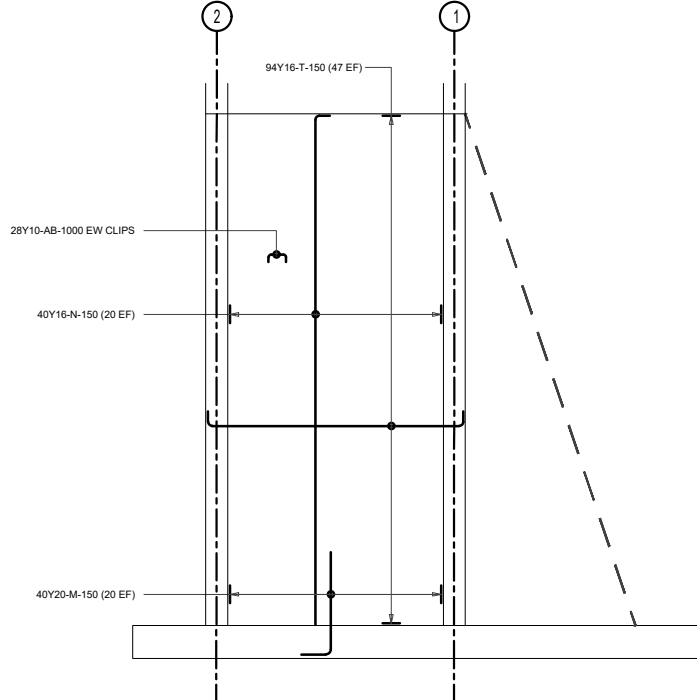
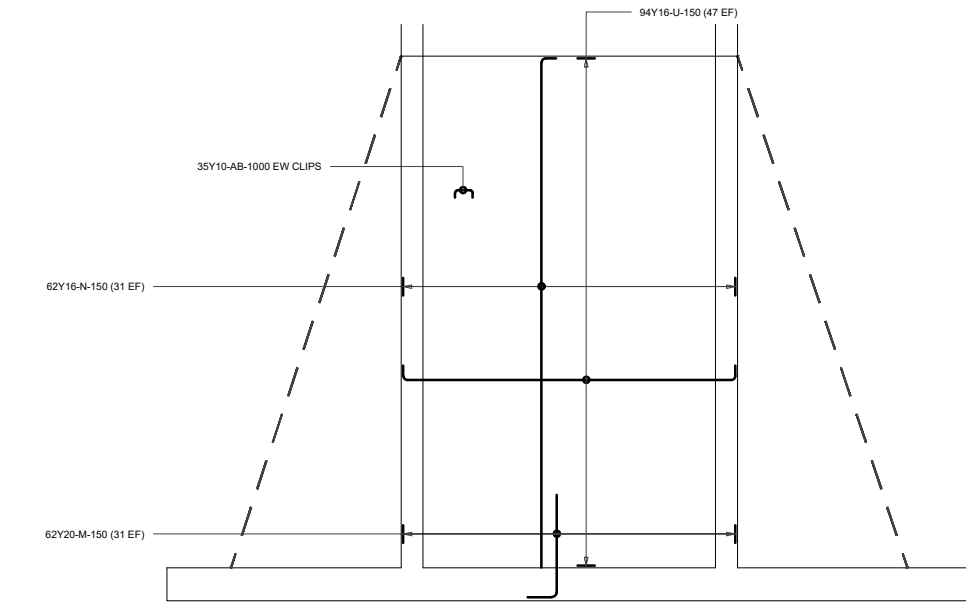


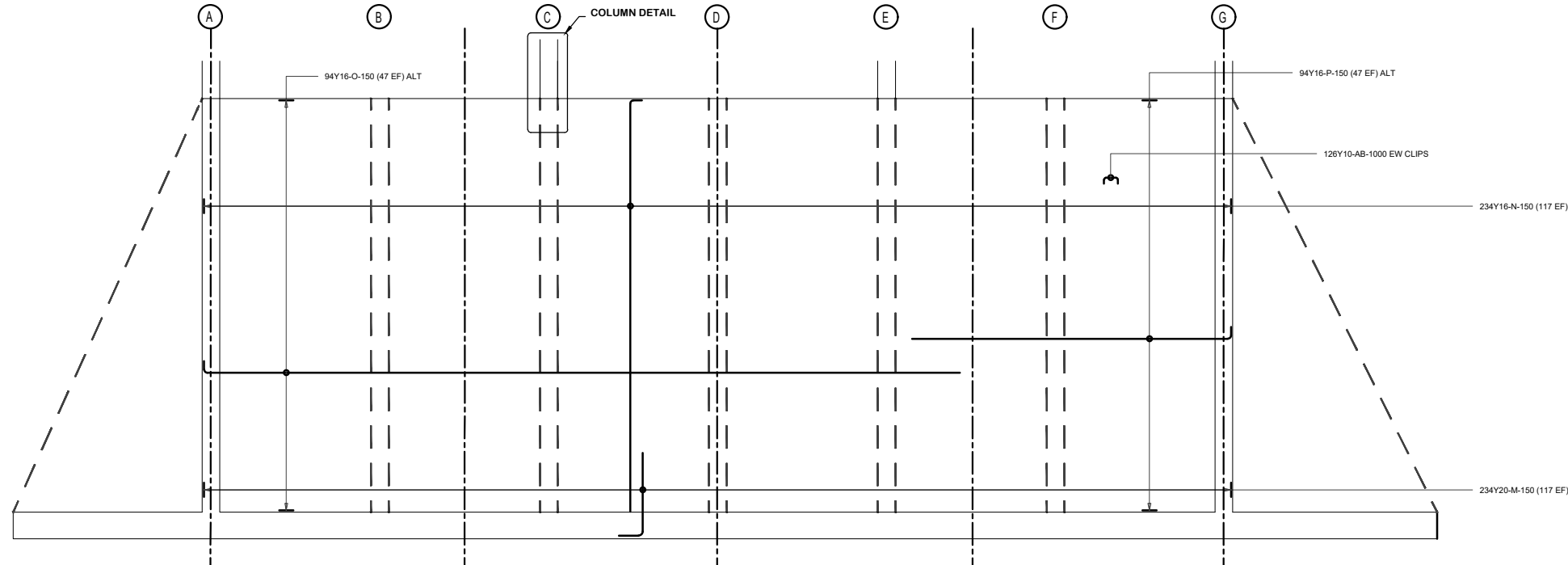
FOUNDATION LAYOUT  
SCALE 1:100



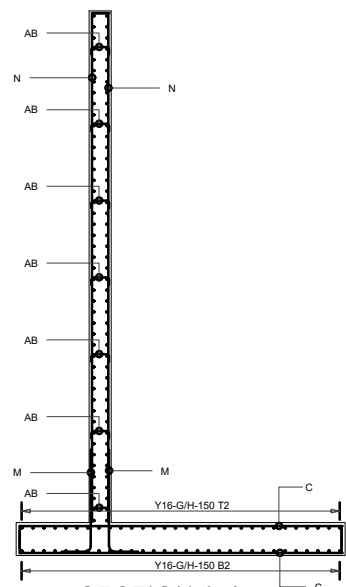
WALL 04  
SCALE 1:100



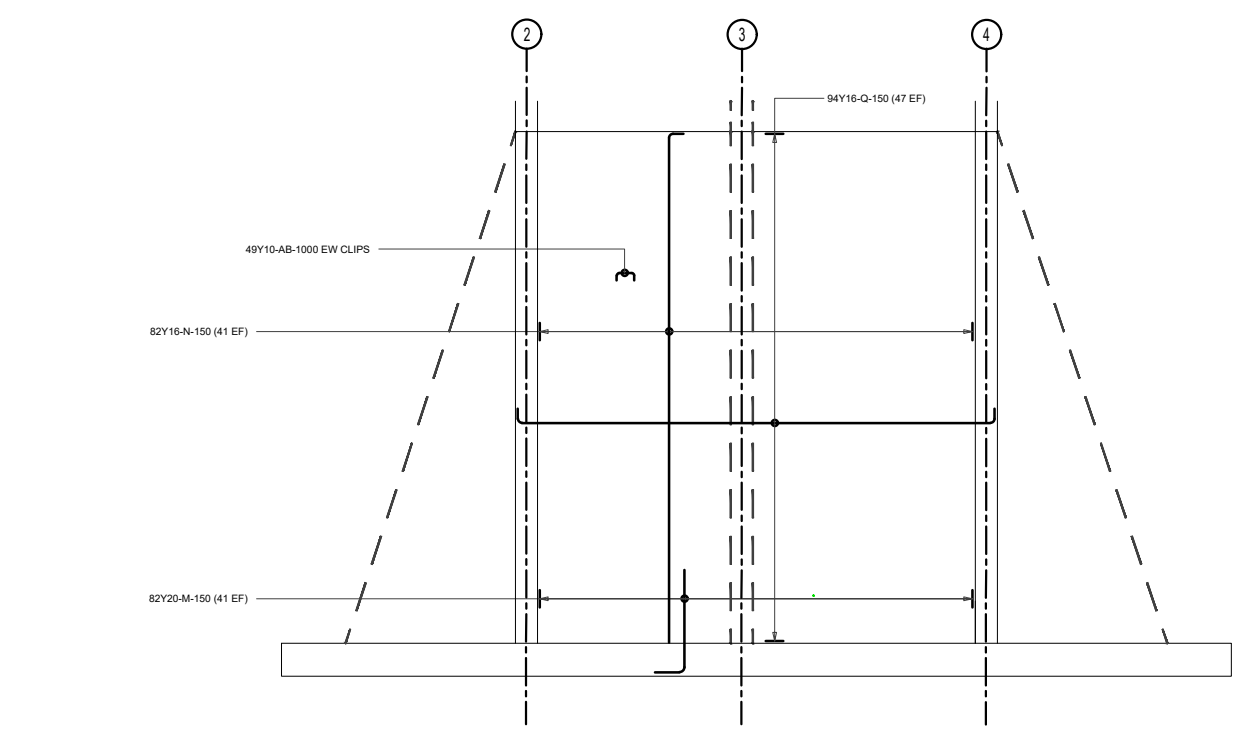
WALL 05  
SCALE 1:100



WALL 01  
SCALE 1:100

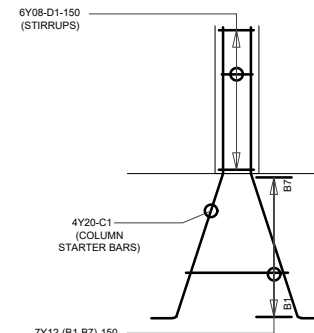


SECTION A-A  
SCALE 1:100



WALL 02  
SCALE 1:100

MEMBER	No OF	BAR PER MEMB	DIA.	LENGTH	TOTAL NUM-BER	MARK	S	B E N D I N G					
								A	B	C	D	Er	
FOUNDATION	1	120	Y16	11250	120	A	37	300	(11900)				
		60	Y16	3150	60	B	37	300	(2900)				
		308	Y16	4950	308	C	38	300	4400	(300)			
		86	Y16	8200	86	D	38	300	7650	(300)			
		60	Y16	6350	60	E	37	300	(6100)				
		104	Y16	4950	104	F	38	300	4400	(300)			
		240	Y16	12950	240	G	37	300	(12700)				
		240	Y16	12150	240	H	37	300	(11900)				
		44	Y16	11450	44	J	38	300	10900	(300)			
WALL 01	1	280	Y12	1300	280	K	83	300	300	250	(250)		
		234	Y20	1750	234	M	37	400	(1400)				
		234	Y16	7150	234	N	37	200	(6950)				
		94	Y16	12950	94	O	37	200	(12800)				
		94	Y16	5550	94	P	37	200	(5400)				
		129	Y10	400	129	AB	38	100	240	(100)			
		WALL 02	1	82	Y20	1750	82	M	37	400	(1400)		
				82	Y16	7150	82	N	37	200	(6950)		
				94	Y16	6850	94	Q	38	200	6520	(200)	
49	Y10			400	49	AB	38	100	240	(100)			
WALL 04	1			40	Y20	1750	40	M	37	400	(1400)		
				40	Y16	7150	40	N	37	200	(6950)		
				94	Y16	3800	94	T	38	200	3490	(200)	
				28	Y10	400	28	AB	38	100	240	(100)	
				WALL 05	1	82	Y20	1750	82	M	37	400	(1400)
		82	Y16			7150	82	N	37	200	(6950)		
		94	Y16			4850	94	U	38	200	4540	(200)	
		35	Y10			400	35	AB	38	100	240	(100)	
		COLUMN STARTER BARS	11			1	Y12	2300	11	B1	60	250	840
1	Y12					2100	11	B2	60	250	750		
1	Y12					1900	11	B3	60	250	650		
1	Y12					1700	11	B4	60	250	550		
1	Y12					1500	11	B5	60	250	450		
1	Y12			1300	11	B6	60	250	350				
1	Y12			1100	11	B7	60	250	250				
4	Y20			2300	44	C1	48	1000	1050	250	350		
6	R08			1150	66	D1	60	250	250				
R	17								17				
Y		283	116	27427	2054				29880				
TOT	17	283	116	27427	2054				29897				
RETAINING WALL													



COLUMN DETAIL  
SCALE 1:10

Engineer:  
**KEON**  
CONSULTING ENGINEERS  
**TECHNO**  
DESIGNS  
Civil Structural & Transport Engineers

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Client:  
**Johannesburg Water**

Turbine Hall,  
65 Menn Pilsa Street,  
Newtown, Johannesburg

THESE NOTES SERVE AS AN ADDENDUM TO THE SPECIFICATION IN THE BILL OF QUANTITIES (BOQ). IN THOSE CASES WHERE THE BOQ SPECIFICATIONS DIFFER FROM THESE NOTES, THESE NOTES SHALL TAKE PREFERENCE.

ON ORIGINAL

0 5 10 20 30 40 50MM

Engineer:  
T.Chikwata Pr Eng (20140009)

Drawn By: M.Chingwa  
Designed By: T.Chikwata  
Checked By: T.Chikwata

Signature: \_\_\_\_\_  
Date: SEPT 2023

Signature: \_\_\_\_\_  
Date: SEPT 2023

Signature: \_\_\_\_\_  
Date: SEPT 2023

CONCRETE NOTES:

1.0 SETTING OUT AND GENERAL  
1.1 THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS.  
1.2 ALL DIMENSIONS AND HEIGHTS ARE TO BE CHECKED ON SITE BEFORE WORK IS PUT IN HAND.  
1.3 REPORT DISCREPANCIES TO ENGINEER.  
1.4 THIS DRAWING MUST NOT BE USED TO SCALE OFF. USE ONLY WRITTEN DIMENSIONS. CONTACT THE ENGINEER OR ARCHITECT WHERE CLARITY IS SOUGHT.  
1.5 FOR SETTING OUT DATA, SETTING OUT POINTS AND DATUM LEVELS REFER TO SURVEY INFORMATION AND ARCHITECT'S DRAWINGS.  
1.6 STRUCTURAL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH THE PROJECT SPECIFICATION AND THE RELEVANT S.A.N.S SPECIFICATIONS. ALL CONCRETE WORK IS TO BE DONE IN ACCORDANCE WITH S.A.N.S 1200G AND EARTHWORKS IN ACCORDANCE WITH S.A.N.S 1200G.  
1.8 CONSULT RELEVANT ARCHITECT'S, MECHANICAL, ELECTRICAL, & PLUMBING DRAWINGS AND DETAILS AS RELEVANT FOR DRAINAGE, STORMWATER OUTLETS, RIGIPS AND HOLES AND SLEEVES FOR THESE SERVICES. NO HOLES ARE TO BE CURED WITHOUT ENGINEER'S WRITTEN APPROVAL.

2.0 FOUNDATIONS  
2.1 ALL FOUNDATION EXCAVATIONS TO BE INSPECTED AND APPROVED IN WRITING BY THE ENGINEER BEFORE CONCRETE IS CAST.  
2.2 NO FOUNDATIONS ARE TO BE CAST IN FILL MATERIAL. A 50mm THICK LAYER OF 10MPa / 19mm BLINDING CONCRETE IS TO BE CAST UNDER ALL REINFORCED BASES, REINFORCED STRIP FOOTINGS AND GROUND BEAMS.  
2.3 ANY OVER EXCAVATIONS ARE TO BE MADE GOOD WITH 10MPa / 19mm CONCRETE AT THE CONTRACTOR'S EXPENSE.  
2.4 BACKFILLING OVER COLUMN BASES SHALL BE DONE WITH AN APPROVED MATERIAL COMPACTED IN LAYERS IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.  
2.5 ALLOWABLE BEARING PRESSURE UNDER:  
CONCRETE BASES = 150kPa  
STRIP FOOTINGS = 100kPa

3.0 CONCRETE  
3.1 CONCRETE CHARACTERISTIC 28 DAY STRENGTH:  
BASES 30MPa / 19mm  
STRIP FOOTINGS 30MPa / 19mm  
SURFACE BEDS 30MPa / 19mm  
SUSPENDED SLABS & BEAMS 30MPa / 19mm  
COLUMNS 30MPa / 19mm  
3.2 CONCRETE MIX DESIGNS FOR ALL GRADES OF CONCRETE TO BE GIVEN TO ENGINEER FOR PERUSAL AND COMMENT. CONCRETE MIX DESIGNS FOR SURFACE BEDS TO HAVE MINIMUM BLEED CHARACTERISTICS.  
3.3 ALL CONCRETE TO BE ADEQUATELY CURED BY KEEPING SURFACES CONTINUOUSLY DAMP FOR AT LEAST 8 DAYS AFTER CASTING.  
3.4 ALL CONCRETE TO BE CONSTRUCTED TO THE S.A.N.S 1200G PERMISSIBLE DEVIATION DEGREE OF ACCURACY CLASS B UNLESS SPECIFIED OTHERWISE.  
3.5 CONCRETE CUBE TEST RESULTS TO BE SUBMITTED TIMELY TO ENGINEER FOR PERUSAL, RECORDS, COMMENT AND APPROVAL.

4.0 REINFORCEMENT  
4.1 CHARACTERISTIC STRENGTH:  
MILD STEEL 250N/mm<sup>2</sup>  
HIGH YIELD STEEL 450N/mm<sup>2</sup>  
4.2 ALL REINFORCEMENT TO BE CHECKED AND APPROVED BY ENGINEER BEFORE ANY CONCRETE IS CAST.  
4.3 HOURS WRITTEN NOTICE TO BE GIVEN TO ENGINEER BEFORE TIME OF INSPECTION.  
4.4 LAP LENGTH TO REINFORCING TO BE MINIMUM 50 x SMALLER BAR DIAMETER, UNLESS OTHERWISE NOTED.  
4.5 MESH REINFORCEMENT REFERENCE 45 TO BE PLACED IN SLAB (TOP) MINIMUM LAPS = 300mm UNLESS OTHERWISE NOTED.  
4.6 THE CONTRACTOR MUST TAKE PARTICULAR CARE TO ENSURE THAT THE SPECIFIED COVER TO ALL REINFORCEMENT HAS BEEN ATTAINED THROUGHOUT BEFORE THE ENGINEER IS CALLED TO SITE FOR INSPECTION OF THE REINFORCEMENT.  
4.7 COVER TO REINFORCEMENT:  
STRIP FOOTINGS: 50mm  
BASES: 30mm  
COLUMNS AND WALLS: 30mm  
SUSPENDED SLABS:

4.7 SUSPENDED BEAMS  
CONTRACTOR IS TO CONDUCT HIS OWN INSPECTION OF REINFORCEMENT BEFORE CALLING THE ENGINEER FOR INSPECTION.

5.0 FORMWORK AND PROPPING  
5.1 STRIPPING TIMES FOR:  
COLUMN AND WALL SHUTTERING: 7 DAYS IN HOT WEATHER, 12 DAYS IN COLD WEATHER.  
BEAM SHUTTERING: 7 DAYS IN HOT WEATHER, 12 DAYS IN COLD WEATHER.  
4 DAYS IN HOT WEATHER, 7 DAYS IN COLD WEATHER.  
14 DAYS IN HOT WEATHER, 21 DAYS IN COLD WEATHER.  
CANTILEVER SLABS AND BEAMS: 21 DAYS  
SUBJECT TO CUBE TEST RESULTS BEING SUBMITTED TIMELY TO ENGINEER FOR APPROVAL.  
NO IS-PROPPING OF SUSPENDED ELEMENTS UNTIL INSTRUCTED BY ENGINEER.

5.2 PROPPING TIMES FOR:  
SLABS AND BEAMS:  
CANTILEVER SLABS AND BEAMS: 21 DAYS  
SUBJECT TO CUBE TEST RESULTS BEING SUBMITTED TIMELY TO ENGINEER FOR APPROVAL.  
NO IS-PROPPING OF SUSPENDED ELEMENTS UNTIL INSTRUCTED BY ENGINEER.

5.3 CONCRETE FINISHES, UNLESS NOTED OTHERWISE:  
COLUMNS AND WALLS: OFF SHUTTER  
BEAMS AND SLAB SOFT: OFF SHUTTER  
TOP OF SUSPENDED SLABS: STEEL FLOAT  
SURFACE BEDS: POWER FLOAT  
SIDES OF GROUND BEAMS TO BE SHUTTERED.

Refer To Drawing No:

Key Plan:

No Date Details Chd Appd Revisions

Project:  
JW14406 - LINBRO PARK TOWER  
(WITH ASSOCIATED WORKS)

Description:  
PUMP HOUSE RETAINING WALL  
REBAR & BENDING SCHEDULES

Issued For: TENDER

Size: A2  
Scale: As Shown  
Sheet No: 10 OF 11  
Original Date: SEPT 2023

Project No: C01486  
Drawing No: PS-03  
Revision: T0