0046-01 SCALE 1:75



PFC1 PFC TO RC COLUMN
D-D/B-SE-0014-02 SCALE 1:20



E-E BUILDING SECTION
00-17-B-LA-0046-01 SCALE 1:75



X201 DETAIL CALLOUT
D-D/B-SE-0014-02 SCALE 1:25

MASTER
27-07-2023
AECOM

REFER TO RESPECTIVE ELECTRICAL DOCUMENTATION & DRAWINGS. CONSTRUCTION OF THE ACTUAL BUILDING MAY NOT COMMENCE UNTIL SUCH TIME THAT THE FINAL EARTH GRID (& ASSOCIATED EQUIPMENT), HAS BEEN INSTALLED, TESTED & ACCEPTED

- NOTES**
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CAPE TOWN OFFICE
WATERSIDE PLACE, SOUTH GATE
TYGER WATERFRONT
CARL CRONJE DRIVE
TEL: +27 (0)21 950 7500
FAX: +27 (0)21 950 7502
REG. No. 1966/00626/07

NO	DESCRIPTION	BY	CHKD	APPD	DATE
01	PLINTH DETAILS AND UPSTAIRS UPDATED FIRE SPECIFICATIONS ADDED	AH	JDM	SWM	24-07-23
02	UPDATE IS BASED ON SITE AS BUILT CONDITIONS	AH	JDM	SWM	07-09-23
03	WALL STIFFENERS ADDED/AMENDED	AH	JDM	SWM	25-02-23
04	OPENINGS FOR SERVICES ADDED/AMENDED	AH	C.K	SWM	09-09-21
05	FLOOR SLOT POSITION AMENDED - WALLS EXTENDED - DOOR SIZE AMENDED	AH	C.K	SWM	01-07-20
06	STEEL COLUMNS CHANGED TO RC COLUMNS - NOTES ADDED	AH	C.K	SWM	27-06-19
07	ISSUED FOR CONSTRUCTION	QA	HRH	SWM	13-06-20

CONTRACTOR/CONSULTANT				TRANSNET CAPITAL PROJECTS			
TITLE	NAME	SIGN	DATE	TITLE	NAME	SIGN	DATE
DRAWN	AH	[Signature]	24-07-23				
CHECKED	C.K	[Signature]	24-07-23				
DESIGNED	IG	[Signature]	24-07-23				
CHECKED	SWM	[Signature]	24-07-23				

Transnet Capital Projects
TRANSNET LTD (TRADING AS TRANSNET CAPITAL PROJECTS) REG. NO. 1966/00626/07
TABLE VUY BUILDING, TYGERSBERG PARK, TEL: 021 940 1999
183 LYS KRIGE DRIVE, PLATTEKLOOF, 8001. FAX: 021 947 2455

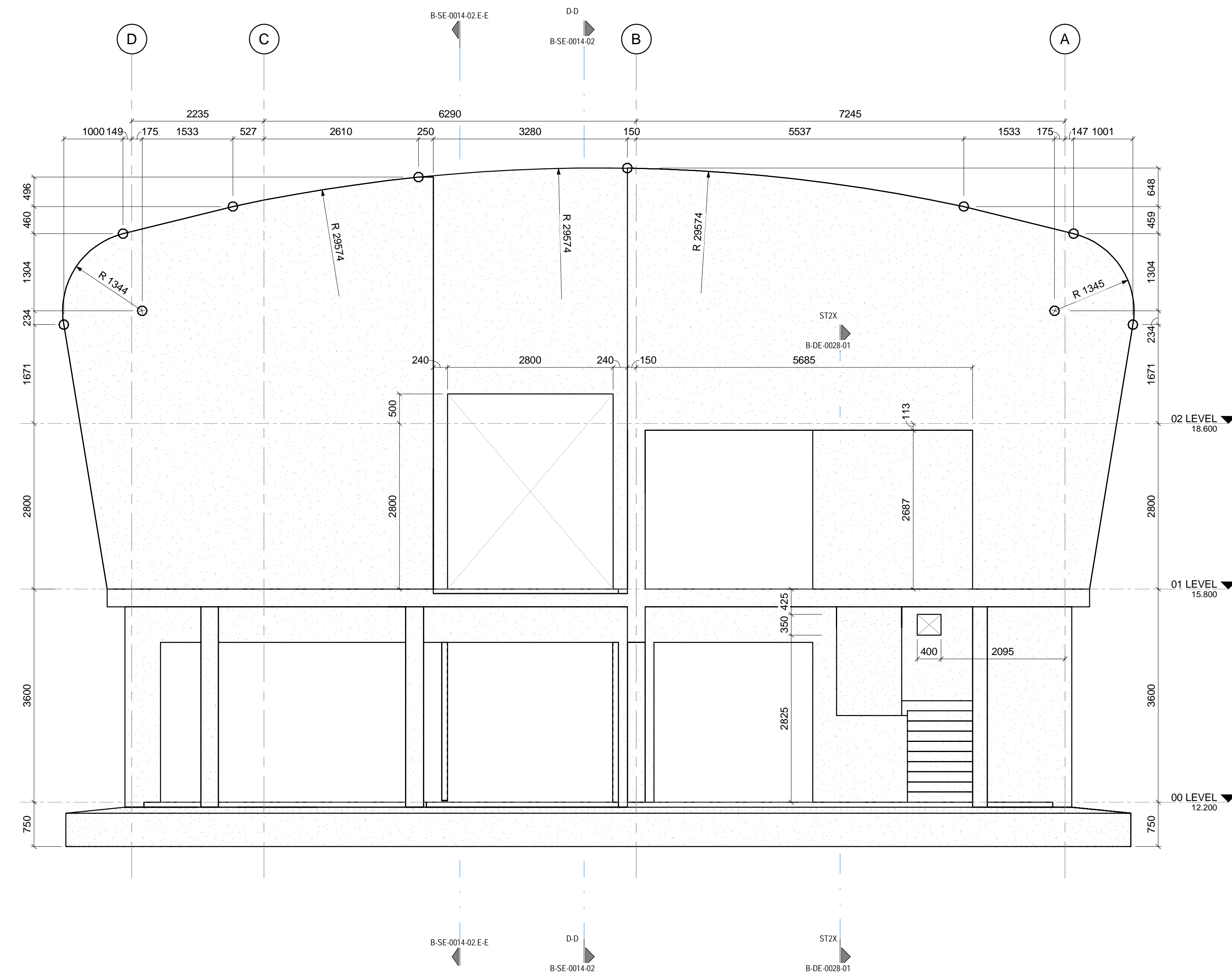
PORT OF SALDANHA

**IRON ORE TIPPLER 3 PROJECT
BULK POWER UPGRADE:
MAIN INTAKE SUBSTATION
BUILDING SECTIONS - SHEET 2**

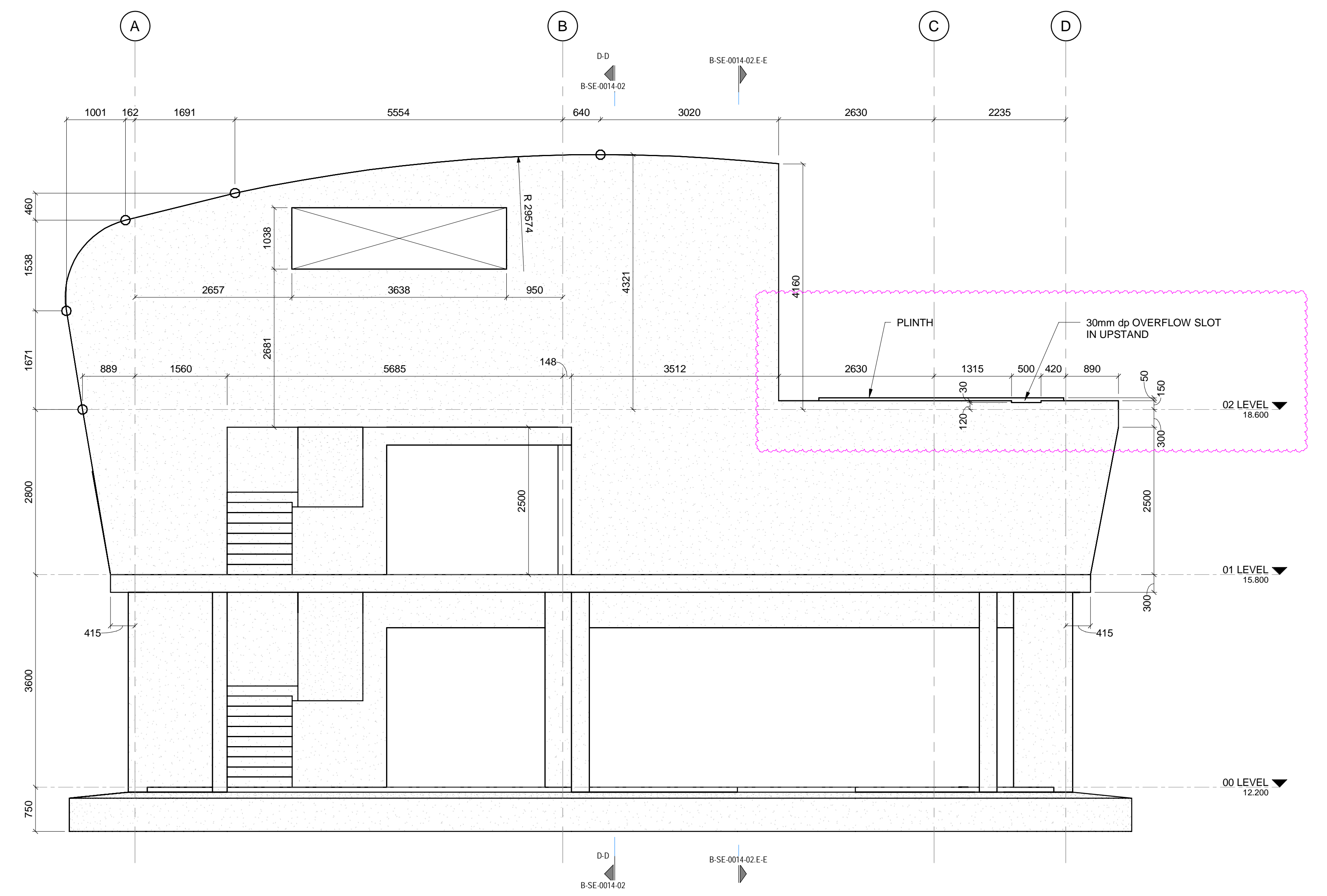
PR. ENG./PR. TECH./PR. ARCH
NAME: SW MARAIS
SIGNATURE: [Signature]
DATE: 24-07-23
REG. NUMBER: 20090106
SCALE: AS SHOWN

PROJECT NUMBER	DD	FBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
19	2	4	7	0	1	2	5	10

DRAWING NO.	REFERENCE
1	REFERENCE DRAWINGS



S SOUTH ELEVATION
SCALE 1:50



N NORTH ELEVATION
SCALE 1:50

MASTER
27-07-2023
AECOM

NOTES

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CAPE TOWN OFFICE
WATERSIDE PLACE, SOUTH GATE
TYGER WATERFRONT
CARL CRONJE DRIVE
TEL: +27 (0)21 950 7500
FAX: +27 (0)21 950 7502
REG. No. 1966/00626/07

NO	DESCRIPTION	BY	CHKD	DATE	
01	PLINTH DETAILS AND UPSTANDS UPDATED, FIRE SPECIFICATIONS ADDED	AH	JW	SWM	24-07-23
02	OPENINGS FOR SERVICES ADDED/AMENDED	AH	CK	SWM	09-09-23
03	TILLOOR SLOT POSITION AMENDED - WALLS EXTENDED - DOOR SIZE AMENDED	AH	HVM	SWM	01-02-23
04	ISSUED FOR CONSTRUCTION	GA	HVM	SWM	11-06-19

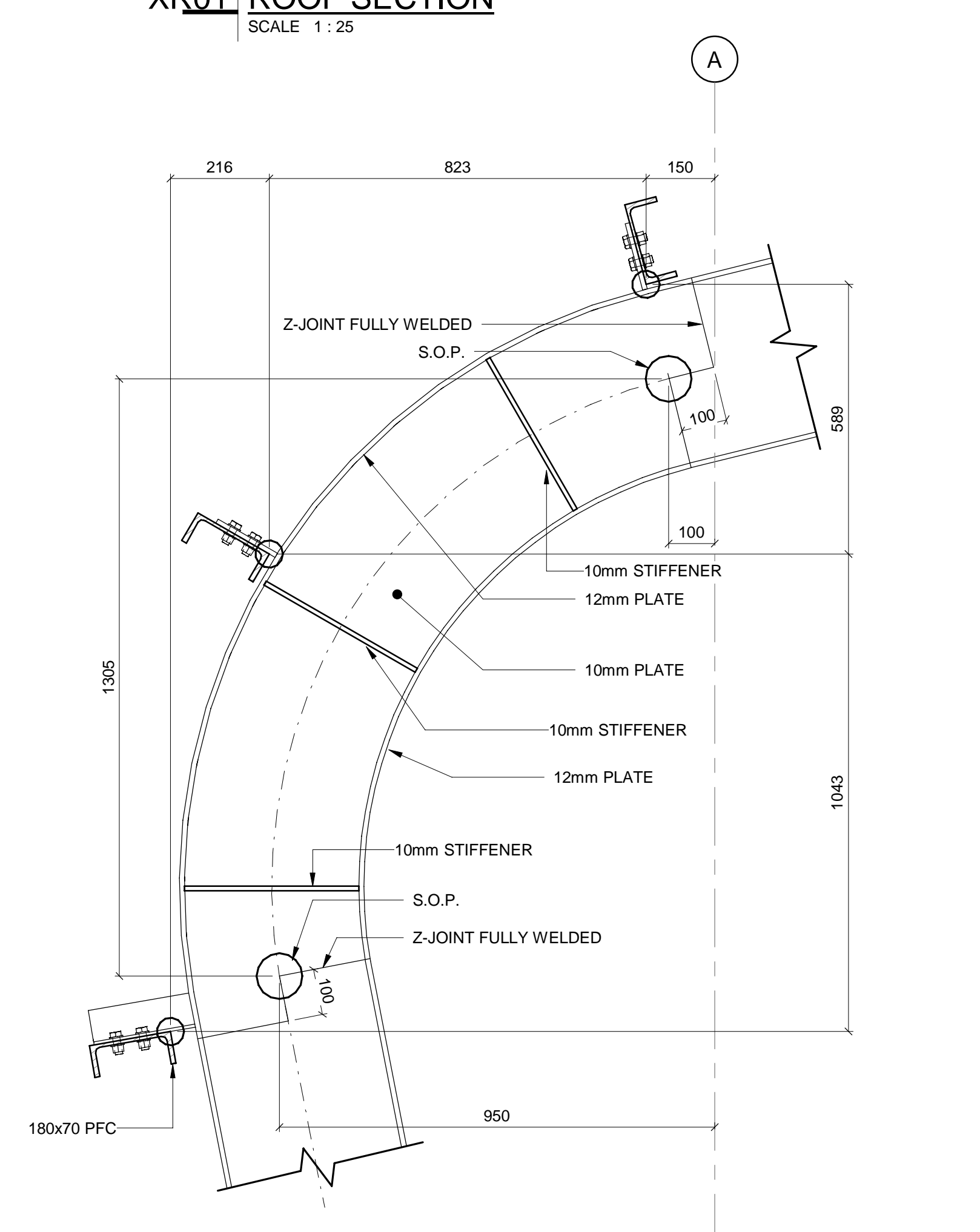
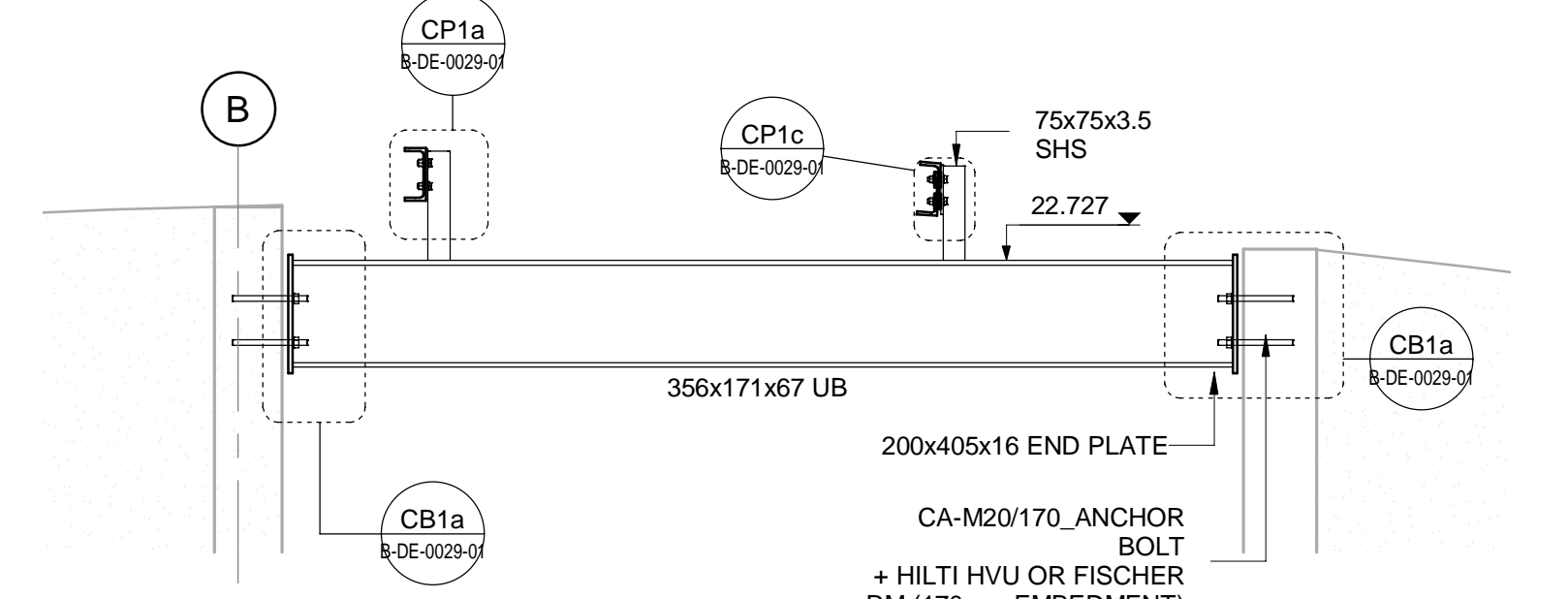
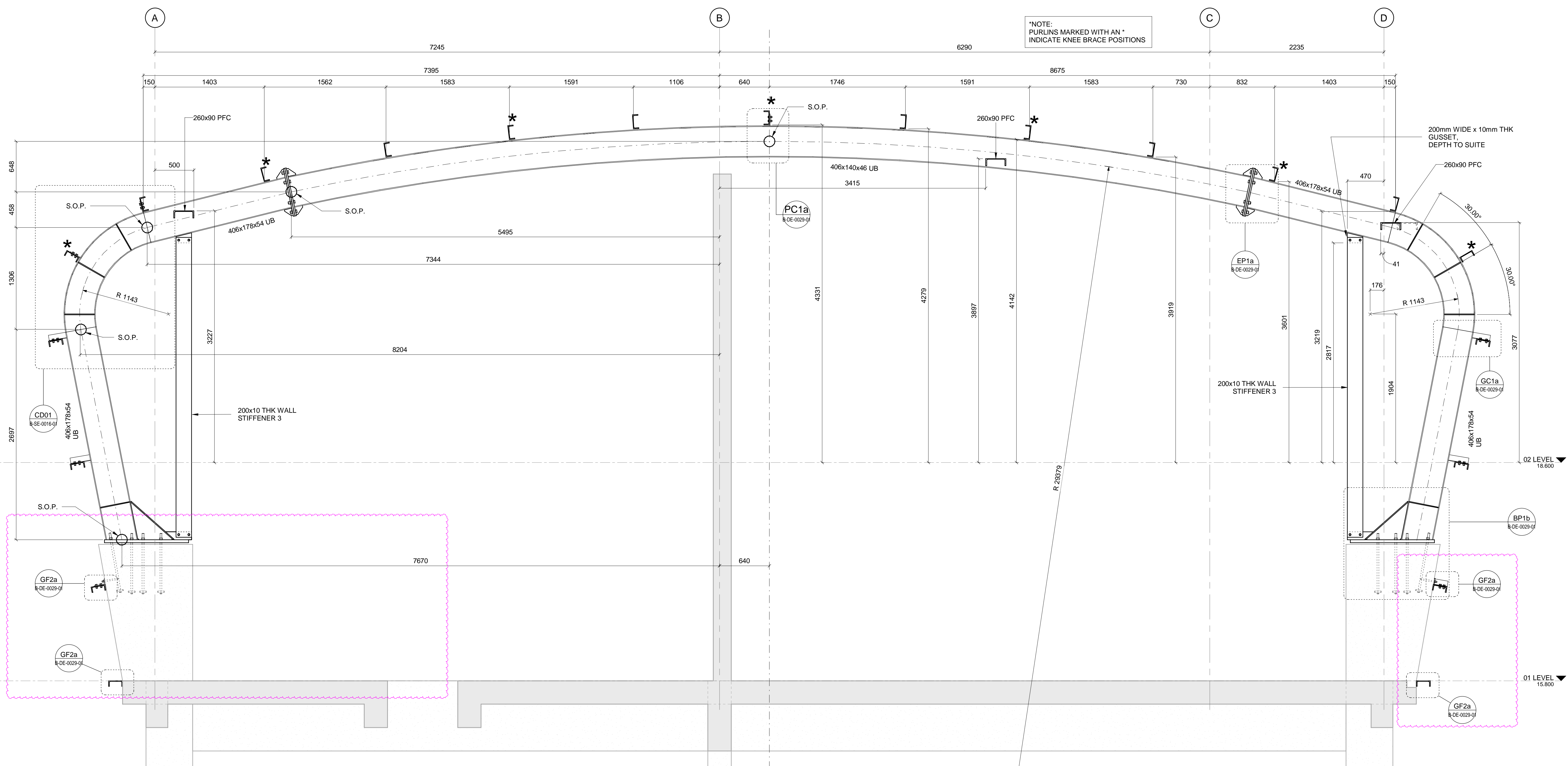
CONTRACTOR/CONSULTANT				TRANSNET CAPITAL PROJECTS			
TITLE	NAME	SIGN	DATE	TITLE	NAME	SIGN	DATE
DRAWN	AH	[Signature]	24-07-23				
CHECKED	CK	[Signature]	24-07-23				
DESIGNED	IG	[Signature]	24-07-23				
CHECKED	SWM	[Signature]	24-07-23				

OPERATING DIVISIONS			
TITLE	NAME	SIGN	DATE
PR. ENG./PR. TECH./PR. ARCH	SW MARAIS	[Signature]	24-07-23
SIGNATURE	[Signature]		
REG. NUMBER	20090106		
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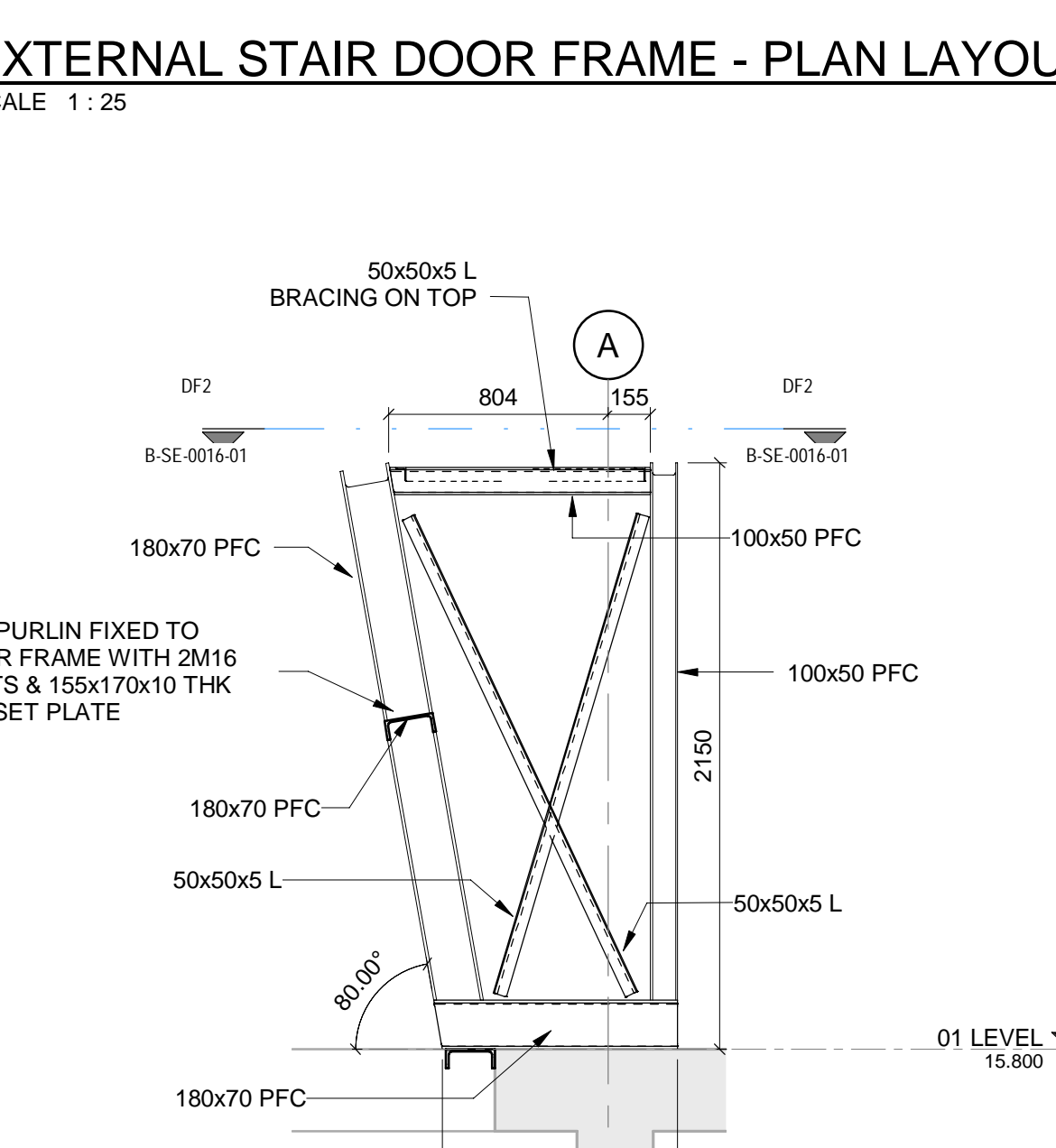
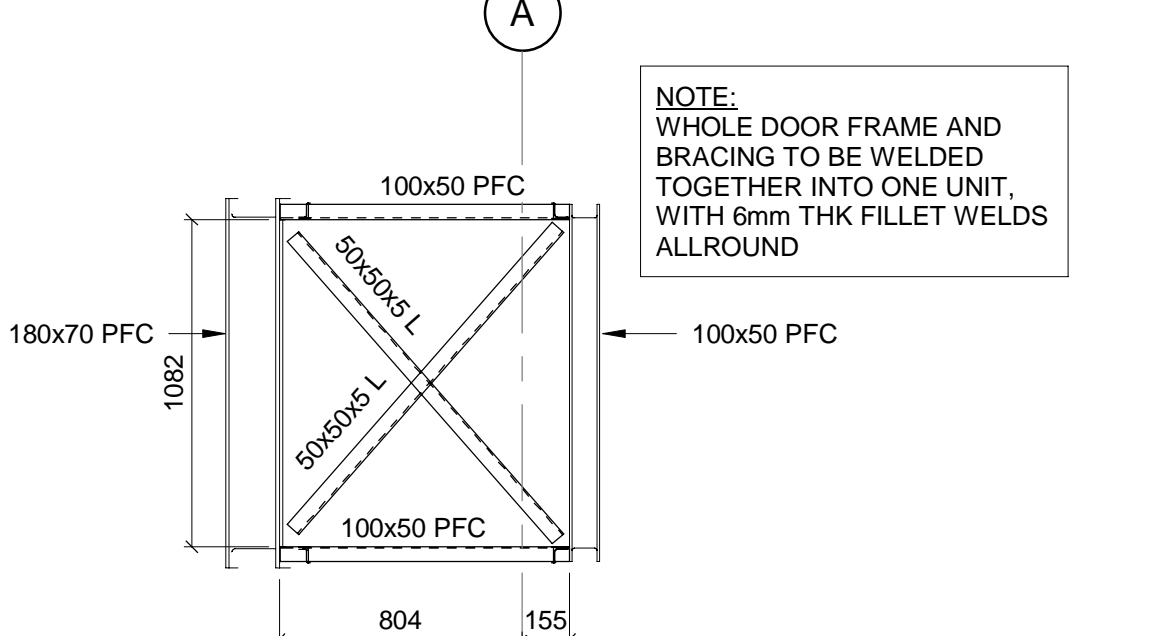
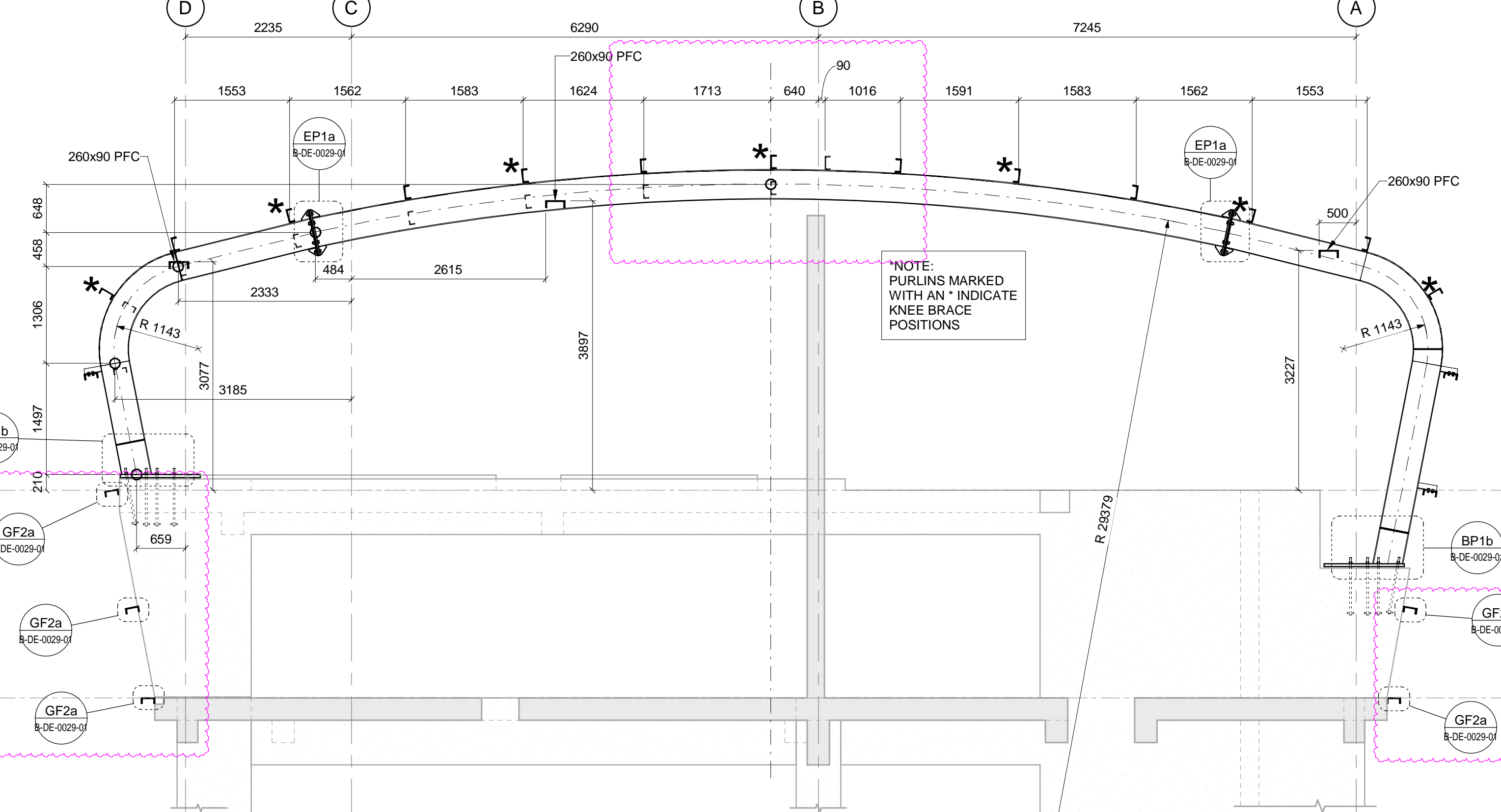
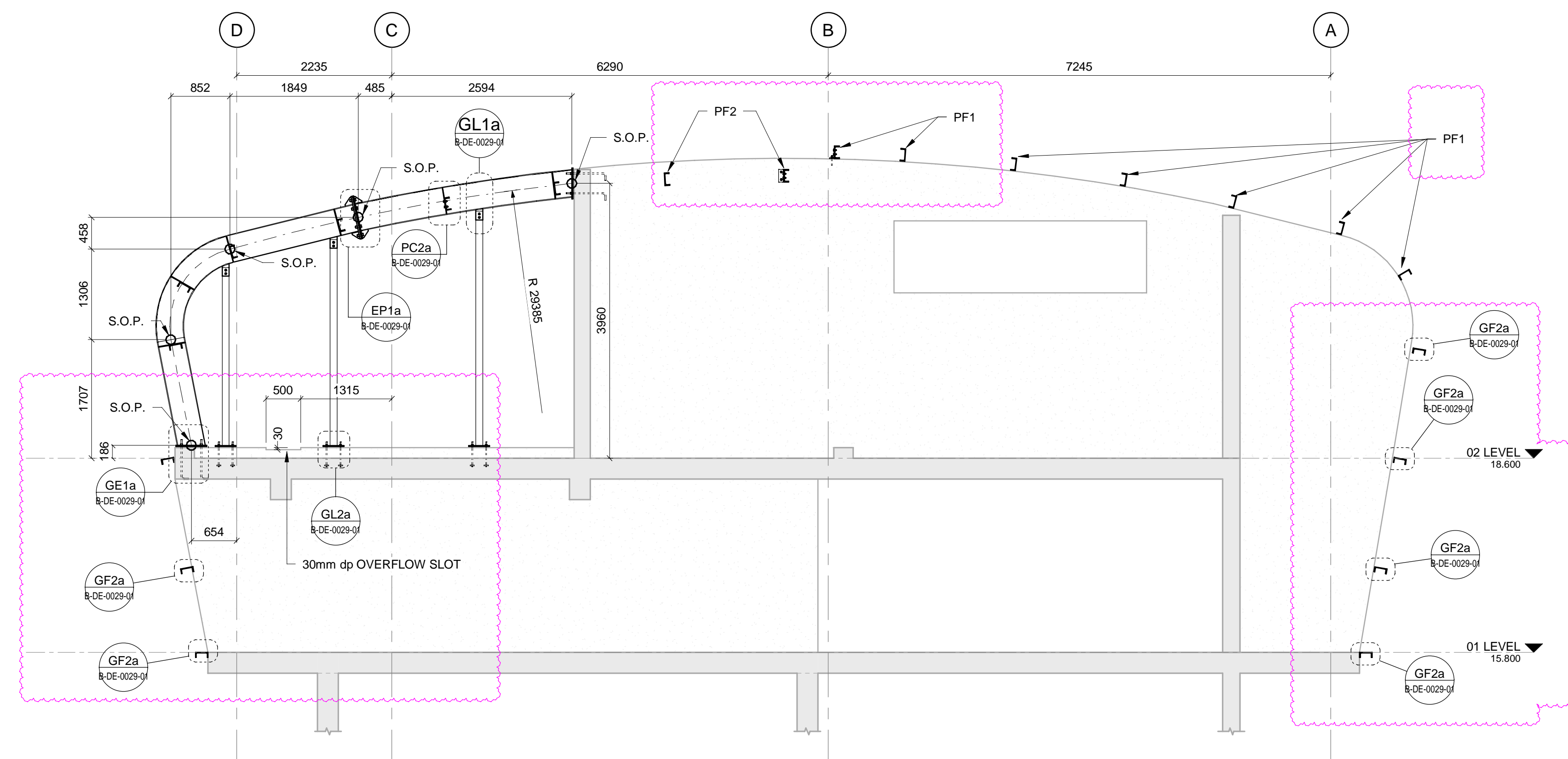
TRANSNET CAPITAL PROJECTS
Transnet Capital Projects
TRANSNET LTD (TRADING AS TRANSNET CAPITAL PROJECTS) REG. NO. 1966/00626/07
TABLE BAY BUILDING, TYGERSBERG PARK, TEL: 021 940 1999
183 LYS KRIGE DRIVE, PLATTEKLOOF, 8001 FAX: 086 677 2455

PORT OF SALDANHA
IRON ORE TIPLER 3 PROJECT
BULK POWER UPGRADE:
MAIN INTAKE SUBSTATION
BUILDING ELEVATIONS - SHEET 1

PROJECT NUMBER	DD	FBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
1924701	2	510	B	SE	0015	01	03	AE



H-H ROOF SECTION
SCALE 1:25



- NOTES**
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TYGER WATERFRONT
CARL CRONJE DRIVE
TEL: +27 (0)21 950 7500
FAX: +27 (0)21 950 7502
REG. NO. 1966/006628/07

NO	DESCRIPTION	BY	CHKD	APPD	DATE
01	ROOF LAYOUT UPDATED TO SUITE NEW PLANTROOM REQUIREMENTS. CONNECTIONS ARE ALSO ADDED. FIRE SPECIFICATIONS ADDED.	AH	JDM	SWM	24/07/23
02	UPDATE IS BASED ON SITE VISUAL CONDITIONS	AH	JDM	SWM	07/06/23
03	WALL STIFFENERS ADDED/AMENDED	AH	JDM	SWM	29/02/23
04	REVISED FOR CONSTRUCTION	QA	TRH	SWM	13/04/23

CONTRACTOR/CONSULTANT			
TITLE	NAME	SIGN	DATE
DRAWN	AH	[Signature]	24/07/23
CHECKED	H.W.	[Signature]	24/07/23
DESIGNED	IG	[Signature]	24/07/23
CHECKED	SWM	[Signature]	24/07/23

OPERATING DIVISIONS			
TITLE	NAME	SIGN	DATE
PR. ENG./PR. TECH./PR. ARCH	SWM	[Signature]	24/07/23

TRANSNET CAPITAL PROJECTS			
TITLE	NAME	SIGN	DATE
PR. ENG./PR. TECH./PR. ARCH	SWM	[Signature]	24/07/23

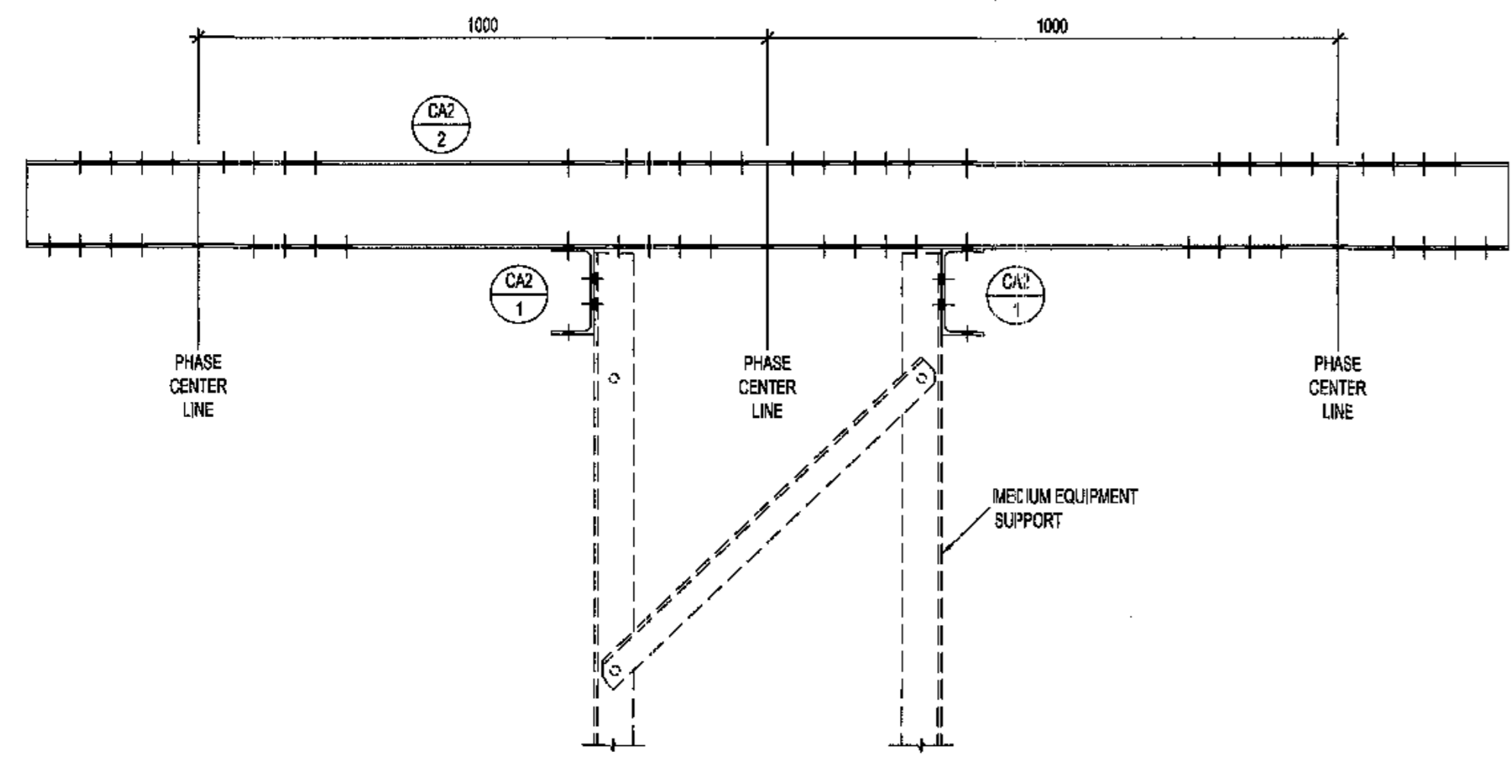
TRANSNET Capital Projects
TRANSNET LTD (TRANSNET) 437 TRANSNET DRIVE, PROJECTS - REGS NO. 1966/006628/07
TABLE VIEW BUILDING, TYGERSBERG PARK, TEL: 021 940 1999
163 LYS KRIGE DRIVE, PLATTEKLOOF, FAX: 021 977 2455
8001

PORT OF SALDANHA

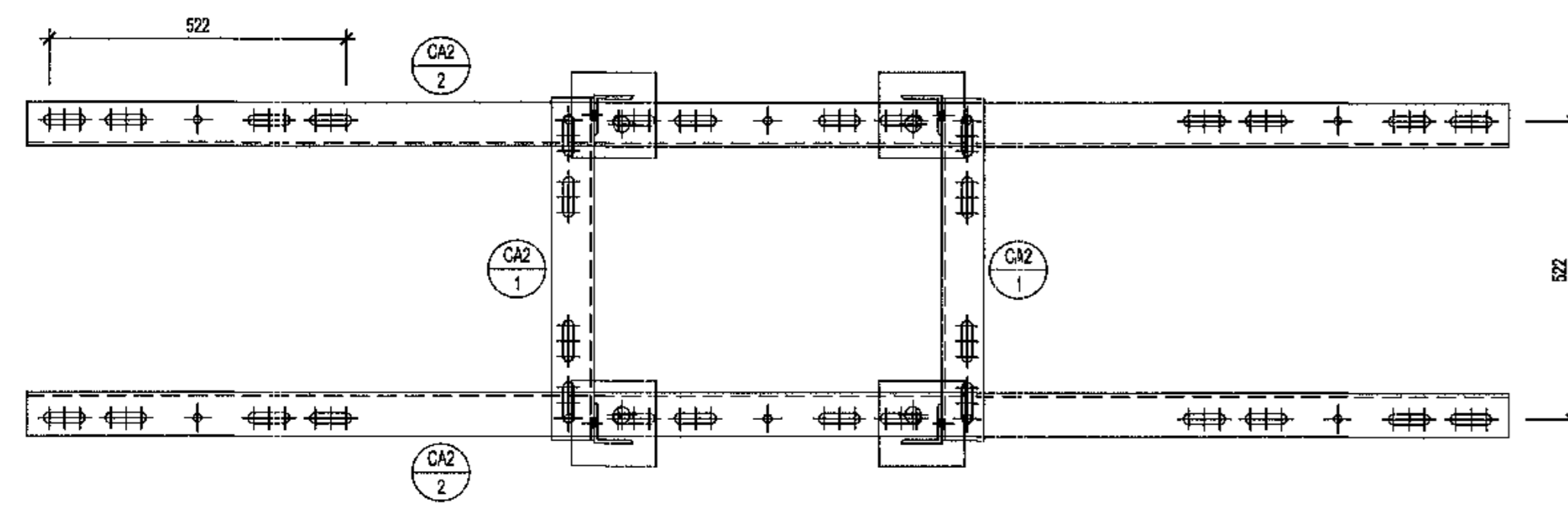
**IRON ORE TIPPLER 3 PROJECT
BULK POWER UPGRADE:
MAIN INTAKE SUBSTATION
ROOF SECTIONS**

PROJECT NUMBER	DD	FBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
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B	S	E	0	0	1	6	0	1
A	1	9	2	4	7	0	1	3

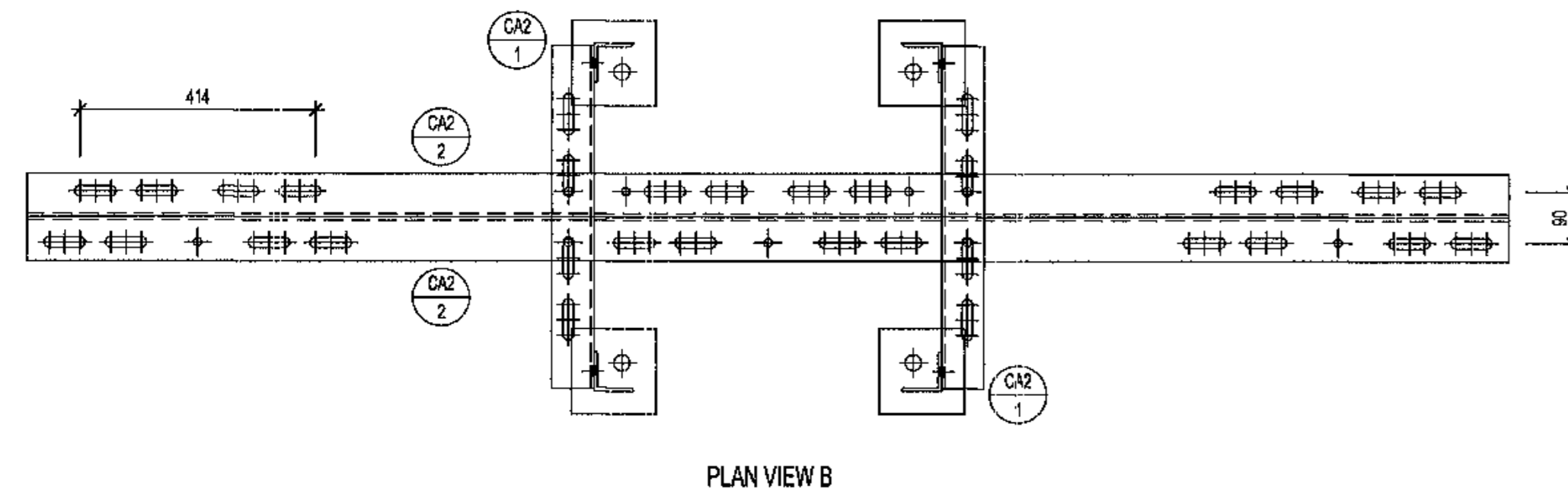
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1	REFERENCE DRAWINGS



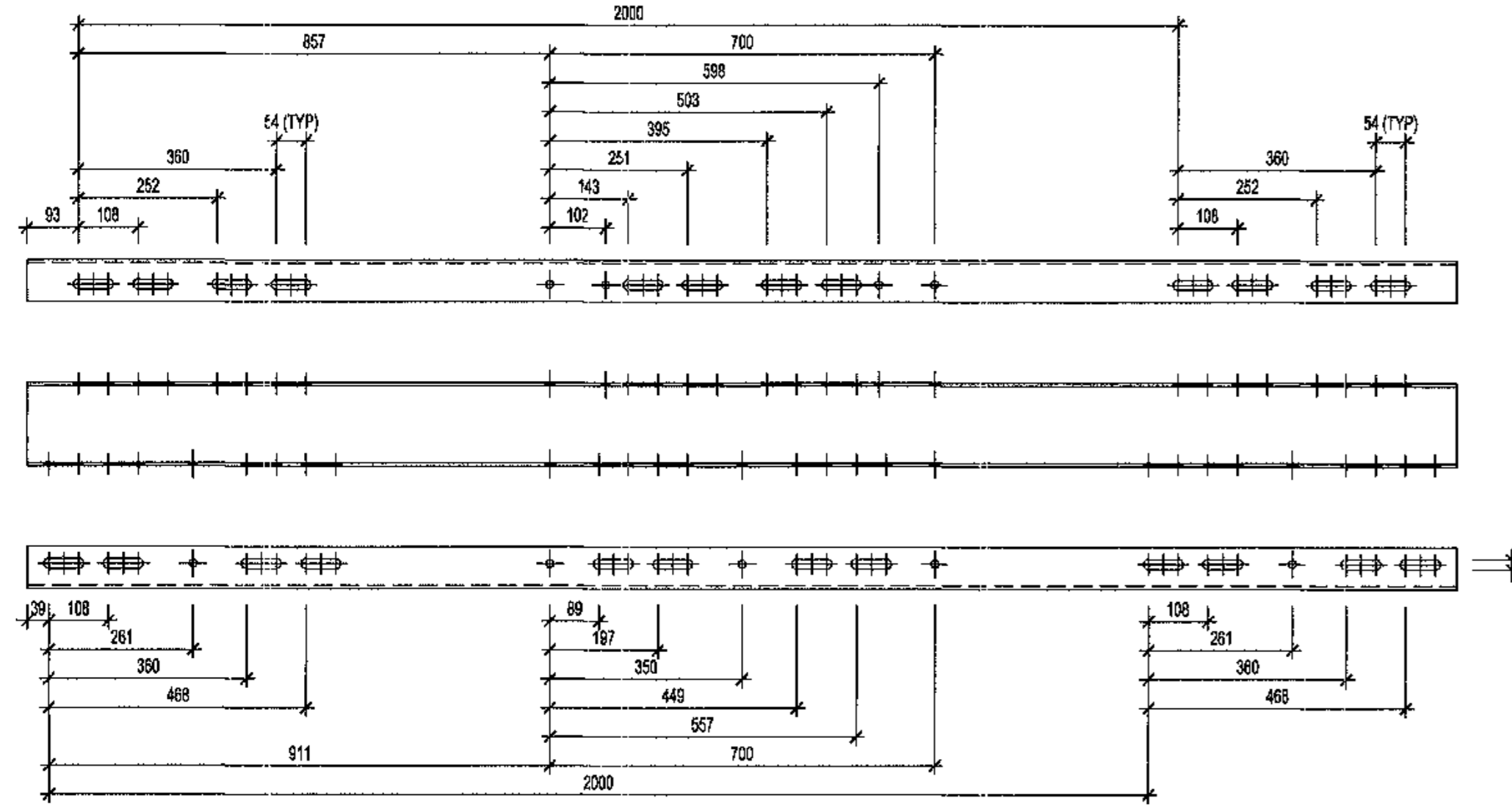
FRONT ELEVATION



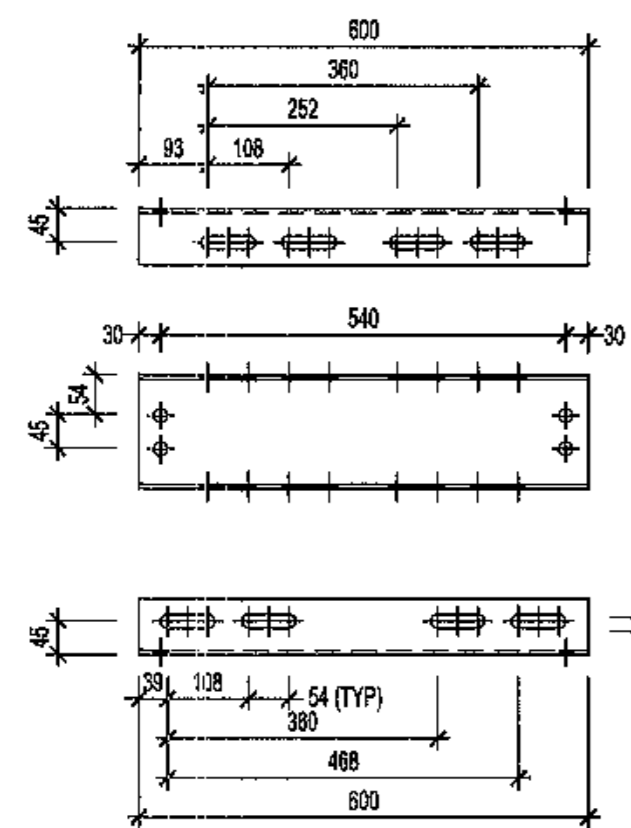
PLAN VIEW A



PLAN VIEW B

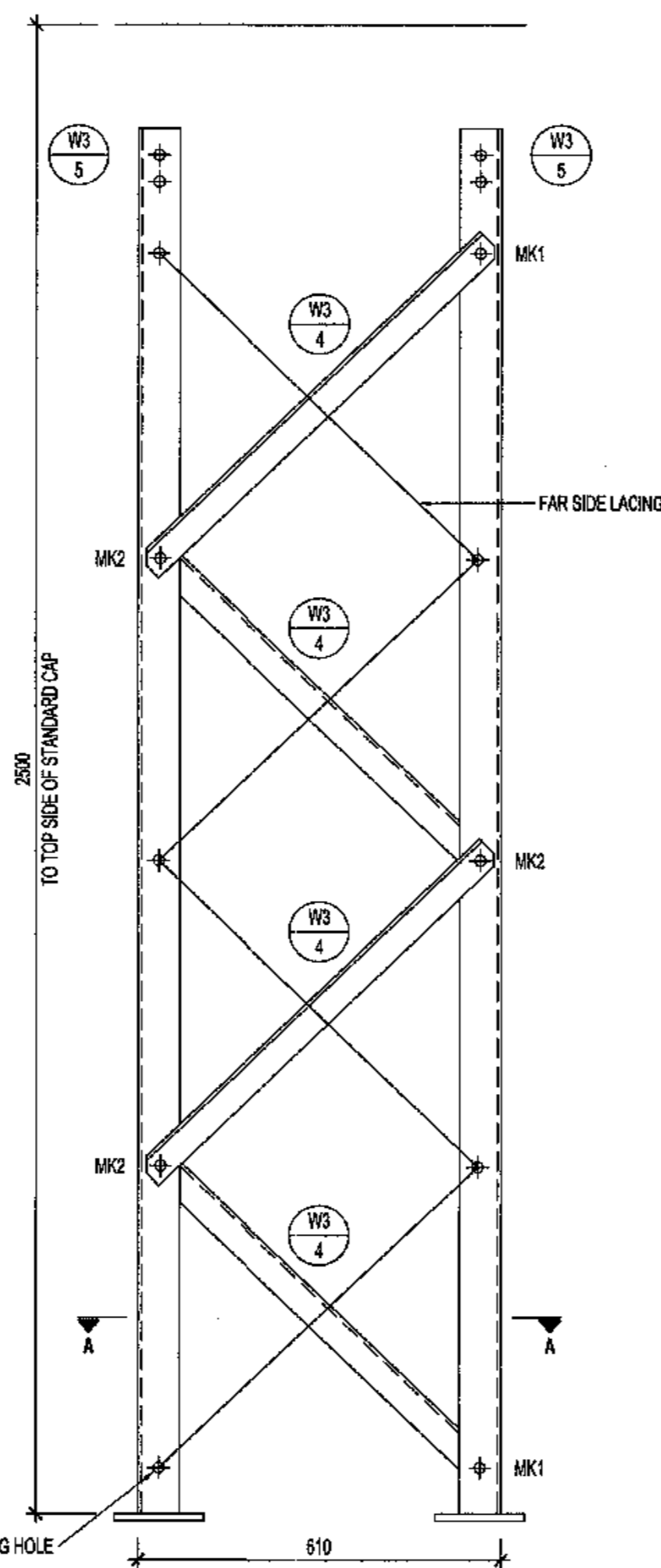


PLAN VIEW D



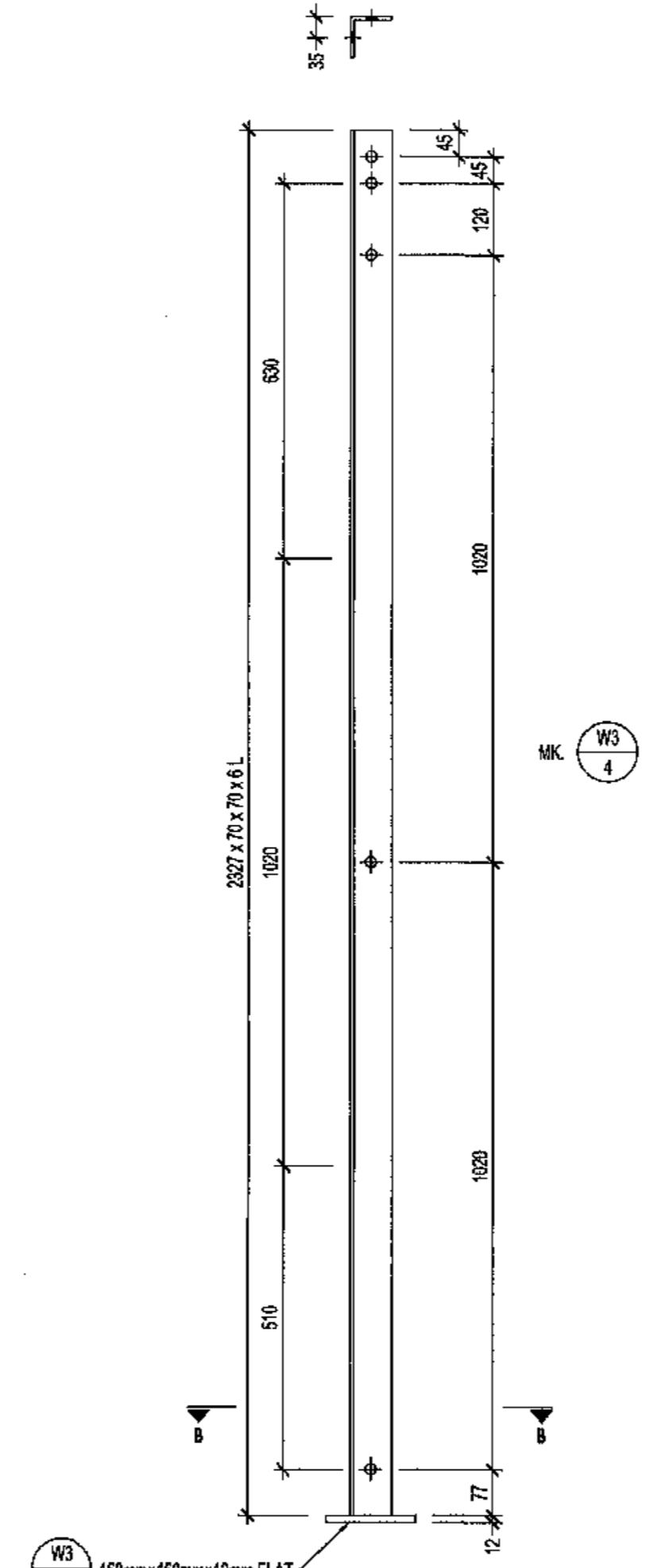
MEDIUM EQUIPMENT - M2 CAP

SCALE 1:10



2.5m LATTICE STEEL MEDIUM EQUIPMENT SUPPORT

SCALE 1:10



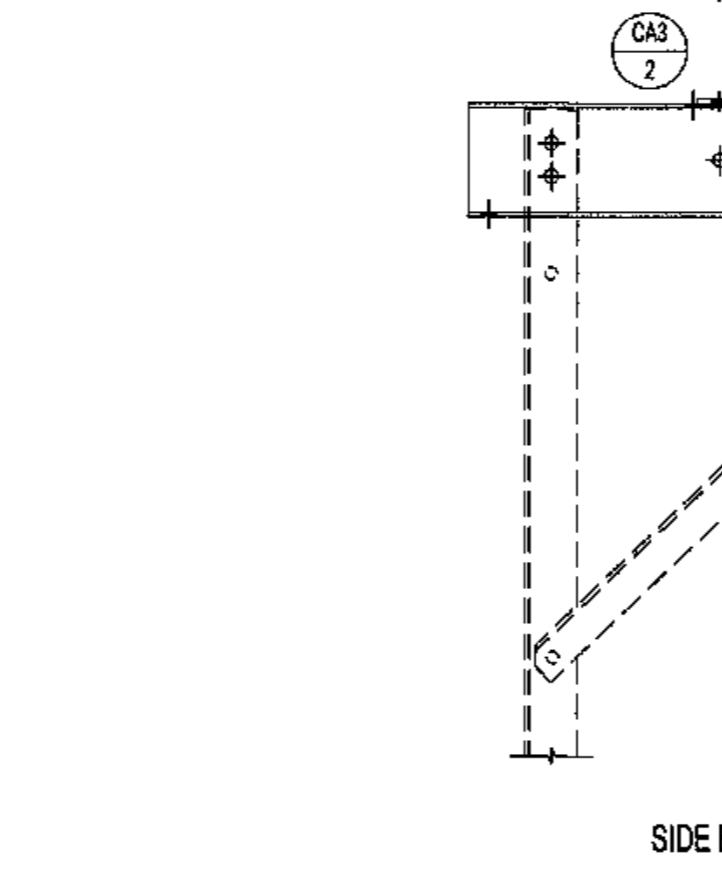
MEDIUM EQUIPMENT - M1 CAP

SCALE 1:10

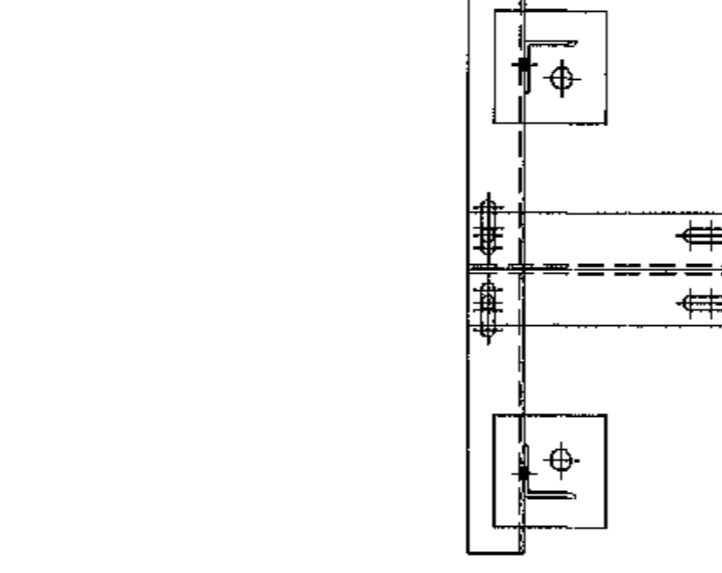
ALL PARTS TO BE USED EITHER AS SHOWN OR UPSIDE DOWN AS REQUIRED, TO GIVE THE DESIRED FIXING CENTRES. THIS TO BE DETERMINED AT SITE DURING ERECTION.

MEDIUM EQUIPMENT - M1 CAP

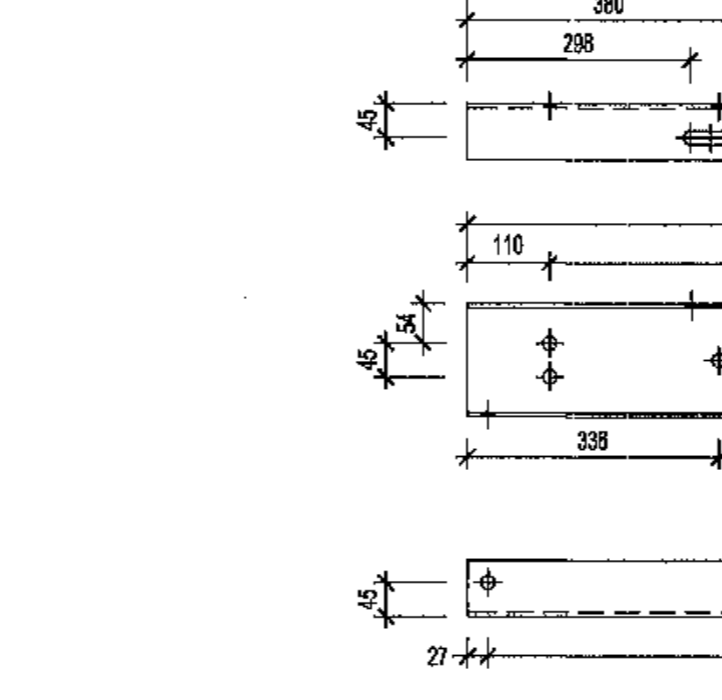
SCALE 1:10



SIDE ELEVATION

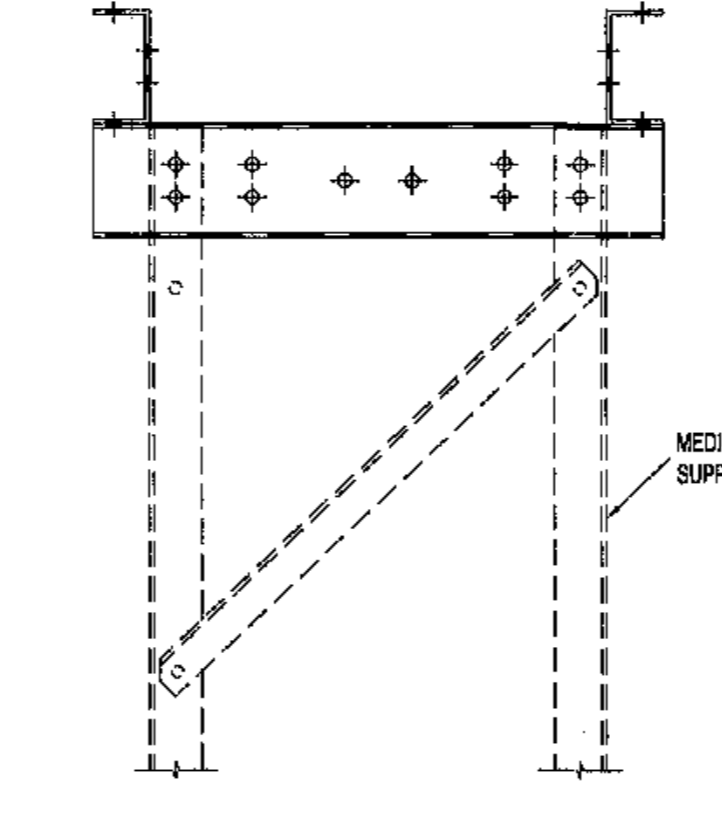


PLAN VIEW



MEDIUM EQUIPMENT - M3 CAP

SCALE 1:10

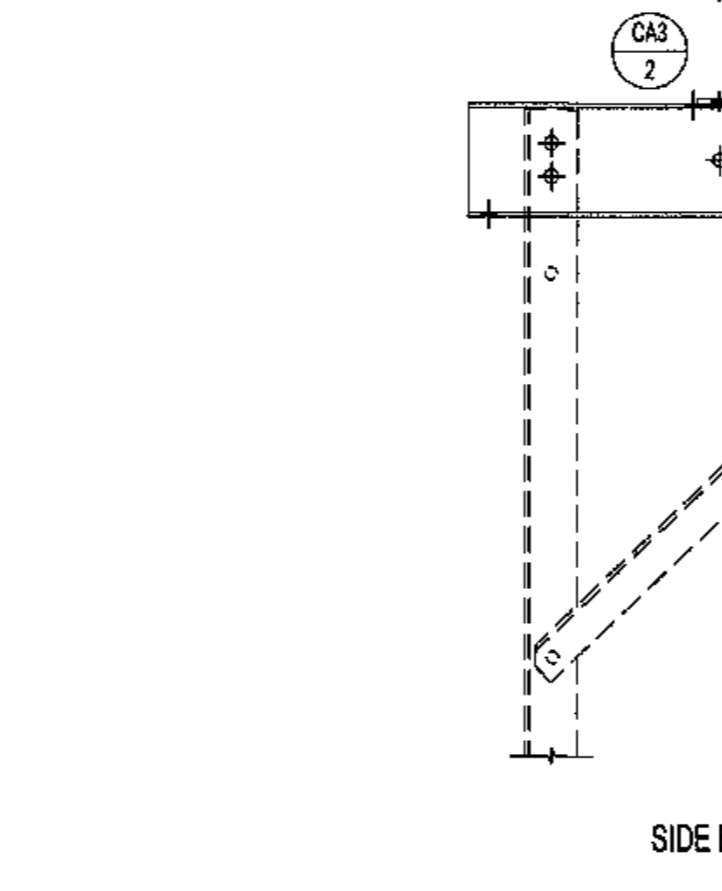


MEDIUM EQUIPMENT SUPPORT

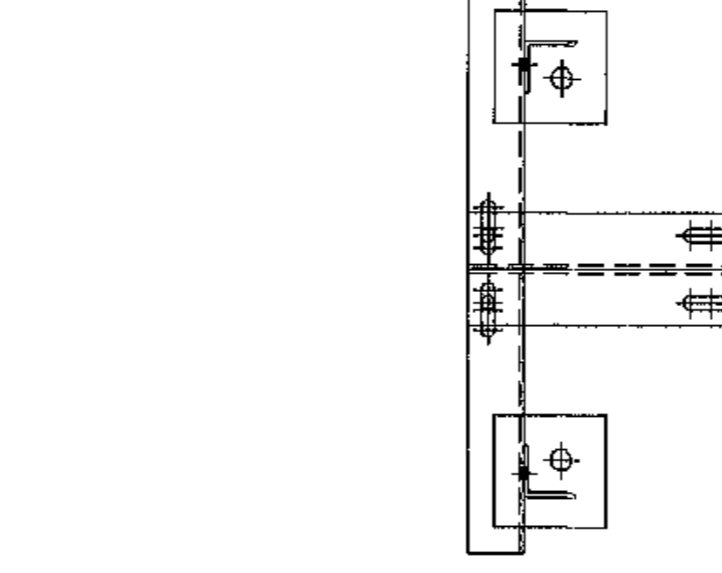
ALL PARTS TO BE USED EITHER AS SHOWN OR UPSIDE DOWN AS REQUIRED, TO GIVE THE DESIRED FIXING CENTRES. THIS TO BE DETERMINED AT SITE DURING ERECTION.

MEDIUM EQUIPMENT - M1 CAP

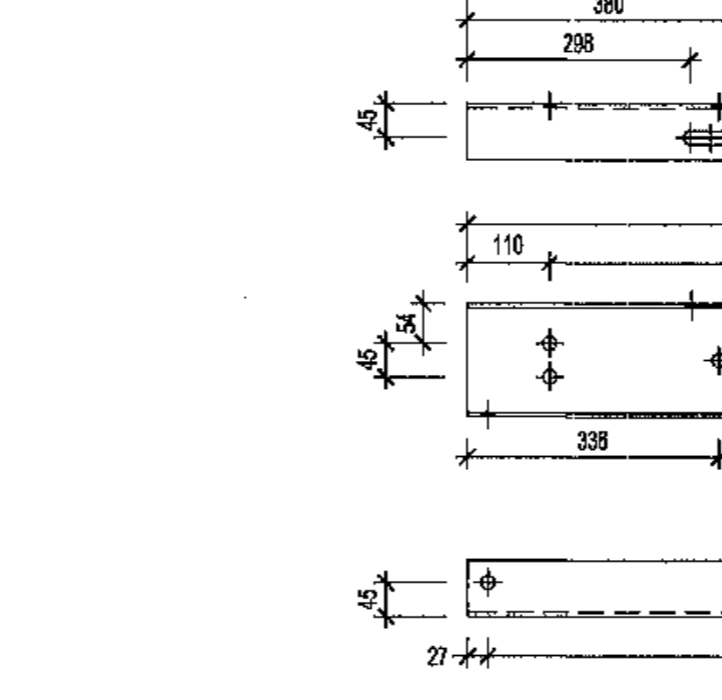
SCALE 1:10



SIDE ELEVATION

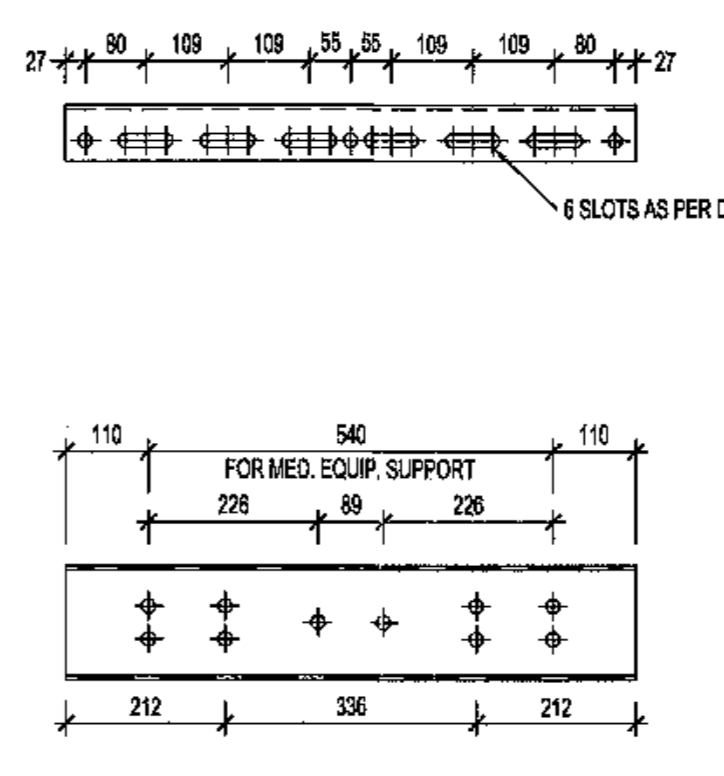


PLAN VIEW



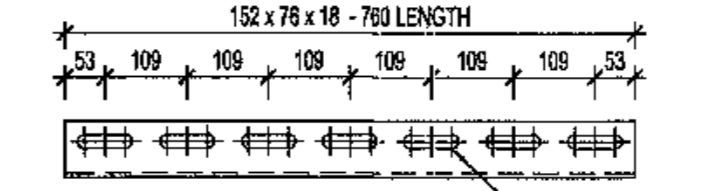
MEDIUM EQUIPMENT - M3 CAP

SCALE 1:10

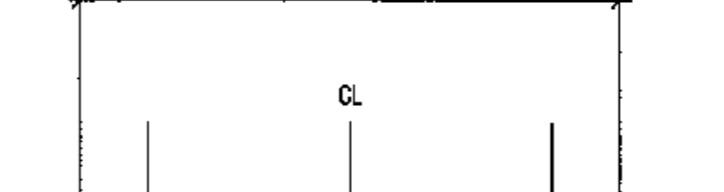


2.5m LATTICE STEEL SUPPORT

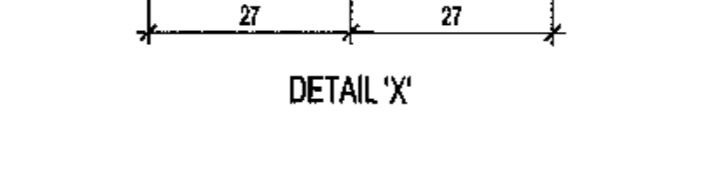
FORMED EQUIP. SUPPORT



MEDIUM EQUIPMENT - CAP M1



MEDIUM EQUIPMENT - CAP M2



MEDIUM EQUIPMENT - CAP M3

- NOTES:
1. ALL WELDING AND WELDING SYMBOLS SHALL CONFORM TO SANS 1004 PART 1 TO 6.
 2. ALL STRUCTURAL USE OF STEEL TO CONFORM TO SANS 1004.
 3. ALL STEEL TO BE GRADE S235JR/275K10 (EXCEPT ANGLES 446mm TO BE MILD STEEL).
 4. ALL WELDS TO BE REAL WELDED.
 5. ALL STEELWORK TO BE HOT DIPPED GALVANIZED TO SANS 151.
 6. STEELWORK TO BE CHECKED AND STRAIGHTENED AFTER GALVANIZING.
 7. BOLTS, NUTS AND WASHERS TO BE IN ACCORDANCE WITH SANS 170.
 8. ALL WELDINGS TO BE STAMPED ON TO STEELWORK AND SHALL BE CLEARLY LEGIBLE AFTER GALVANIZING.
 9. NO STEEL EXTENSIONS WILL BE ALLOWED ON ANY STEELWORK.
 10. NO RECTIONS TO BE BUTT WELDED.
 11. ALL STEELWORK TO BE FABRICATED, ERECTED AND LEVELLED TO A TOLERANCE OF ± 1.5mm.
 12. ALL HOLES TO BE 18mm Ø UNLESS OTHERWISE STATED.

BOLT SCHEDULE		MILD STEEL BOLTS		No. OF NUTS		No. OF WASHERS		TORQUE	MASS
MARK	BOLT SIZE	PITCH	GRADE	LENGTH	NO. OF BOLTS	NO. OF NUTS	NO. OF WASHERS	mm	kg
1	M16	2	4.8	40	8	8	8	100	1.22
2	M16	2	4.8	45	12	12	12	120	1.61

ITEM	QTY	DESCRIPTION	CUTTING LENGTH	TOTAL LENGTH	MASS
			mm	m	kg
1	16	MILD STEEL ANGLE 65 x 65 x 6	783	12.60	56.71
2	4	MILD STEEL ANGLE 75 x 75 x 6	7207	6.31	59.38
3	4	MILD STEEL PLATE 150 x 12	150	0.60	8.48

BOLT SCHEDULE		MILD STEEL BOLTS		No. OF NUTS		No. OF WASHERS		TORQUE	MASS
MARK	BOLT SIZE	PITCH	GRADE	LENGTH	NO. OF BOLTS	NO. OF NUTS	NO. OF WASHERS	mm	kg
1	M16	2	4.8	40	8	8	8	100	1.22
2	M16	2	4.8	45	4	4	4	120	0.72

ITEM	QTY	DESCRIPTION	CUTTING LENGTH	TOTAL LENGTH	MASS
			mm	m	kg
1	4	TF CHANNEL 152 x 75 x 18kg/m	780	3.12	54.41

BOLT SCHEDULE		MILD STEEL BOLTS		No. OF NUTS		No. OF WASHERS		TORQUE	MASS
MARK	BOLT SIZE	PITCH	GRADE	LENGTH	NO. OF BOLTS	NO. OF NUTS	NO. OF WASHERS	mm	kg
1	M16	2	4.8	40	8	8	8	100	1.22
2	M16	2	4.8	45	4	4	4	120	0.72

ITEM	QTY	DESCRIPTION	CUTTING LENGTH	TOTAL LENGTH	MASS
			mm	m	kg
1	2	TF CHANNEL 152 x 75 x 18kg/m	800	1.6	21.48
2	2	TF CHANNEL 152 x 75 x 18kg/m	3000	6.0	83.08

BOLT SCHEDULE		MILD STEEL BOLTS		No. OF NUTS		No. OF WASHERS		TORQUE	MASS
MARK	BOLT SIZE	PITCH	GRADE	LENGTH	NO. OF BOLTS	NO. OF NUTS	NO. OF WASHERS	mm	kg
1	M16	2	4.8	40	8	8	8	100	1.22
2	M16	2	4.8	45	4	4	4	120	0.72

ITEM	QTY	DESCRIPTION	CUTTING LENGTH	TOTAL LENGTH	MASS
			mm	m	kg
1	4	TF CHANNEL 152 x 75 x 18kg/m	710	3.24	54.41
2	1	MILD STEEL PLATE 200 x 10	580	0.58	8.1



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FAX: +27 (0)21 950 7502
REG. No. 1966/006678/07

NO.	ISSUED FOR CONSTRUCTION	DESCRIPTION	BY	CHKD	APPD	DATE
01						14-06-2018

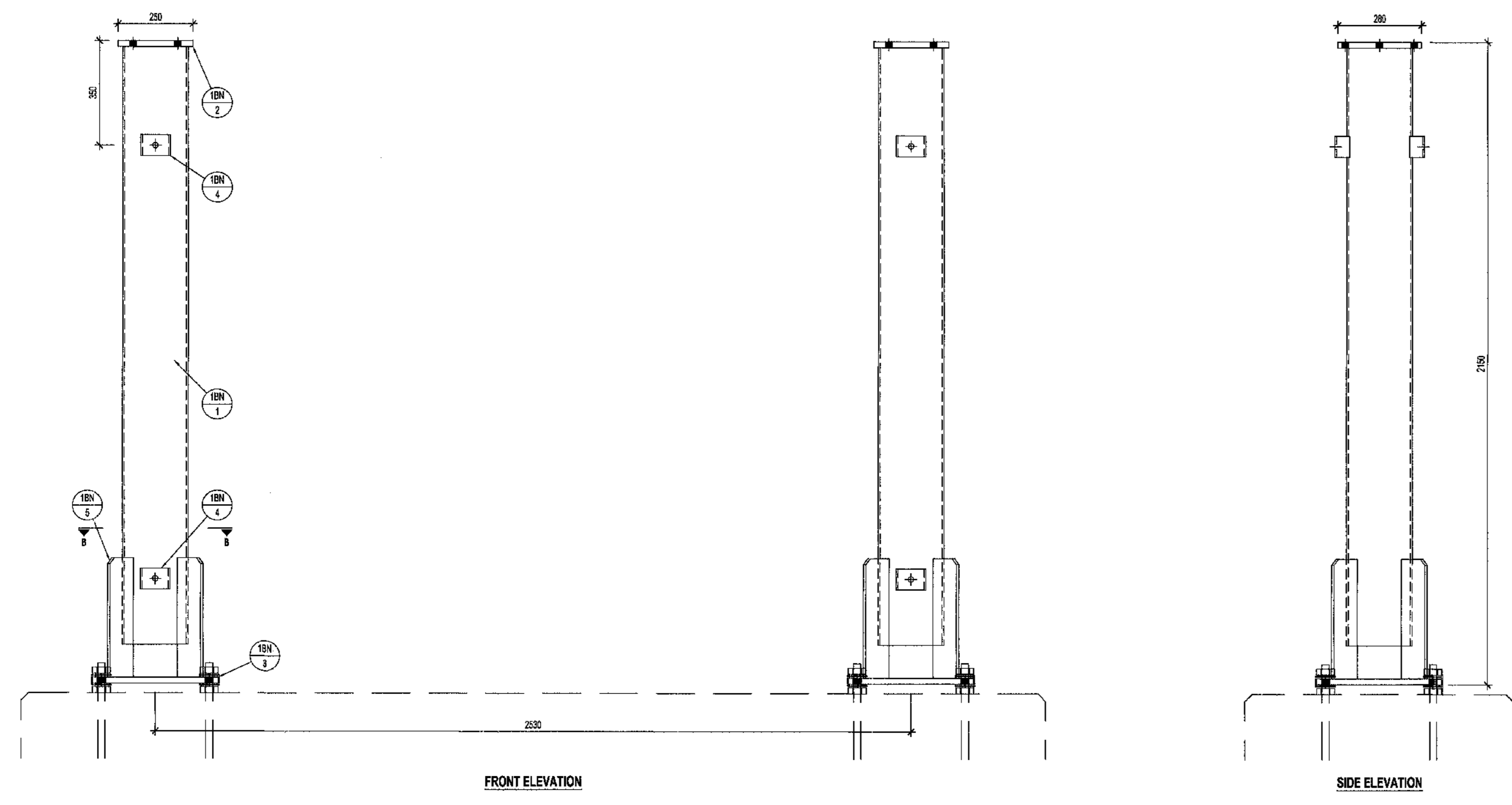
CONTRACTOR / CONSULTANT		TRANSNET CAPITAL PROJECTS	
TITLE	NAME	SIGN	DATE

OPERATING DIVISIONS	
TITLE	NAME

Transnet Capital Projects
IRON ORE TIPPLER 3 PROJECT
BULK POWER UPGRADE:
2.5m MEDIUM EQUIPMENT SUPPORT
STEELWORK DETAILS

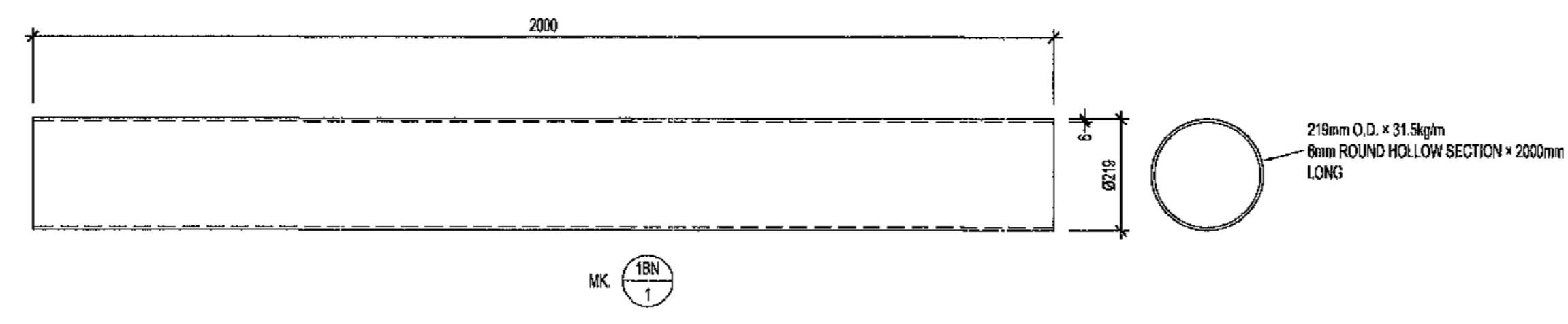
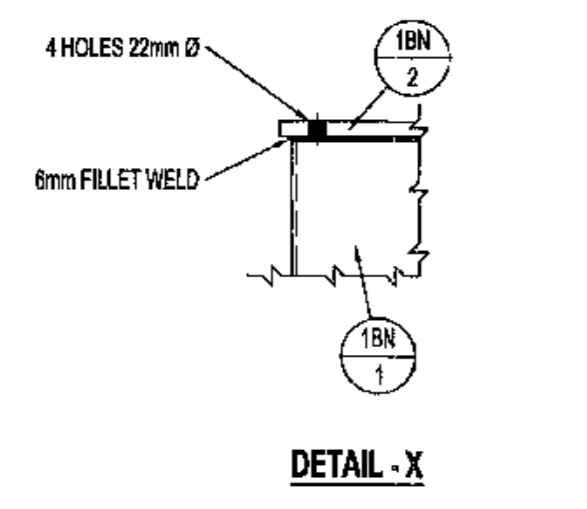
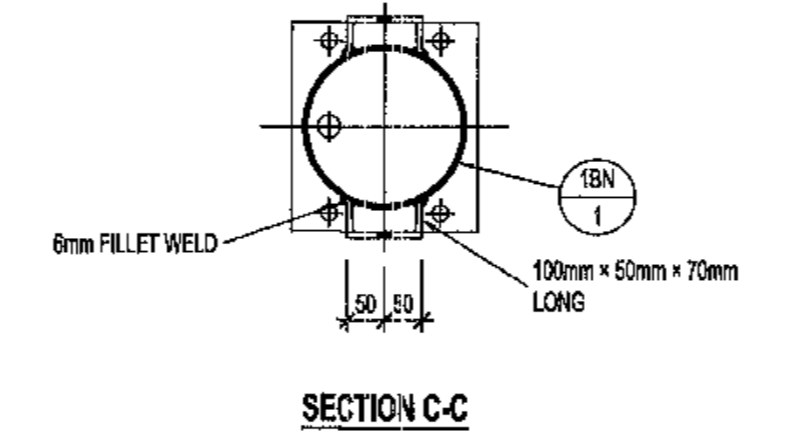
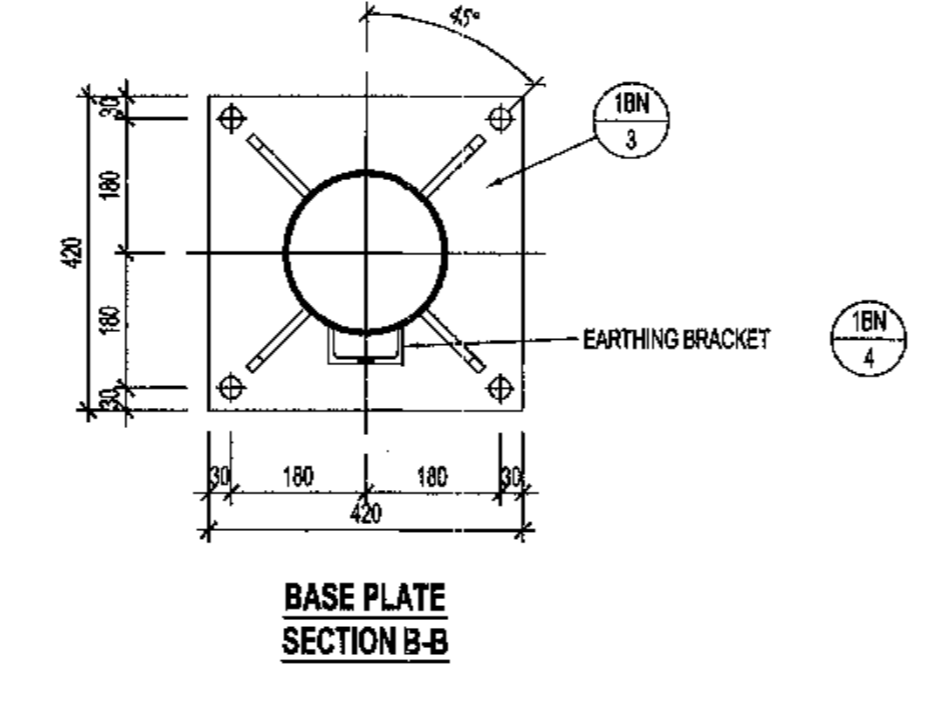
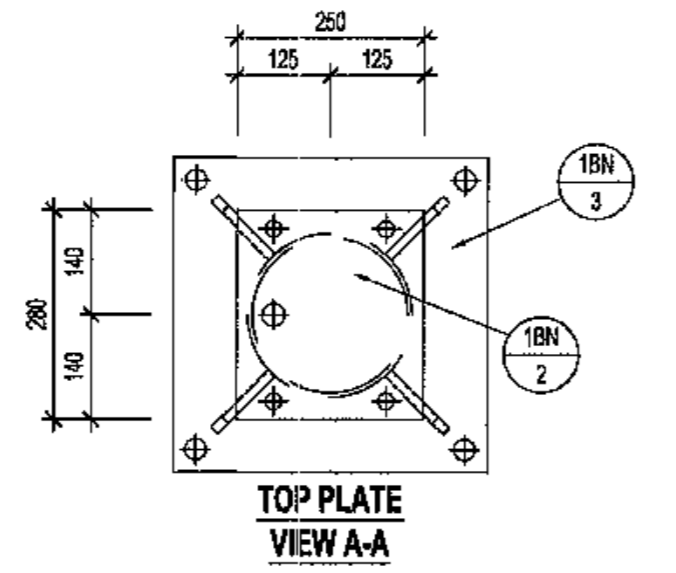
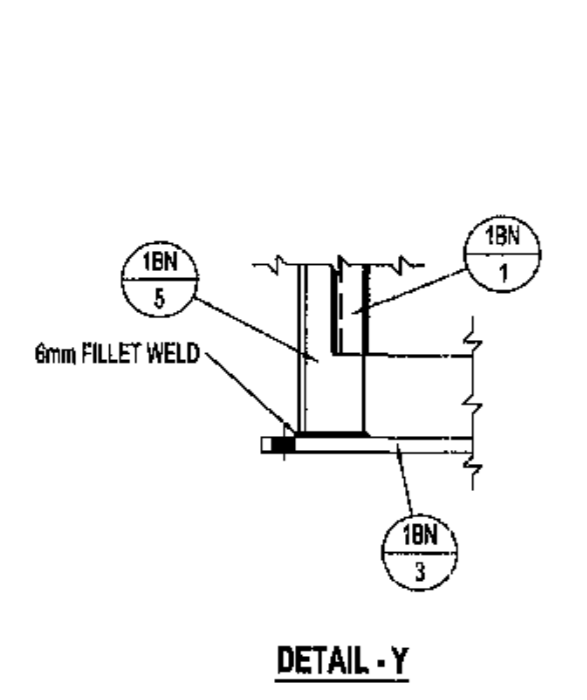
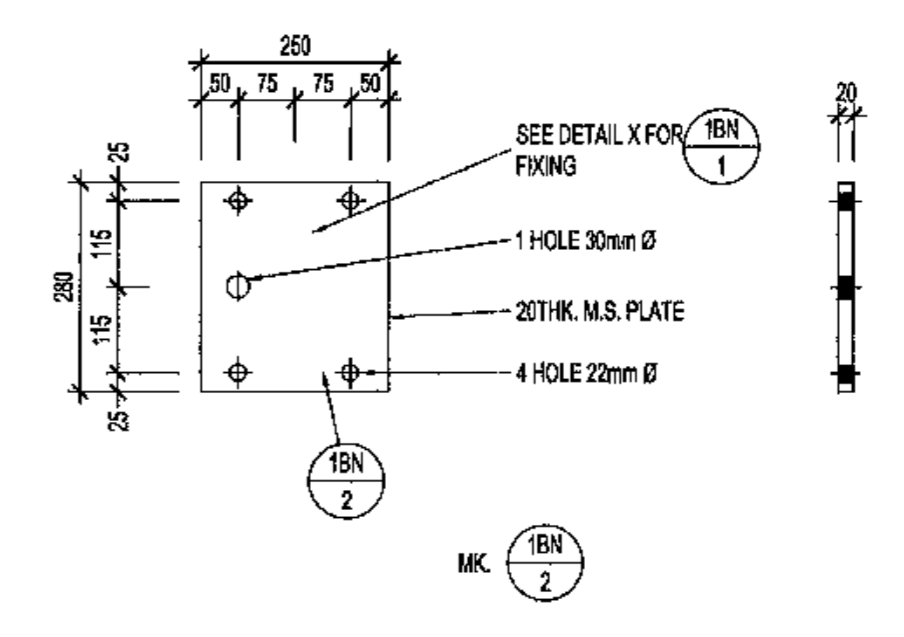
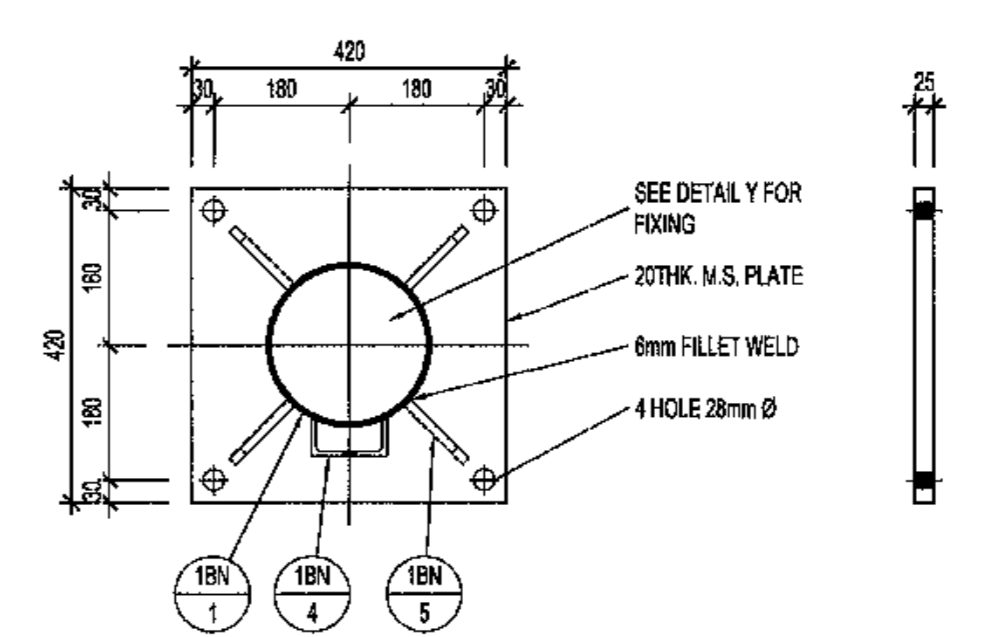
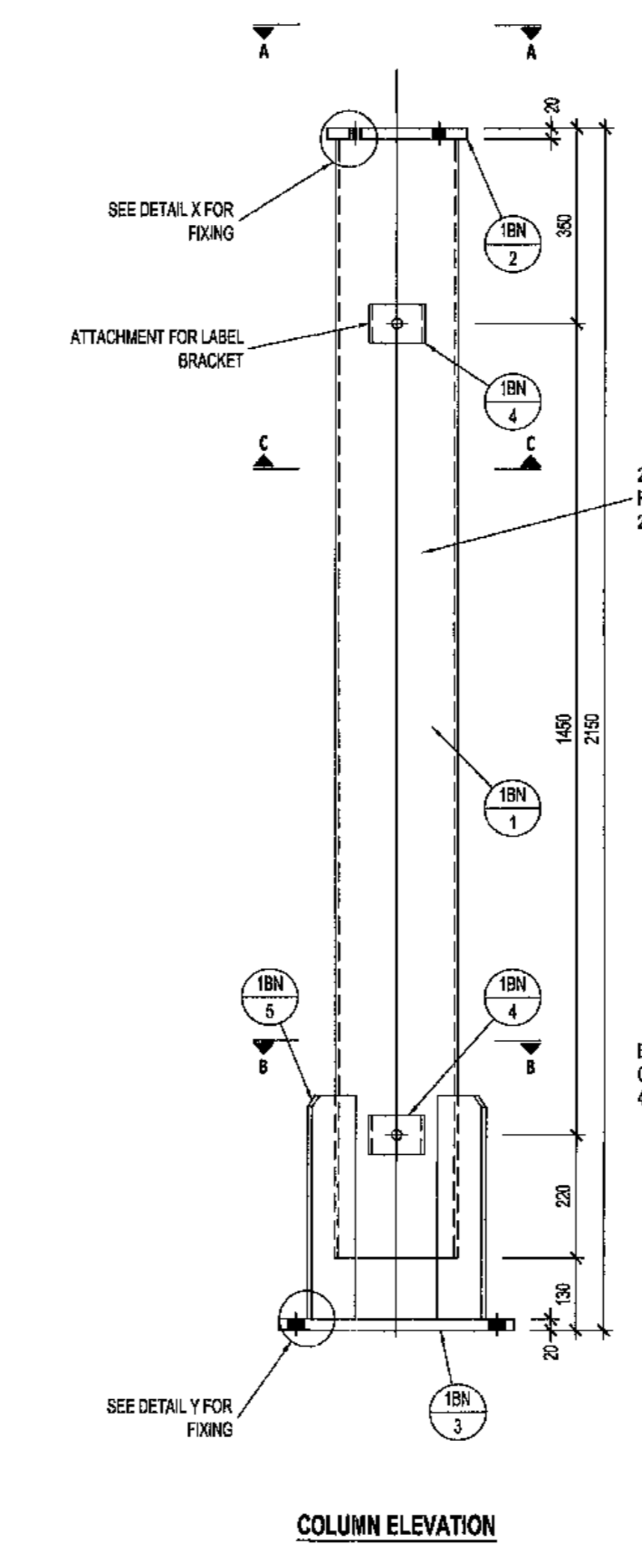
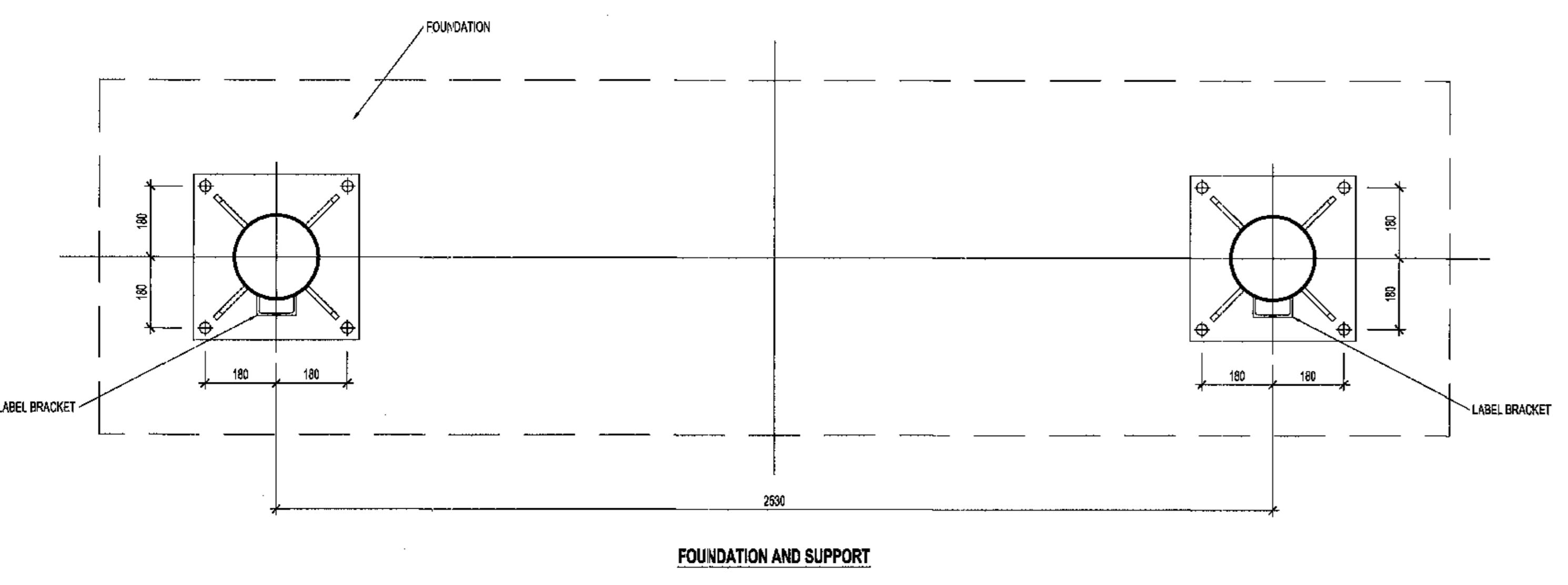
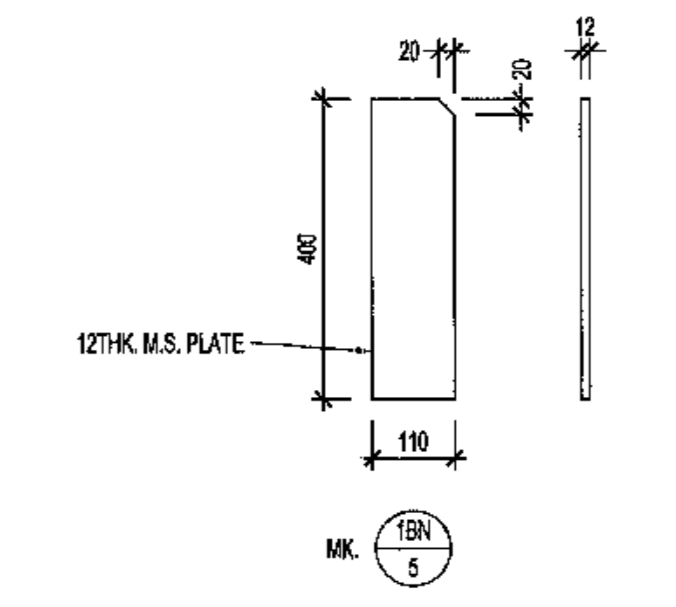
PROJECT NUMBER	ISS	REV	DATE	BY	CHKD	APPD	DATE
AO192470112	01		15 JUN 2018				

SCALE	AS SHOWN



- CONSTRUCTION NOTES:**
1. ALL WELDING AND WELDING SYMBOLS SHALL CONFORM TO SANS 1034 PART 1 TO PART 5.
 2. ALL STRUCTURAL USE OF STEEL TO CONFORM TO SANS 10162. GRADE OF STEEL TO BE SANS 1431 GRADE 300MA OR B8 4302 GRADE 43A.
 3. ALL WELDS TO BE SEAL WELDED.
 4. STEELWORK TO BE HOT DIP GALVANISED TO SANS 121.
 5. ALL STEELWORK TO BE FABRICATED, ERECTED AND LEVELLED TO A TOLERANCE OF 1.5mm.
 6. ALL BOLTS AND NUTS TO CONFORM TO SANS 101. STRENGTH GRADE 4.8.
 7. ALL MARKS TOP BE STAMPED ON TO STEELWORK AND SHALL BE CLEARLY LEGIBLE AFTER GALVANISING.
 8. ALL HOLES 18 DIA. UNLESS OTHERWISE STATED.
 9. NO STEEL EXTENDING WILL BE ALLOWED ON ANY STEELWORK. NO STEEL SECTIONS TO BE BUTT WELDED.
 10. NO STEEL SECTIONS TO BE BUTT WELDED.
 11. ALL STEELWORK TO BE FABRICATED, ERECTED AND LEVELLED TO A TOLERANCE OF 1.5mm.
 12. ALL HOLES TO BE 18mm Ø UNLESS OTHERWISE STATED.

ITEM	QTY	DESCRIPTION	CUTTING LENGTH (mm)	TOTAL LENGTH (m)	MASS (kg)
1	2	MILD STEEL ROUND TUBE 200 x 8 WALL	2100	4.20	128.12
2	2	MILD STEEL PLATE 200 x 25	200	0.50	21.00
3	2	MILD STEEL PLATE 400 x 25	400	0.84	55.38
4	8	MILD STEEL IF CHANNEL 100 x 60	70	0.56	5.94
5	8	MILD STEEL PLATE 110 x 12	400	3.20	32.85



132KV CIRCUIT BREAKER TUBULAR SUPPORT STEELWORK DETAILS
SCALE 1:10

MASTER
15 JUN 2018

AECOM

- NOTES**
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AECOM

CAPE TOWN OFFICE
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TYGER WATERFRONT
CARL CRONIN DRIVE
TEL: +27 (0)21 950 7500
FAX: +27 (0)21 950 7502
REG. NO. 1966/006628/07

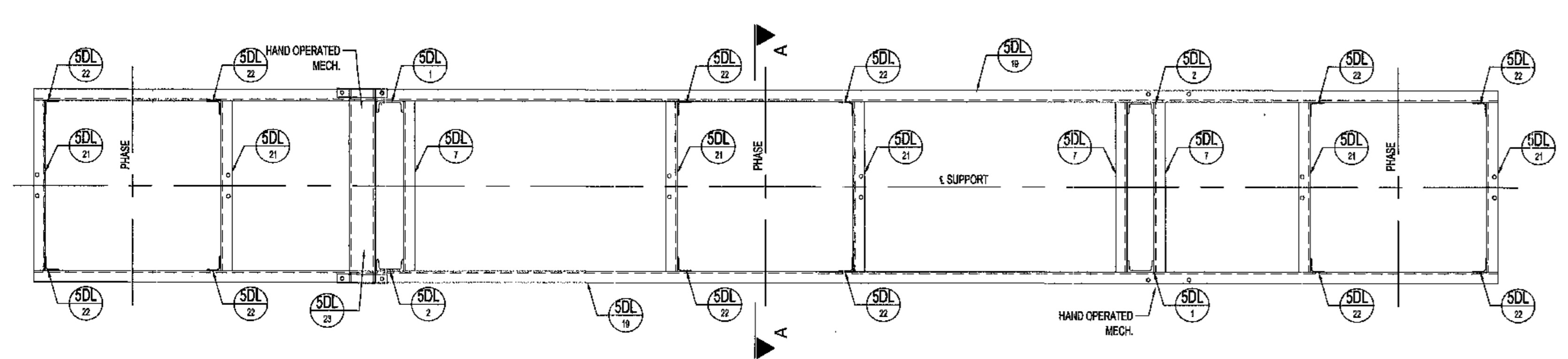
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				CHECKED	C.K		14 06 18
				DESIGNED	C.K		14 06 18
				CHECKED	SW M		14 06 18
OPERATING DIVISIONS				PRELIM. / PR. TECH. / PR. ARCH			
TITLE	NAME	SIGN	DATE	NAME	SIGN	DATE	DATE
				PR. ENGR.	CH WARD		14 06 18
				NAME	CH WARD		DATE
				SIGNATURE			DATE
				INFO. NUMBER	20020108		
				SCALE	AS SHOWN		

Transnet Capital Projects
TRANSET CAPITAL PROJECTS
103 LYNBOROUGH DRIVE, PLATTENLOOF, 6001
TEL: 021 940 1999
FAX: 021 940 2455

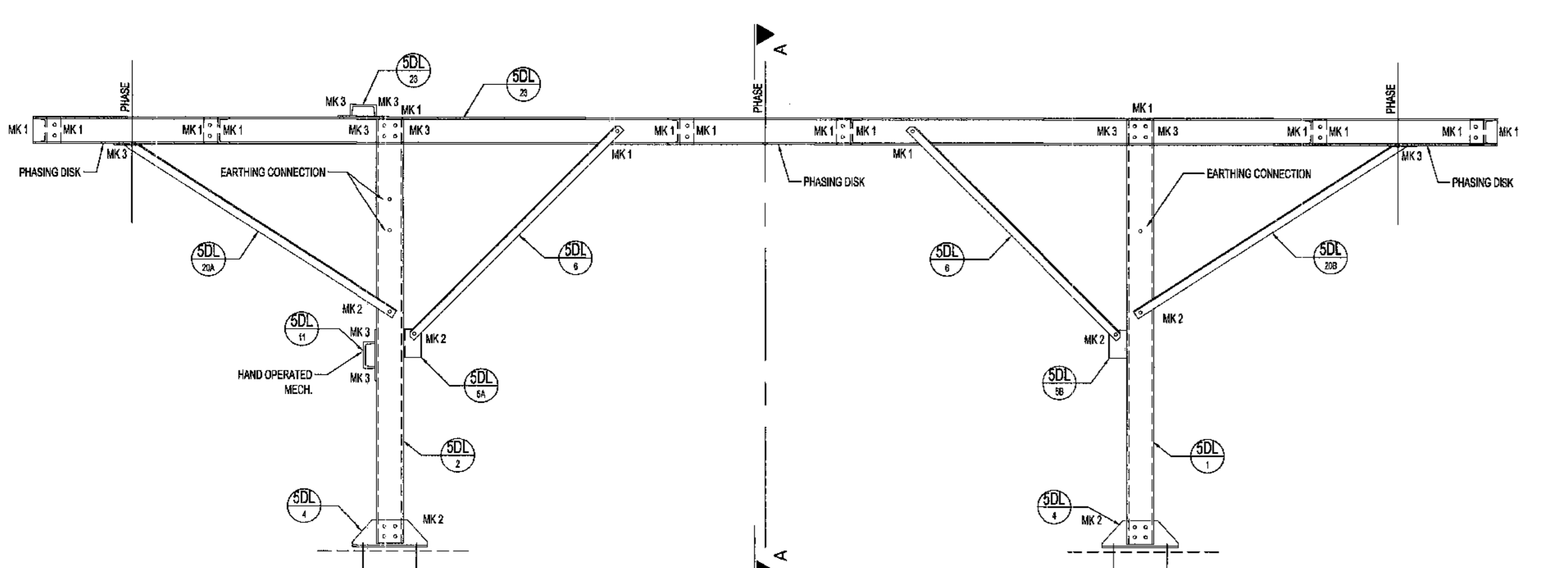
PORT OF SALDANHA
IRON ORE TIPLER 3 PROJECT
BULK POWER UPGRADE:
NEW MAIN INTAKE SUBSTATION
132KV CIRCUIT BREAKER SUPPORT
STEELWORK DETAILS

PROJECT NUMBER: 19247012-510-T-0E-0021010100AE
REV. ID: 01

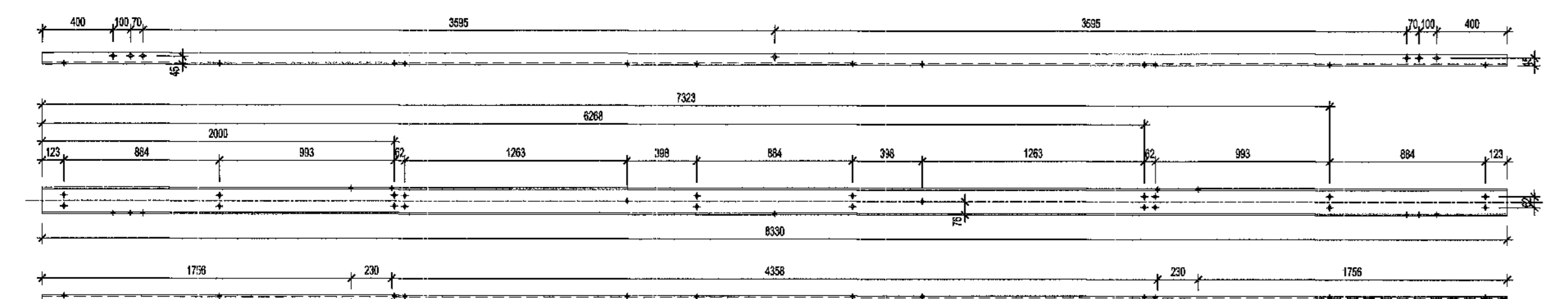
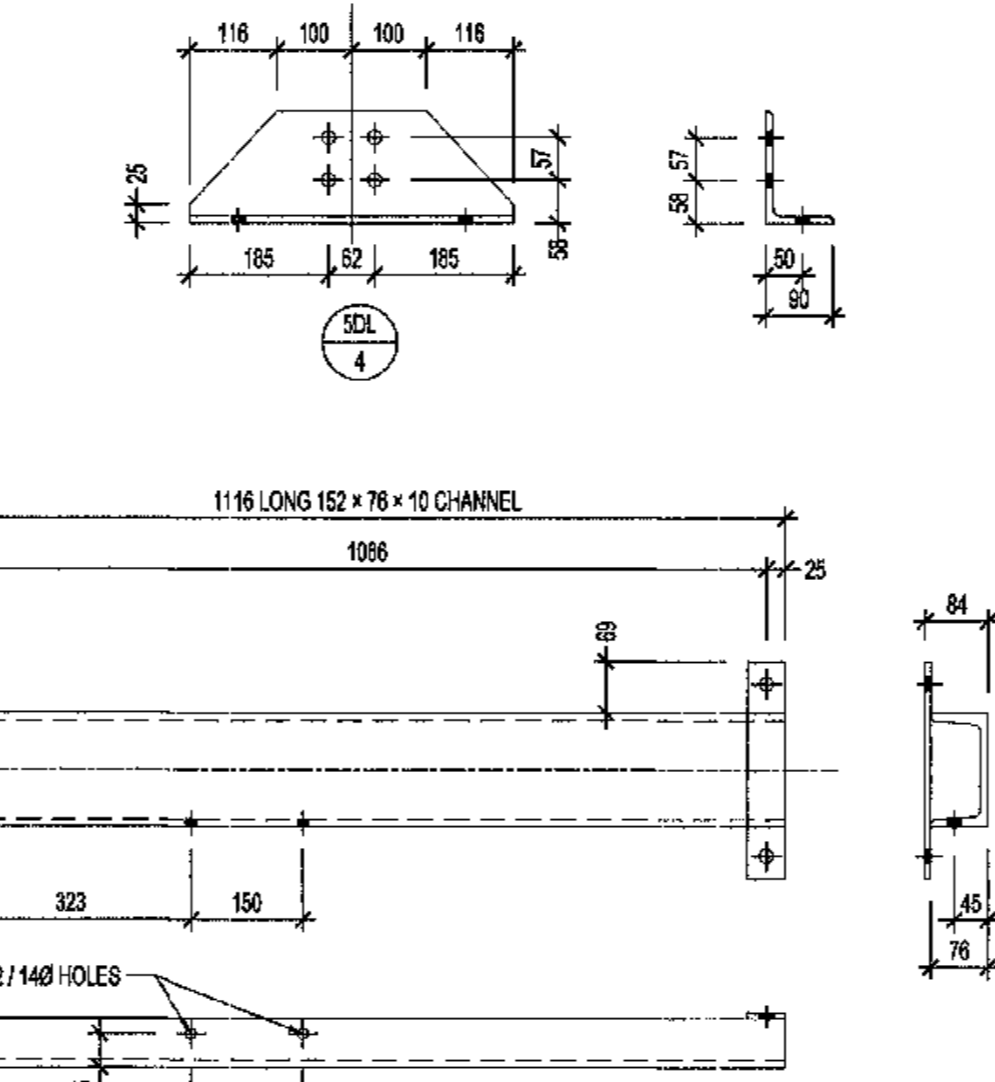
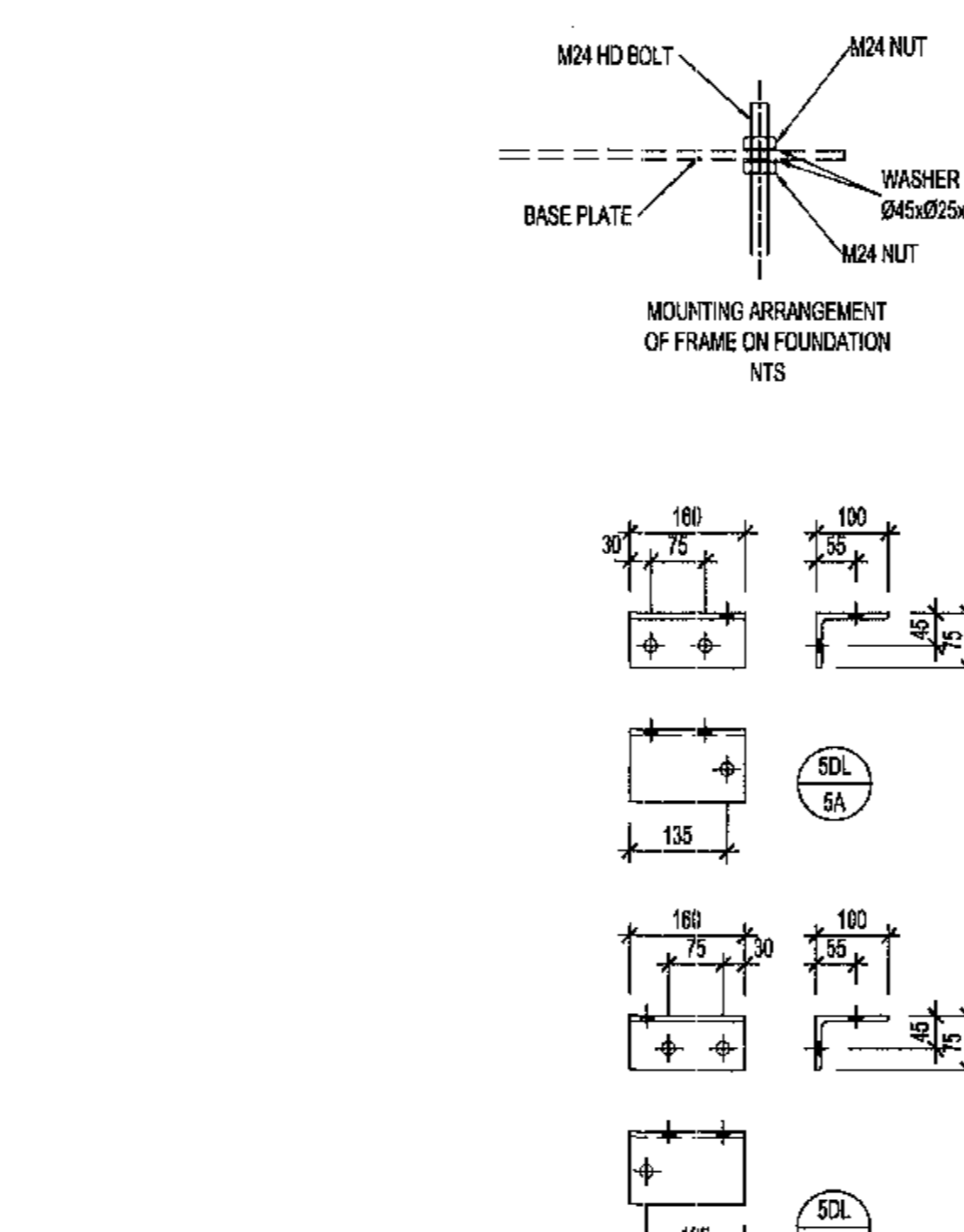
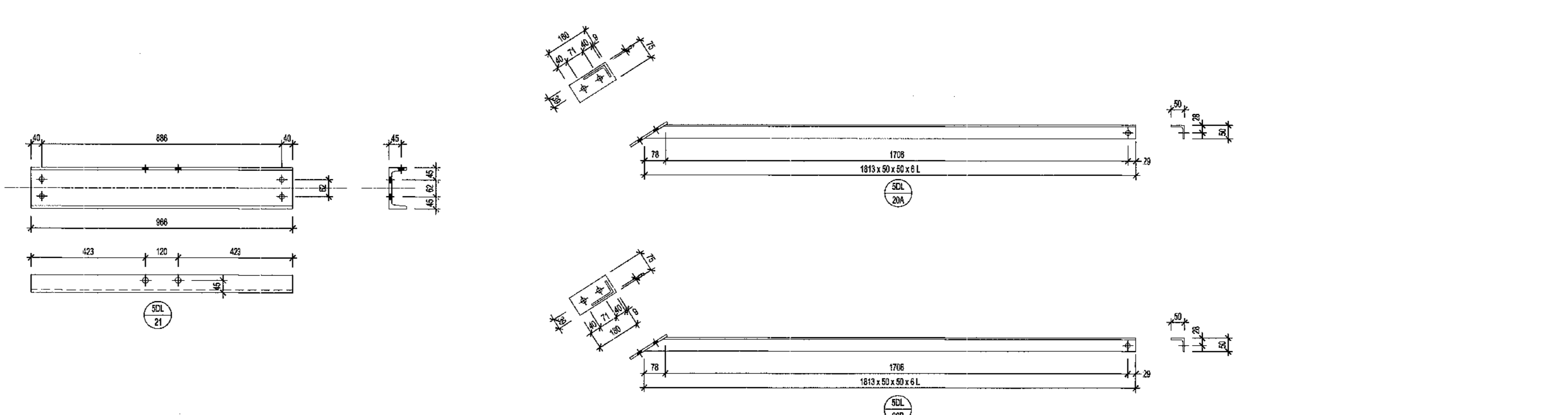
DRAWING NO.	REFERENCE
1	REFERENCE DRAWINGS



PLAN VIEW
SCALE 1:20



FRONT VIEW
SCALE 1:20

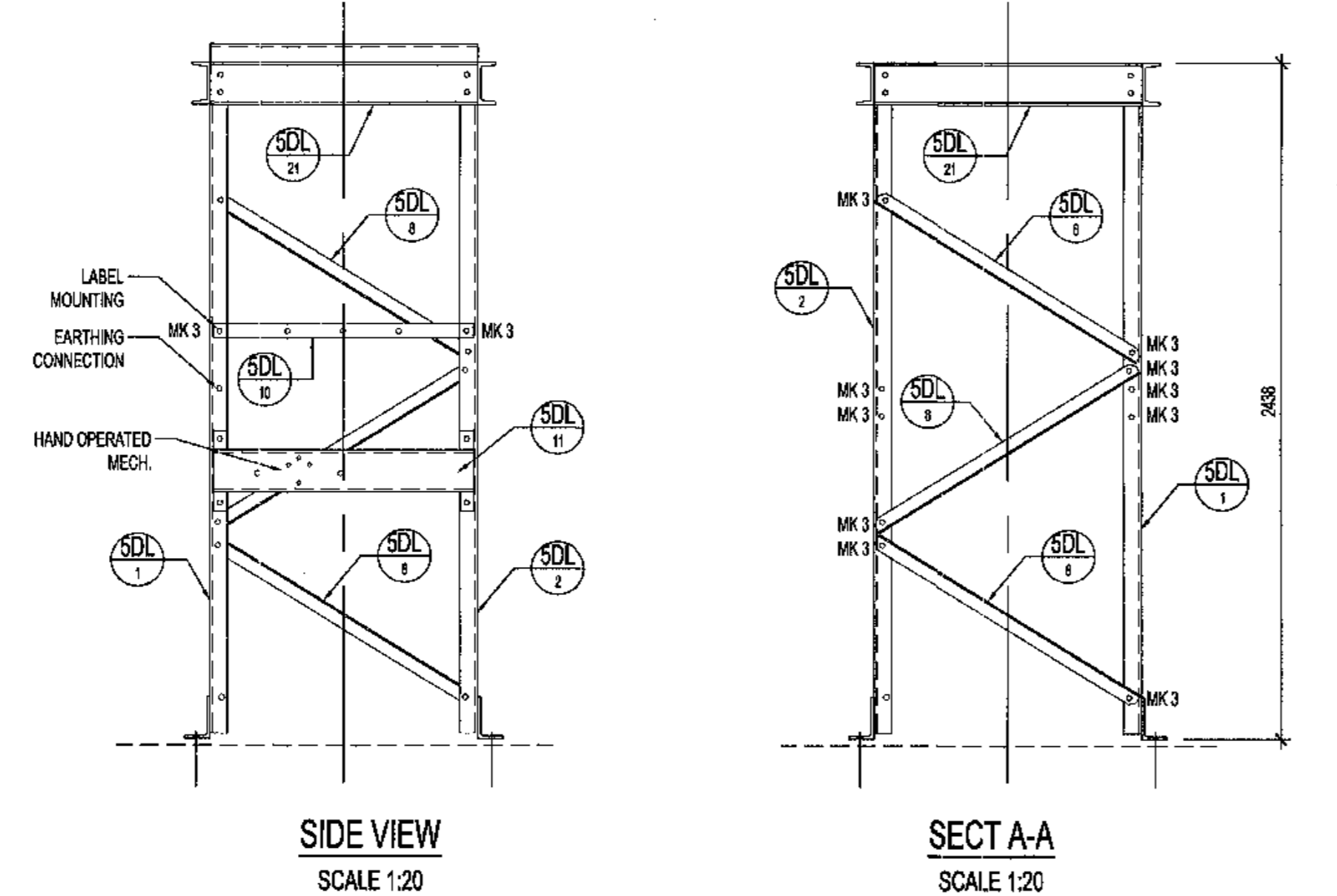


SDL / 19
SCALE 1:20

- CONSTRUCTION NOTES:**
- ALL WELDING AND WELDING SYMBOLS SHALL CONFORM TO SANS 1034 PART 1 TO PART 6.
 - ALL STRUCTURAL USE OF STEEL TO CONFORM TO SANS 1012, GRADE OF STEEL TO BE SANS 1514 GRADE 300A OR S8 AND GRADE 434.
 - ALL WELDS TO BE SEAL WELDS.
 - STEELWORK TO BE HOT DIP GALVANIZED TO SANS 151.
 - ALL STEELWORK TO BE FABRICATED, ERECTED AND LEVELLED TO A TOLERANCE OF 1.0mm.
 - ALL BOLTS AND NUTS TO CONFORM TO SANS 151, STRENGTH GRADE 4.8.
 - ALL MARKS TOP BE STAMPED ON TO STEELWORK AND SHALL BE CLEARLY LEGIBLE AFTER GALVANIZING.
 - ALL HOLES 10 DIA, UNLESS OTHERWISE STATED.
 - NO STEEL EXTENSIONS WILL BE ALLOWED ON ANY STEELWORK. NO STEEL SECTIONS TO BE BUTT WELDED.
 - NO STEEL SECTIONS TO BE BUTT WELDED.
 - ALL STEELWORK TO BE FABRICATED, ERECTED AND LEVELLED TO A TOLERANCE OF ±1.5mm.
 - ALL HOLES TO BE 10mm Ø UNLESS OTHERWISE STATED.

BOLT SCHEDULE		MILD STEEL		LENGTH No. OF		No. OF WASHERS		TORQUE MASS	
MARK	BOLT SIZE/PITCH	BOLTS GRADE	mm	BOLTS	NUTS	mm		mm	kg
1	M16 2	4.8	35	68	68	58	58	120	10.74
2	M16 2	4.8	40	24	40	24	24	120	3.58
3	M16 2	4.8	45	48	40	48	48	120	5.60
MASS OF BOLTS, WASHERS & NUTS									
24.32									

ITEM	QTY	DESCRIPTION	CUTTING LENGTH	TOTAL LENGTH	MASS
1	2	TAPERED FLANGE CHANNEL 152 x 76 x 18 kg/m	2412	4824	86.34
2	2	TAPERED FLANGE CHANNEL 152 x 76 x 18 kg/m	2412	4824	86.34
3	4	MILD STEEL UNEQUAL ANGLE 102 x 75 x 8	432	1728	31.44
4	2	MILD STEEL UNEQUAL ANGLE 102 x 75 x 8	190	380	7.39
5	2	MILD STEEL UNEQUAL ANGLE 102 x 75 x 8	190	380	7.39
6	4	MILD STEEL ANGLE 80 x 80 x 6	1890	7560	25.48
7	4	MILD STEEL ANGLE 80 x 80 x 6	948	3792	14.29
8	8	MILD STEEL ANGLE 80 x 80 x 6	1105	8840	29.32
9	1	MILD STEEL FLAT BAR 50 x 4	200	200	2.84
10	1	TAPERED FLANGE CHANNEL 152 x 76 x 18 kg/m	608	608	10.90
11	2	MILD STEEL FLAT BAR 50 x 4	296	592	1.82
12	2	TAPERED FLANGE CHANNEL 152 x 76 x 18 kg/m	6300	12600	238.21
13	2	MILD STEEL ANGLE 80 x 80 x 6	1910	3820	12.55
14	2	MILD STEEL FLAT BAR 75 x 4	190	380	1.51
15	2	MILD STEEL ANGLE 80 x 80 x 6	1815	3630	11.95
16	2	MILD STEEL FLAT BAR 75 x 4	190	380	1.51
17	8	TAPERED FLANGE CHANNEL 152 x 76 x 18 kg/m	198	1584	293.94
18	10	MILD STEEL ANGLE 80 x 80 x 6	190	1900	61.51
19	1	TAPERED FLANGE CHANNEL 152 x 76 x 18 kg/m	1116	1116	19.97
20	2	MILD STEEL FLAT BAR 50 x 4	290	580	1.82
TOTAL MASS					778.42



SIDE VIEW
SCALE 1:20

SECT A-A
SCALE 1:20

NOTES

- DO NOT SCALE DRAWING - ONLY DIMENSIONS SHOWN TO BE USED.
- THE CONTRACTOR SHALL VERIFY ALL CONDITIONS, DIMENSIONS AND LEVELS ON THE SITE AND NOTIFY THE NEAREST SUPERVISOR OF ANY VARIATIONS BEFORE CONSTRUCTION.
- ALL EXCAVATIONS & FOUNDING LEVELS TO BE INSPECTED & APPROVED BY ENGINEER PRIOR TO CASTING OF CONCRETE.
- CONCRETE GRADE STRENGTH TO BE 30MPa WITH STONE.
- ALL EXPOSED CONCRETE EDGES TO HAVE 25 x 25 CHAMFER ALL ROUND.

REFERENCE DRAWINGS

DRAWING NO.	REFERENCE
1	
2	
3	
4	
5	
6	
7	
8	

AECOM

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REG. No. 1966/006628/07

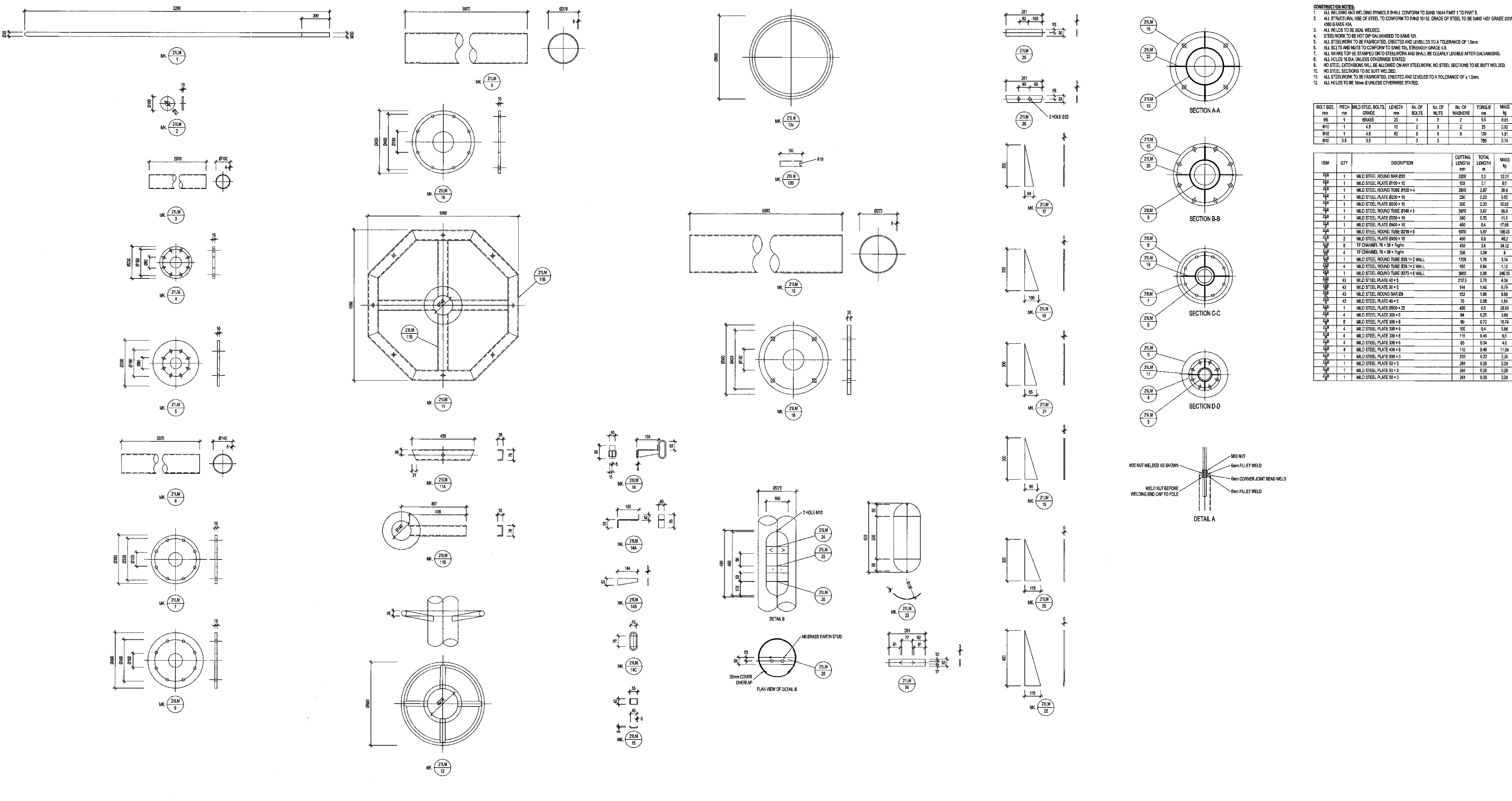
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OPERATING DIVISIONS				PR. ENG. / PR. TECH. / PR. ARCH.			
TITLE				NAME			
BY				DATE			
DESCRIPTION				DATE			
BY				DATE			
CHKD				DATE			
APPD				DATE			
DATE				DATE			
REVISIONS				REG NUMBER			
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MASTER
15 JUN 2018

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Transnet Capital Projects
IRON ORE TIPPLER 3 PROJECT
BULK POWER UPGRADE
132 KV INLINE ISOLATOR SUPPORT
STEELWORK DETAILS

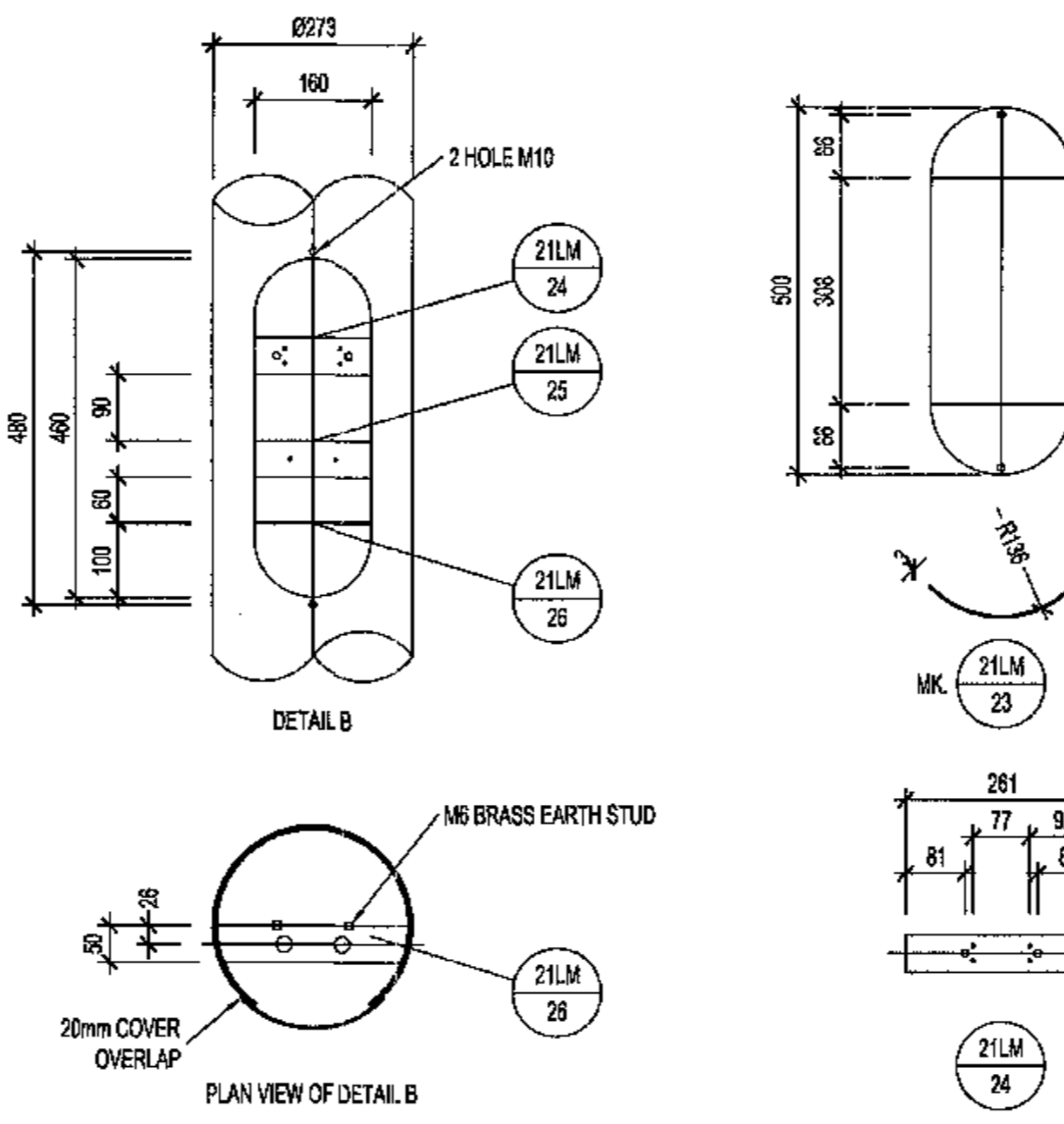
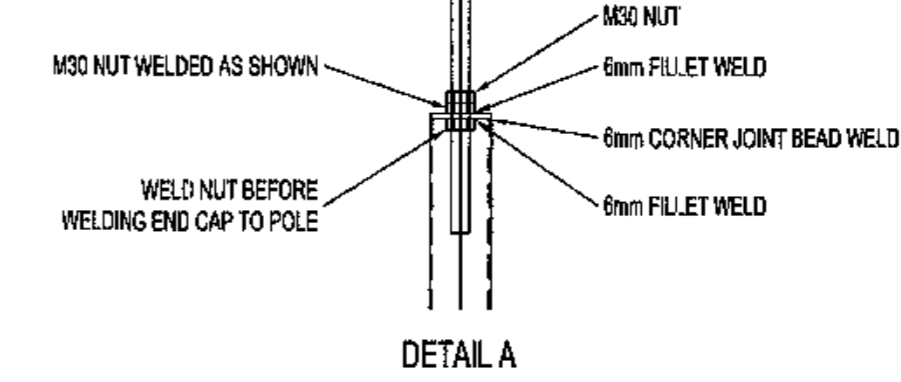
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- CONSTRUCTION NOTES:**
1. ALL WELDING AND WELDING SYMBOLS SHALL CONFORM TO SANS 1044 PART 1 TO PART 5.
 2. ALL STRUCTURAL USE OF STEEL TO CONFORM TO SANS 10132. GRADE OF STEEL TO BE SANS 1431 GRADE S235JR OR S355 JR UNLESS OTHERWISE STATED.
 3. ALL WELDS TO BE SEAL WELDED.
 4. STEELWORK TO BE HOT DIP GALVANIZED TO SANS 121.
 5. ALL STEELWORK TO BE FABRICATED, ERECTED AND LEVELLED TO A TOLERANCE OF ± 1.5mm.
 6. ALL BOLTS AND NUTS TO CONFORM TO SANS 196. STRENGTH GRADE A-8.
 7. ALL NUTS TOP IS STAMPED ON STEELWORK AND SHALL BE CLEARLY LEGIBLE AFTER GALVANIZING.
 8. ALL HOLES 16 DIA UNLESS OTHERWISE STATED.
 9. NO STEEL EXTENSIONS WILL BE ALLOWED ON ANY STEELWORK. NO STEEL SECTIONS TO BE BUTT WELDED.
 10. STEEL SECTIONS TO BE BUTT WELDED.
 11. ALL STEELWORK TO BE FABRICATED, ERECTED AND LEVELLED TO A TOLERANCE OF ± 1.5mm.
 12. ALL HOLES TO BE 16mm ± UNLESS OTHERWISE STATED.

BOLT SIZE	PITCH	MILD STEEL BOLTS	LENGTH	No. OF BOLTS	No. OF NUTS	No. OF WASHERS	TORQUE	MASS
mm	mm	GRADE	mm				nm	kg
M6	1	BRASS	20	1	2	2	0.5	0.61
M10	1	A8	12	2	0	2	25	0.20
M16	1	A8	60	0	0	0	100	1.21
M20	3.5	A8		3	3		780	0.74

ITEM	QTY	DESCRIPTION	CUTTING LENGTH	TOTAL LENGTH	MASS
			mm	m	kg
21LM 1	1	MILD STEEL ROUND BAR Ø20	2200	2.2	12.21
21LM 2	1	MILD STEEL PLATE 8100 x 10	100	0.1	0.5
21LM 3	1	MILD STEEL ROUND TUBE Ø102 x 4	2810	2.81	28.5
21LM 4	1	MILD STEEL PLATE 8200 x 16	250	0.25	5.02
21LM 5	1	MILD STEEL PLATE 8200 x 16	300	0.3	10.53
21LM 6	1	MILD STEEL ROUND TUBE Ø140 x 5	3870	3.87	66.3
21LM 7	1	MILD STEEL PLATE 8200 x 16	350	0.35	11.3
21LM 8	1	MILD STEEL PLATE 8900 x 16	400	0.4	17.66
21LM 9	1	MILD STEEL ROUND TUBE Ø220 x 6	6970	6.97	126.13
21LM 10	2	MILD STEEL PLATE 8400 x 16	400	0.8	40.2
21LM 11	0	TF CHANNEL 76 x 38 x 7.4g/m	450	3.6	24.12
21LM 12	4	MILD STEEL ROUND TUBE Ø20 x 2 WALL	1155	4.62	3.14
21LM 13	4	MILD STEEL ROUND TUBE Ø20 x 2 WALL	160	0.64	1.13
21LM 14	1	MILD STEEL ROUND TUBE Ø273 x 6 WALL	5850	5.85	242.33
21LM 15	43	MILD STEEL PLATE 40 x 5	212.5	2.79	4.34
21LM 16	43	MILD STEEL PLATE 50 x 5	144	1.46	0.79
21LM 17	43	MILD STEEL ROUND BAR Ø8	152	1.52	0.89
21LM 18	43	MILD STEEL PLATE 40 x 5	70	0.99	1.54
21LM 19	1	MILD STEEL PLATE 8200 x 25	400	0.5	35.63
21LM 20	2	MILD STEEL PLATE 300 x 6	84	0.25	3.81
21LM 21	0	MILD STEEL PLATE 300 x 6	90	0.72	10.74
21LM 22	4	MILD STEEL PLATE 300 x 6	115	0.46	6.5
21LM 23	4	MILD STEEL PLATE 300 x 6	85	0.34	4.8
21LM 24	4	MILD STEEL PLATE 400 x 6	115	0.46	11.94
21LM 25	1	MILD STEEL PLATE 300 x 5	200	0.25	2.25
21LM 26	1	MILD STEEL PLATE 50 x 5	281	0.28	0.23
21LM 27	1	MILD STEEL PLATE 50 x 5	281	0.28	0.23
21LM 28	1	MILD STEEL PLATE 50 x 5	281	0.28	0.23



- NOTES**
1. DO NOT SCALE DRAWING - ONLY DIMENSIONS SHOWN TO BE USED.
 2. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS, DIMENSIONS AND LEVELS ON THE SITE AND NOTIFY THE NEC SUPERVISOR OF ANY VARIATIONS BEFORE CONSTRUCTION.

MASTER
15 JUN 2018

AECOM TRANSNET

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REG. No. 1966/00628/07

NO.	ISSUED FOR CONSTRUCTION	DESCRIPTION	AH	HW	SWM	DATE
00	ISSUED FOR CONSTRUCTION		AH	HW	SWM	14-06-2018

CONTRACTOR / CONSULTANT				TRANSNET CAPITAL PROJECTS			
TITLE	NAME	SIGN	DATE	FILE #	NAME	SIGN	DATE

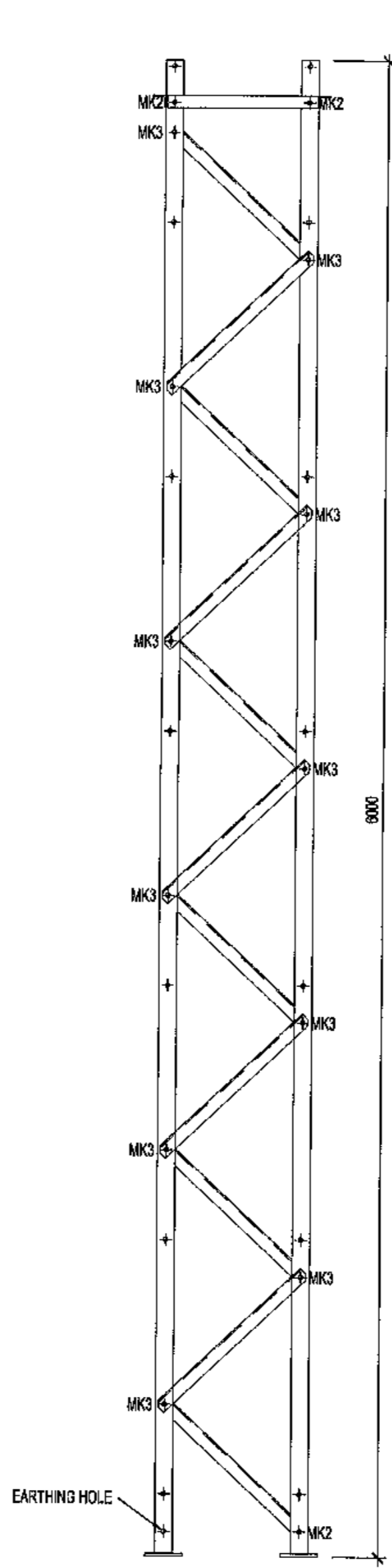
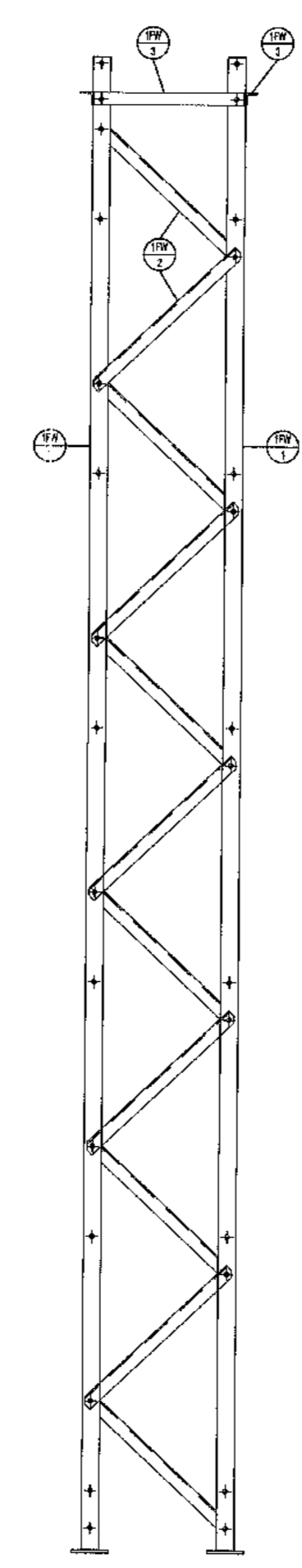
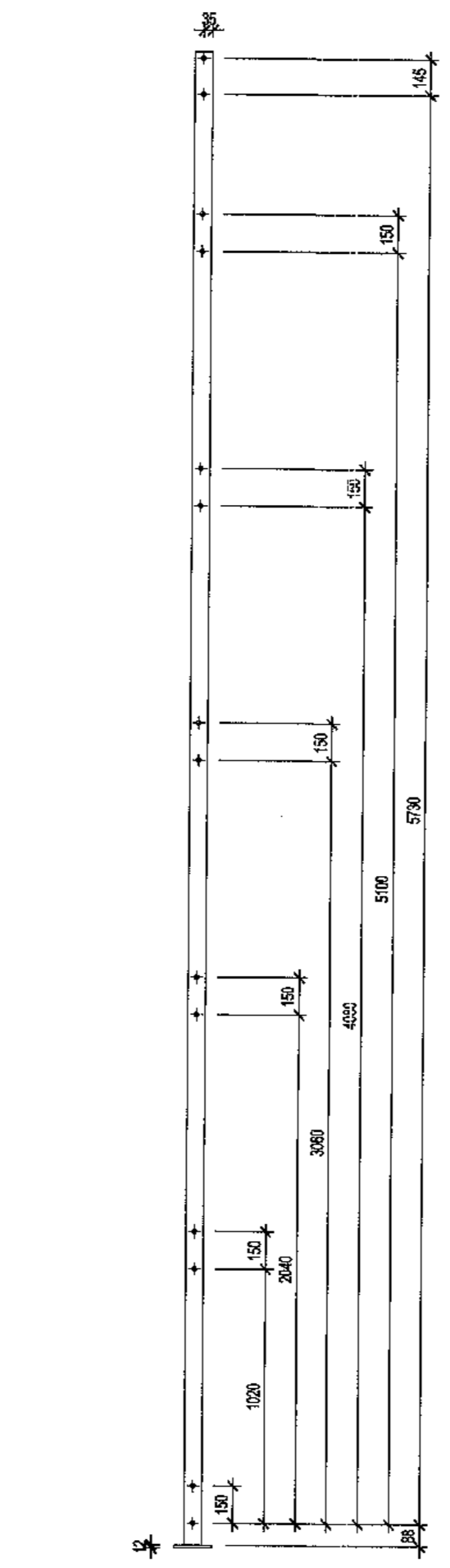
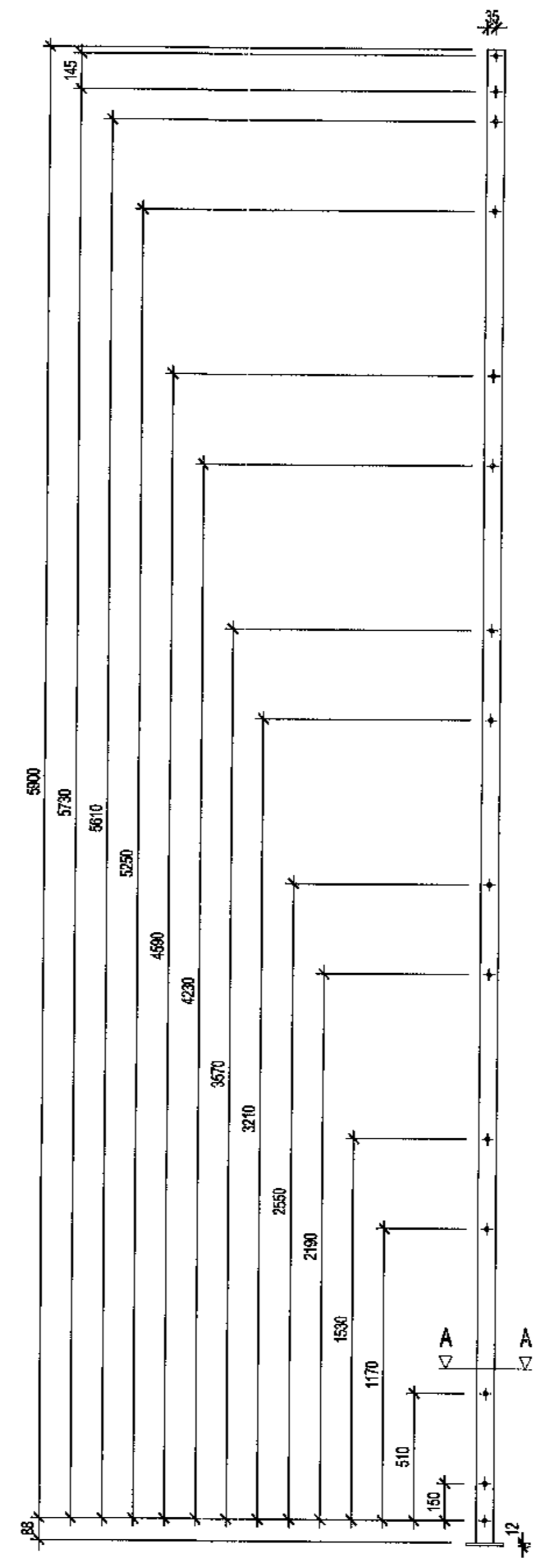
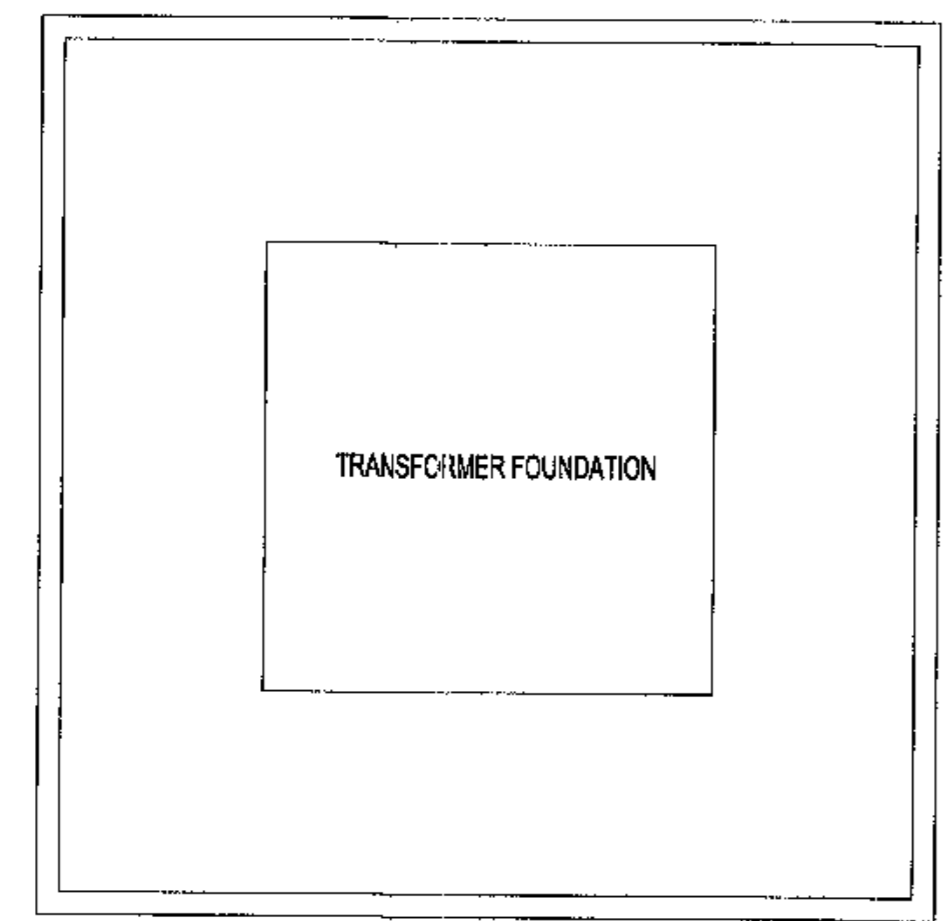
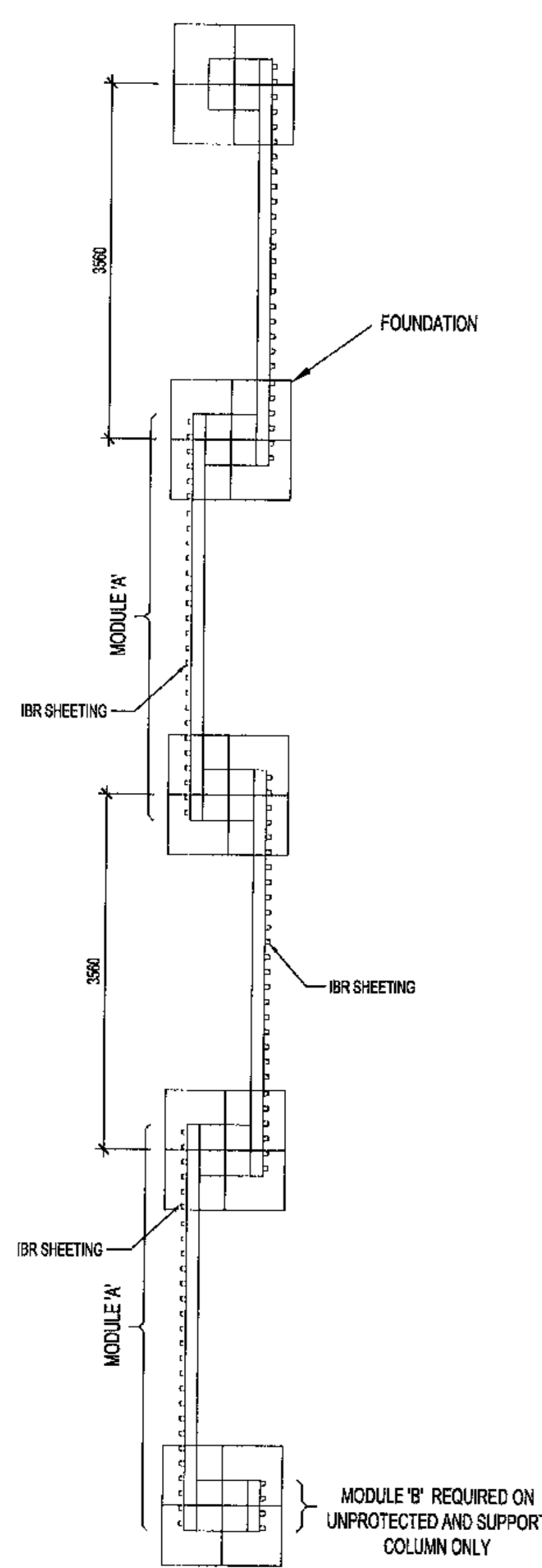
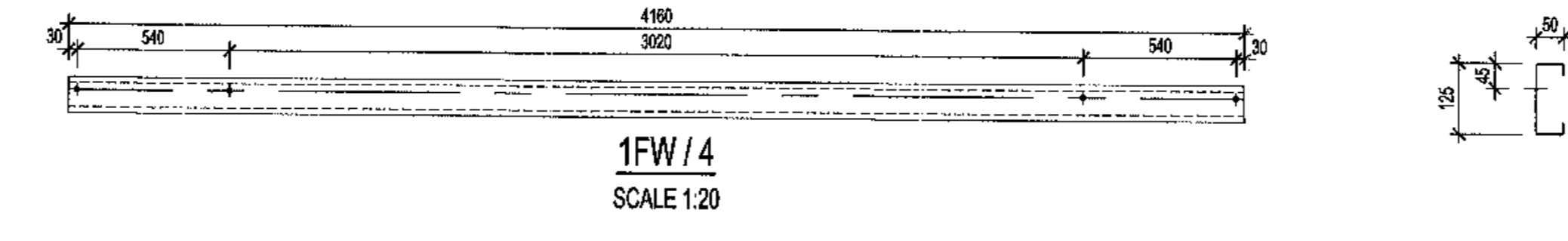
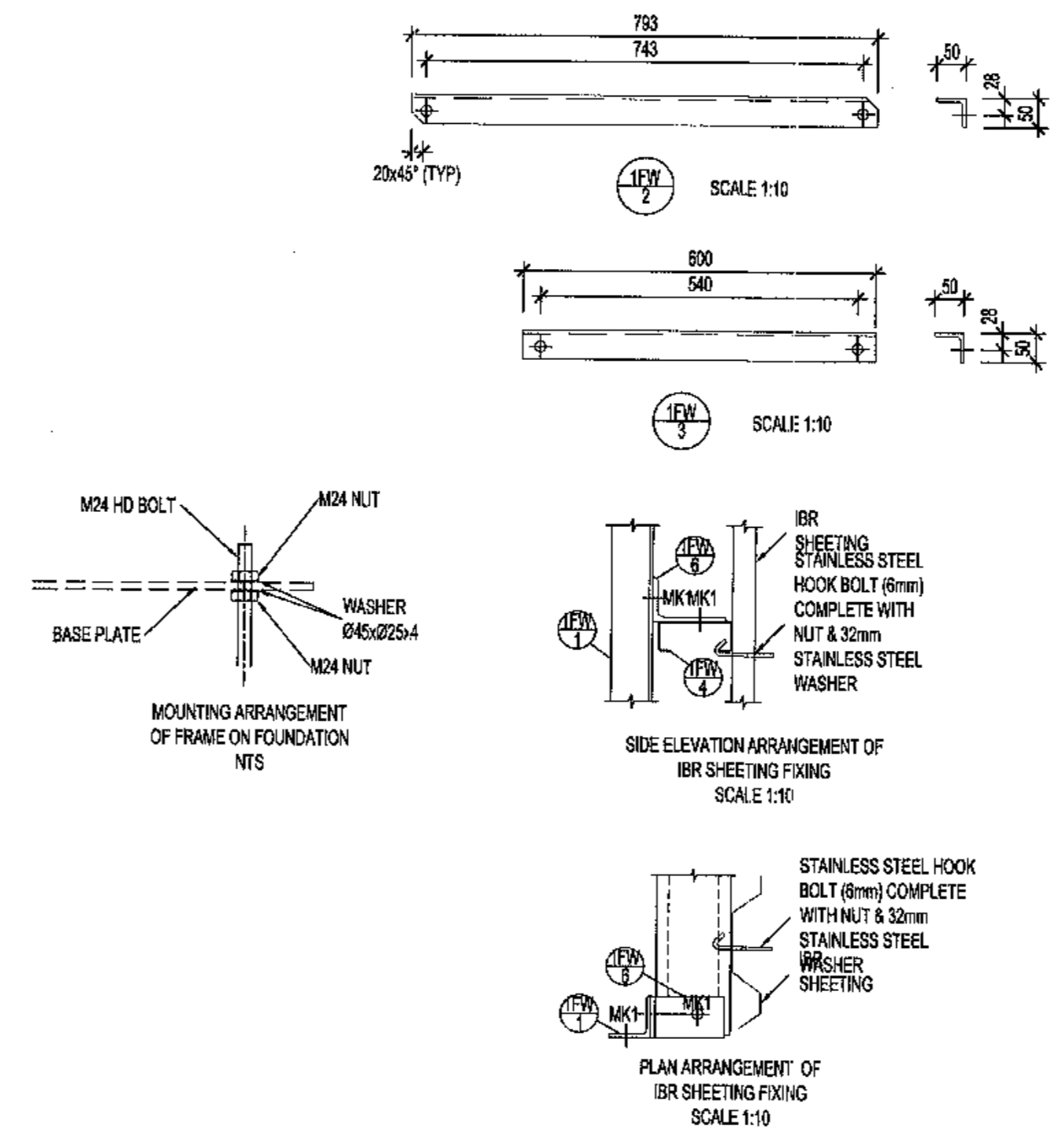
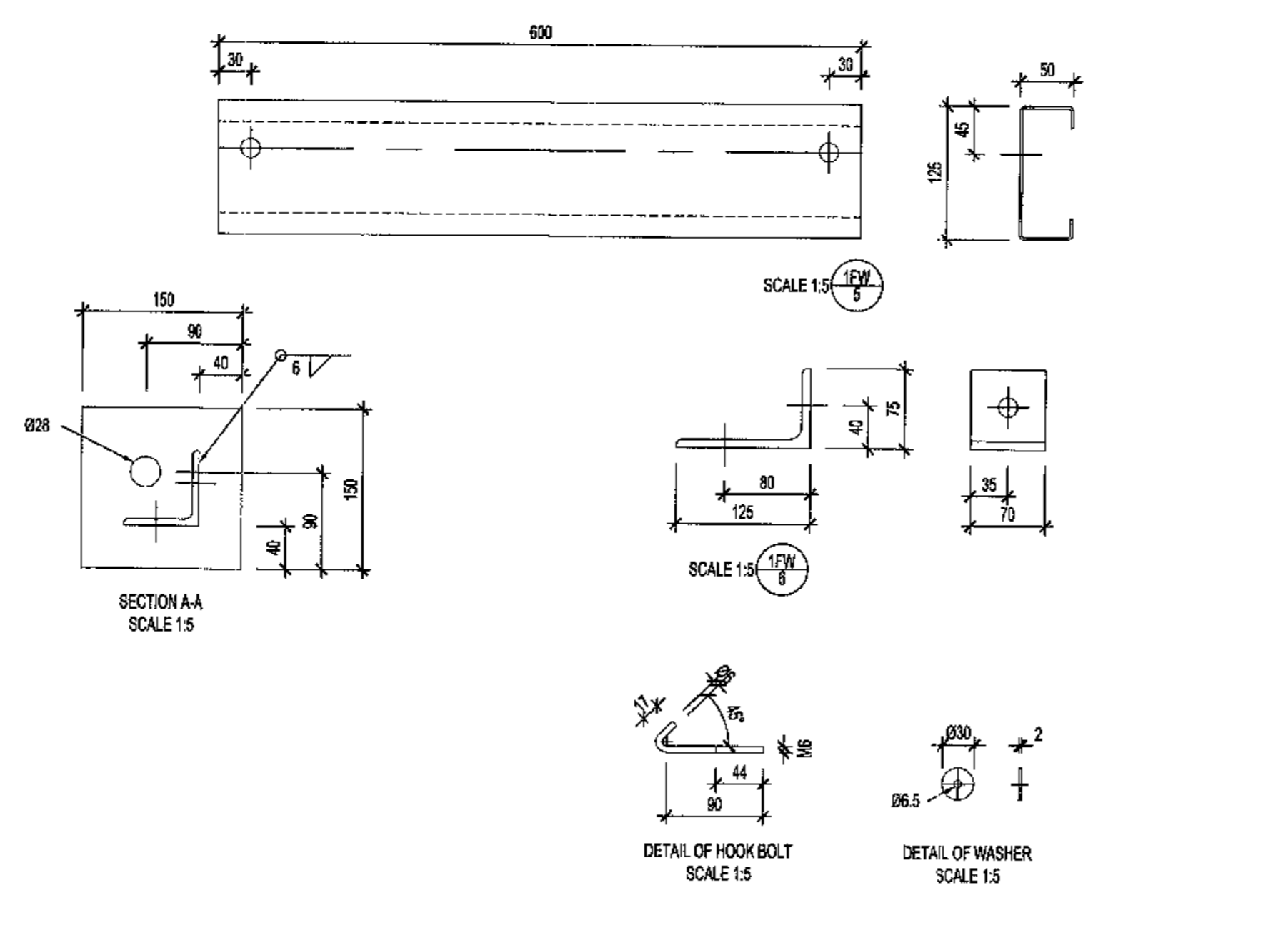
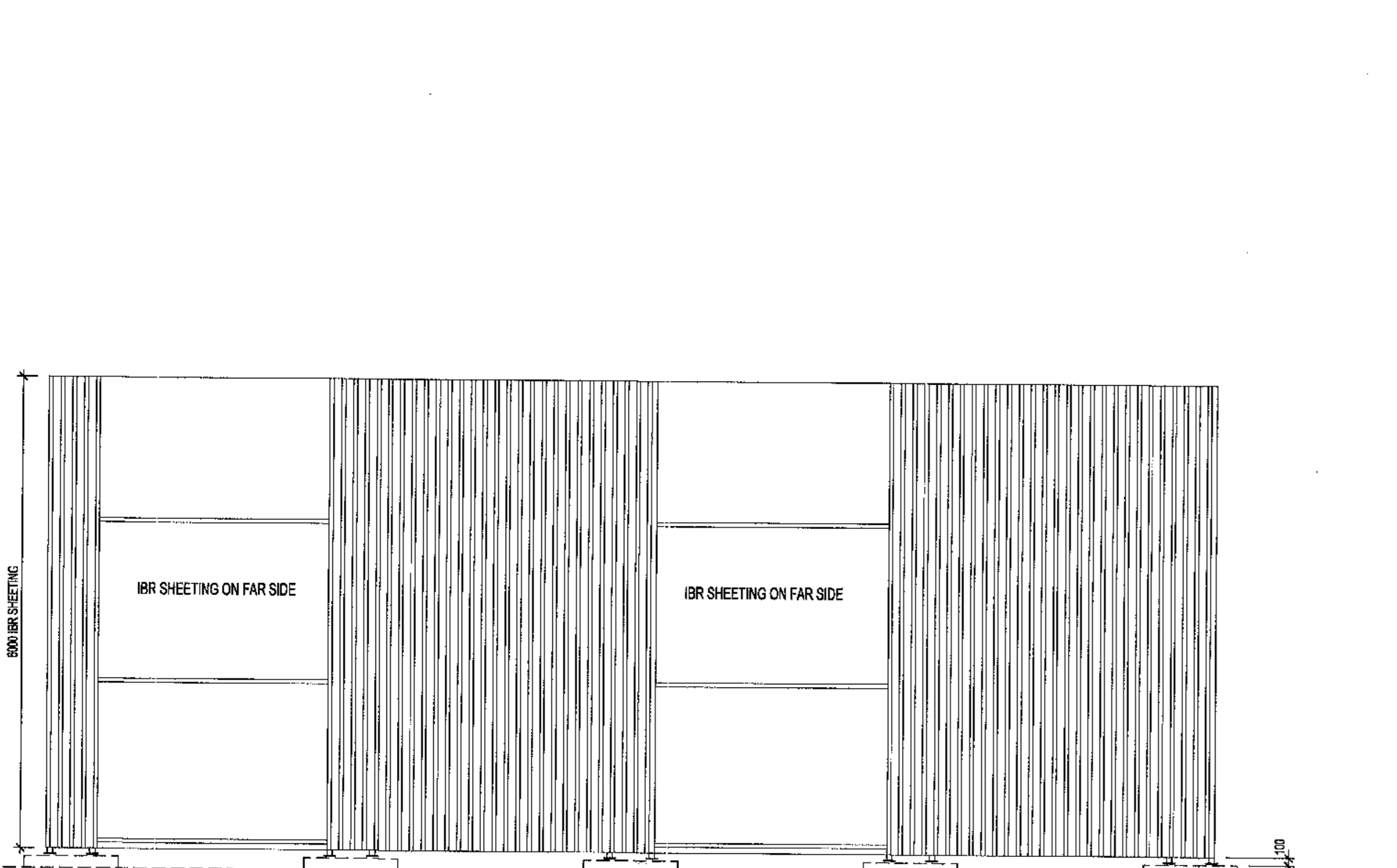
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TRANSNET LTD (INCORPORATED IN TRANSNET CAPITAL PROJECTS) REG NO. 1966000009
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PORT OF SALDANHA
IRON ORE TIPPLER 3 PROJECT
BULK POWER UPGRADE:
NEW MAIN INTAKE SUBSTATION
21m LIGHTING MAST
STEELWORK DETAILS

PROJECT NUMBER: 19247012
SCALE: AS SHOWN

DRAWING NO.	REFERENCE
1	REFERENCE DRAWINGS



- CONSTRUCTION NOTES:**
1. ALL WELDING AND WELDING SYMBOLS SHALL CONFORM TO SANS 1041 PART 1 TO PART 6.
 2. ALL STRUCTURAL USE OF STEEL TO CONFORM TO SANS 1012. GRADE OF STEEL TO BE SANS 1418 GRADE 300WA OR SANS 1006 GRADE 43A.
 3. ALL WELDS TO BE SEAL WELDED.
 4. STEELWORK TO BE HOT DIP GALVANIZED TO SANS 1011.
 5. ALL STEELWORK TO BE FABRICATED, ERECTED AND LEVELLED TO A TOLERANCE OF 1.5mm.
 6. ALL BOLTS AND NUTS TO CONFORM TO SANS 105, STRENGTH GRADE 4.8.
 7. ALL WELDS TO BE STAMPED ON TO STEELWORK AND SHALL BE CLEARLY LEGIBLE AFTER GALVANIZING.
 8. ALL HOLES 18 DIA UNLESS OTHERWISE STATED.
 9. NO STEEL EXTENSIONS WILL BE ALLOWED ON ANY STEELWORK. NO STEEL SECTIONS TO BE BUTT WELDED.
 10. NO STEEL SECTIONS TO BE BUTT WELDED.
 11. ALL STEELWORK TO BE FABRICATED, ERECTED AND LEVELLED TO A TOLERANCE OF ±1.5mm.
 12. ALL HOLES TO BE 18mm Ø UNLESS OTHERWISE STATED.

BOLT SCHEDULE									
MARK	BOLT SIZE (PITCH)	MILD STEEL	LENGTH	NO. OF BOLTS	NO. OF NUTS	NO. OF WASHERS	TORQUE	MASS	
	mm	mm	mm				mm	kg	
1	M16	2	4.8	35	24	24	24	1.20	3.13
2	M16	2	4.8	40	8	8	8	1.20	1.42
3	M16	2	4.8	45	40	40	40	1.20	6.37
MASS OF BOLTS, WASHERS & NUTS									10.71

ITEM	QTY	DESCRIPTION	CUTTING LENGTH	TOTAL LENGTH	MASS
			mm	m	kg
1FW/1	4	MILD STEEL ANGLE 75 x 75 x 6	5000	20.00	153.12
1FW/2	4	MILD STEEL PLATE 12 x 150	150	0.60	8.46
1FW/3	44	MILD STEEL ANGLE 50 x 50 x 6	750	33.00	155.98
1FW/4	4	MILD STEEL ANGLE 50 x 50 x 6	800	3.20	10.72
1FW/5	4	MILD STEEL LIPPED CHANNEL 125 x 50 x 7 (MODULE A)	4900	19.64	65.29
1FW/6	4	MILD STEEL LIPPED CHANNEL 125 x 50 x 7 (MODULE B)	800	2.00	6.42
1FW/7	16	MILD STEEL LIPPED CHANNEL 125 x 50 x 7 (MODULE A)	70	1.12	3.66
1FW/8	8	MILD STEEL LIPPED CHANNEL 125 x 50 x 7 (MODULE B)	70	0.56	1.83
TOTAL MASS					423.98

REQUIREMENTS PER MODULE			
MODULE 'A'	NO OFF	DESCRIPTION	MODULE 'B'
FOR INLAND USE ONLY IRR PROFILE GALVANIZED TO SANS 1011 (2.5 THICK x 6000 LENGTH)	6	FOR INLAND USE ONLY IRR PROFILE GALVANIZED TO SANS 1011 (2.5 THICK x 6000 LENGTH)	1
FOR COASTAL USE ONLY IRR PROFILE GALVANIZED TO SANS 1011 (3.0 THICK x 6000 LENGTH)	8	FOR COASTAL USE ONLY IRR PROFILE GALVANIZED TO SANS 1011 (3.0 THICK x 6000 LENGTH)	1
BOLT M16 (180 x 50) SEE BOLT SCHEDULE	16	BOLT M16 (180 x 50) SEE BOLT SCHEDULE	8
8mm STAINLESS STEEL HOOK BOLT COMPLETE WITH NUT & 100 STAINLESS STEEL WASHER	52	8mm STAINLESS STEEL HOOK BOLT COMPLETE WITH NUT & 100 STAINLESS STEEL WASHER	8
MILD STEEL CLEAT SEE STEEL SCHEDULE	16	MILD STEEL CLEAT SEE STEEL SCHEDULE	8
MILD STEEL RAIL SEE STEEL SCHEDULE	4	MILD STEEL RAIL SEE STEEL SCHEDULE	4

- NOTES**
1. DO NOT SCALE DRAWING - ONLY DIMENSIONS SHOWN TO BE USED.
 2. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS, DIMENSIONS AND LEVELS ON THE SITE AND NOTIFY THE N.O. SUPERVISOR OF ANY VARIATIONS BEFORE CONSTRUCTION.
 3. ALL DIMENSIONS AND FINISHING LEVELS TO BE INSPECTED & APPROVED BY ENGINEER PRIOR TO CAST OF CONCRETE.
 4. CONCRETE STRENGTH TO BE 30MPa/30mm STONE.
 5. ALL EXPOSED CONCRETE EDGES TO HAVE 25 x 25 CHAMFER ALL ROUND.
 6. COVER TO REINFORCEMENT TO BE 60MM.
 7. ALL EXPOSED HORIZONTAL CONCRETE SURFACES TO BE WOOD FINISHED.
 8. ALL HD BOLTS, NUTS & WASHERS TO BE HOT DIPPED GALVANIZED TO SANS 1011.
 9. HD BOLT POSITIONS MUST BE SURVEYED & ACCEPTED BY STRUCTURAL STEEL CONTRACTOR IN WRITING PRIOR TO CASTING OF CONCRETE.
 10. REFER TO DRAWING ARRANGEMENT DETAIL DRAWINGS FOR BARRING REQUIREMENTS OF FOUNDATION AND STEEL WORK.
 11. WINDING (BALUSTRADE) HEAVY WELD STEEL BALL TYPE.

- NOTES**
12. STANCHIONS 42.9 CD - SPACING 1000 - HORIZONTAL 34 1/8 - GALVANIZED TO SANS 1011 - TOP MOUNTED 1000 HIGH.
 13. ALL STRUCTURAL STEEL TO BE HOT DIPPED GALVANIZED WITH 115 MICRON FINAL DRY THICKNESS TO SANS 1011 & ESDOM STANDARDS AFTER WELDING & DRILLING.
 14. A COMPLETE SET OF SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE FABRICATION COMMENCES. SHOP DRAWINGS SHALL ONLY BE CHECKED FOR COMPLIANCE WITH DESIGN INTENT. NO DIMENSIONAL CHECKS WILL BE DONE. COMMENTS ON SHOP DRAWINGS.
 15. ALL SHOP SPICES ARE TO BE INDICATED ON DRAWINGS.

AECOM

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NO.	DESCRIPTION	BY	CHKD	APPD	DATE

CONTRACTOR / CONSULTANT				TRANSMET CAPITAL PROJECTS			
NAME	SIGN	DATE	TITLE	NAME	SIGN	DATE	TITLE

Transnet Capital Projects

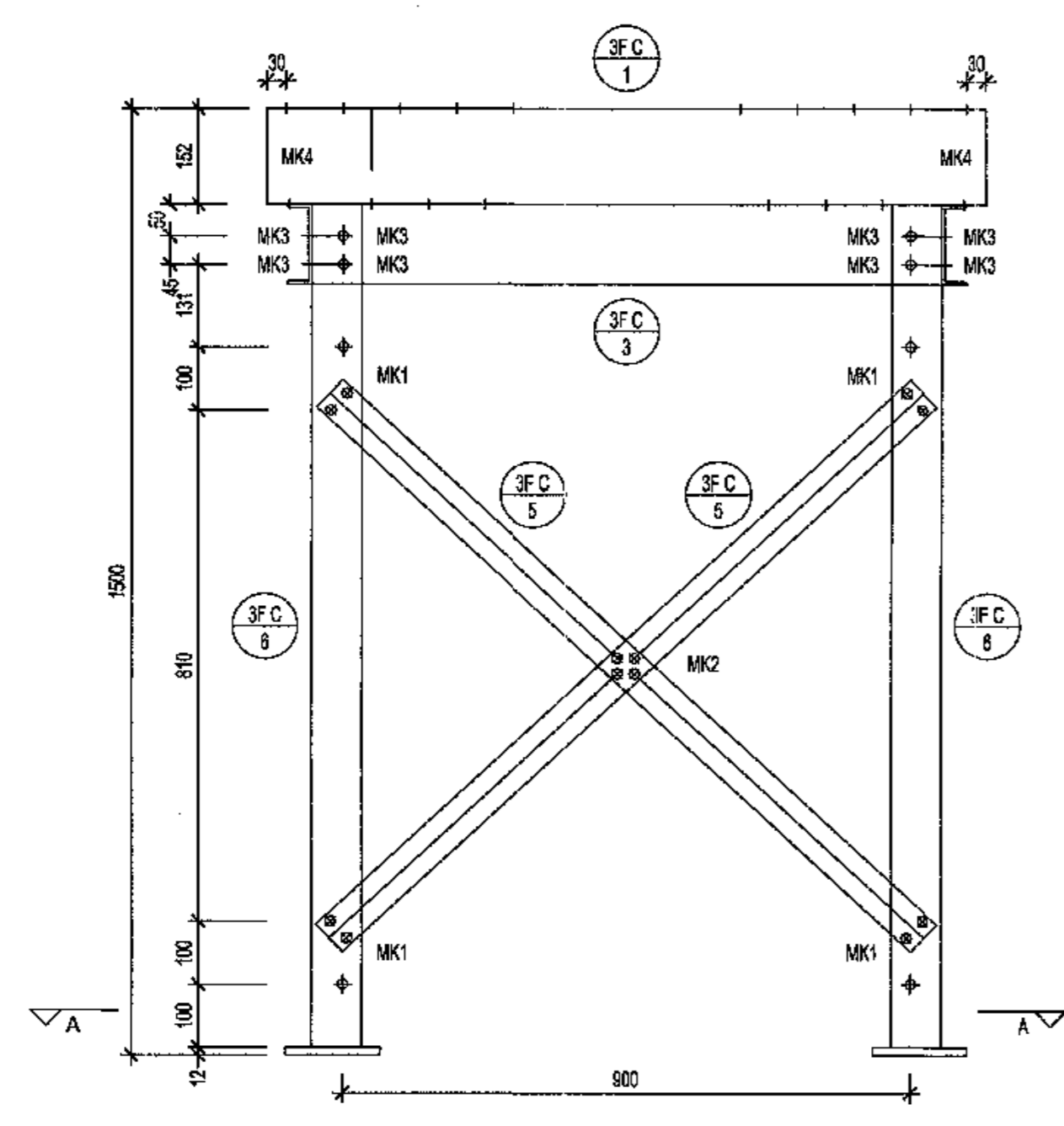
TRANSNET

PORT OF SALDANHA
IRON ORE TIDLER 3 PROJECT
BULK POWER UPGRADE
NEW MAIN INTAKE SUBSTATION
FIRE BARRIER
STEELWORK DETAILS

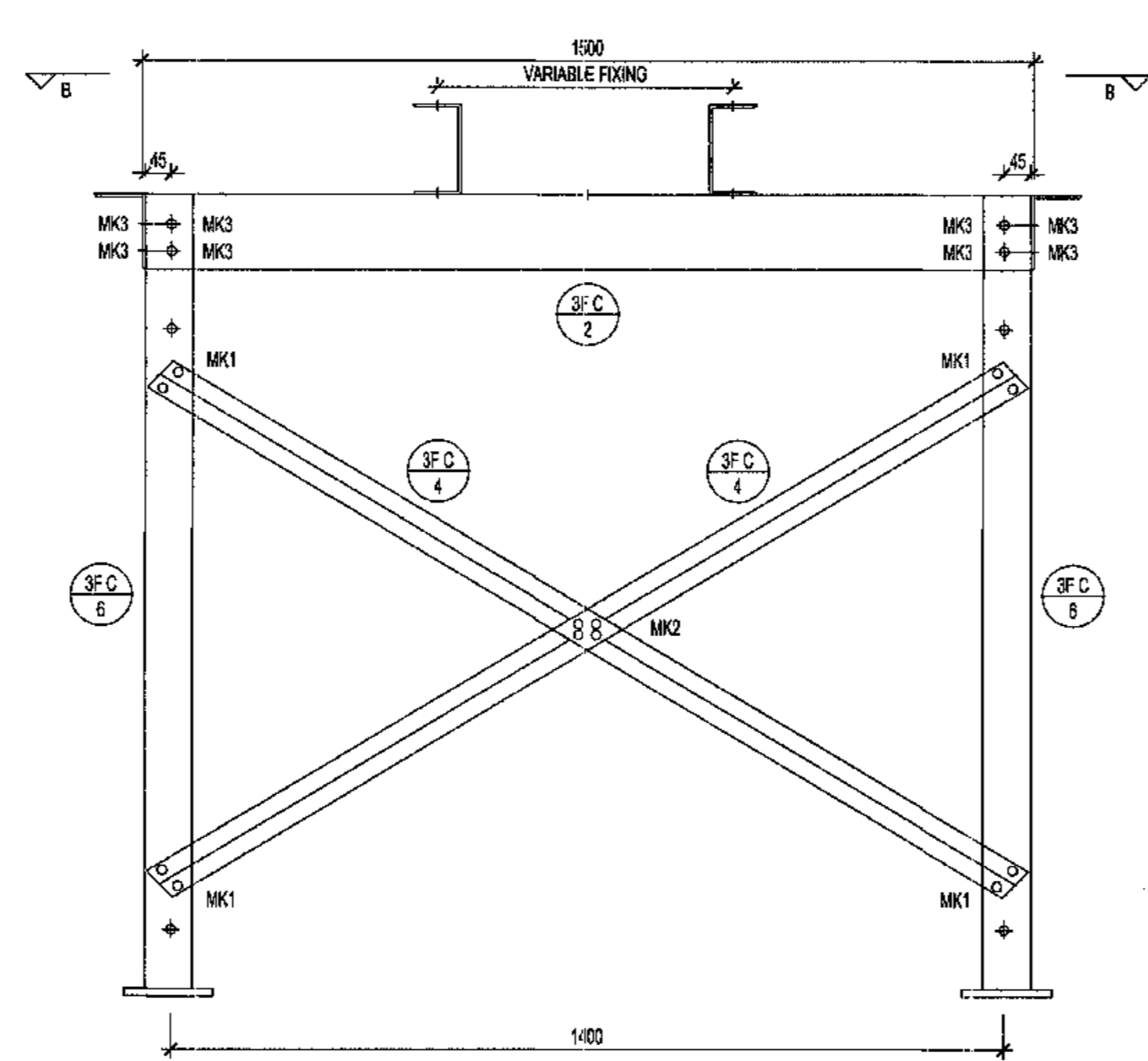
19 JUN 2018

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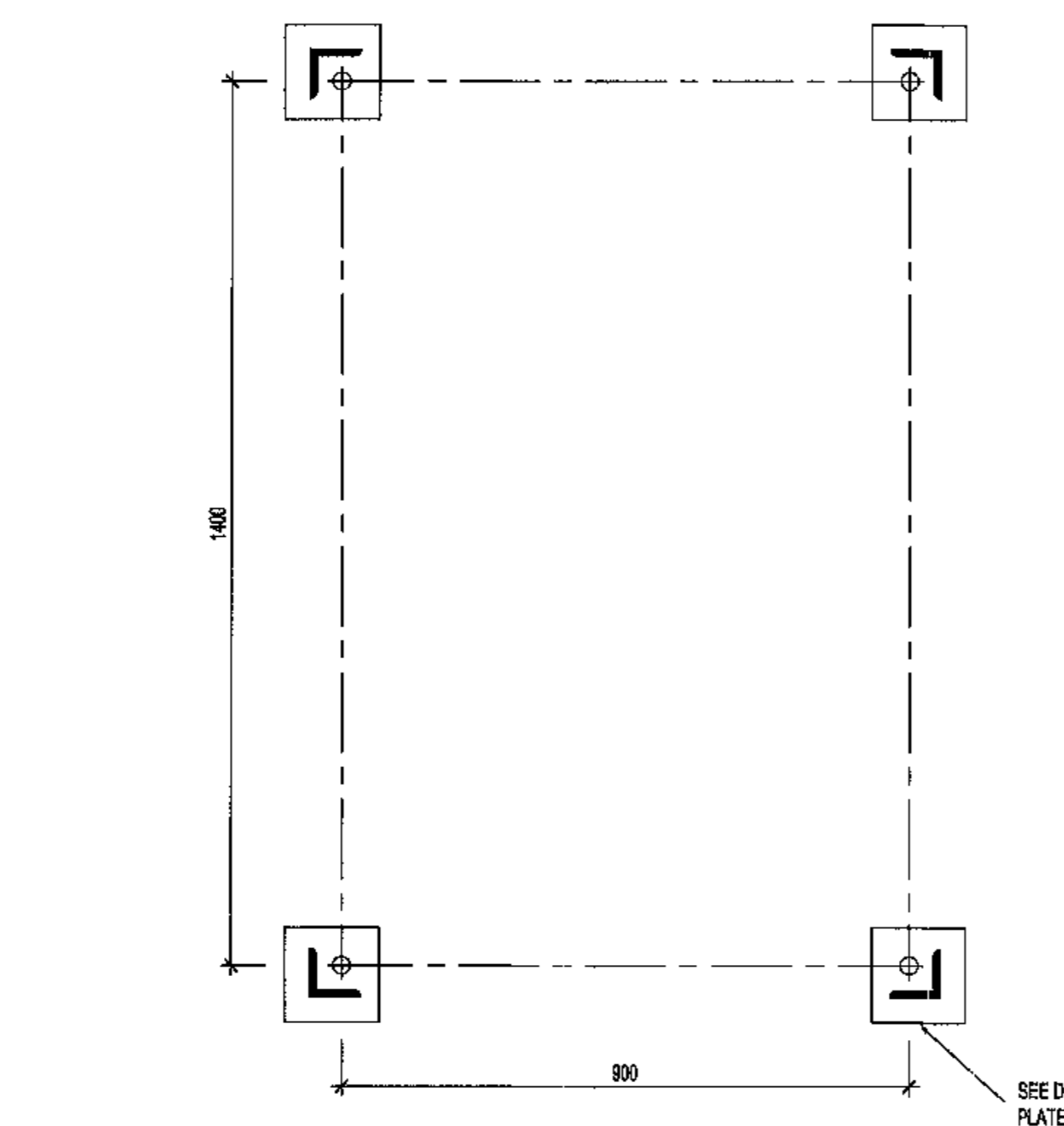
MASTER
15 JUN 2018



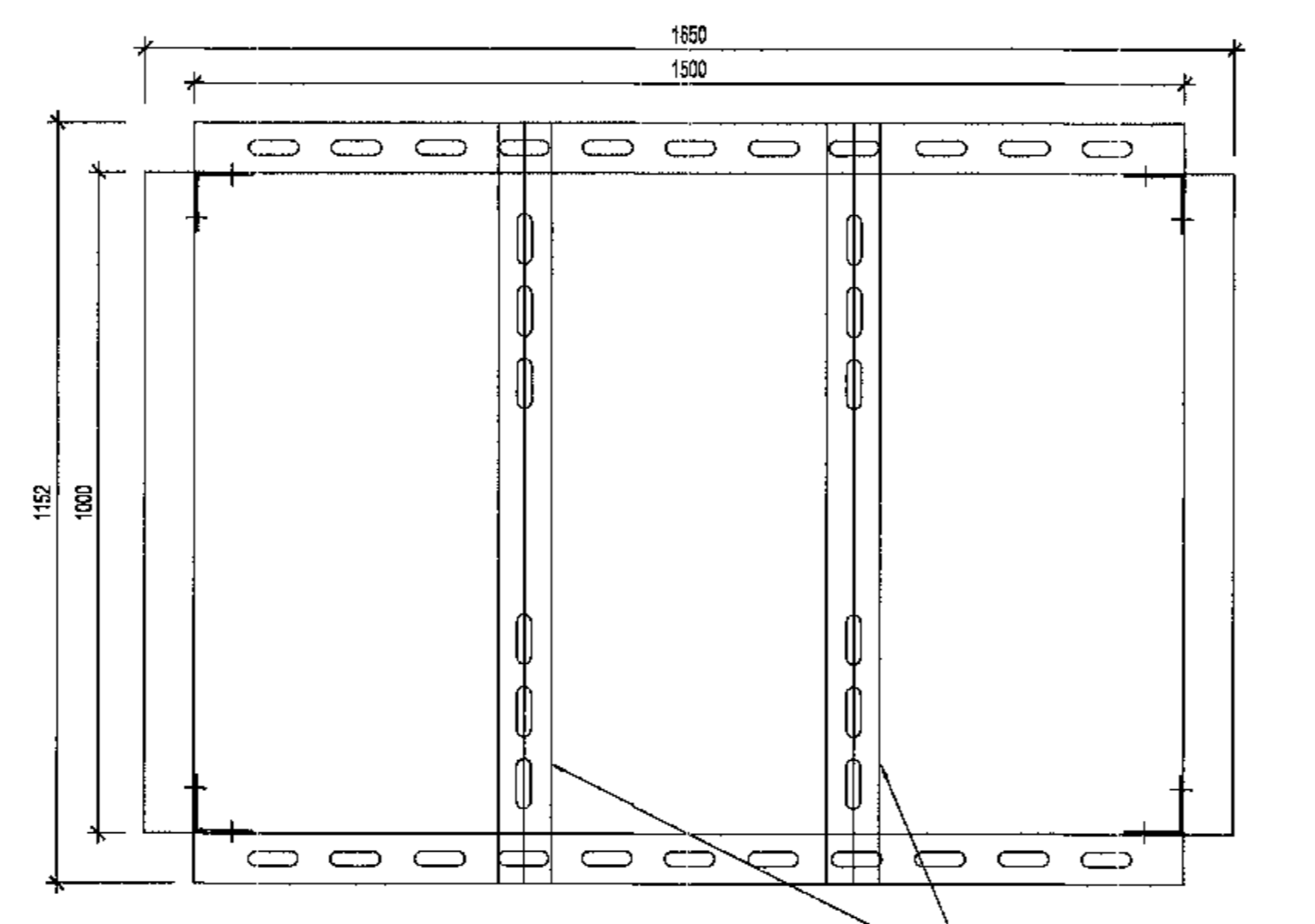
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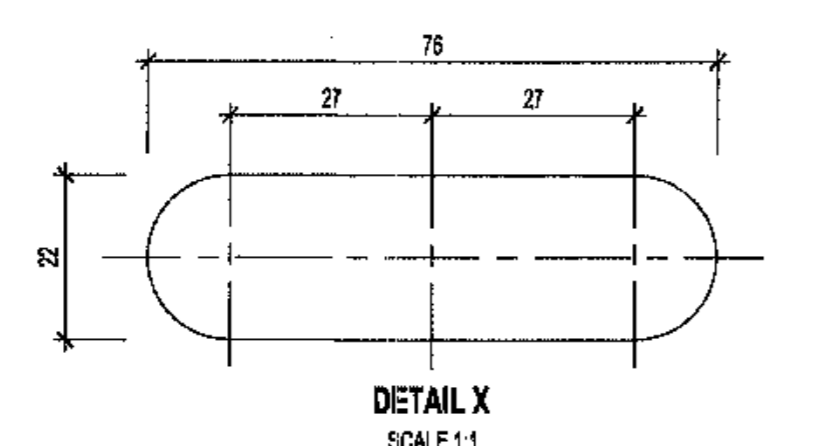


SECTION A-A

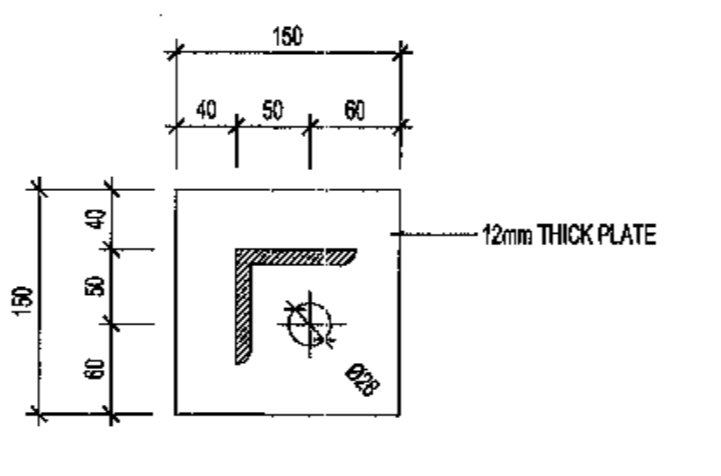


SECTION B-B

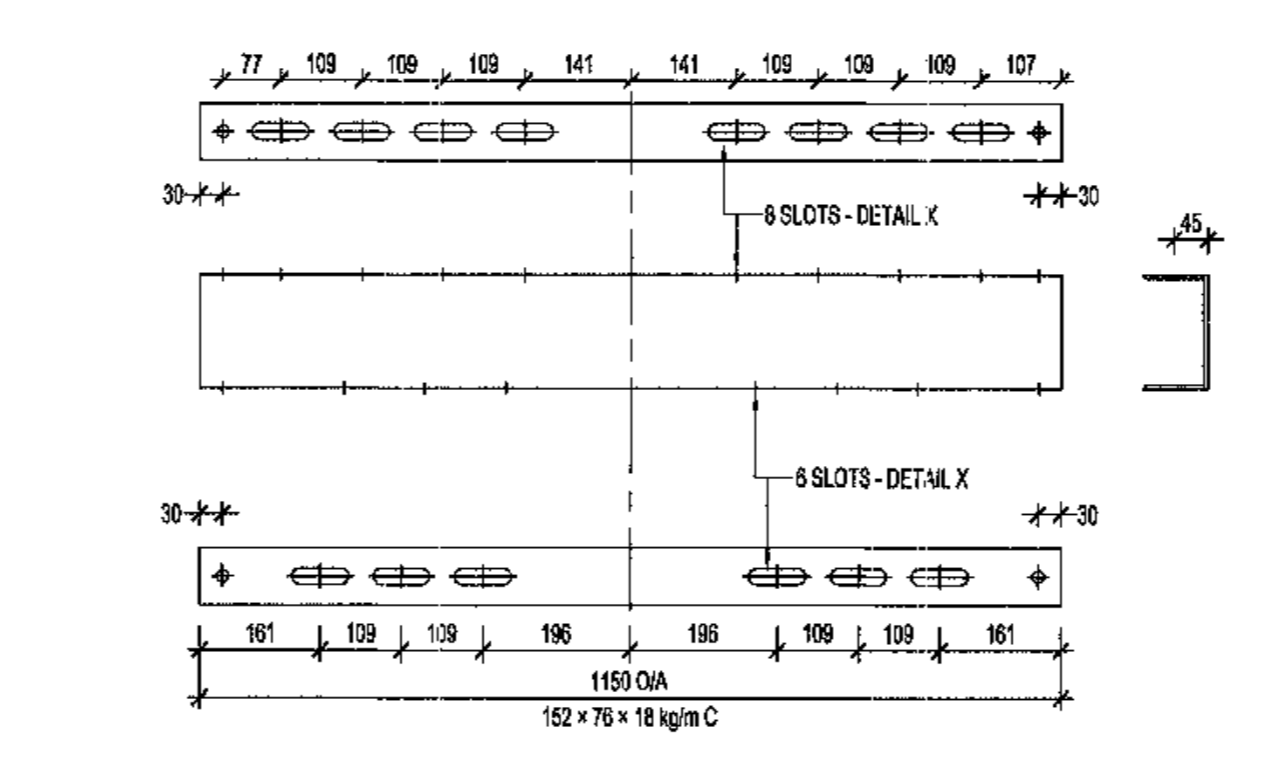
TOP CHANNELS CAN BE INVERTED IF REQUIRED TO OBTAIN EQUIPMENT FORM CENTRES. RANGE OF FORM CENTRES VARIABLE BETWEEN 230 AND 800



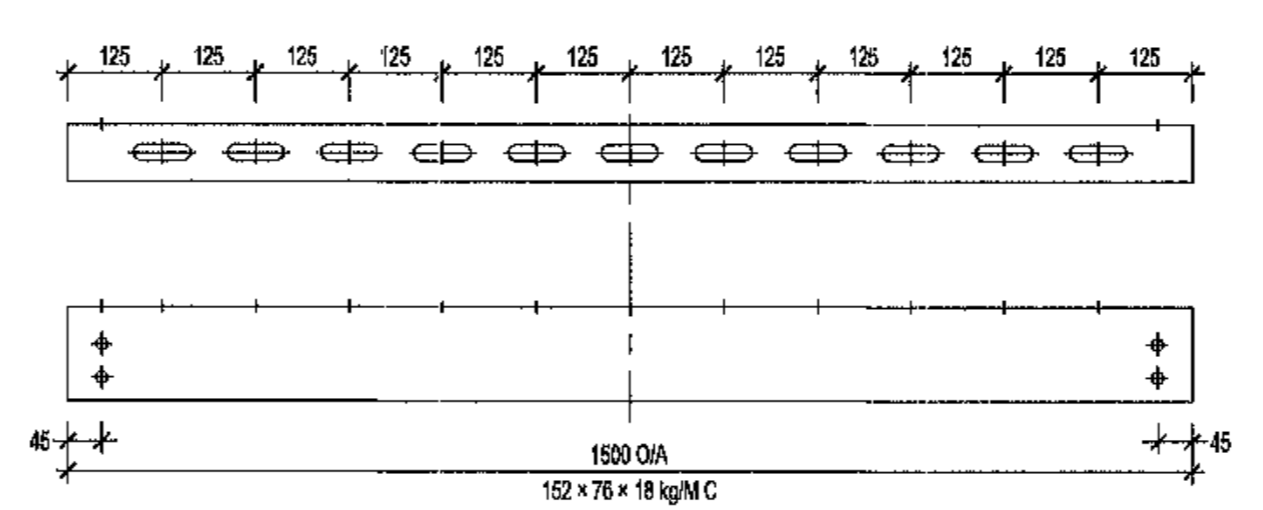
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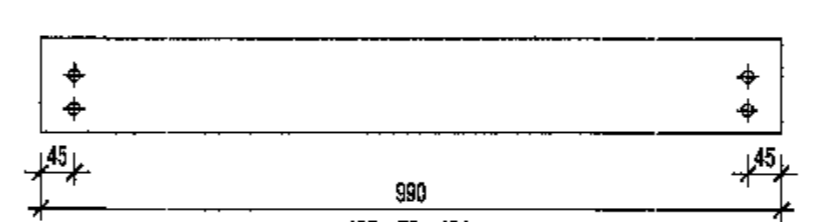
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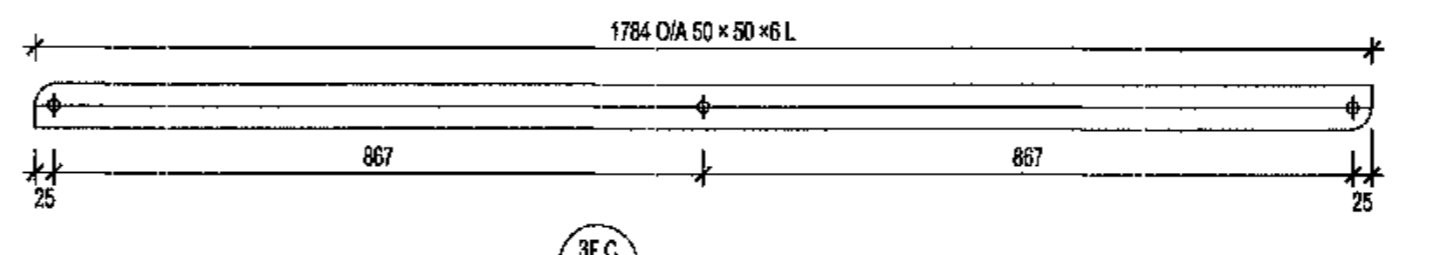
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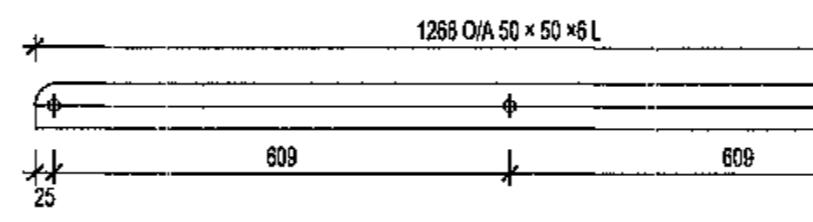
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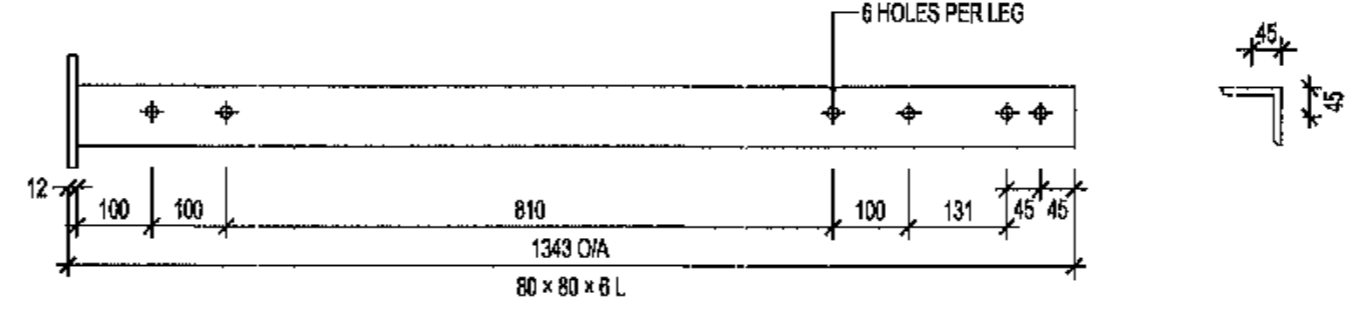
DETAIL X
SCALE 1:1



DETAIL X
SCALE 1:1



DETAIL X
SCALE 1:1



DETAIL X
SCALE 1:1

- CONSTRUCTION NOTES:
- ALL WELDING AND WELDING SYMBOLS SHALL CONFORM TO SANS 1034 PART 1 TO PART 5.
 - ALL STRUCTURAL USE OF STEEL TO CONFORM TO SANS 1016. GRADE OF STEEL TO BE SANS 1016 GRADE 300MA OR BS 4360 GRADE 43A.
 - ALL WELDS TO BE SEAL WELDED.
 - STEELWORK TO BE HOT DIP GALVANISED TO SANS 121.
 - ALL STEELWORK TO BE FABRICATED, SPORED AND LEVELLED TO A TOLERANCE OF 1.5mm.
 - ALL BOLTS AND NUTS TO CONFORM TO SANS 133, STRENGTH GRADE 4.8.
 - ALL MARKS (UP) BE STAMPED ON TO STEELWORK AND SHALL BE CLEARLY LEGIBLE AFTER GALVANISING.
 - ALL HOLES IN L.A. UNLESS OTHERWISE STATED.
 - NO STEEL EXTENSIONS WILL BE ALLOWED ON ANY STEELWORK. NO STEEL SECTIONS TO BE BUTT WELDED.

BOLT SIZE	PITCH	WILD STEEL BOLTS	TORQUE
mm	mm	GRADE	nm
16	2	4.8	100
20	2	4.8	200
24	3	4.8	300

STRUCTURE	BOLTS	TOTAL
164.17	6.608	170.78

MK	TYPE	WASHER/BOLT	QUANTITY
1	16G5	1 FLAT	15
2	16G5	2 FLAT	4
3	16G5	1 FLAT	16
4	16G5	2 BEVELLED	4
5	20G5	1 BEVELLED	4

NECRT SUPPORT
OLD DESIGN DETAILS FOR IN LINE APPLICATION NC CABLE HOOD 1500mm HIGH
SCALE 1:10

MASTER
15 JUN 2018
AECOM TRANSNET

- NOTES
- DO NOT SCALE DRAWING - ONLY DIMENSIONS SHOWN TO BE USED.
 - THE CONTRACTOR SHALL VERIFY ALL CONDITIONS, DIMENSIONS AND LEVELS ON THE SITE AND NOTIFY THE NEC SUPERVISOR OF ANY VARIATIONS BEFORE CONSTRUCTION.



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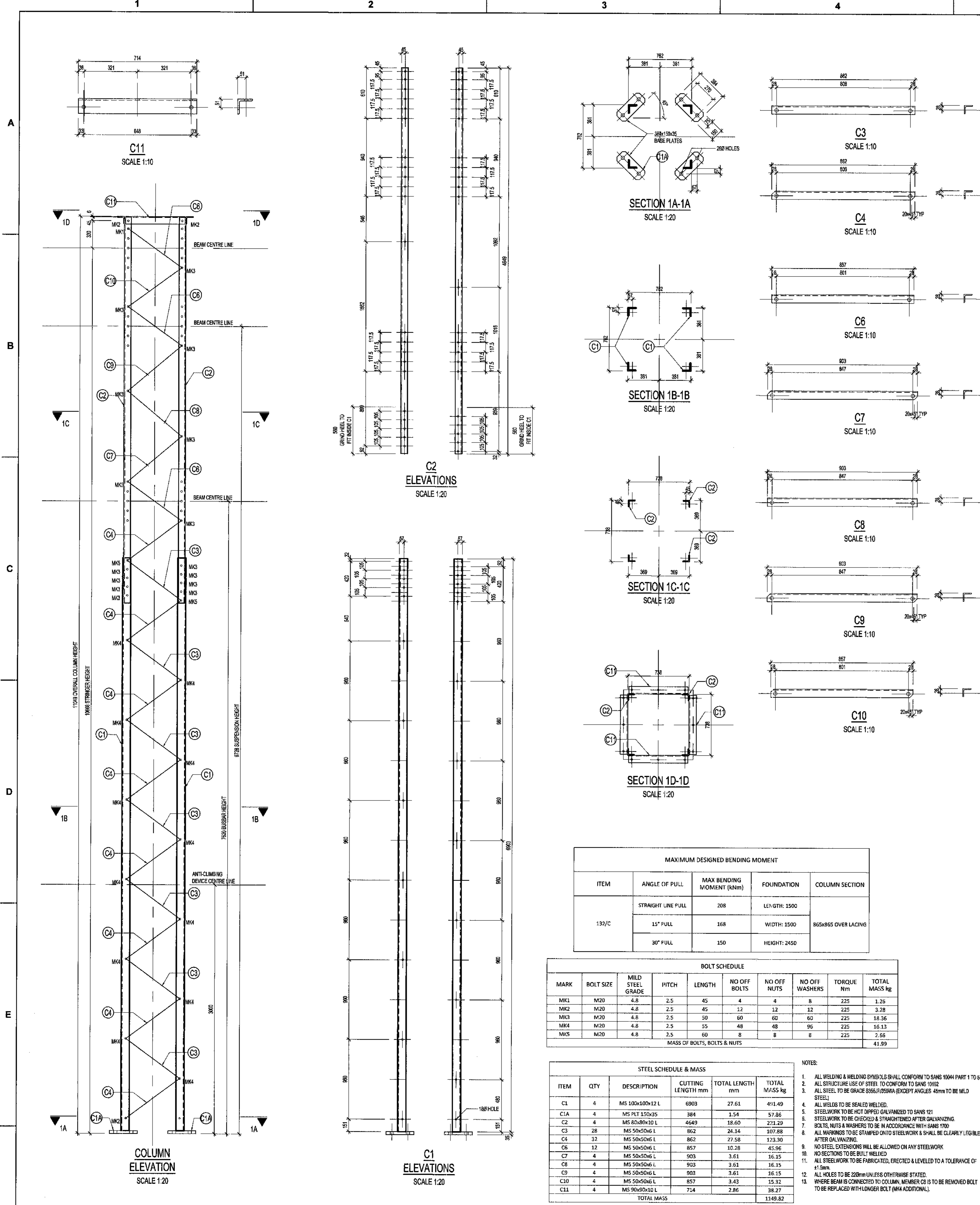
NO.	ISSUED FOR CONSTRUCTION	DESCRIPTION	BY	CHKD	APPD	DATE
01	ISSUED FOR CONSTRUCTION		AH	HVV	SWM	14-08-2018

CONTRACTOR / CONSULTANT				TRANSNET CAPITAL PROJECTS			
TITLE	NAME	SIGN	DATE	TITLE	NAME	SIGN	DATE
				DRAWN	AH		14 08 18
				CHECKED	C K		14 08 18
				DESIGNED	C K		14 08 18
				CHECKED	SW M		14 08 18

Transnet Capital Projects
TRANSNET

PORT OF SALDANHA
IRON ORE TIPLER 3 PROJECT
BULK POWER UPGRADE:
NEW MAIN INTAKE SUBSTATION
NECRT SUPPORT
STEELWORK DETAILS

PROJECT NUMBER	DOE	PBS	DIR	TYPE	DRAWING NO.	SHEET	REV	ID
1924701	1	2	1	T	01028	10	1	01010

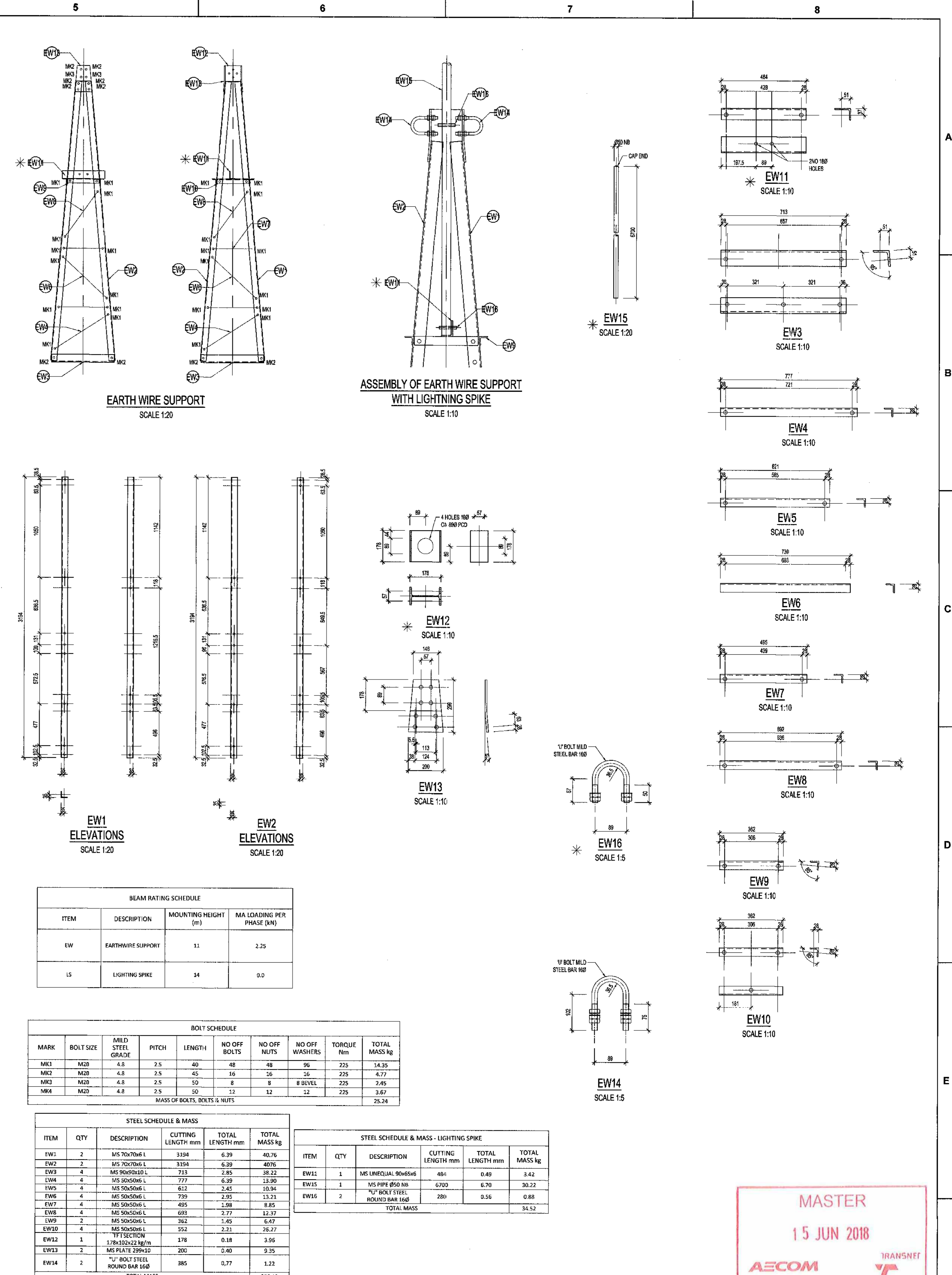


ITEM	ANGLE OF PULL	MAX BENDING MOMENT (kNm)	FOUNDATION	COLUMN SECTION
132/C	STRAIGHT LINE PULL	208	LENGTH: 1500	80x80x8 OVER LACING
	15° PULL	168	WIDTH: 1500	
	30° PULL	150	HEIGHT: 2450	

MARK	BOLT SIZE	MILD STEEL GRADE	PITCH	LENGTH	NO OFF NUTS	NO OFF WASHERS	TORQUE Nm	TOTAL MASS kg
MK1	M20	4.8	2.5	45	4	4	225	1.26
MK2	M20	4.8	2.5	45	12	12	225	3.28
MK3	M20	4.8	2.5	50	60	60	225	16.36
MK4	M20	4.8	2.5	55	48	48	96	16.13
MK5	M20	4.8	2.5	60	8	8	225	2.66
MASS OF BOLTS, BOLTS & NUTS								
41.99								

ITEM	QTY	DESCRIPTION	CUTTING LENGTH mm	TOTAL LENGTH mm	TOTAL MASS kg
C1	4	MS 100x100x12 L	6903	27.61	491.49
C1A	4	MS PLT 150x35	384	1.54	57.86
C2	4	MS 80x8x10 L	4649	18.60	271.29
C3	28	MS 50x5x6 L	862	24.14	107.88
C4	33	MS 50x5x6 L	862	27.58	123.30
C5	12	MS 50x5x6 L	857	10.28	45.96
C7	4	MS 50x5x6 L	903	3.61	16.15
C8	4	MS 50x5x6 L	903	3.61	16.15
C9	4	MS 50x5x6 L	903	3.61	16.15
C10	4	MS 50x5x6 L	857	3.43	15.32
C11	4	MS 90x5x10 L	714	2.86	38.27
TOTAL MASS					1149.82

- NOTES:
- ALL WELDING & WELDING SPAS SHALL CONFORM TO SANS 1004 PART 1 TO 5.
 - ALL STRUCTURAL USE OF STEEL TO CONFORM TO SANS 1012.
 - ALL STEEL TO BE GRADE S355JR/S355W EXCEPT ANGLES 45mm TO BE MILD STEEL.
 - ALL WELDS TO BE SEALED WELDED.
 - STEELWORK TO BE HOT DIPPED GALVANIZED TO SANS 121.
 - STEELWORK TO BE CHECKED & STAMPED AFTER GALVANIZING.
 - SCREWS, NUTS & WASHERS TO BE IN ACCORDANCE WITH SANS 1700 AFTER GALVANIZING.
 - ALL MARKINGS TO BE STAMPED ON TO STEELWORK & SHALL BE CLEARLY LEGIBLE.
 - NO STEEL EXTENSIONS WILL BE ALLOWED ON ANY STEELWORK.
 - NO RECTIONS TO BE BUILT WELDED.
 - ALL STEELWORK TO BE FABRICATED, ERECTED & LEVELLED TO A TOLERANCE OF ±15mm.
 - ALL HOLES TO BE 20mm UNLESS OTHERWISE STATED.
 - WHERE BEAMS ARE CONNECTED TO COLUMNS, MEMBERS C8 TO C11 TO BE REMOVED BOLT TO BE REPLACED WITH LONGER BOLT (M4 ADDITIONAL).



ITEM	DESCRIPTION	MOUNTING HEIGHT (m)	MA LOADING PER PHASE (kN)
EW	EARTH WIRE SUPPORT	11	2.25
LS	LIGHTNING SPIKE	14	0.0

MARK	BOLT SIZE	MILD STEEL GRADE	PITCH	LENGTH	NO OFF BOLTS	NO OFF NUTS	NO OFF WASHERS	TORQUE Nm	TOTAL MASS kg
MK1	M18	4.8	2.5	40	48	48	96	225	14.35
MK2	M20	4.8	2.5	45	16	16	16	225	4.77
MK3	M20	4.8	2.5	55	8	8	8	225	2.45
MK4	M20	4.8	2.5	50	12	12	12	225	3.67
MASS OF BOLTS, BOLTS & NUTS									25.24

ITEM	QTY	DESCRIPTION	CUTTING LENGTH mm	TOTAL LENGTH mm	TOTAL MASS kg
EW1	2	MS 70x70x6 L	3334	6.39	40.76
EW2	2	MS 70x70x6 L	3334	6.39	40.76
EW3	4	MS 50x5x6 L	777	2.85	39.22
EW4	4	MS 50x5x6 L	777	6.39	13.90
EW5	4	MS 50x5x6 L	612	2.45	10.94
EW6	4	MS 50x5x6 L	759	2.92	13.31
EW7	4	MS 50x5x6 L	495	1.98	8.85
EW8	4	MS 50x5x6 L	693	2.77	12.37
EW9	2	MS 50x5x6 L	362	1.45	6.47
EW10	4	MS 50x5x6 L	352	2.21	25.27
EW12	1	17T SECTION	978	0.18	3.96
EW13	2	MS PLT 250x20	200	0.40	9.35
EW14	2	1/2" BOLT STEEL ROUND BAR 16@	885	0.77	1.22
TOTAL MASS					206.48

ITEM	QTY	DESCRIPTION	CUTTING LENGTH mm	TOTAL LENGTH mm	TOTAL MASS kg
EW11	1	MS UNEQUAL 90x65x6	481	0.49	3.42
EW15	1	MS PIPE Ø50 X8	6702	6.70	30.22
EW16	2	1/2" BOLT STEEL ROUND BAR 16@	281	0.56	0.88
TOTAL MASS					34.52

MASTER
15 JUN 2018
AECOM **TRANSNET**

DRAWING NO.	REFERENCE
1	REFERENCE DRAWINGS

- NOTES:
- DO NOT SCALE DRAWING - ONLY DIMENSIONS SHOWN TO BE USED.
 - THE CONTRACTOR SHALL VERIFY ALL CONDITIONS, DIMENSIONS AND LEVELS ON THE SITE AND NOTIFY THE REC SUPERVISOR OF ANY VARIATIONS BEFORE CONSTRUCTION.
 - ALL EXCAVATIONS & FOUNDING LEVELS TO BE INSPECTED & APPROVED BY ENGINEER BEFORE TO CAST OF CONCRETE.
 - CONCRETE GRADE STRENGTH TO BE 30MPa/17000 PSI.
 - ALL EXPOSED CONCRETE SURFACES TO HAVE 25x25 CHAMFER ALL ROUND.
 - COVER TO REINFORCEMENT TO BE 50 MM.
 - ALL EXPOSED HORIZONTAL CONCRETE SURFACES TO BE WOOD FINISHED.
 - ALL HOLES, NUTS & WASHERS TO BE HOT DIPPED GALVANIZED TO SANS 121.
 - NO BOLT POSITIONS MUST BE ALIGNED FOR CASTING TO A TOLERANCE OF 20mm PER BEAM 1200 CLS GRADE 1 & 8 SURVEYED & ACCEPTED BY STRUCTURAL STEEL CONTRACTOR IN WRITING PRIOR TO CASTING OF CONCRETE.
 - REFER TO EARTHWORK ARRANGEMENT DETAIL DRAWINGS FOR EARTHWORK REQUIREMENTS OF FOUNDATION AND STEEL WORK.

- HANDRAIL / BALUS TRADE: MENTS MILD STEEL BALL TYPE - STRANCHIONS 45 x 120 - SPACING 1000 - HANDBAIL 80 x 160 - GALVANIZED TO SANS 121 - TOP MOUNTED 1100 HIGH.
- ALL STRUCTURAL STEEL TO BE HOT DIPPED GALVANIZED WITH 135 MICRON FINISH (Zn 110g/m²) TO SANS 121 & IS8080 STANDARDS AFTER WELDING & DRILLING.
- A COMPLETE SET OF SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE FABRICATION COMMENCES. SHOP DRAWINGS SHALL ONLY BE CHECKED FOR COMPLIANCE WITH DESIGN INTENT - NO DIMENSIONAL CHECKS WILL BE DONE. COMMENTS ON SHOP DRAWINGS.
- ALL SHOP DIMENSIONS TO BE INDICATED ON DRAWINGS.
- STRUCTURES SHALL BE ERECTED, ALIGNED, BOLDED, PLUMBED & LEVELLED TO AN ACCURACY SPECIFIED IN DRAWING B.2.2.2 - CLASS 3.
- WEDGELIKE SHIM & BE APPLIED BEFORE & AFTER COMPLETION OF WARD STONE SURFACING.

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REG. NO. 1966/006828/07

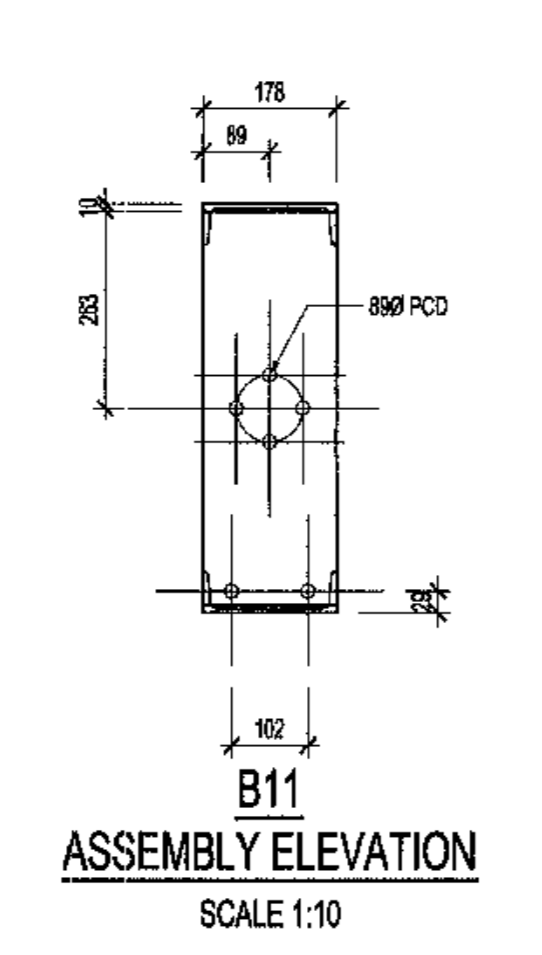
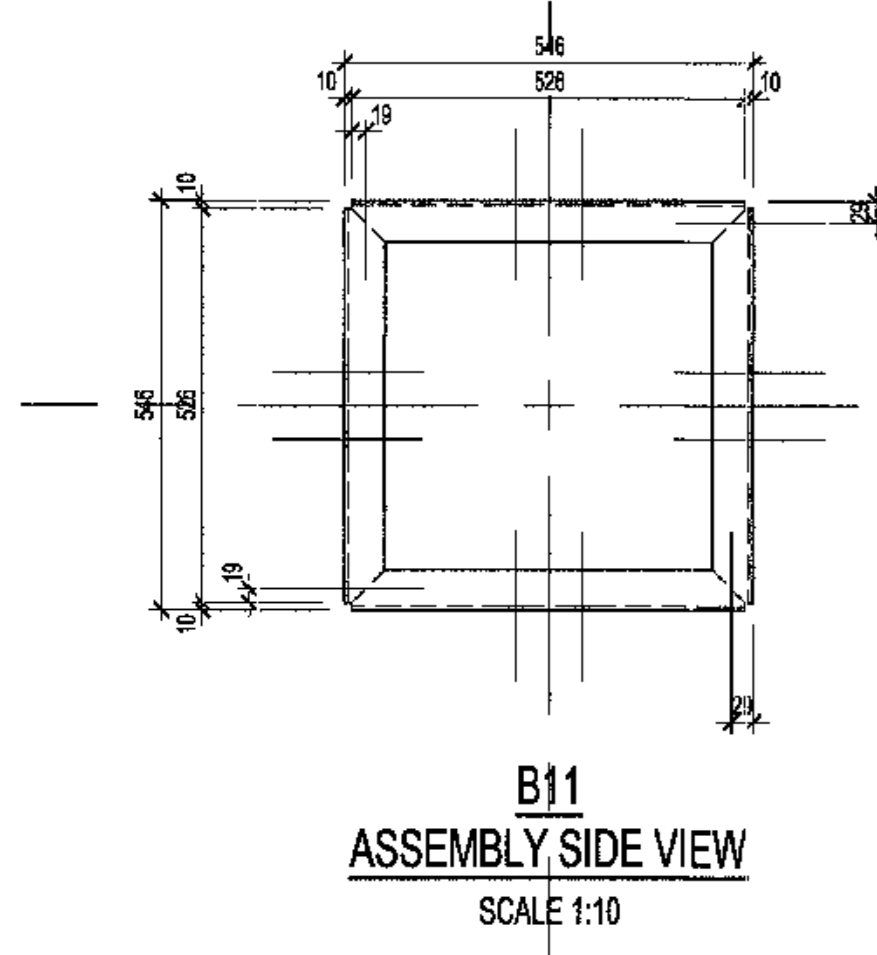
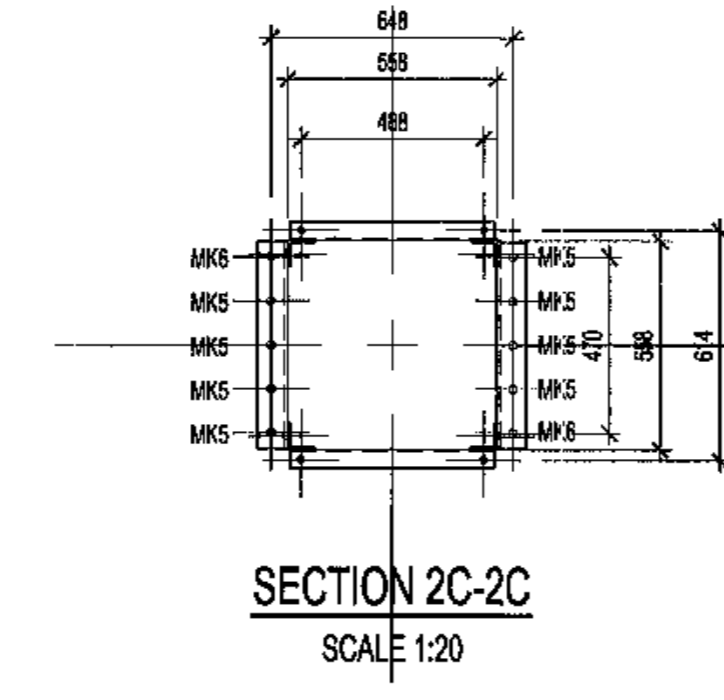
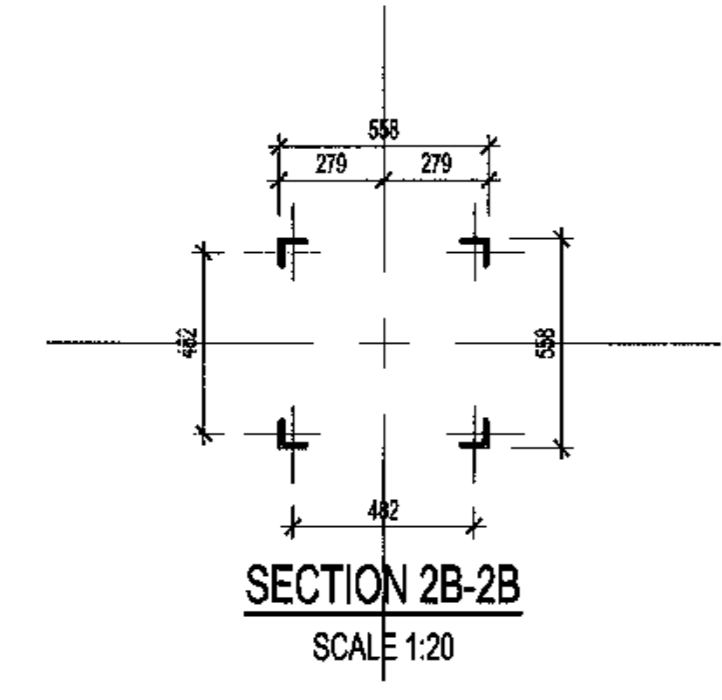
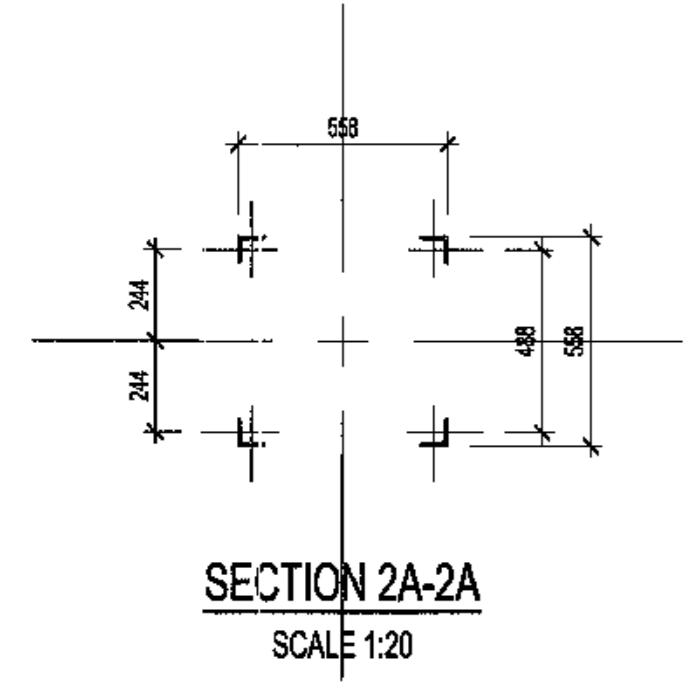
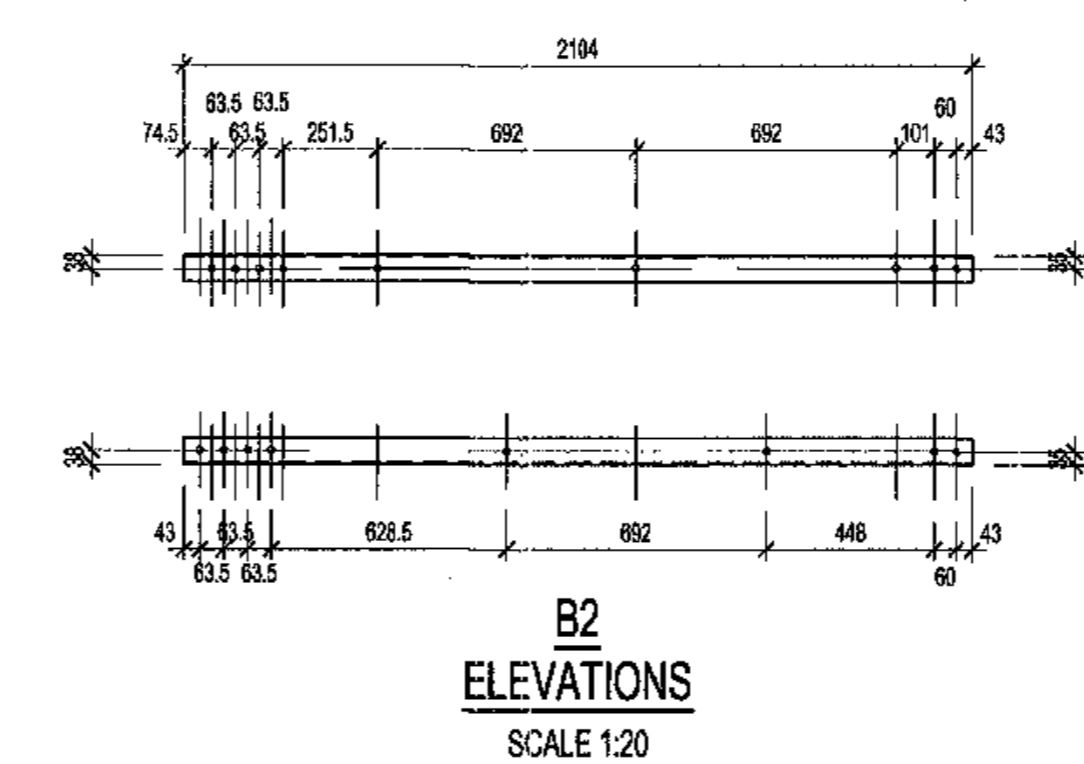
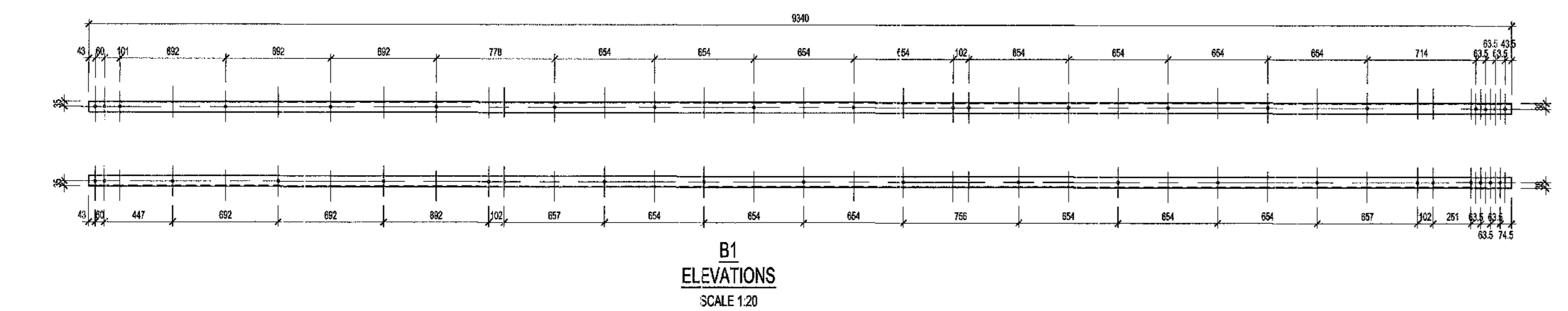
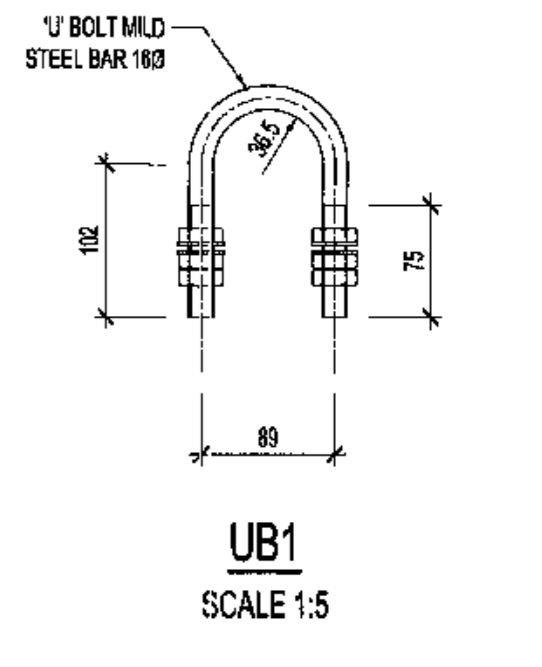
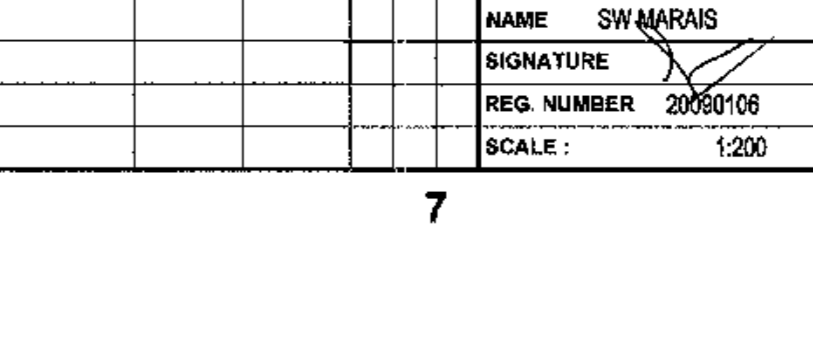
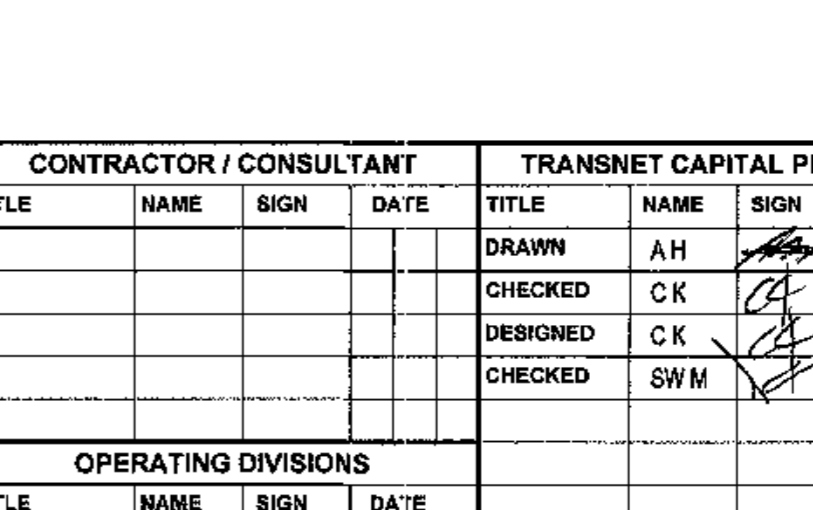
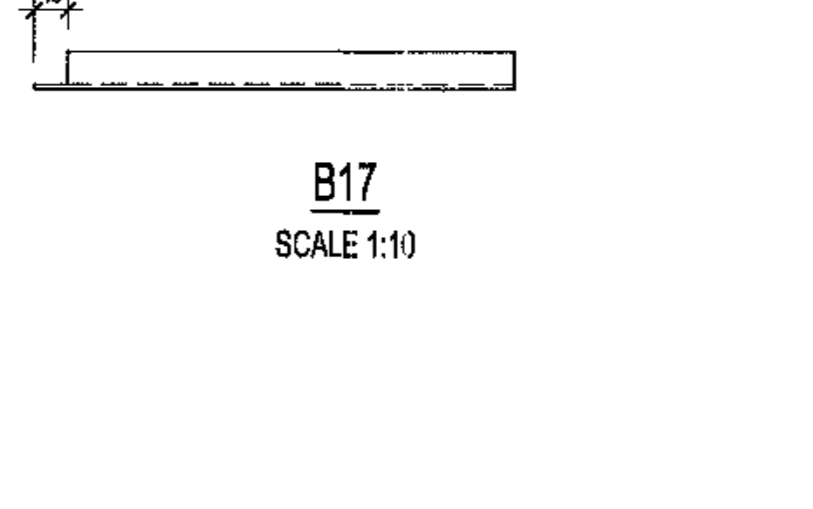
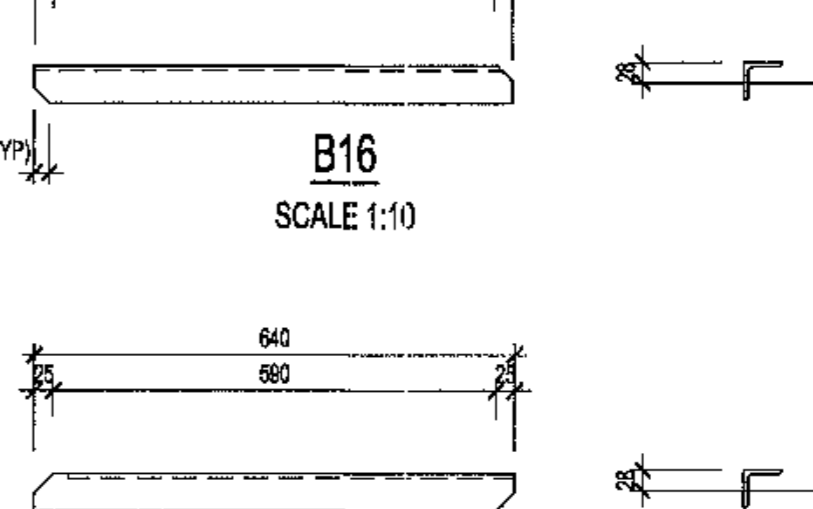
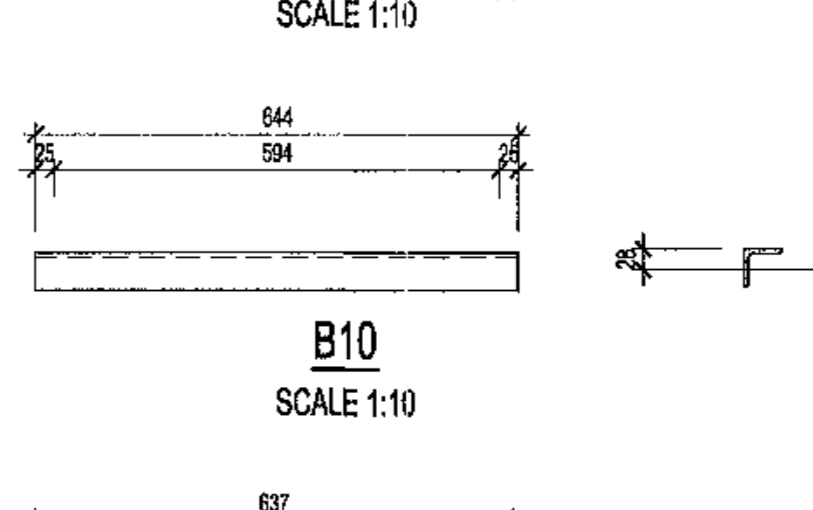
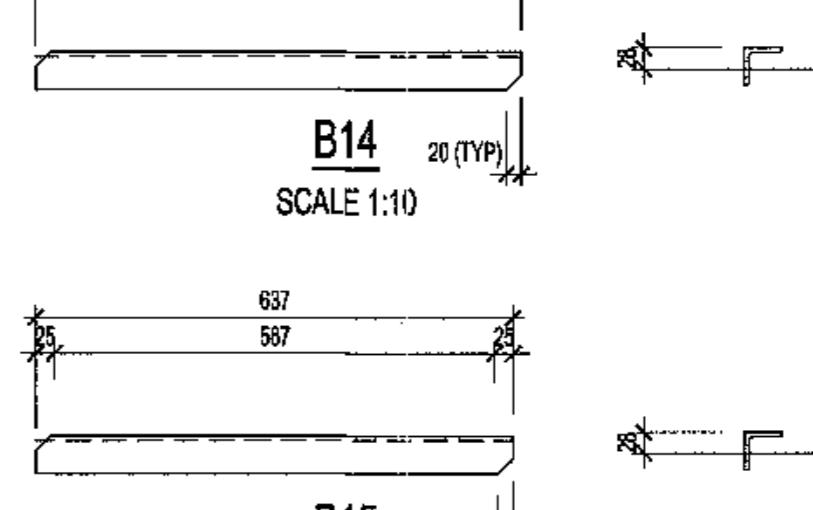
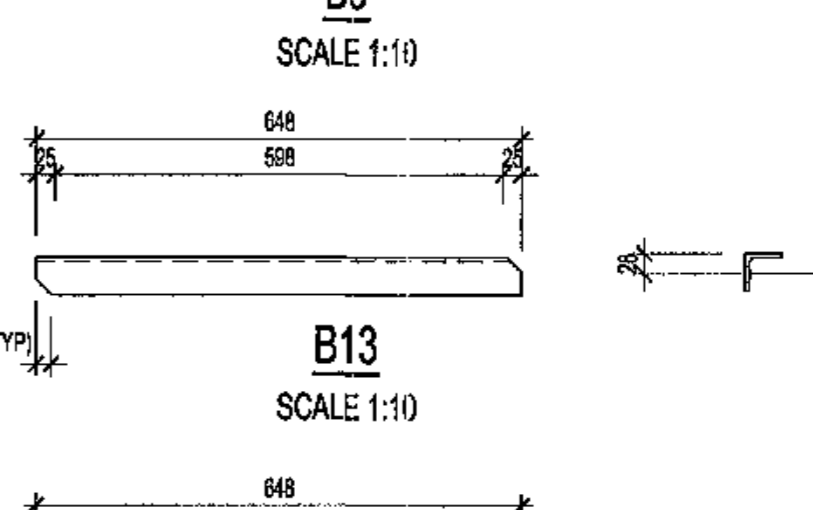
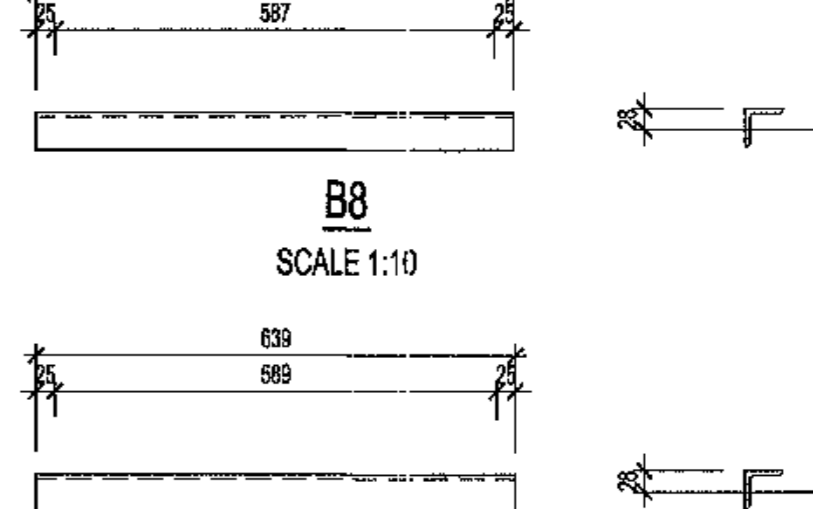
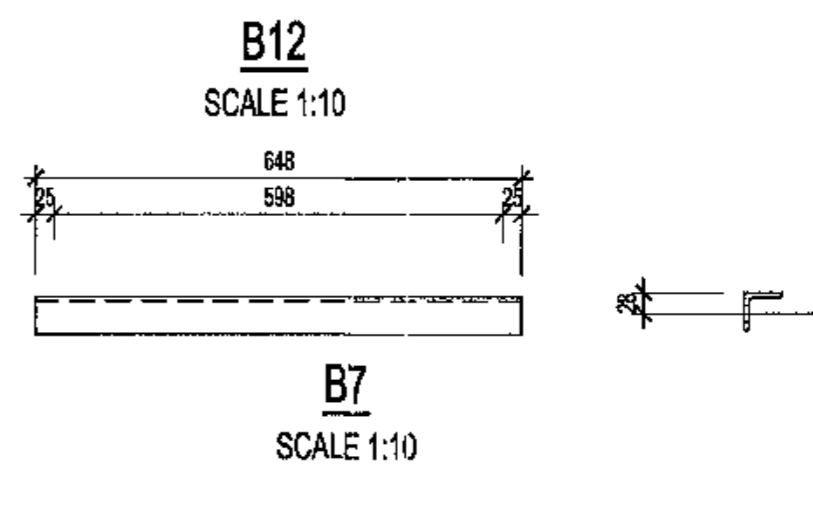
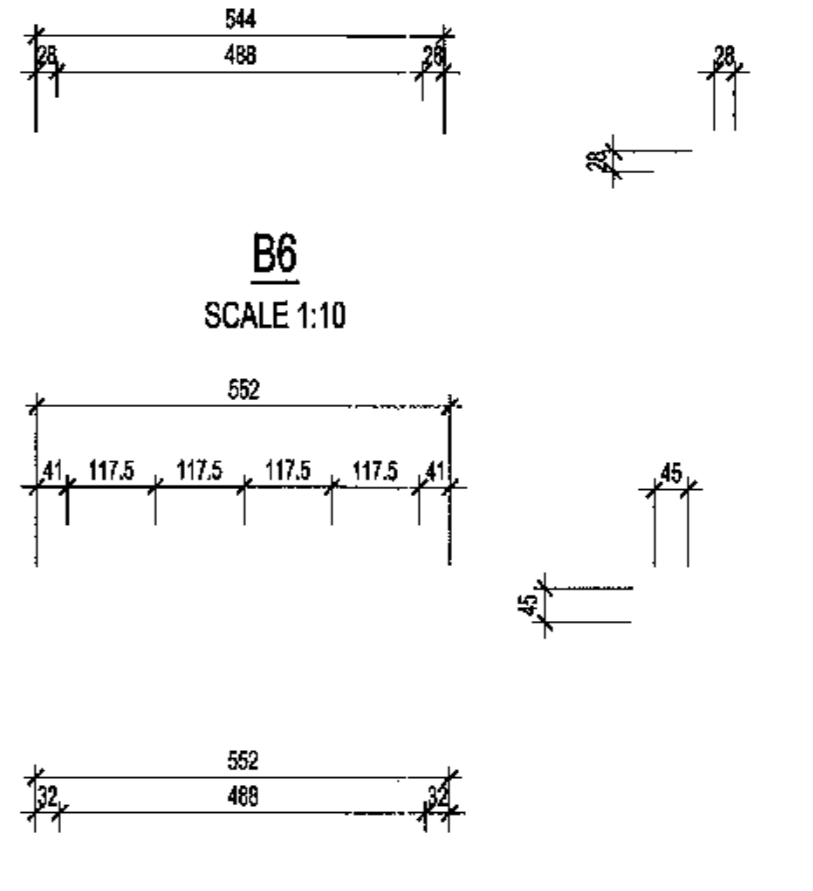
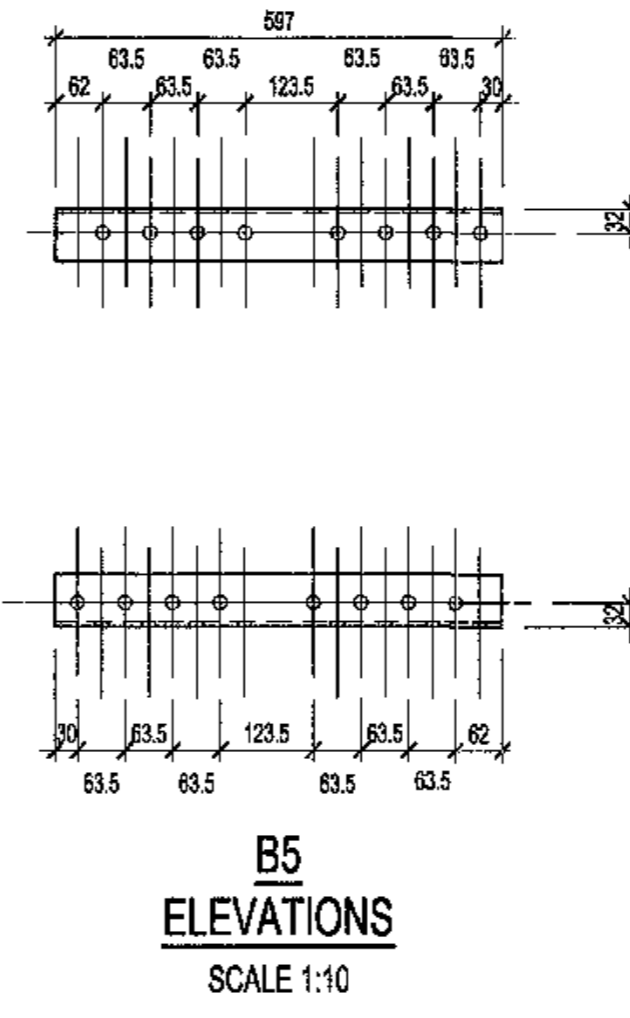
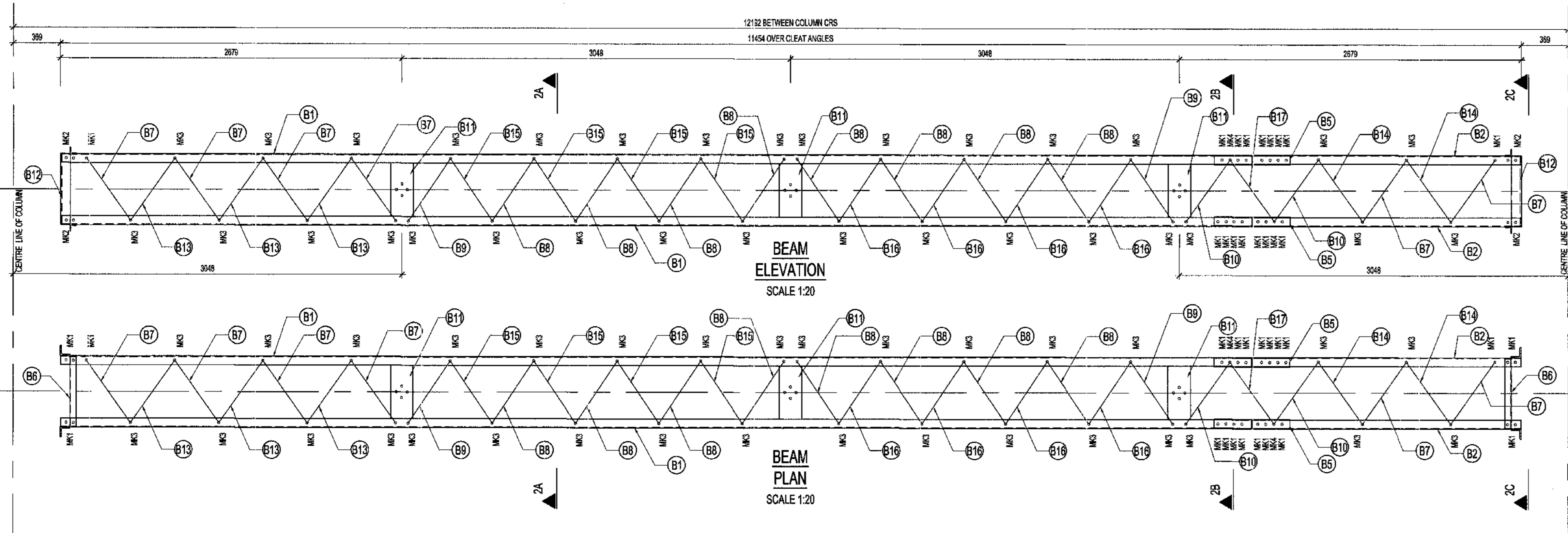
NO.	DESCRIPTION	A.H.	H.W.	S.W.M.	14/02/18
1	ISSUED FOR CONSTRUCTION				

CONTRACTOR / CONSULTANT				TRANSNET CAPITAL PROJECTS			
TITLE	NAME	SIGN	DATE	TITLE	NAME	SIGN	DATE
				DRAWN	A.H.		14/02/18
				CHECKED	C.K.		14/02/18
				DESIGNED	G.K.		14/02/18
				CHECKED	S.W.M.		14/02/18

OPERATING DIVISIONS		PRELIMINARY / PR. TECH. / ARCH	
TITLE	NAME	SIGN	DATE

TRANSNET Capital Projects
IRON ORE TIPPLER 3 PROJECT
BULK POWER UPGRADE:
NEW MAIN INTAKE SUBSTATION
COLUMN 132 / C & EARTH WIRE SUPPORT
STEELWORK DETAILS

PROJECT NUMBER: 19247012
DATE: 15/01/18
SCALE: 1:200
PROJECT NUMBER: 19247012
DATE: 15/01/18
SCALE: 1:200



ITEM	DESCRIPTION	MOUNTING HEIGHT (m)	MA LOADING PER PHASE (kN)	DIMENSIONS
132 / 40 / 1	STRINGER STRAIN	10	4.5	12182 6086 6086 3048 3048 3048 3048

MARK	BOLT SIZE	MILD STEEL GRADE	PITCH	LENGTH	NO OFF BOLTS	NO OFF NUTS	NO OFF WASHERS	TORQUE Nm	TOTAL MASS Kg
MK1	M16	A8	2	40	72	72	144	120	12.24
MK2	M16	A8	2	40	8	8	8	120	1.27
MK3	M16	A8	2	45	128	128	256	120	22.78
MK4	M16	A8	2	50	8	8	16	120	1.49
MK5	M20	A8	2	50	16	16	32	225	4.50
MK6	M20	A8	2	55	4	4	8	225	1.34
MASS OF BOLTS, BOLTS & NUTS									39.53

ITEM	QTY	DESCRIPTION	CUTTING LENGTH mm	TOTAL LENGTH mm	TOTAL MASS Kg
B1	4	M5 70x70x6 L	9340	37.36	238.33
B2	4	M5 70x70x6 L	2104	8.42	52.46
B5	4	M5 70x70x6 L	596.5	2.39	15.22
B6	4	M5 50x50x6 L	548	2.19	9.73
B7	24	M5 50x50x6 L	648	15.55	69.52
B8	32	M5 50x50x6 L	637	20.38	91.12
B9	8	M5 50x50x6 L	639	5.11	22.85
B10	8	M5 50x50x6 L	644	5.15	23.03
B11	12	TFC 178x54x15kg/m	526	6.31	92.78
B12	4	M5 80x80x10 L	552	2.21	26.27
B13	12	M5 50x50x6 L	648	7.78	34.76
B14	8	M5 50x50x6 L	648	5.18	23.17
B15	16	M5 50x50x6 L	637	10.19	45.56
B16	16	M5 50x50x6 L	637	10.19	45.56
B17	4	M5 50x50x6 L	640	2.56	11.44
UB1	0	UP BOLT STEEL ROUND BAR 16#	385	385	-
TOTAL MASS					802.82

- NOTES:
1. ALL WELDING & WELDING SYMBOLS SHALL CONFORM TO SANS 1034 PART 1 TO 5.
 2. ALL STRUCTURE BEG OF STEEL TO CONFORM TO SANS 9162.
 3. ALL STEEL TO BE GRADE (SA36/BS4360) (EXCEPT ANGLES 48mm TO BE MILD STEEL).
 4. ALL WELDS TO BE SEALED (WELDED).
 5. STEELWORK TO BE HOT DIPPED GALVANIZED TO SANS 121.
 6. STEELWORK TO BE CHECKED & STRAIGHTENED AFTER GALVANIZING.
 7. BOLTS NUTS & WASHERS TO BE IN ACCORDANCE WITH SANS 1702.
 8. ALL WIPINGS TO BE STAMPED ONTO STEELWORK & SHALL BE CLEARLY LEGIBLE & AFTER GALVANIZING.
 9. NO STEEL EXTENSIONS WILL BE ALLOWED ON ANY STEELWORK.
 10. NO SECTIONS TO BE BELTED.
 11. ALL STEELWORK TO BE FABRICATED, ERECTED & LEVELLED TO A TOLERANCE OF ±15mm.
 12. ALL HOLES TO BE 10mm UNLESS OTHERWISE STATED.

MASTER
15 JUN 2018
AECOM TRANSNET

- NOTES:
1. DO NOT SCALE DRAWING - ONLY DIMENSIONS SHOWN TO BE USED.
 2. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS, DIMENSIONS AND LEVELS ON THE SITE AND NOTIFY THE MEC SUPERVISOR OF ANY VARIATIONS BEFORE CONSTRUCTION.
 3. ALL EXCAVATIONS & FOUNDING LEVELS TO INSPECTED & APPROVED BY ENGINEER PRIOR TO CAST OF CONCRETE.
 4. CONCRETE GRADE STRENGTH TO BE 30MPa/30mm STONE.
 5. ALL EXPOSED CONCRETE EDGES TO HAVE 25 x 25 CHAMFER ALL ROUND.
 6. COVER TO REINFORCEMENT TO BE 50 mm.
 7. ALL EXPOSED HORIZONTAL CONCRETE SURFACES TO BE WOOD FLATED.
 8. ALL RE-BOLTS, NUTS & WASHERS TO BE HOT DIPPED GALVANIZED TO SANS 121.
 9. RE-BOLT POSITIONS MUST BE ALIGNED FOR CASTING TO A TOLERANCE OF ±2mm AS PER SANS 1000 G & 6000 T & SURVEYED & ACCEPTED BY STRUCTURAL STEEL CONTRACTOR IN WRITING PRIOR TO CASTING OF CONCRETE.
 10. REFER TO EARTHING ARRANGEMENT DETAIL DRAWINGS FOR EARTHING REQUIREMENTS OF FOUNDATION AND STEEL WORK.
 11. HANDRAIL / BALUS TRADE MEMBERS MILD STEEL BALL TYPE: STANDARD 42 X 200 (SPACING 1000) HANDRAIL 34 X 10 (GALVANIZED TO SANS 121 - TOP MOUNTED 1000 HIGH).
 12. ALL STRUCTURAL STEEL TO BE HOT DIPPED GALVANIZED WITH A MICRON FINISH DRY FILM THICKNESS TO SANS 121 & EN10346 STANDARDS AFTER WELDING & DRILLING.
 13. A COMPLETE SET OF SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE FABRICATION COMMENCES. SHOP DRAWINGS WILL ONLY BE CHECKED FOR COMPLIANCE WITH DESIGN INTENT. NO DIMENSIONAL CHECKS WILL BE DONE. COMMENTS ON SHOP DRAWINGS.
 14. ALL SHOP SKETCHES ARE TO BE INDICATED ON DRAWINGS.
 15. STRUCTURES SHALL BE ERECTED, ALIGNED, SQUARED, PLUMBED & LEVELLED TO AN ACCURACY SPECIFIED IN SANS 1000 H & 2 & 2 G - CLASS 1.
 16. WELDERS SHALL BE APPLIED BEFORE & AFTER COMPLETION OF YARD STONE SURFACING.

AECOM
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REG. NO. 1966/006628/07

NO.	ISSUED FOR CONSTRUCTION	DESCRIPTION	AH	HW	SW	DATE
01	ISSUED FOR CONSTRUCTION					14/06/18

CONTRACTOR / CONSULTANT				TRANSNET CAPITAL PROJECTS			
TITLE	NAME	SIGN	DATE	TITLE	NAME	SIGN	DATE
				DRAWN	A.H.		14/06/18
				CHECKED	C.K.		14/06/18
				DESIGNED	C.K.		14/06/18
				CHECKED	SW.M.		14/06/18

Transnet Capital Projects
TRANSNET
PORT OF SALDANHA
IRON ORE TIPLER 3 PROJECT
BULK POWER UPGRADE:
NEW MAIN INTAKE SUBSTATION
BEAM 132 / 40 / 1
STEELWORK DETAILS

PROJECT NUMBER: 192470125101
DRAWING NO.: 0101
REV. NO.: 00

