

DEPARTMENT OF FISHERIES AND OCEANS CANADA

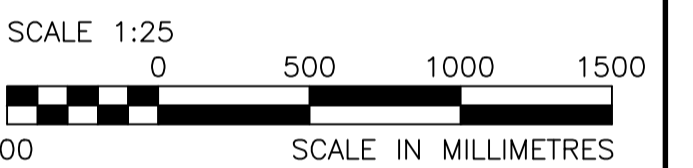
CONUMA RIVER HATCHERY
AERATION TOWER

STRUCTURAL & ELECTRICAL
MODIFICATIONS



ABBREVIATIONS

ALUM	-	ALUMINUM
BOTT	-	BOTTOM
COL	-	COLUMN
CONC	-	CONCRETE
CONT	-	CONTINUOUS
CP	-	COMPLETE PENETRATION WELD
CW	-	COMPLETE WITH
DP	-	DEEP
(E)	-	EXISTING
EL	-	ELEVATION
ELEV	-	ELEVATION
ES	-	EACH SIDE
EQ	-	EQUAL
EXIST	-	EXISTING
GALV	-	GALVANIZED
LG	-	LONG
(N)	-	NEW
NTS	-	NOT TO SCALE
OC	-	ON CENTER
PL	-	PLATE
SS	-	STAINLESS STEEL
STIFF	-	STIFFENER
T.O.	-	TOP OF
TYP	-	TYPICAL
UN	-	UNLESS NOTED
US	-	UNDERSIDE
VERT	-	VERTICAL



DO NOT SCALE DRAWINGS

5		
4		
3		
2	ISSUED FOR TENDER	15/01/08
1		14/12/15
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AERATION TOWER
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**GENERAL NOTES
AND PLANS**

Project No./No. du projet

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GENERAL NOTES

- CONTRACTOR TO VERIFY ALL DIMENSIONS FOR BUILDING (INCLUDING EXISTING STRUCTURAL MEMBER SIZES) PRIOR TO COMMENCEMENT OF WORK AND NOTIFY ENGINEER 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.
- NOTIFY WSP 48 HOURS IN ADVANCE FOR CONSTRUCTION REVIEW OF THE STRUCTURAL PORTION OF THE BUILDING AS SHOWN ON THE STRUCTURAL DRAWINGS IN ACCORDANCE WITH DIVISION C PART 2 OF THE BRITISH COLUMBIA BUILDING CODE 2012.
- SEE ELECTRICAL, AND MECHANICAL DRAWINGS FOR SLEEVES, INSERTS, ETC. TO BE ENCASED IN CONCRETE.
- STRUCTURAL DESIGN DATA.
 - ENGINEER OF RECORD: JIM GALLOWAY, P.ENG.
 - DESIGN CODE - BRITISH COLUMBIA BUILDING CODE 2012 - PART 4.

LOUVRE NOTES

- LOUVRES MEETING THE FOLLOWING SPECIFICATIONS SHALL BE FURNISHED AND INSTALLED AS SHOWN ON THE DRAWINGS.
- STATIONARY TYPE WITH J STYLE BLADES IN A 150 MM LOUVRE FRAME.
- LOUVRE BLADES AND FRAMES SHALL BE FABRICATED FROM 2 MM THICK EXTRUDED ALUMINUM.
- BLADES SHALL BE POSITIONED AT 37° AND 45° ANGLES APPROXIMATELY ON 150 MM CENTRES.
- EACH LOUVRE SHALL BE EQUIPPED WITH A FRAMED, REMOVABLE, REAR-MOUNTED BIRD SCREEN OF EXPANDED, FLATTENED ALUMINUM.
- APPLY CHEMICAL CLEANING AND PRE-TREATMENT AFTER FABRICATION.
- PROVIDE KYNAR COATING (COLOUR TO MATCH BUILDING EXTERIOR FLASHING AND TRIM - PROVIDE COLOUR SAMPLES FOR APPROVAL).
- PROVIDE FASTENERS AND ANGLE CLIPS FOR MOUNTING; SHOW DETAILS ON SHOP DRAWINGS.
- TO SUIT OPENINGS IN WALLS; PROVIDE 6 MM CLEAR ON ALL SIDES OF ROUGH OPENINGS FOR SEALANT.
- LOUVRE PERFORMANCE DATA, INCLUDING AIRFLOW PRESSURE LOSS AND WATER PENETRATION, SHALL BEAR THE AMCA CERTIFIED RATINGS SEAL AND SHALL DEMONSTRATE PERFORMANCE EQUAL TO OR BETTER THAN THE MODEL SPECIFIED BELOW.
- BLANKED LOUVRES ON THE NORTH WALL SHALL BE EFFECTIVELY SEALED WITH A BLOCK-OFF PLATE FABRICATED FROM SHEET METAL DUCTWORK AND CAULKING ALL AROUND.

LOCATION	FREE AREA (PER LOUVRE)	ROUGH OPENING	MOUNTING
LOCATION AS SHOWN ON DRAWING	1m ²	1372mmx1372mm	INTERIOR ANGLE FLANGE

PROVIDE GREENCHECK MODEL ESJ-602 TO THE ABOVE REQUIREMENTS OR APPROVE DEQUAL.

DESIGN PARAMETERS (TAHSS) / PORT ALBERNI / TOFINO			
BUILDING IMPORTANCE CATEGORY: NORMAL			
SNOW LOAD PARAMETERS (TAHSS)			
S _s = 1.1 kPa	S _r = 0.4 kPa	I _s [ULS] = 1.0	I _s [SLS] = 0.9
WIND LOAD PARAMETERS (PORT ALBERNI)			
q ₅₀ = 0.63 kPa	w [ULS] = 1.0	w [SLS] = 0.75	
SEISMIC PARAMETERS (TOFINO)			
S _a (0.2) = 1.2	S _a (0.5) = 0.94	S _a (1.0) = 0.47	S _a (2.0) = 0.21
PGA = 0.52			
I _b = 1.0			
SITE CLASS: D (ASSUMED)			
SFRS	CONVENTIONAL CONSTRUCTION - STEEL		
NORTHSOUTH & EASTWEST DIR.	R _d = 1.5 R _o = 1.3		
ANALYSIS METHOD:	EQUIVALENT STATIC ANALYSIS		
DESIGN LOADS			
GRAVITY			
ROOF	SNOW (kPa)	LIVE (kPa)	DEAD (kPa)
	2.0	1.00	0.48
LATERAL - WIND			
DESIGN WALL PRESSURE FOR EXTERNAL WALLS			
STRENGTH 1.44 kPa	DEFLECTION LIMIT SPAN/240 (TYP. UIN)		
DEFLECTION 1.08 kPa			
LATERAL - SEISMIC			
MINIMUM BUILDING BASE SHEAR NORTHSOUTH & EASTWEST TO TOP OF EXISTING TANK	V ₁ = 76 kN		

STRUCTURAL STEEL NOTES

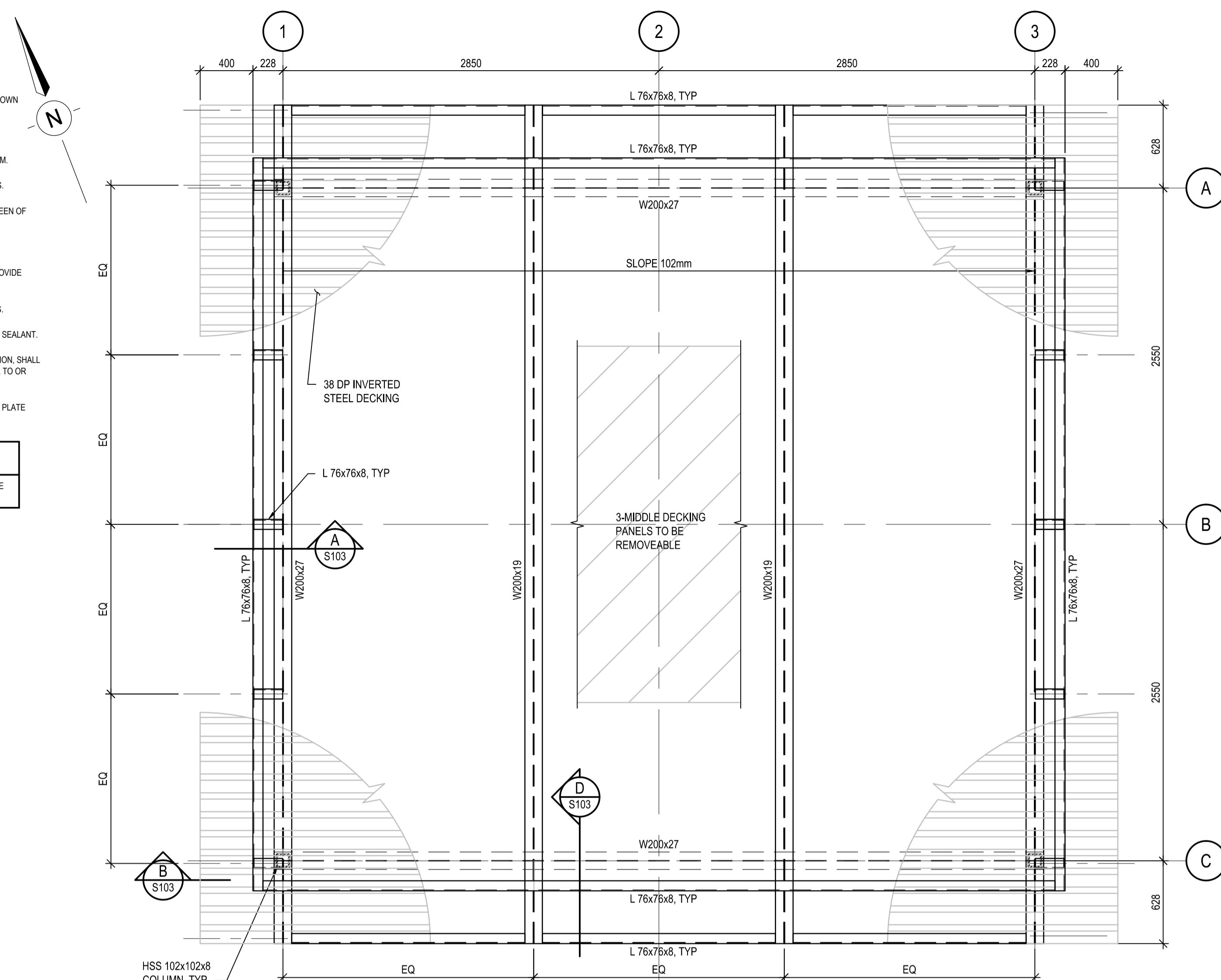
- STRUCTURAL STEEL TO CONFORM TO THE REQUIREMENTS OF THE FOLLOWING STANDARDS:
 - ROLLED SECTIONS: G40.21 350W
 - CHANNELS, ANGLES & PLATE: G40.21 300W
 - PIPE: A53
 - HSS & LIGHT GAUGE SECTIONS: G40.21 350W
 - BOLTS: ASTM A325
 - ANCHOR BOLTS: ASTM A307
- FABRICATION, ERECTION, STRUCTURAL DESIGN, & DETAILING OF ALL STRUCTURAL STEEL TO BE IN ACCORDANCE WITH CANCSA-S16-09.
- ALL WELDING TO CONFORM TO CSA W59 AND BE PERFORMED BY FABRICATORS "FULLY APPROVED" BY THE CANADIAN WELDING BUREAU UNDER CSA W47. FABRICATING SHOP TO HAVE A DIVISION 2.1 CERTIFICATION BY THE CANADIAN WELDING BUREAU TO THE REQUIREMENTS OF CSA W47.1 AND SUBMIT PROOF OF CERTIFICATION PRIOR TO START OF WORK.
- FOR REPAIRS TO EXISTING STEEL SURFACES AND FOR FINISHES AT FIELD WELD AND CUT OUT LOCATIONS, SEE SECTION 099719, PAINTING EXTERIOR METAL SURFACES.
- ALL STRUCTURAL STEEL COMPONENTS TO BE HOT DIP GALVANIZED, TO CANCSA-G164, MINIMUM ZINC COATING OF 600 GM.
- STRUCTURAL STEEL SHOP DRAWINGS: SUBMIT 4 COPIES OF SHOP DRAWINGS TO THE STRUCTURAL ENGINEER OF RECORD FOR REVIEW PRIOR TO FABRICATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DIMENSIONS AND FIT-UP OF ALL COMPONENT.
- WHERE SPECIFICALLY CALLED FOR ON THE STRUCTURAL DRAWINGS, CERTAIN CONNECTIONS MAY BE DESIGNED BY A STRUCTURAL ENGINEER RETAINED BY THE FABRICATOR. ALL CONNECTIONS TO BE DESIGNED IN THE ACCORDANCE WITH CANCSA S16-01, AND APPROVED BY THE STRUCTURAL ENGINEER OF RECORD. SUBMIT 4 COPIES OF SHOP DRAWINGS BEARING THE SEAL OF A REGISTERED STRUCTURAL ENGINEER IN BRITISH COLUMBIA. ALL SHOP DRAWINGS MUST BE APPROVED BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO FABRICATION.

STEEL DECKING NOTES

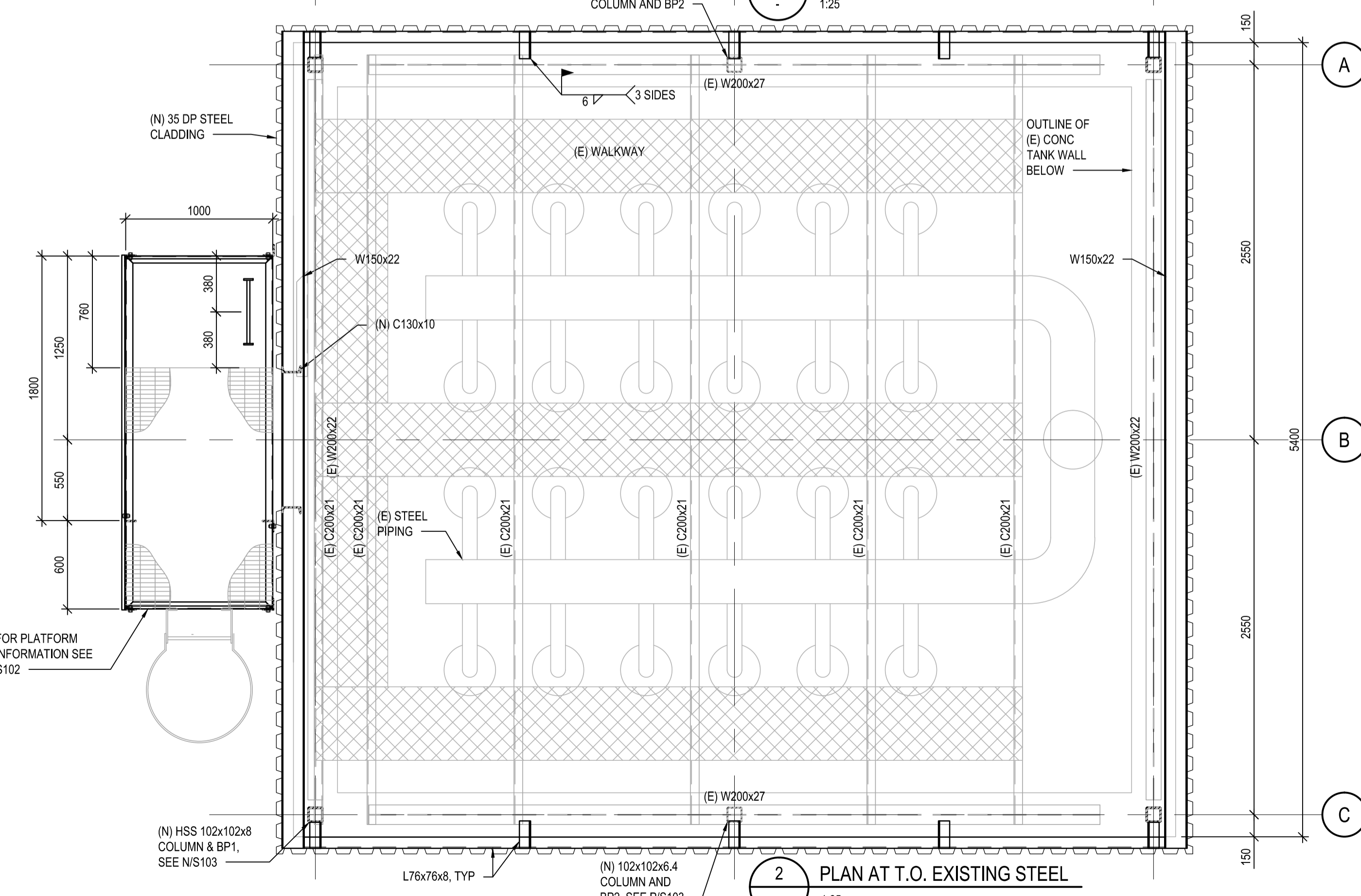
- ROOF DECKING TO BE PRE-PAINTED ZINC COATED STEEL TO ASTM A653/A653 M STRUCTURAL QUALITY GRADE 230 WITH Z275 COATING AND 0.91mm BASE STEEL THICKNESS. VIC WEST PROFILE RD 938 OR APPROVED EQUAL COLOUR TO BE AS APPROVED BY DEPARTMENTAL REPRESENTATIVE. INSTALL DECK INVERTED SO THAT SIDE-LAPS ARE LOCATED ON HIGH FLUTE.
- WALL CLADDING TO BE PRE-PAINTED ZINC COATED STEEL TO ASTM A653/A653 M STRUCTURAL QUALITY GRADE 230 WITH Z275 COATING AND 0.76mm BASE STEEL THICKNESS. VIC WEST PROFILE CL 938 OR APPROVED EQUAL COLOR TO BE GOLD OR AS APPROVED BY DEPARTMENTAL REPRESENTATIVE.
- FABRICATION SHALL BE IN ACCORDANCE WITH CSA S136.1 AND THE MANUFACTURER'S SPECIFICATIONS. DECKING TO SPAN MINIMUM 2 SUPPORTS.
- FASTEN DECK TO ALL SUPPORTING STEEL BY MEANS OF #12 HWH SELF-DRILLING SCREWS WITH CLIMASEAL COATING C/W NEOPRENE WASHERS EVERY FLUTE AND 150mm [6"] ON CENTER ON SIDE SUPPORTS, TYPICAL UNLESS NOTED OTHERWISE.
- SCREW SIDE LAPS AT 300mm [12"] ON CENTER WITH #12 HWH SELF DRILLING SCREWS WITH CLIMASEAL COATING C/W NEOPRENE WASHERS UNLESS NOTED OTHERWISE.
- SUPPLY DECK IN FULL LENGTH SHEETS.
- INSTALL 0.91mm CLOSURE STRIPS AS REQUIRED ALONG SIDE SUPPORTS. CONNECT AS NOTE 4.
- SUBMIT SHOP DRAWING FOR REVIEW PRIOR TO FABRICATION. SHOP DRAWING TO SHOW ARRANGEMENT OF PRE-FINISHED ROOF SHEET, INCLUDING JOINTS, TYPES AND LOCATIONS OF SUPPORTS, FASTENERS, FLASHING, GUTTERS, MITRES AND ALL METAL COMPONENTS RELATED TO THE ROOF INSTALLATION.

DEMOLITION NOTES

- REMOVE COMPONENTS AS SHOWN ON DRAWING.
- REMOVE AND DISPOSE OF DEMOLISHED MATERIAL EXCEPT WHERE NOTED OTHERWISE AND IN ACCORDANCE WITH AUTHORITIES HAVING JURISDICTION.
- PROVIDE TEMPORARY SHORING AS REQUIRED. CONTRACTOR TO RETAIN ENGINEER REGISTERED IN PROVINCE OF BC IN ACCORDANCE WITH WORKSAFE BC REGULATIONS.



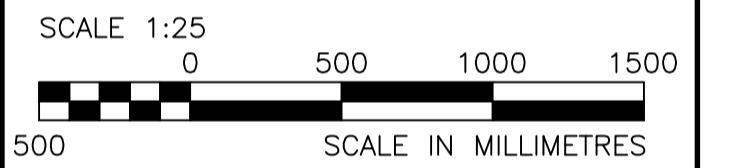
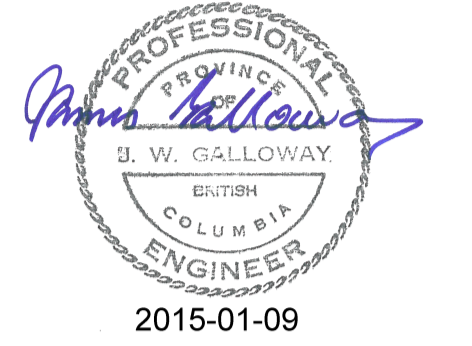
1 ROOF PLAN
1:25



2 PLAN AT T.O. EXISTING STEEL
1:25



SUITE 400-401 GARBALLY ROAD
VICTORIA (BRITISH COLUMBIA) CANADA V8T 5M3
TEL: 250-384-5510 | FAX: 250-386-2844 | WWW.WSPGROUP.COM
JOB No. 131-19104-05



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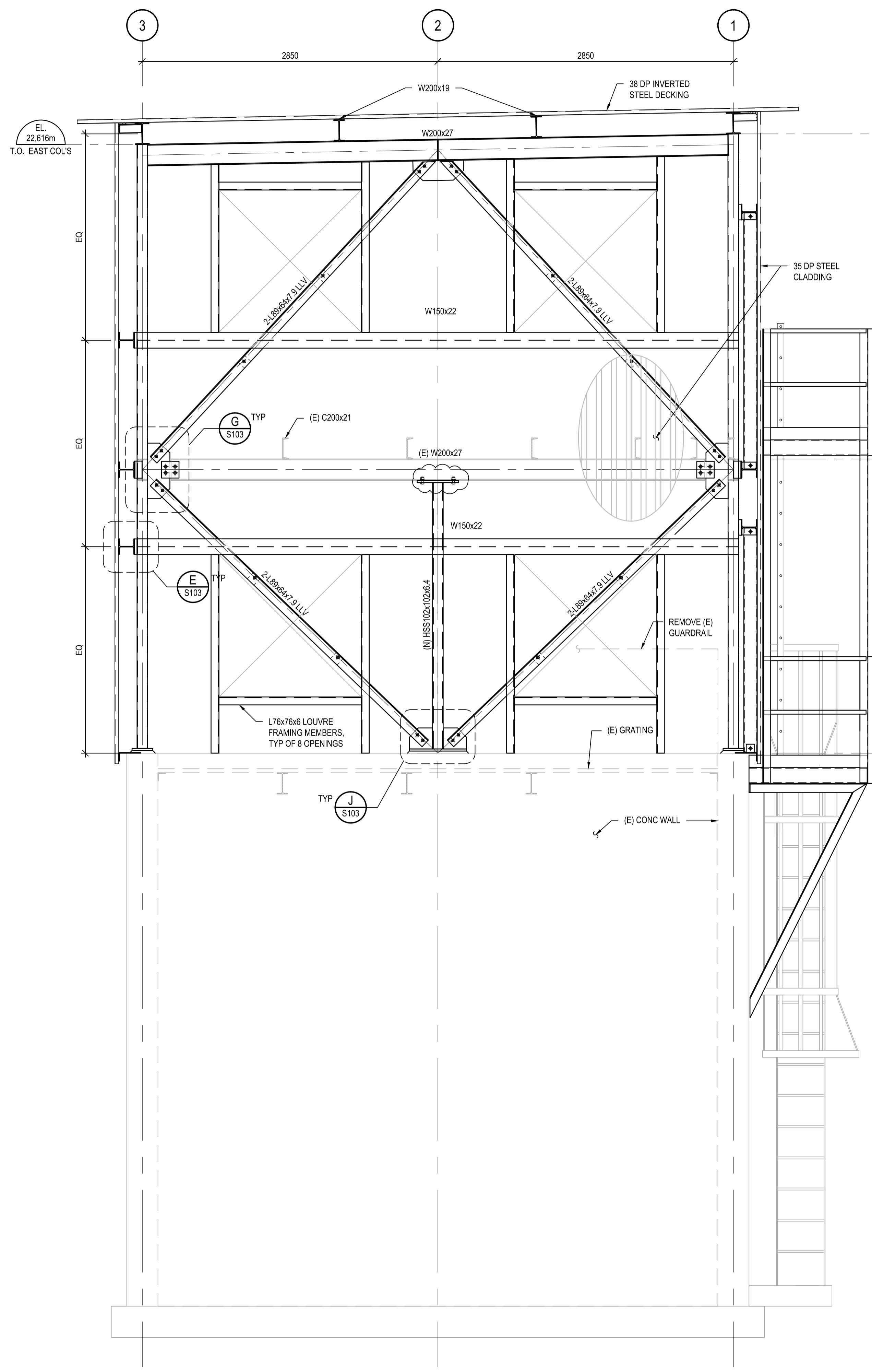
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SOUTH AND EAST ELEVATIONS

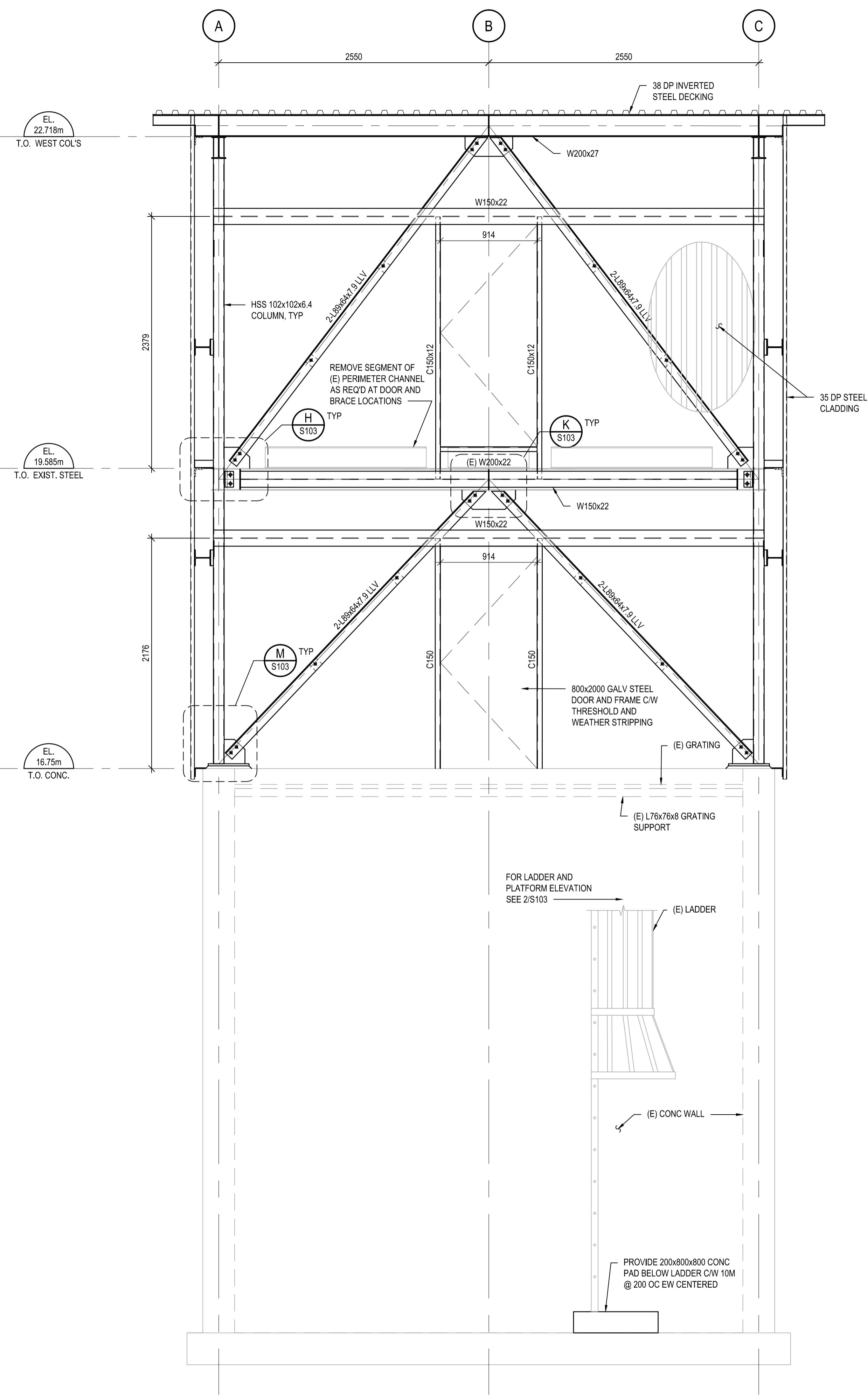
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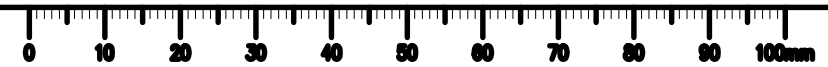
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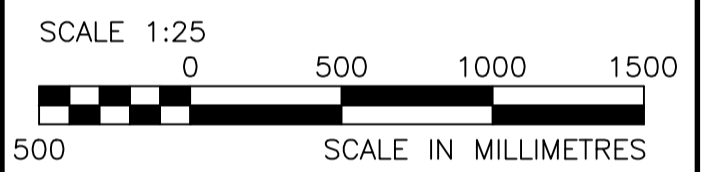
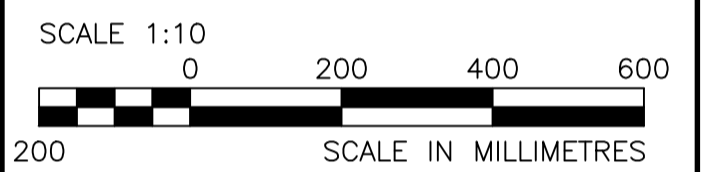


1 NORTH ELEVATION
(SOUTH SIMILAR)
1:25



2 WEST ELEVATION
1:25





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**EAST ELEVATION,
LADDER ELEVATION AND
SECTION AT DOOR**

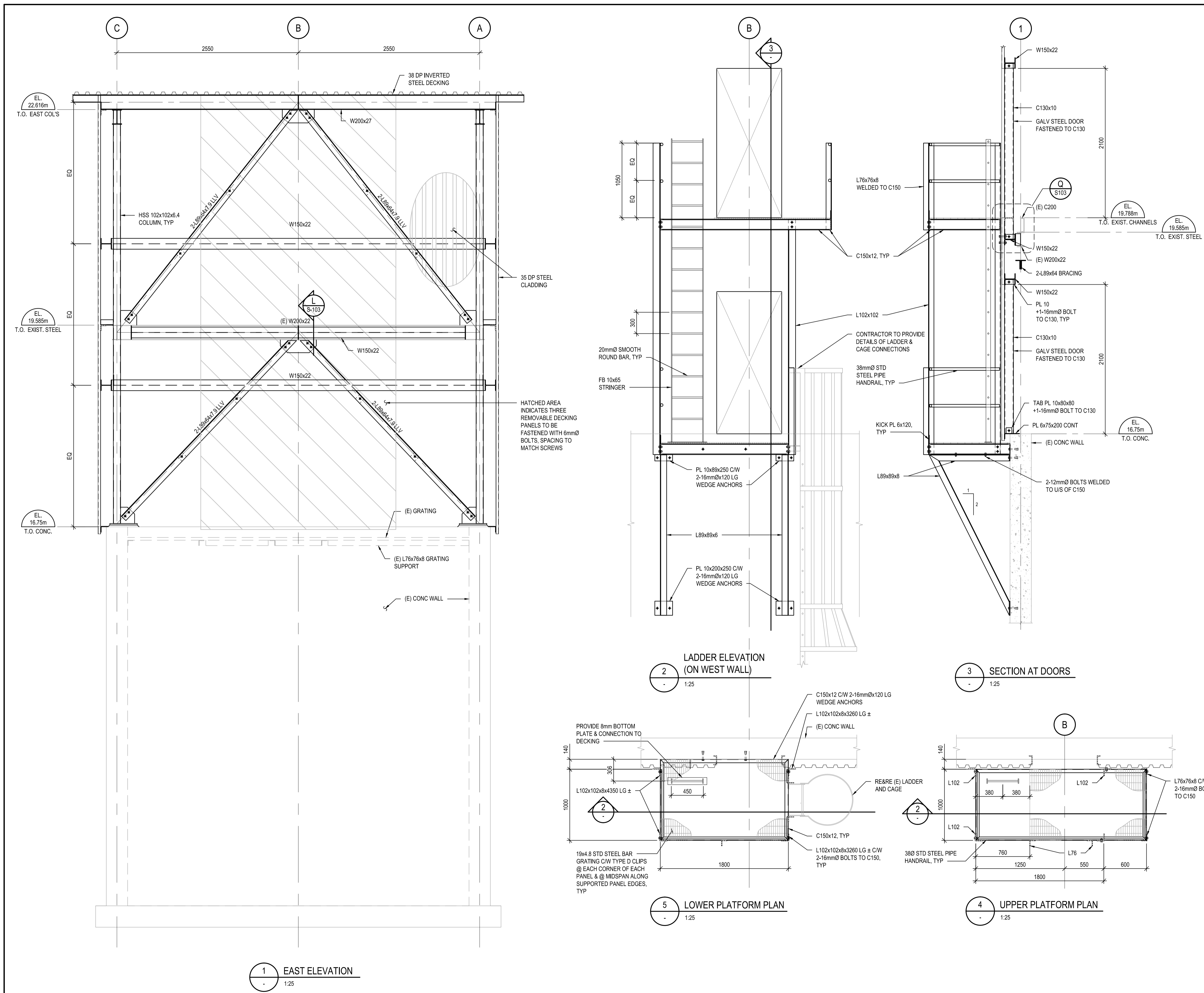
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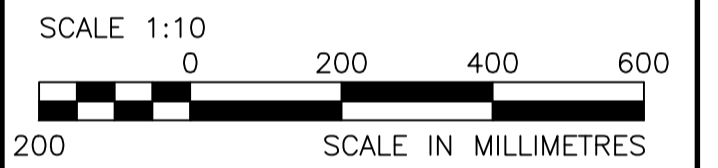
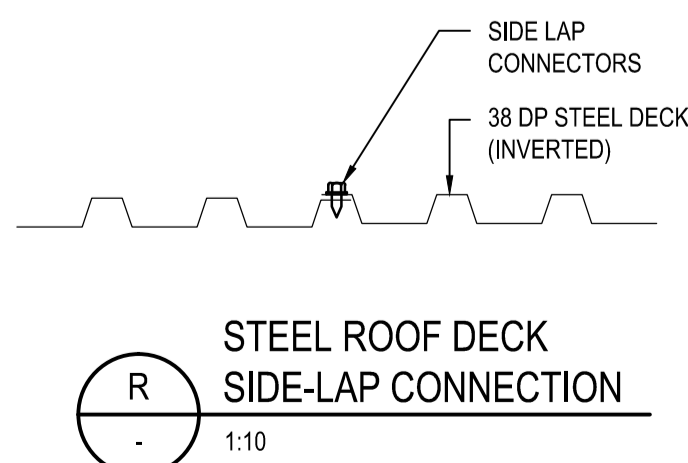
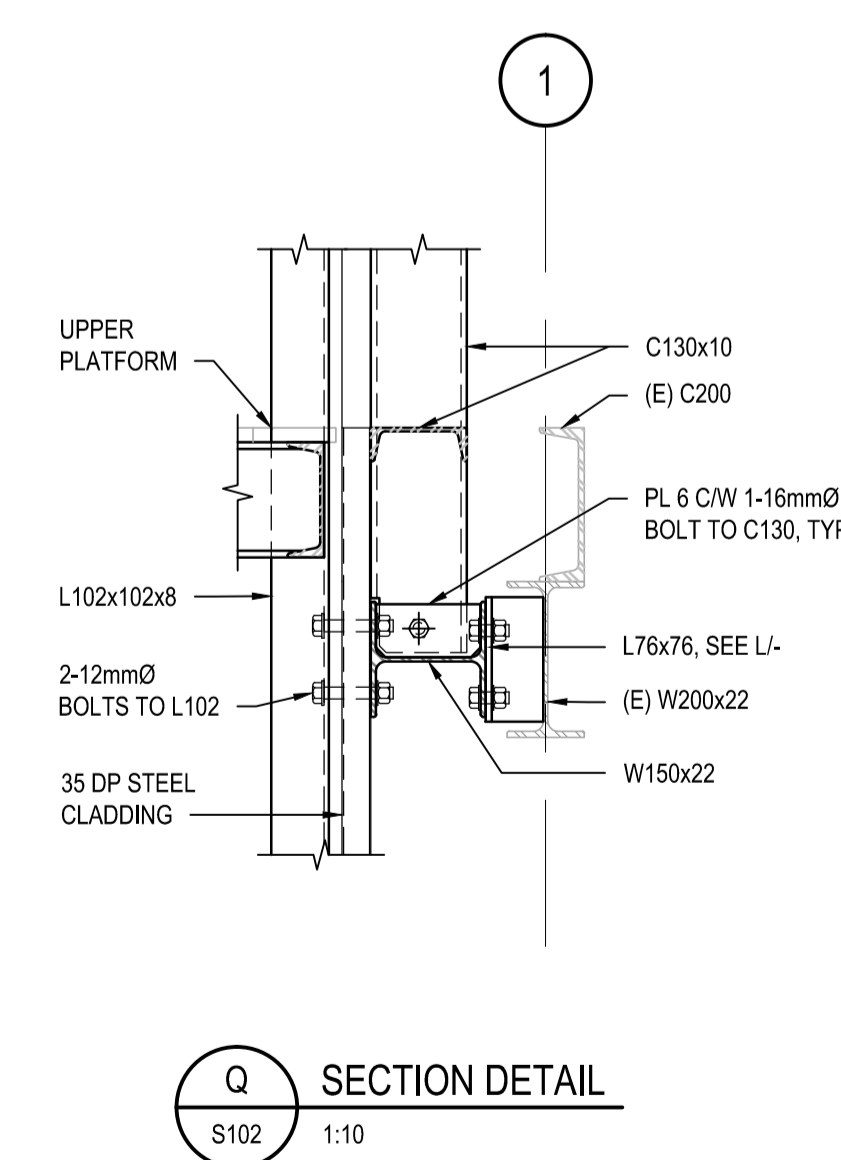
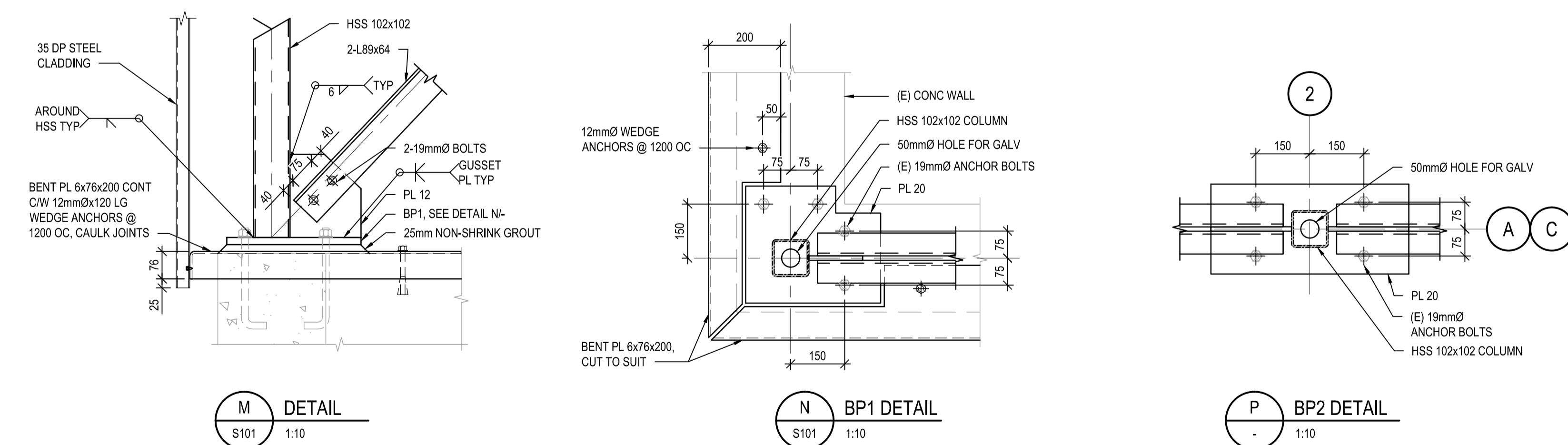
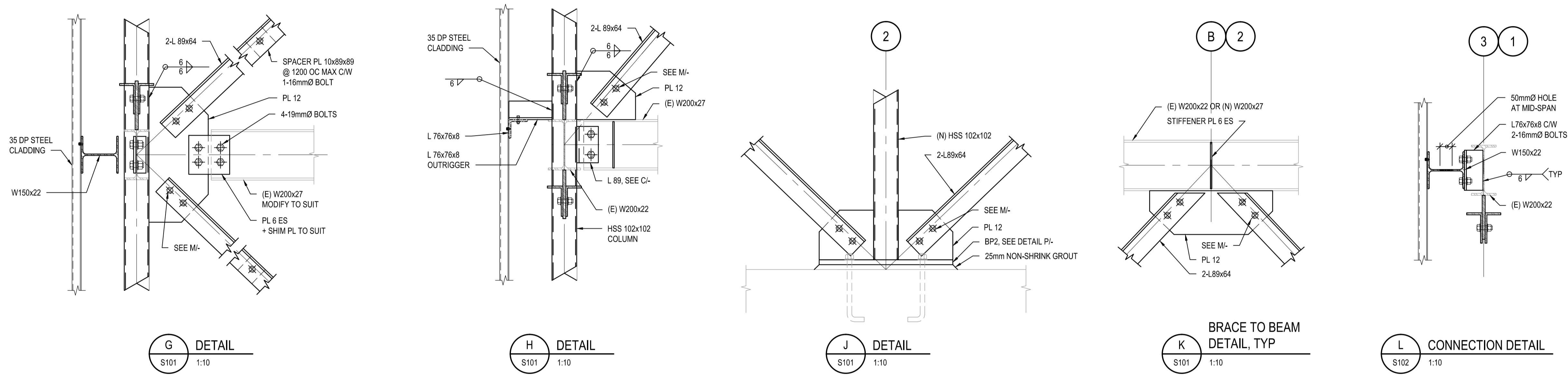
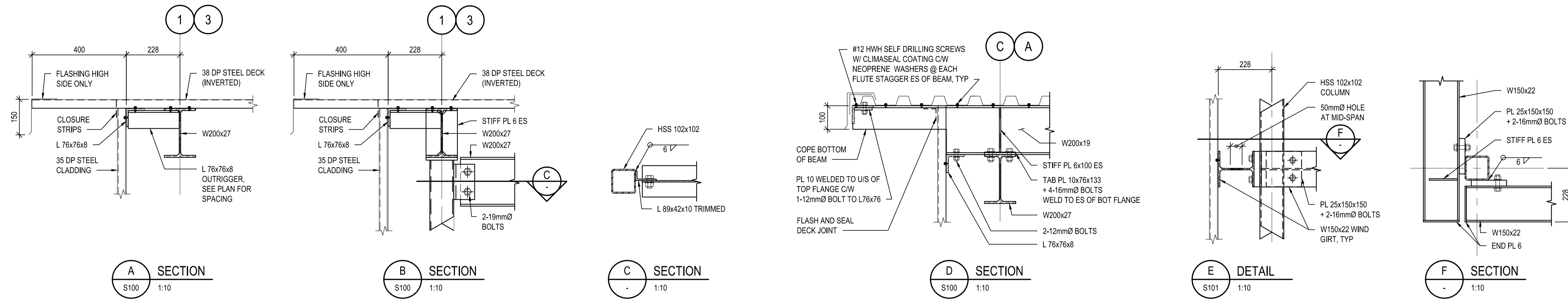
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SECTIONS AND DETAILS

Project No./No. du projet

S103
4 OF 5

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