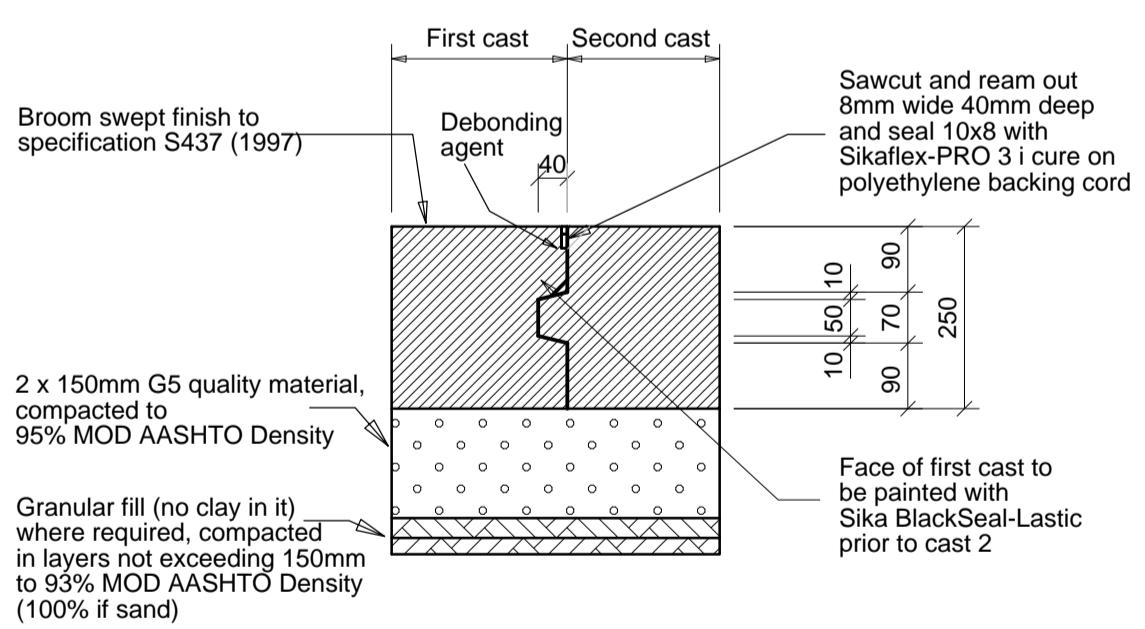
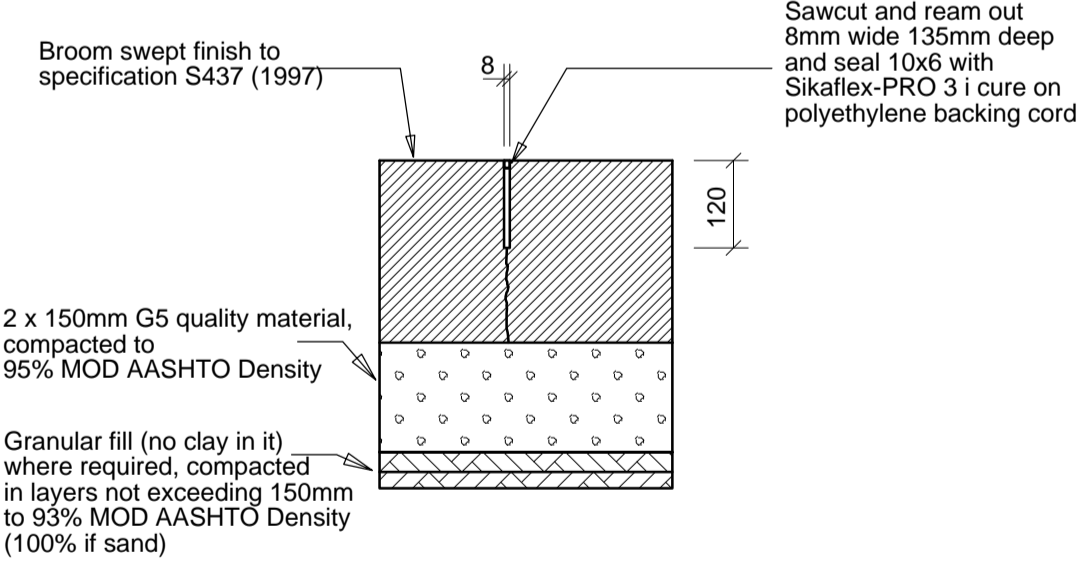


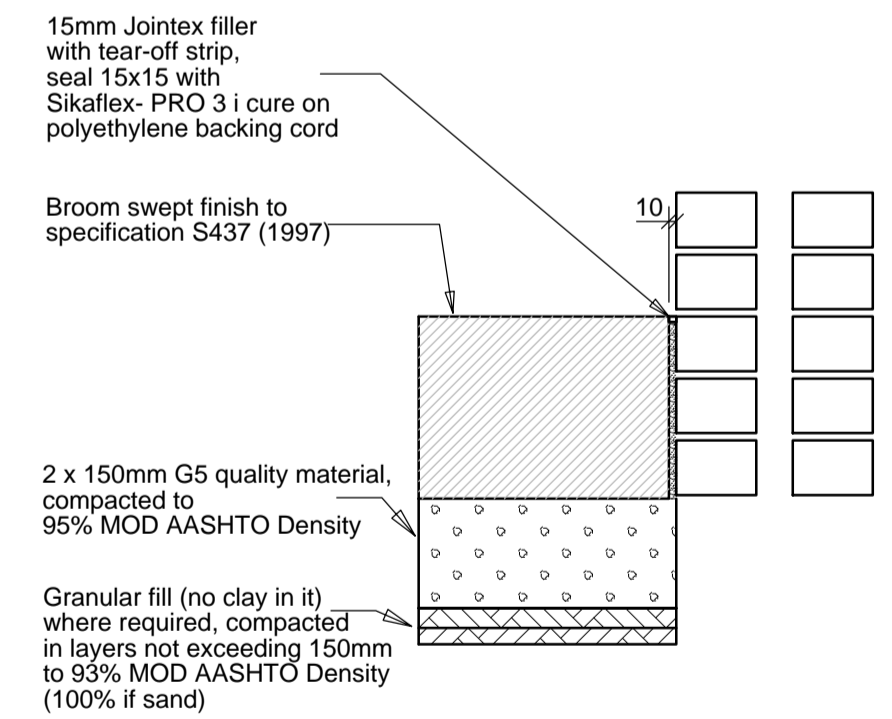
**SURFACE BED LAYOUT**  
SCALE 1:100



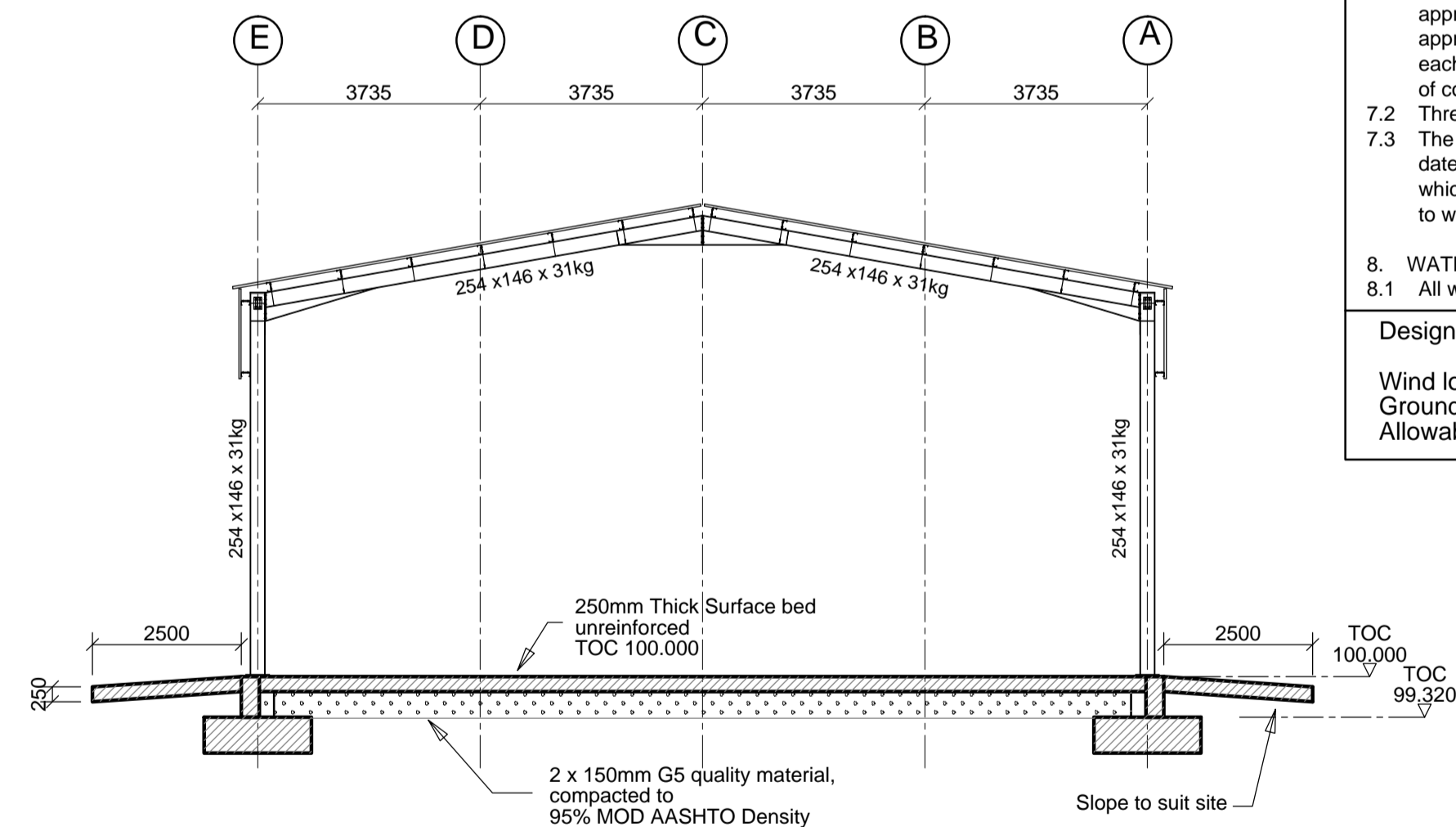
**KEYED CONSTRUCTION JOINT**  
SCALE 1:10



**WEAKENED PLANE JOINT**  
SCALE 1:10



**ISOLATION JOINT**  
SCALE 1:10



**SECTION A - A**  
SCALE 1:100

- NOTES**
- GENERAL
    - All building work must comply with Local and National building Regulations.
    - This drawing must be read in conjunction with the architect's drawings and verified against the same. Any discrepancies must be reported to the Engineer.
    - All work to be performed in accordance with the latest version of SANS 1200G, SABS 1200GE and SABS 1200GF as applicable.
    - All notes are general unless otherwise shown on the drawing.
    - No structural alterations may be done without the approval of the engineer.
    - No scaling of dimensions are permitted.
    - All dimensions to be checked on site.
    - Contractor to keep a full set of drawings on site.
    - Contractor is responsible for correct setting out of building on site with particular reference to boundary and building lines.
  - CONCRETE (at 28 days)
    - Foundations, bases : 25 MPa/19mm
    - Column : 30 MPa/13mm
    - Suspended slabs, beams : 40 MPa/19mm
    - Surfacebeds : 20 MPa/19mm
    - Retaining walls : 30 MPa/13mm
    - Blinding, mass concrete : 10 MPa/19mm
    - Water/OPC Cement ratio = 0.56
    - All exposed concrete to have smooth off shutter finish.
  - COVER TO REINFORCEMENT
    - 50mm Cover to all reinforcement unless otherwise noted.
  - CONSTRUCTION
    - No concrete may be cast until the reinforcement has been completed and approved by the Engineer.
    - Stripping times of formwork and props:
      - sides of columns, beams and walls- 3 days
      - undersides of slabs- 10 days
      - undersides of beams, arches- 21 days
      - column strips in flat slabs- 21 days
    - Concrete to be adequately compacted by means of a vibrator.
    - The contractor must use approved cover blocks of adequate strength in order to withstand working conditions, min strength equal to concrete strength specified.
    - Construction joints to be approved by engineer.
    - Exposed concrete surfaces to be continually cured for a minimum of 14 days.
    - No "Honey-combing" in concrete must be rectified without inspection and consent of the Engineer.
    - All exposed concrete edges to have 20 x 20mm chamfers.
  - FOUNDATIONS
    - Founding conditions to be inspected and approved by the engineer prior to casting.
    - Design bearing pressure = 150KPa.
    - Foundation levels indicated are approximate and will be confirmed on site by the Engineer.
    - Reinforced foundations to have minimum of 50mm blinding.
  - BRICKWORK
    - Bricks to be in accordance with SABS 0146
    - All loadbearing brickwork must be in accordance with SANS 0164
    - Crushing strength to be 15 MPa
    - Unless otherwise shown, all openings in loadbearing walls that does not exceed 1000mm to have brickforce every course.
    - All openings exceeding 1000mm to have precast lintel over opening with brickforce every course.
    - Class II mortar to be used.
  - CONCRETE CUBE TEST
    - The result of six concrete cube crushing tests done at an approved laboratory are to be submitted to the Engineer for approval. At least one set of six cubes shall be taken for each day of casting and from at least every 50 cubic meters of concrete placed.
    - Three cubes must be crushed at 7 days and 3 at 28 days.
    - The results submitted to the Engineer must contain the date at which the sample were taken and identification by which the results may be correlated with the section of work to which it pertains.
  - WATERPROOFING
    - All waterproofing to be specified by others.

**Design limits:**

Wind load	45 m/s
Ground bearing capacity	150 KPa
Allowable floor load	10 Ton forklift

**DO NOT SCALE**

REV	DR	CH	DATE	REVISIONS	REFERENCE DRAWINGS	NOTES	Datum:
0	FERE	MEIR	27-01-2014	ISSUED FOR CONSTRUCTION	455449 44 03 300 to 301 CONCRETE DETAILS 455449 44 03 302 REINFORCEMENT DETAILS 455449 44 03 303 to 312 STRUCTURAL STEEL AND SHEETING DETAILS		Projection: Central Meridian / Zone: Copyright All drawings enjoy copyright protection which vests in SRK Consulting, unless otherwise agreed in writing. Drawings may not be reproduced or transmitted in any form or by any means whatsoever to any person without the written permission of the copyright holder.

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**CESA**  
Consulting Engineers South Africa

**FOR CONSTRUCTION**  
REGISTERED ENGINEER APPROVAL  
NAME: E. FERREIRA NUMBER: 200670062  
SRK Consulting - Certified Electronic Signature  
*srk consulting E. Ferreira*  
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455449 / cast / construction / 301 / Rev 0

DESIGNED	DATE	CHECKED
EF	10-12-2013	MEIR
DRAWN	DATE	CHECKED
EF	12-12-2013	MEIR

**A1** SCALE: 1:100

PROJECT No.	SBU	DISP	DRG No.	SHT	REV
455449	494	403	301		0

**15m PORTAL x 40m**  
**STRUCTURAL STEEL WAREHOUSE**  
SURFACE BED  
LAYOUT AND DETAILS

CLIENT: TRANSNET FREIGHT RAIL