CODES:

DESIGN CODES:
- SANS 10100-1: The structural use of concrete.
- SANS 2001: Standardised specification for Civil Engineering Construction.
- SANS 10160: The General procedures and loadings to be adopted in design of buildings
- SANS 10162: The structural use of steel
- SANS 10400: The application of National Building Regulations

CONSTRUCTION CODES AND NOTES
The contractor shall adhere to the following codes during construction as applicable:
SANS 2001 construction works:
- Part CC1: Concrete Works (Structural)
- Part CC2: Concrete Works (Minor Works)
- Part CG1: Installation of Glazing In Window And Door Frames
- Part CM1: Masonry Walling
- Part CM2: Strip Footings, Pad Footings and Slab-On-The-Ground Foundations for Masonry Walling
- Part CS1: Structural Steelwork
- Part CT1: Structural Timberwork (Flooring)
- Part CT2: Structural Timberwork (Roofing)
- Part EM1: Cement Plaster

SANS 10155 accuracy in buildings (SANS 2001 CC1 Table 11)
Grade II permissible deviation / tolerance shall apply U.N.O.
One copy of each of these codes shall be kept on-site and shall be made available to the engineer on request.

GENERAL

- SANS 10155 accuracy in buildings (SANS 2001 CC1 Table 11)
- Grade II permissible deviation / tolerance shall apply U.N.O.
- One copy of each of these codes shall be kept on-site and shall be made available to the engineer on request.
- All civil works to comply with S.A.N.S. 1200 accuracy level II UNO
- Do not scale any drawings, work to figured dimensions only.
- These drawings must be read as part of the contract documents and all discrepancies must be discussed with the engineer without delay.
- Any discrepancies on the drawings are to be brought to the engineers' attention prior to implementation of any work.
- The engineer should be notified in good time if he is required on site.
- All setting-out dimensions and levels must be checked by the contractor prior to any work commencing on-site.
- Only concrete dimensions are shown on these drawings.
- Refer to the relevant architect's drawings for finishing details and masonry work.
- The contractor is to maintain a full set of the latest drawings on site.

STRUCTURAL CONCRETE (SANS 10100 - 1: 2000)

CONCRETE SPECIFICATION:
- Only CEM 1 cement to be used. (SANS 50197-1)
- Maximum extender to be used is 30% for all concrete, except extenders for surface beds must be limited to 20%
- Only fly ash to be used as an extender. No GGBS allowed.
- Maximum water content for walls and slabs = 180 l/m³
- Aggregate to be 19mm stone U.N.O
- Only potable water to be used
- Sand to be well graded, free of clay with a sand equivalent of more than 85% (AASHTO T 176) (SANS 1083)
- Aggregate to consist of rock types that will produce low shrinkage and are not Alkali Reactive
- Design mix to be submitted to BVI for approval before the concrete pour.

Minimum concrete cubes crushing strength after 28 days for: (u.n.o.)

Retaining walls	30 MPa
Structural foundations	25 MPa
Structural columns	30 MPa
Structural walls	30 MPa
Suspended slabs, beams & parapets	30 MPa
Non-structural foundations	20 MPa
Blinding layers	15 MPa
Surface beds (with max. 20% extender)	30 MPa
Mass concrete (non-structural fill)	10 MPa
Mass concrete (structural fill below found.)	25 MPa
Bond-dek or bond-lok slabs	30 MPa
Shear walls and lift shafts	35 MPa
Soilcrete	80 kg/m³
Water retaining concrete (water tank)	35 MPa

PLACEMENT AND POURING (SANS 2001 CC1 4.7.9 – 4.7.10)
No concrete pouring allowed without obtaining the written consent of the consulting engineer.
No concrete must be poured in rainy conditions or after 16h00 without approval.
Do not pour concrete after a delay of 60 minutes if mixing water has been added. (SANS 2001 CC1 4.7.10.3)
Concrete must not be mixed or poured in temperatures under 2 degrees Celsius on a rising thermometer or under 5 degrees Celsius on a falling thermometer. Thereafter concrete must be kept at a minimum of 10 degrees Celsius and a maximum of 26 degrees Celsius for at least 72 hours. (SANS 2001 CC1 4.7.14)
When concrete is poured against existing concrete, existing concrete must be watered and coated with cement paste (SANS 2001 CC1 Table 7)
Concrete shall not be allowed to fall freely through a height of more than 3 m. (SANS 2001 CC1 4.7.10.8)

CURING (SANS 2001 CC1 4.7.13):
All green concrete must be effectively covered and watered for a minimum period of 10 days (e.g. Hessian for walls and columns and 25mm sand for floor plus water).
The use of a curing compound is also allowed. Curing method of concrete to be agreed with the engineer.

PRESTRESSING:
The support and laying of prestressed material must be in accordance with the supplier's requirements.

FINISHES (SANS 2001 CC1 Table 1):
Concrete surfaces to be power float finished (U.N.O) to be confirmed with architects' drawings.
All exposed concrete edges to have 25x25mm chamfer (U.N.O).

OFF-SHUTTER (Special off-form):
- Formwork quality shall be special: smooth and fair in accordance with SANS 2001 CC1 Table 1.
- Designated joints shall be in the position and of the details shown on the working drawings. Should the contractor wish to incorporate further construction joints or amend the position of those shown to suit his own requirements or technique, this may be allowed provided that all design considerations are met, that the prior approval of the engineer is obtained and that any extra costs are borne by the contractor.
- Special care shall be taken to ensure that forms are clean and free of all pieces of tying wire, nails and other debris at the time of concreting. The standard of finish shall be such that upon removal of the formwork, no further treatment, other than treatment of bolt holes if required, shall be found necessary to provide a straight, smooth and uniform finish of good quality and consistent colour and texture, free of all honeycombing etc. Any defect shall be made good by either removing and replacing the defective concrete or, in certain instances only, by patching.

Removal of formwork as per SANS 2001 CC1 Table 2

REMEDIALS:
- No "honey-combing" in concrete should be rectified without inspection and consent of the engineer. Do not cover with plaster or other finishes to hide the defect. All Honey Combing must be chipped open for visual inspection by engineer before repair remedial can be provided.
- Crack repairs to be confirmed by engineer before repairs commence.

CONCRETE COVER ON MAIN REINFORCING: (U.N.O.)
(To be confirmed with Durability class, see SANS 2001 CC1 Table 3)

Slabs all round	30mm
Beams all round	30mm
Foundation bottom, no blinding	75mm
Foundation sides and top	50mm
Columns	30mm
Ret. Walls - inside face	30mm
Ret. Walls - outside face	40mm
RC walls	30mm

CONCRETE SLABS
In slabs with main reinforcement in two directions, the steel spanning the shorter distance must be laid first (u.n.o). Reinforcement in top of slabs must be supported by stools at 1/m² (minimum).

BACKPROPPING
When suspended floor slabs are poured in a multi-storey building, the following guidelines apply with regard to the propping of the supporting floor slabs:
- If slabs are poured less than 10 days apart
    - Wet concrete and construction joint of the slab to be poured must be supported with 100% propping on at least 3 former slabs,
- If slabs are poured more than 10 days apart:
    - 50% props under the first slab
    - 25% props under the second slab
    - 0% props under the third slab.
- The position of the props on top and bottom of slab must correspond.
- Not withstanding the above-mentioned, no shuttering may be stripped without the consent of the consulting engineer. Stripping procedures should be agreed with consulting engineer.
- Props to remain in place for 21 days or as otherwise directed by the engineer.

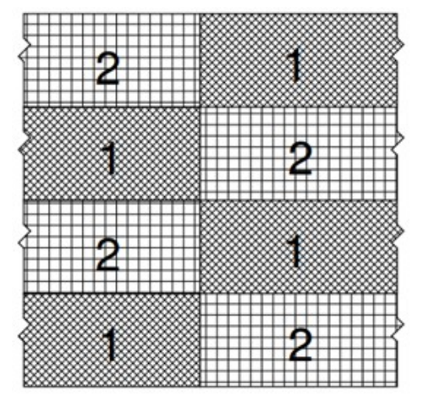
UPWARD CAMBER:
Beams and slabs to be poured with an upward camber as follows:

Cantilever beams & cantilever slabs	Span / 150
Other beams & slabs	Span / 500

Beam dimensions:
- Width x depth UP/DOWN -STAND. The slab thickness is excluded in the beam depth (U.N.O). i.e 230x510 DP RC UP-STAND BEAM
- Width x depth. The slab thickness is included in the beam depth (U.N.O). i.e 230x510 DP RC BEAM

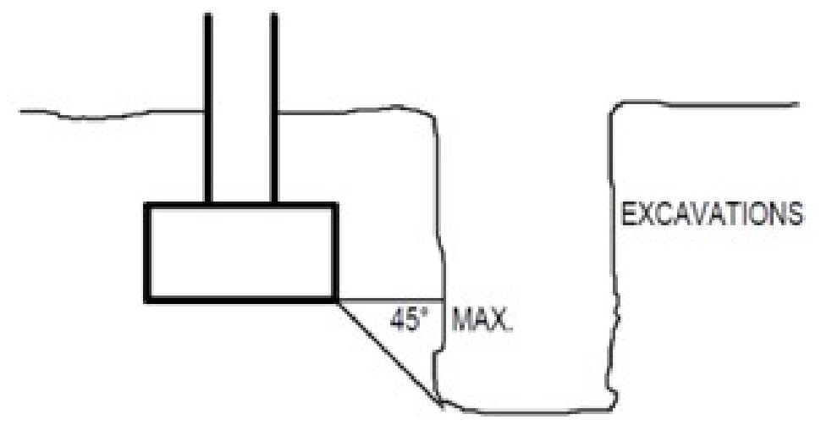
COMPACTION
- In-situ material (cut to fill) compacted in layers of 150mm TO 95% MOD. AASHTO (U.N.O).
- Final 150mm layers to be compacted to 98% MOD. AASHTO (U.N.O).
- If topsoil is collapsible sand then top soil to be removed to a depth of 300mm and replaced with an approved material.
- Soil to be compacted in 150mm LAYERS to a density of 95% MOD. AASHTO (U.N.O).
- Refer to drawings to confirm if above is adapted for specific site conditions

SURFACE BED
- All surface beds to be constructed on 250-micron polyethene sheeting.
- Surface beds to be cast in panels not exceeding 13x13m with saw cut and isolation joints as indicated on drawings. A proper construction joint must be formed. Saw cut joints to be cut within 24 hours after pouring of concrete.
- Alternatively; Surface beds to be cast in a block pattern, of no more than 5x5m. Alternative casting to be approved by the consulting engineer.



TYPICAL PANEL CAST SEQUENCE

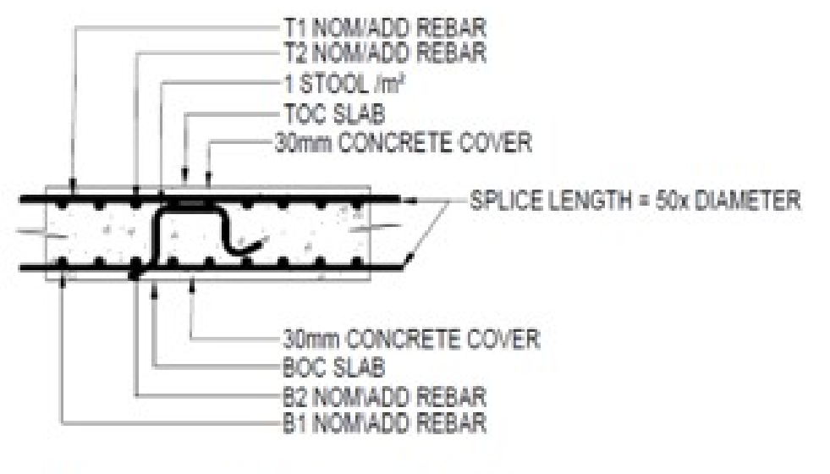
FOUNDATIONS:
- The final dimension for the foundations are reserved until the excavations are approved.
- The excavation for foundations must be kept dry and compacted where necessary (U.N.O).
- All concrete work to be founded on in-situ soil or fill as specified on the construction drawing.
- When excavating for drainage pits etc, the contractor must take care that the bottom of such excavation does not undermine adjacent footings. See figure below:



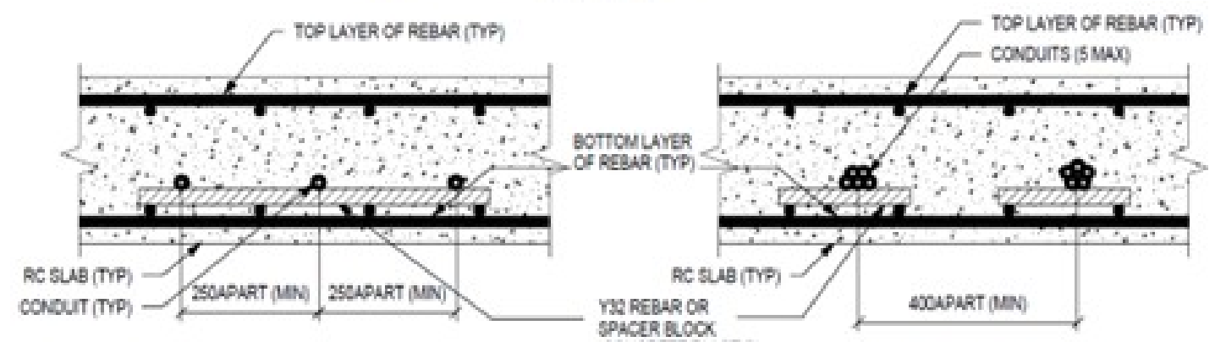
REINFORCEMENT

- All bending dimensions for reinforcement are overall, unless shown otherwise on the schedules.
- Reinforcing steel to SANS 920-1969 as amended.
- When pouring concrete: reinforcement to be maintained in position and at specified depth by means of approved spacers to ensure correct concrete cover.
- Measures should be taken to protect reinforcement from rust. All rust must be removed. Excessively corroded rebar may be rejected by the consulting engineer. All rebar to be clean from shutter oil / rust / dirt or any contaminants.
- Where main reinforcement in beams is laid in two or more layers (in same direction) spacer bars must be provided at 1000mm centre-to-centre to support the upper layers.
- The engineer shall be informed 72 hours in advance when an inspection on the reinforcement fixing is required.
- All reinforcement is to be inspected by the responsible engineer prior to casting of any concrete.
- Bars to be bundled and tagged with bar no., drg no. and member no. before delivery to site.
- SANAS certificate to be provided to confirm reinforcement compliance (SANS 2001 CC1 4.2.5.3)

SERVICES
No supply or waste pipes may enter the concrete construction without the consent of the consulting engineer. And no rebar may be cut to make space for ducts and cables (services)



TYPICAL SLAB REBAR SECTION
SCALE 1:20



SINGLE CONDUITS IN RC SLAB - TYPICAL SECTION
SCALE 1:10

BUNDLED CONDUITS IN RC SLAB - TYPICAL SECTION
SCALE 1:10

ALLOWABLE CONDUIT PLACING IN RC SLAB

WATERPROOFING

- Waterproofing to be designed and installed by a manufacturer's approved applicator.
- All pipes must be cast in-situ unless approved by the structural engineer.
- 250 micron DPM waterproofing required beneath foundations
- 250 micron DPC waterproofing required brickwall at NGL
- Drainage around perimeter of buildings and water to drain away from building with the use of aprons.
- Edge drip detail at the soffit of all exposed RC slabs.

CONCRETE TESTING (SANS 2001 CC1 5:
- Concrete SANS 2001-CC1: 5.1.3.2 Unless otherwise specified in the specification data, at least one set of samples of concrete shall be taken from each day's casting and from at least every 50 m³ of concrete of each grade placed.
- Concrete cubes must comply with the SANS code (see C&CI publication on "how to make 150mm test cubes"). SANS 5861-3.
- Slump Testing: SANS 5862-1.
- Slump: Max 80mm for vibrated and max 120mm for pumped concrete. (SANS 2001 CC1 Table 4 and 4.7.3)
- MOD AASHTO tests on earthworks per layer: every 30m or 3 sets per individual structure
- Soil classification test: 1 per 1000m³ imported soil
- Compliance as per SANS 2001 CC1 5

NOTE:
- Further construction procedures must comply with SANS codes for reinforced and plain concrete.
- Equivalent products from the specified can be used if approved by engineer beforehand.

PERMISSIBLE DEVIATION ACCEPTANCE CRITERIA ON CONCRETE SLABS

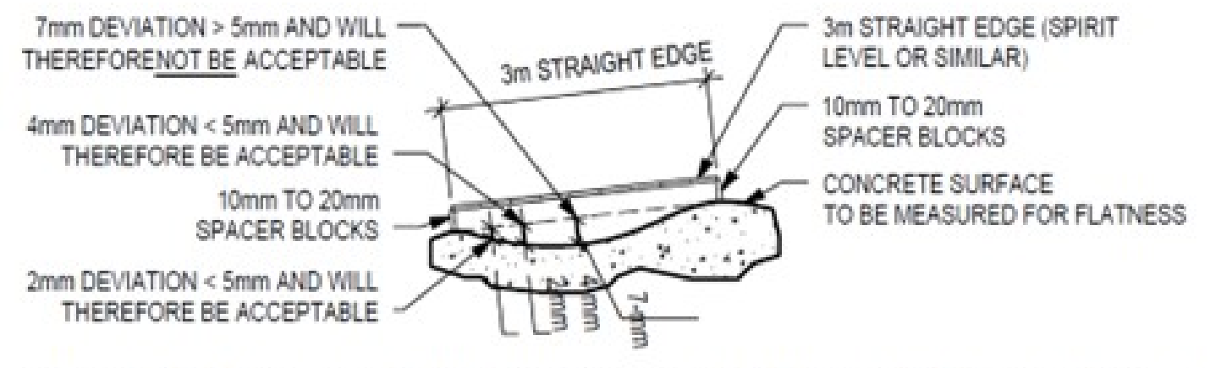
In general, tolerances for structural elements to comply with SANS 1200G (Concrete Structural) Clause 6 or SANS 2001 CC1 Table 11.

Floor tolerances to fulfil two criteria, flatness and deviation from a prescribed level.

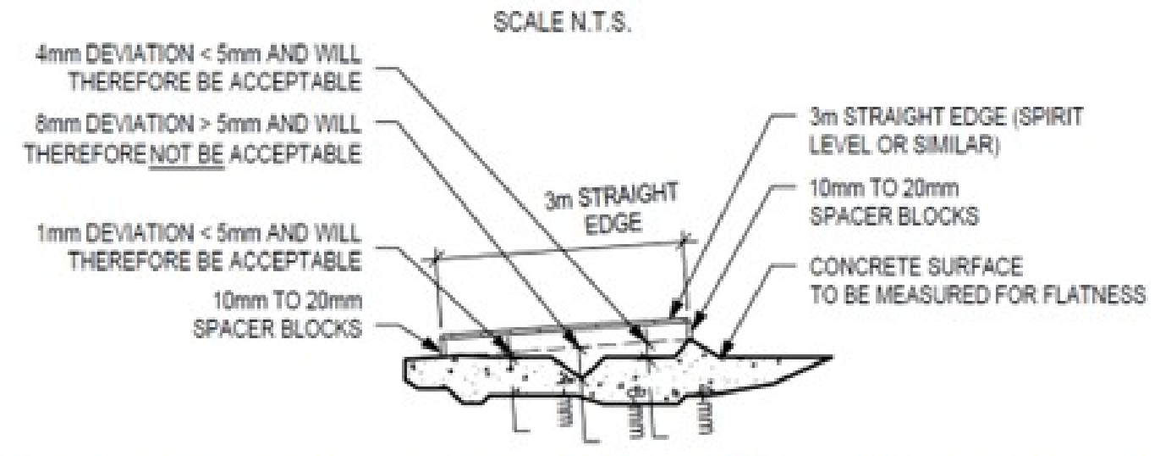
FLATNESS:
- A) Any deviation from flatness of a plane surface will be measured as the maximum deviation of the surface from any straight line of length 3m joining two points on the surface, determined by means of a straight-edge, the ends of which are supported on identical blocks of suitable thickness placed over each of the points. (See sketch 1 and 2).
- B) Any abrupt change in a continuous surface, including a local depression or peak in a floor or wall and any abrupt change caused by a joint in framework will be measured as specified in (a) above. (see sketch 3).

The maximum deviation from flatness as measured in (A) and (B) above shall be 5mm.

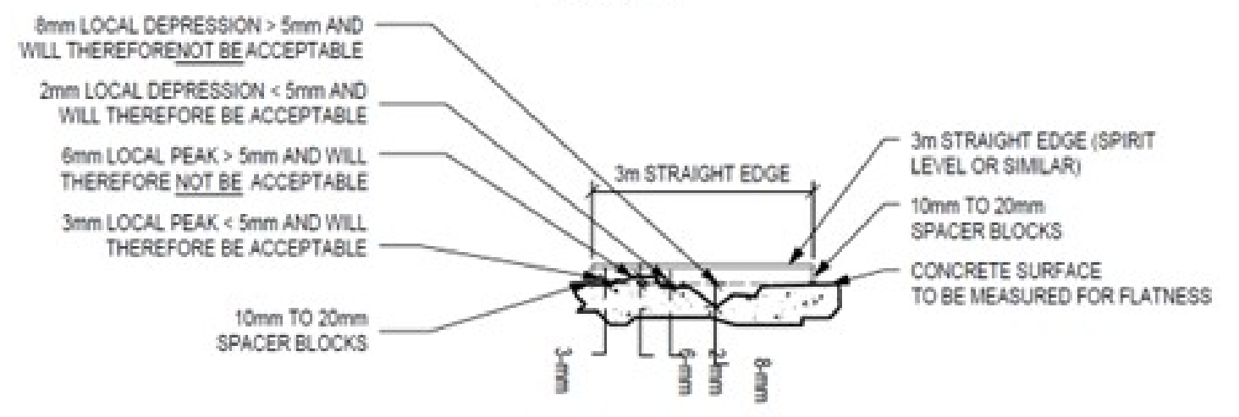
DEVIATION FROM A PRESCRIBED LEVEL (SEE SKETCH 4):
- The permissible deviation from a prescribed design level on the upper or lower surface unless otherwise specified is +5 /-15mm PLUS the expected elastic and long-term deflection calculated by the engineer i.e. SPAN/300 (±25mm at midspan for a 7500mm or SPAN/300 for terminal deflection of cantilevers.
- Quality assurance investigation shall be carried out after removal of shuttering, but before removal of props.
- Props to remain in place for 21 days or as otherwise directed by the engineer.
- There shall be no limitation as to the number of readings.
- No deviation from the specification shall be accepted i.e. remedial works will be necessary in non-compliant areas


7mm DEVIATION > 5mm AND WILL THEREFORE NOT BE ACCEPTABLE
4mm DEVIATION < 5mm AND WILL THEREFORE BE ACCEPTABLE
10mm TO 20mm SPACER BLOCKS
2mm DEVIATION < 5mm AND WILL THEREFORE BE ACCEPTABLE
3m STRAIGHT EDGE
3m STRAIGHT EDGE (SPIRIT LEVEL OR SIMILAR)
10mm TO 20mm SPACER BLOCKS
CONCRETE SURFACE TO BE MEASURED FOR FLATNESS
2mm
4mm
7mm

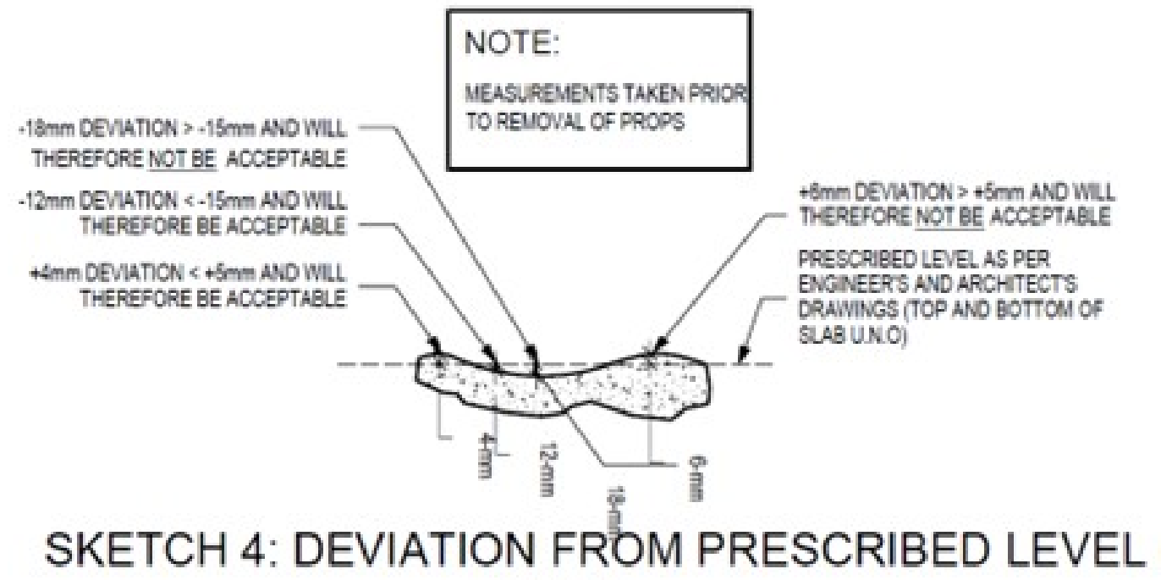
SKETCH 1: DEVIATION FROM FLATNESS (1.a)
SCALE N.T.S.


4mm DEVIATION < 5mm AND WILL THEREFORE BE ACCEPTABLE
8mm DEVIATION > 5mm AND WILL THEREFORE NOT BE ACCEPTABLE
1mm DEVIATION < 5mm AND WILL THEREFORE BE ACCEPTABLE
10mm TO 20mm SPACER BLOCKS
3m STRAIGHT EDGE
3m STRAIGHT EDGE (SPIRIT LEVEL OR SIMILAR)
10mm TO 20mm SPACER BLOCKS
CONCRETE SURFACE TO BE MEASURED FOR FLATNESS
1mm
8mm
4mm

(STRAIGHT EDGE PLACED ONTO A LOCAL PEAK)
SKETCH 2: DEVIATION FROM FLATNESS (1.a)
SCALE N.T.S.


8mm LOCAL DEPRESSION > 5mm AND WILL THEREFORE NOT BE ACCEPTABLE
2mm LOCAL DEPRESSION < 5mm AND WILL THEREFORE BE ACCEPTABLE
6mm LOCAL PEAK > 5mm AND WILL THEREFORE NOT BE ACCEPTABLE
3mm LOCAL PEAK < 5mm AND WILL THEREFORE BE ACCEPTABLE
10mm TO 20mm SPACER BLOCKS
3m STRAIGHT EDGE
3m STRAIGHT EDGE (SPIRIT LEVEL OR SIMILAR)
10mm TO 20mm SPACER BLOCKS
CONCRETE SURFACE TO BE MEASURED FOR FLATNESS
3mm
6mm
2mm
8mm

SKETCH 3: DEVIATION FROM FLATNESS (1.b)
SCALE N.T.S.


NOTE:
MEASUREMENTS TAKEN PRIOR TO REMOVAL OF PROPS
-18mm DEVIATION > -15mm AND WILL THEREFORE NOT BE ACCEPTABLE
-12mm DEVIATION < -15mm AND WILL THEREFORE BE ACCEPTABLE
+4mm DEVIATION < +5mm AND WILL THEREFORE BE ACCEPTABLE
+6mm DEVIATION > +5mm AND WILL THEREFORE NOT BE ACCEPTABLE
PRESCRIBED LEVEL AS PER ENGINEER'S AND ARCHITECT'S DRAWINGS (TOP AND BOTTOM OF SLAB U.N.O)
4mm
12mm
18mm
6mm

SKETCH 4: DEVIATION FROM PRESCRIBED LEVEL (2)
SCALE N.T.S.

STRUCTURAL STEEL

The quality of work and materials must comply with SANS 10162 "the structural use of steel", SANS 1200H "standardized specifications for civil engineering construction chapter 4 - structural steelwork" and SANS 2001 CS1.

CONSTRUCTION / MANUFACTURING / ERECTION:
- Steel structures are to be strictly in accordance with SANS 2001.CS1
- Steel grade S355JR U.N.O. and the mark must be clearly visible
- The contractor must submit detailed workshop drawings to the engineer for review prior to manufacture
- Only sizes of structural members, connections and splices will be checked
- Final dimensions and the correct fitting of members shall remain the responsibility of the contractor,
- All dimensions are to be confirmed on site prior to manufacturing of elements.
- The position of holding down bolts is to be verified on-site.
- All sliding plates must be supplied with graphite grease.
- Permissible deviations as per SANS 2001 CC1 Table 3

FASTENERS:
- All fasteners to be class 8.8 bolts with class 8 lock nuts (u.n.o.). (SANS 1700-5-1)
- Only 2mm oversize bolt holes are permitted
- Minimum bolt size to be M12 (u.n.o.).

WELDING:
- Welding must be of high quality with minimum defects
- No notches or cracks shall be accepted
- The full penetration groove welds shall have contoured fillet reinforcing to provide a smooth flow of stresses.
- All welds to be continuous and not intermittent welds shall be allowed
- Intersecting welds running in various directions at any point must be prevented by cutting selected plates so as to remain clear of the intersection
- Welding must comply with SANS 10044. If gusset plates are used, members must be welded around full circumference of contact area. If not specified, welds must be 6mm fillet welds with 4,2mm throat thickness.
- Welding machines must be of sufficient capacity to ensure full penetration - 150 amps is regarded the minimum.
- All welds to be E70 XX electrodes with min weld strength of 480 MPa (SANS 2001 CS1 Table2)
- Welders certificate must be qualified as per ANSI/AWS D1.1/D1.1M (SANS 2001 CC1 5.2)
- MINIMUM WELD SIZES:

THICKNESS OF THICKER PART (mm)	MIN FILLET WELD
UP TO 12mm	6mm
OVER 12mm TO 20mm	6mm
OVER 20mm TO 40mm	8mm

The structural steel contractor must provide for the following in his tender price:
- Temporary bracing and struts, if necessary to improve ease of erection and positioning of any steel members.
- Testing of at least 5 welds if required by the engineer via X-Ray, Magnetic Particle Inspection or dye penetrant inspection. (SANS 2001 CC1 5.3.4)
- Workshop drawings (SANS 1200H 5.1.2 refers).

CORROSION PROTECTION:
- All structural steel must be painted directly after manufacture, in accordance with contract specifications.
    - Damage to paintwork must be touched-up after completion of structural steelwork.
    - Corrosion protection to all external steel elements for environmental class C3 industrial for 5-year maintenance period in accordance with ISO 12944 part 2 U.N.O TBC with engineer
    - If manufactured structural steelwork has to be stored, measures should be taken to avoid rusting. No rusted steel may be erected.

Bolt anchoring and grout:
- If grout is specified, use PRO-STRUCT 531MCI five star grout (u.n.o).
- If an epoxy grout is specified, use PRO-STRUCT 510 epoxy grout (u.n.o).
- If an epoxy is specified, use PRO-STRUCT 617 general epoxy adhesive (u.n.o).
- If a chemical anchor is specified, use HILTI HVU with grade 8.8 has rods (u.n.o).
- Use PRO-STRUCT 617 general-purpose epoxy adhesive for fixing of dowel bars.

Dowel bars: holes drilled for dowels to be 1.25 to 1.5 x dowel bar diameter (u.n.o):
- Y10 DOWELS = ø14mm HOLE
- Y12 DOWELS = ø18mm HOLE.
- Y16 DOWELS = ø24mm HOLE.
- Y20 DOWELS = ø30mm HOLE.
- Y25 DOWELS = ø36mm HOLE.
- Y32 DOWELS = ø44mm HOLE.

BRICKWORK (SANS 10164 -1)

All load-bearing brickwork to be in accordance with SANS 10164 and installed as per SANS 10400-K.
- Loadbearing walls to be a minimum 220mm wide with a minimum compressive strength of the masonry units to be 14 MPa, with class II Mortar.
    - 375µm DPM on the troweled mortar between all RC slabs and masonry.
    - Openings in load-bearing walls to be spanned by prestressed lintels supplied by contractor with min support of 300mm on load-bearing walls. Max 2.4m span for precast lintels with minimum coarse height of 425mm.
    - All non-load-bearing brickwork to receive jointex or softboard between slab soffit and top of walls.
    - Plaster joint between slabs/cols & brickwork to be cut through the plaster to create a clear movement joint.
    - Jointex/softboard to be installed between RC cols & brickwork
    - No brickwork to continue over structural expansion joints.
    - Seismic requirement: all brickwork shall be tied to concrete with galvanised hoop iron ties every 4th course

Cavity Walls:
- To be filled with mass concrete below surface bed level and typ. 600mm below RC slabs/beams
- Must have 3.15mm thick galvanised butterfly wall ties spaced at 400mm vertically, 600mm horizontally (± 3 ties / m²) and staggered with min. Overlap of 50mm on mortar
- Weepholes installed in the external cavity wall above DPC to prevent moisture build-up spaced at max. 1m c/c

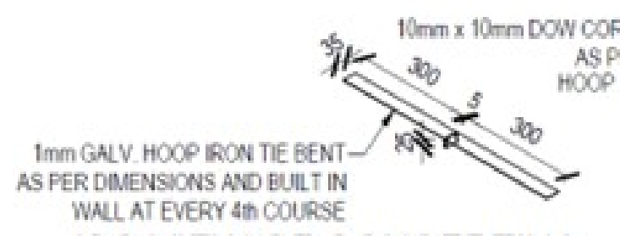
2mm brickforce to be placed in brick walls every:
- Brick course in foundation walls.
- Brick course in internal walls for the first 3 brick courses, then
- Every fifth brick course.
- Third brick course for external brick courses.
- Brick course for the last 4 brick courses below roof level.
- Brick course for 5 courses below all windows & 5 courses above all Windows & doors - to extend 800mm on both sides of openings.

Vertical Control- / expansion joints to comply with sans 10400-K:
- Max 7.5m c/c for walls (u.n.o) or
- As specified by SANS 10400-K:2011 ed 3 Table 19

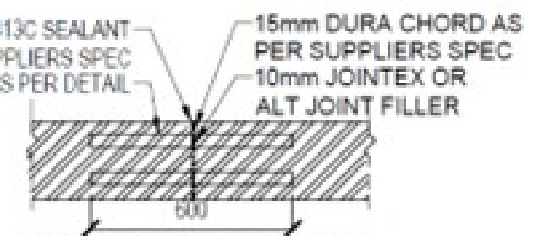
Wall stiffeners / lateral support to comply with SANS 10400-K:
- Generally 5m c/c for 230mm walls (u.n.o) above 3.3m in height tbc
- Generally 3m c/c for 110mm walls (u.n.o) above 3.3m in height tbc

Horizontal movement joint:
- To be every floor level, max 3.3m (seating angle).

Engineers to be consulted with regards to additional brickwork requirements.


10mm x 10mm DOW CORNING 813C SEALANT AS PER SUPPLIERS SPEC
HOOP IRON AS PER DETAIL
1mm GALV. HOOP IRON TIE BENT AS PER DIMENSIONS AND BUILT IN WALL AT EVERY 4th COURSE
300
5
300
10

ISO VIEW OF CONCERTINA TIE TO EXP JOINT
SCALE 1:20


15mm DURA CHORD AS PER SUPPLIERS SPEC
10mm JOINTEX OR ALT JOINT FILLER
600

EXPANSION JOINT
SCALE 1:20

DOCUMENTATION TO BE ISSUED TO THE ENGINEER
PRELIMINARY
- Geotechnical report
- Site survey

EARTHWORKS
- Fill material test results
- Compaction test results
- Soil poisoning certificate

CONCRETE
- Concrete mix designs
- 150x150x150mm cube test results
- SANAS certificate to be provided to confirm reinforcement compliance

STEEL STRUCTURE
- Workshop drawings (SANS 1200H 5.1.2 refers).
- Qualified welders certificate must be provided
- Paint specification
- Bolt torque confirmation
- Structural steel material guarantee
- ITC certified roof sign off for timber / LFS roofs
- Roof sheeting material guarantee
- Roof sheeting installation guarantee

WATERPROOFING
- Waterproofing 10 year material guarantee
- Waterproofing 10 year installation

ABBREVIATIONS:
U.N.O = UNLESS NOTED OTHERWISE
U.S.O = UNLESS STATED OTHERWISE
RET. = RETAINING (EXAMPLE: RETAINING WALLS)
EXP. = EXPANSION (EXAMPLE: EXPANSION BOLTS)
S/BED = SURFACE BED
RC = REINFORCED CONCRETE
COL = COLUMN
BM = BEAM

T.O.C. = TOP OF CONCRETE
B.O.C. = BOTTOM OF CONCRETE
S.S.L. = STRUCTURAL SLAB LEVEL
F.F.L. = FINISHED FLOOR LEVEL
F.L. = FINISHED / FINAL LEVEL

I.L. = INVERT LEVEL
R.E. = RODDING EYE
C.E. = CLEANING EYE
I.E. = INSPECTION EYE
RWDP. = RAIN WATER DOWN PIPE

THK = THICK
PL OR PLT = PLATE
L = ANGLE IRON
UB = UNIVERSAL BEAM (I-SECTION)
UC = UNIVERSAL COLUMN (H-SECTION)
CFLC = COLD-FORMED LIPPED CHANNEL
PFC = PARALLEL FLANGE CHANNEL
TFC = TAPERED FLANGE CHANNEL
RHS = RECTANGULAR HOLLOW SECTION
CHS = CIRCULAR HOLLOW SECTION
SHS = SQUARE HOLLOW SECTION

NOTES / LEGEND

GENERAL

- * THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL MATERIALS AND WORKMANSHIP CONFORM WITH THE DETAILS AND SPECIFICATIONS SHOWN ON THIS DRAWING, AND ALL RELEVANT SABS SPECIFICATIONS, IRRESPECTIVE OF WHETHER THE ENGINEER HAS INSPECTED THE WORKS ON SITE OR NOT.
- * ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE AND CORRELATED WITH THE ENGINEER'S DRAWINGS BEFORE CONSTRUCTION COMMENCES.
- * NO SCALING WITH SCALE RULER FROM THE DRAWING IS PERMITTED. THE CONTRACTOR MUST ENSURE THAT HE GETS THE CORRECT DIMENSIONS FROM THE ENGINEER BEFORE CONSTRUCTION COMMENCES.

ISSUE DATE:	DRAWING SIZE:	REVISION:
2026-03-13	A0	0

☐	PRELIMINARY
☐	INFO ONLY
☐	FOR TENDER
☒	FOR CONSTRUCTION
☐	AS-BUILT

APPROVED BY COUNCIL / CLIENT

CITY ENGINEER / CLIENT	REG. NO.	DATE

AMENDMENTS CODE

A,B,C.../ : BEFORE TENDER	/A : BY CLIENT
T0 / : TENDER DRAWING	/B : BY ARCHITECT
0,1,2..../ : AFTER TENDER	/C : BY MECHANICAL OR ELECTRICAL
Z / : AS BUILT	/D : BY BVi
	/E : BY OTHER ( )

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DATE.	INITIAL	NO.	DESCRIPTION OF REVISION
2026-03-13	JTM	0	ISSUED FOR CONSTRUCTION

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CLIENT

DEPARTMENT OF HEALTH
NORTHERN CAPE PROVINCE

PROJECT

UPGRADE AND
REFURBISHMENT OF LOGOBATE
PHC

DRAWING TITLE

STANDARD SPECIFICATIONS

APPROVED BY BVI

ENGINEER/TECHNOLOGIST	REG. NO.	DATE
JJ HAEFELE	20190844	2026-03-13

SCALE	1 : 1	DRAWN	JTM
DESIGNED	JTM	CHECKED	JJH

PLAN NUMBER	REVISION NO.	DATE SAVED
35566S -200-G01	0	2026-03-13