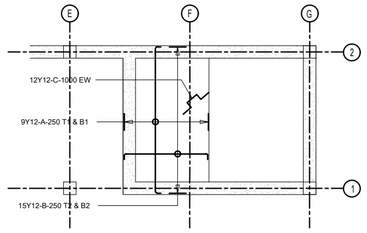
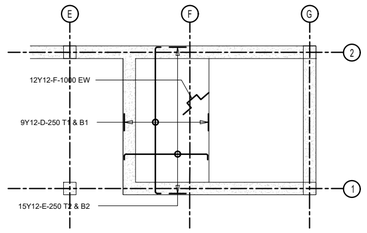
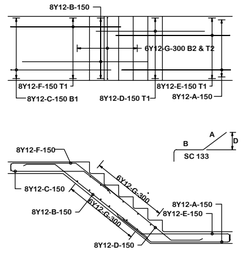


GROUND LEVEL LANDING REBAR LAYOUT
SCALE 1:100



BASEMENT LANDING REBAR LAYOUT
SCALE 1:100

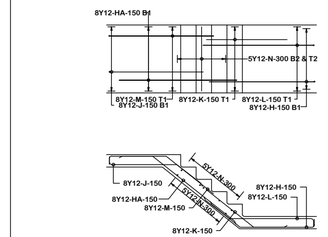
MEMBER	No OF	BARS PER MEMB	DIA	LENGTH	TOTAL NUM-BER	MARK	S C	BENDING A	B	C	D	E/r
TOP STAIRS	2	8	Y12	2100	16	A	45	640	1360	(130)	400	
		8	Y12	2600	16	B	62	2060	1280	(540)		
		8	Y12	1950	16	C	133	540	1290	(130)	330	
		8	Y12	2050	16	D	62	1500	970	(540)		
		8	Y12	2150	16	E	133	540	1520	(130)	330	
		8	Y12	2200	16	F	45	980	1120	(130)	610	
		12	Y12	1250	24	G	35	(1040)				



	8	10	12	16	20	25	32	40	TOT
R									
Y			212						212
TOT			212						212

TOP STAIRS

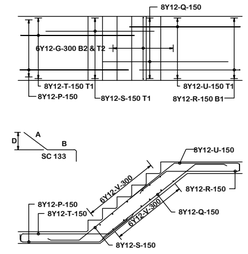
MEMBER	No OF	BARS PER MEMB	DIA	LENGTH	TOTAL NUM-BER	MARK	S C	BENDING A	B	C	D	E/r
MID STAIRS	2	8	Y12	1950	16	H	45	640	1200	(130)	400	
		8	Y12	2300	16	HA	62	1740	1080	(540)		
		8	Y12	1750	16	J	133	540	1090	(130)	330	
		8	Y12	1550	16	K	62	980	610	(540)		
		8	Y12	2000	16	L	133	540	1360	(130)	330	
		8	Y12	2000	16	M	45	980	920	(130)	610	
		10	Y12	1250	20	N	35	1040				



	8	10	12	16	20	25	32	40	TOT
R									
Y			186						186
TOT			186						186

MID STAIRS

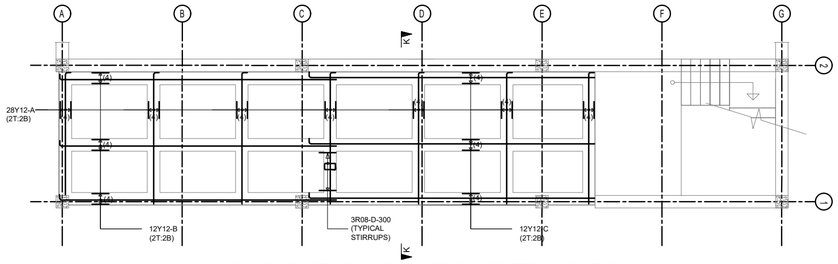
MEMBER	No OF	BARS PER MEMB	DIA	LENGTH	TOTAL NUM-BER	MARK	S C	BENDING A	B	C	D	E/r
BOTTOM STAIRS	2	8	Y12	2100	16	P	45	640	1360	(130)	400	
		8	Y12	2600	16	Q	62	2060	1280	(540)		
		8	Y12	1950	16	R	133	540	1290	(130)	330	
		8	Y12	2050	16	S	62	1500	970	(540)		
		8	Y12	2150	16	T	133	540	1520	(130)	330	
		8	Y12	2200	16	U	45	980	1120	(130)	610	
		12	Y12	1250	24	V	35	(1040)				



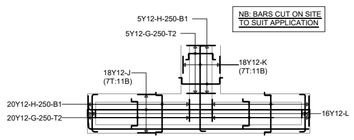
	8	10	12	16	20	25	32	40	TOT
R									
Y			212						212
TOT			212						212

BOTTOP STAIRS

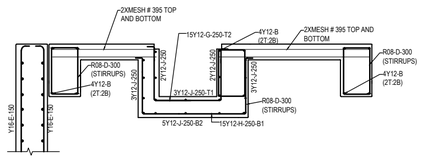
MEMBER	No OF	BARS PER MEMB	DIA	LENGTH	TOTAL NUM-BER	MARK	S C	BENDING A	B	C	D	E/r
B1000 GROUND FLOOR LANDING BEAM	1	2	Y16	4700	2	A	37	4600	(150)			
		2	Y16	4700	2	B	37	4600	(150)			
		13	R10	1550	13	SA	60	450	250			
B2000 GROUND FLOOR LANDING BEAM	1	2	Y16	4700	2	A	37	4600	(150)			
		2	Y16	4700	2	B	37	4600	(150)			
		13	R10	1550	13	SA	60	450	250			



PUMP HOUSE GROUND FLOOR CONCRETE LAYOUT PLAN
SCALE 1:100



SERVICES DUCT REBAR LAYOUT
SCALE 1:100

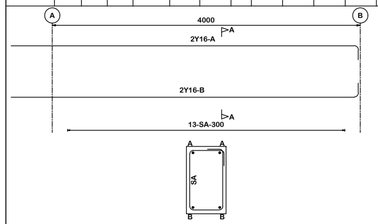


SECTION K-K:REBAR
SCALE 1:20

MEMBER	No OF	BARS PER MEMB	DIA.	LENGTH	TOTAL NUM-BER	MARK	S C	BENDING A	B	C	D	E/r
RAFT FOOTING	7	4	Y12	3250	28	A	37	130	3100			
	3	4	Y12	6700	12	B	37	130	6550			
		4	Y12	6850	12	C	37	130	6700			
	1	150	R08	1400	150	D	60	200	400			
SERVICES DUCT	1	25	Y12	1900	25	G	53	200	500	600	500	500
		25	Y12	2300	25	H	53	200	600	600	600	600
		18	Y12	7650	18	J	37	130	6700			
		18	Y12	2450	18	K	38	200	2100	200		
	2	18	Y12	2450	18	K	38	200	2100	200		
		8	Y12	1250	16	L	38	200	900	200		

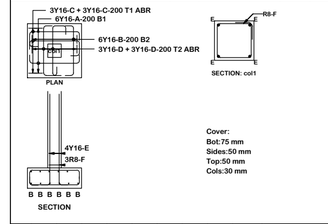
	8	10	12	16	20	25	32	40	TOT
R	80								80
Y			455						455
TOT	80		455						535

ROOF SLAB



	8	10	12	16	20	25	32	40	TOT
R			12						12
Y				30					30
TOT			12	30					42

GROUND LEVEL LANDING BEAM (BEAM 1000:300X510mm DEEP)



Cover:
Bot:75 mm
Sides:50 mm
Top:50 mm
Cols:30 mm

	8	10	12	16	20	25	32	40	TOT
R	4								4
Y				214					214
TOT	4			214					218

base
1200x1200x450mm

MEMBER	No OF	BARS PER MEMB	DIA	LENGTH	TOTAL NUM-BER	MARK	S C	BENDING A	B	C	D	E/r
base 1200x1200mm	3	6	Y16	1350	18	B	35	1100				
		6	Y16	1350	18	A	35	1100				
		6	Y16	1650	18	D	52	190	290	1100	(190)	
		6	Y16	1700	18	C	52	190	330	1100	(190)	
		4	Y16	2250	12	E	37	200	(2070)			
		3	R8	1100	9	F	60	240	240			

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

TECHNO DESIGNS ENGINEERING
34 Dane Street Glen Austin Midrand
TELEPHONE (011) 045 2532
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5th Avenue Office Park, 64b 5th avenue Newton Port Elizabeth
TELEPHONE +27 413630189
WEBSITE www.keon.co.za

Client:
Johannesburg Water
JOHANNESBURG WATER
Turbine Hall, 65 Nkemi Pilso 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 15 20 25 30 40 50MM

Engineer:
T.Chikwata Pr Eng (20140009)

Drawn By:	Designed By:	Checked By:
B.MANYAWU	T.Chikwata	T.Chikwata
Signature:	Signature:	Signature:
Date: SEPT 2023	Date: SEPT 2023	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 ARCHITECTS 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 1200D.
1.8 CONSULT RELEVANT ARCHITECTS, MECHANICAL, ELECTRICAL & PLUMBING DRAWINGS AND DETAILS AS RELEVANT FOR DRAINAGE, STORMWATER OUTLETS, RWDPS AND HOLES AND SLEEVES FOR THESE SERVICES. NO HOLES ARE TO BE CORED WITHOUT ENGINEERS 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: 25MPa/ 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 5 DAYS AFTER CASTING.
3.4 ALL CONCRETE TO BE CONSTRUCTED TO THE S.A.N.S 1200G PERMISSIBLE DEVIATION DEGREE OF ACCURACY CLASS 9 UNLESS SPECIFIED OTHERWISE.
3.5 CONCRETE CUBE TEST RESULTS TO BE SUBMITTED TIMEOUSLY TO ENGINEER FOR PERUSAL, RECORDS, COMMENT AND APPROVAL.

4.0 REINFORCEMENT
4.1 CHARACTERISTIC STRENGTH:
MILD STEEL: 250N/mm2
HIGH YIELD STEEL: 450N/mm2
4.2 ALL REINFORCEMENT TO BE CHECKED AND APPROVED BY ENGINEER BEFORE ANY CONCRETE IS CAST. 48 HOURS WRITTEN NOTICE TO BE GIVEN TO ENGINEER BEFORE TIME OF INSPECTION.
4.3 LAP LENGTH TO REINFORCING TO BE MINIMUM 50 x SMALLER BAR DIAMETER, UNLESS OTHERWISE NOTED.
4.4 MESH REINFORCEMENT REFERENCE 245 TO BE PLACED IN SLAB (TOP) MINIMUM LAPS = 300mm UNLESS OTHERWISE NOTED.
4.5 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.
4.6 COVER TO REINFORCEMENT:
STRIP FOOTINGS: 50mm
BASES: 50mm
COLUMNS AND WALLS: 30mm
SUSPENDED SLABS: 30mm
SUSPENDED BEAMS: 30mm
4.7 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: 1.5 DAYS.
BEAM SHUTTERING: 7 DAYS IN HOT WEATHER.
12 DAYS IN COLD WEATHER.
FLAT SLABS: 4 DAYS IN HOT WEATHER.
7 DAYS IN COLD WEATHER.
5.2 PROPPING TIMES FOR:
SLABS AND BEAMS: 14 DAYS IN HOT WEATHER
21 DAYS IN COLD WEATHER
CANTILEVER SLABS AND BEAMS: 21 DAYS
(SUBJECT TO CUBE TEST RESULTS BEING SUBMITTED TIMEOUSLY TO ENGINEER FOR APPROVAL).
NO DE-PROPPING OF SUSPENDED ELEMENTS UNTIL INSTRUCTED BY ENGINEER.
5.3 CONCRETE FINISHES: UNLESS NOTED OTHERWISE
COLUMNS AND WALLS: OFF SHUTTER
BEAMS AND SLAB SOFFIT: OFF SHUTTER
TOP OF SUSPENDED SLABS: STEEL FLOAT
SURFACE BEDS: POWER FLOAT
5.4 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 ROOF SLAB REBAR & BENDING SCHEDULES

Issued For: TENDER

Size:	Scale:	Sheet No:	Original Date:
A2	As Shown	9 OF 11	SEPT 2023

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