

GENERAL STRUCTURAL NOTES

THESE GENERAL NOTES SHALL APPLY UNLESS OTHERWISE SPECIFICALLY NOTED ON PLANS OR DETAILS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SHALL COORDINATE ALL STRUCTURAL PLANS AND DETAILS WITH ARCHITECTURAL & MECHANICAL DRAWINGS BEFORE STARTING WORK. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR CONTRACTOR MEANS AND METHODS OF CONSTRUCTION OR SITE SAFETY. DESIGN, CONSTRUCTION, WORKMANSHIP AND MATERIALS SHALL COMPLY WITH THE CONTROLLING PROVISIONS OF THE 2024 EDITION OF THE INTERNATIONAL BUILDING CODE (IBC).

DESIGN CRITERIA

1. BASIS FOR DESIGN AND CODE COMPLIANCE
- A. GOVERNING BUILDING CODE.....2024
2. WIND DESIGN BASED ON:
- A. ASCE 7-22 REQUIREMENTS
- BASIC DESIGN WIND SPEED.....141 MPH (Vasd=109 MPH)
- RISK CATEGORY.....III
- WIND EXPOSURE CATEGORY.....C
- INTERNAL PRESSURE COEFFICIENT (Gcpi).....±0.18
- Kzt.....1.0
- Kd.....0.85
- Ke.....1.0

3. GRAVITY DESIGN
- A. ROOF:
- DEAD LOAD.....SELF-WEIGHT OF STRUCTURE & ROOFING SYSTEM
- LIVE LOAD.....20 PSF (REDUCIBLE)
- MECHANICAL EQUIPMENT.....REFERENCE FRAMING PLAN FOR UNIT WEIGHTS

HAZARDOUS MATERIALS ABATEMENT/ MANAGEMENT

- 1.THE ENGINEER HAS NO RESPONSIBILITY OR LIABILITY FOR DESIGN, REMOVAL OF, OR TESTING FOR ASBESTOS/LEAD, OR FOR ABATEMENT /MANAGERIAL TREATMENTS, MONITORING, AND LEGAL DISPOSAL OF MATERIALS. CONTRACTOR SHALL DETERMINE IF ANY HAZARDOUS MATERIAL ABATEMENT/ MANAGEMENT IS REQUIRED AND SHALL INCLUDE COSTS THEREOF IN THE BID.

CONSTRUCTION NOTES ON THE REPAIR WORKS ON EXISTING STRUCTURE

1. BEFORE PROCEEDING WITH ANY WORK WITHIN THE EXISTING FACILITY, THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH EXISTING STRUCTURAL AND OTHER CONDITIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL NECESSARY BRACING, SHORING AND OTHER SAFEGUARDS TO MAINTAIN ALL PARTS OF THE EXISTING WORK IN A SAFE CONDITION DURING THE PROCESS OF DEMOLITION AND CONSTRUCTION AND TO PROTECT FROM DAMAGE THOSE PORTIONS OF THE EXISTING WORK WHICH ARE TO REMAIN.
2. THE CONTRACTOR SHALL FIELD VERIFY THE DIMENSIONS, ELEVATIONS, ETC. NECESSARY FOR THE PROPER CONSTRUCTION AND ALIGNMENT OF THE NEW PORTIONS OF THE WORK TO THE EXISTING WORK. THE CONTRACTOR SHALL MAKE ALL MEASUREMENTS NECESSARY FOR FABRICATION AND ERECTION OF STRUCTURAL MEMBERS. ANY DISCREPANCY SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER.
3. WELDING TO AND WITHIN AN EXISTING FACILITY PRESENTS POTENTIAL HAZARDS INCLUDING:
- A. FIRE HAZARD – DUE TO THE EXISTING CONSTRUCTION AND BUILDING CONTENTS.
- B. STRUCTURAL LIQUEFACTION – DUE TO WELDING ACROSS THE FULL SECTION OF STRUCTURAL STEEL MEMBERS.
- RECOMMENDATIONS TO PREVENT THESE HAZARDS INCLUDE.
- A. FIRE HAZARD – PROTECT EXISTING COMBUSTIBLES PRIOR TO WELDING. KEEP A SEPARATE WATCHMAN AND SEVERAL FIRE EXTINGUISHERS ON HAND.
- B. STRUCTURAL LIQUEFACTION – WELD IN SMALL INCREMENTS. ALLOW WELDS TO HARDEN BEFORE CONTINUING TO THE NEXT INCREMENT.
- C. DO NOT LEAVE THE SITE UNTIL SATISFIED THAT NO FIRE HAZARD EXISTS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND ERECTION OF ALL SHORING NECESSARY TO SAFEGUARD THE EXISTING STRUCTURE.

EXISTING CONDITIONS

1. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS. DIMENSIONS SHOWN ON THE PLANS ARE APPROXIMATE. CONTRACTOR SHALL OBTAIN ALL FIELD MEASUREMENTS AS NECESSARY TO COORDINATE NEW CONSTRUCTION TO EXISTING CONDITIONS.
2. IF EXISTING CONDITIONS DIFFER FROM THE DRAWINGS, INFORM THE ENGINEER AND ADDITIONAL DETAILS OR INTERPRETATION WILL BE PROVIDED. DO NOT PROCEED WITHOUT VERIFICATION.
3. THE CONTRACTOR SHALL VISIT THE SITE OF THE PROPOSED WORK AND FULLY ACQUAINT THEMSELVES WITH THE EXISTING CONDITIONS.

DEMOLITION NOTES

1. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE EXISTING STRUCTURE AND SURROUNDING BUILDINGS DURING CONSTRUCTION.
2. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY WATERTIGHTNESS OF THE BUILDING DURING DEMOLITION AND RECONSTRUCTION.
3. GENERAL CONTRACTOR SHALL COORDINATE WITH ENGINEER ITEMS THAT ARE UNCLEAR PRIOR TO ANY DEMOLITION.
4. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE PROJECT SITE TO DETERMINE DEMOLITION REQUIREMENTS AT THIS PROJECT. CONTRACTOR SHALL INCLUDE IN THEIR BID ALL THE DEMOLITION REQUIREMENTS TO COMPLETE THIS PROJECT.
5. GENERAL CONTRACTOR SHALL LOCATE AND LABEL ALL UTILITIES BEFORE COMMENCEMENT OF DEMOLITION & CONSTRUCTION ACTIVITIES. UTILITIES SHALL BE CLEARLY MARKED SO THAT ANY SUBCONTRACTOR VISITING THIS SITE CAN EASILY IDENTIFY UTILITIES. ANY COSTS TO REPAIR DAMAGES IF UTILITIES ARE NOT PROPERLY IDENTIFIED, ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
6. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND DISPOSING DEBRIS & MATERIAL AWAY FROM SITE ACCORDING TO GOVERNING LOCAL, STATE OR FEDERAL REGULATIONS.
7. ANY AREA DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO THE OWNER'S SATISFACTION AT THE CONTRACTOR'S EXPENSE.

PENETRATIONS

1. PENETRATIONS THROUGH EXISTING ELEMENTS SHALL COMPLY WITH THE DRAWINGS AND SPECIFICATIONS.
2. DO NOT CUT JOISTS, BEAMS OR COLUMNS WITHOUT PRIOR APPROVAL.
3. PENETRATIONS THROUGH LOAD-BEARING ELEMENTS SHALL BE TEMPORARILY SHORED TO PREVENT COLLAPSE, AS SPECIFIED BELOW.

TEMPORARY BRACING, FALSEWORK AND FORMWORK

1. CONTRACTOR SHALL PROVIDE ENGINEERED SHORING PLAN PRIOR TO START OF ROOF COLUMN DEMOLITION. SHORING PLAN SHALL BE SIGNED AND SEALED BY A STATE OF TEXAS PROFESSIONAL ENGINEER.
2. THE DESIGN, ENGINEERING, FABRICATION, CONSTRUCTION, ERECTION, REMOVAL AND OVERALL SAFETY OF ALL TEMPORARY SUPPORTS SUCH AS FALSEWORK, FORMWORK, SHORES AND BRACINGS REQUIRED FOR THE EXECUTION OF THE CONTRACT ARE NOT INCLUDED IN THE DRAWINGS AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
3. THE ENGINEER'S EFFORTS ARE AIMED AT DESIGNING A PROJECT WHICH WILL BE SAFE AFTER FULL COMPLETION. THE ENGINEER HAS NO EXPERIENCE IN, AND TAKES NO RESPONSIBILITY FOR, CONSTRUCTION MEANS AND METHODS OR JOB SITE SAFETY DURING CONSTRUCTION. SAFETY IS EXCLUSIVELY THE CONTRACTOR'S RESPONSIBILITY. PROCESSING AND/OR APPROVING SUBMITTALS MADE BY CONTRACTOR WHICH MAY CONTAIN INFORMATION RELATED TO SHORING, CONSTRUCTION METHODS OR SAFETY ISSUES, OR PARTICIPATION IN MEETINGS WHERE SUCH ISSUES MIGHT BE DISCUSSED, MUST NOT BE CONSTRUED AS VOLUNTARY ASSUMPTION BY ENGINEER OF ANY RESPONSIBILITY FOR THESE SAFETY PROCEDURES.

SAFETY

1. PERFORM ALL WORK IN A SAFE AND CONSCIENTIOUS MANNER TO PREVENT INJURIES.
2. CONTRACTOR SHALL MAINTAIN OSHA STANDARDS FOR JOB SAFETY AND WORKER PROTECTION, INCLUDING, BUT NOT LIMITED TO ADEQUATE PROTECTION, BARRICADES, SIGNS, ETC.
3. THE GENERAL CONTRACTOR IS SOLELY RESPONSIBLE FOR SAFETY. THE ENGINEER EXPRESSLY EXCLUDES ANY RESPONSIBILITY FOR CONTRACTOR SAFETY OR SAFETY OF JOBSITE.

STRUCTURAL STEEL, CONTINUED:

1. TOP OF BEAM/PLATE (TOB OR TOP) IS USED INTERCHANGEABLY ON PLANS. REFERENCE APPLICABLE SECTION FOR CLARIFICATION.
2. STRUCTURAL STEEL WIDE FLANGE MEMBERS SHALL CONFORM TO ASTM SPECIFICATION A 572 AND/OR ASTM A 992 (Fy = 50 KSI) UNLESS OTHERWISE SHOWN OR NOTED. PLATE AND ANGLES MAY BE A36 (Fy = 36 KSI).
3. ALL STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM SPECIFICATION A-500, GRADE B (Fy=46 KSI). STEEL PIPE SHALL COMPLY WITH ASTM A53 TYPE E OR S (Fy=35 KSI).
4. ALL STRUCTURAL STEEL SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST SPECIFICATIONS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION.
5. ALL BOLTS SHALL BE 3/4 DIAMETER ASTM A325. WASHERS SHALL BE PROVIDED AT OVERSIZED HOLES AND AT SLOTTED CONNECTIONS AT EXPANSION JOINTS. A325 CONNECTIONS SHALL BE BEARING TYPE CONNECTIONS UNLESS NOTED OTHERWISE. ANCHOR BOLTS MAY BE ASTM A307 UNLESS NOTED OTHERWISE.
6. REFER TO MANUFACTURER & MECHANICAL PLANS FOR VERIFICATION OF ALL BOLTS, BLOCKING ANCHORS, ETC., FOR THE ANCHORAGE OF THEIR RESPECTIVE ITEMS.
7. ALL BEAMS SHALL BE FULL LENGTH WITHOUT SPLICES UNLESS INDICATED ON PLANS OR APPROVED BY THE ENGINEER IN WRITING.
8. ALL SHOP AND FIELD WELDS SHALL BE MADE BY WELDERS WHO HAVE BEEN QUALIFIED AND CERTIFIED TO MAKE THE REQUIRED WELDS IN ACCORDANCE WITH THE LATEST AMERICAN WELDING SOCIETY SPECIFICATIONS (A.W.S. D-1.1).
9. WELDS SHALL BE MADE WITH COVERED MILD STEEL ELECTRODES COMPLYING WITH AWS D1 72 CODE AND SERIES E 70XX.
10. ERECTION CONNECTORS SHALL BE PROVIDED IN ORDER TO PROPERLY ALIGN AND BE TRUE AND PLUMB WHEN WELDS ARE MADE.
11. ALL COMPLETE PENETRATION WELDS, BOTH SHOP AND FIELD, SHALL BE TESTED BY A QUALIFIED TESTING LABORATORY UTILIZING ULTRA SONIC TESTING PROCEDURES IN ACCORDANCE WITH A.W.S. D-1.1. ANY WELDS FOUND DEFECTIVE SHALL BE REMOVED AND REPLACED AT NO ADDITIONAL COST TO THE OWNER. ALL X-RAYED WELDS SHALL BE GROUND SMOOTH.
12. THE FABRICATOR SHALL SUPPLY BACK-UP PLATES AND EXTENSION TABS FOR ALL COMPLETE PENETRATION WELDS.
13. ALL STEEL MEMBERS, UNLESS NOTED OTHERWISE, SHALL BE HOT DIPPED GALVANIZED. DO NOT PRIME ITEMS TO BE EMBEDDED IN CONCRETE OR FIRE PROOFED W/ SPRAY ON MATERIAL WITHOUT COORDINATION W/ MECHANICAL ENGINEER.
14. AFTER ERECTION, PRIME WELDS, ABRASIONS AND SURFACES NOT PRIMED. USE PRIMER CONSISTENT WITH SHOP COAT. GALVANIZED SURFACES (HOT DIPPED OR COLD) SHALL BE CLEANED AND PAINTED WITH "ZERC".
15. FIELD WELDS AND BOLTED CONNECTIONS SHALL BE VISUALLY INSPECTED BY A QUALIFIED INDEPENDENT INSPECTOR. THE INSPECTOR SHALL PROVIDE A WRITTEN REPORT TO THE STRUCTURAL ENGINEER.
16. A SINGLE ELECTRONIC FILE (PDF FORMAT) SHOP DRAWINGS SHALL BE PREPARED FOR ALL STRUCTURAL STEEL COMPONENTS AND SUBMITTED FOR REVIEW BY ENGINEER. ENGINEERING DRAWINGS SHALL NOT BE REPRODUCED AND USED AS SHOP DRAWINGS.
17. THE CONTRACTOR SHALL REVIEW AND ANNOTATE SHOP DRAWINGS BEFORE SUBMITTING THEM TO THE ARCHITECT/ENGINEER FOR REVIEW. THE CONTRACTOR SHALL ALLOW ARCHITECT/ENGINEER 10 WORKING DAYS FOR REVIEW OF SHOP DRAWINGS.
18. THE STRUCTURAL ENGINEER SHALL BE NOTIFIED FOR A FRAMING OBSERVATION IMMEDIATELY AFTER ROOF PANELS ARE INSTALLED AND BEFORE INSTALLATION OF THE CEILING.

FASTENERS

1. CAST-IN-PLACE AND POST-INSTALLED ANCHORS SHALL BE PER ANCHOR DIAMETER AND EMBEDMENT DEPTH NOTED ON THE DRAWINGS. POST-INSTALLED ANCHORS SHALL BE UTILIZED ONLY WHERE SPECIFIED. ALL ANCHORS SHALL BE HOT-DIPPED GALVANIZED PER ASTM A153.
2. ALL ANCHORS NOTED BELOW SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL CONTACT MANUFACTURER'S REPRESENTATIVE FOR THE INITIAL TRAINING AND INSTALLATION OF ANCHORS, AND FOR PRODUCT RELATED QUESTIONS AND AVAILABILITY.
3. SPECIAL INSPECTIONS SHALL BE PROVIDED FOR ALL MECHANICAL AND ADHESIVE ANCHORS PER THE APPLICABLE EVALUATION REPORT NOTED BELOW. SPECIAL INSPECTIONS SHALL BE PERFORMED BY INDEPENDENT TESTING LABORATORY PERFORMING QA/QC SERVICES ON PROJECT.
4. EXPANSION BOLTS (EB) IN CONCRETE/CMU SHALL BE TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.2 AND ICC-ES AC193. ACCEPTABLE PRODUCTS:
- A. KWIK BOLT III (ICC-ES ESR-2302) BY HILTI (CONCRETE)
- B. KWIK BOLT III (ICC-ES-ESR-1385) BY HILTI (MASONRY)
- C. STRONG-BOLT 2 (ICC-ES ESR-3037) BY SIMPSON STRONG-TIE (CONCRETE)
- D. WEDGE-ALL ANCHOR (ICC-ES ESR-1396) BY SIMPSON STRONG-TIE (MASONRY)
5. HEAVY DUTY SLEEVE ANCHORS IN CONCRETE/CMU SHALL BE TESTED AND QUALIFIED OR USE IN ACCORDANCE WITH ACI 355.2 AND ICC-ES AC193. EXPANSION BOLTS (EB) SHALL NOT BE SUBSTITUTED FOR SLEEVE ANCHORS WITHOUT PRIOR WRITTEN APPROVAL BY STRUCTURAL ENGINEER. ACCEPTABLE PRODUCTS:
- A. HSL-3 (ICC-ES ESR-1545) BY HILTI (CONCRETE)
6. SCREW ANCHORS IN CONCRETE SHALL BE TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.2 AND ICC-ES AC193. ACCEPTABLE PRODUCTS:
- A. KWIK HUS-EZ (ICC-ES ESR-3027) BY HILTI (CONCRETE)
- B. KWIK HUS-EZ (ICC-ES ESR-3056) BY HILTI (MASONRY)
- C. TITEN HD (ICC-ES ESR-2713) BY SIMPSON STRONG-TIE (CONCRETE)
- D. TAPCON ANCHORS (ICC-ES ESR-1671) (MASONRY)
- E. POWERS WEDGE BOLT (ICC-ES ESR-1678) (MASONRY)
7. UNDERCUT ANCHORS IN CONCRETE SHALL BE TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.2 AND ICC-ES AC193. ACCEPTABLE PRODUCTS:
- A. HDA (ICC-ES ESR-1546) BY HILTI (CONCRETE)
- B. TORQ-CUT (ICC-ES ESR-2705) BY SIMPSON STRONG-TIE (CONCRETE)
8. POWDER ACTUATED FASTENERS IN CONCRETE/CMU SHALL BE TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.2 AND ICC-ES AC193. ACCEPTABLE PRODUCTS:
- A. X-U (ICC-ES ESR-2289) BY HILTI (CONCRETE/MASONRY/STEEL)
- B. POWDER ACTUATED FASTENERS (ICC-ES ESR-2138) BY SIMPSON STRONG TIE CONCRETE/MASONRY)
9. ADHESIVE ANCHORS IN CONCRETE/CMU SHALL BE TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308. ACCEPTABLE PRODUCTS:
- A. HIT-RE 500-V3 (ICC-ES ESR-3814) BY HILTI (CONCRETE)
- B. HIT-HY 270 (ICC-ES ESR-4143) BY HILTI (MASONRY)
- C. SET-3G (ICC-ES ESR-4057) BY SIMPSON STRONG-TIE (CONCRETE)
- D. SET-3G (ICC-ES ESR-4844) BY SIMPSON STRONG-TIE (MASONRY)
10. J-BOLTS SHALL BE FABRICATED FROM ASTM A36/A307 ROD. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. EXPANSION BOLTS/SLEEVE ANCHORS SHALL NOT BE SUBSTITUTED FOR J-BOLTS WITHOUT PRIOR WRITTEN APPROVAL BY STRUCTURAL ENGINEER.
11. HEADED ANCHOR RODS SHALL BE FABRICATED FROM ASTM F1554 MATERIAL, Fy=36 KSI.
12. SUBSTITUTION REQUESTS FOR PRODUCTS LISTED ABOVE SHALL BE SUBMITTED BY THE CONTRACTOR TO THE STRUCTURAL ENGINEER ALONG WITH CALCULATIONS THAT ARE PREPARED & SEALED BY A REGISTERED PROFESSIONAL ENGINEER. THE CALCULATIONS SHALL DEMONSTRATE THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERTINENT EQUIVALENT PERFORMANCE VALUES OF THE SPECIFIED PRODUCT USING THE APPROPRIATE DESIGN PROCEDURE AND/OR STANDARDS. SUBSTITUTED ANCHORS SHALL HAVE A VALID CURRENT EVALUATION (ICC-ES OR IAPMO-ES) REPORT.
13. REFERENCE STRUCTURAL STEEL NOTES FOR BOLTS CONNECTING STRUCTURAL STEEL COMPONENTS.

SPECIAL INSPECTIONS

SPECIAL INSPECTIONS INDEPENDENT OF THE CONTRACTOR, THE ARCHITECT, OR THE ENGINEER, SHALL BE PROVIDED BY A SPECIAL INSPECTOR EMPLOYED BY THE OWNER ACCORDING TO CHAPTER 17 OF THE IBC 2024. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS. THE SPECIAL INSPECTOR SHALL SEND WRITTEN REPORTS TO THE OWNER, THE ARCHITECT, THE ENGINEER AND THE CONTRACTOR. THE REPORTS SHALL INDICATE IF WORK INSPECTED WAS DONE IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THE DISCREPANCIES ARE NOT CORRECTED, THE SPECIAL INSPECTOR SHALL BRING THE DISCREPANCIES TO THE ATTENTION OF THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO THE COMPLETION OF THAT PHASE OF THE WORK. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT STATING THAT THE SPECIAL INSPECTION WORK WAS, TO THE BEST OF THEIR KNOWLEDGE, IN OR NOT IN CONFORMANCE WITH THE DRAWINGS, SPECIFICATIONS AND APPLICABLE WORKMANSHIP PROVISIONS OF THE IBC 2024.

CONTINUOUS OR PERIODIC SPECIAL INSPECTION IS REQUIRED FOR THE FOLLOWING WORK:

REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS AND WASHERS		X
INSPECTION OF HIGH STRENGTH BOLTING		X
INSPECTION OF WELDING:		
COMPLETE AND PARTIAL PENETRATION GROOVE WELDS	X	
MULTIPASS FILLET WELDS	X	
SINGLE-PASS FILLET WELDS		X
FLOOR AND ROOF DECK WELDS		X
INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE WITH APPROVED CONSTRUCTION DOCUMENTS		X

REQUIRED VERIFICATION AND INSPECTION OF ANCHORS

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
CAST-IN-PLACE, POST-INSTALLED, MECHANICAL AND EPOXY SET ANCHORS:		FREQUENCY OF INSPECTION SHALL BE IN ACCORDANCE WITH THE CURRENT ICC-ES EVALUATION REPORT, OR PER THE SPECIAL INSPECTION REQUIREMENTS OF THE ANCHOR SUBSTRATE, WHICHEVER IS MORE STRINGENT
AS APPLICABLE, THE INSPECTION PROGRAM SHALL VERIFY THE ANCHOR TYPE, EMBEDMENT, TIGHTENING TORQUE, DIMENSIONS, HOLE DEPTH & DIAMETER AND CLEANOUT, EPOXY MIXING AND PLACEMENT PROCEDURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND THE CURRENT ICC-ES EVALUATION REPORT		

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TEXAS

IDEA DONNA MECHANICAL UPGRADES

DONNA



DATE: AUGUST 28, 2026

CHECKED BY: B. D.

DRAWN BY: D.D.

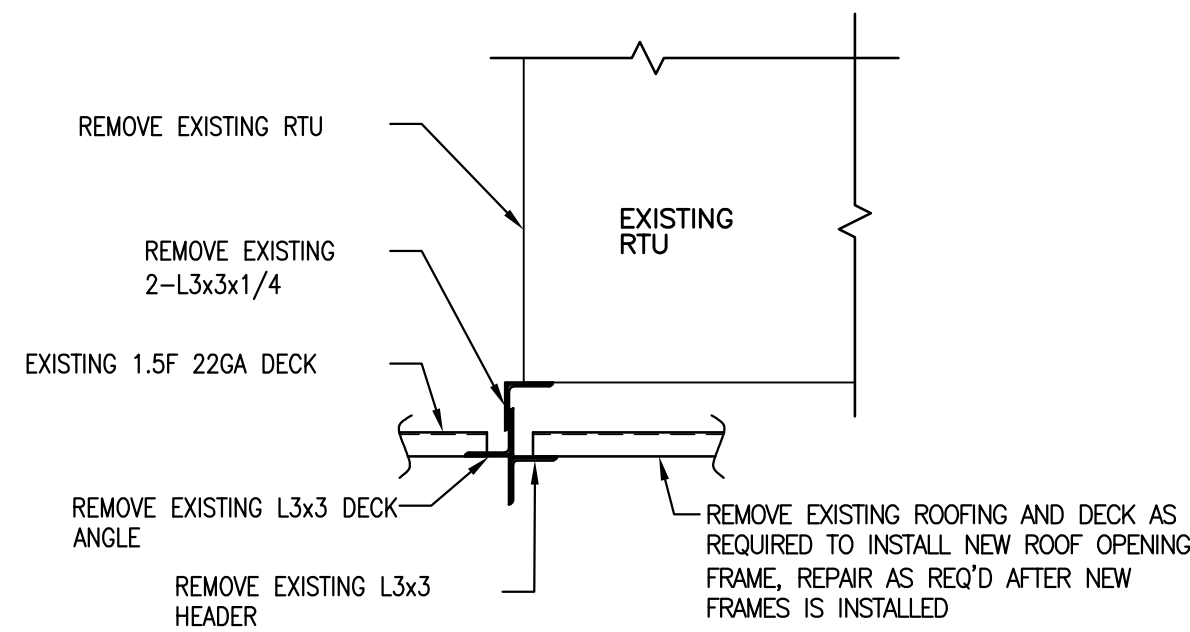
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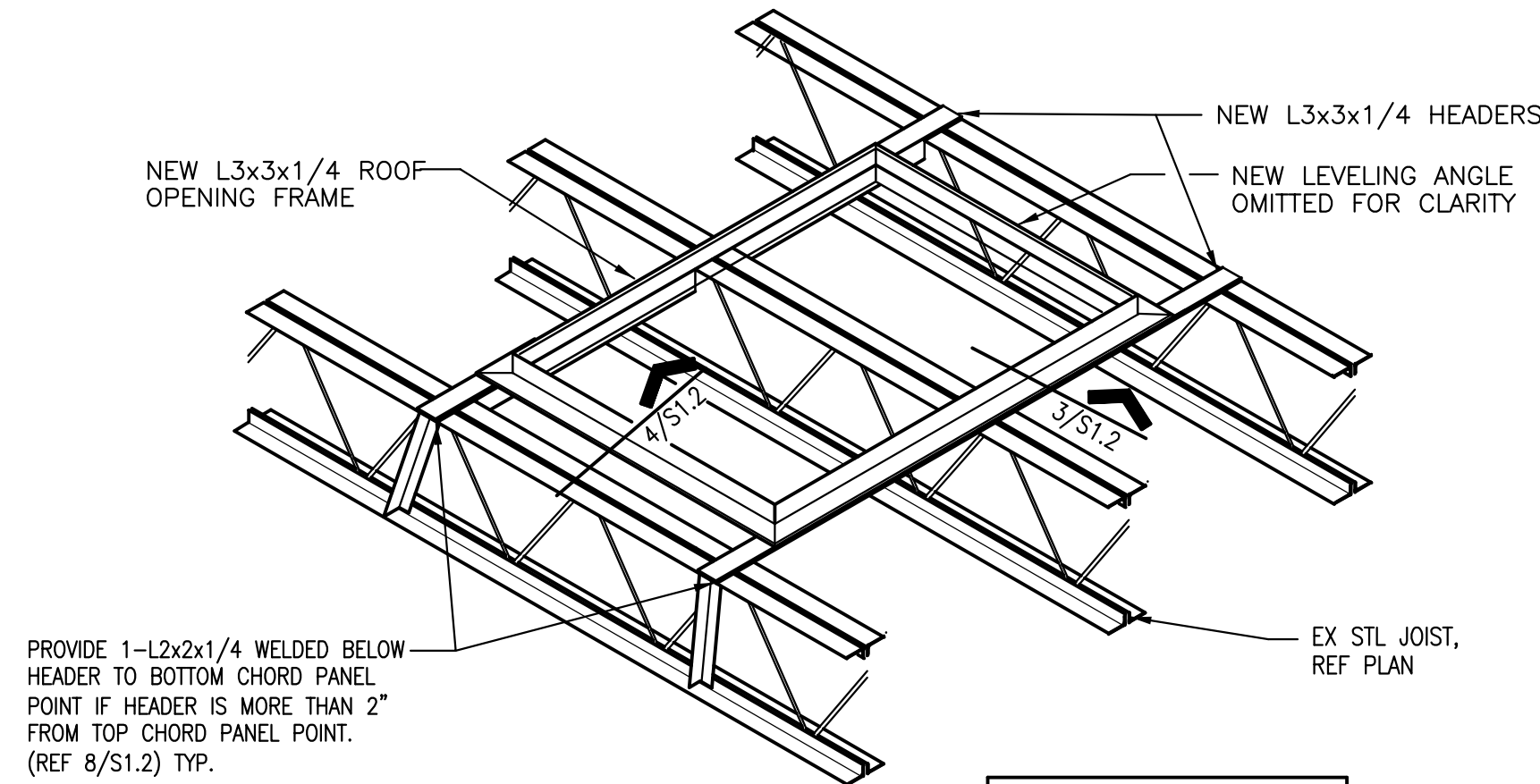
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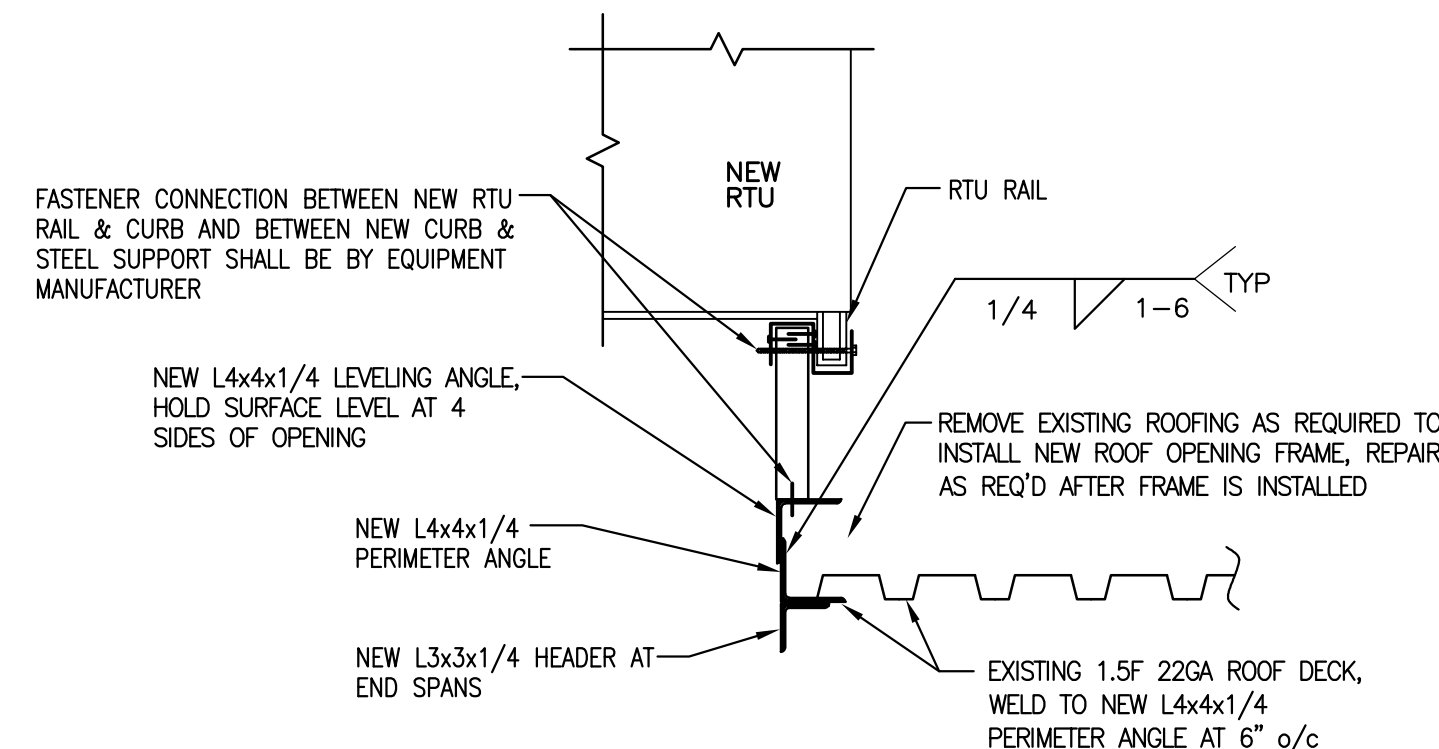
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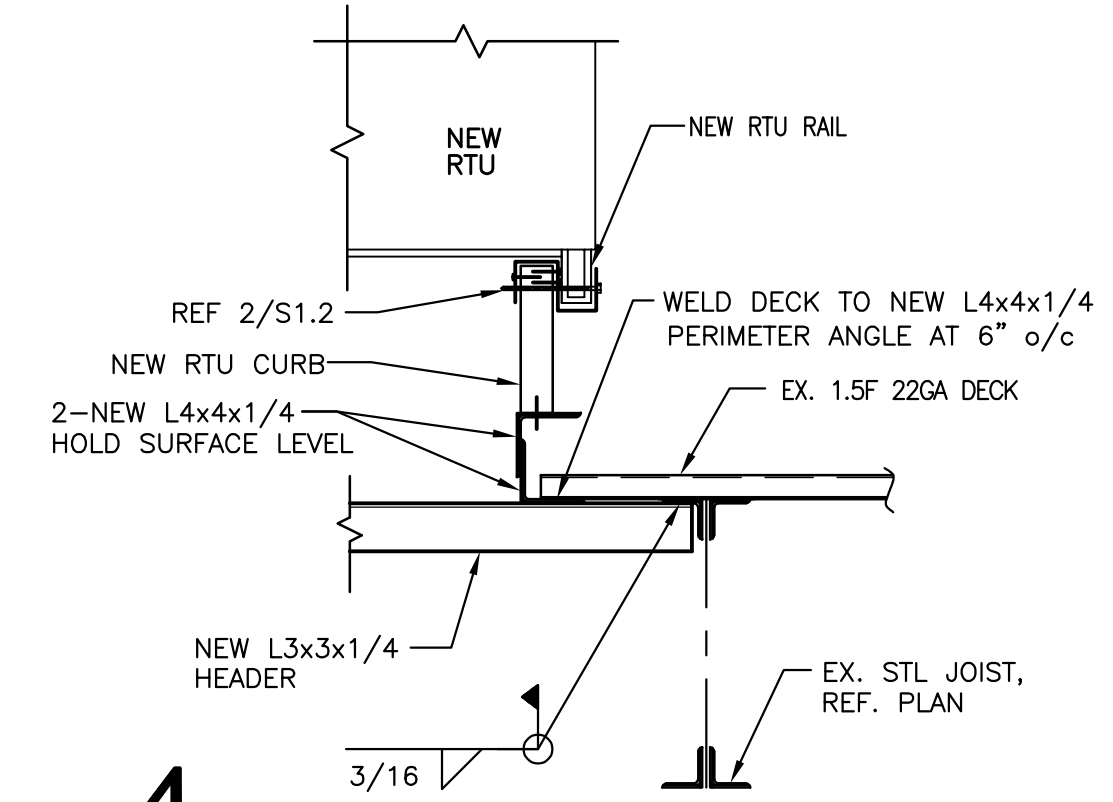
1 TYPICAL EXISTING RTU FRAME DEMOLITION DETAIL



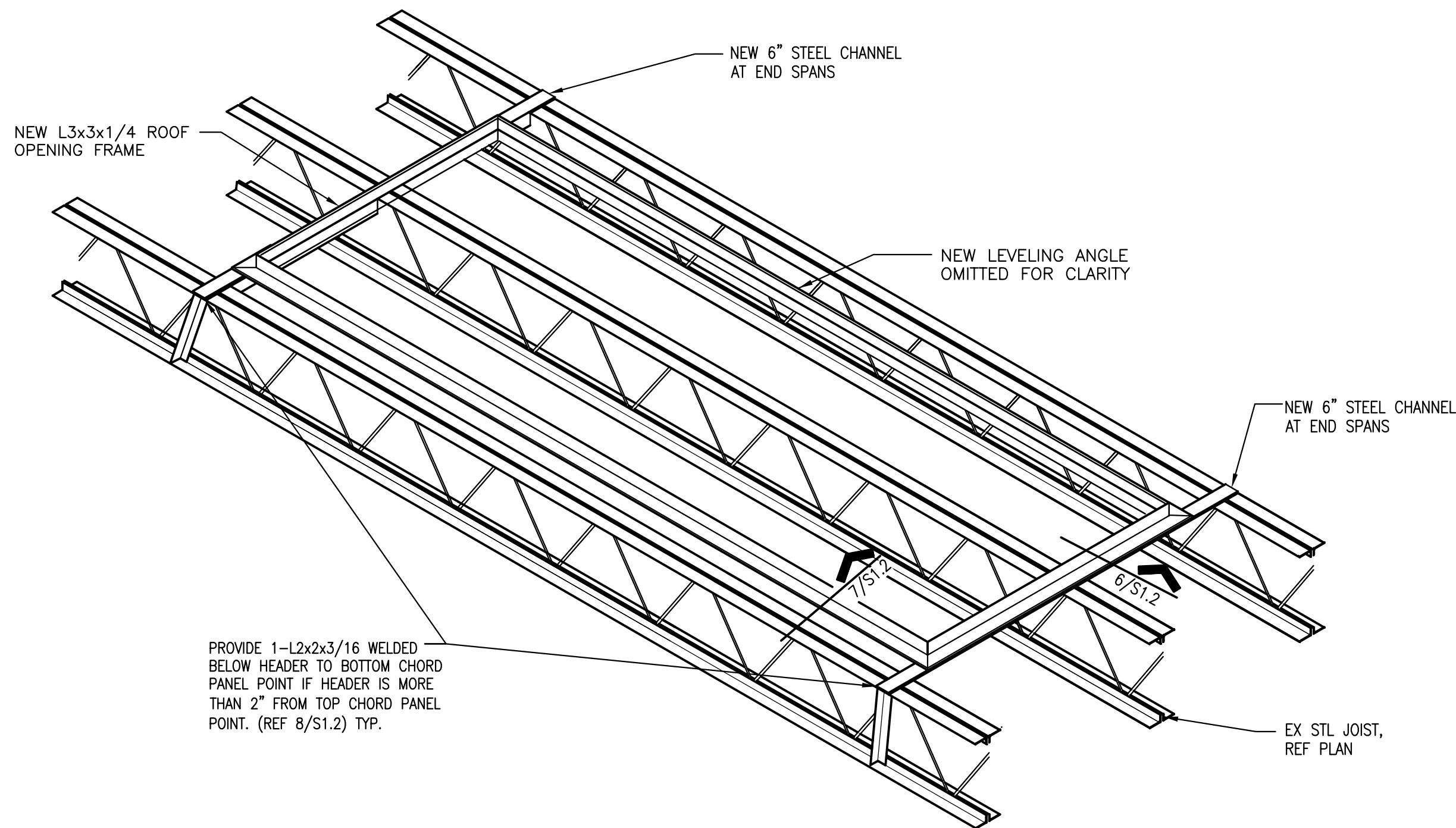
2 ROOF OPENING FRAME DETAIL



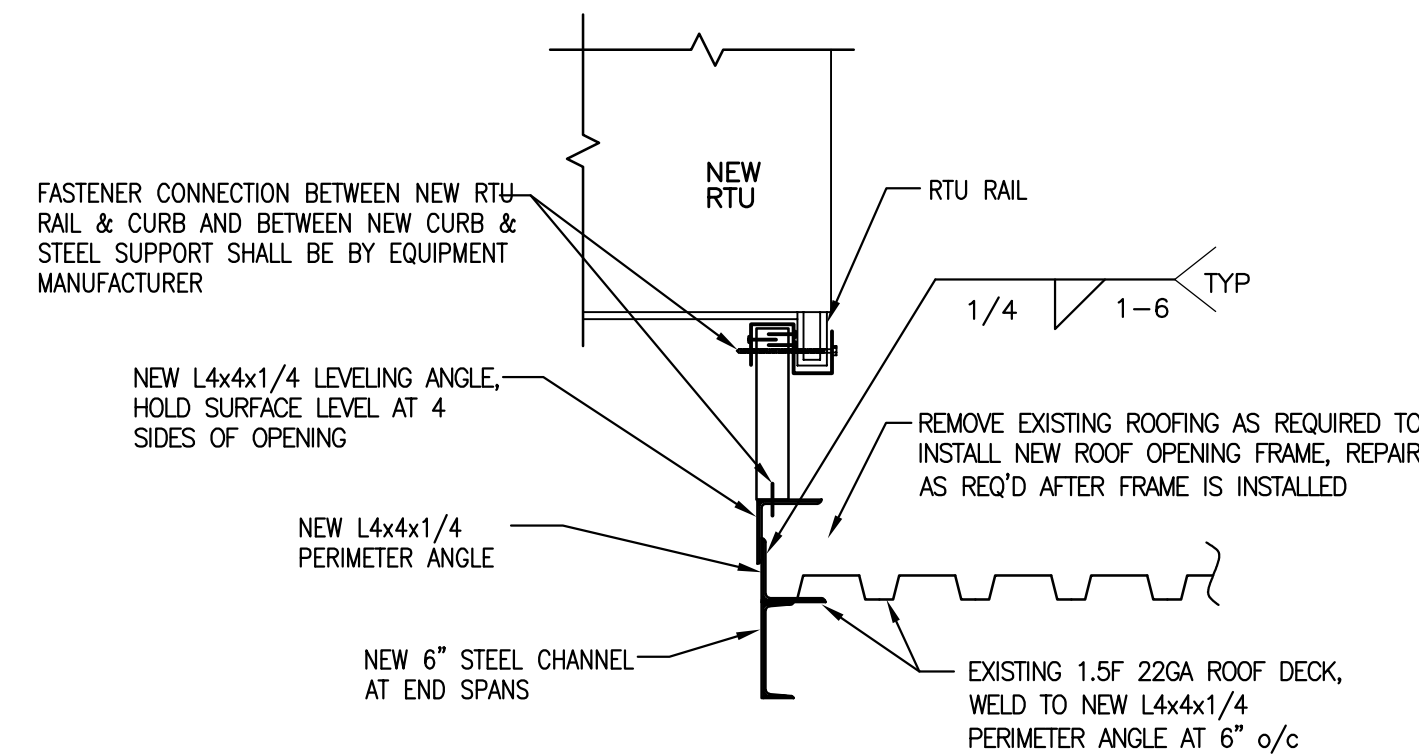
3 NEW RTU SUPPORT FRAME



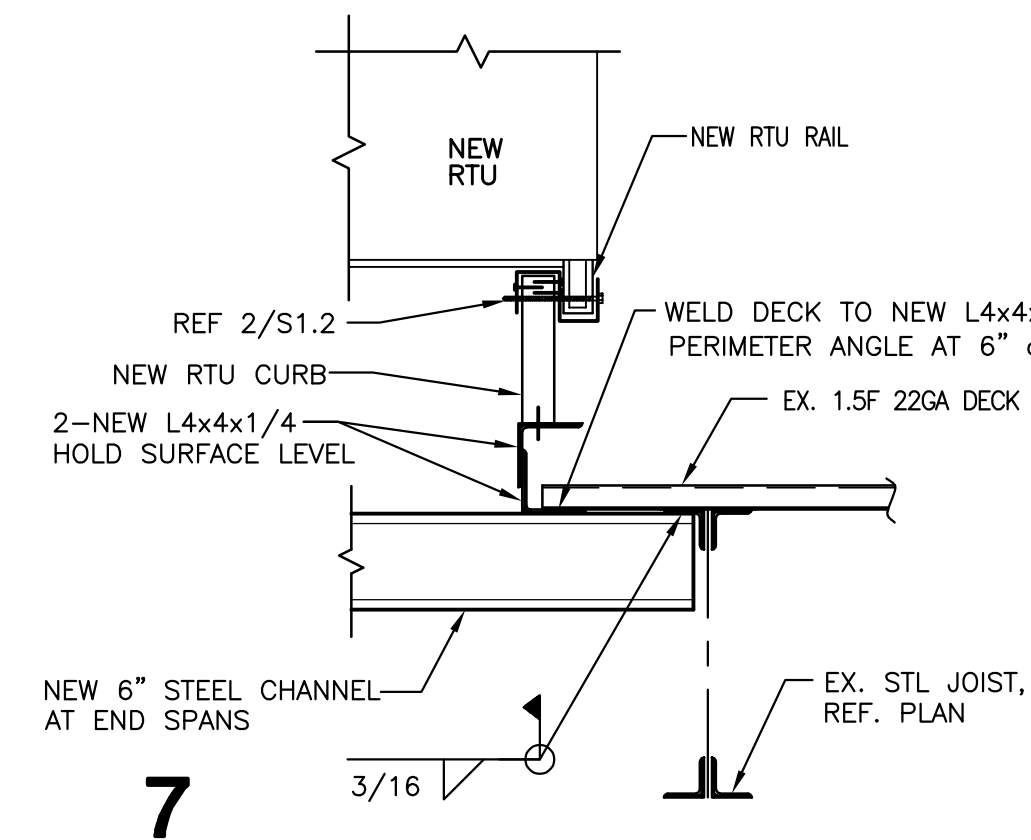
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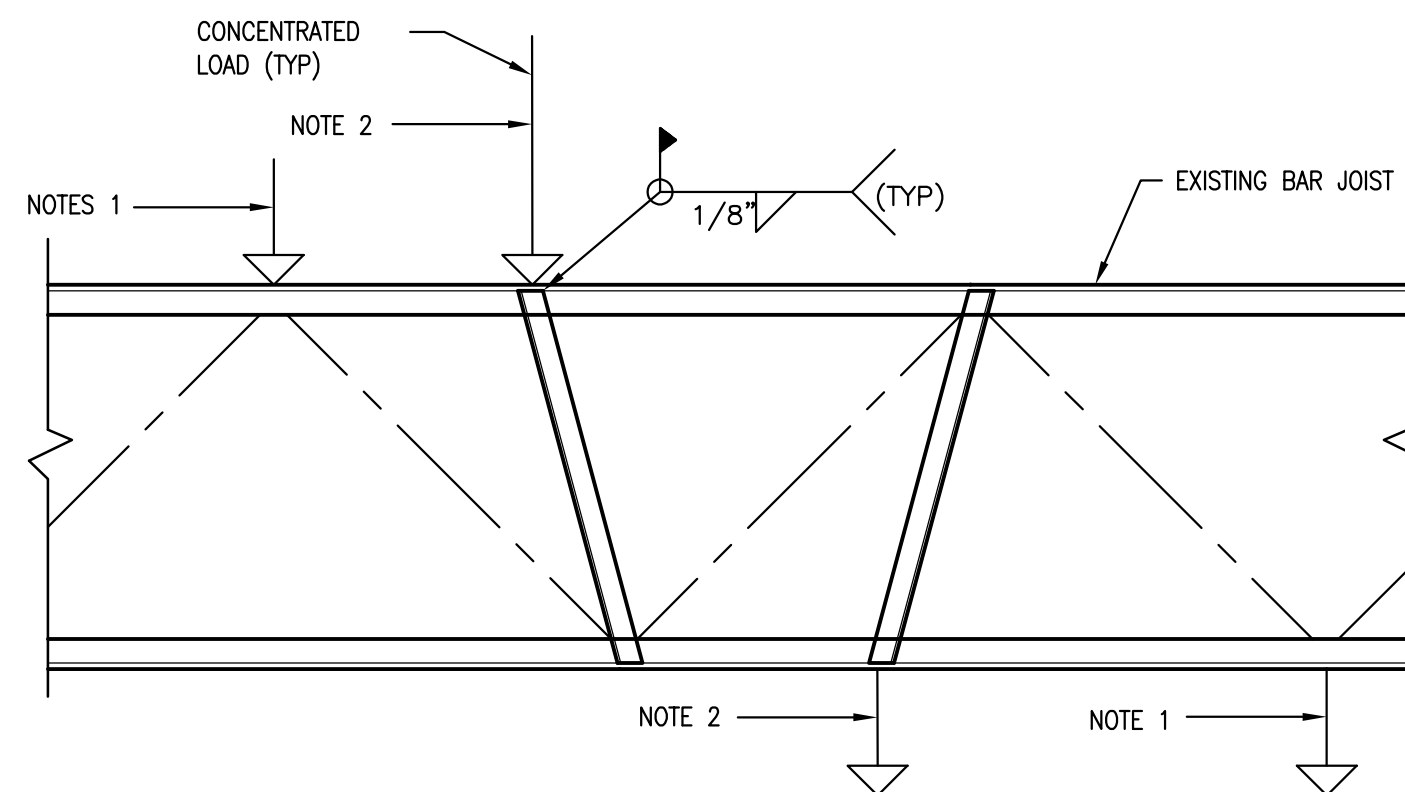
5 ROOF OPENING FRAME DETAIL



6 NEW RTU SUPPORT FRAME



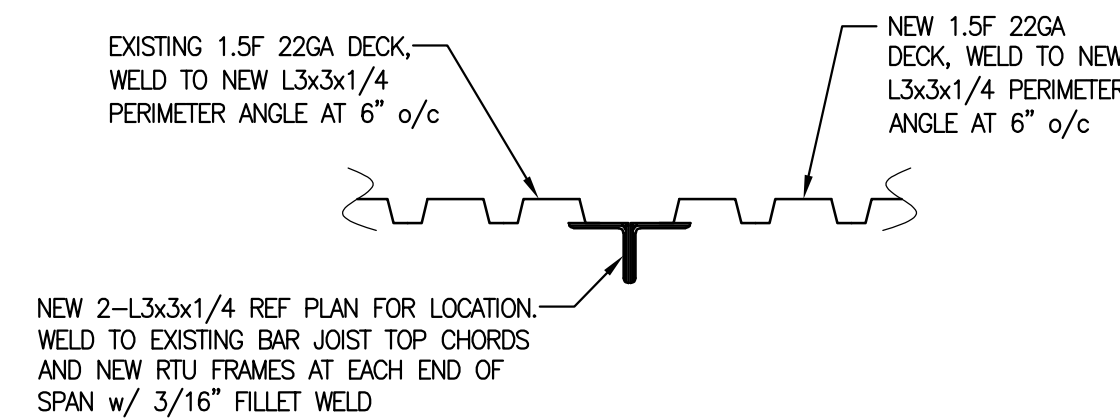
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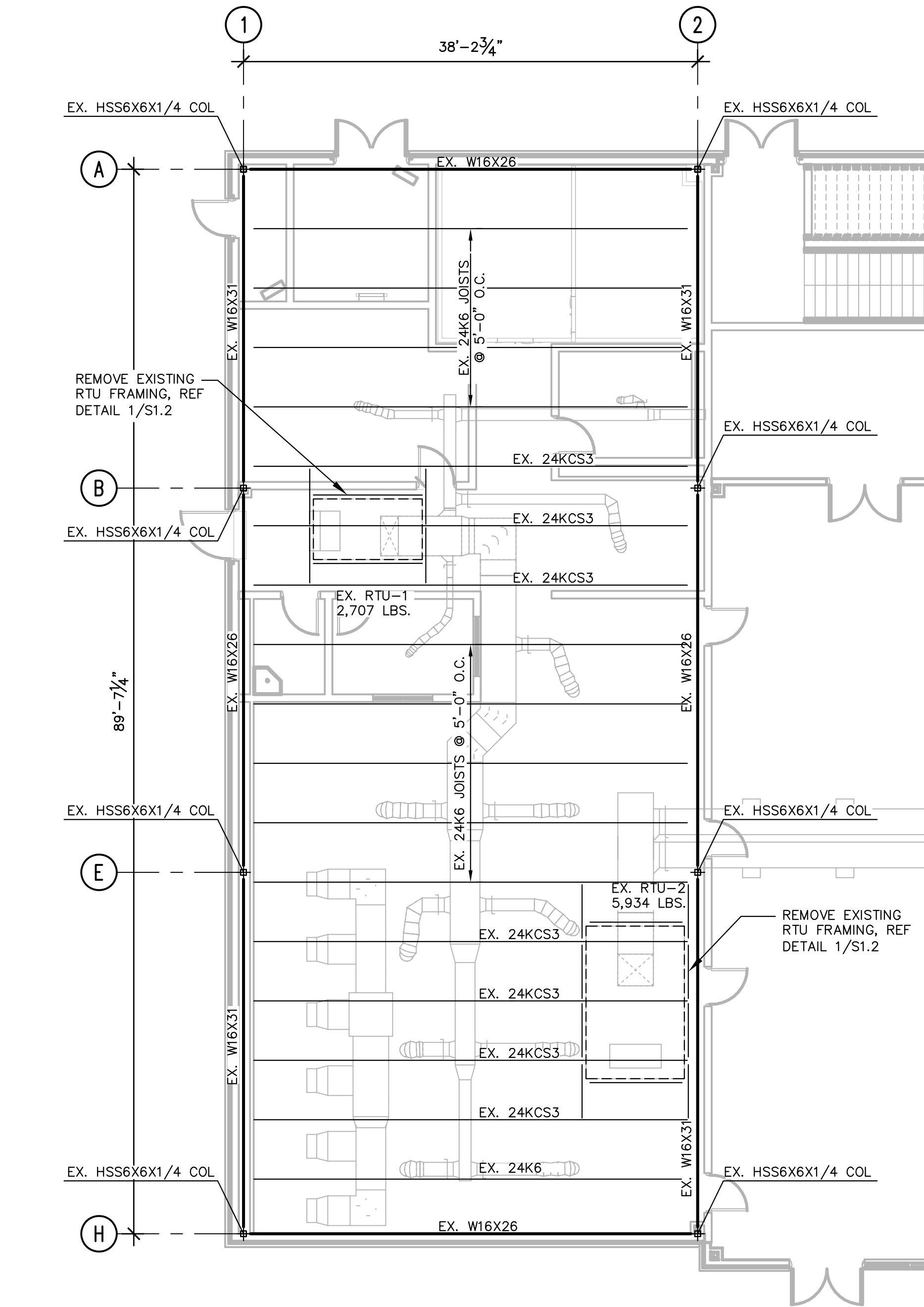
8 TYP. CONCENTRATED LOAD DETAIL

NOTES:

1. CONCENTRATED LOAD LOCATED AT JOIST PANEL POINT LOCATION - NO ADDITIONAL ANGLES REQUIRED.
2. CONCENTRATED LOAD (100 LBS. OR HEAVIER) NOT LOCATED AT JOIST PANEL POINT LOCATION - PROVIDE L2x2x1/4 TO PANEL POINT AS SHOWN.



9 EXISTING TO NEW DECK TRANSITION DETAIL



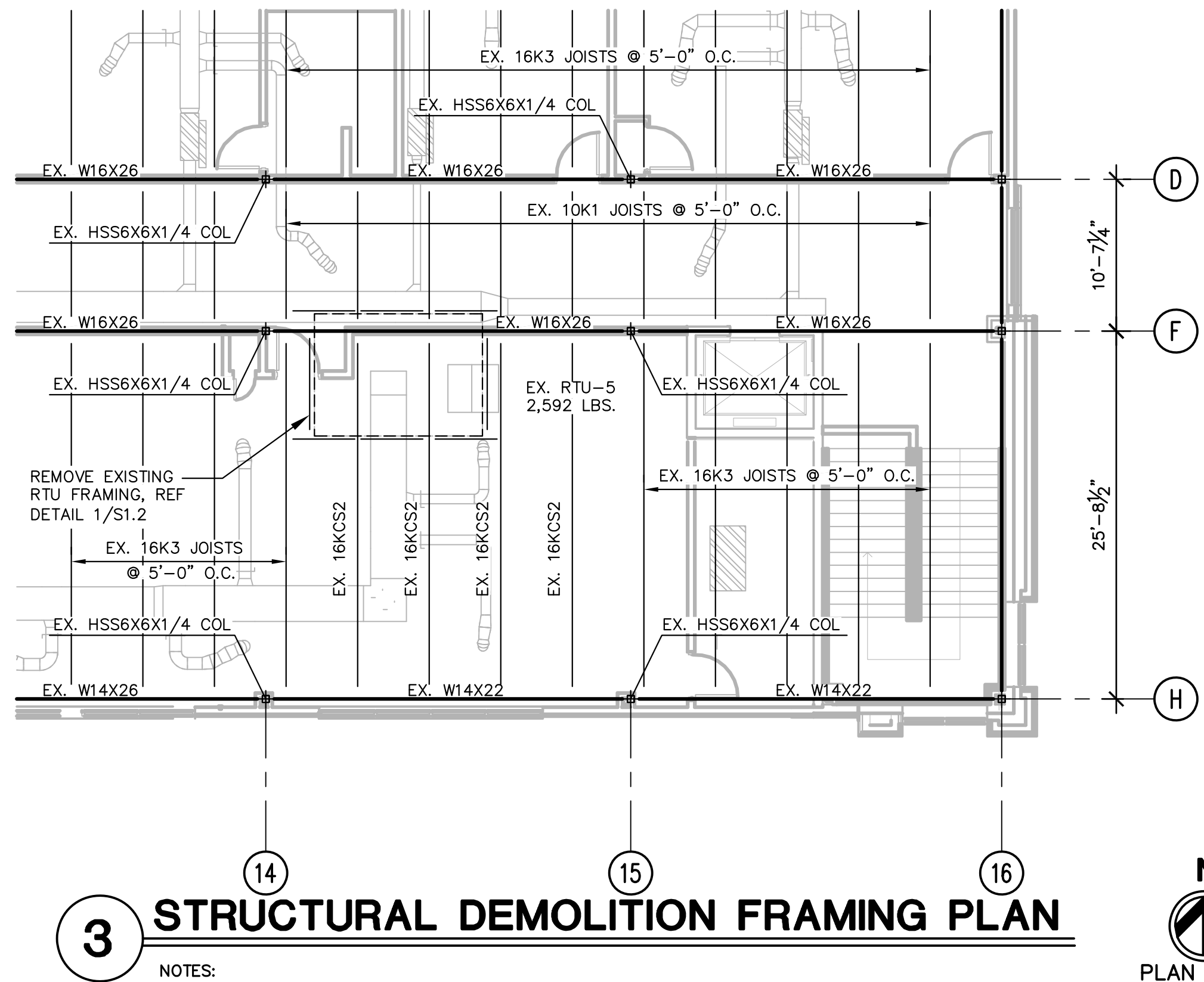
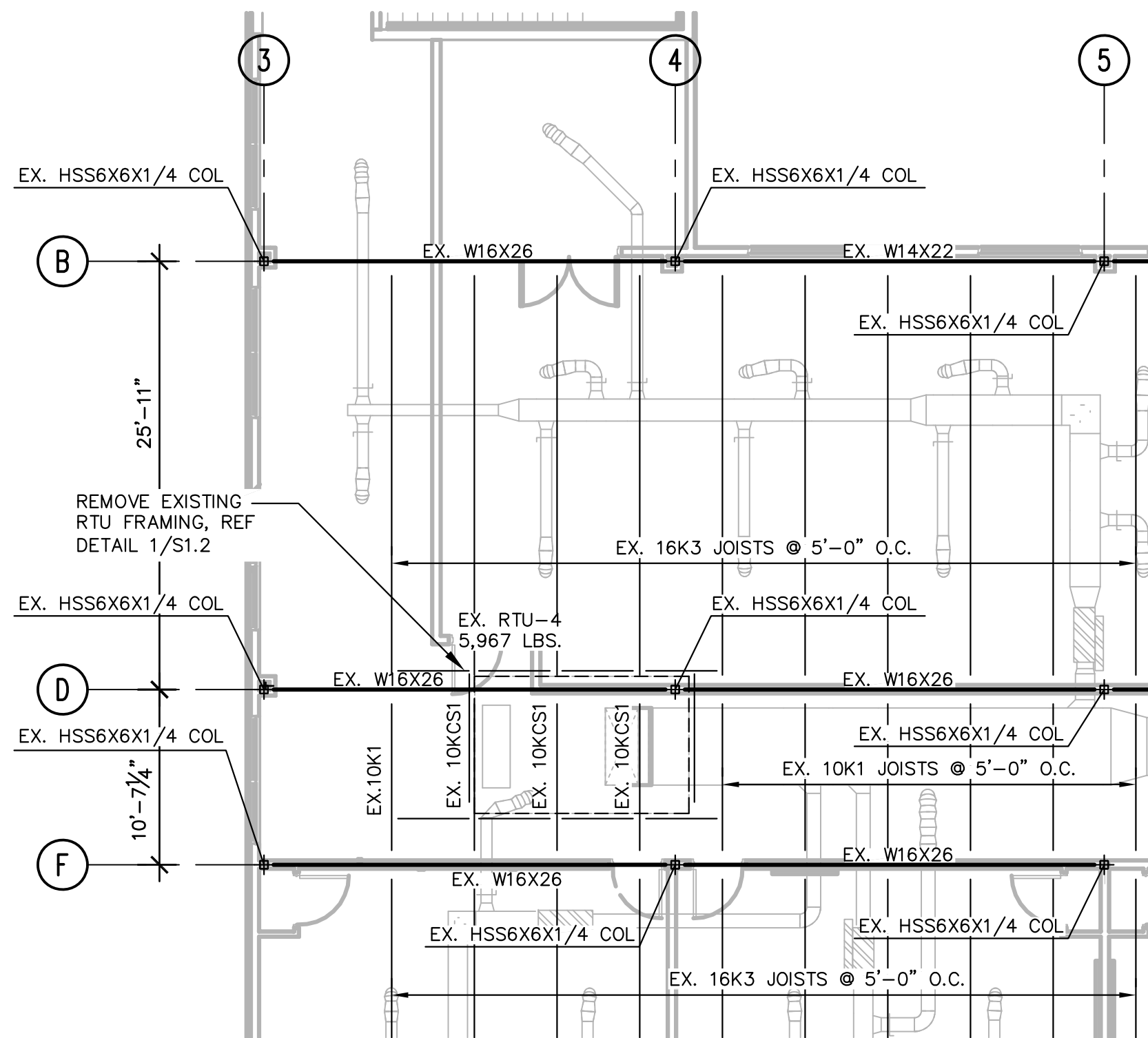
1 STRUCTURAL DEMOLITION FRAMING PLAN

- NOTES:
- REFERENCE DS3.1 FOR TYPICAL DEMOLITION NOTES.



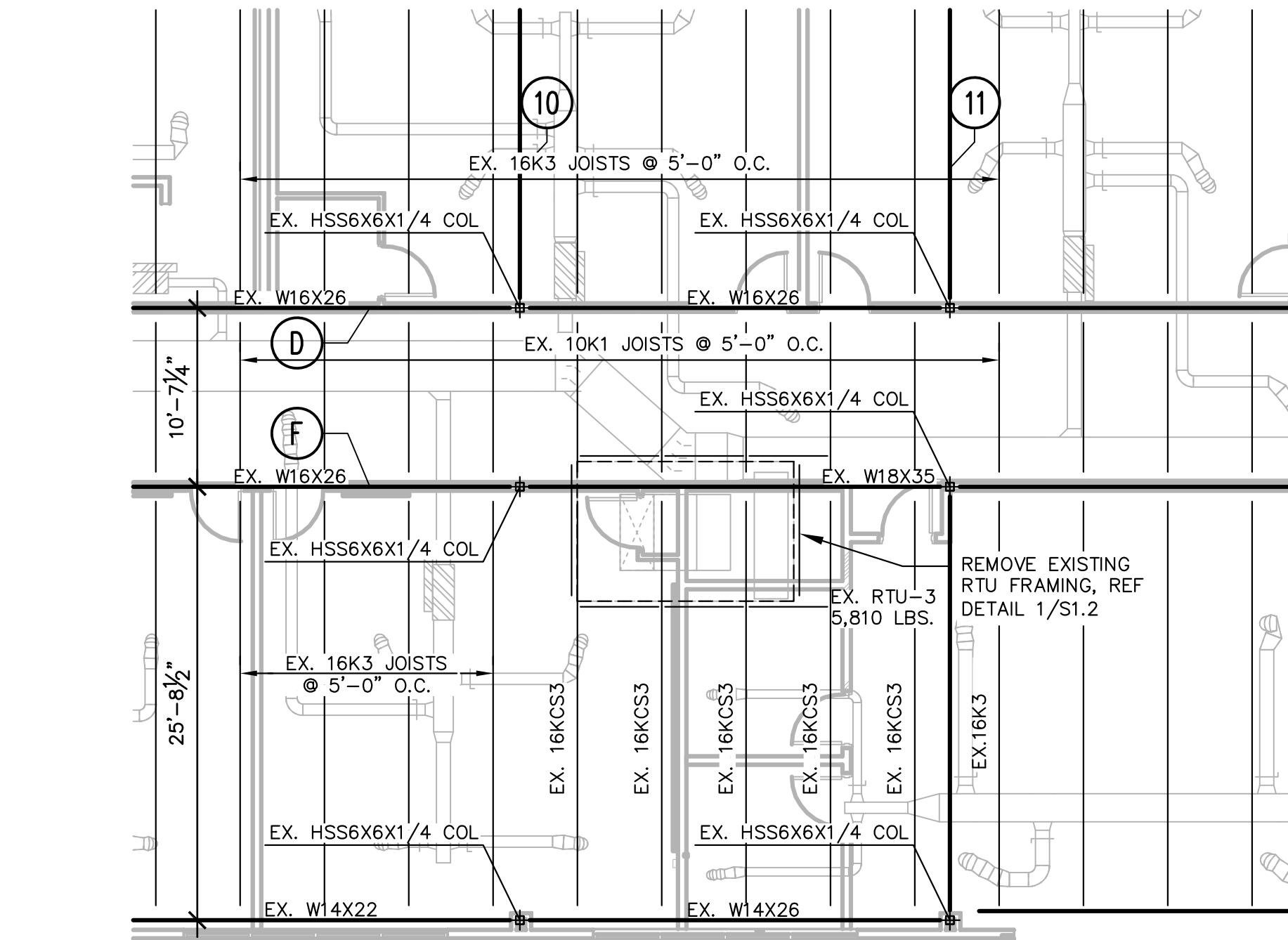
2 STRUCTURAL DEMOLITION FRAMING PLAN

- NOTES:
- REFERENCE DS3.1 FOR TYPICAL DEMOLITION NOTES.



3 STRUCTURAL DEMOLITION FRAMING PLAN

- NOTES:
- REFERENCE DS3.1 FOR TYPICAL DEMOLITION NOTES.



4 STRUCTURAL DEMOLITION FRAMING PLAN

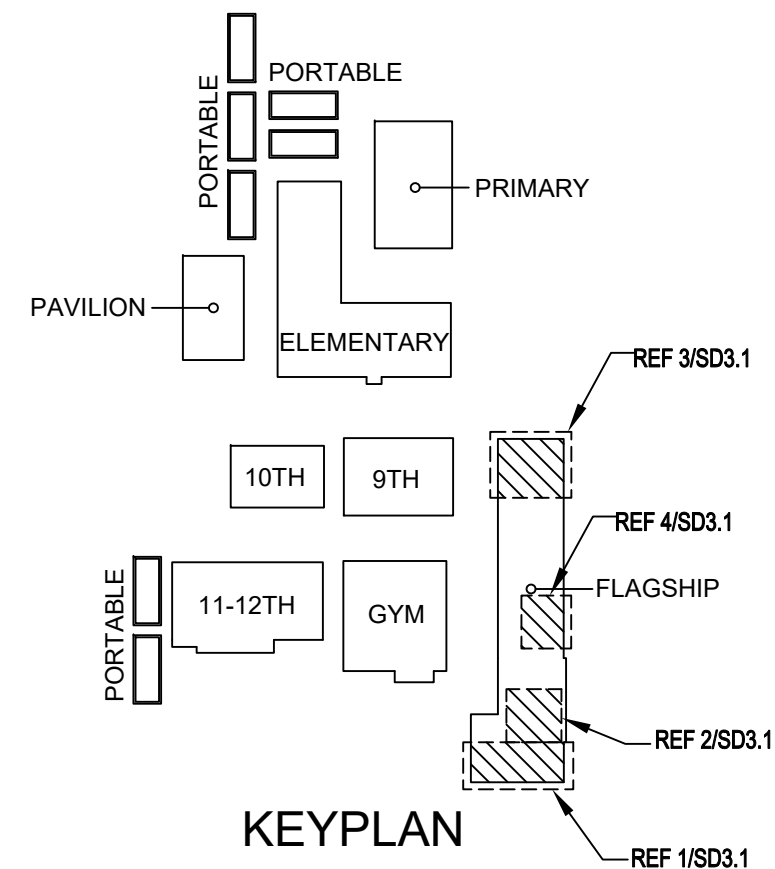
- NOTES:
- REFERENCE DS3.1 FOR TYPICAL DEMOLITION NOTES.



STRUCTURAL DEMOLITION NOTES

- NOTES:
- SCOPE OF DEMOLITION WORK:
 - REMOVE EXISTING CEILING GRID TO EXPOSE EXISTING RTU FRAME.
 - REMOVE EXISTING RTU ON ROOF.
 - REMOVE EXISTING RTU FRAME REFERENCE DETAIL 1/S12.
 - REFERENCE MEP FOR ADDITIONAL DEMOLITION SCOPE.
 - EXISTING FRAMING PLANS WERE DEVELOPED BASED ON STRUCTURAL RECORD DRAWINGS TITLED "IDEA PUBLIC SCHOOL K-12TH GRADE DONNA - PHASE III" SHEETS S-103 TO S-106 DATED 08/31/2012 BY PBK ARCHITECTS CONTRACTOR SHALL REFER TO RECORD DRAWINGS FOR ADDITIONAL INFORMATION REQUIRED.

CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS & EXISTING CONDITIONS IN THE FIELD. CONTACT ENGINEER IF CONDITIONS VARY FROM THOSE SHOWN ON THE DRAWINGS.



GREEN, RUBIANO & ASSOCIATES
CONSULTING STRUCTURAL ENGINEERS
1220 WEST HARRISON
HARLINGEN, TEXAS 79301
P: (956) 428-4401 FAX: (956) 428-4402
FIRM REGISTRATION # F-4145

NO: REVISION: BY:
COPY NO:
STATE OF TEXAS
JULIO R. RUBIANO
86366
8-28-2026

TEXAS

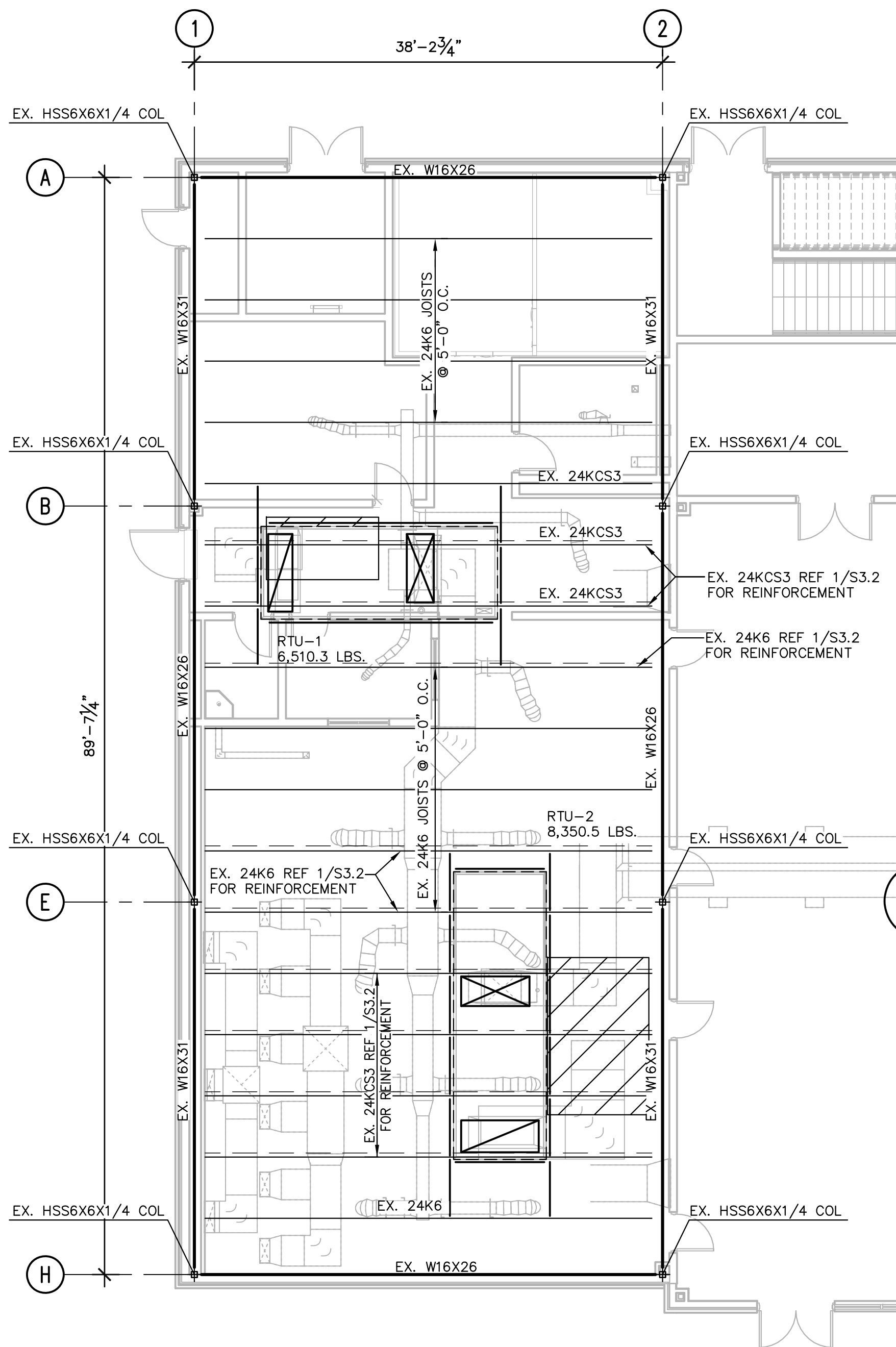
IDEA DONNA MECHANICAL UPGRADES

DONNA

ethos
engineering
1126 SOUTH COMMERCE ST.
HARLINGEN, TX
PHONE: 956-230-3435
TEXAS REGISTERED
ENGINEERING FIRM
F-19988

DATE: AUGUST 28, 2026
CHECKED BY: B.D.
DRAWN BY: D.G.
PROJECT NO.: 1178-54
CAD FILE:
SHEET:
SD3.1

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1 STRUCTURAL RENOVATION FRAMING PLAN

NOTES:

- REFERENCE S3.1 FOR TYPICAL RENOVATION NOTES.
- NEW 1.5F 22GA METAL DECK INFILL. REFERENCE 9/S1.2

STRUCTURAL RENOVATION NOTES

NOTES:

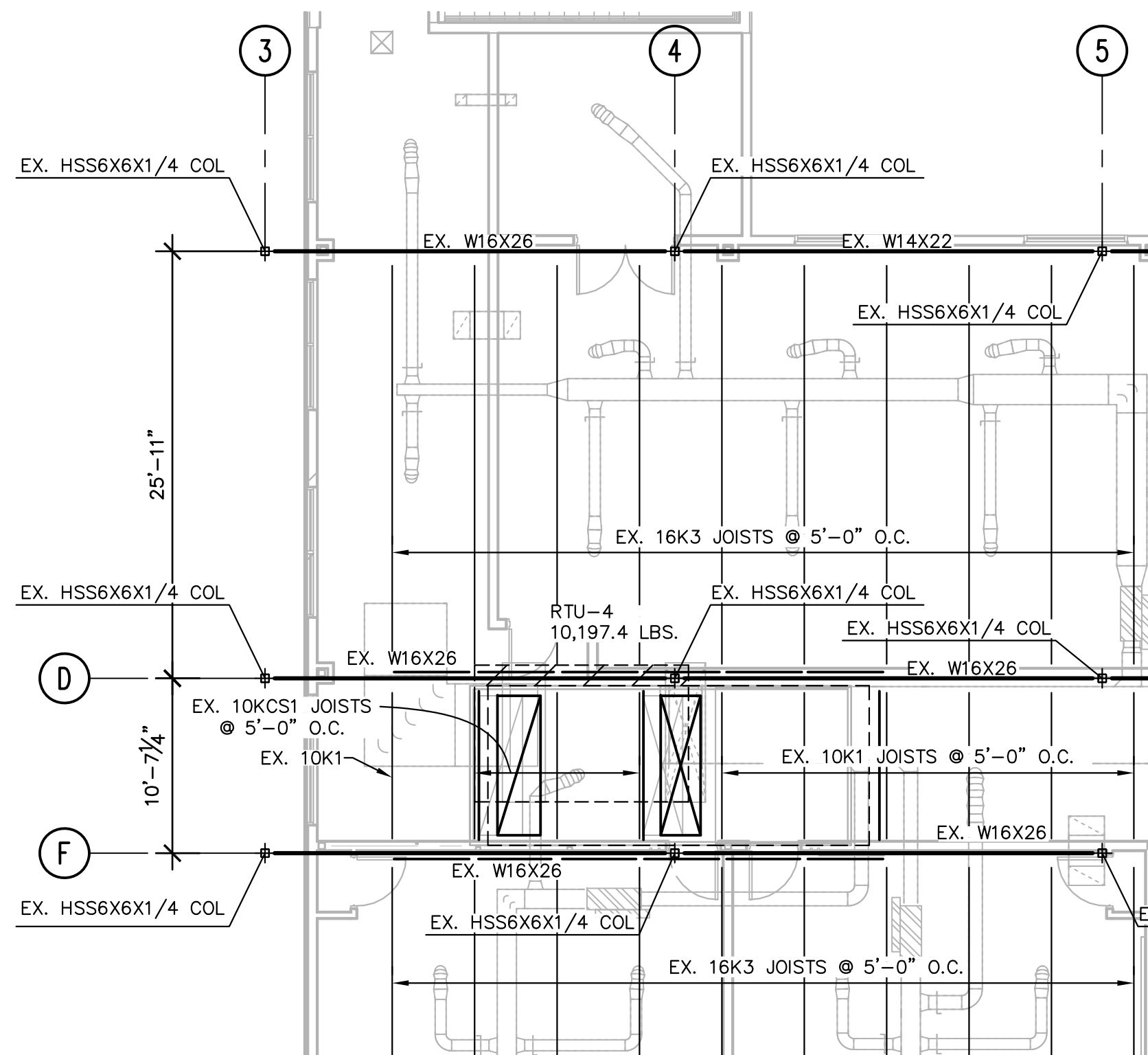
- SCOPE OF WORK:
 - MODIFY EXISTING ROOF OPENING FRAME AS REQUIRED TO INSTALL NEW FRAME FOR NEW OPENING SIZE.
 - INSTALL NEW ROOF OPENING FRAME PER DETAIL 2/S1.2 & 5/S1.2.
 - INSTALL NEW METAL ROOF DECK AS REQUIRED TO CLOSE-OFF AREAS BETWEEN NEW AND EXISTING ROOF OPENINGS.
 - INSTALL NEW ROOFING INTEGRATED WITH EXISTING ROOF AND ONTO NEW RTU CURBS AS REQUIRED FOR A COMPLETE WATERPROOF INSTALLATION (BY OTHERS).
- NEW ROOF DECK SHALL BE 1.5F 22GA GALV DECK BY VULCRAFT OR APPROVED EQUAL. ($I_p=0.155 \text{ IN}^4/\text{FT}$; $S_p=0.186 \text{ IN}^3/\text{FT}$; $I_n=0.183 \text{ IN}^4/\text{FT}$; $S_n=0.192 \text{ IN}^3/\text{FT}$; $F_y=33\text{KSI}$). ATTACH DECK TO SUPPORTS USING 5/8" PUDDLE WELDS ON A 36/7 PATTERN AND 7-#10 TEK SCREW SIDE LAP FASTENERS.
- PRIOR TO INSTALLATION OF MECHANICAL EQUIPMENT, NOTIFY ENGINEER IF EQUIPMENT WEIGHTS OR LOCATIONS VARY FROM THAT SHOWN ON PLAN TO ALLOW VERIFICATION OF STRUCTURAL CAPACITY OF FRAMING MEMBERS.
- REFER TO MECHANICAL AND MANUFACTURER'S DRAWINGS FOR FASTENING OF THE ROOF CURB AND HVAC UNITS TO RTU SUPPORT FRAMES.
- EXISTING FRAMING PLANS WERE DEVELOPED BASED ON STRUCTURAL RECORD DRAWINGS TITLED "IDEA PUBLIC SCHOOL K-12TH GRADE DONNA - PHASE III" SHEETS S-103 TO S-106 DATED 08/31/2012 BY PBK ARCHITECTS. CONTRACTOR SHALL REFER TO RECORD DRAWINGS FOR ADDITIONAL INFORMATION REQUIRED.
- ALL STRUCTURAL STEEL NOTED ON FRAMING PLAN IS EXISTING UNLESS NOTED OTHERWISE.

CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS & EXISTING CONDITIONS IN THE FIELD. CONTACT ENGINEER IF CONDITIONS VARY FROM THOSE SHOWN ON THE DRAWINGS.

2 STRUCTURAL RENOVATION FRAMING PLAN

NOTES:

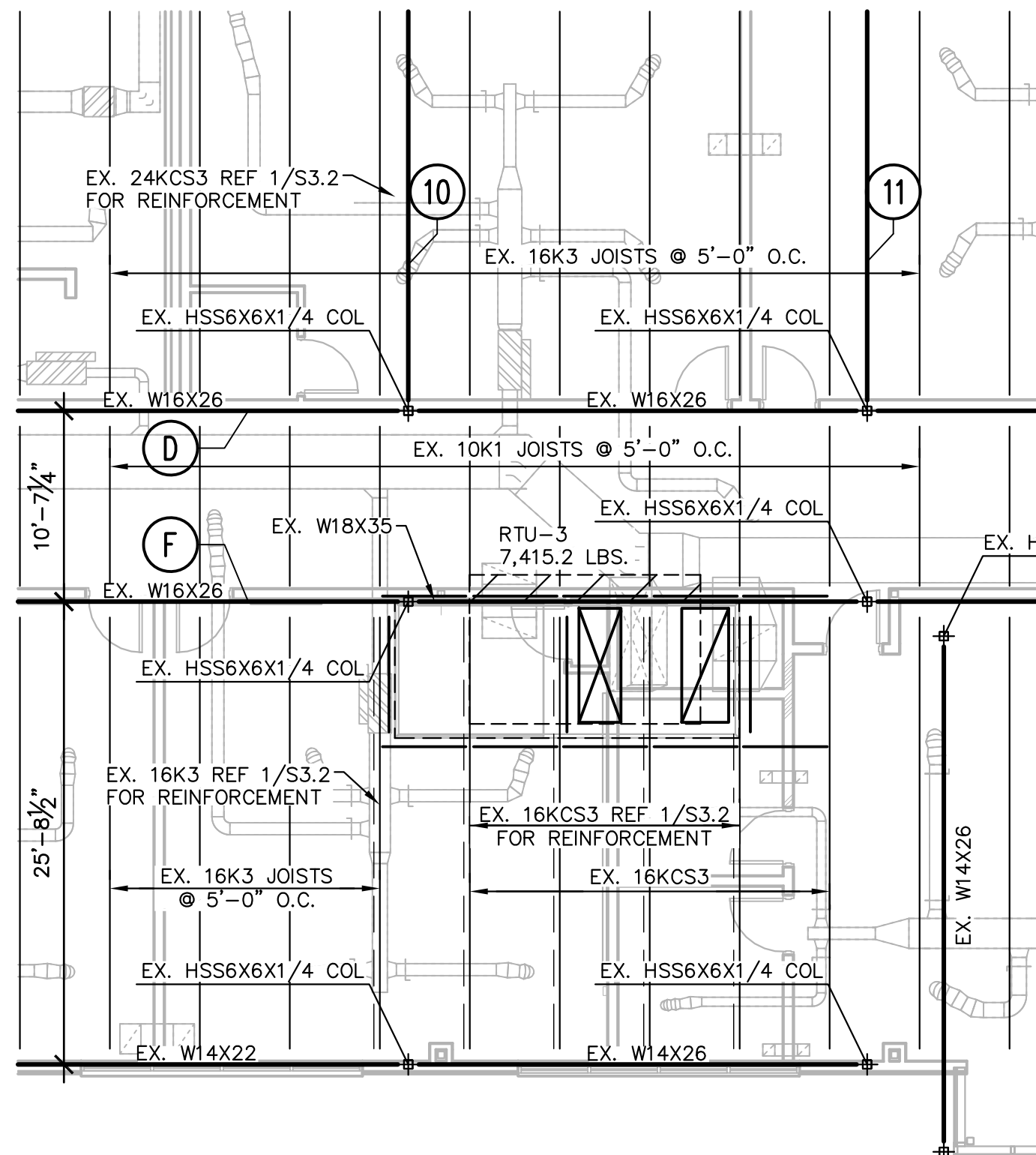
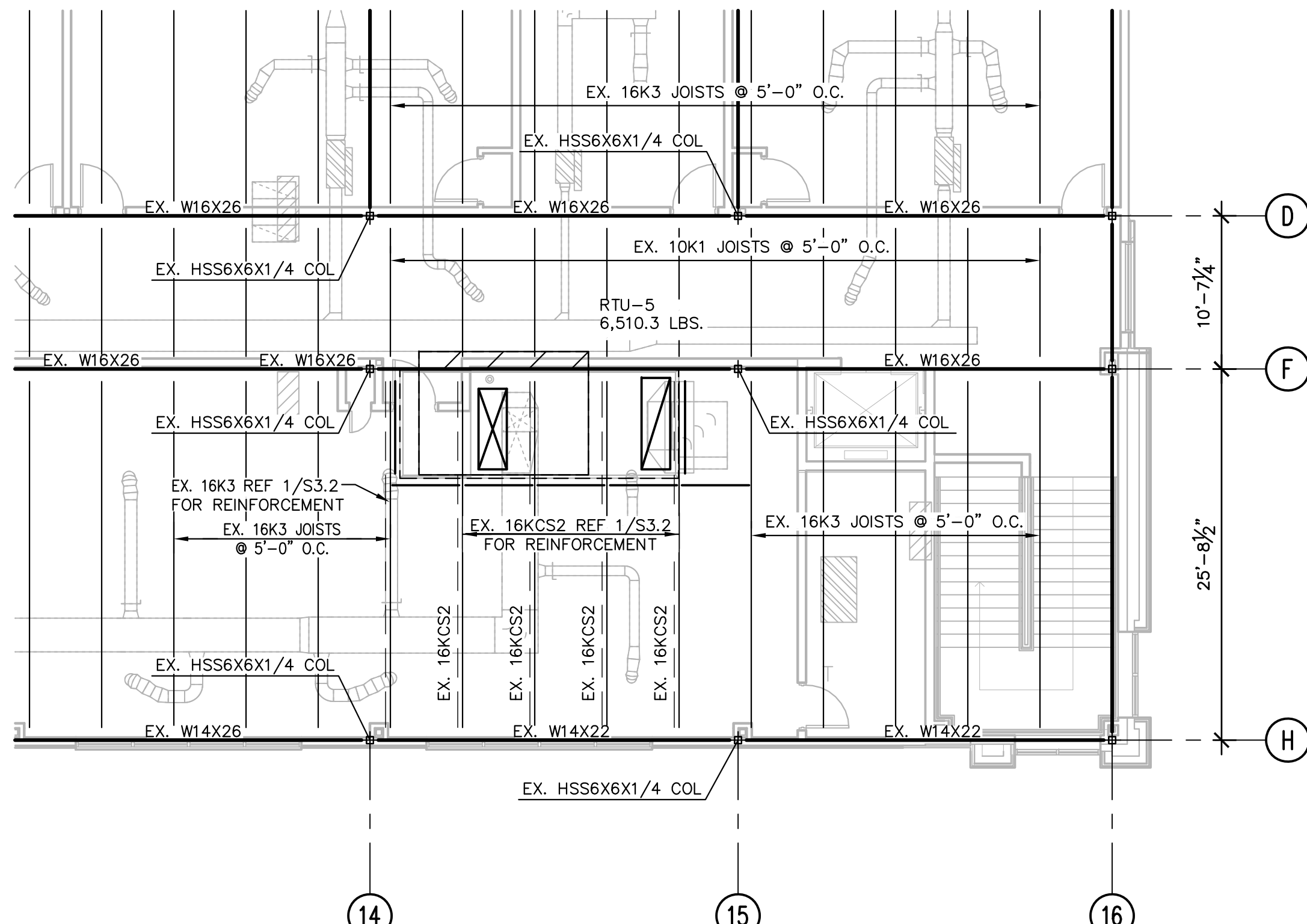
- REFERENCE S3.1 FOR TYPICAL RENOVATION NOTES.
- NEW 1.5F 22GA METAL DECK INFILL. REFERENCE 9/S1.2



3 STRUCTURAL RENOVATION FRAMING PLAN

NOTES:

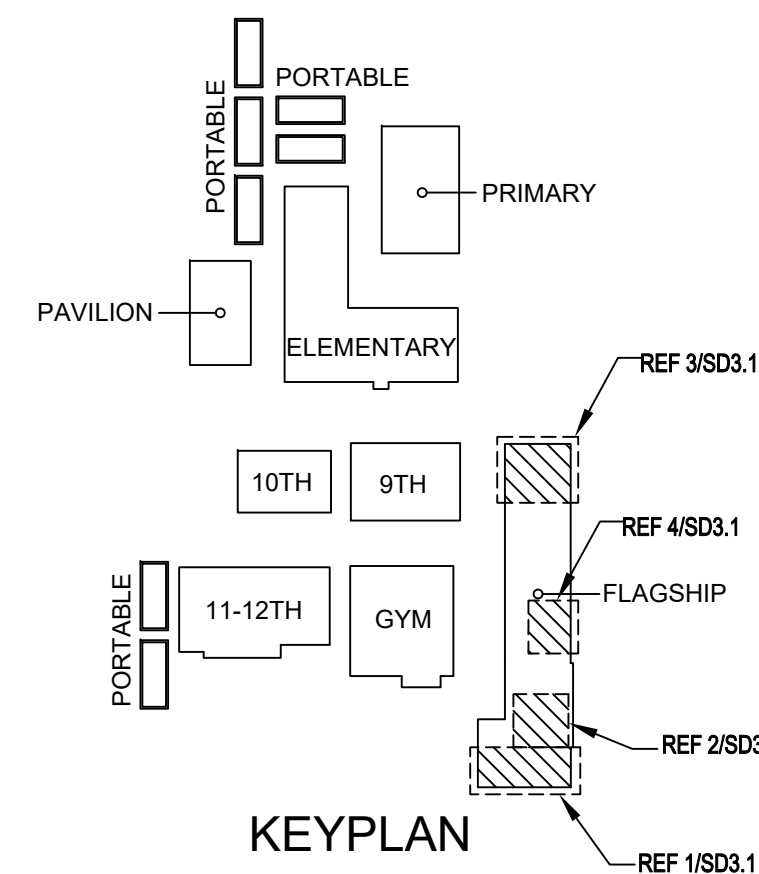
- REFERENCE S3.1 FOR TYPICAL RENOVATION NOTES.
- NEW 1.5F 22GA METAL DECK INFILL. REFERENCE 9/S1.2



4 STRUCTURAL RENOVATION FRAMING PLAN

NOTES:

- REFERENCE S3.1 FOR TYPICAL RENOVATION NOTES.
- NEW 1.5F 22GA METAL DECK INFILL. REFERENCE 9/S1.2



GREEN, RUBIANO & ASSOCIATES
CONSULTING STRUCTURAL ENGINEERS
1220 WEST HARRISON
HARLINGEN, TEXAS 79501
P: (956) 425-4401 FAX: (956) 425-4402
FIRM REGISTRATION # F-4145

NO. REVISION: BY:

COPY NO:



TEXAS

IDEA DONNA MECHANICAL UPGRADES

DONNA

ethos
engineering
1126 SOUTH COMMERCE ST.
HARLINGEN, TX
PHONE: 956-230-3435
TEXAS REGISTERED
ENGINEERING FIRM
F-15998

DATE: AUGUST 28, 2026

CHECKED BY: B.D.

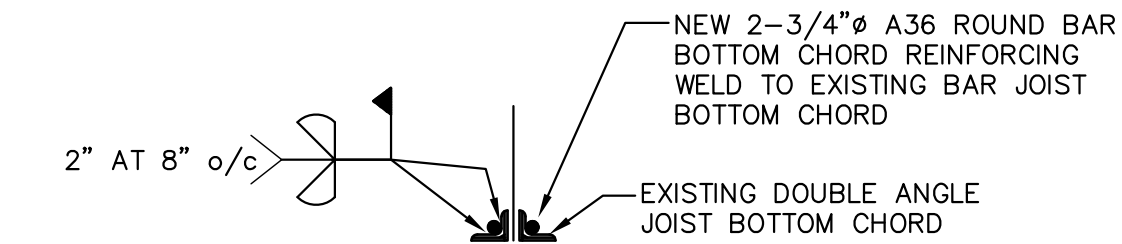
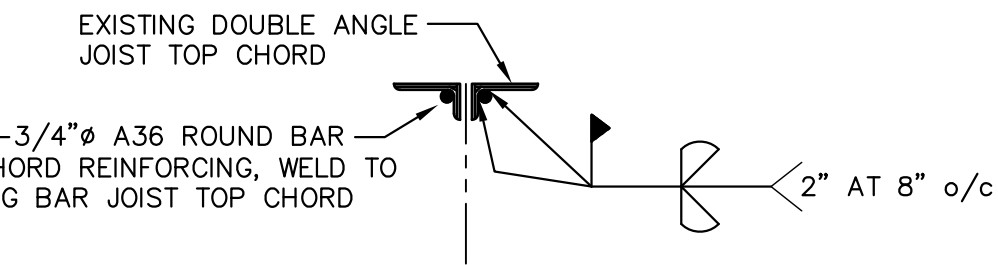
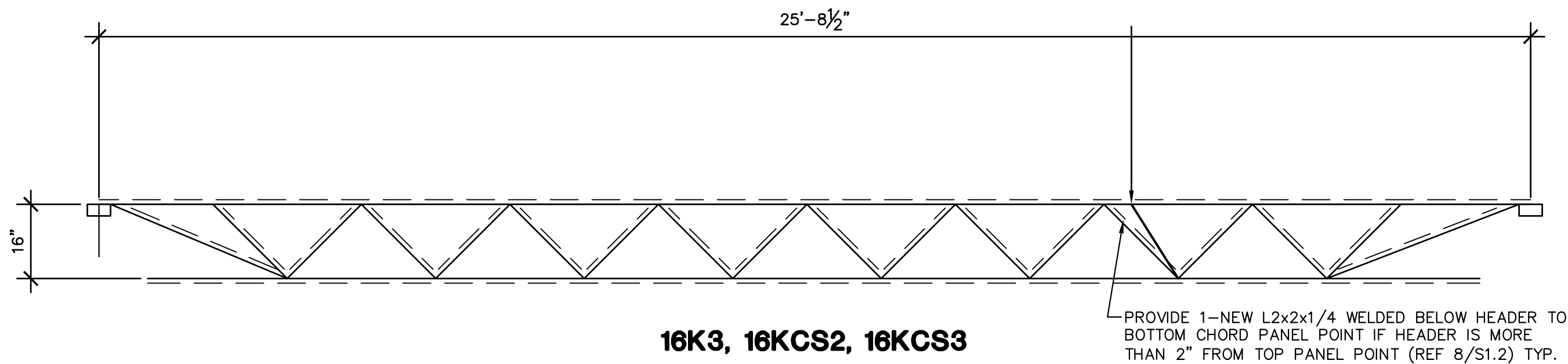
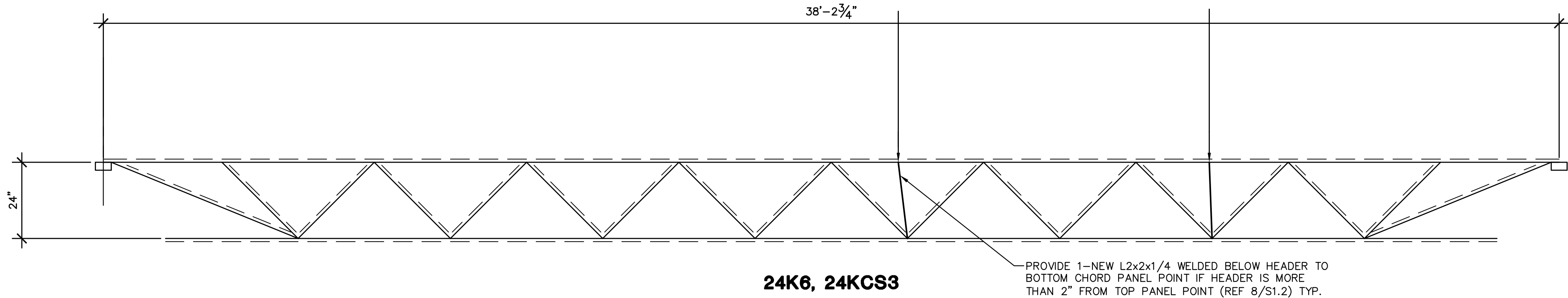
DRAWN BY: D.G.

PROJECT NO.: 1178-54

CAD FILE:
SHEET:

S3.1

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1

EXISTING JOIST REINFORCING PROFILES

1/2" = 1'-0"

NOTES:

- ALL EXISTING JOIST REINFORCEMENT PROFILES ARE SCHEMATIC AND PROVIDED FOR PRICING PURPOSES. ALL DIMENSIONS AND JOIST WEB LAYOUTS WILL NEED TO BE FIELD VERIFIED AFTER EXISTING JOIST ARE EXPOSED IN THE FIELD.
- GENERAL CONTRACTOR WILL NEED TO CONTACT GRA TO SCHEDULE FIELD OBSERVATIONS TO OBSERVE EXISTING BAR JOIST AT NEW RTU, ACCU, AND AHU LOCATIONS. CONTRACTOR WILL NEED TO PROVIDE A LIFT OR LADDERS ON SITE TO BE USED AS DIRECTED BY GRA PERSONNEL TO GAIN ACCESS TO EXISTING BAR JOIST.
- ONCE GRA HAS ANALYZED THE EXISTING BAR JOIST. THE JOIST REINFORCEMENT JOIST PROFILES ON 1/S3.2 WILL BE REVISED AS REQUIRED.