

BIDS AND AWARDS COMMITTEE

Bid Bulletin No. 4

27 June 2022

PROCUREMENT OF CONSTRUCTION OF FIT-OUT AND OTHER WORKS TO COMPLETE OF PHILIPPINE STATISTICS AUTHORITY (PSA) 23-STOREY BUILDING

This Bid Bulletin No. 4 modifies the respective portions of the Bidding Documents issued on 30 May 2022.

The changes to the Bidding Documents, as indicated in the succeeding pages, are being issued in compliance with Section 22.5 of the Revised 2016 Implementing Rules and Regulations of RA 9184. Under this section, the procuring entity is directed to issue an amendment at least seven (7) days before the deadline for submission of the bid.

Except as expressly amended by this Bid Bulletin, all other terms and conditions of the Bidding Documents issued on 30 May 2022 shall remain unchanged and shall remain in full force and effect in accordance with their terms.

For guidance and information of all concerned.

(SGD)

MINERVA ELOISA P. ESQUIVIAS

Chairperson, Bids and Awards Committee
Philippine Statistics Authority

**PROCUREMENT OF PROCUREMENT OF CONSTRUCTION OF FIT-OUT AND
OTHER WORKS TO COMPLETE OF PHILIPPINE STATISTICS AUTHORITY
(PSA) 23-STOREY BUILDING**

Bid Bulletin No. 4

Reference	Amendments /Revision
<p>TOR, Demolition Works</p> <p>The excavation details from CVEA to 23/F building?</p>	<p>There are 2 provisioned exit points of fiber optic from the 23 storey building. The fiber optic cable connected to the main distributor and redundant main distributor must use separate exit points and underground conduit going to CVEA building for fiber optic redundancy.</p> <p>Please see Fiber Optic layout from CVEA to 23 Storey Building</p> <p>Please see attached excavation details.</p>
<p>Section IX, Checklist of Technical and Financial Requirements</p> <p>Please provide a template for the FORM 1 under the bid form for FINANCIAL DOCUMENTS.</p>	<p>Please see attached Financial Proposal Form.</p>
<p>Terms of Reference, Civil Works</p> <p>Please provide structural plan for the G/F Mezzanine</p>	<p>See attached Structural Plan for the G/F Mezzanine.</p>
<p>Terms of Reference, Civil Works</p> <p>As per Site inspection, Structural Framings for Basketball court Roofing is not yet existing. Please confirm if it will be part of the scope. If yes please provide structural plans.</p>	<p>Yes, it is part of the scope. See attached Structural Framings for Basketball Court.</p>
<p>Terms of Reference, Network and Cabling</p>	<p>Location of the main distributor switches is on 10th and 18th floor.</p> <p>Each floor switches must use switch stacking feature per floor as indicated on the equipment specifications wherein the floor</p>

<p>The detailed Single Line or Network Equipment Diagram for the Inter connection between PSA 23 floors to CVEA Bldg. for us to know the detailed connectivity in between floors and in between campus backbone for the redundancy of fiber and network equipment.</p>	<p>distributor switch should have switch stacking capability and must have fiber optic cable connected directly to both main distributor switches for redundancy.</p> <p>Please see fiber optic connection From CVEA to 23 Storey Building and going to floor distribution switches.</p>
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**PROCUREMENT OF CONSTRUCTION OF FIT-OUT AND
OTHER WORKS TO COMPLETE OF PHILIPPINE STATISTICS AUTHORITY
(PSA) 23-STOREY BUILDING**

Question and Answer (as of 25 June 2022)

Reference	Query	Response/s
Section IX, Checklist of Technical and Financial Requirements	Please confirm if we are to include the "Conformity to Section VI & VII" since it is not included in the checklist.	Bidder/s may still attach their conformity to Section VI and Section VII as additional documents that will form part of their bidding proposal
Section IV, Performance Security	Please confirm if it is necessary to include "PERFORMANCE SECURING DECLARATION" in the bid submission or we can disregard it for now?	Any form of Performance Security shall be provided after the NOA has been issued to the winning bidder.
Terms of Reference, Electrical Works	<p>Where is the Exact location of VACUUM FAULT INTERRUPTER?</p> <p>Is this confirmed that the original design for electrical system will be energized first, and then we will implement the new design?</p> <p>What is our sequence of work for this since we will install the VFI?</p> <p>Please send details for us to consider in our scope to lessen the downtime or transition of these two different electrical systems.</p>	<p>Please see on the design of Ground Floor Power System Layout</p> <p>Yes (The Power for the Parking Area will be activated due to car parking use.)</p> <p>It will depend on your best sequence (Normally we will be having power shutdown for the installation of VFI)</p> <p>Prepare all need the materials, equipment and scope of works so the downtime for power supply will be only during the termination.</p>
Terms of Reference, Electrical Works	Is the enclosure/House of VFI is this included in our scope? Please send details	Yes. Please see on the design of Ground Floor Power System Layout.
Terms of Reference, Electrical Works	For the ground floor lightings & FDAS, what is our scope?	For the lighting you have scope of works to be install the lighting fixtures

	<p>The installation of ceiling is in PHASE 3, we found out during our walk-thru that the installation of lighting is in our scope as well but the supply of lightings is supposed to be made by the Phase 1 contractor. Is this correct?</p>	<p>that not included to the Phase 1 design.</p> <p>The scope for the FDAS is 7th floor to Roof deck.</p> <p>Yes (at Ground Floor).</p>
Terms of Reference, Electrical Works	Will the wiring of lightings not needing re-wiring or reconfiguration based on new design?	Yes
Terms of Reference, Electrical Works	<p>For the lighting system of 7th to 24th, we observed that there is already a wire, is this wiring correct or we need to rewire this based on new design?</p> <p>Is the Supply & Installation of Lighting Fixtures in our scope?</p>	<p>Need to configure if needed as per design.</p> <p>Yes (as per design)</p>
Terms of Reference, Electrical Works	For the power outlets system of 7th to 24th, is our scope all-in, like from panel boards to outlets, complete rough-ins, wiring & supply installation of outlets?	Yes (But the panel boards are already installed)
Terms of Reference, Electrical Works	For the FCU Existing System, based on walk-thru as per ENGR. ALLAN ALLERA the wiring of FCU is already completed but for the supply & installation of ECB & wiring from ECB to unit, will it be included in our scope?	Yes (also Wiring for the new FCU and ECB as per design will be the Winning Bidder deliverables)
Terms of Reference, Electrical Works	Same with the ACCU Existing SYSTEM, the wiring from PANEL to ECB is done but from ECB to Unit, will it be included in our scope as a Supply & Installation of ECB?	YES (also Wiring for the new ACCU and ECB as per design will be the Winning Bidder deliverables)
Terms of Reference, Electrical Works	To all the ACCU & FCU of NEW SYSTEM our scope is from tapping point to All	Yes

	the NEW ACCU UNIT & FCU UNIT will we Include supply & installation of ECB, PANELBOARDS, Rough-Ins & Wiring?	
Terms of Reference, Electrical Works	Please indicate the exact location PPECC & PPERV PANEL because during walk thru there is no space in ground room EE ROOM for new panel-board?	Please see on the New Design. New location will be subjected to Request For Approval (RFA).
Terms of Reference, Electrical Works	Is the complete electrical system of the PARKING & TRAFFIC MANAGEMENT SYSTEM, LANDSCAPE, BASKETBALL COURT, PHOTO-VOLTAIC GLASS including NET METERING included in our scope? Will it be an OVERALL PACKAGE for THOSE ITEM?	Yes Please see on the BOQ
Terms of Reference, Electrical Works	Is the PARKING GUIDANCE SYSTEM & TRAFFIC MANAGEMENT SYSTEM included in our scope? Is this a FULLY AUTOMATED PARKING SYSTEM?	Yes
Terms of Reference, Electrical Works	For FDAS, do you require same brand to be used from basement to 6th FLOOR? One FACP can't accommodate from 7th to 24th Floor. Do you require NON UL or UL LISTED? Please clarify also that from 7th to 24th they have a separate system from Basement to 6th Floor?	Yes UL Listed (There will be a Main FACP and Sub-FACP). There will be a Main FACP and Sub-FACP.
Terms of Reference, Electrical Works	Just to clarify about the tapping point of PPRDACC, PPECC, PPERV & PP6ACC is it included in our scope?	Yes

	Will the installation of additional breaker in LVSG 1, LVSG3, DPACCU1 & DPACCU2 will be same brand of existing breaker, is this right?	Yes
Terms of Reference, Electrical Works	For the PPRDACCUPANEL the proposed location in ROOFDECK & PP6ACCU is @ the 6TH Floor? Is this correct?	Yes
Terms of Reference, Electrical Works	Please confirm, is the rough-ins & wiring for the 4-Units of New Panel-board will be in the Electrical Pipe Riser?	Yes
Terms of Reference, Electrical Works	Is the power supply only of Electric Charger including the ECB is what will be included in our Scope? Is the Supply & Installation of ELECTRIC CHARGER not included in our scope?	Yes Yes
Terms of Reference, Electrical Works	Is the power supply of ERV included in our scope? Please indicate the PPERV PANEL location.	Yes (Please see in the New Design. New location will be subjected to RFA).
Terms of Reference, Electrical Works	What is the BACK-UP TIME of 10KVA UPS? Supply & Installation of UPS including testing & commissioning is included in our scope?	Please see Specification. Yes
Terms of Reference, Electrical Works	Also please confirm that the rough-ins & wiring of UPS per floor is already done?	No
Terms of Reference, Electrical Works	Supply & Installation of DIGITAL KILOWATT-HOUR METER for the UPS is included in our scope?	Please see on the design of Power Riser Diagram
Terms of Reference, Civil Works	Please confirm if the horizontal/vertical architectural aluminum louvers at the Basketball court is part of the scope.	Yes, it is part of the scope
Terms of Reference,	Please verify if the supply	a. Common Toilets will be

Plumbing Fixtures	and installation of plumbing fixtures at the following will be part of the scope: a. Common Toilets b. T&B c. Kitchen	installed by the present contractor on site b. T&B & c. Kitchen: * Water Closet -14 * Counter Top Lavatory – 17 * Lavatory Faucet- 17 * Kitchen Sink (Stainless) – 7 * Sink Faucet – 7 * Shower Valves with head- 17 All fixtures already delivered on site and will be installed by the winning bidder
Terms of Reference, Mechanical Works	Please confirm if cladding of the exposed pipes is part of the scope.	Yes
Terms of Reference, Mechanical Works	As shown in the plan for Riser Duct different sizes are proposed. As per site inspection only one Riser duct is not yet installed. Kindly confirm if it still deliverable of structural contractor.	No.
Terms of Reference, Mechanical Works	On the roof deck only 2 blower is currently installed (SPF-1), Kindly confirm if blower EPF-1 is still deliverable by the present contractor.	Yes
Terms of Reference, Mechanical Works	For control wiring of OSM VRV we noticed that only electrical metal conduit for communication wiring is currently installed. Kindly confirm if wiring is included in our scope.	Yes
Terms of Reference, Mechanical Works	Most of the proposed riser duct currently installed are insulated and some duct have more or incomplete insulation. Kindly confirm if this is to be completed by the existing contractor.	No
Terms of Reference, Mechanical Works	Please confirm the re-wrapping of polythelene tape of existing refrigerant	Yes

	pipe and condensate pipe from white to blue color.	
Terms of Reference, Mechanical Works	Existing condition have no black out for passage of horizontal duct for tapping to racer duct, Hacking and restoration should be included in the scope.	Yes
Terms of Reference, Mechanical Works	Sealing of pipe, Conduit and duct penetration or sleeves with fire stop sealant is not yet done. Kindly confirm if this is still deliver a bowl of the existing contractor.	Yes
Terms of Reference, Mechanical Works	Concrete pad for a ACCU should be included in waterproofing. Kindly confirm if this is still a deliverable of the existing contractor.	No
Terms of Reference, Mechanical Works	Branch duct and exhaust grills are not yet installed at common toilet. Please confirm if this is still deliverable by the existing contractor.	No
Terms of Reference, Plumbing Works	Is waterproofing of common toilet included in our scope?	Yes
Terms of Reference, Plumbing Works	No visible plumbing fixture is currently installed for common toilet. Kindly confirm if it is still deliverable by the existing contractor.	Yes
Terms of Reference, Plumbing Works	Existing water tank do not have pipe connection yet including booster pump at roof deck is this still for completion by the existing contractor. Also the filtering system at the second floor are not visible currently.	Yes
Terms of Reference, Fire Protection Works	The installed water tank have a 3 x 3 x 2.5m/2 (l x w x h) Dimension which is different as shown in the plan which is 5 x 2 x 2.5meter. Hey we going to follow existing size? Please note that space	Due to insufficient space on servicing and passage ducts to be installed it will be re-routed during construction implementation.

	will not be sufficient considering the servicing and passage of ducting for installation.	
Terms of Reference, Fire Protection Works	Upper floors have some sprinkler head that is not yet installed is this for completion of the existing contractor?	Yes
Terms of Reference, Fire Protection Works	Only the FHC is installed on site over accessories is not yet installed is this part of the deliverables of the existing contractor.	Yes
Terms of Reference, On Cladding	Please confirm if cladding of Electrical pipe chase including the installation of metals doors are part of the scope. If yes, what material is to be used for cladding?	Yes, please see wall setting plans.

Financial Proposal Form

[Date]

[Name and address of the Procuring Entity]

Ladies/Gentlemen:

We, the undersigned, offer to provide the consulting services for *[Title of Project]* in accordance with your Bidding Documents dated *[insert date]* and our Bid (Technical and Financial Proposals). Our attached Financial Proposal is for the sum of *[amount in words and figures]*. This amount is exclusive of the local taxes, which we have estimated at *[amount(s) in words and figures]*.

Our Financial Proposal shall be binding upon us subject to the modifications resulting from Contract negotiations, up to expiration of the bid validity period, *i.e.*, *[Date]*.

In accordance with GCC Clause 12, we acknowledge and accept the Procuring Entity's right to inspect and audit all records relating to our Bid irrespective of whether we enter into a contract with the Procuring Entity as a result of this Bid.

We confirm that we have read, understood and accept the contents of the Instructions to Bidders (ITB), the Bid Data Sheet (BDS), General Conditions of Contract (GCC), Special Conditions of Contract (SCC), Terms of Reference (TOR), the provisions relating to the eligibility of Consultant and the applicable guidelines for the procurement rules of the Funding Source, any and all Bid bulletins issued and other attachments and inclusions included in the Bidding Documents sent to us.

We understand you are not bound to accept any Bid you receive.

We remain,

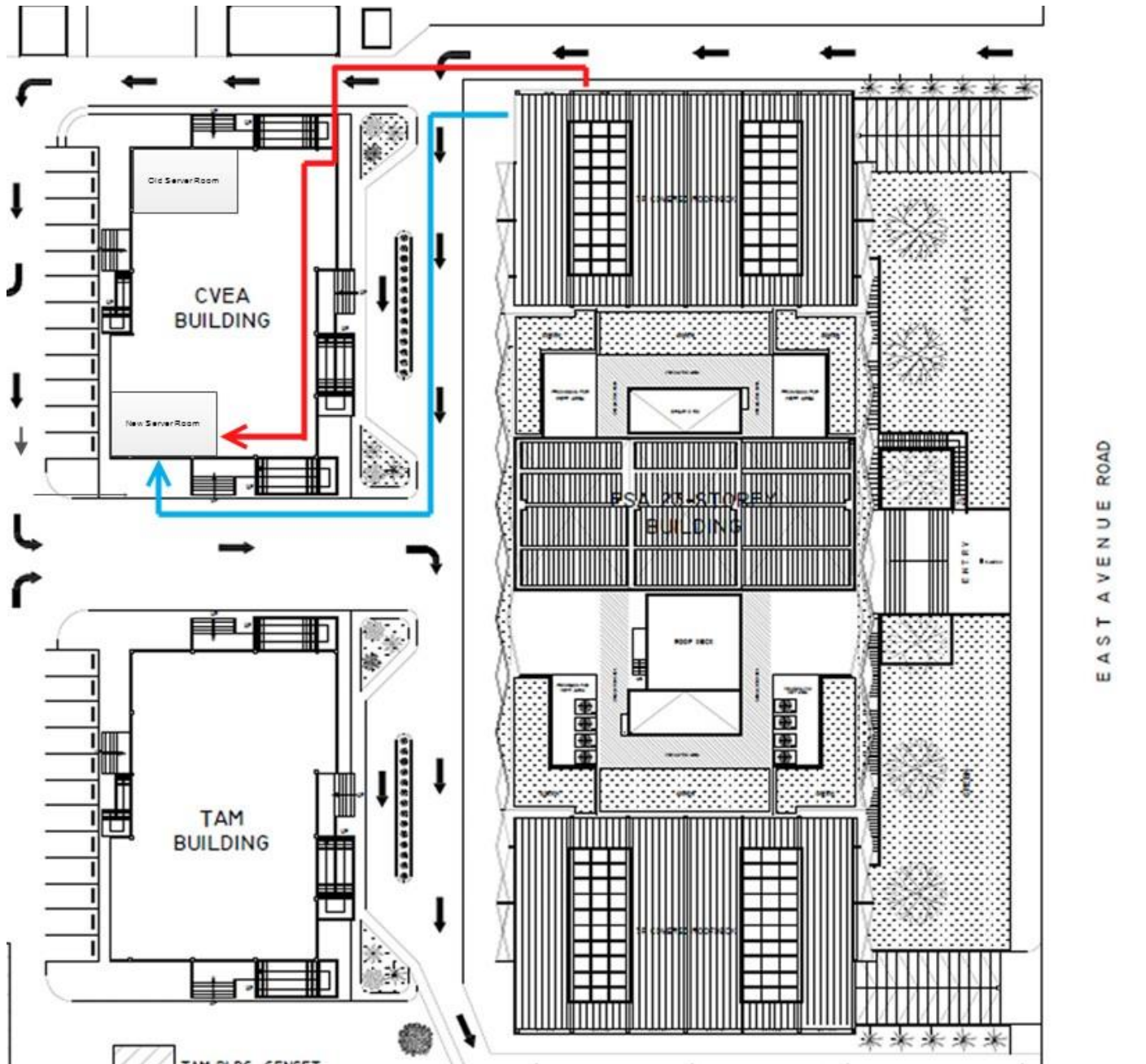
Yours sincerely,

Authorized Signature:

Name and Title of Signatory:

Name of Firm:

Address:





REPUBLIC OF THE PHILIPPINES
PHILIPPINE STATISTICS AUTHORITY

CONSTRUCTION OF FIT-OUT AND LANDSCAPE WORKS FOR THE TWENTY-THREE (23) STOREY PHILIPPINE STATISTICS AUTHORITY (PSA) OFFICE BUILDING WITH COVERED ROOF DECK

PSA COMPLEX, EAST AVENUE, DILIMAN, QUEZON CITY

DETAILED ARCHITECTURAL AND ENGINEERING DESIGN (DAED)

STRUCTURAL

NOTE:
PURSUANT TO SECTION 4 OF ANNEX "A" OF THE
REVISED IMPLEMENTING RULES AND REGULATION OF
R.A. 9184, APPROVAL BY THE AUTHORIZED DPWH
OFFICIALS OF DETAILED ENGINEERING SURVEYS AND
DESIGN UNDERTAKEN BY CONSULTANTS NEITHER
DIMINISHES THE RESPONSIBILITY OF THE LATTER FOR
THE TECHNICAL INTEGRITY OF THE SURVEYS AND
DESIGN NOR TRANSFER ANY PART OF THAT
RESPONSIBILITY TO THE APPROVING OFFICIALS.
THE DESIGN CONSULTANT SHALL BE HELD
RESPONSIBLE FOR THE FAILURE OF THE FACILITY/IES
/ STRUCTURES DUE TO FAULTY DESIGN EXCEPT FOR
THE CHANGES MADE WITHOUT THE CONFORMITY OF
THE CONSULTANTS.

DRAWINGS AND SPECIFICATIONS DULY SIGNED, STAMPED
OR SEALED, AS INSTRUMENTS OF SERVICE, ARE
PROPERTY AND DOCUMENTS OF THE ARCHITECT.
WHETHER THE OBJECT FOR WHICH THEY ARE MADE IS
EXECUTED OR NOT, IT SHALL BE UNLAWFUL FOR ANY
PERSON, WITHOUT THE WRITTEN CONSENT OF THE
ARCHITECT OR AUTHOR OF SAID DOCUMENTS, TO
DUPLICATE OR TO MAKE COPIES OF SAID DOCUMENTS
FOR USE IN THE REPETITION OF AND FOR OTHER
PROJECTS OR BUILDINGS, WHETHER EXECUTED PARTLY
OR IN WHOLE.

STRUCTURAL STEEL

- S.1. THE CONTRACTOR SHALL CHECK AND VERIFY ALL THE DIMENSIONS, SLOPES OR ANGLES AND DETAILS IN STRUCTURAL DRAWINGS WITH ARCHITECTURAL DRAWINGS. DISCREPANCIES (IF ANY) SHALL BE BROUGHT TO THE ENGINEER NOTICE BEFORE FABRICATING THE STEELWORKS.
- S.2. ALL STEELWORKS SHALL BE FABRICATED FROM NEW SECTIONS.
- S.3. THE CONTRACTOR SHALL CONSIDER THE STABILITY AND SAFETY OF STEELWORK DURING ERECTION SEQUENCE. CONTRACTOR SHALL VERIFY ACCURACY OF FABRICATION AND ACCURACY OF ERECTED STEELWORK SHALL COMPLY WITH REQUIREMENTS OF ISCO 303-10 CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES
- S.4. ALL STEEL SHALL BE HOT-DIPPED GALVANIZED.
- S.5. STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST AISC SPECIFICATIONS AND WITH THE ENGINEERS SPECIFICATIONS FOR STRUCTURAL STEELWORK. A COPY OF BOTH THESE DOCUMENTS SHALL BE KEPT ON SITE.
- S.6. TWO COPIES OF SHOP DETAIL DRAWINGS ARE TO BE SUBMITTED TO THE CONSULTING ENGINEER AND APPROVAL OF SAME OBTAINED BEFORE COMMENCING FABRICATION. APPROVAL WILL NOT COVER DIMENSIONS OR LAYOUT.
- S.7. UNLESS OTHERWISE NOTED, WELDS TO BE 6MM CONTINUOUS FILLET LAID DOWN WITH APPROVED COVERED ELECTRODE. BOLTS TO BE 20MM DIAMETER HIGH STRENGTH ASTM A325 IN 2MM CLEARANCE HOLES. GUSSET PLATES TO BE 10MM THICK.
- S.8. CAMBER TO STRUCTURAL STEEL ROOF BEAMS, TRUSSES, PORTALS, ETC. TO BE 5MM FOR EVERY 2000MM OF SPAN UNLESS OTHERWISE NOTED.
- S.9. WHERE SPECIFIED STRUCTURAL STEEL SHALL BE ENCASED IN CONCRETE WITH WSF A6 WIRE MESH PLACED 25MM CLEAR OF STEEL TO PROVIDE 50MM MINIMUM COVER OR 75MM WHERE EXPOSED TO EARTH.
- S.10. ALL STRUCTURAL STEELWORK BELOW GROUND SHALL BE ENCASED BY 20.7 MPa CONCRETE, 75MM MINIMUM ALL AROUND.
- S.11. UNLESS SHOWN ON THE DRAWINGS, THE ROOF STRUCTURE HAS BEEN DESIGNED FOR NORMAL ROOF LOADS ONLY AND DOES NOT ALLOW FOR ANY EXTRANEOUS LOADS SUCH AS HOISTS, MONORAILS, ETC.
- S.12. ALL JOINTS USING HIGH STRENGTH FRICTION GRIP (HSFG) BOLTS ARE TO BE GIVEN A DISTINCTIVE COLOUR FLASH FOR READY IDENTIFICATION.
- S.13. WHERE DENOTED AS HSFG BOLTS, CONTACT SURFACES MUST NOT BE PAINTED.
- S.14. LOAD INDICATOR WASHERS SHALL BE USED WITH ALL HSFG BOLTS SO THAT THE PROTRUSIONS ON THE WASHERS, WHEN ASSEMBLED, WILL BEAR ON THE UNDERSIDE OF THE BOLT HEAD. THE NUT SHALL BE TIGHTENED UNTIL THE GAP BETWEEN THE WASHER AND THE BOLT HEAD IS BETWEEN 250 AND 125 MICRO METERS.
- S.15. THE CONTRACTOR SHALL NOTE THAT ALL SERVICES, CEILINGS, FIXTURES, MAINTENANCE CATWALKS, ETC. SHALL BE SUSPENDED FROM MAIN BEAMS AND TRUSSES, AND NOT FROM SLABS OR PURLINS, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- S.16. SECONDARY STEELWORK OR SUPPORTS, IF REQUIRED, SHALL BE DESIGNED AND INSTALLED BY THE CONTRACTOR'S OWN PROFESSIONAL ENGINEER. THE COST OF ALL SECONDARY STEELWORK SHALL DEEM TO BE INCLUDED IN THE CONTRACT PRICE.
- S.17. THE CONTRACTOR SHALL SUBMIT DESIGN AND DETAILS OF ALL SAFETY BARRIERS (INCLUDING FIXINGS), TO THE ENGINEER FOR REVIEW AND APPROVAL.
- S.18. SAFETY BARRIERS SHALL COMPLY WITH THE HORIZONTAL LOADING REQUIREMENTS OF THE NSCP AND/OR ASCE.
- S.23. CONNECTION BOLT LENGTH: THE BOLT LENGTH SHALL BE CHOSEN SUCH THAT, AFTER TIGHTENING AT LEAST ONE THREAD PLUS THE THREAD RUN-OUT WILL BE CLEAR BETWEEN THE NUT AND THE UNTHREADED SHANK OF THE BOLT AND AT LEAST ONE THREAD SHALL SHOW ABOVE THE NUT.
- S.24. ENDS OF HOLD DOWN BOLTS / ANCHOR BOLT SHALL PROTRUDE A MINIMUM OF 25mm ABOVE THE NUTS. WHEN BOLTS ARE SET INTO CONCRETE ELEMENT, PROVISION SHALL BE MADE TO CUT NORMAL PROTRUSION NEEDED TO ACCOMMODATE THE NUTS, WASHERS PLUS A FURTHER TOLERANCE FOR THE CONCRETE ELEMENT.
- S.25. UNLESS OTHERWISE SPECIFIED & NOTED ON PLANS, ALL STRUCTURAL STEEL AND ITS CONNECTIONS SHALL BE FIREPROOFED TO AT LEAST 2 HOURS RATING.

MATERIALS

- SM.1.ALL STRUCTURAL STEEL MATERIAL SHALL BE GRADE 345 MPa TO ASTM A992 SPECIFICATIONS, WELDABLE STEEL, SOUND AND FREE FROM CRACKS, SURFACE FLAWS, LAMINATION AND OTHER DEFECTS.
- SM.2.STRUCTURAL HOLLOW SECTIONS (HOT FINISHED) SHALL BE GRADE A55 CONFORMING TO ASTM A500 SPECIFICATIONS.
- SM.3.ANCHOR BOLTS SHALL BE GRADE A36 CONFORMING TO ASTM 1554 SPECIFICATIONS.
- SM.4.HIGH STRENGTH BOLTS SHALL CONFORM TO ASTM F3125 SPECIFICATIONS.
- SM.5.ALL ELECTRODES SHALL BE AWS E70.

METHOD STATEMENT

- a. SITE PLAN SHOWING THE WORK LAYOUT AREA, POSITION AND TYPE OF CRANES, ACCESS ROUTES, DATUM LEVEL, SETTING-OUT LINES, STORAGE AREA, ETC.
 - b. FABRICATION PROCEDURE/MANUAL, LOCATIONS (LOCAL AND/OR OVERSEAS), LIST OF SUBCONTRACTORS /SUPPLIERS AND THEIR SCOPE OF WORKS, QUALITY ASSURANCE SYSTEM, ETC.
 - c. STORAGE AND HANDLING
 - d. MAXIMUM SIZE OF STRUCTURAL STEEL COMPONENTS THAT CAN BE DELIVERED TO THE SITE
 - e. ASSEMBLY OF STRUCTURAL MEMBERS ON THE GROUND LEVEL BEFORE ERECTION, WHERE PARTIAL OR COMPLETE FABRICATION WORK IS REQUIRED ON SITE
 - f. SEQUENCE AND METHOD OF ERECTION AND ASSEMBLY OF STRUCTURAL MEMBERS TAKING INTO ACCOUNT THE SITE CONDITIONS, SITE CONSTRAINTS, SITE RESTRICTION AND INTERFACE WITH OTHER TRADES
 - g. DETAILED DRAWINGS AND CALCULATIONS FOR TEMPORARY WORKS
- SM.2.PROVIDE DETAILS OF THE PROPOSALS TO THE ENGINEER FOR ACCEPTANCE WITHIN DIRECTED TIME FRAME PRIOR TO COMMENCEMENT OF THE WORKS. THE SUBMISSION IS TO INCLUDE AT LEAST INFORMATION ON THE FOLLOWING:
- a. MATERIALS AND SYSTEM PROPOSED INCLUDING PRODUCT DATA, SCHEMES OF THE COATINGS, CERTIFICATES AND MANUFACTURERS RECOMMENDATION INDICATING SUITABILITY WITH REGARDS TO THE SPECIFIED PERFORMANCE REQUIREMENTS.
 - b. METHOD OF TRANSPORTATION, STORAGE AND HANDLING
 - c. SURFACE PREPARATION
 - d. METHOD OF APPLICATION
 - e. SCHEDULE OF TESTS AND INSPECTION
 - f. SEQUENTIAL DETAILS OF ALL PROCEDURES INVOLVED
 - g. SUPERVISION
 - h. DETAILS OF THE PROPOSED METHOD OF REMEDIAL OR REIFICATION WORK INCLUDING SURFACE PREPARATION, MATERIALS TO BE USED AND METHOD OF APPLICATION
 - i. FABRICATION TECHNIQUES THAT HELP OR AFFECT APPLICATION
 - j. PAINTING OF AREAS THAT WILL BE MADE INACCESSIBLE AT A LATER STAGE
- SM.3. THE CONTRACTOR SHALL PREPARE AND SUBMIT TO THE ENGINEER FOR APPROVAL THE FOLLOWING DOCUMENT:
- a. SHOP DRAWINGS SHOWING DETAILS OF THE WORKS
 - b. FABRICATION METHOD STATEMENTS AND WELDING PROCEDURES
 - c. ERECTION METHOD STATEMENT & CONSTRUCTION SEQUENCES
 - d. CRANAGE DETAIL
 - e. CALCULATION OF HANDLING AND ERECTION STRESSES
 - f. TEMPORARY STEELWORKS / TOWERS, GUYS AND BRACING PROPOSED FOR USE DURING ERECTION

QUALITY CONTROL

- SO.1.DESTRUCTIVE AND NON-DESTRUCTIVE TESTS TO STRUCTURAL STEEL WORKS IS DEEMED INCLUDED IN THE STRUCTURAL STEEL FABRICATION SCHEDULE.
- SO.2.STEEL FABRICATOR SHALL SUBMIT QUALITY PLAN AND SHOP DRAWINGS TO THE CONSULTANT'S FOR APPROVAL / ACCEPTANCE.
- SO.3.WELDING WORKS SHALL BE CARRIED OUT BY QUALIFIED WELDERS.
- SO.4.CONTRACTOR / ITA SHALL ARRANGE FOR SAMPLES OF MATERIALS AND WELDS TO BE TESTED.
- SO.5.THE CONTRACTOR SHALL APPOINT AN INDEPENDENT INSPECTION AND TESTING AGENCY (ITA) ACCEPTED BY THE ENGINEER AND ACCREDITED BUILDING AUTHORITIES HAVING JURISDICTION OVER THE PROJECT.

PROTECTIVE TREATMENT

- SP.1. SURFACE OF STEEL ELEMENTS PRIOR TO PAINTING SHALL BE PREPARED IN ACCORDANCE WITH AISC SPECIFICATIONS. FOUR (4) COATS SHALL BE AS FOLLOW:
- PRIMER: ONE STOP COAT OF ZINC CHROMATE PRIMER OF 25 MICRONS DFT OR APPROVED EQUIVALENT
- ONE SIMILAR COAT, BUT OF DIFFERENT COLOR SHALL BE APPLIED AT SITE
- UNDERCOAT: ONE PRIMER COAT OF MICACEOUS IRON OXIDE PAINT OF 75 MICRON DFT OR APPROVED EQUIVALENT
- FINISH COAT: ONE FINISH COAT OF MICACEOUS IRON OXIDE PAINT OF 50 MICRONS DFT OR APPROVED EQUIVALENT
- SP.1. CORROSION PROTECTION SHALL BE AS PER SPECIFICATION FOR DETAILS OF PAINT TREATMENT. ALL STEEL WORK SHALL BE PAINTED UNLESS NOTED OTHERWISE ON THE DRAWINGS EXCEPT:
- SURFACES WHICH ARE EMBEDDED IN CONCRETE BY MORE THAN 30MM, IN WHICH CASE THE STEEL SURFACES SHALL BE CLEANED AND FREE FROM LOOSE RUST AND SCALE AT THE TIME OF CONCRETING.
 - AT FRICTION GRIP BOLTED CONNECTIONS (DENOTED 'TF') THE CONTACT SURFACES SHALL BE PAINTED WITH INORGANIC ZINC SILICATE PRIMER, ONLY, WITH CERTIFIED SLIP FACTOR OF NOT LESS THAN 0.4.
 - AT FIELD WELDED CONNECTIONS THE PAINT TREATMENT SHALL BE MADE GOOD TO THE SAME STANDARD AS OTHER PAINTWORK.
 - GALVANIZING, IF SPECIFIED, SHALL BE HOT-DIP GALVANIZING CONFORMING TO ASTM A153 SPECIFICATIONS
- SP.1. GALVANIZING, IF SPECIFIED, SHALL BE HOT-DIP GALVANIZED IN AISC SPECIFICATIONS. MINIMUM AVERAGE ZINC COATING THICKNESS SHALL BE 85 MICRONS. THOROUGH WASHING OF STEELWORK WITH AN APPROVED ETCHING SOLUTION SHALL PRECEDE THE APPLICATION OF SURFACE COATINGS.

WELDING

- SW.1.WELDING SHALL BE A METAL ARC PROCESS IN ACCORDANCE WITH AMERICAN WELDING SOCIETY AWS SPECIFICATIONS
- SW.2.CONSUMABLES FOR USE IN METAL ARC WELDING SHALL COMPLY WITH ASTM E70 SERIES.
- SW.3.WELDING CONSUMABLES USED SHALL BE CHOSEN TO ENSURE THAT THE MECHANICAL PROPERTIES OF THE WELD METAL ARE NOT LESS THAN LOOSE REQUIRED FOR THE PARENT METAL.
- SW.4.JOINTS SHALL BE PREPARED IN ACCORDANCE WITH AISC SPECIFICATIONS.
- SW.5.WELDERS SHALL BE TESTED TO MEET THE REQUIREMENTS OF AWS AS APPROPRIATE. ONLY QUALIFIED WELDERS AS TESTED BY APPROVAL ACCREDITED AGENCIES SHALL PERFORM WELDING.
- SW.6.THE CONTRACTOR SHALL PREPARE AND SUBMIT TO BOTH THE ENGINEER & AN INDEPENDENT ACCREDITED INSPECTION & TESTING AGENCY FOR APPROVED, WELDING PROCEDURES IN ACCORDANCE WITH AWS.
- SW.7.THE CONTRACTOR SHALL APPOINT AN APPROVED INDEPENDENT ACCREDITED INSPECTION & TESTING AGENCY TO CARRY-OUT ALL WELD QUALITY VISUAL NON-DESTRUCTIVE TESTING.
- SW.8.ALL CONNECTION / JOINTS SHALL BE FULL PENETRATION BUTT WELD ALL AROUND (BOTH SIDES), REGARDLESS PIN / FIXED CONNECTIONS.

TEMPORARY WORKS

- T.1. FOR THE CONTRACTOR SHALL ENGAGE A PROFESSIONAL ENGINEER TO PERFORM DESIGN CHECK OF THE ADEQUACY OF STRUCTURE TO SUPPORT CONSTRUCTION OF SLABS / FLAT PLATES / TRANSFER BEAMS. THAT THE SUPPORTED PARTS OF THE STRUCTURE ARE STRUCTURALLY ADEQUATE IF THEY ARE TO BE USED TO SUPPORT THE CONSTRUCTION OF FLAT SLABS/PLATES OR TRANSFER BEAMS, THE DESIGN CHECK SHALL INCLUDE STRENGTH AND SERVICEABILITY (WITH EFFECTS ON THE TERM OF SERVICE LIFE) AND LOADING. FOR CONCRETE FLOOR, THE PROFESSIONAL ENGINEER SHALL SUBMIT A COPY OF THE DESIGN CHECK CALCULATION TO THE ENGINEER, AND A COPY OF THE DESIGN CALCULATION SHALL BE KEPT AT THE SITE. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT THE LOWER FLOOR STRUCTURE IS STRONGLY AND USED FOR CONCRETING THE UPPER FLOOR IS STRUCTURALLY ADEQUATE. THE CONTRACTOR MAY PROVIDE ADDITIONAL REINFORCEMENT TO STRUCTURAL ELEMENTS, IF HE CONSIDERS NECESSARY TO PERFORM THIS FUNCTION, AT HIS OWN COST.
- T.2. ALL TRANSFER BEAMS SHALL NOT BE LOADED UNTIL 28 DAYS AFTER THEY ARE CONCRETED. IF THE CONTRACTOR INTENDS TO CONSTRUCT THE COLUMNS AND FLOORS OVER THESE BEAMS AT THE SAME TIME, THE CONTRACTOR SHALL BE RESPONSIBLE TO DESIGN THE NECESSARY TEMPORARY WORKS TO SUPPORT THE TRANSFER BEAMS AND THE LOADS IMPOSED FROM ABOVE.

PROTECTION

- P.1 STARTER BARS AND OTHER STEEL BARS WHICH ARE EXPOSED TO THE ENVIRONMENT DUE TO DELAY IN CONCRETING OPERATION OR STAGED CONSTRUCTION THAT MY CAUSE CORROSION OF BARS SHALL BE COATED WITH GROUT TO PROTECT THEM AGAINST CORROSION PRIOR TO CASTING OF THE IN-SITU ELEMENT, DRIED CEMENT GROUT SHALL BE REMOVED BY VIGOROUS WIRE BRUSHING.

INSTRUMENTATION

- 1.1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INSTRUMENTATION INSTALLATION, MONITORING AND REPORTING REQUIREMENTS REQUIRED UNDER THE CONTRACT, AND/OR POSSESS THE ENGINEER/AUTHORITIES AT ANY TIME DURING THE CONTRACT, AND SHALL SUBMIT THE NECESSARY REPORTS TO THE ENGINEER/AUTHORITIES AS REQUIRED FROM TIME TO TIME.
- 1.2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTINUOUSLY MONITORING THE INSTRUMENTATION READINGS AND EFFECT NECESSARY REMEDIAL WORKS IMMEDIATELY, AS SOON AS THE GROUND MOVEMENTS EXCEED THE ACCEPTABLE LIMITS AND/OR POSE SAFETY RISKS TO THE CONTRACT WORKS AND/OR THE EXISTING STRUCTURES AND SERVICES. THE MEASURES THAT MAY NEED TO BE IMPLEMENTED SHALL BE DEEMED TO BE INCLUDED IN THE CONTRACT PRICE AND TIME.
- 1.3. THROUGHOUT THE DURATION STIPULATED IN THE TENDER DOCUMENTS, THE CONTRACTOR IS REQUIRED TO MANAGE MONITORING OF INSTRUMENTS TO BE INSTALLED BY A SPECIALIST CONTRACTOR, INCLUDING THE NUMBER & FREQUENCY OF MONITORING INSTRUMENTS.
- 1.4. TAKE ALL NECESSARY ACTIONS TO ENSURE THE CONTROL OF POLLUTION FROM SITE ACTIVITIES, THE NOISE LEVEL (MAXIMUM ALLOWABLE EQUIVALENT CONTINUOUS NOISE LEVEL MEASURED OVER A PERIOD OF 5 MINUTES IN DB) AT THE NEAREST OCCUPIED BUILDING OUTSIDE THE SITE IS NOT TO EXCEED THE FOLLOWING MAXIMUM PERMISSIBLE NOISE LEVEL, OR SHALL HAVE MET THE NOISE CONTROL GUIDELINES IMPOSED BY THE RELEVANT AUTHORITIES HAVING JURISDICTION, WHICHEVER IS MORE STRINGENT.

NOTE

PURSUANT TO SECTION 4 OF ANNEX "A" OF THE REVISED IMPLEMENTING RULES AND REGULATION OF R.A. 9184, APPROVAL BY THE AUTHORIZED DPWH OFFICIALS OF DETAILED ENGINEERING SURVEYS AND DESIGN UNDERTAKEN BY CONSULTANTS NEITHER DIMINISHES THE RESPONSIBILITY OF THE LATTER FOR THE TECHNICAL INTEGRITY OF THE SURVEYS AND DESIGN NOR TRANSFER ANY PART OF THAT RESPONSIBILITY TO THE APPROVING OFFICIALS.

THE DESIGN CONSULTANT SHALL BE HELD RESPONSIBLE FOR THE FAILURE OF THE FACILITY/IE / STRUCTURES DUE TO FAULTY DESIGN EXCEPT FOR THE CHANGES MADE WITHOUT THE CONFORMITY OF THE CONSULTANTS.

DRAWINGS AND SPECIFICATIONS DULY SIGNED, STAMPED OR SEALED, AS INSTRUMENTS OF SERVICE, ARE PROPERTY AND DOCUMENTS OF THE ARCHITECT, WHETHER THE OBJECT FOR WHICH THEY ARE MADE IS EXECUTED OR NOT. IT SHALL BE UNLAWFUL FOR ANY PERSON, WITHOUT THE WRITTEN CONSENT OF THE ARCHITECT OR AUTHOR OF SAID DOCUMENTS, TO DUPLICATE OR TO MAKE COPIES OF SAID DOCUMENTS FOR USE IN THE REPETITION OF AND FOR OTHER PROJECTS OR BUILDINGS, WHETHER EXECUTED PARTLY OR IN WHOLE.



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CONSULTANT:		CHECKED:	REVIEWED:	RECOMMENDING APPROVAL:		APPROVED:	PROJECT:	SHEET CONTENT	DESIGNER :	E. OLONAN	REVISIONS
LOUIEGHITO S. NIÑO CIVIL/STRUCTURAL ENGINEER		JOSE MANUEL AGUIÑALDO	ATTY. JOHNSON V. DOMINGO	REYNOR R. IMPERIAL	SOCRATES L. RAMORES	LEO B. MALAGAR	CONSTRUCTION OF FIT-OUT AND LANDSCAPE WORKS FOR THE TWENTY-THREE (23) STOREY PHILIPPINE STATISTICS AUTHORITY (PSA) OFFICE BUILDING WITH COVERED ROOF DECK	STRUCTURAL NOTES - 1	CAD :	AET / ADI	SUBMITTALS
PRC NO. 086609 DATE: JUN 15, 1989		PROJECT MANAGER & BUILT	DATE: JAN 17, 2022	PLANNING AND ADMINISTRATIVE SERVICE	ASSISTANT NATIONAL STATISTICIAN	SECTOR 1 SECRETARY	USEC, CLAIRE DENNIS S. MAPA, PH.D.	LOCATION:	PSA COMPLEX, EAST AVENUE, DILIMAN, QUEZON CITY	REVISIONS	
PTR NO. M4142243 DATE: JAN 17, 2022		UNIFIED & SPECIAL PROJECTS MANAGEMENT CLUSTER	DATE: JAN 17, 2022	CO-HEAD, PSA-BOM	FRANCE AND ADMINISTRATIVE SERVICE	DEPUTY NATIONAL STATISTICIAN	NATIONAL STATISTICS AND CIVIL REGISTRAR GENERAL	CHECKED :	RIB / AET	REMARK	
SITE: MINTALUPA CITY TRN NO. 102-804-749-000		BUILDING & SPECIAL PROJECTS MANAGEMENT OFFICE, DPWH	DATE: JAN 17, 2022	CO-HEAD, PSA-BOM	FRANCE AND ADMINISTRATIVE SERVICE	CIVIL REGISTRAR & CENTRAL SUPPORT OFFICE	PHILIPPINE STATISTICS AUTHORITY	DATE :	MAI / AET	DATE	

GENERAL NOTES

- G.1. THE TERM "CONSULTING ENGINEER" SHALL MEAN "LYN CONSULTING STRUCTURAL ENGINEERS, CO." REPRESENTATIVE (CIVIL/ STRUCTURAL ENGINEER).
- G.2. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL, OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS AND ANY SUCH WRITTEN INSTRUCTIONS AS MAY BE ISSUED.
- G.3. ANY DISCREPANCIES IN THE CONTRACT DOCUMENTS SHALL BE REFERRED TO THE ARCHITECT FOR DECISION BEFORE PROCEEDING WITH THE WORK.
- G.4. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE. ALL LEVELS ARE EXPRESSED IN METERS.
- G.5. SETTING-OUT DIMENSIONS AND SIZES OF STRUCTURAL MEMBERS SHALL NOT BE OBTAINED BY SCALING THE STRUCTURAL DRAWINGS.
- G.6. ANY SETTING-OUT DIMENSIONS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE VERIFIED ON SITE AND WITH ARCHITECTURAL DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS.
- G.7. DURING CONSTRUCTION THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION. CONSTRUCTION LOADS MUST NOT EXCEED THE CAPACITY OF THE STRUCTURE AT THE TIME OF LOADING. REFER TO KEY PLANS FOR DESIGN LOADS.
- G.8. WORKMANSHIP AND MATERIALS ARE TO BE IN ACCORDANCE WITH RELEVANT CODES OF PRACTICE AND THE LOCAL STATUTORY AUTHORITIES REGULATIONS INCLUDING ALL AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS. THE BUILDING STRUCTURE SHALL BE DESIGNED IN ACCORDANCE WITH THE FOLLOWING MODEL CODES AND IN COMPLIANCE WITH THE LOCAL REGULATIONS AND STANDARDS:
- NATIONAL STRUCTURAL CODE OF THE PHILIPPINES, NSCP 2015
 - UNIFORM BUILDING CODE (UBC) 1997 EDITION, INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS
 - AMERICAN CONCRETE INSTITUTE (ACI 318-14); BUILDING CODE REQUIREMENTS FOR STRUCTURES INCLUDING ALL AMENDMENTS
 - DETAILS AND DETAILING OF REINFORCEMENT FOR CONCRETE
 - AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE 7-16)
 - SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS - AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC 360-2010)
 - SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS - AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC 341-2010)
 - FOUNDATION ANALYSIS AND DESIGN, FIFTH EDITION, BY JOSEPH E. BOWLES
 - PILE DESIGN AND CONSTRUCTION PRACTICE 4TH EDITION, BY MJ TOMLINSON
- G.9. REFER TO ARCHITECTURAL DRAWINGS FOR PARTITION WALL WALL THICKNESS, FOR FALLS IN SLABS, EXTRA PACKING, WATER-PROOFING MEMBRANES, CONTRACTION JOINT FILLING MATERIALS AND ALL ARCHITECTURAL FEATURES SUCH AS DRIP GROOVES, POUR BREAKS IN OFF-FORM CONCRETE, FILLETS, CHAMFERS ETC. WHERE NOT MENTIONED ON THESE DRAWINGS.
- G.10. ALL SHAFT OPENINGS SHALL BE SLABBED OVER AS PER ARCHITECTURAL DRAWING WHERE INDICATE WITH THE SAME THICKNESS AS THAT SLAB ADJACENT TO IT OR A MINIMUM THICKNESS OF 125MM. REINFORCEMENT SHALL BE THE SAME AS THOSE COMING FROM ADJACENT SLABS OR A MINIMUM OF Ø10-150 TOP & BOTTOM THROUGHOUT AND ANCHORED INTO SUPPORTING BEAM / WALL.
- G.11. SHOP DRAWINGS: THE CONTRACTOR SHALL PREPARE AND SUBMIT FOR REVIEW SHOP DRAWINGS FOR BOTH CONCRETE AND STRUCTURAL STEEL WORKS PRIOR TO COMMENCEMENT OF POUR/FABRICATION. THE CONTRACTOR SHALL COORDINATE THE STRUCTURAL, M&E AND ARCHITECTURAL REQUIREMENTS IN THE SHOP DRAWINGS, WHERE REQUIRED AND AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL COORDINATE AND INCLUDE IN HIS SHOP DRAWINGS THE REQUIREMENTS OF SPECIALIST TRADES SUCH AS CLADDING, ROOFING ETC.
- G.12. DISCREPANCIES IF ANY, BETWEEN STRUCTURAL DRAWINGS AND OTHER TRADE DRAWINGS ARE TO BE RESOLVED DURING DEVELOPMENT-CONSTRUCTION STAGES TO THE FULL SATISFACTION OF THE ENGINEER.
- G.13. THE CONTRACTOR IS RESPONSIBLE TO CARRY OUT A BUILDING DAMAGE ASSESSMENT ON THE EFFECTS OF GROUND MOVEMENT TO THE NEIGHBORING PROPERTIES DUE TO THE WORKS, FOR THE PURPOSE OF ESTABLISHING SUITABLE VALUES FOR "ALERT" AND "WORK SUSPENSION" LEVELS FOR MONITORING. THE PROPOSED VALUES ARE INDICATED IN THE CONTRACT DRAWINGS. ALSO, TAKE INTO ACCOUNT OF SITE ACCESS, SPACE OCCUPATION, SAFETY AND SAFEGUARDING OF ADJOINING PROPERTIES AND EACH OTHER'S WORKS. SUBMIT TO ENGINEER WITH ENDORSEMENT FROM A QUALIFIED PROFESSIONAL ENGINEER, PE.
- G.14. THE CONTRACTOR SHALL SATISFY HIMSELF REGARDING SUBSOIL CONDITIONS, THE UNDERGROUND WATER TABLE, POTENTIAL OBSTRUCTIONS AND THE PRESENCE OF VARYING CONDITIONS BELOW THE SITE. THE SOIL INFORMATION INCLUDED IN THIS CONTRACT IS FOR THE REFERENCE OF THE CONTRACTOR ONLY. NEITHER THE CONSULTANTS NOR THE CLIENT ACCEPT RESPONSIBILITY FOR ITS ACCURACY OR IMPLICATIONS, IF ACTUAL SOIL CONDITIONS ARE FOUND TO BE DIFFERENT DURING PROGRESS OF WORKS.
- G.15. THE CONTRACTOR SHALL CARRY OUT AN UNDERGROUND SERVICES DETECTION WORKS PRIOR TO THE COMMENCEMENT OF DEMOLITION WORKS. THE CONTRACTOR SHALL ARRANGE WITH THE RELEVANT AUTHORITIES TO DISCONNECT, TERMINATE, CAPPING OFF OR DIVERSION OF ALL UTILITY SERVICES. THE CONTRACTOR SHALL ENSURE SUCH TERMINATION OR DIVERSION WILL NOT CAUSE ANY DAMAGE OR DISRUPTION TO THE PUBLIC SERVICES OR THE SERVICES IN THE NEIGHBORING PROPERTIES.

NOTE:
PURSUANT TO SECTION 4 OF ANNEX "A" OF THE REVISED IMPLEMENTING RULES AND REGULATION OF R.A. 9164, APPROVAL BY THE AUTHORIZED DPWH OFFICIALS OF DETAILED ENGINEERING SURVEYS AND DESIGN UNDERTAKEN BY CONSULTANTS NEITHER DIMINISHES THE RESPONSIBILITY OF THE LATER FOR THE TECHNICAL INTEGRITY OF THE SURVEYS AND DESIGN NOR TRANSFER ANY PART OF THAT RESPONSIBILITY TO THE APPROVING OFFICIALS.

THE DESIGN CONSULTANT SHALL BE HELD RESPONSIBLE FOR THE FAILURE OF THE FACILITY/IES / STRUCTURES DUE TO FAULTY DESIGN EXCEPT FOR THE CHANGES MADE WITHOUT THE CONFORMITY OF THE CONSULTANTS.

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- G.16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INSTRUMENTATION INSTALLATION, MONITORING AND REPORTING REQUIREMENTS REQUIRED UNDER THE CONTRACT AND/OR IMPOSED BY THE ENGINEER/AUTHORITIES AT ANY TIME DURING THE CONTRACT, AND SHALL SUBMIT THE NECESSARY REPORTS TO THE ENGINEER/AUTHORITIES AS REQUIRED FROM TIME TO TIME.
- G.17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTINUOUSLY MONITORING THE INSTRUMENTATION READINGS AND EFFECT NECESSARY REMEDIAL WORKS IMMEDIATELY, AS SOON AS THE GROUND MOVEMENTS EXCEED THE ACCEPTABLE LIMITS AND/OR POSE SAFETY RISKS TO THE CONTRACT WORKS AND/OR THE EXISTING STRUCTURES AND SERVICES. ALL SUCH MEASURES THAT MAY NEED TO BE IMPLEMENTED SHALL BE DEEMED TO BE INCLUDED IN THE CONTRACT PRICE AND TIME.
- G.18. THE STRUCTURES ARE DESIGNED TO SUPPORT SUPERIMPOSED LOADS AS INDICATED ON THE FLOOR PLANS. IN THE EVENT THE CONTRACTOR REQUIRES CERTAIN PART OF THE STRUCTURE TO BE USED AS WORK AREA WHICH MAY BE REQUIRED TO SUPPORT HEAVIER LOADING, THE CONTRACTOR SHALL DESIGNATE SUCH AREAS AT THE TIME OF TENDER FOR ENGINEER'S APPROVAL. THE STRENGTHENING OF THE DESIGNATED AREAS SHALL BE UNDERTAKEN BASED ON THE ENGINEER'S DESIGN AT THE CONTRACTOR'S EXPENSE AND TIME, INCLUDING THE REDESIGN COST.
- G.19. BEFORE CONSTRUCTION WORKS COMMENCE ON SITE, THE CONTRACTOR SHALL ENGAGE A QUALIFIED CIVIL ENGINEERING PROFESSIONAL QCEP TO PLAN AND DESIGN THE EARTH CONTROL MEASURES, ECM, AND HE SHALL INSTALL THE ECM ACCORDING TO THE QCEP'S DESIGN. THE ECM PLAN AND DESIGN SHALL BE SUBMITTED 1 WEEK AFTER THE AWARD OF THE CONTRACT. DURING THE COURSE OF THE CONSTRUCTION WORKS, THE CONTRACTOR TOGETHER WITH HIS QCEP SHALL REVIEW THE ECM PROPOSAL REGULARLY TO MEET THE CHANGING NEEDS OF THE CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL IMPROVE THE ECM AS ADVISED BY HIS QCEP. THE PLANNING AND DESIGN OF THE ECM SHALL MEET THE MINIMUM REQUIREMENTS STIPULATED AND IN ACCORDANCE WITH THE REQUIREMENT OF DEPARTMENT OF NATURAL RESOURCES AND LOCAL AUTHORITIES FOR DISCHARGE INTO PUBLIC DRAINS
- G.20. THE CONTRACTOR SHALL MAINTAIN THE ECM FOR THE WHOLE DURATION OF THE CONTRACT TO ENSURE THAT IT IS EFFECTIVE AT ALL TIMES. PROPER RECORDS DETAILING THE MAINTENANCE WORKS, SUPPORTED BY DATED PHOTOGRAPHS, SHALL BE KEPT BY THE CONTRACTOR FOR VERIFICATION.
- G.21. THE CONTRACTOR SHALL NOT REMOVE THE ECM UNTIL ALL WORKS ARE COMPLETED AND UPON THE ADVICE OF HIS QCEP.
- G.22. THE CONTRACTOR SHALL CARRY OUT A VERTICALITY AND LEVEL SURVEY OF EACH COMPLETED FLOOR AND SHALL SUBMIT THESE RECORDS TO THE ENGINEER PROGRESSIVELY AT NO MORE THAN 2 WEEKS INTERVAL. THE VERTICALITY OF ALL THE VERTICAL ELEMENTS SHALL BE MONITORED AND RECORDED AFTER COMPLETION OF EACH FLOOR, ANY DEVIATION FROM PLUMB BEYOND SPECIFIED TOLERANCES SHALL BE RECTIFIED IMMEDIATELY.
- G.23. THE CONTRACTOR SHALL ALLOW FOR CONTINUOUSLY MONITOR ADJUSTMENT DURING EACH BLOCK. THE FLOOR LEVELS AS COMPLETED FOR ALL BLOCKS AND ANY SETTLEMENT ARISING FROM THE FOUNDATION SETTLEMENT AND/OR SHRINKAGE/CREEP SHORTENING OF THE VERTICAL ELEMENT. THESE READINGS SHALL BE TAKEN AFTER COMPLETION OF EACH TWO FLOORS. PERMANENT MARKERS WILL BE INSTALLED AROUND THE PERIMETER OF EACH BUILDING FACADE. SIMILARLY, PERMANENT MARKERS WILL ALSO BE INSTALLED AT THE 1ST FLOOR LEVEL ON THE CENTRAL CORE AND ITS SETTLEMENT AND/OR SHRINKAGE/CREEP SHORTENING RECORDED. ALL THESE READINGS SHALL BE TAKEN THROUGHOUT THE CONSTRUCTION PERIOD, UNTIL SIX (6) MONTHS AFTER COMPLETION OF THE STRUCTURE AND SUBMITTED TO THE ENGINEER PROGRESSIVELY AT NO MORE THAN 2 WEEKS PER MONTH INTERVALS. THE DIFFERENTIAL SETTLEMENT/SHORTENING BETWEEN THE CORE AND PERIMETER COLUMNS SHALL BE TABULATED AND SUBMITTED TO THE ENGINEER.
- G.24. THE CONTRACTOR SHALL PROGRESSIVELY CARRY OUT AN AS-BUILT SURVEY OF ALL THE STRUCTURAL ELEMENTS AFTER COMPLETION OF EACH FLOOR AND SUBMIT TO THE ENGINEER NO LATER THAN A MONTH FROM THE COMPLETION OF THE FLOOR. THE PLANS SHALL SHOW THE AS-BUILT POSITION, DIMENSIONS AND LEVELS OF ALL HORIZONTAL AND VERTICAL ELEMENTS INCLUDING THEIR SIZES AND FINAL DEFLECTIONS. THESE PLANS SHALL BE SUBMITTED TO THE ENGINEER PROGRESSIVELY AND A FINAL SET UPON COMPLETION OF THE ENTIRE STRUCTURE. THE SUBMISSION SHALL BE AFFECTED BOTH IN PAPER AS WELL AS DVD-ROM.
- G.25. THE CONTRACTOR SHALL NOTE THAT ALL REINFORCEMENT SCHEDULES, INCLUDING BEAM SCHEDULES, ISSUED AS WORKING DRAWINGS BY THE ENGINEER ARE FOR THE PURPOSE OF ILLUSTRATING THE DESIGN AND DETAILING REQUIREMENTS AND FOR THE PREPARATION OF SHOP DRAWINGS BY THE CONTRACTOR.
- G.26. THE CONTRACTOR SHALL BE RESPONSIBLE TO PREPARE DETAILED REINFORCEMENT SHOP DRAWINGS SHOWING SLAB REINFORCEMENT PLANS, BEAM ELEVATIONS AND RELEVANT SECTIONS FOR HIS CONSTRUCTION PURPOSE. THE REINFORCEMENT SHOP DRAWINGS SHALL INCLUDE BUT NOT BE LIMITED TO CONCRETE PROFILES, REBAR ARRANGEMENT, ANCHORAGES, CURTAILMENT, LAP LENGTHS, SPLICING, LINK SPACING, PENETRATIONS, BEAM HAUNCHING, TENDON PROFILES, ETC.
- G.27. ALL REINFORCEMENT SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO THE PREPARATION OF REINFORCEMENT SCHEDULE AND FABRICATION.
- G.28. ALL TECHNICAL PROPOSALS AND METHOD STATEMENTS REQUIRED TO BE SUBMITTED BY THE CONTRACTOR SHALL BE PREPARED AND

- CERTIFIED BY THE CONTRACTOR'S PROFESSIONAL ENGINEER. THE COST OF PREPARATION AND SUBMISSION OF ALL TECHNICAL PROPOSALS AND METHOD STATEMENTS SHALL BE INCLUDED IN THE CONTRACT PRICE.
- G.29. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE TO COORDINATE ALL STRUCTURAL CAST-INS PARTICULARLY FOR FACADE FIXINGS, DURING THE CONSTRUCTION OF THE STRUCTURAL ELEMENTS. ALL CAST-INS SHALL BE INDICATED ON THE GENERAL ARRANGEMENT STRUCTURAL SHOP DRAWINGS AND SUBMITTED TO THE CONSULTANT TEAM FOR REVIEW PRIOR TO THE CARRYING OUT OF THE WORKS ON SITE. THE PROVISION AND POSITIONS OF ALL CAST-INS ARE SUBJECT TO THE APPROVAL OF THE ENGINEER.
- G.30. THE CONTRACTOR SHALL ENGAGE A REGISTERED LOSS ADJUSTOR TO CARRY OUT A PRE-CONSTRUCTION SURVEY OF THE NEIGHBORING PROPERTIES. THE CONTRACTOR IS REQUIRED TO GIVE TO EACH NEIGHBORING OWNER THE PORTION OF THE REPORT RELEVANT TO HIS PROPERTY BEFORE WORK COMMENCES. A COMPLETE COPY OF THE REPORT IS TO BE KEPT AT SITE BY THE CONTRACTOR. THE CONTRACTOR IS ALSO ADVISED TO HAVE A DIALOGUE CONCERNING THE CONSTRUCTION ACTIVITIES WITH THE OWNERS OF THE NEIGHBORING PROPERTIES BEFORE WORK COMMENCES.
- G.31. THE CONTRACTOR SHALL ENGAGE A REGISTERED SURVEYOR TO CARRY OUT A PRE-COMMENCEMENT AND POST-CONSTRUCTION SPOT LEVEL SURVEY OF THE SITE PLATFORM AT 5M GRIDS BASED ON AGREED BENCHMARK.
- G.32. IF IN DOUBT, ASK

CONCRETE

- C.1. CONCRETE STRENGTH, CLASS, AND QUALITY - UNLESS NOTED OTHERWISE, MINIMUM SLUMP TO BE 80mm; AGGREGATE SIZE TO BE 20MM. MINIMUM CONCRETE STRENGTHS, F_c' ARE AS PER TABLE C.1.
- C.2. SAMPLING AND TESTING CONCRETE IN ACCORDANCE WITH THE LATEST & CURRENT EDITION OF APPLICABLE CODES. ACI-318/NSCP 2015 AND ALL CODES AND STANDARDS REFERENCED THEREIN, UNLESS NOTED OTHERWISE ON DRAWINGS.
- C.3. CONCRETE SHALL BE CONSOLIDATED BY VIBRATION. CURE ALL CONCRETE SURFACES AS DIRECTED BY THE SPECIFICATION.
- C.4. ALL CONCRETE SIZES AND LEVELS ARE STRUCTURAL UNLESS OTHERWISE NOTED.
- C.5. SIZES OF CONCRETE ELEMENTS DO NOT INCLUDE THICKNESS OF APPLIED FINISHES.
- C.6. BEAM WITHDS ARE WRITTEN FIRST FOLLOWED BY BEAM DEPTHS, AND INCLUDE SLAB THICKNESS WHERE SLAB IS PLACED INTEGRALLY WITH THE BEAM.
- C.7. CONSTRUCTION JOINTS OR POUR BREAKS WHERE NOT SHOWN ON PLANS OR DETAILS SHALL BE LOCATED AND FORMED TO THE APPROVAL OF THE CONSULTING ENGINEER.
- C.8. A BOND BREAKING MATERIAL IS TO BE PLACED BETWEEN SURFACES IN CONTACT WITH PERMANENT JOINTS UNLESS NOTED OTHERWISE.
- C.9. NO PENETRATIONS, RECESSES OR CHASES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT PRIOR APPROVAL OF THE CONSULTING ENGINEER.
- C.10. CAMBER TO SUSPENDED SLABS AND BEAMS TO BE 5MM FOR EVERY 2M OF SPAN UNLESS NOTED OTHERWISE. ALL CANTILEVERS SHALL BE CAMBERED 10MM FOR EVERY 2M OF SPAN.
- C.11. ALL OPENINGS FOR PIPING AND CONVEYANCE SHALL BE FORMED IN POSITION BEFORE CASTING CONCRETE. ALL GAPS, EXCESSES TO OPENINGS SHALL BE REINSTATE/ PRESSURE-GROUTED WITH NON-SHRINK GROUT (MINIMUM COMPRESSIVE STRENGTH 41.4 N/mm²).
- C.12. BLOCK WALLS MUST NOT BE BUILT ON CONCRETE SLABS OR BEAMS UNTIL FORMWORK SUPPORTING SAME HAS BEEN REMOVED.
- C.13. ALL NON-LOADBEARING WALLS SHALL BE KEPT CLEAR OF THE UNDERSIDE OF SLABS AND BEAMS BY 20MM, UNLESS NOTED OTHERWISE. THE GAP SHALL BE APPROPRIATELY FILLED WITH A COMPRESSIBLE FILLER AND SEALED TO ENGINEER'S SATISFACTION. SIMILARLY, VERTICAL INTERFACES BETWEEN RC COLUMN/WALLS AND NON-LOADBEARING WALLS SHALL BE TREATED WITH APPROPRIATE JOINT DETAILS/SEALANTS TO ENGINEER'S SATISFACTION. SUFFICIENT TIES TO ARCHITECT'S DETAILS MUST BE USED ACROSS THESE JOINTS TO PROVIDE RESTRAINT TO NON-LOADBEARING WALLS.
- C.14. WATERSTOPS SHALL BE PROVIDED IN ALL CONSTRUCTION JOINTS IN WALLS OR SLABS EXPOSED TO GROUND, WEATHER OR WATER SUCH AS RETAINING WALLS, WATER RETAINING STRUCTURES, WATER FEATURES, OPEN DECK AREAS AND MECHANICAL FLOORS, ETC. WHETHER SHOWN ON DRAWINGS OR NOT, THE CONTRACTOR SHALL PROVIDE GROUT HOLES FOR WATERPROOFING GROUTING TO ENSURE WATER TIGHTNESS AT THESE JOINTS.
- C.15. UNLESS OTHERWISE NOTED, A MINIMUM 50MM THICK LEAN CONCRETE LAYER SHALL BE PROVIDED ON ALL SOIL SURFACES FORMING THE UNDERSIDE OF ANY REINFORCED CONCRETE BEAMS, SLABS, RAFTS, SUMP PITS, PILE CAPS, FOOTINGS, ETC.
- C.16. HEAVY DUTY POLYETHYLENE SHEET, 300 MICRONS, SHALL BE INCORPORATED ABOVE THE LEAN CONCRETE FOR ALL GROUND SLABS.
- C.17. ALL STRUCTURAL ELEMENTS WHERE THE FINISHED FLOOR LEVELS ARE INDICATED AS FALLS IN THE ARCHITECTURAL DRAWINGS SHALL BE CAST TO FALL IN THE SAM GRADIENT. THICKENING OF FINISHES TO FORM THE FALL IS NOT PERMITTED WITHOUT THE ARCHITECT'S AND ENGINEER'S APPROVAL.
- C.18. THERE SHALL BE NO LEFT-IN FORM WORK AFTER THE CONCRETING OF ANY STRUCTURAL ELEMENT.

TABLE C.1. CONCRETE STRENGTH AND CLASSES U.N.O.			
STRUCTURAL ELEMENTS	LEVELS	CYLINDER f _c MPa (psi)	EXPOSURE CLASS
GENERAL			
NON-STRUCTURAL	ALL LEVELS	20.7 (3000)	W0 C0
LEAN CONCRETE	FOUNDATION	12.0 (1700)	W0 C0
WITHIN BUILDING FOOTPRINT			
PEDESTAL	FOUNDATION	27.4 (4000)	W0 C0
FOUNDATION	FOUNDATION	20.7 (3000)	W1 C1
STRAP BEAMS	FOUNDATION	20.7 (3000)	W1 C1
STEEL DECK FILL	2F - 5F	20.7 (3000)	W0 C0

REINFORCEMENT

- R.1. UNLESS OTHERWISE SPECIFIED ON PLANS, ALL REINFORCING BARS SHALL BE DEFORMED WITH A MINIMUM YIELD STRENGTH, F_y = 414 MPa (Ø16 AND LARGER) OR F_y = 276 MPa (Ø12 AND SMALLER) TO ASTM A615 OR A706.
- R.2. ALL REINFORCING BARS SHALL BE CLEANED OF RUST, GREASE OR OTHER MATERIALS WHICH TEND TO IMPAIR BOND.
- R.3. ALL REINFORCING BARS SHALL BE ACCURATELY AND SECURELY PLACED BEFORE POURING CONCRETE OR APPLYING MORTAR OR GROUT.
- R.4. LAPPED SPLICES SHALL BE STAGGERED WHERE POSSIBLE.
- R.5. UNLESS INDICATED OTHERWISE, SPLICING OF REINFORCEMENT SHALL BE IN ACCORDANCE WITH ACI 318-2014
- R.6. THE NOTATION 30Ø16-200 MEANS 30 BARS OF 16MM DIA. EACH SPACED AT 200 CENTRES. THE NOTATION 2D10-300 MEANS D10 LINKS (SETS OF TWO LEGS) AT 300 CENTRES. THE NOTATION 4x2D12-250 MEANS 4 SETS OF D12 BARS (SETS OF TWO) AT 250 CENTRES. IN SLABS, THE SUBSEQUENT LAYERS OF REINFORCEMENT ARE NOTED AS FOLLOWS:
- B1 = BOTTOM LAYER LAID FIRST
B2 = BOTTOM LAYER LAID SECOND
B3 = BOTTOM LAYER LAID THIRD
T1 = TOP LAYER LAID LAST
T2 = TOP LAYER LAID SECOND LAST
T3 = TOP LAYER LAID THIRD LAST

R.7. PROVIDE BAR SUPPORTS OR SPACERS TO ACHIEVE CONCRETE COVER AS PER TABLE R.7. UNLESS NOTED OTHERWISE ON DRAWINGS.

R.8. ALL REINFORCEMENT TO BE FIRMLY SUPPORTED ON APPROVED CHAIRS GENERALLY AT NOT GREATER THAN 750MM CENTERS BOTH WAYS. BARS ARE TO BE TIED AT ALTERNATE INTERSECTIONS.

R.9. BARS SHOWN STAGGERED ON PLAN SHALL BE PLACED ALTERNATELY.

R.10. BARS SHOULD BE EVENLY DISTRIBUTED OVER THE EXTENT INDICATED, UNLESS NOTED OTHERWISE. DISTRIBUTION REINFORCEMENT AT RIGHT ANGLE TO MAIN REINFORCEMENT SHALL BE AS SHOWN BELOW, UNLESS NOTED OTHERWISE ON PLANS. THE MAIN REINFORCEMENT SHALL NOT BE LESS THAN DISTRIBUTION REINFORCEMENT.

R.11. REINFORCEMENT SHALL NOT BE CUT ON SITE FOR ANY PURPOSES UNLESS PERMITTED BY THE CONSULTING ENGINEER. BARS CONFLICTING WITH SMALL HOLES OR OTHER MINOR COMPLICATIONS SHALL BE DISPLACED AS DIRECTED ON SITE.

R.12. LENGTH OF REINFORCING BARS INDICATED ON THE DRAWING ARE STRAIGHT LENGTH ONLY ANCHORAGE AND LAPS ARE NOT INCLUDED.

R.13. SPLICING SHALL CONFORM TO REQUIREMENTS AS FOLLOWS.

a. LAP SPLICING

 - SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN THE POSITION AS SHOWN.
 - NO SPLICE SHALL BE MADE AT POINTS OF MAXIMUM STRESS.
 - SPLICE SHALL BE STAGGERED WHEREVER POSSIBLE.
 - WHERE LAP LENGTH IS NOT SHOWN, PROVIDE FULL TENSILE LAP LENGTH (40 TIMES BAR DIAMETER) ACCORDING TO THE CODE OF PRACTICE.

b. MECHANICAL SPLICING

 - WELDED OR LAP SPLICES FOR VERTICAL REINFORCING STEEL IN COLUMNS AND WALLS SHALL NOT BE PERMITTED FOR BARS LARGER THAN Ø32 IN SIZE. FOR BARS GREATER THAN T32, MECHANICAL COUPLERS MEETING TYPE 2 SPLICE REQUIREMENTS IN ACCORDANCE WITH ACI 318-2002, ICCB EVALUATION SERVICE ACCEPTANCE CRITERIA AC 133 MECHANICAL CONNECTORS FOR STEEL BAR REINFORCEMENT (EFFECTIVE 1 OCTOBER 2002), AND ICC EVALUATION SERVICE, INC. SHALL BE PERMITTED.
 - MECHANICAL SPLICING SHALL BE WITH NMB SPLICE SLEEVES OR APPROVED EQUIVALENT TYPES OF COUPLERS SHALL BE SELECTED SUITABLE FOR THE BAR CONFIGURATION AT EACH LOCATION.
 - SPLICING SHALL BE CARRIED OUT DIRECTLY BY PERSONS FULLY TRAINED BY THE SUPPLIER AND IN STRICT COMPLIANCE WITH THE SUPPLIER'S SPECIFICATION.
 - SPACING FOR BARS TO BE SPLICED SHALL BE CHECKED TO ENSURE THAT IT IS SUFFICIENT FOR PROPER SPLICING.
 - MECHANICAL SPLICES SHALL BE DESIGNED TO EFFECTUATE FULL CONTINUITY AND MONOLITHIC ACTION IN THE JOINTS TO EMULATE CONTINUOUS IN-SITU CONSTRUCTION EQUIVALENT IN STRUCTURAL STRENGTH AND DUCTILITY.

R.15. ALL RODS IN TRIMMER ROD GROUPS ARE TO BE OF THE SAME LENGTH (ONE ROD IS ONLY SHOWN FULL LENGTH ON PLAN). PLACE RODS AT APPROXIMATELY 75MM ON CENTERS.

R.16. WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED WITHOUT THE APPROVAL OF THE CONSULTING ENGINEER.

R.17. REINFORCEMENT MUST NOT BE CONTINUOUS THROUGH CONTRACTION / EXPANSION JOINTS.

R.18. IN CASE OF POST-TENSIONED WORK, THE PLACING OF REINFORCEMENT SHALL BE COORDINATED TO SUIT PLACING OF TENDONS.

R.19. THE FACE OF ALL CONCRETE AGAINST NEW CONCRETE WHICH IS TO BE CAST IS TO BE THOROUGHLY MECHANICALLY SCRABBLED, FULLY EXPOSING THE AGGREGATE.

R.20. FIRST SLAB BAR IS TO BE POSITIONED MAXIMUM 100MM FROM FACE OF BEAMS, R.C. WALLS AND SLAB THICKENINGS PARALLEL TO BAR. FIRST BEAM LINK TO BE PLACED MAXIMUM 50MM FROM FACE OF COLUMN OR SUPPORTING WALL UNDER.

R.21. MAXIMUM AMOUNT OF REINFORCEMENT IN A PARTICULAR LAYER INCLUDING TENSION LAPS SHALL NOT EXCEED 40% OF THE BREADTH OF THE SECTION AT THAT LEVEL.

R.22. WHERE THE WIDTH OF ANY BEAM IS LARGER THAN THE WIDTH OF THE SUPPORTING COLUMN OR WALL, THE LINKS OF THE BEAM SHALL CONTINUE THROUGHOUT AND OVER THE COLUMN OR WALL. IN THE CASE OF COLUMN OR WALL BEAMS, THE SIDE OF THE BEAM HAVING HIGHER SHEAR REINFORCEMENT SHALL PREDOMINATE AND CONTINUE THROUGHOUT AND OVER THE COLUMN OR WALL.

R.23. STARTER BARS FROM THE FLOOR STRUCTURAL SYSTEM FOR R.C. WALLS AND COLUMNS SHALL CORRESPOND IN NUMBER AND SIZE TO THE REINFORCEMENT IN THE WALL OR COLUMN IN WHICH THEY ARE TO BE EMBEDDED. ALL STARTER BARS TO CONCRETE WORKS NOT CARRIED OUT WITHIN ONE MONTH SHALL BE PROTECTED WITH TWO COATS OF NEAT CEMENT WASH. THE COATING SHALL BE MAINTAINED PERIODICALLY TO ENSURE THE EFFICIENT PROTECTION TO THE REINFORCEMENT.

R.24. VERTICAL CLEARANCE BETWEEN EACH LAYER OF REINFORCEMENT SHALL NOT BE LESS THAN 25mm. SPACER BARS SHALL BE 25mm MIN OR BAR DIAMETER WHICHEVER IS GREATER.

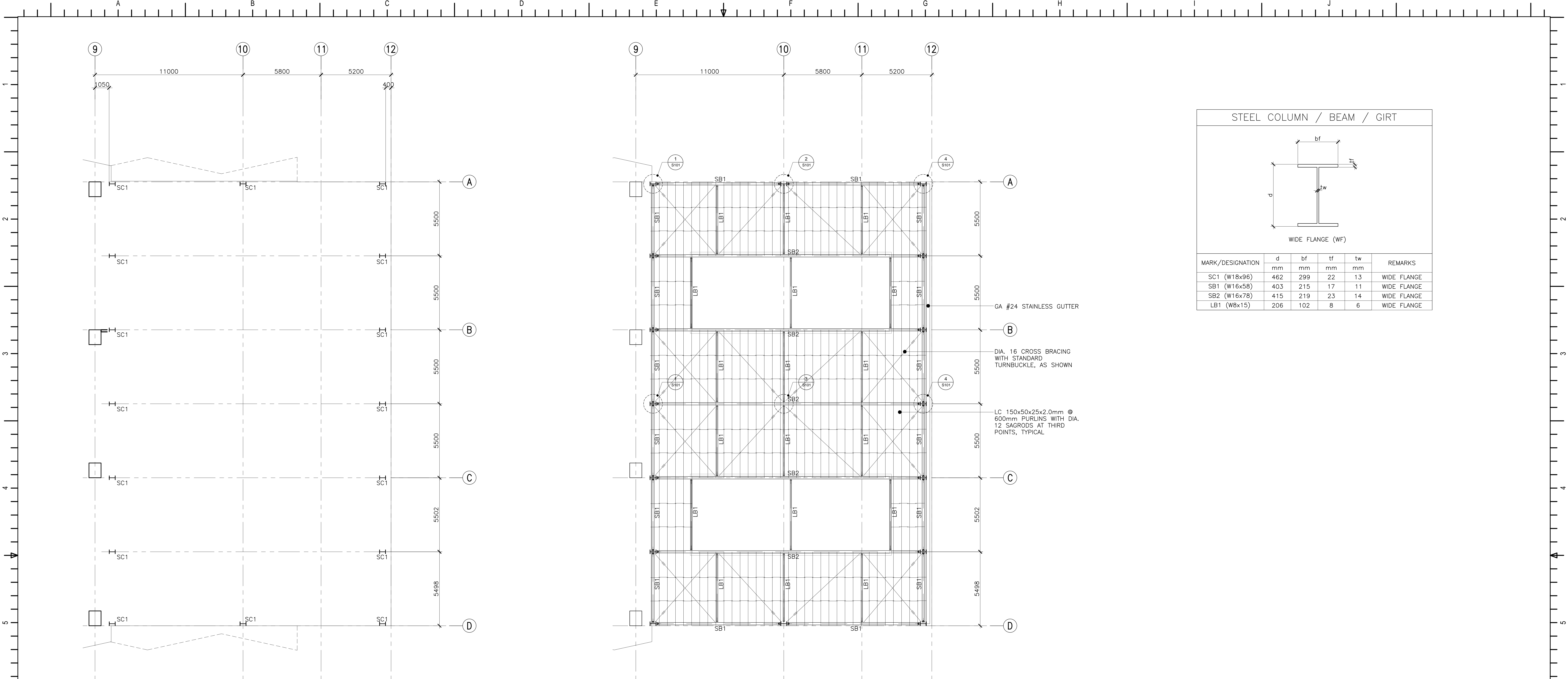
R.25. CRANKING OF COLUMN BARS SHOULD NOT EXCEED 1 IN 6. NOT MORE THAN 50% OF COLUMN BARS SHOULD BE SPLICED AT ONE SECTION. FOR COLUMN WITH MORE THAN 4% REINFORCEMENT, SPLICES SHALL BE STAGGERED AND APPROVED MECHANICAL COUPLERS SHALL BE USED. MAXIMUM STEEL RATIO AT LAP LOCATION SHALL BE 8%.

R.26. ANTI-SPLALLING MESH OF A6 WELDED STEEL FABRIC SHALL BE PROVIDED TO ALL CONCRETE SURFACES WHERE THE COVER EXCEEDS 40mm. THIS MESH SHALL BE PLACED 20mm FROM THE SURFACE OF THE CONCRETE.

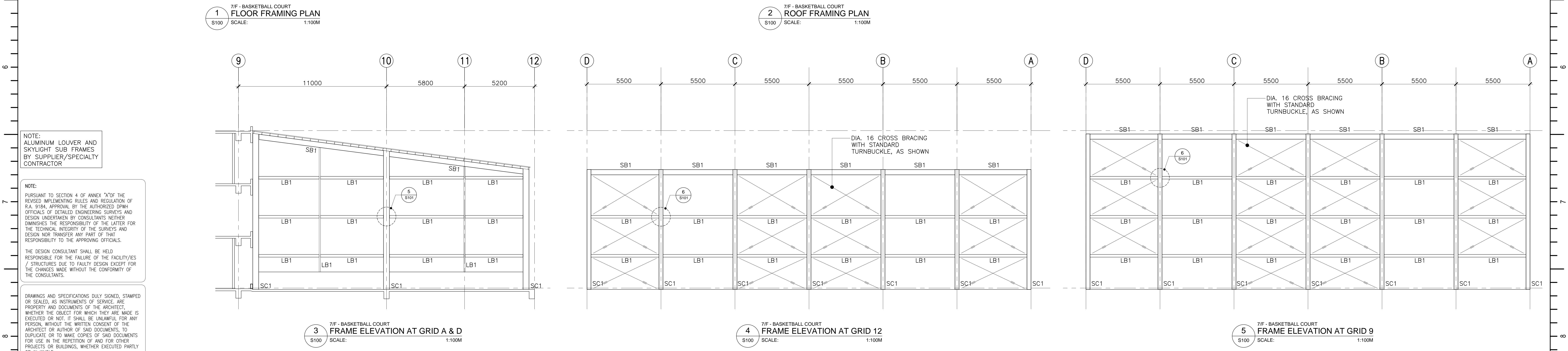
R.27. FOR ANY POST-FIX DRILLED IN STARTER/DOWEL BARS, USE HILTI HY150 OR HILTI RE 500 OR EQUIVALENT. THE DRILLED IN SYSTEM ADOPTED SHALL PROVIDE LONG-TERM PULL-OUT STRENGTH INCLUDING EFFECTS OF CREEP AND CONCRETE CRACKS, WITH RECORD OF THE TESTS AND PAST PROJECTS TRACK RECORD.
- | TABLE R.7. CONCRETE COVER REQUIREMENTS | | | |
|------------------------------------------------------------------------------------|-----|---------------------------|---------|
| CASTING LOCATION AND CONDITION | TYP | DURABILITY
FIRE RATING | |
| | | 2 HOURS | 4 HOURS |
| 1. CONCRETE EXPOSED TO EARTH (VERY SEVERE) | 75 | - | - |
| 2. BORED PILE | 75 | - | - |
| 3. CONTACT WITH LEAN CONCRETE OR WATERPROOFING | 50 | - | - |
| 4. CONCRETE EXPOSED TO WEATHER AND NOT IN CONTACT WITH GROUND (MODERATE EXPOSURE) | | | |
| A. RC SLABS / STAIR FLIGHTS | 35 | 35 | 45 |
| B. RC WALLS | 30 | 30 | 30 |
| C. RC BEAMS - SIMPLY SUPPORTED | 40 | 40 | 70 |
| D. RC BEAMS - CONTINUOUS SPAN | 35 | 35 | 50 |
| E. RC COLUMNS | 30 | 30 | 30 |
- PREFABRICATED REINFORCEMENT
- J1. THE CONTRACTOR, IF REQUIRED, SHALL PREFABRICATE ALL STEEL REINFORCEMENT FOR WALL, COLUMN, BEAM AND SLAB. ALL WALL AND COLUMN REINFORCEMENT, SLAB REINFORCEMENT AND BEAM CAGES SHALL BE PREFABRICATED IN A FACTORY APPROVED BY THE ENGINEER.

J2. THE CONTRACTOR SHALL SUBMIT TOGETHER WITH HIS TENDER, THE NAMES OF THE FACTORY PREFABRICATING THE CAGE REINFORCEMENT. THE CONTRACTOR SHALL OBTAIN THE WRITTEN APPROVAL OF THE ENGINEER IF HE WISHES TO CHANGE TO ANOTHER FACTORY.

J3. THE CONTRACTOR MAY PROPOSE ALTERNATIVE BAR SIZES AND SPACING TO SUIT THE PREFABRICATING PROCESS, SUBJECT TO THE APPROVAL OF THE ENGINEER. THE ALTERNATIVE PROPOSAL SHALL NOT COMPROMISE THE ORIGINAL AREA OF STEEL REINFORCEMENT SHOWN ON THE ENGINEER'S DRAWINGS.
- TOKWING**
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Lor 305, Rodriguez Drive, Rodriguez Subdivision,
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Tel No. (02) 8961 6009 Email: tokwingcorp@yahoo.com.ph
- ENRIQUE O. OLONAN & ASSOCIATES**
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- CONSULTANT:
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CIVIL/STRUCTURAL ENGINEER
PRC NO.: 005676 DATE: JAN. 15, 1989
FIR NO.: MFA32243 DATE: JAN. 17, 2022
PLACE: MUNTINLUPA CITY TIN NO.: 102-804-743-006
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PROJECT MANAGER II
BUILDING & SPECIAL PROJECTS MANAGEMENT CLUSTER
UNIFIED PROJECT MANAGEMENT OFFICE, DPWH
- REVIEWED:
ATTY. JOHNSON V. DOMINGO
PROJECT DIRECTOR
BUILDING & SPECIAL PROJECTS MANAGEMENT CLUSTER
UNIFIED PROJECT MANAGEMENT OFFICE, DPWH
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- SOCRATES L. RAMORES
DIRECTOR IV
ASSISTANT NATIONAL STATISTICIAN
FINANCE AND ADMINISTRATIVE SERVICE
HEAD, PSA-BCCM
- LEO B. MALAGAR
ASSISTANT SECRETARY
DEPUTY NATIONAL STATISTICIAN
CIVIL REGISTRATION & GENERAL SUPPORT OFFICE
- APPROVED:
USEIC, CLAIRE DENNIS S. MAPA, PH. D.
NATIONAL STATISTICIAN AND CIVIL REGISTRAR GENERAL
PHILIPPINE STATISTICS AUTHORITY
- PROJECT:
CONSTRUCTION OF FIT-OUT AND LANDSCAPE WORKS FOR THE
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OFFICE BUILDING WITH COVERED ROOF DECK
LOCATION: PSA COMPLEX, EAST AVENUE, DILMAN, QUEZON CITY
- SHEET CONTENT:
STRUCTURAL NOTES - 2
- | DESIGNER | E. OLONAN | REVISIONS | | SHEET NO. |
|----------|-----------|-----------|--------|-----------|
| CAO | AET / ADI | SYMBOL | REMARK | |
| CHECKED | RIB / AET | | | |
| DATE | MAY 2021 | | | |
- S002



STEEL COLUMN / BEAM / GIRT					
WIDE FLANGE (WF)					
MARK/DESIGNATION	d mm	bf mm	tf mm	tw mm	REMARKS
SC1 (W18x96)	462	299	22	13	WIDE FLANGE
SB1 (W16x58)	403	215	17	11	WIDE FLANGE
SB2 (W16x78)	415	219	23	14	WIDE FLANGE
LB1 (W8x15)	206	102	8	6	WIDE FLANGE

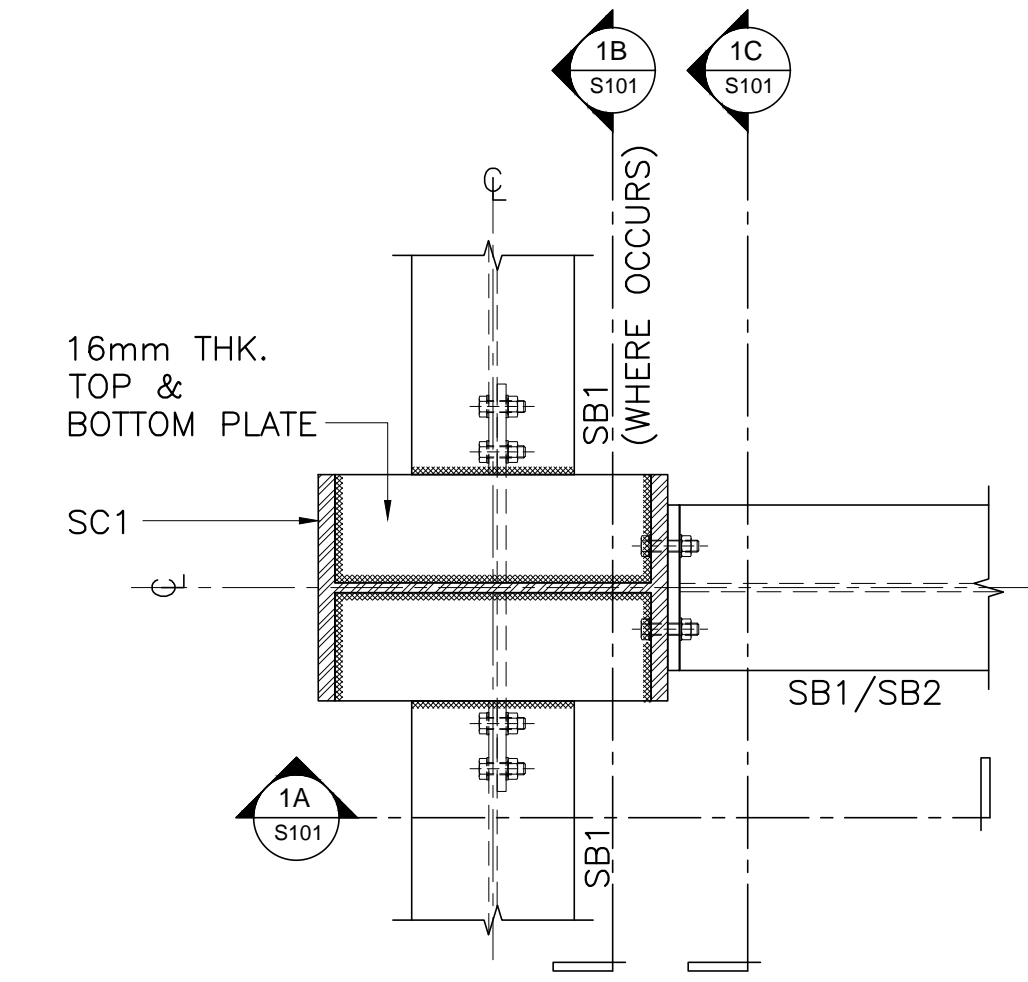


NOTE:
ALUMINUM LOUVER AND SKYLIGHT SUB FRAMES BY SUPPLIER/SPECIALTY CONTRACTOR

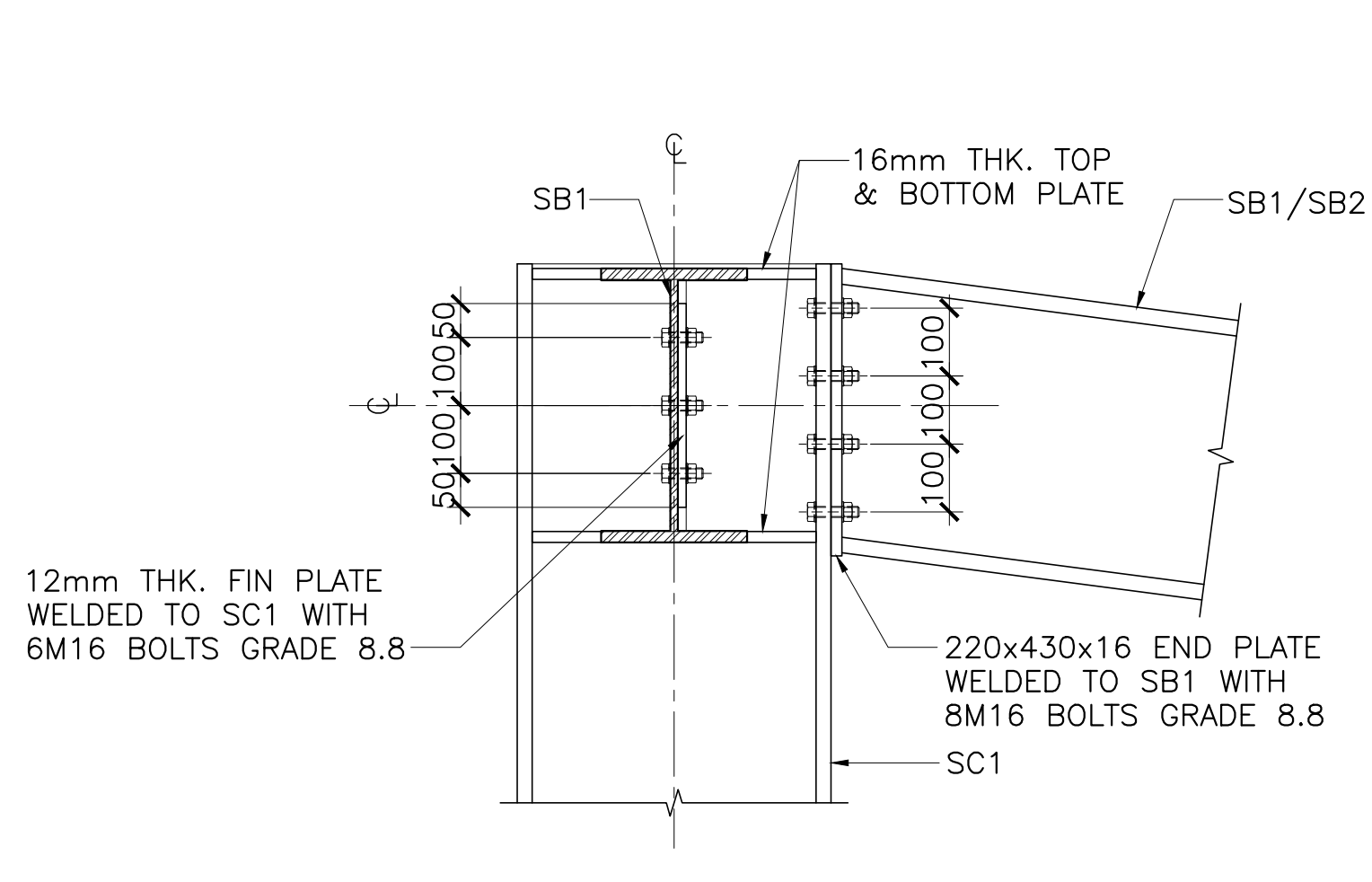
NOTE:
PURSUANT TO SECTION 4 OF ANNEX "A" OF THE REVISED IMPLEMENTING RULES AND REGULATION OF R.A. 9184, APPROVAL BY THE AUTHORIZED DPWH OFFICIALS OF DETAILED ENGINEERING SURVEYS AND DESIGN UNDERTAKEN BY CONSULTANTS NEITHER DIMINISHES THE RESPONSIBILITY OF THE LATTER FOR THE TECHNICAL INTEGRITY OF THE SURVEYS AND DESIGN NOR TRANSFER ANY PART OF THAT RESPONSIBILITY TO THE APPROVING OFFICIALS.

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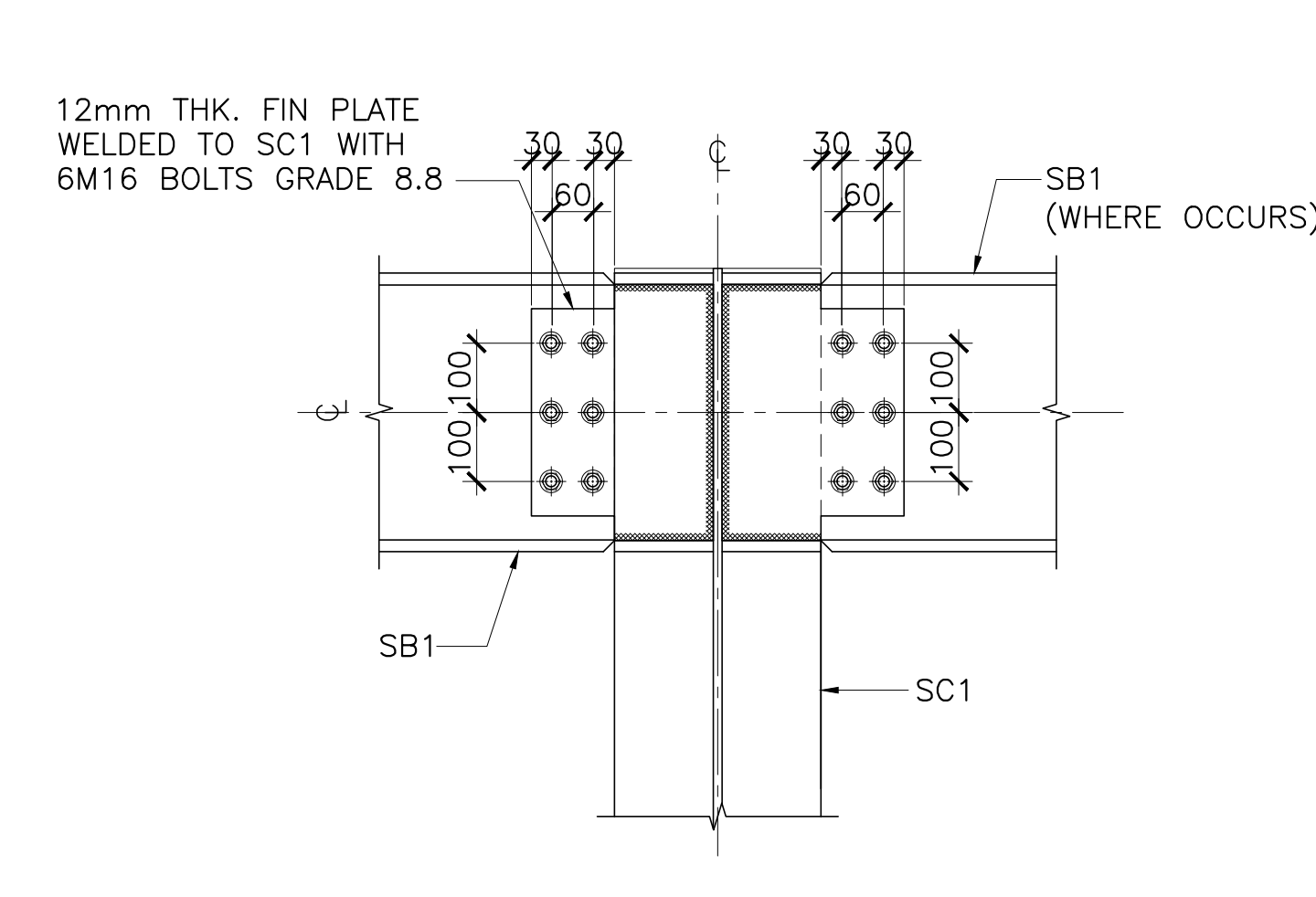
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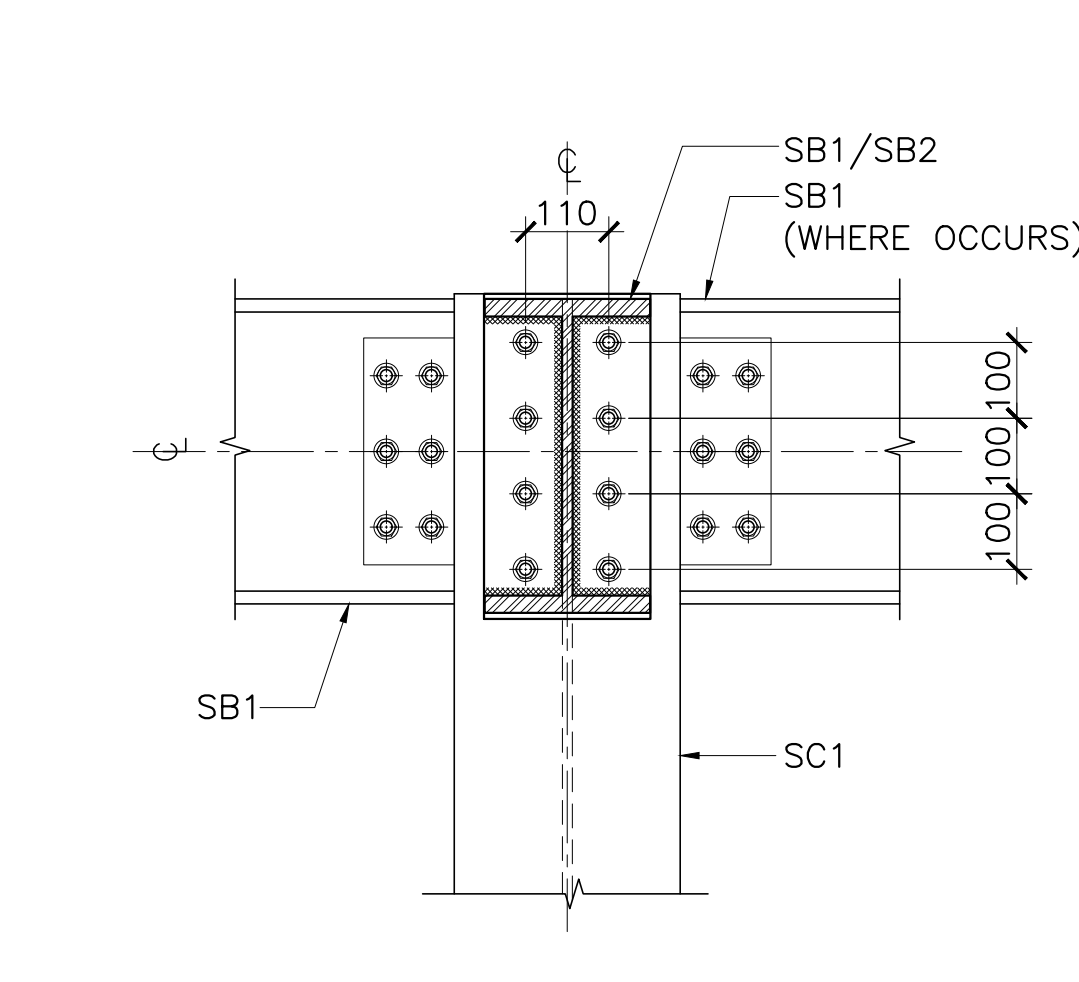
PLAN VIEW



SECTION - 1A

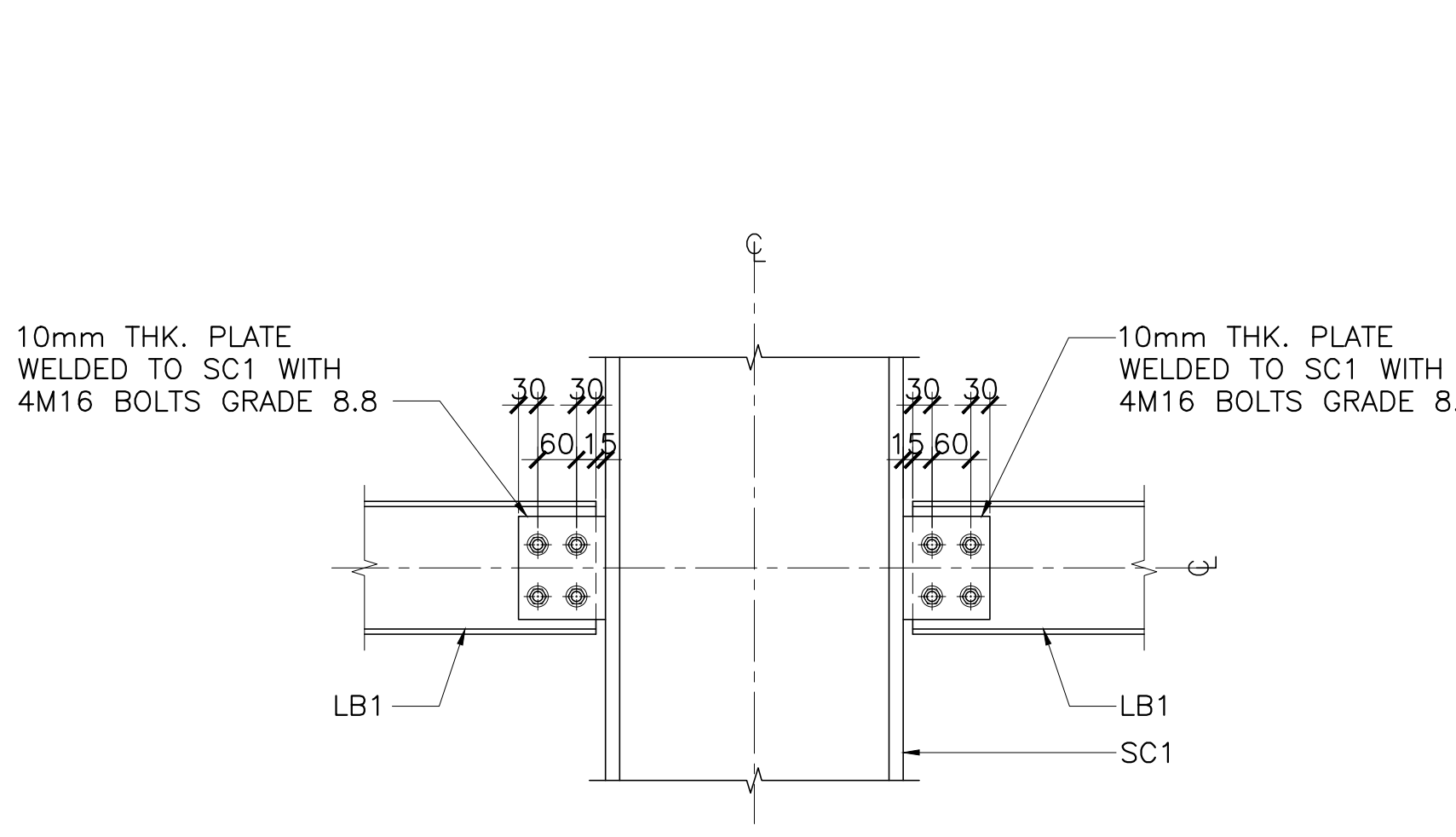


SECTION - 1B

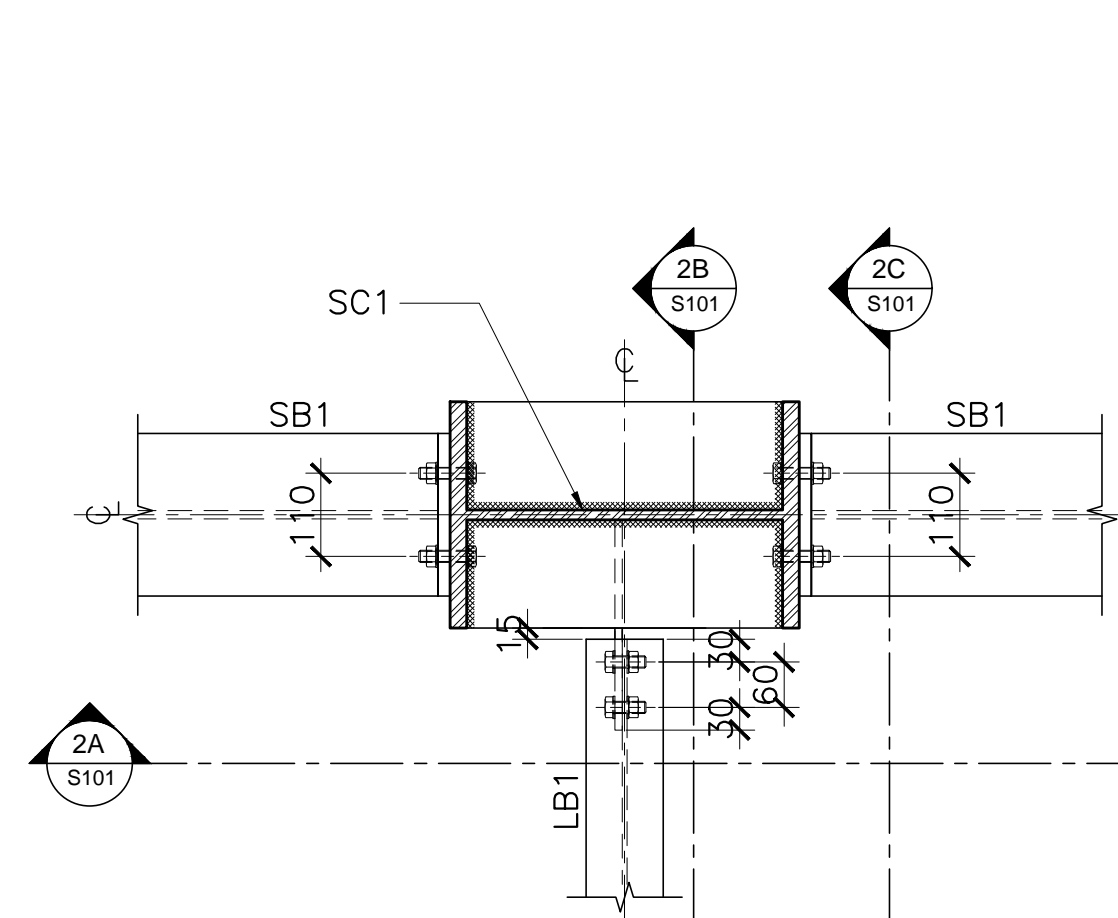


SECTION - 1C

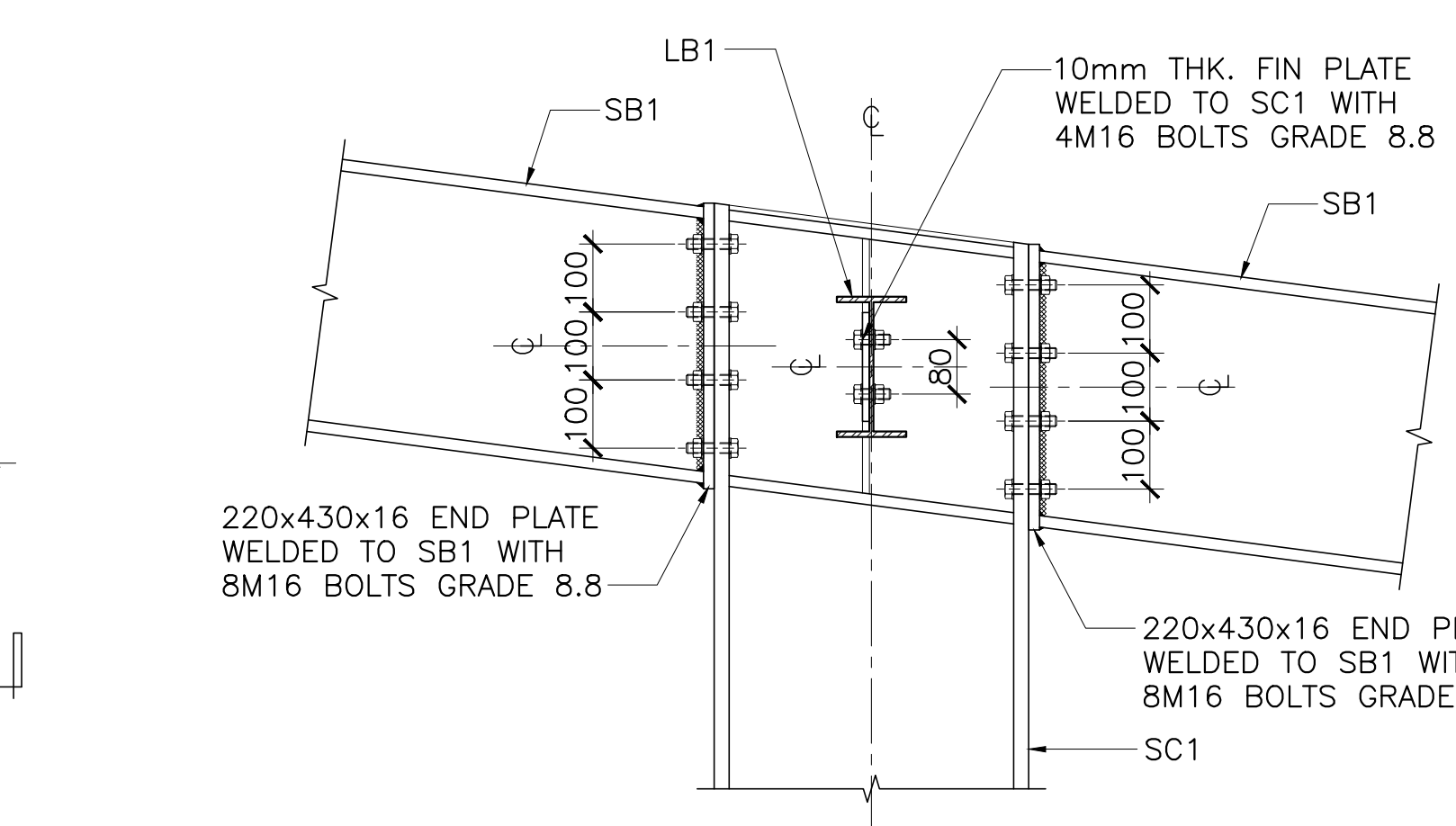
1 SB1 & SB2 TO SC1
CONNECTION DETAIL
SCALE: 1:10M



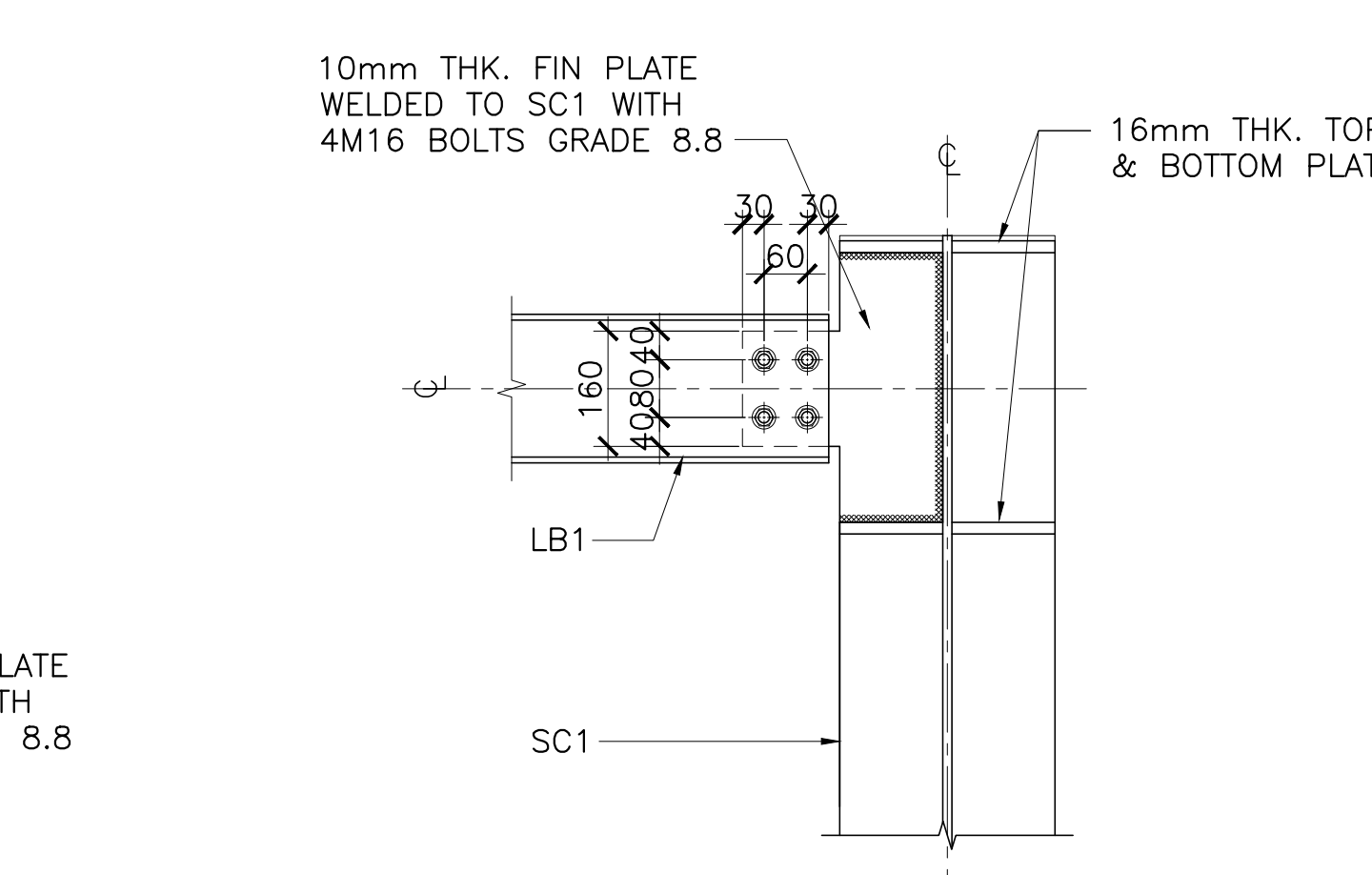
5 LB1 TO SC1
CONNECTION DETAIL
SCALE: 1:10M



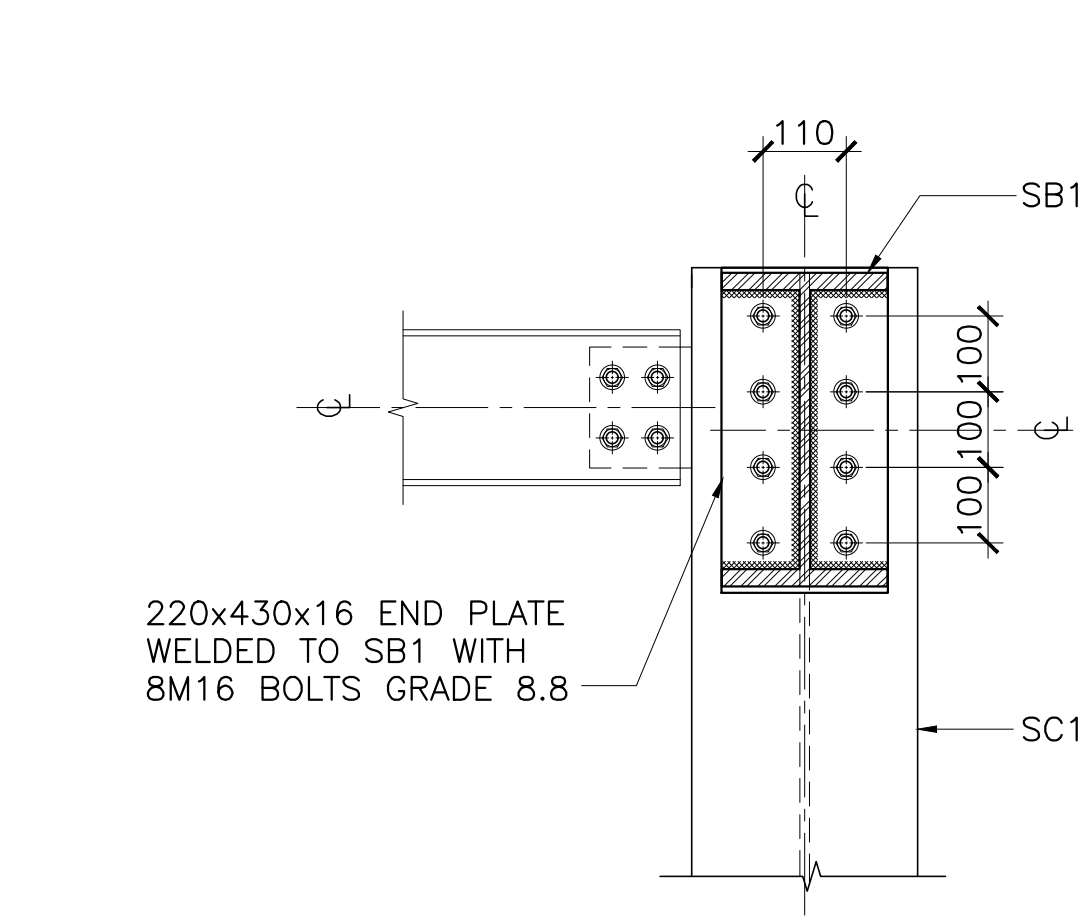
PLAN VIEW



SECTION - 2A

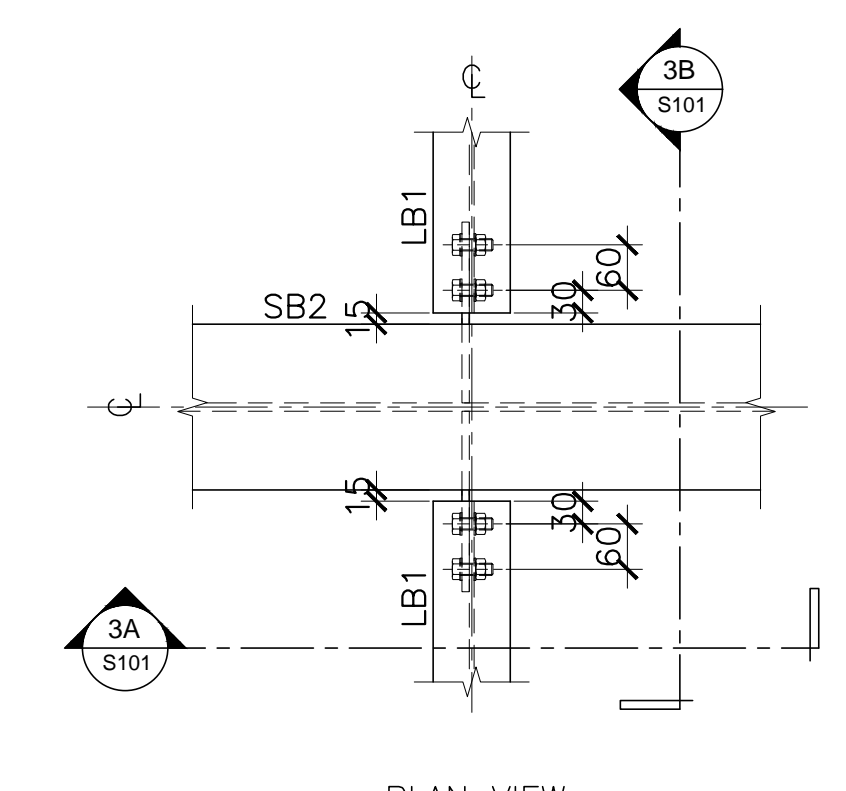


SECTION - 2B

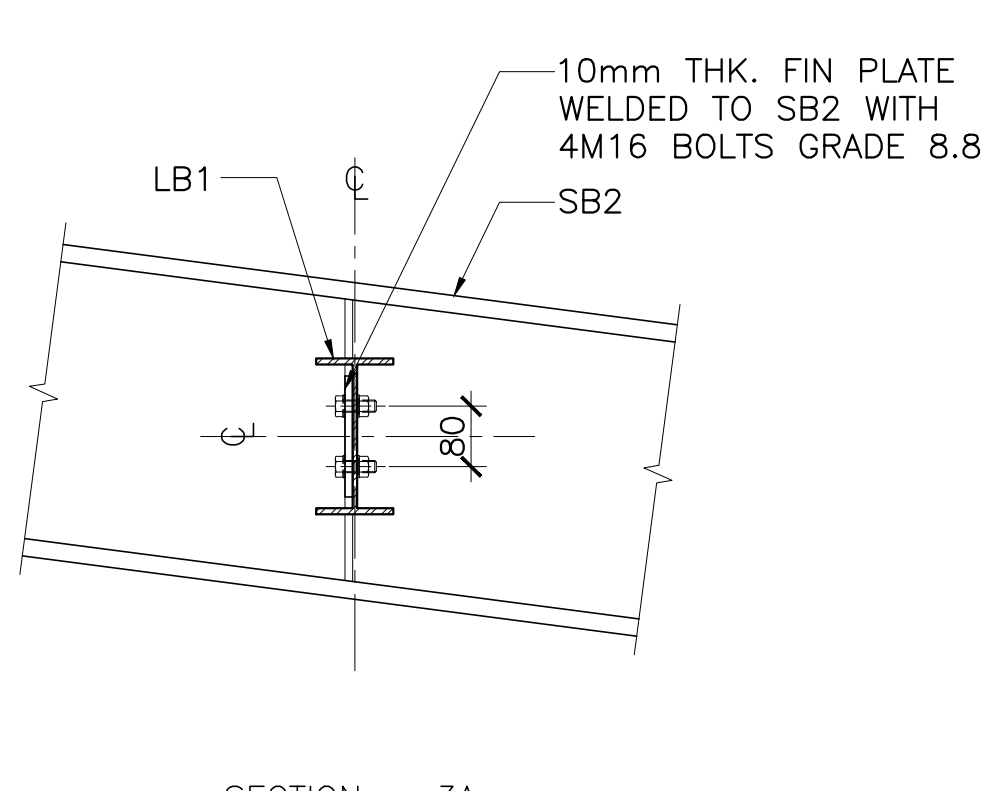


SECTION - 2C

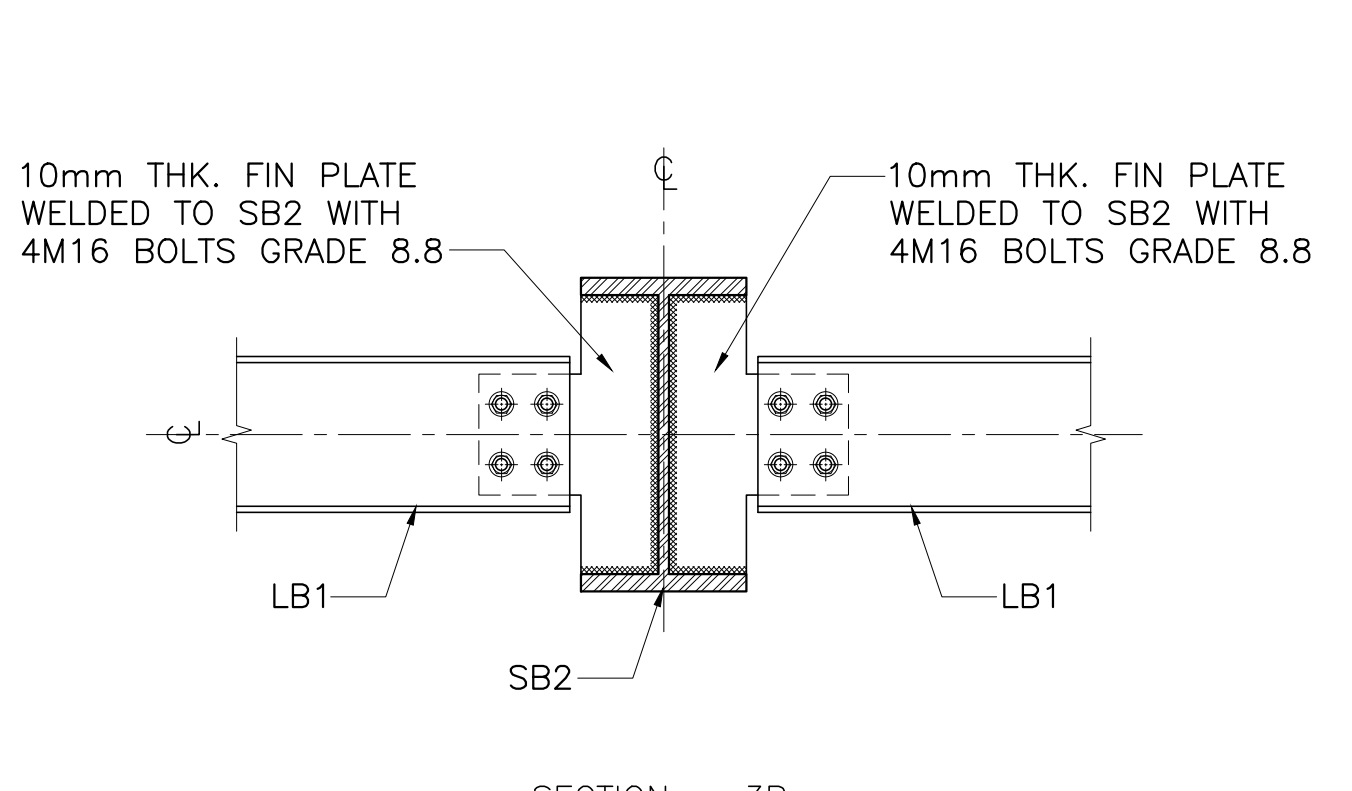
2 SB1 & LB1 TO SC1
CONNECTION DETAIL
SCALE: 1:10M



PLAN VIEW

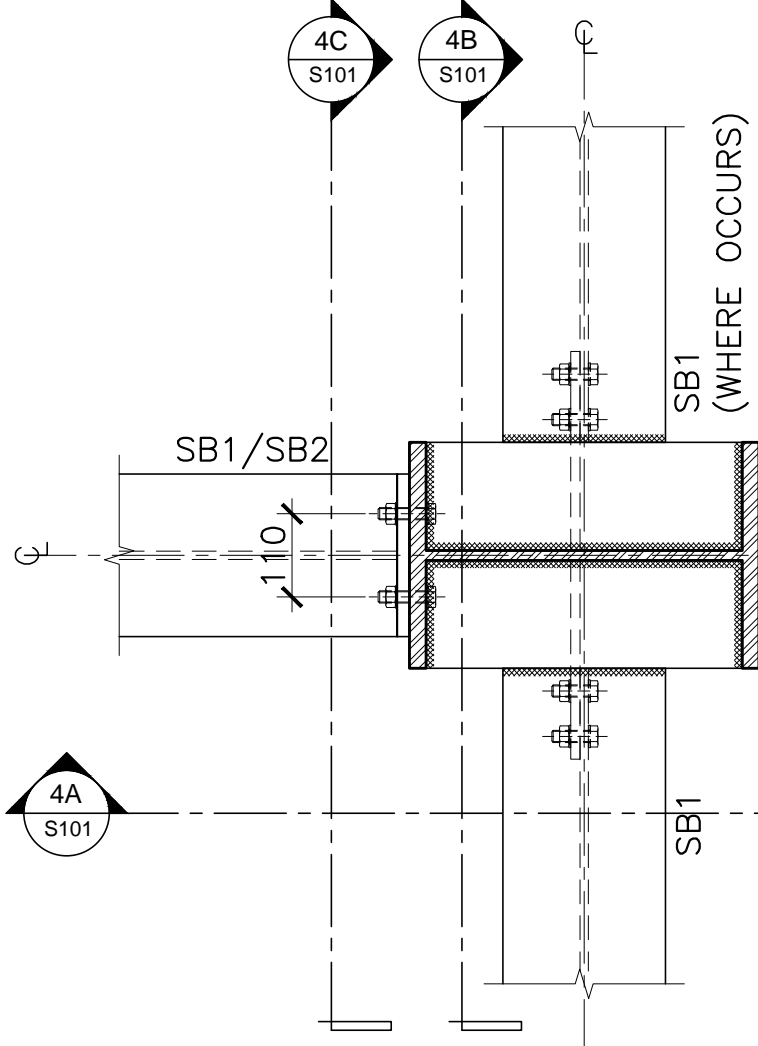


SECTION - 3A

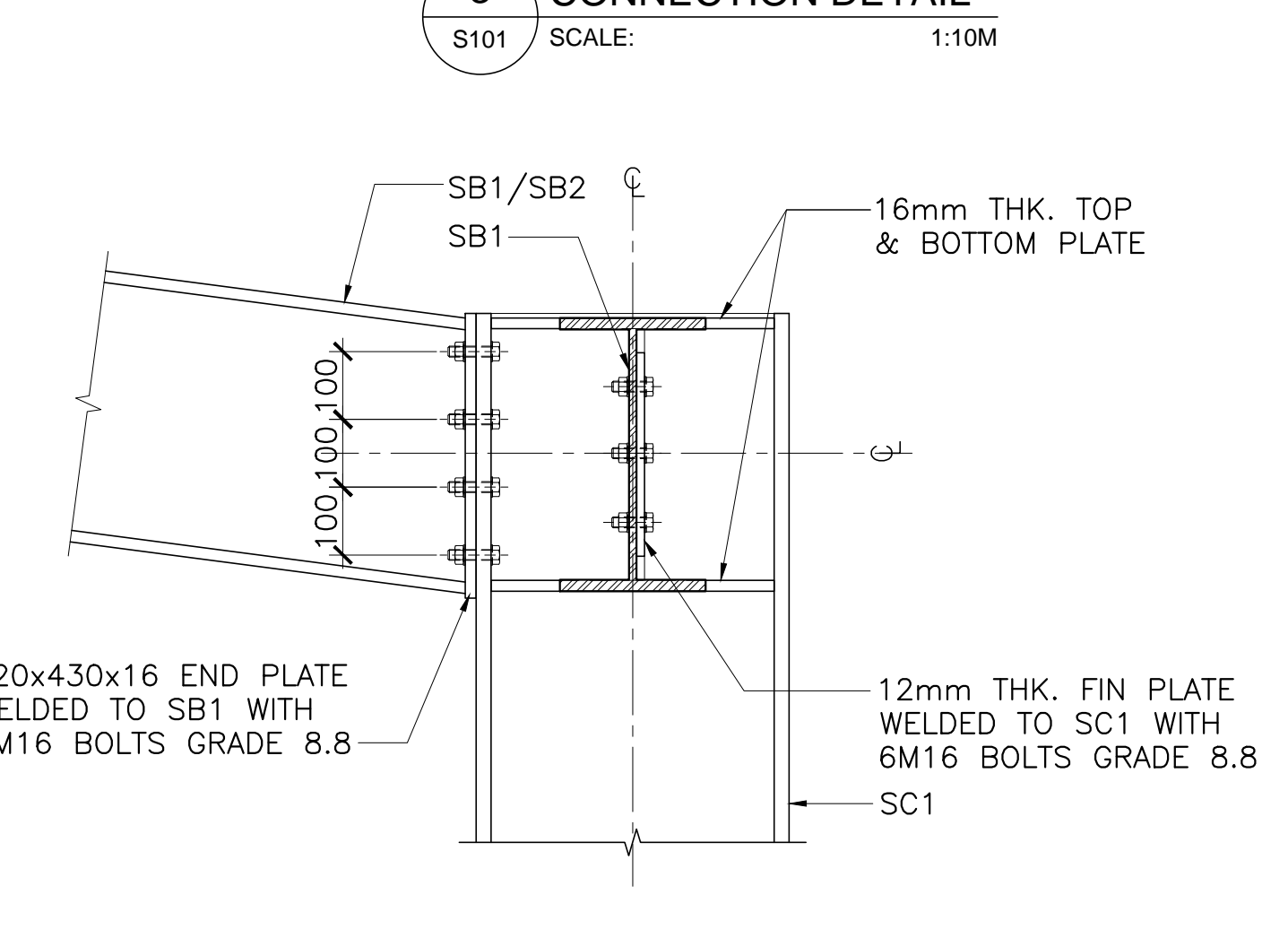


SECTION - 3B

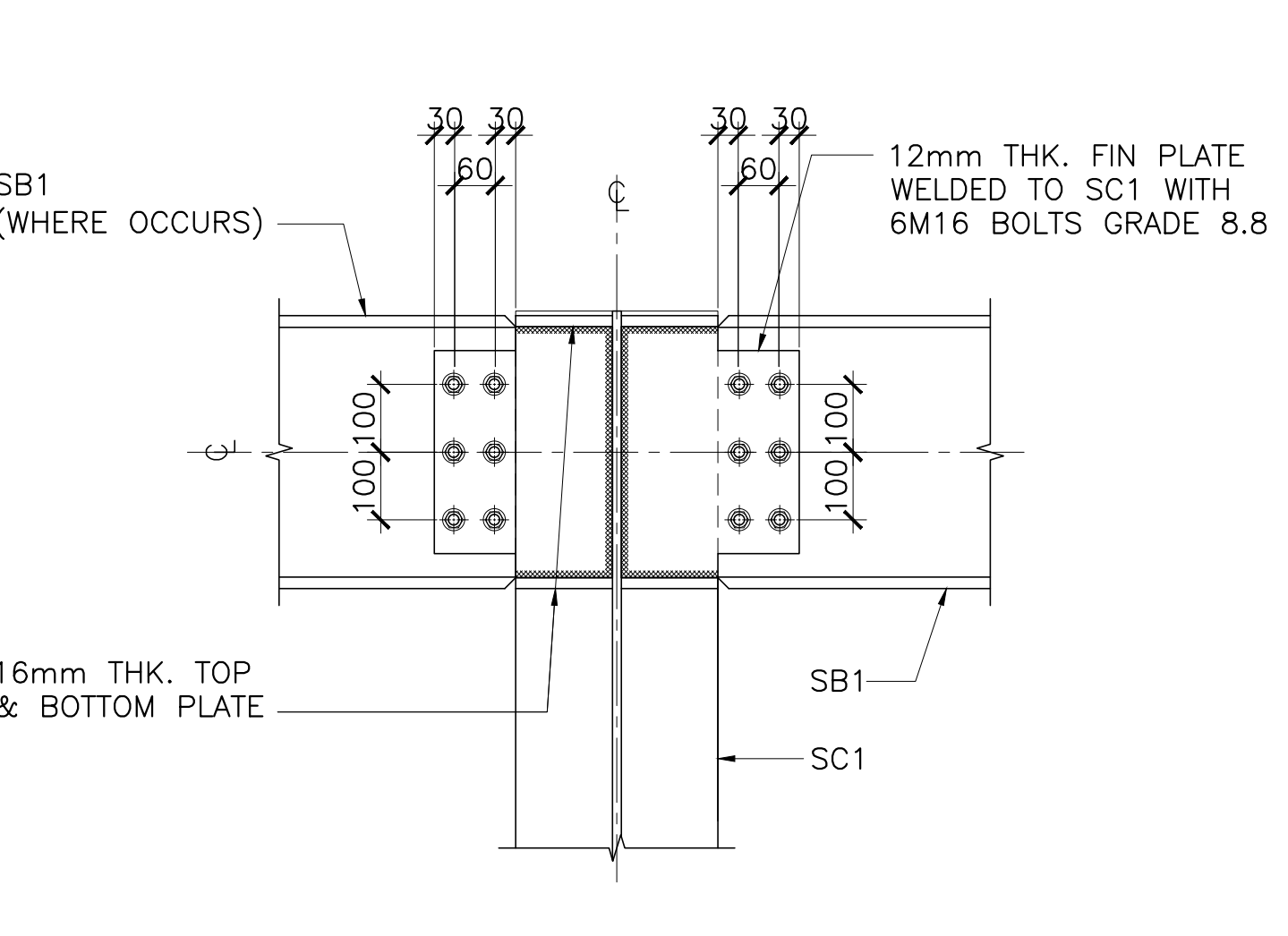
3 LB1 TO SB2
CONNECTION DETAIL
SCALE: 1:10M



PLAN VIEW

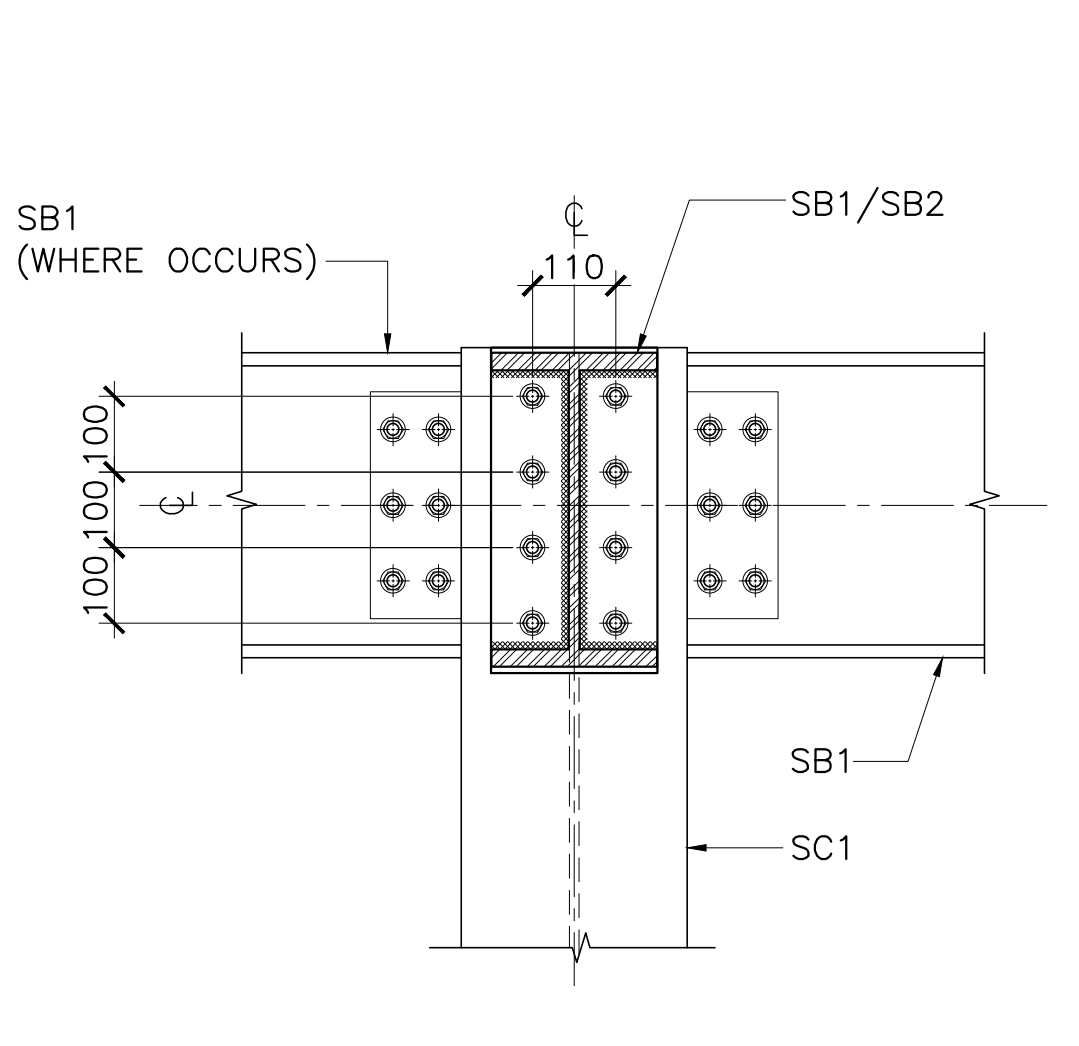


SECTION - 4A

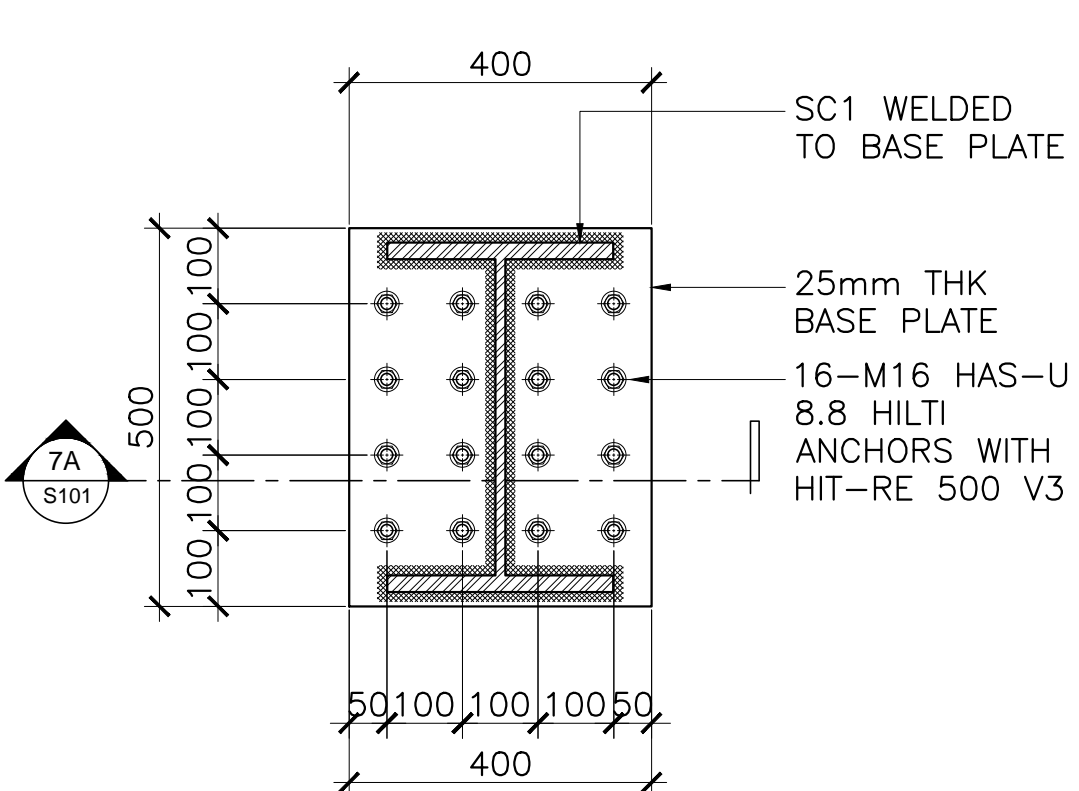


SECTION - 4B

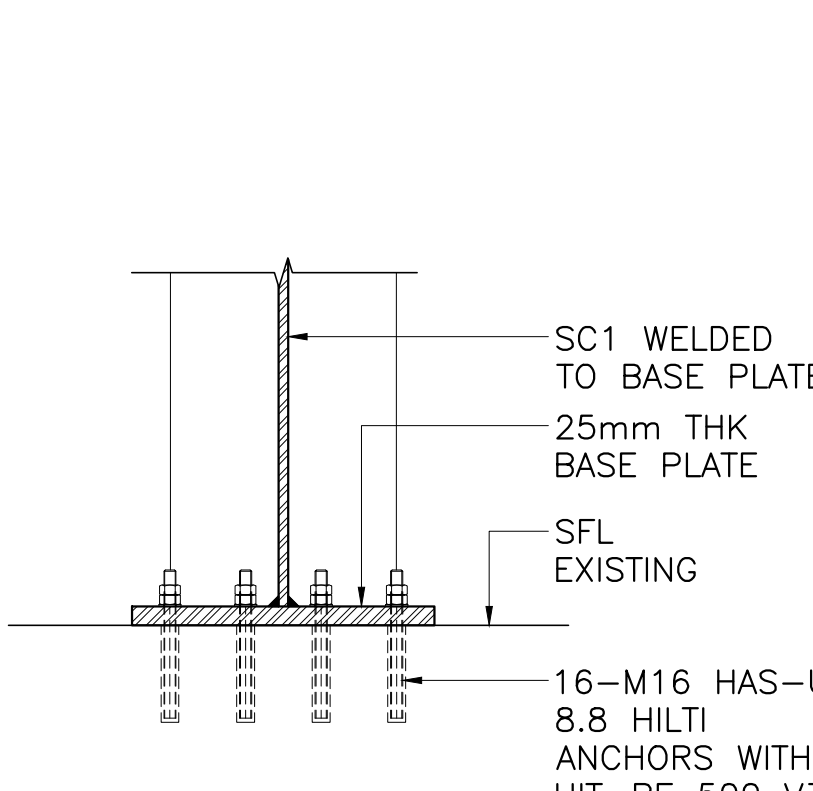
4 SB1 & SB2 TO SC1
CONNECTION DETAIL
SCALE: 1:10M



SECTION - 4C



PLAN VIEW



SECTION - 7A

7 BASE PLATE DETAIL
SCALE: 1:10M

NOTE:
PURSUANT TO SECTION 4 OF ANNEX "A" OF THE REVISED IMPLEMENTING RULES AND REGULATION OF R.A. 9164, APPROVAL BY THE AUTHORIZED DPWH OFFICIALS OF DETAILED ENGINEERING SURVEYS AND DESIGN UNDERTAKEN BY CONSULTANTS NEITHER DIMINISHES THE RESPONSIBILITY OF THE LATTER FOR THE TECHNICAL INTEGRITY OF THE SURVEYS AND DESIGN NOR TRANSFER ANY PART OF THAT RESPONSIBILITY TO THE APPROVING OFFICIALS.
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PRC NO. 056274 DATE AUG. 15, 1989
PRC NO. MFC435243 DATE JAN. 17, 2023
PLACE MONTALBA CITY TIN NO. 102-801-743-003

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UNIFIED PROJECT MANAGEMENT OFFICE, DPWH

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REYNOR R. IMPERIAL
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PLANNING AND MANAGEMENT SERVICE
CO-HEAD, PSA-BCOM

SOCRATES L. RAMORES
DIRECTOR IV
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HEAD, PSA-BCOM

LEO B. MALAGAR
ASSISTANT SECRETARY
DEPUTY NATIONAL STATISTICIAN
CIVIL REGISTRATION & CENTRAL SUPPORT OFFICE

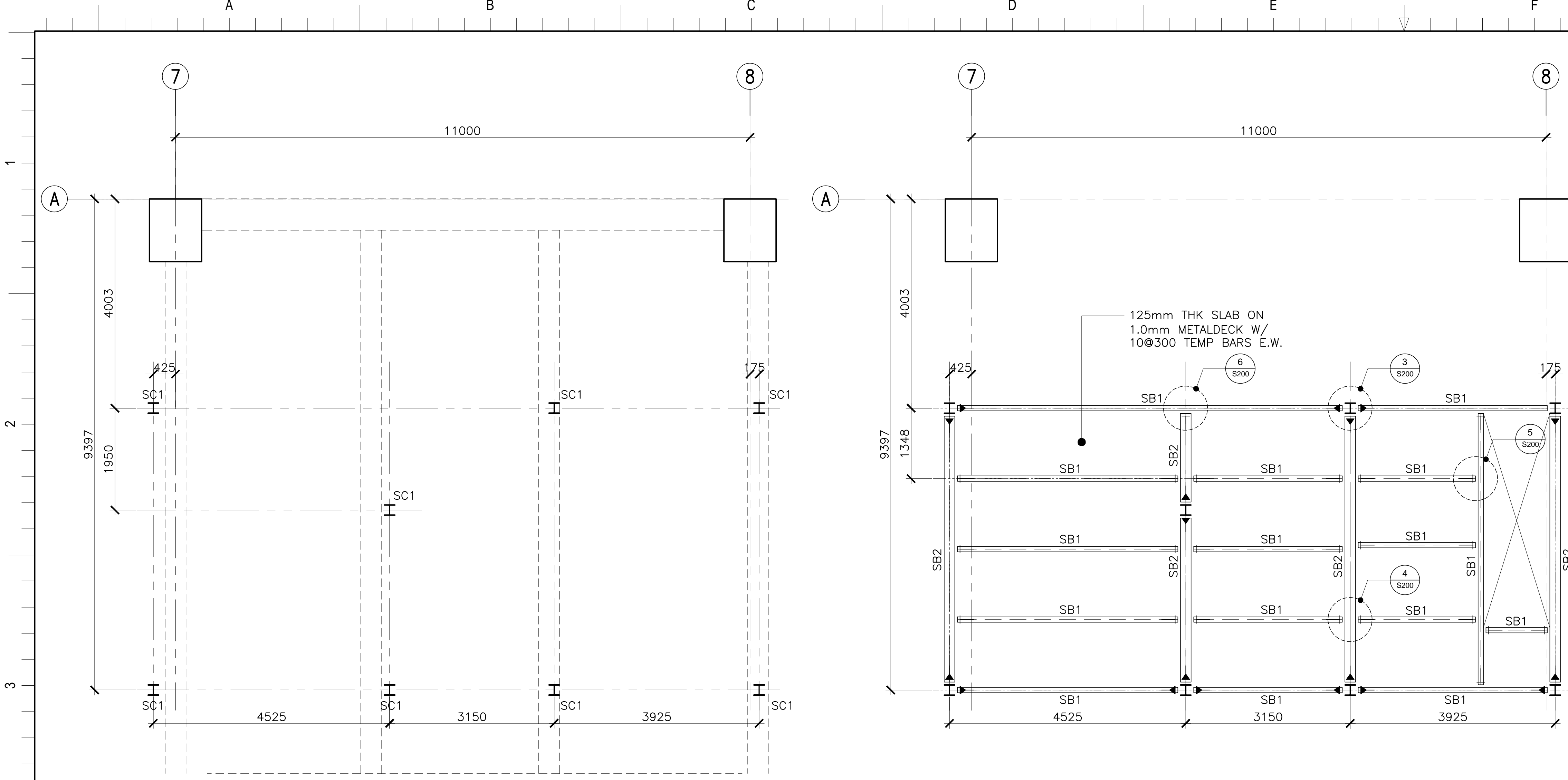
APPROVED:
USREC, CLAIRE DENNIS S. MAPA, PH.D.
NATIONAL STATISTICIAN AND CIVIL REGISTRAR GENERAL
PHILIPPINE STATISTICS AUTHORITY

PROJECT:
CONSTRUCTION OF FIT-OUT AND LANDSCAPE WORKS FOR THE
TWENTY-THREE (23) STOREY PHILIPPINE STATISTICS AUTHORITY (PSA)
OFFICE BUILDING WITH COVERED ROOF DECK
LOCATION: PSA COMPLEX, EAST AVENUE, DILIMAN, QUEZON CITY

SHEET CONTENT
CONNECTION DETAILS

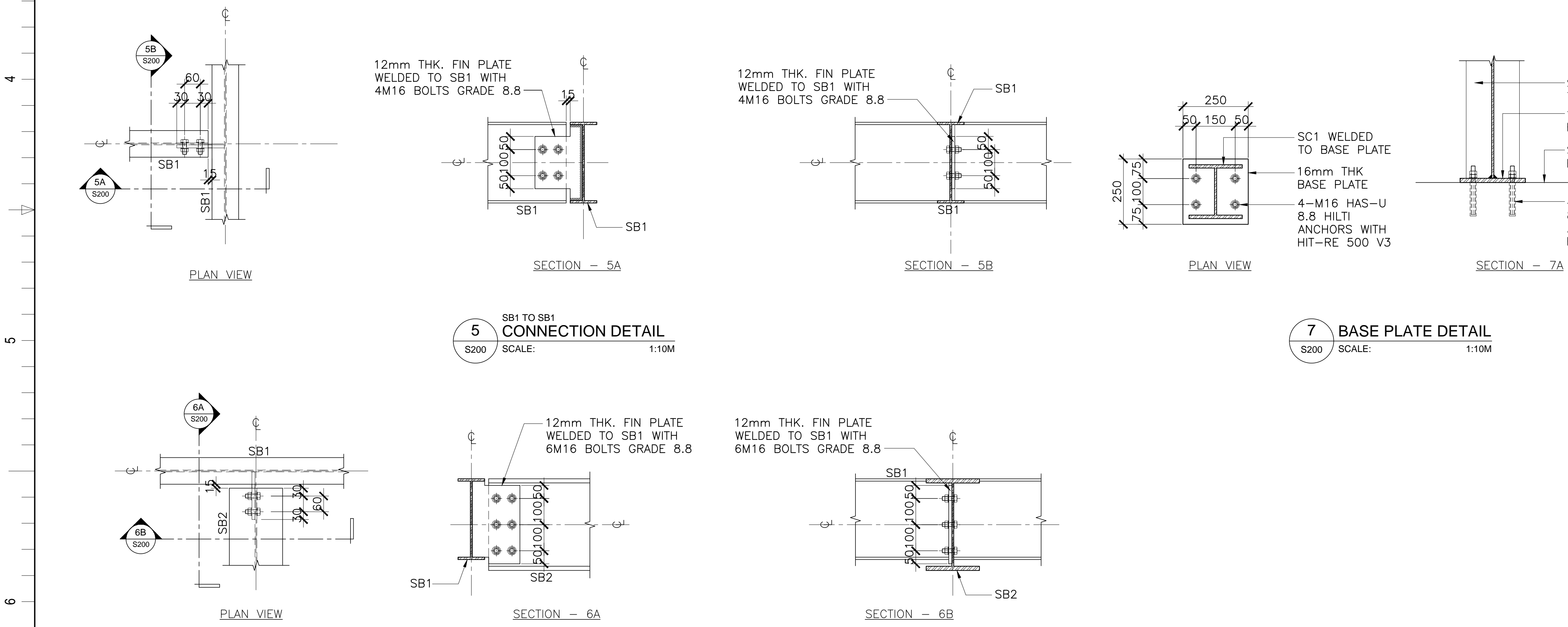
DESIGNER : E. OLANAN
CAD : AET / ADI
CHECKED : RIB / AET
DATE : MAY 2021

REVISIONS
SYMBOL REMARK DATE
SHEET NO.
S101



1 G/F - ARCH & ENGG UNIT
FRAMING PLAN PLAN
S200 SCALE: 1:50M

2 G/F - BMS MEZZANINE
FRAMING PLAN
S200 SCALE: 1:50M



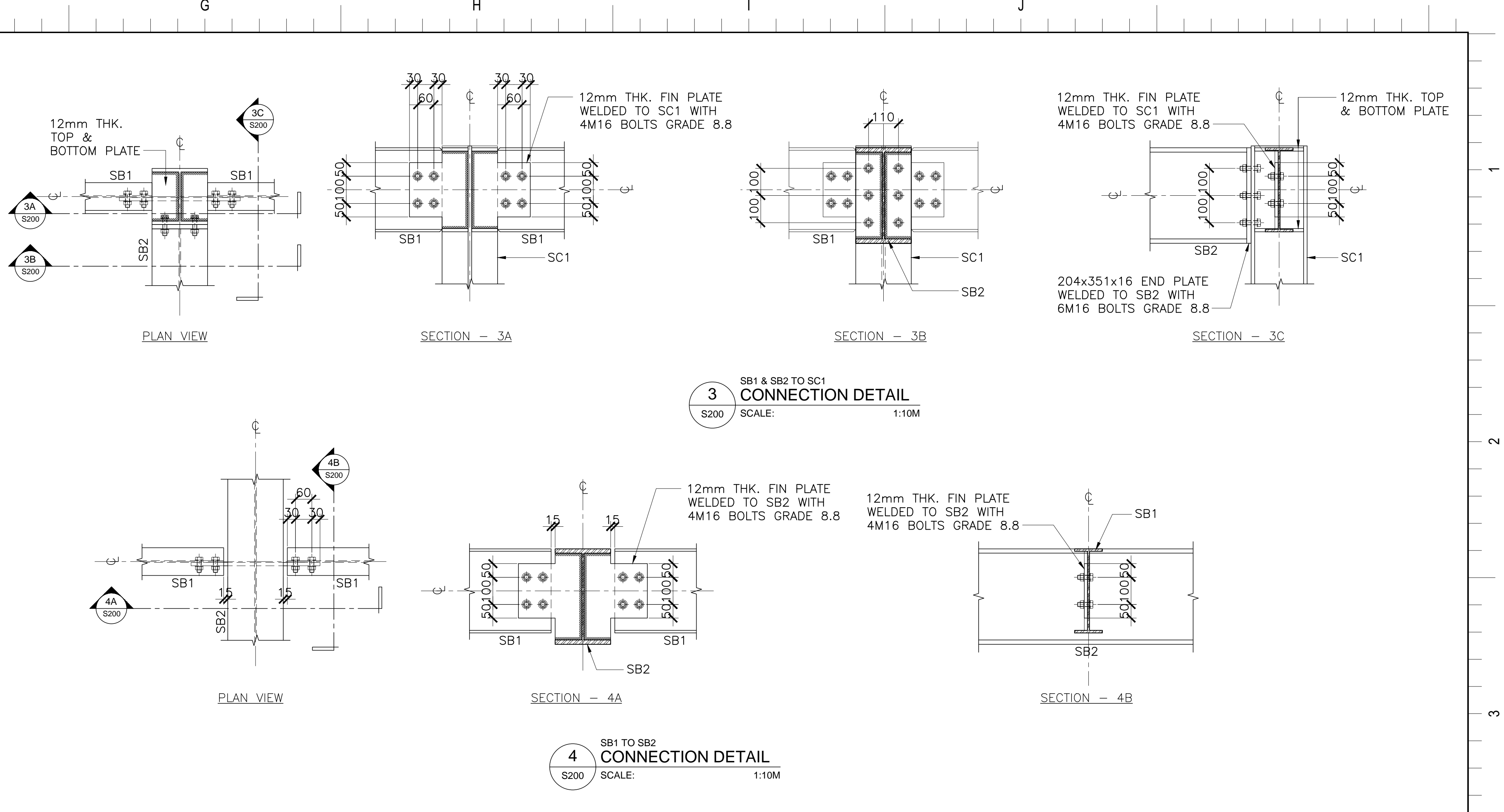
5 SB1 TO SB1
CONNECTION DETAIL
S200 SCALE: 1:10M

6 SB2 TO SB1
CONNECTION DETAIL
S200 SCALE: 1:10M

7 BASE PLATE DETAIL
S200 SCALE: 1:10M

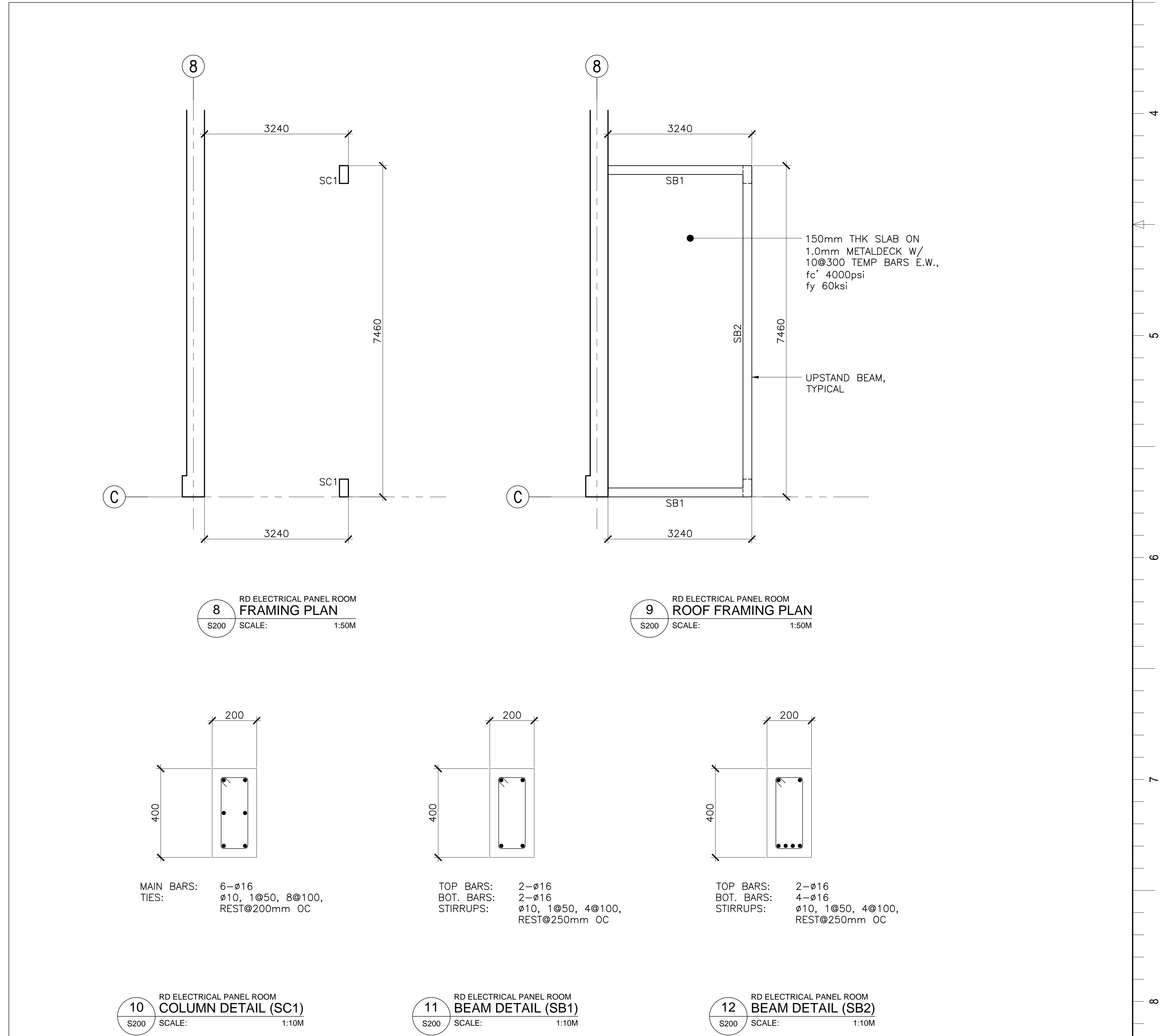
STEEL COLUMN / STEEL BEAM					
WIDE FLANGE (WF)					
MARK/DESIGNATION	d	bf	tf	tw	REMARKS
SC1 (W8x35)	206	204	13	8	WIDE FLANGE
SB1 (W12x19)	309	102	9	7	WIDE FLANGE
SB2 (W14x48)	351	204	16	7	WIDE FLANGE

NOTE:
PURSUANT TO SECTION 4 OF ANNEX "A" OF THE REVISED IMPLEMENTING RULES AND REGULATION OF R.A. 9184, APPROVAL BY THE AUTHORIZED DPWH OFFICIALS OF DETAILED ENGINEERING SURVEYS AND DESIGN UNDERTAKEN BY CONSULTANTS NEITHER DIMINISHES THE RESPONSIBILITY OF THE LATER FOR THE TECHNICAL INTEGRITY OF THE SURVEYS AND DESIGN NOR TRANSFER ANY PART OF THAT RESPONSIBILITY TO THE APPROVING OFFICIALS.
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3 SB1 & SB2 TO SC1
CONNECTION DETAIL
S200 SCALE: 1:10M

4 SB1 TO SB2
CONNECTION DETAIL
S200 SCALE: 1:10M



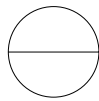
8 RD ELECTRICAL PANEL ROOM
FRAMING PLAN
S200 SCALE: 1:50M

9 RD ELECTRICAL PANEL ROOM
ROOF FRAMING PLAN
S200 SCALE: 1:50M

10 RD ELECTRICAL PANEL ROOM
COLUMN DETAIL (SC1)
S200 SCALE: 1:10M

11 RD ELECTRICAL PANEL ROOM
BEAM DETAIL (SB1)
S200 SCALE: 1:10M

12 RD ELECTRICAL PANEL ROOM
BEAM DETAIL (SB2)
S200 SCALE: 1:10M



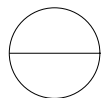
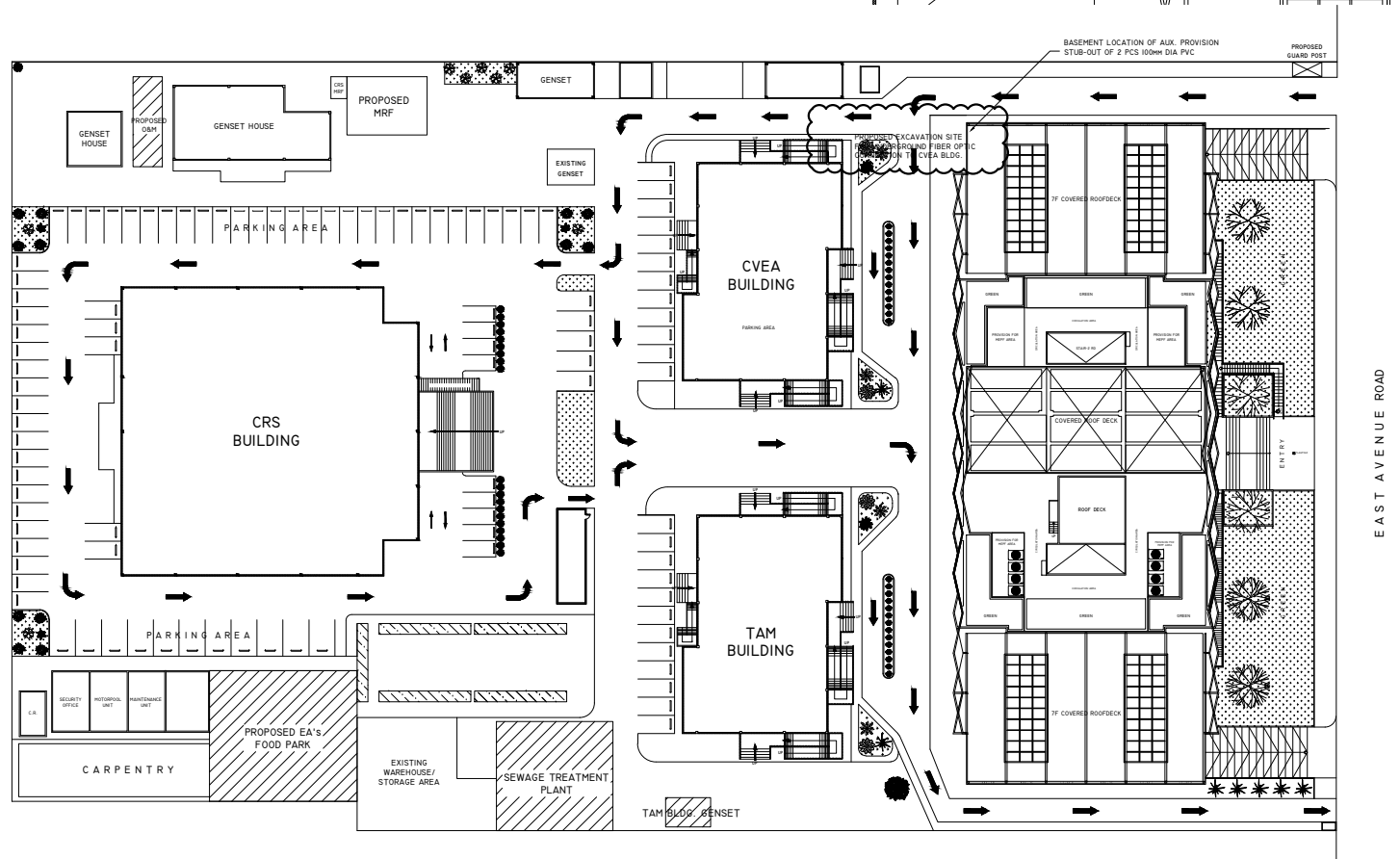
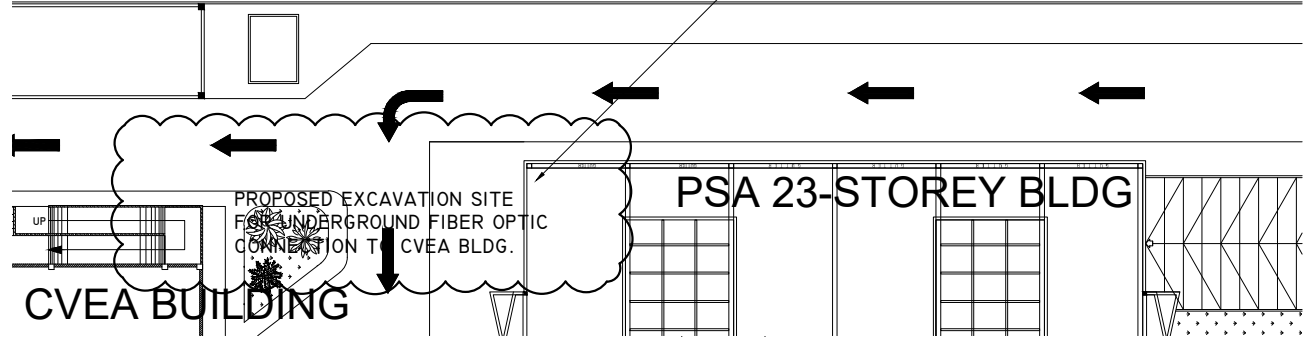
STUB OUT LOCATION AND EXCAVATION BLOW-UP PLAN

SCALE:

1:400 M

PSA COMPLEX PERIMETER WALL

BASEMENT LOCATION OF AUX. PROVISION
STUB-OUT OF 2 PCS 100mm DIA PVC

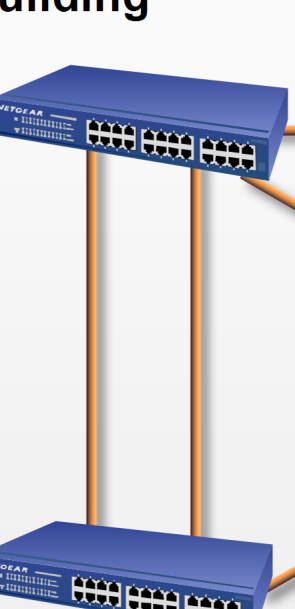


PSA COMPLEX EAST AVENUE SITE DEVELOPMENT PLAN

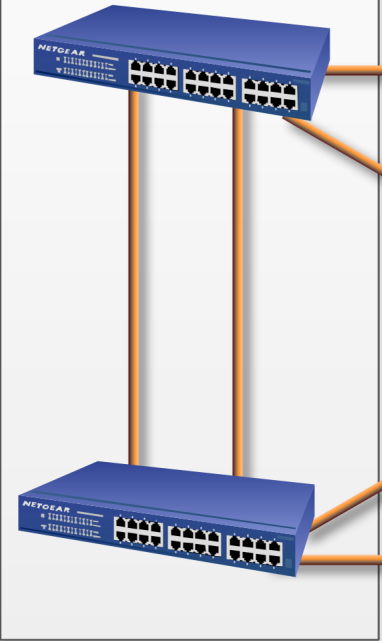
SCALE:

1:1000 M

2nd Floor CVEA Building





The diagram illustrates a network topology for the 2nd Floor CVEA Building. It features two blue Netgear switches, one positioned above the other. Each switch has 24 ports labeled '10/100/1000 Mbps Ethernet Ports'. Three vertical orange lines connect the two switches, representing network links. The top switch is labeled 'NETGEAR' and '24 10/100/1000 Mbps Ethernet Ports'. The bottom switch is also labeled 'NETGEAR' and '24 10/100/1000 Mbps Ethernet Ports'. The entire setup is enclosed in a black rectangular frame.



23-Storey Building

The diagram illustrates a network topology for a 23-storey building. It features two main distribution switches (Netgear) located on the 10th and 18th floors. These switches are connected to a series of 23 access switches (Netgear) arranged vertically on the right side of the diagram, representing the floors of the building. The access switches are numbered 1 through 23. The 10th floor switch is connected to all 23 access switches via green lines. The 18th floor switch is connected to all 23 access switches via blue lines. This represents a full-mesh topology where both distribution switches can reach every access switch.



Back Tunnel

Side

- 1
- 2
- 3
- 4

23