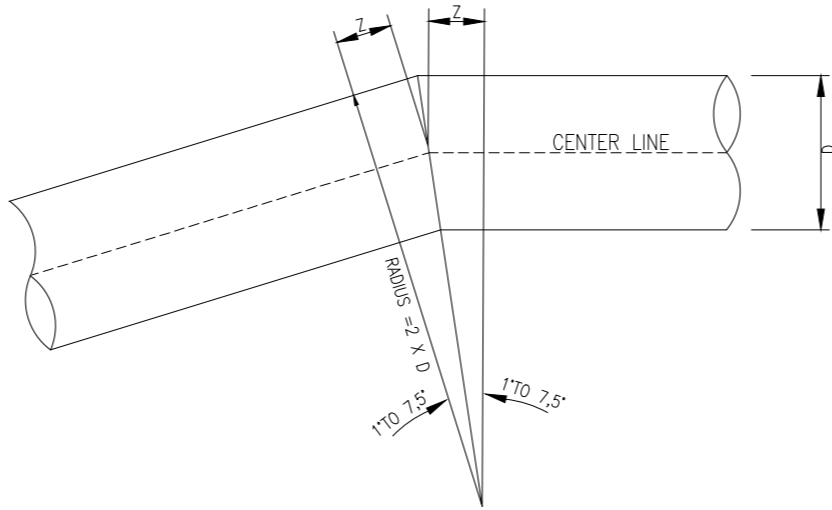


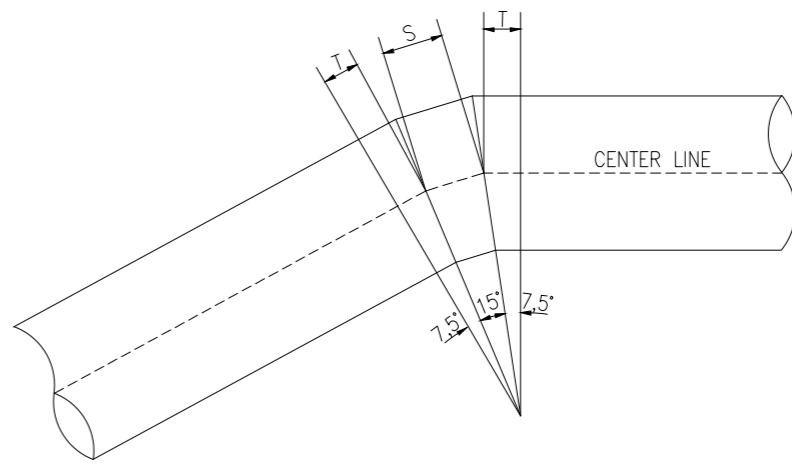
DETAIL OF DOUBLE TAPER

N.T.S



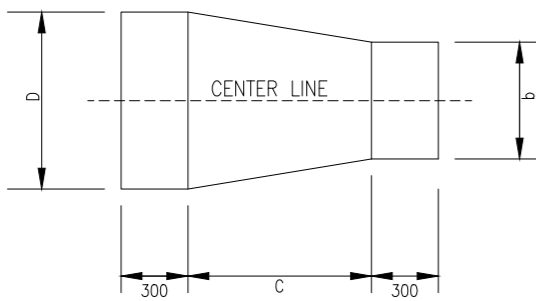
DETAIL OF SET

N.T.S



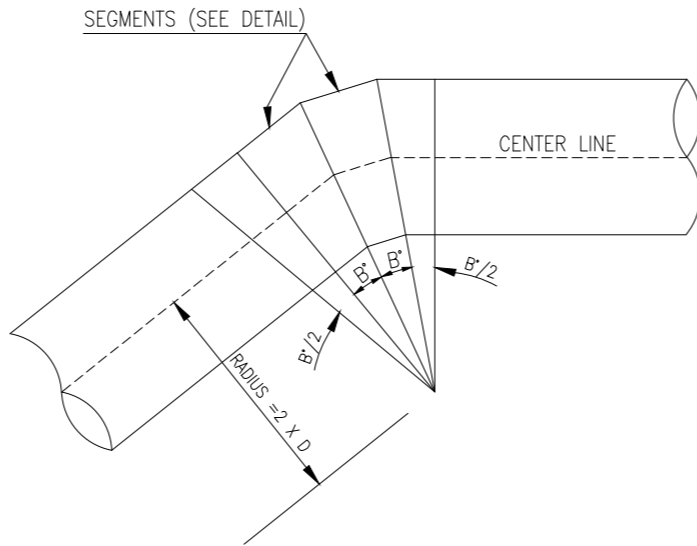
DETAIL OF 30° DEG. BEND

N.T.S



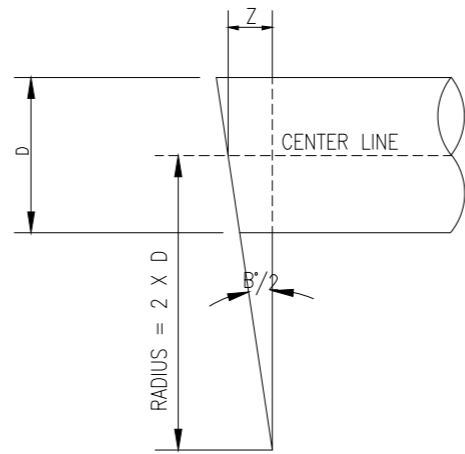
DETAIL OF SINGLE TAPER

N.T.S



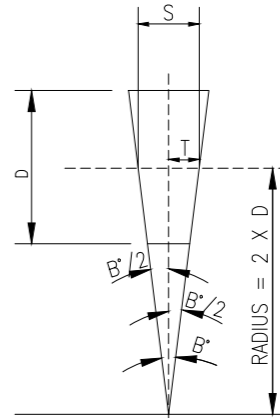
TYPICAL MITRE BEND DETAIL

N.T.S



TRANSITION BETWEEN PIPE AND MITRE BEND

N.T.S



SEGMENT DETAIL

N.T.S

NOTES:

SOCKETED PIPES – A SET BETWEEN 0° AND UP TO 3° SHALL BE TAKEN IN THE SOCKET

PLAIN ENDED PIPES – A SET BETWEEN 0° AND UP TO 2° SHALL BE FORMED BY MITERING ON THE PIPE ENDS AND TRENCH BED BONED OUT TO SUIT

DEFLECTION ANGLE EXCEEDING 2° AND 3° AND UP TO 15° AS DETAILED

TABLE 1

TAPER DETAILS				
PIPE DIAMETER	D'	b'	c	d
2100	2100	1400	2450	1490
1400	1400	1000	1400	1490
1200	1200	800	1400	1200
1100	1100	800	2100	1050
900	900	600	1050	1800
900	900	400	1750	1050
800	800	400	1750	650
800	800	600	700	650
800	800	400	1400	650
700	700	600	350	650
700	700	400	1050	550
600	600	400	700	550
500	500	300	700	500
400	400	300	350	500

TABLE 2

30° BENDS DETAILS						
PIPE DIAMETER	D	T	S	Rad. R	Z	
2100	2100	548	1096	4200		TO BE CALCULATED INDIVIDUALLY
1400	1400	365	731	2800		
1200	1200	313	627	2400		
1100	1100	287	574	2200		
900	900	235	470	1800		
800	800	209	418	1600		
700	700	183	365	1400		
600	600	157	313	1200		
500	500	131	261	1000		
400	400	104	209	800		
300	300	78	157	600		

TABLE 3

DEFLECTION	NUMBER OF FULL SEGMENTS
> 0 – 15	0
> 15 – 30	1
> 30 – 45	2
> 45 – 60	3
> 60 – 75	4
> 75 – 90	5

NOTE

B' = 15' MAX
B' = 7,5' MAX

EXAMPLE TO DETERMINE B AND NUMBEROF SEGMENTS

a) 42° BEND
1) FROM TABLE 3 : 2 SEGMENTS REQUIRED
2) B'/2 + B'/2 + 2 X B' = 42'
B' = 14'
B'/2 = 7'

b) 42° BEND
1) FROM TABLE 3 : NO SEGMENTS
2) B'/2 + B'/2 + 0 X B' = 4'
B' = 4'
B'/2 = 7'

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

31 Daine Street (2nd Floor)
Midrand
TELEPHONE: (011) 045 2632
CELL: (072) 301 8811
EMAIL: engineer@technodesigns.co.za
OFFICES: JOHANNESBURG
WEBSITE: www.technodesigns.co.za

KEON CONSULTING ENGINEERS
5th Avenue Office Park,
64th 5th Avenue Newton
Port Elizabeth
TELEPHONE: +27 41 3630189
WEBSITE: www.keon.co.za

Client:
Johannesburg Water
Turbine Hall,
65 Ntshini Place Street,
Newtown, Johannesburg

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

Engineer:
T. Chikwata Pr Eng (20140009)

Drawn By: M. Mulumbe
Designed By: T. Mafumbe
Checked By: T. Chikwata

Signature:
Signature:
Signature:

Date: September 2023
Date: September 2023
Date: September 2023

CONCRETE NOTES:

1.0 SETTING OUT AND GENERAL:
1.1 THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ARCHITECTS' DRAWINGS.
1.2 ALL DIMENSIONS AND HEIGHTS ARE TO BE CHECKED ON SITE BEFORE WORK IS PUT IN HAND.
1.3 REPORT DISCREPANCIES TO ARCHITECT OR 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 1200S 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.

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
CONCRETE
3.0 CONCRETE CHARACTERISTIC 28 DAY STRENGTH:
BASES: 25MPa / 19mm
STRIP FOOTINGS: 25MPa / 19mm
SURFACE BEDS: 30MPa / 19mm
SUSPENDED SLABS & BEAMS: 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 II UNLESS SPECIFIED OTHERWISE.
3.5 CONCRETE CUBE TEST RESULTS TO BE SUBMITTED TIMEOUSLY TO ENGINEER FOR PERUSAL, RECORDS, COMMENT AND APPROVAL.
4.0 REINFORCEMENT CHARACTERISTIC STRENGTH:
4.1 HIGH YIELD STEEL: 250N/mm2
MILD 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

4.7 SUSPENDED BEAMS: 30mm
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.
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 DEPROPPING 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
SURFACE BEDS: POWER FLOAT
5.4 SIDES OF GROUND BEAMS TO BE SHUTTERED.

Refer To Drawing No:

Key Plan:

No Date Details Revisions Chd Appd

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

Description:
STEEL PIPE TAPERS AND BENDS

Issued For:
TENDER

Size: A1 Scale: 1:50 Sheet No: 1 OF 1 Original Date: Sept 2023

Project No: C01486 Drawing No: CP-08 Revision: T0