

GENERAL NOTES

- CONTRACTOR TO VERIFY ALL DIMENSIONS FOR THE BRIDGE PRIOR TO COMMENCEMENT OF WORK AND NOTIFY DEPARTMENTAL REPRESENTATIVE OF ANY DISCREPANCIES.
- STRUCTURAL DRAWINGS SHOW THE COMPLETED PROJECT. THEY DO NOT SHOW COMPONENTS WHICH MAY BE NECESSARY FOR CONSTRUCTION SAFETY. CONTRACTOR IS RESPONSIBLE FOR SAFETY ON AND ABOUT THE JOB SITE DURING CONSTRUCTION.
- CONTRACTOR TO ENSURE THAT ALL WORK IS CARRIED OUT BY THE RULES AND CUSTOMS OF THE BEST TRADE PRACTICES AND THEIR SPECIFICATIONS BY SKILLED TRADES PEOPLE KNOWLEDGEABLE OF THE TYPE OF CONSTRUCTION. THEY ARE TO BE PROPERLY EQUIPPED AND SUPERVISED.
- SURVEY AND HYDROTECHNICAL DATA PROVIDED BY McELHANNEY CONSULTING SERVICES LTD. REPORT DATED JANUARY 31, 2013 AND DRAWINGS DATED JANUARY 15, 2013.
- UNLESS OTHERWISE NOTED, DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS ARE IN METRES.
- ALL DESIGN CODES AND CSA AND ASTM STANDARDS REFERENCED ON THESE DRAWINGS SHALL BE THE CURRENT VERSIONS.

DESIGN NOTES

- STRUCTURAL DESIGN DATA.
 - ENGINEER OF RECORD: RANDALL EMERY, P.ENG.
 - DESIGN CODE - CANADIAN HIGHWAY BRIDGE DESIGN CODE 2006. PARKS CANADA - DIRECTIVE FOR DESIGN, CONSTRUCTION, AND INSPECTION OF VEHICULAR AND PEDESTRIAN BRIDGES - 2008.

DESIGN PARAMETERS

GRAVITY: DEAD LOAD = SELF-WEIGHT
LIVE LOAD = 4.0 kPa
SNOW LOAD = 6.1 kPa

ICE ACCRETION: MODERATE (12mm ON ALL EXPOSED SURFACES)

WIND: q1/50 = 0.50 kPa

SEISMIC: Zv = 1.0
V = 0.05
Za = 0
A = 0.00
SEISMIC PERFORMANCE ZONE 1
SOIL PROFILE III (ASSUMED)
S = 1.5
K = 1.0

FOUNDATION NOTES

- CONTRACTOR IS RESPONSIBLE FOR RETAINING A PROFESSIONAL GEOTECHNICAL ENGINEER REGISTERED IN THE PROVINCE OF BRITISH COLUMBIA FOR THE DESIGN AND FIELD REVIEW OF SOIL BEARING CAPACITIES AND MICRO-PILES. SOIL BEARING CAPACITIES AND MICRO-PILE DESIGN TO BE APPROVED BY THE DEPARTMENTAL REPRESENTATIVE.
- FOOTINGS HAVE BEEN DESIGNED FOR A SERVICEABILITY LIMIT STATE BEARING PRESSURE OF 150 kN/m² AND AN ULTIMATE LIMIT STATE BEARING PRESSURE OF 225 kN/m² TO BE VERIFIED BY THE GEOTECHNICAL ENGINEER. FOOTINGS TO BEAR ON UNDISTURBED NATIVE SOILS OR COMPACTED STRUCTURAL FILL AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
- MICRO-PILE EMBEDMENT LENGTHS TO BE DESIGNED BY THE GEOTECHNICAL ENGINEER AND IN ACCORDANCE WITH DETAIL 5/S301.
- MICRO-PILE LOADS (PER PILE):
WORKING LOAD = 120 kN
LOCK OFF LOAD = 25 kN
TEST LOAD = 120 kN
- BEARING SURFACES AND MICRO-PILE INSTALLATION MUST BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO FOOTING CONCRETE BEING PLACED. GENIVAR IS NOT RESPONSIBLE FOR CONFIRMING BEARING CAPACITIES OF SOILS. CONTRACTOR RESPONSIBLE FOR NOTIFYING DEPARTMENTAL REPRESENTATIVE IN ADVANCE FOR CONSTRUCTION REVIEW OF THE WORK.
- GEOTECHNICAL ENGINEER TO PROVIDE OTHER SPECIFIC DESIGN REQUIREMENTS FOR FOOTINGS, SOIL SLOPES, FROST PROTECTION, MINIMUM COVER, ETC.
- UNLESS OTHERWISE SHOWN, CENTER FOOTINGS UNDER COLUMNS AND WALLS.
- DOWELS AND ANCHOR BOLTS SHALL BE PLACED BEFORE CONCRETE IS PLACED. USE TEMPLATES TO ENSURE CORRECT PLACEMENT OF DOWELS.
- PROVIDE 50mm GROUND SEAL UNDER FOOTINGS WHERE REQUIRED BY SOIL CONDITIONS.
- FOOTING ELEVATIONS, IF SHOWN, ARE FOR BIDDING PURPOSES ONLY, ARE NOT FINAL, AND MAY VARY ACCORDING TO SITE CONDITIONS. ALL FOOTINGS MUST BE TAKEN TO A BEARING LAYER APPROVED BY THE GEOTECHNICAL ENGINEER.
- PROTECT BEARING SURFACES FROM FREEZING BEFORE AND AFTER FOOTINGS ARE POURED.

CONCRETE AND REINFORCING NOTES

- CONCRETE TO BE READY MIX CONCRETE CONFORMING TO THE CURRENT STANDARD CSA A23.1/A23.2. CEMENT TO BE TYPE MS OR MS& HYDRAULIC CEMENT CONFORMING TO CSA A3000. USE ADMIXTURES ONLY WITH WRITTEN APPROVAL OF THE DEPARTMENTAL REPRESENTATIVE.

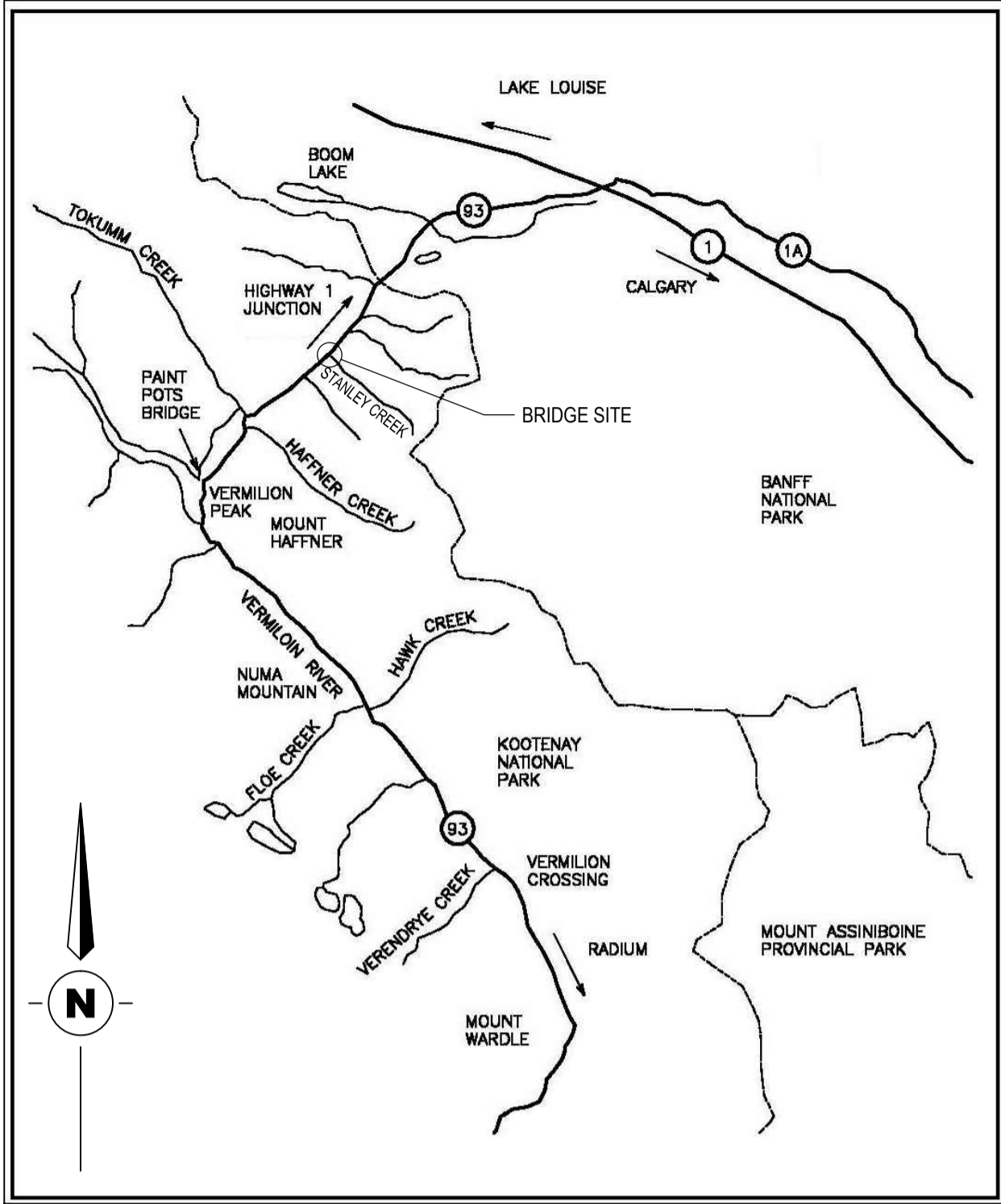
LOCATION 28 DAY CLASS
STRENGTH OF
MPa EXPOSURE
30 S-3

REFER TO PROJECT SPECIFICATIONS FOR OTHER REQUIREMENTS.

- CONCRETE PROTECTION ON PRINCIPAL REINFORCING SHALL BE AS FOLLOWS:
SURFACES PLACED IN CONTACT WITH GROUND: 75mm
FORMED SURFACES EXPOSED TO GROUND OR WEATHER: 60mm
- SINGLE CURTAIN WALL REINFORCING SHALL BE CENTERED IN WALLS UNLESS OTHERWISE SHOWN.
- HORIZONTAL WALL REINFORCING SHALL BE CONTINUOUS AROUND CORNERS AND HOOKED AT WALL INTERSECTIONS. ADD 2-15M CONT AT TOPS AND ENDS OF WALLS. UNLESS OTHERWISE NOTED, HOOK AND LAP LENGTHS AS FOLLOWS:
BAR SIZE VERT LAP HORL LAP HOOK LENGTH
10M 430mm [17"] 500mm [20"] 180mm [7"]
15M 600mm [24"] 800mm [32"] 250mm [10"]
20M 750mm [30"] 1000mm [40"] 300mm [12"]
25M 1200mm [48"] 1550mm [60"] 400mm [16"]

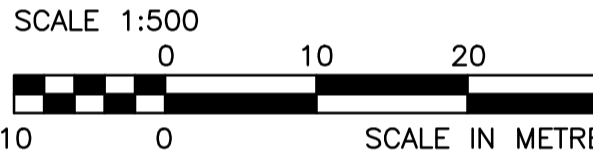
STRUCTURAL STEEL NOTES

- STRUCTURAL STEEL TO CONFORM TO THE REQUIREMENTS OF THE FOLLOWING STANDARDS:
ROLLED SECTIONS: ASTM A588
PLATE: G40.21 350AT
CHANNELS & ANGLES: G40.21 300W
PIPE: A53 Fy=240 MPa
HSS SECTIONS: G40.21 350W
BOLTS: ASTM A325 TYPE 3, SELF-WEATHERING
ANCHOR BOLTS: G40.21 300W (HDG)



LOCATION PLAN

SCALE: N.T.S.



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Revision/Revision	Description/Description	Date/Date

Client/client

PARKS CANADA
AGENCY

Project title/Titre du projet
KOOTENAY NATIONAL PARK

STANLEY GLACIER TRAIL
BRIDGE
VERMILION RIVER

Consultant Signature Only

Designed by/Concept par
RGE

Drawn by/Dessiné par
RCM

PWGSC Project Manager/Administrateur de Projet TPSGC
MARC TONDER / JIMMY WONG

Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architectural et de génie, TPSGC
OREST KLUFAS (Acting)

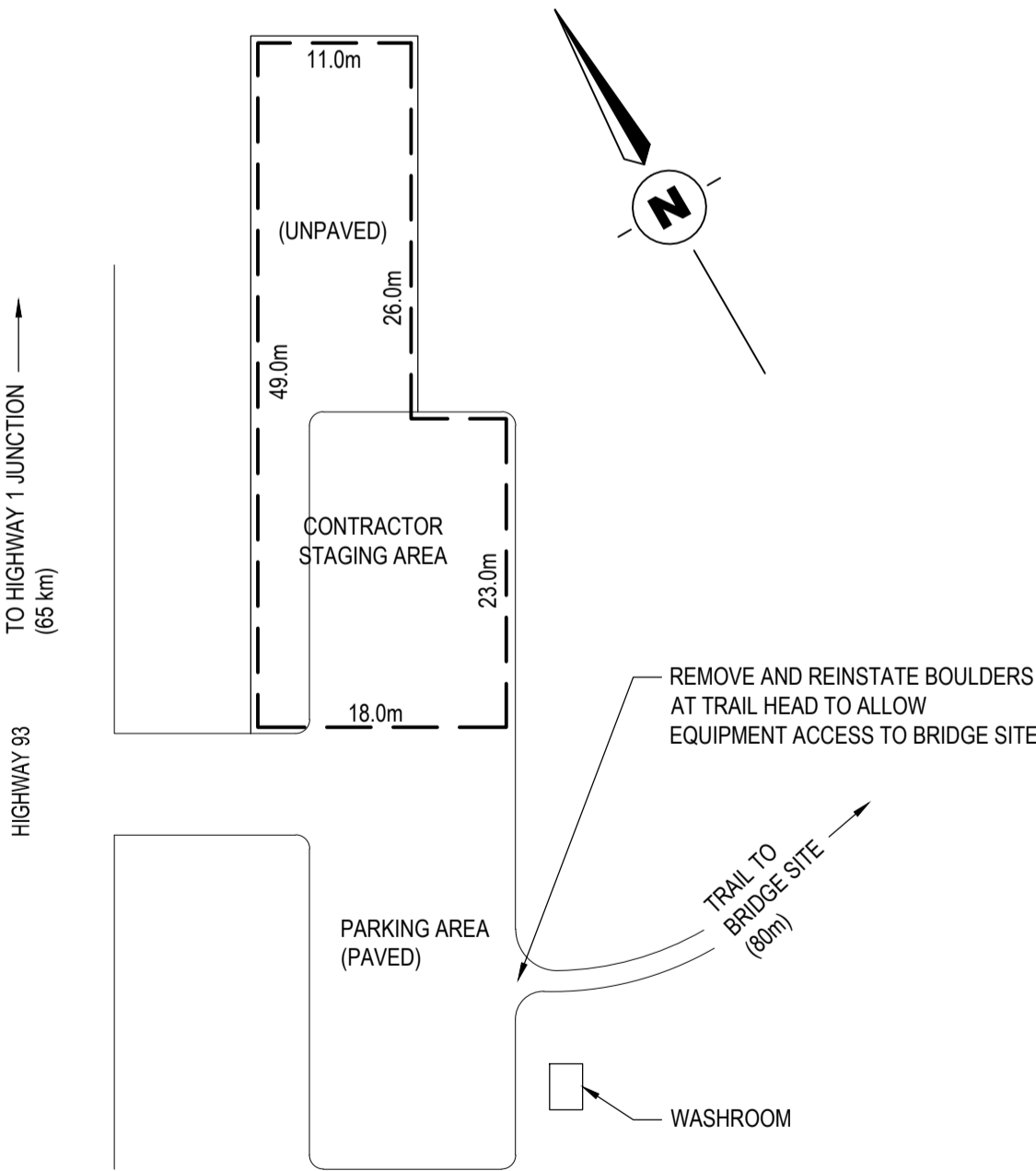
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PARKING AREA SITE PLAN
LOCATION PLAN
GENERAL NOTES

Project No./No. du projet
R.061077.001

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S101
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La Révision
no. 0

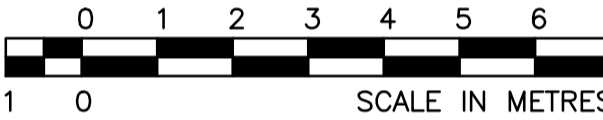


1 PARKING AREA SITE PLAN
S101 1:500



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JOB No. 111-15111-07

SCALE 1:100



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BRIDGE AREA SITE PLAN

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0

CLASS 50 kg RIPRAP REFER TO 2/S202
RECOMMENDED GRADATION AND AVERAGE DIMENSIONS ARE:

Class 50kg Rock Gradation - Percentage Smaller than Given Rock Mass (kg)		
15%	50%	85%
5	50	150

Approximate Average Dimension in mm for Class 50kg Rock (Specific gravity = 2.64)		
15%	50%	85%
155	330	475

PROVIDE NETTING OR OTHER APPROPRIATE CONTAINMENT
SYSTEM BELOW BRIDGE TO CAPTURE ALL CONSTRUCTION
DEBRIS. CONTRACTOR IS RESPONSIBLE FOR THE DESIGN,
EXTENT, AND DETAILS OF THE CONTAINMENT SYSTEM.
NETTING CONTAINMENT SYSTEM TO MEET DEPARTMENT OF
FISHERIES AND OCEANS OPERATIONAL STATEMENT FOR
BRIDGE MAINTENANCE TO PREVENT DELETERIOUS
MATERIAL FROM ENTERING RIVER. SYSTEM TO BE
INSPECTED AND APPROVED BY THE DEPARTMENTAL
REPRESENTATIVE. SYSTEM SHOULD BE PERMEABLE TO
ALLOW RAIN TO PASS BUT BE CAPABLE OF TRAPPING HOT
WELDING SOLDER.

DEMOLITION
NEW

ADD RIPRAP TO
EXISTING RIPRAP
UPSTREAM &
DOWNSTREAM

NEW RIPRAP

GRUBBING & UPROOTING OF
VEGETATION REQUIRED FOR
NEW STAIR & TRAIL ALIGNMENT

REMOVE & REINSTATE
RIPRAP AS REQUIRED FOR
FOUNDATION EXCAVATION

NEW RIPRAP

OLD TRAIL ALIGNMENT TO
BE DECOMMISSIONED AND
VEGETATED AS PER THE
BASIC ENVIRONMENTAL
IMPACT ANALYSIS REPORT

PROVIDE BANK PROTECTION
AT FORDING

FORDING LOCATION TO BE
VEGETATED AFTER
CROSSING COMPLETE

APPROXIMATE LOCATION OF
FORDING FOR ONE-TIME
CROSSING OF EQUIPMENT

1
S102
1:100
BRIDGE AREA SITE PLAN

SCALE 1:25
0 500 1000 1500
500 0 SCALE IN MILLIMETRES

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**PARKS CANADA
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KOOTENAY NATIONAL PARK

**STANLEY GLACIER TRAIL
BRIDGE
VERMILION RIVER**

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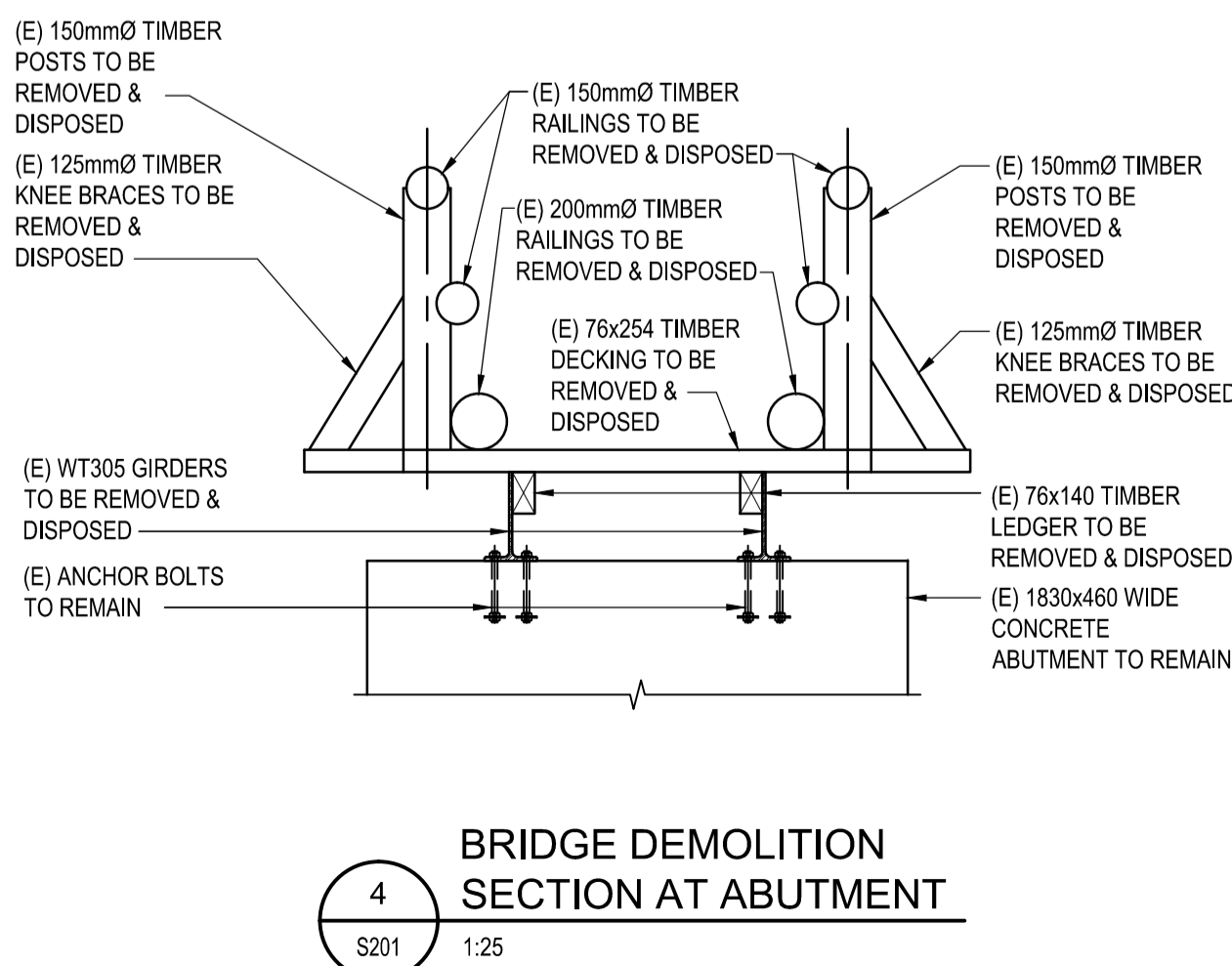
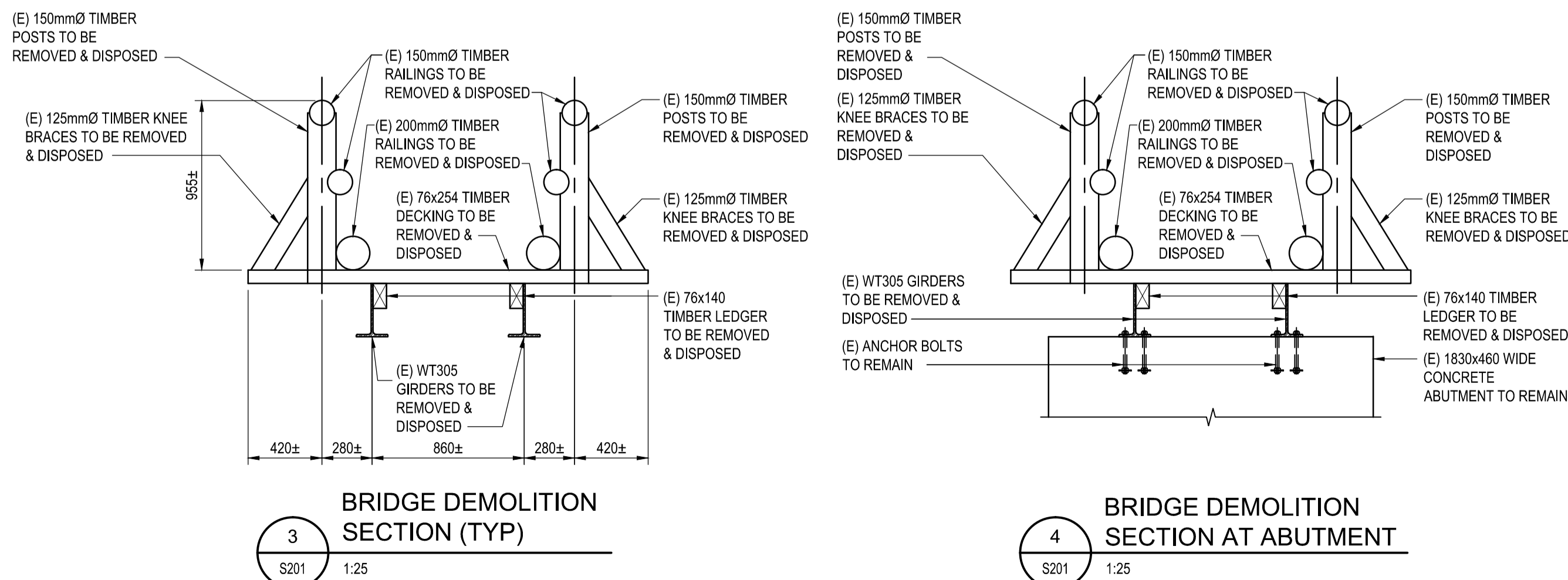
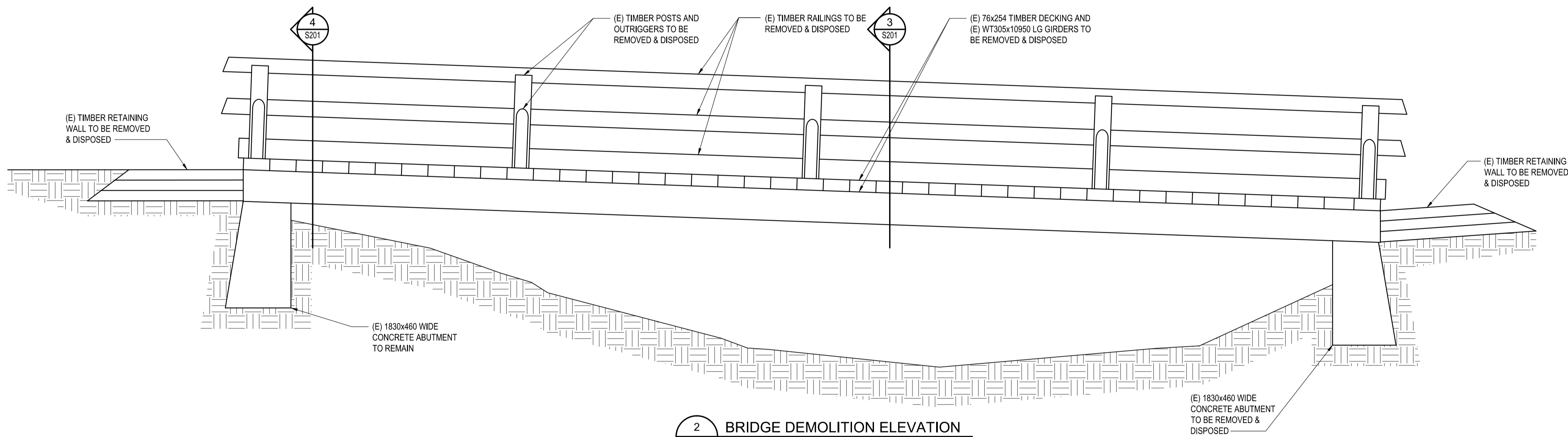
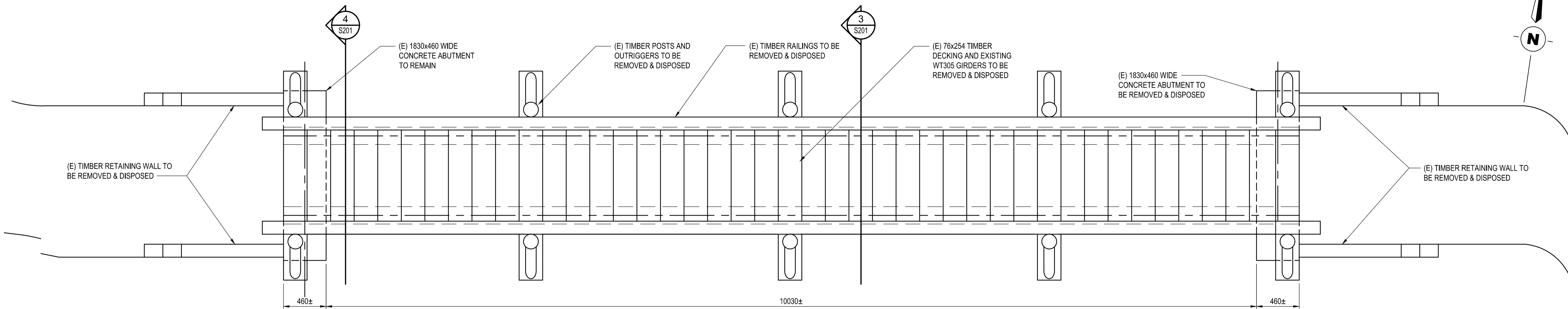
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**DEMOLITION PLAN
ELEVATION,
SECTIONS AND DETAILS**

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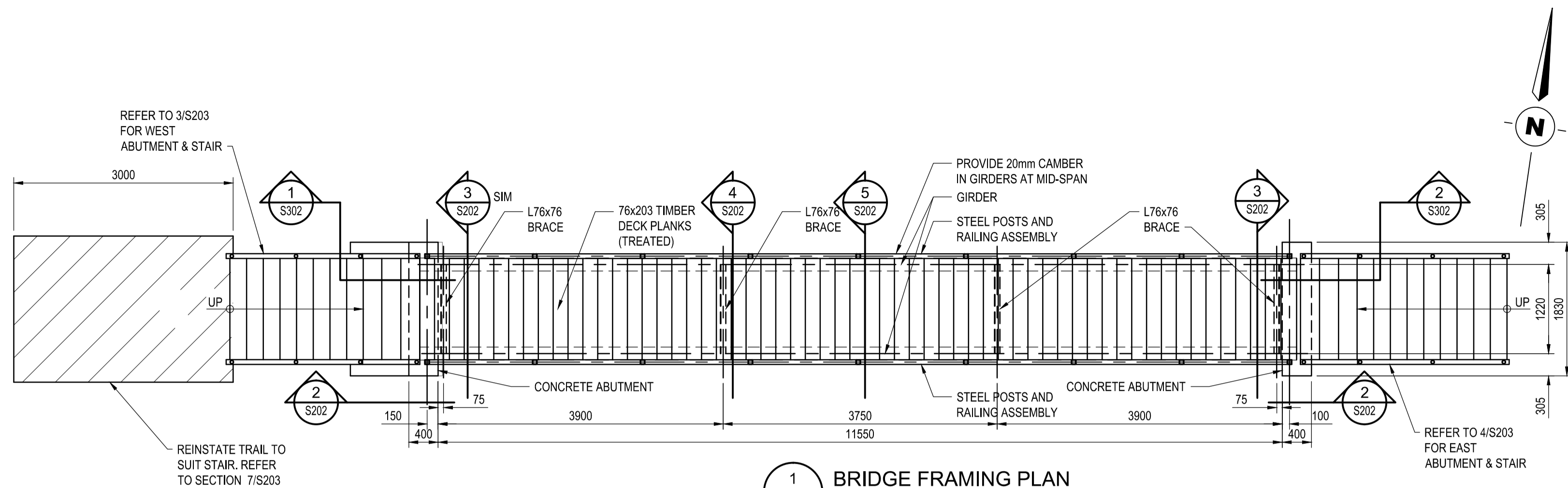
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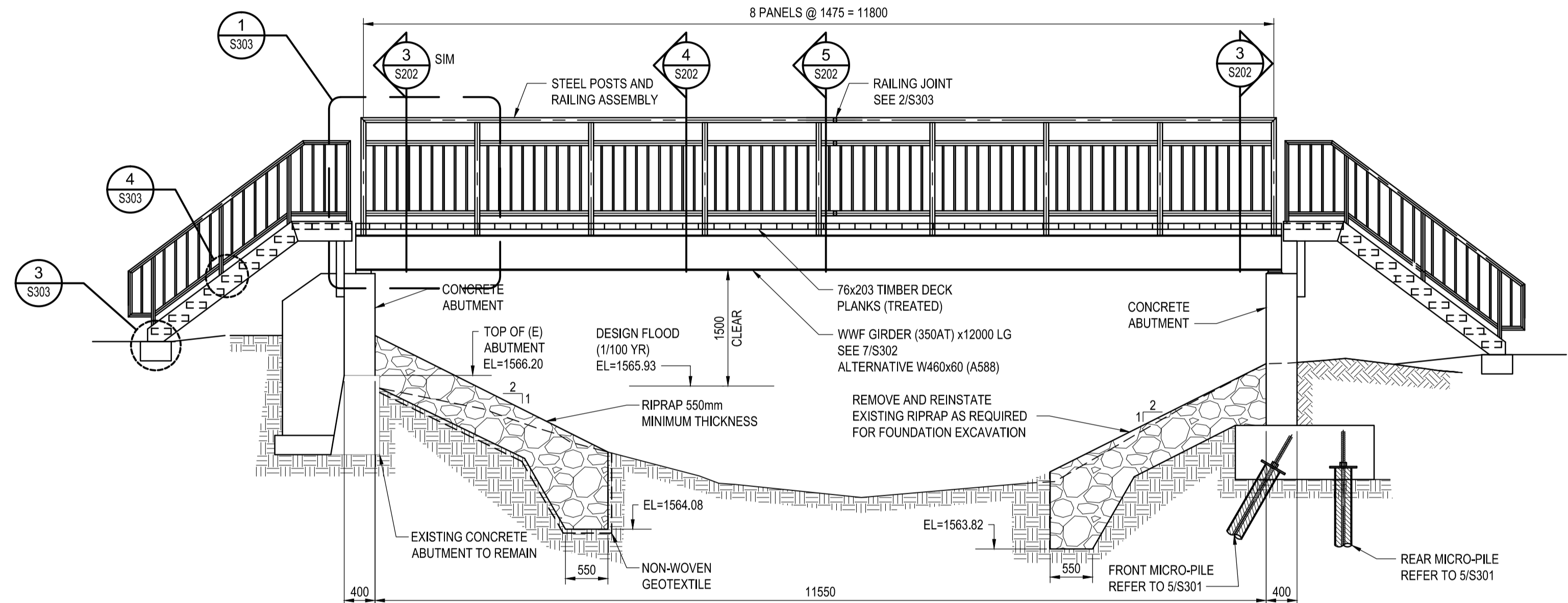




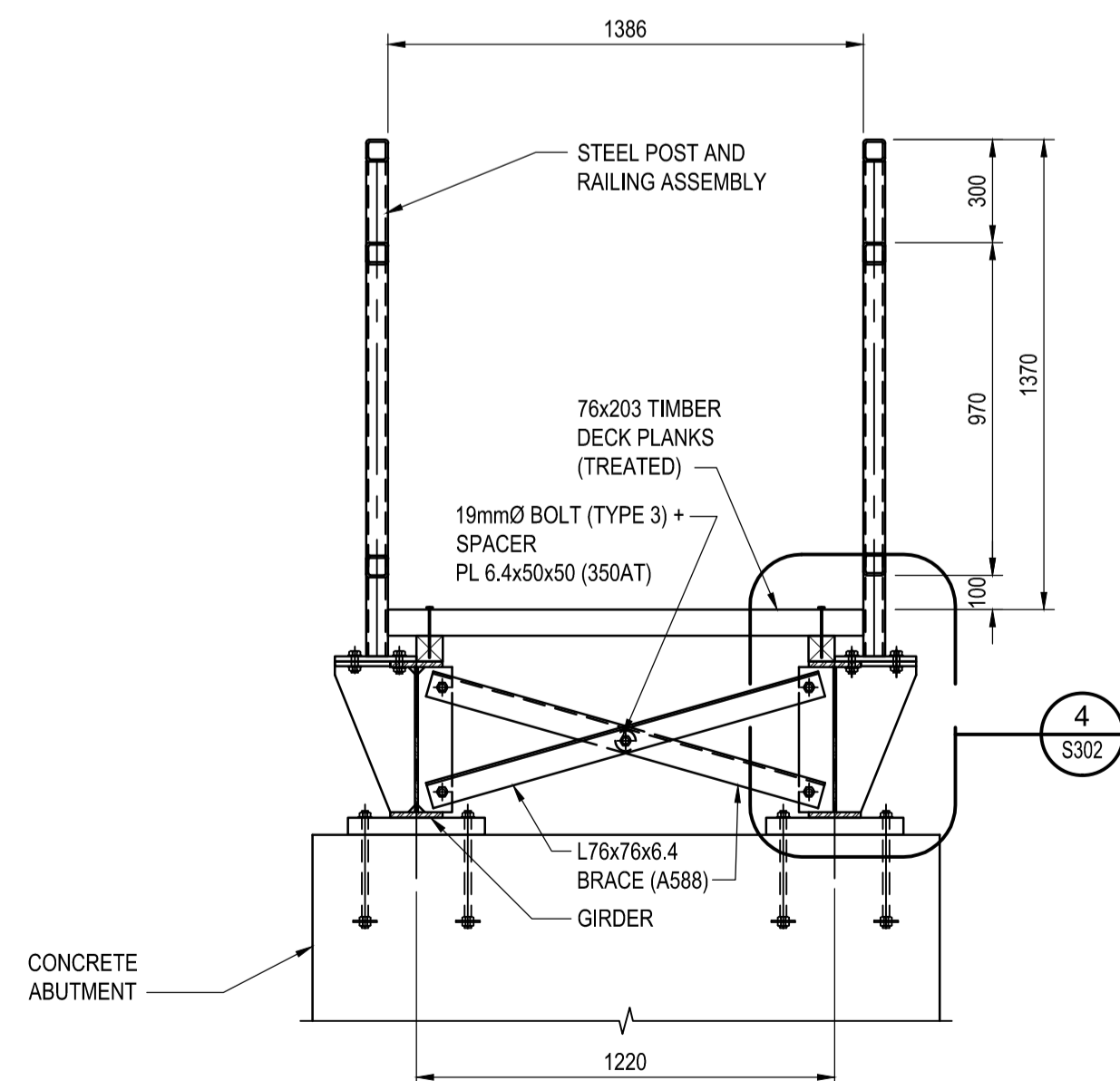
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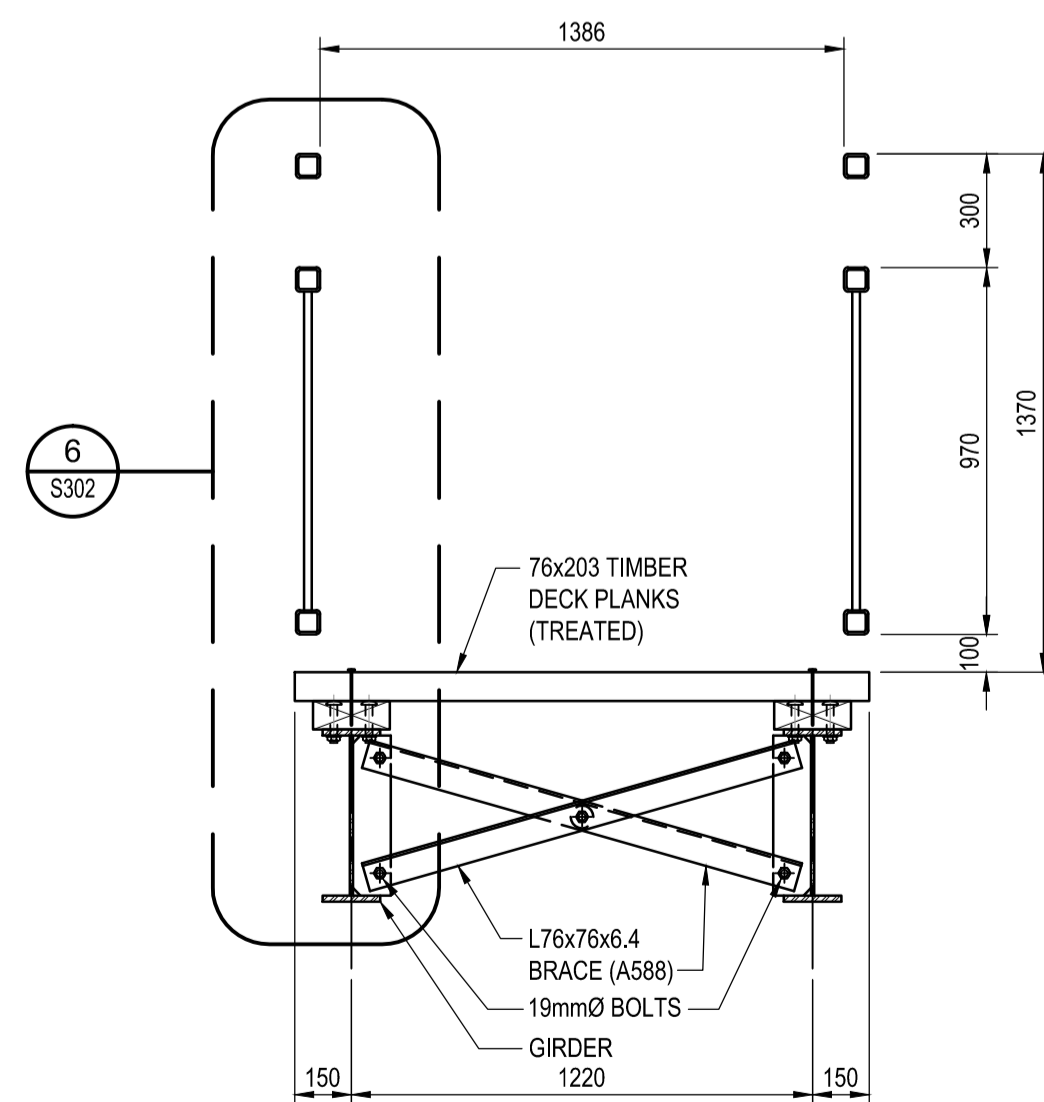
1 BRIDGE FRAMING PLAN



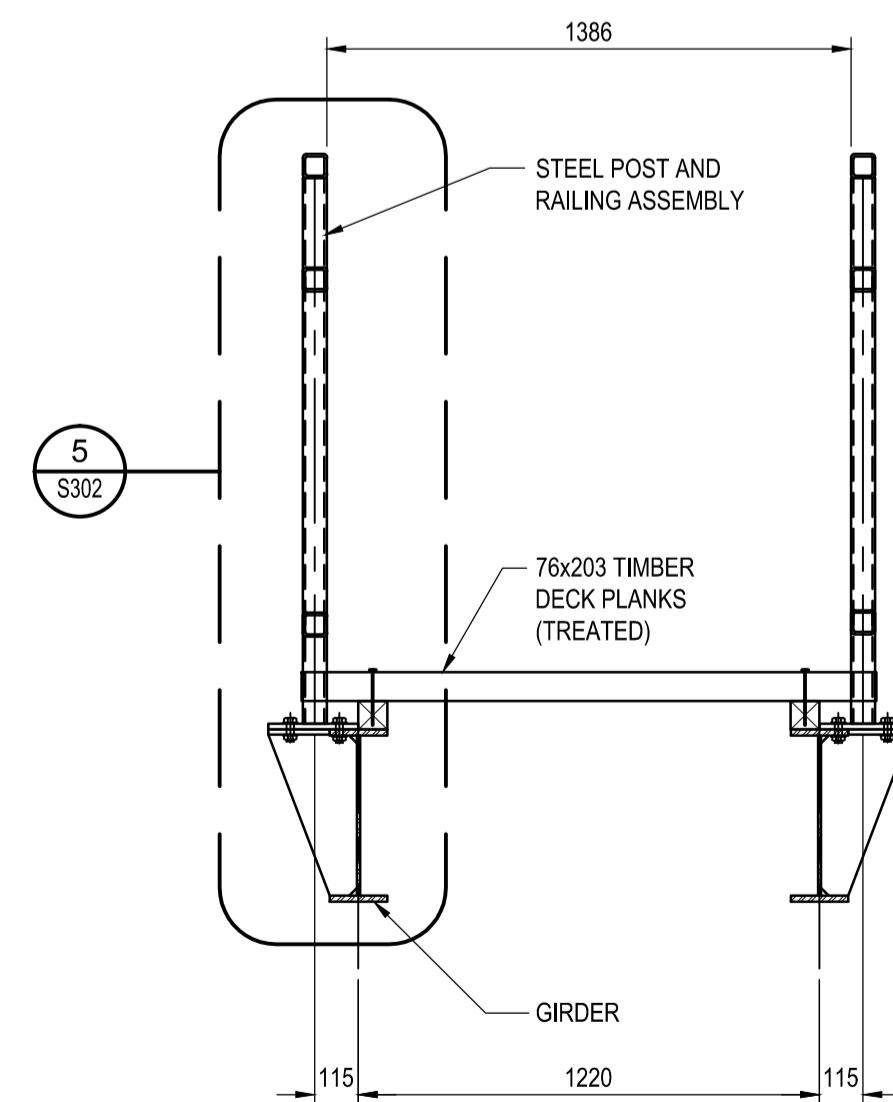
2 BRIDGE FRAMING ELEVATION



3 BRIDGE SECTION AT ABUTMENT



4 BRIDGE SECTION AT INTERMEDIATE BRACING



5 TYPICAL BRIDGE SECTION

SCALE 1:20

0 500 1000

SCALE IN MILLIMETRES

SCALE 1:50

0 1000 2000 3000

SCALE IN MILLIMETRES

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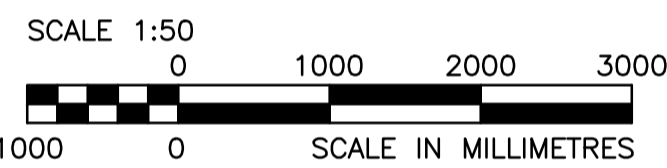
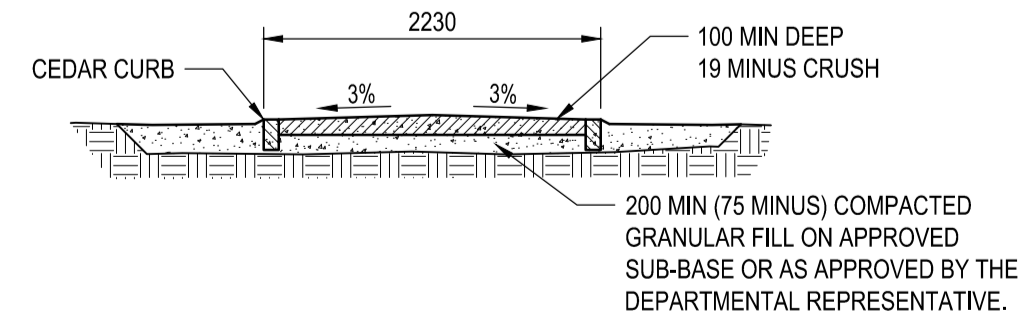
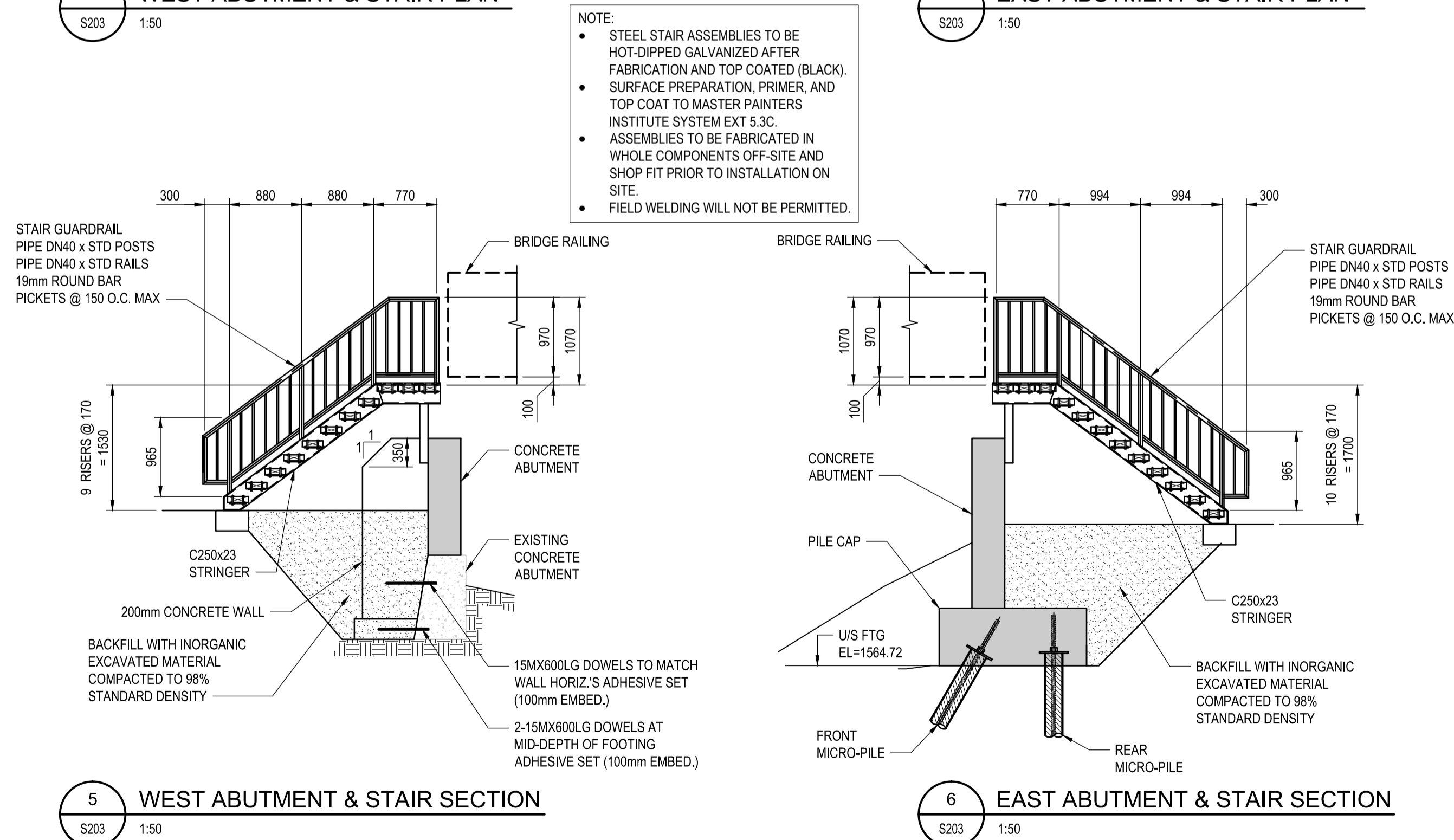
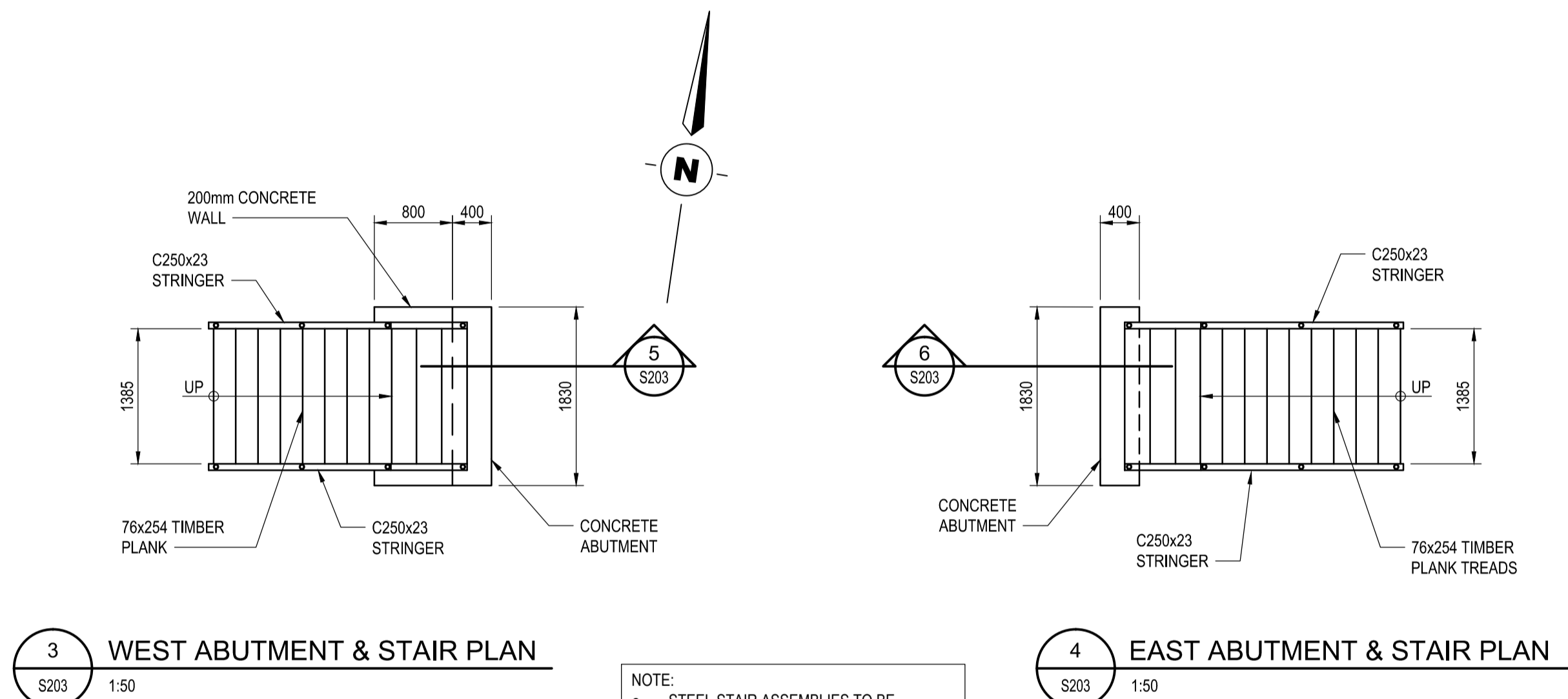
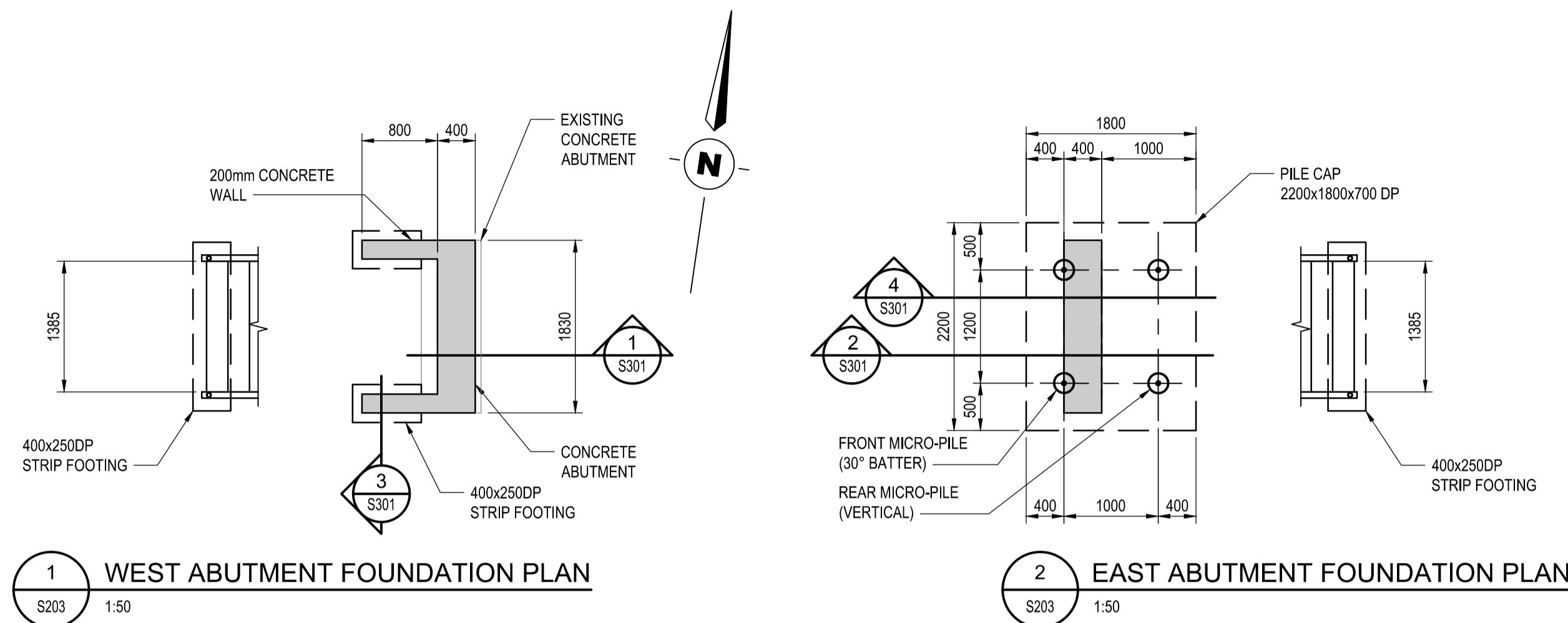
GENERAL ARRANGEMENT

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**EAST AND WEST
ABUTMENT PLANS
ELEVATIONS AND SECTIONS**

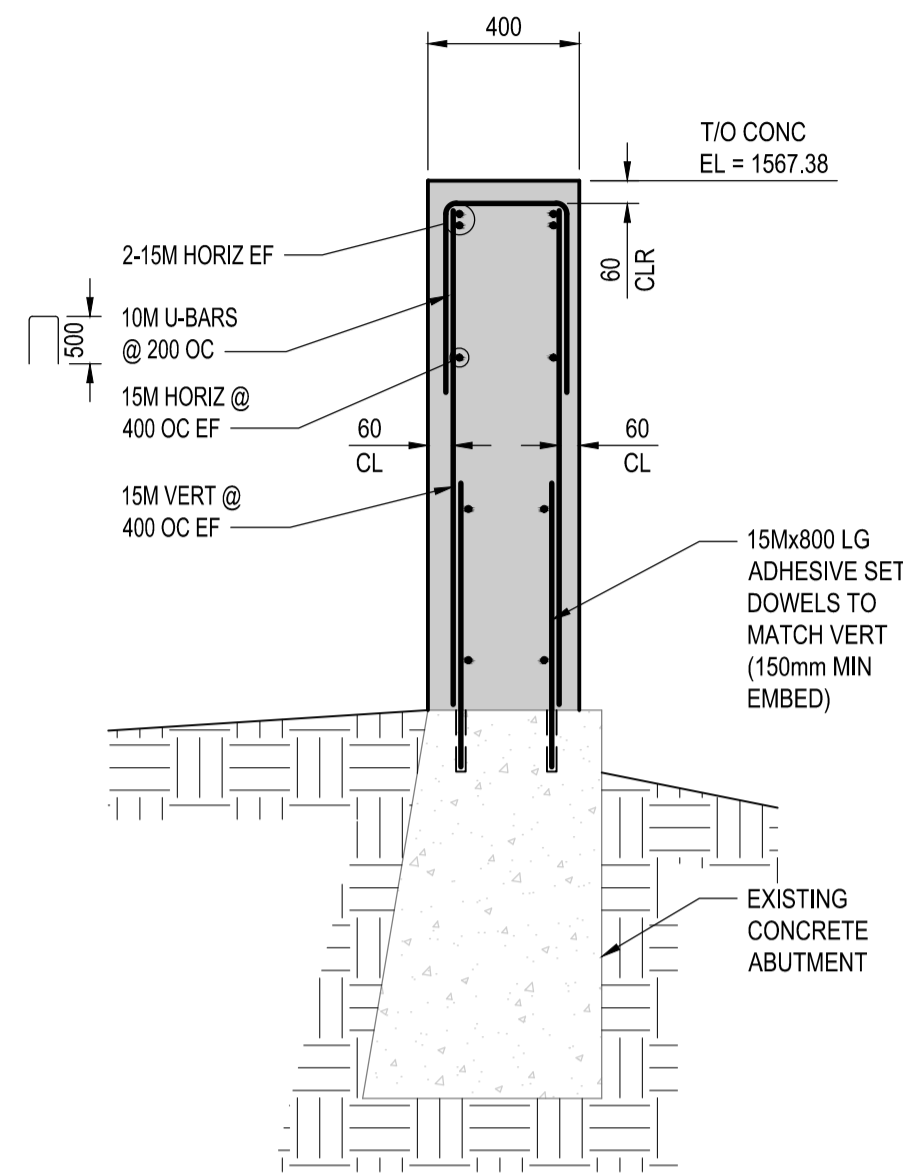
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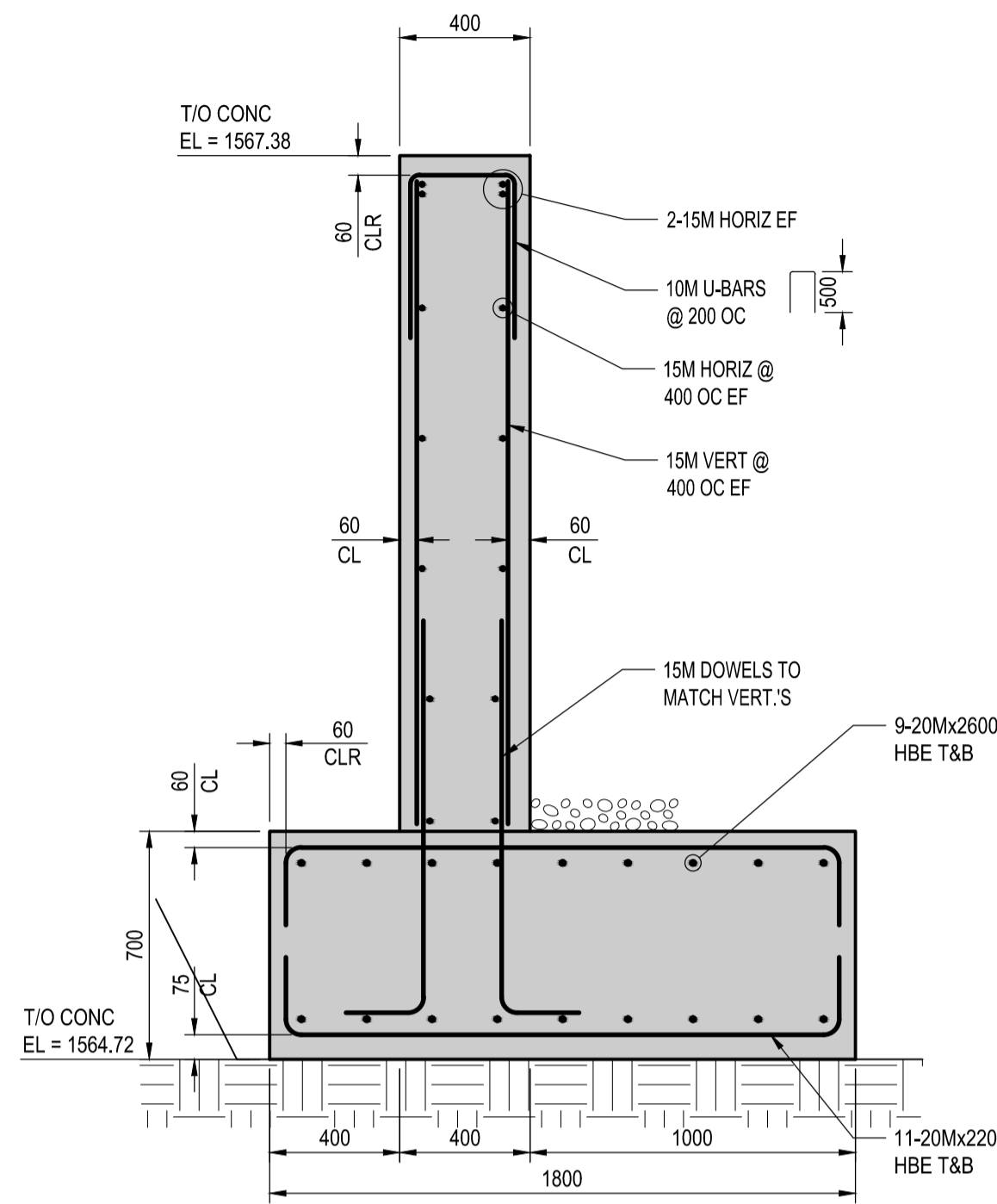
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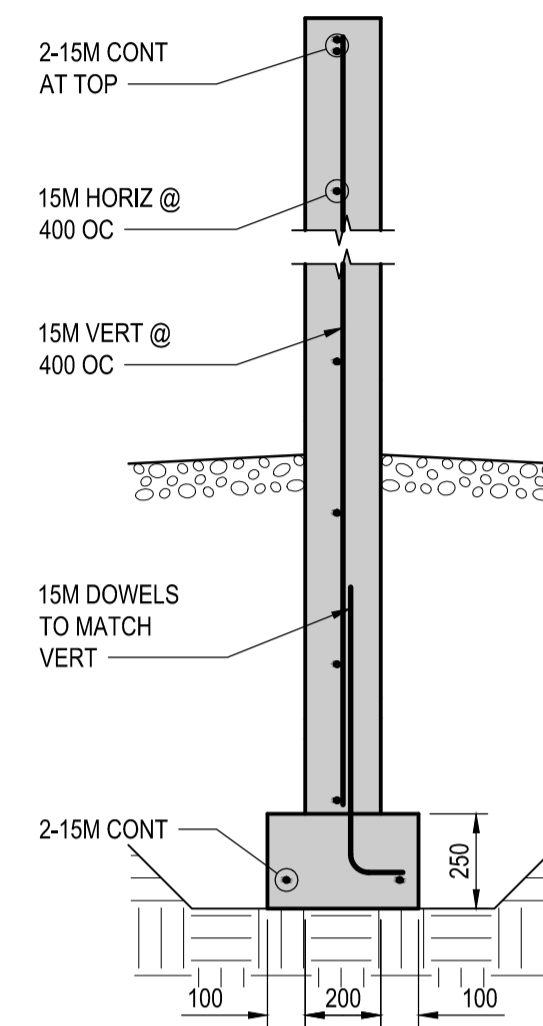
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1 WEST ABUTMENT SECTION
S301 1:20



2 EAST ABUTMENT SECTION
S301 1:20



3 SECTION
S301 1:20

SCALE 1:20

0 500 1000

SCALE IN MILLIMETRES

500

SCALE 1:50

0 1000 2000 3000

SCALE IN MILLIMETRES

1000 0

SCALE IN MILLIMETRES

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EAST AND WEST
ABUTMENT
SECTIONS AND DETAILS

Project No./No. du projet

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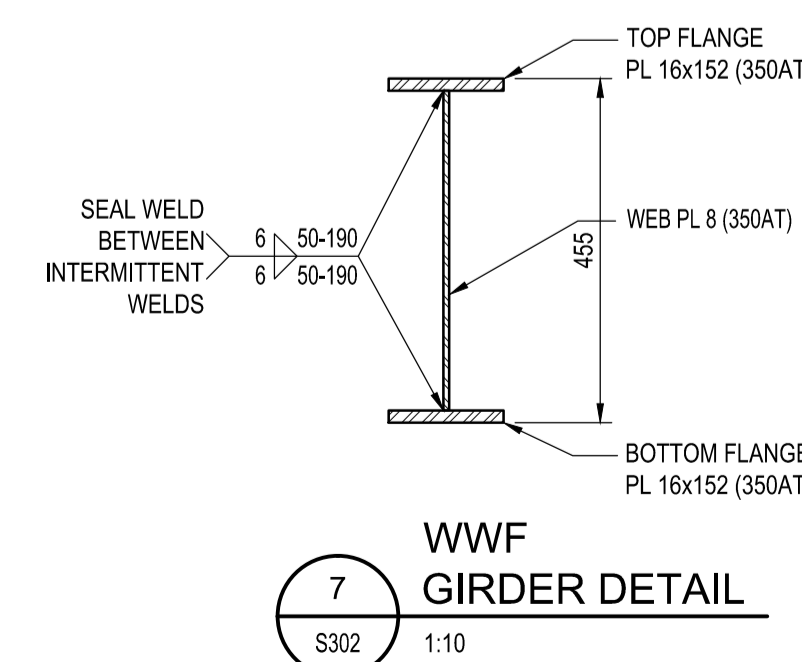
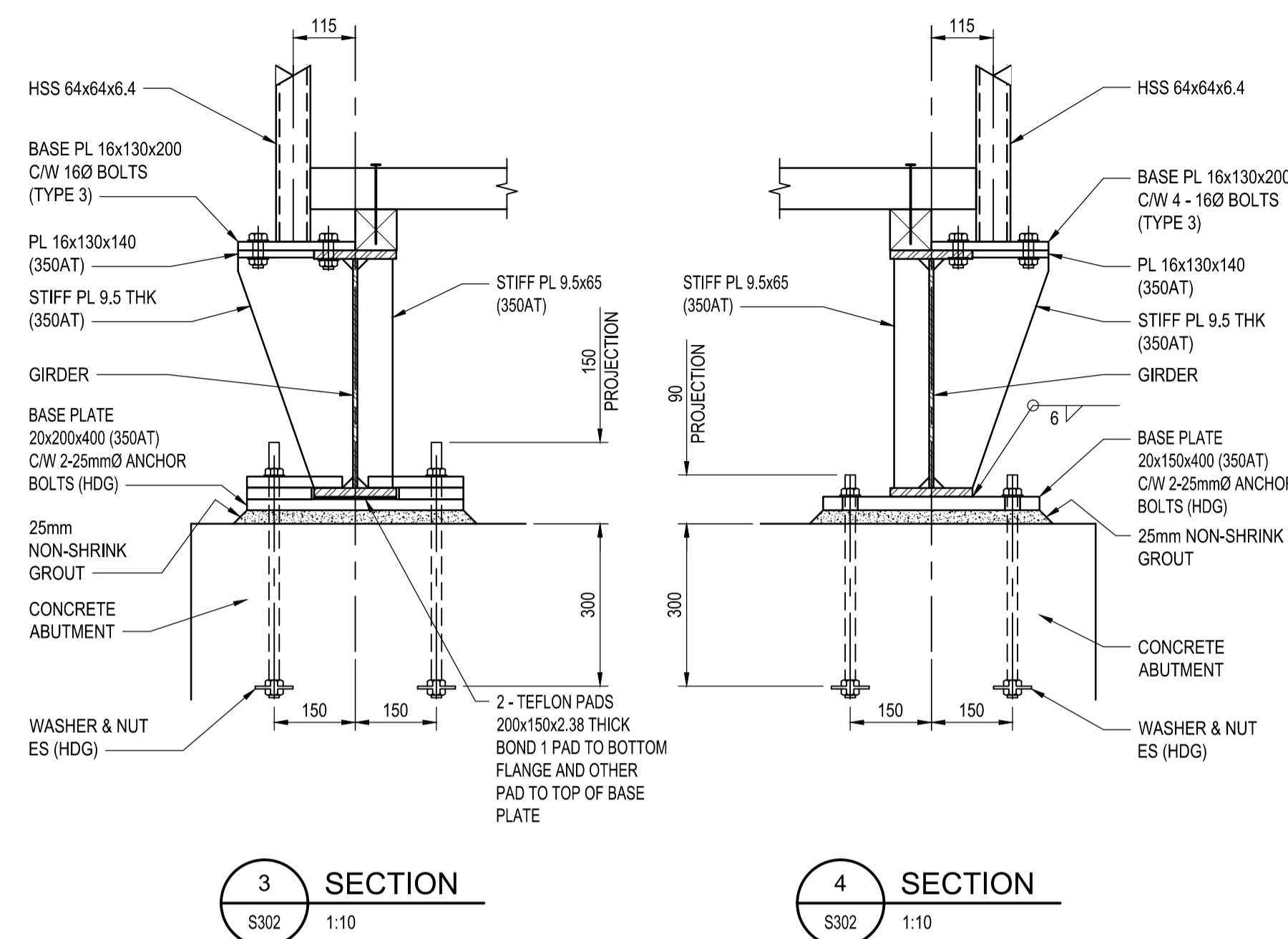
S301

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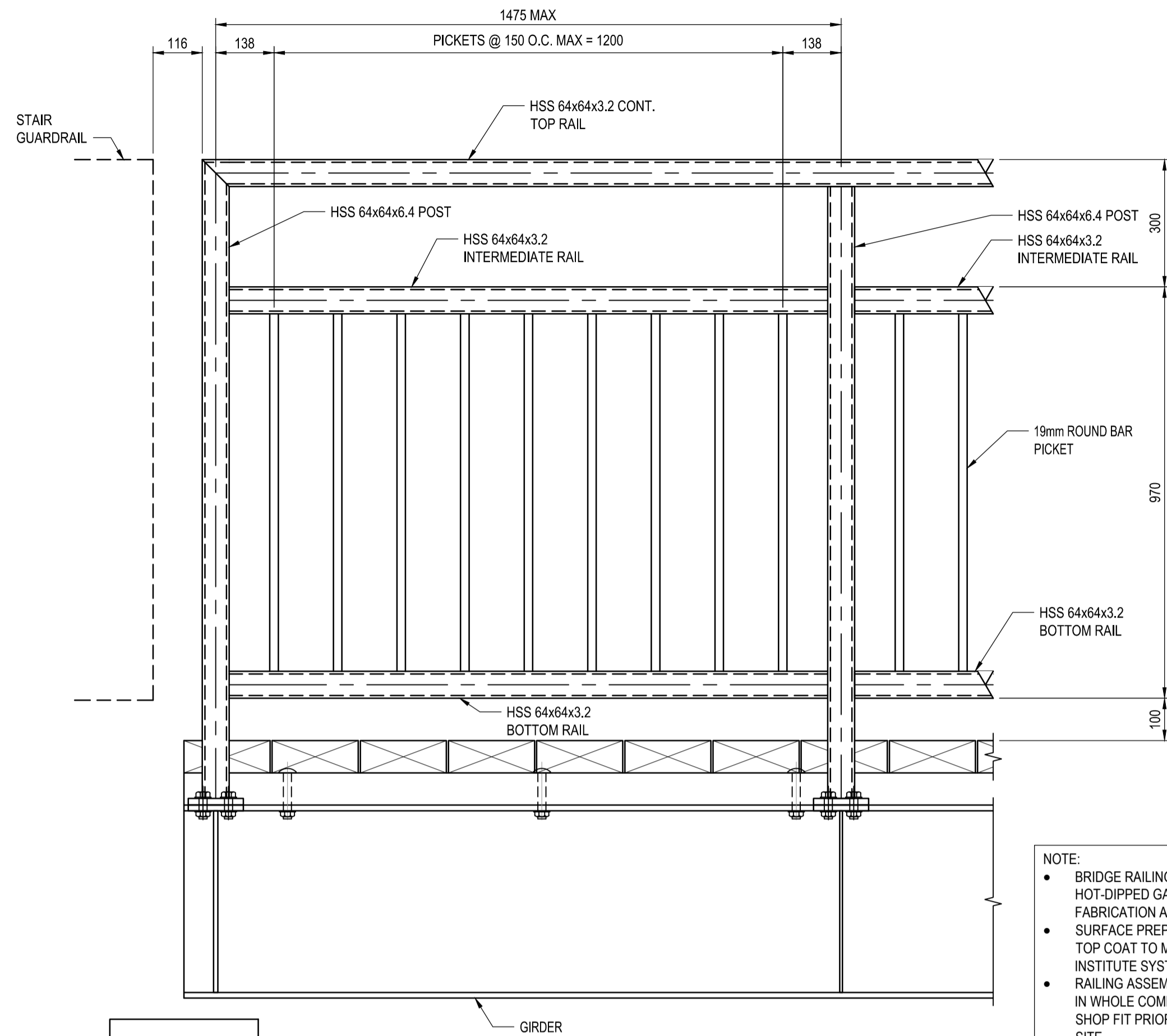
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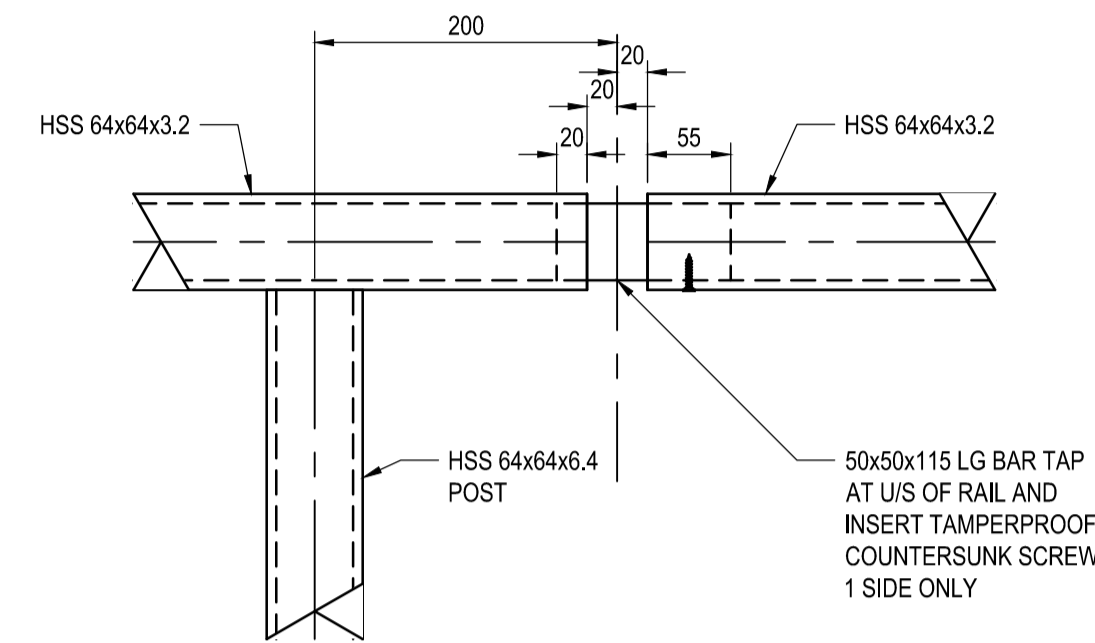


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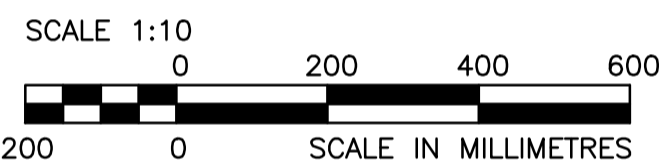
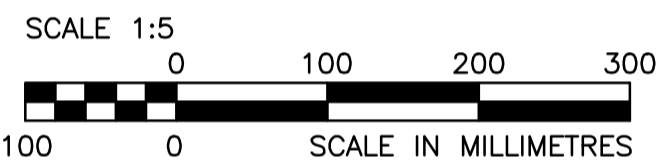


1 BRIDGE RAILING ELEVATION
S303 1:10

- NOTE:
- BRIDGE RAILING ASSEMBLIES TO BE HOT-DIPPED GALVANIZED AFTER FABRICATION AND TOP COATED (BLACK).
 - SURFACE PREPARATION, PRIMER, AND TOP COAT TO MASTER PAINTERS INSTITUTE SYSTEM EXT 5.3C.
 - RAILING ASSEMBLIES TO BE FABRICATED IN WHOLE COMPONENTS OFF-SITE AND SHOP FIT PRIOR TO INSTALLATION ON SITE.
 - FIELD WELDING WILL NOT BE PERMITTED.



2 BRIDGE RAILING JOINT DETAIL
S303 1:5



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KOOTENAY NATIONAL PARK

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BRIDGE
VERMILION RIVER

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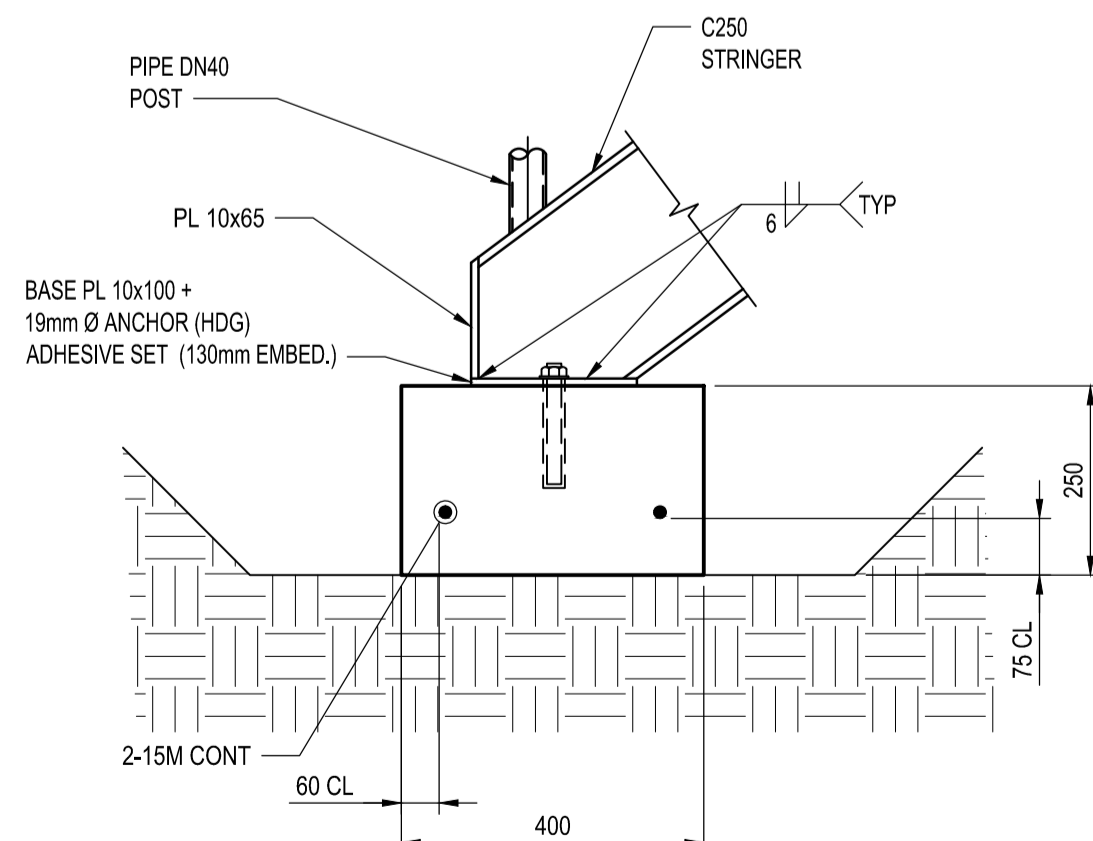
RAILING ELEVATION,
SECTIONS AND DETAILS
STAIR SECTIONS

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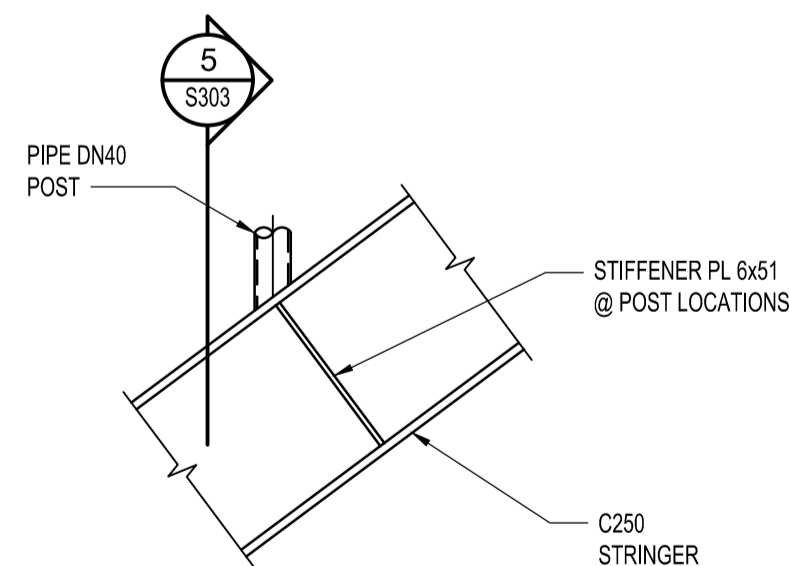
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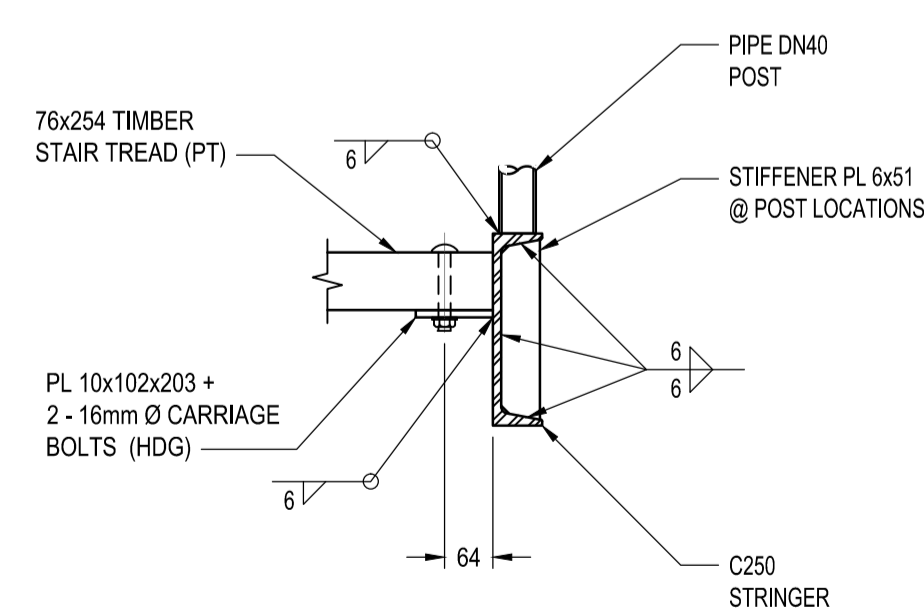
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3 SECTION
S303 1:10



4 SECTION
S303 1:10



5 SECTION
S303 1:10