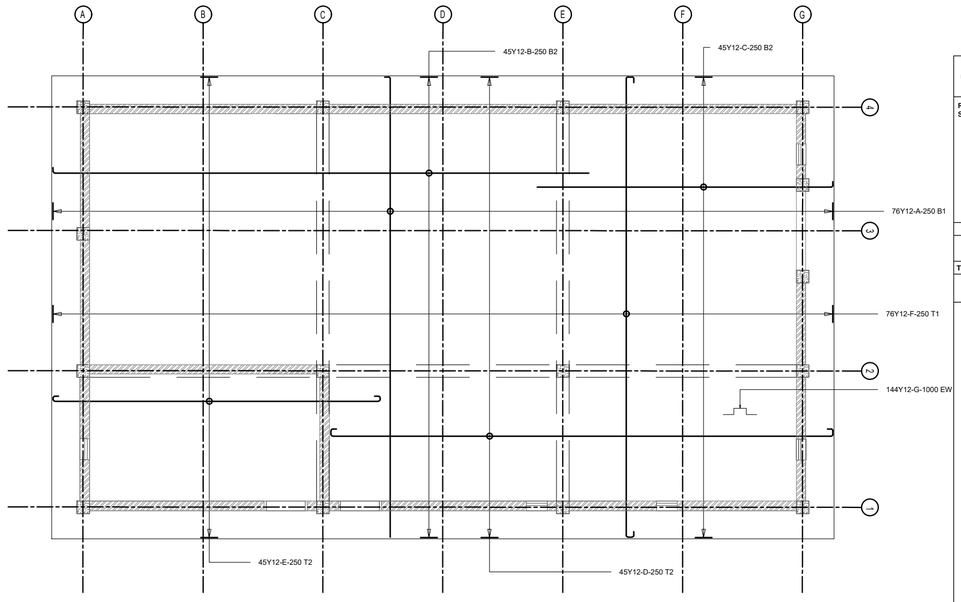


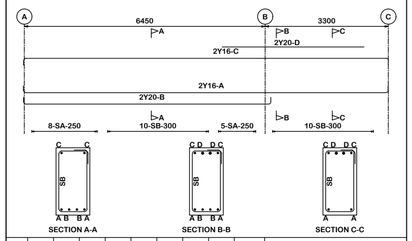
ROOF SLAB REBAR LAYOUT
SCALE 1:100

MEMBER	No OF	BARS PER MEMB	DIA.	LENGTH	TOTAL NUM-BER	MARK	S C	BENDING A	B	C	D	E/r
ROOF SLAB	1	76	Y12	11100	76	A	37	130	(10970)			
		45	Y12	12900	45	B	37	130	(12780)			
		45	Y12	7150	45	C	37	130	(7050)			
		45	Y12	12500	45	D	55	130	170	12000	170	(130)
		45	Y12	8200	45	E	55	130	120	7800	120	(130)
		76	Y12	11500	76	F	55	130	180	10970	180	(130)
		144	Y12	1000	144	G	83	300	150	250	(250)	

	8	10	12	16	20	25	32	40	TOT
R									
Y			3281						3281
TOT			3281						3281

ROOF SLAB

MEMBER	No OF	BARS PER MEMB	DIA	LENGTH	TOTAL NUM-BER	MARK	S C	BENDING A	B	C	D	E/r
B100 B101	2	2	Y16	10000	4	A	35	9770				
		2	Y20	7300	4	B	35	7000				
		2	Y16	10000	4	C	35	9770				
		2	Y20	3800	4	D	20	(3800)				
		13	R12	1700	26	SA	60	540	250			
		20	R10	1750	40	SB	60	540	250			

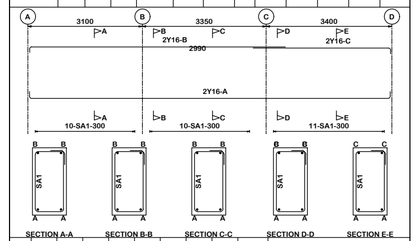


	8	10	12	16	20	25	32	40	TOT
R		43	39						82
Y				126	109				236
TOT		43	39	126	109				318

Ref Dwg PS20 3 OF 3

PUMP HOUSE ROOF BEAM
B100 & 101:300X595mm DEEP (ROOF BEAM)

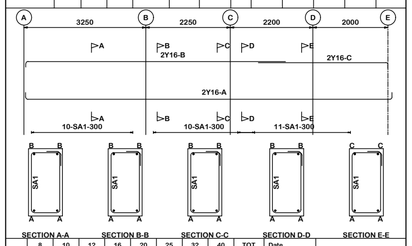
MEMBER	No OF	BARS PER MEMB	DIA	LENGTH	TOTAL NUM-BER	MARK	S C	BENDING A	B	C	D	E/r
B102	1	2	Y16	10000	2	A	35	9760				
		2	Y16	7050	2	B	37	150	(6920)			
		2	Y16	3850	2	C	37	150	(3720)			
		31	R10	1700	31	SA1	60	530	250			



	8	10	12	16	20	25	32	40	TOT
R		32							32
Y				66					66
TOT		32		66					98

PUMP HOUSE ROOF BEAM
B102:300X595mm DEEP (ROOF BEAM)

MEMBER	No OF	BARS PER MEMB	DIA	LENGTH	TOTAL NUM-BER	MARK	S C	BENDING A	B	C	D	E/r
B103	1	2	Y16	10000	2	A	35	9760				
		2	Y16	7050	2	B	37	150	(6920)			
		2	Y16	3550	2	C	37	150	(3450)			
		31	R10	1700	31	SA1	60	530	250			

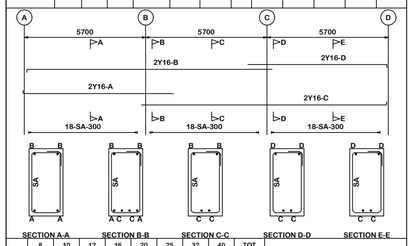


	8	10	12	16	20	25	32	40	TOT
R		32							32
Y				65					65
TOT		32		65					98

Date
Det by
Ref Dwg
Job No

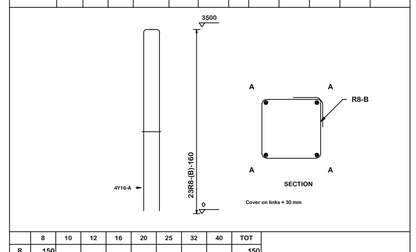
PUMP HOUSE ROOF BEAM
B103:300X595mm DEEP (ROOF BEAM)

MEMBER	No OF	BARS PER MEMB	DIA	LENGTH	TOTAL NUM-BER	MARK	S C	BENDING A	B	C	D	E/r
B104	3	2	Y16	7200	6	A	37	150	(7070)			
B105		2	Y16	11650	6	B	37	150	(11520)			
B106		2	Y16	11650	6	C	37	150	(11520)			
		2	Y16	6650	6	D	37	150	(6540)			
		54	R10	1700	162	SA	60	530	250			



	8	10	12	16	20	25	32	40	TOT
R		170							170
Y				352					352
TOT		170		352					522

MEMBER	No OF	BARS PER MEMB	DIA	LENGTH	TOTAL NUM-BER	MARK	S C	BENDING A	B	C	D	E/r
COLUMNS	15	4	Y16	3600	60	A	34	3450				
		23	R8	1100	345	B	60	240	240			



	8	10	12	16	20	25	32	40	TOT
R	150								150
Y				341					341
TOT	150			341					491

COLUMNS 300x300mm

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

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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: SEPT2023

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 7 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	8 OF 11	SEPT 2023

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