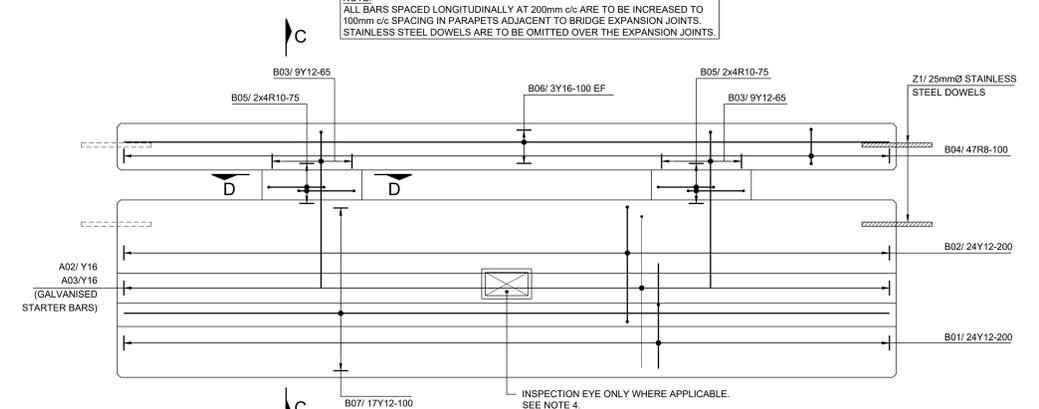


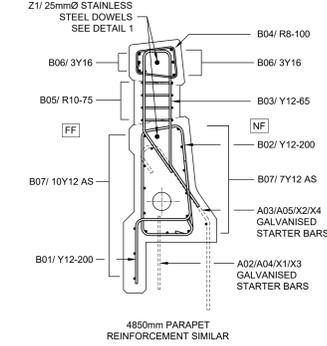
**BRIDGE DECK LAYOUT
PARAPET STARTER BARS**
SCALE 1:150

- REINFORCEMENT NOTES**
- THE REINFORCEMENT DETAILS SHOWN ON THIS DRAWING ARE FOR CONVENTIONAL REINFORCING STEEL BARS TO SANS 920 - 2005
MILD STEEL : R-BARS : 250MPa
HIGH TENSILE STEEL : Y-BARS : 450MPa
 - REINFORCEMENT DETAILING ACCORDING TO SANS 282 : 2011.
 - MINIMUM CONCRETE COVER TO REINFORCEMENT SHALL BE 40mm UNLESS OTHERWISE SPECIFIED.
 - FOR PARAPET UNITS WITH INSPECTION EYES OR RECESS FOR COVER PLATES THE LONGITUDINAL REINFORCEMENT INTERRUPTED BY THE OPENINGS MAY BE CUT TO SUIT. VERTICAL BARS FOULING INSPECTION EYES TO BE MOVED. THE CONCRETE COVER SHALL BE MAINTAINED.
 - ATTENTION SHALL BE GIVEN TO THE NUMBER AND POSITIONING OF THE COVER BLOCKS TO ENSURE THAT MINIMUM CONCRETE COVER IS MAINTAINED DURING CONCRETING.
 - MINIMUM LAP LENGTH SHALL BE 45 x BAR DIA.
 - REINFORCEMENT SHALL BE INSPECTED BY THE ENGINEER PRIOR TO CASTING OF CONCRETE.
 - ALL REINFORCING TO BE HEAVY DUTY HOT-DIP GALVANISED IN ACCORDANCE WITH SANS 121:2000 TO A ZINC COAT THICKNESS OF NOT LESS THAN 105 MICRONS.
 - STAINLESS STEEL DOWELS SHALL BE 188 AUSTENITIC STAINLESS STEEL (AISI TYPE 304).
 - ALL STAINLESS STEEL DOWELS TO BE SAWCUT.
 - STAINLESS STEEL DOWELS TO BE OMITTED OVER EXPANSION JOINTS.
 - ABBREVIATIONS:
ABR = ALTERNATE BARS REVERSED
ALT = ALTERNATELY
AS = AS SHOWN
B1 = LOWEST OF THE BOTTOM LAYERS
B2 = SECOND LOWEST OF THE BOTTOM LAYERS
EF = EACH FACE
EW = EACH WAY
NF = NEAR FACE
FF = FAR FACE
T1 = HIGHEST OF THE TOP LAYERS
T2 = SECOND HIGHEST OF THE TOP LAYERS

NOTE:
ALL BARS SPACED LONGITUDINALLY AT 200mm c/c ARE TO BE INCREASED TO 100mm c/c SPACING IN PARAPETS ADJACENT TO BRIDGE EXPANSION JOINTS.
STAINLESS STEEL DOWELS ARE TO BE OMITTED OVER THE EXPANSION JOINTS.



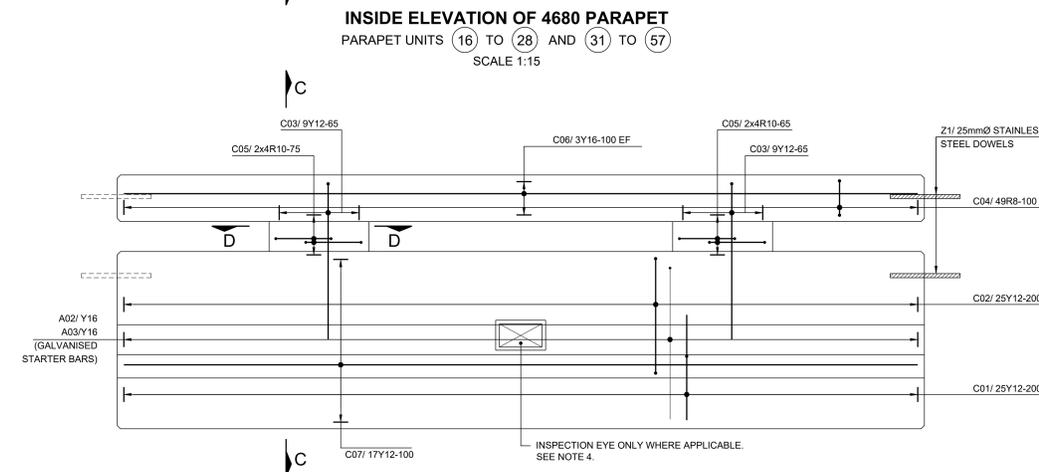
INSIDE ELEVATION OF 4680 PARAPET
PARAPET UNITS (16) TO (28) AND (31) TO (57)
SCALE 1:15



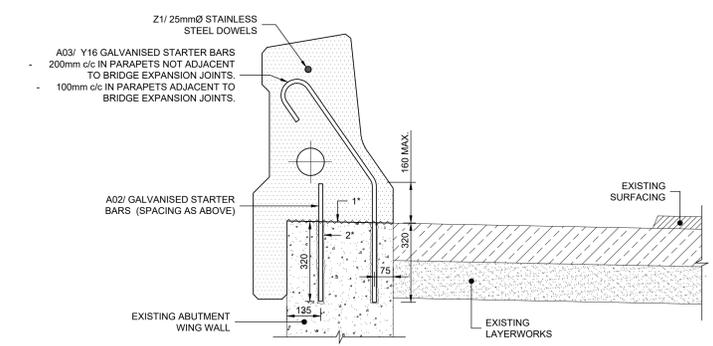
SECTION C - C
SCALE 1:15



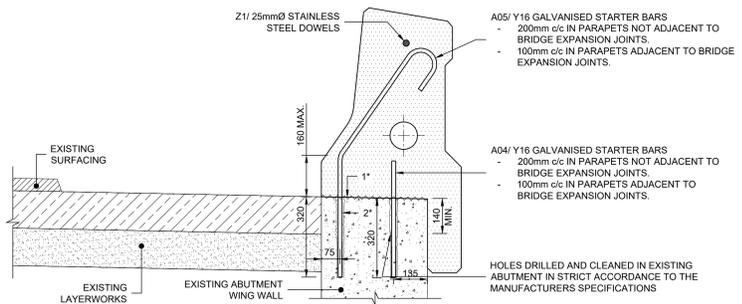
WASHER PLATE DETAIL
SCALE 1:2



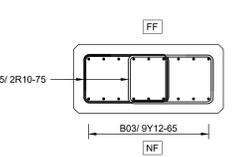
INSIDE ELEVATION OF 4850 PARAPET
PARAPET UNITS (02) TO (15)
SCALE 1:15



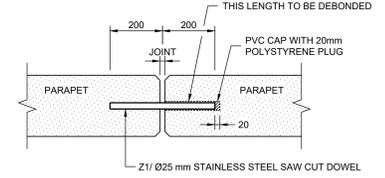
SECTION B - B
SCALE 1:10



SECTION A - A
SCALE 1:10



SECTION D - D
SCALE 1:10



**DETAIL 1
STAINLESS STEEL DOWEL DETAIL**
SCALE 1:10

CONSTRUCTION RECORD (AS-BUILT) WORKS CONTRACT ENGINEER Name: _____ Prof. Reg. No.: _____ Date: _____ SANRAL PROJECT MANAGER Name: _____ Date: _____		DESIGNED BY NAME: M CHRISTODOULOU Prof. Reg. No.: 81924Z CHECKED BY: _____ NAME: KG MALCOMSON Prof. Reg. No.: 8854Z DRAWN BY: M WATTS		CONSULTANT APPROVAL Name: KG MALCOMSON Prof. Reg. No.: 8854Z Date: 02/12/2019		HEAD OFFICE 48 Tambotie Avenue Val de Grace Pretoria 0184 PO Box 415 Pretoria 0001 South Africa Tel: (012) 844 8000		NORTHERN REGION 38 Ida Street Menlo Park Pretoria 0081 Private Bag X17 Lynnwood Ridge 0040 Tel: (012) 426 6200		ACCEPTANCE THIS ACCEPTANCE IS FOR PROCEDURAL AND ADMINISTRATIVE REVIEW PURPOSES ONLY AND DOES NOT ATTRACT LEGAL LIABILITY OR LIABILITY OF ANY KIND FROM WHOEVER CAUSE OR HOWEVER ARISING for the SA NATIONAL ROADS AGENCY SOC LTD. Date: _____		PROJECT NUMBER NRA X.002-063-2018/01-C05 DRAWING LOCATION DATA ROUTE: R033 R033 SECTION: 06N 06N DRAWING km DISTANCE: 27.5 27.5 DRAWING TYPE BRIDGE/STRUCTURE No. B3297 CONSULTANT DRAWING No. TP1916-2/B3297/03 SANRAL DOCUMENT # 18971948		VER V2
REVISION No. DATE REVISION CONSULT. ENGR.		SNA CIVIL AND STRUCTURAL ENGINEERS (Pty) LTD P. O. Box 72727 LYNNWOOD RIDGE 0040 Tel: 012-842 0000 Fax: 012-803 4429 e-mail: -psa@sna.co.za		KGAREBANA CIVIL & STRUCTURAL ENGINEERS 11 VLOTENBURG ROAD EQUESTRIA PRETORIA 0184 Tel: 012-542-0069 Fax: 071-254-4108 e-mail: kba.m@kscse.co.za		SANRAL SOUTH AFRICAN NATIONAL ROADS AGENCY SOC LTD BUILDING SOUTH AFRICA THROUGH BETTER ROADS		MSBBR: REPAIRS TO BRIDGE PARAPETS: R40 NELSPRUIT B0064 AND R33 PIET RETIEF B3297 EMERGENCY REPAIR FOR BRIDGE B3297 ON R033/06N AT km 27.5 PARAPET REINFORCEMENT		SCALE : AS SHOWN SHEET 03 OF 10		DRAWING No.: TP1916-2/B3297/03		