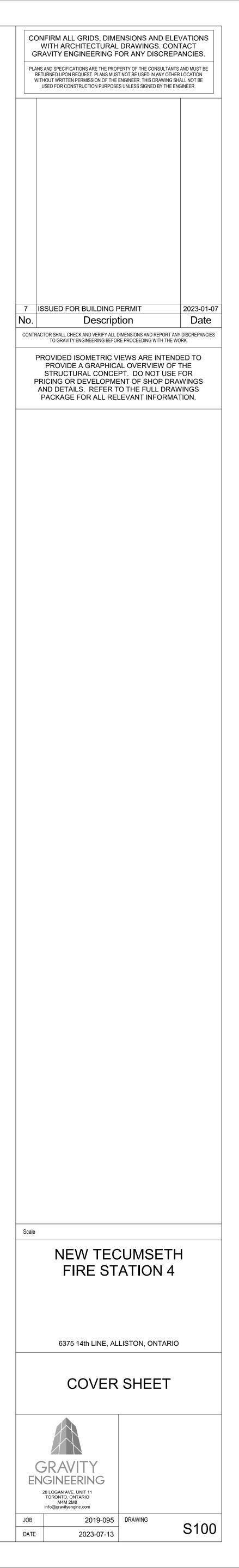


DRAWING LIST											
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S110	GENERAL NOTES										
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S501	ELEVATION AND DETAIL										



STRUCTURAL MASONRY NOTES	

1. ALL MASONRY WORK (MATERIALS AND WORKMANSHIP IS TO BE IN ACCORDANCE WITH THE LOCAL BUILDING CODE AND CSA STANDARDS CAN3 A370 AND CAN3 A371 LATEST EDITION AND TO BE DESIGNED AS PER CAN3-S304-LATEST EDITION. 2. COMPRESSIVE STRENGTH OF MATERIALS USED FOR LOAD BEARING AND PANEL WALLS SHALL BE IN EXCESS OF THE

30 MPa

30 MPa

21 MPa

FOLLOWING VALUES: a) MASONRY UNITS - HOLLOW CONCRETE BLOCK - SOLID CONCRETE BLOCK (GROSS AREA) - BRICK

TYPE 'S' MORTAR SHALL BE USED FOR MASONRY BELOW GRADE, MIN. STRENGTH f'm=17.5 MPa. TYPE 'N' MORTAR SHALL BE USED ABOVE GRADE, MIN. STRENGTH fm=12 MPa.

- 3. GROUT TO BE MINIMUM OF 20 MPa.
- 4. MORTAR FOR EXPOSED MASONRY SHALL BE AIR ENTRAINED.
- 5. PROVIDE LINTELS FOR ALL OPENINGS AND/OR RECESSES IN MASONRY WALLS SHOWN ON THE ARCHITECTURAL OR STRUCTURAL DRAWINGS, INCLUDING THOSE FOR MECHANICAL OR ELECTRICAL SERVICES OR EQUIPMENT. (SEE LINTEL SCHEDULE ON SCHEDULE DRAWING.)
- 6. FOR LOCATION AND DETAILS OF MASONRY CONTROL JOINTS SEE RELEVANT ARCH. DRAWINGS.
- 7. ALL HORIZONTAL REINFORCEMENT SHALL BE GALVANIZED AND CONTINUOUS BETWEEN LATERAL SUPPORTS 8. ALL SIDE RODS AND CROSS RODS TO BE 3.66mm DIA. (TYPICALLY UNLESS NOTED)
- 9. USE APPROVED ANCHORS TO ATTACH 90mm FACE BRICK.
- 10. PROVIDE DOWELS FROM FOUNDATION WALLS INTO WALLS ABOVE TO MATCH WALL REINFORCEMENT ABOVE. DOWELS TO PROJECT 600mm ABOVE AND BELOW TOP OF FOUNDATION WALL.
- 11. HORIZONTAL REINFORCEMENT SHALL BE PROVIDED AT THE TOP OF EVERY MASONRY FOUNDATION WALL, AT THE TOP AND BOTTOM OF EVERY WALL OPENING, IN THE COURSE IMMEDIATELY BELOW THE ROOF AND FLOOR LEVELS. AND AT THE TOP OF EVERY PARAPET WALL.

#### 12. FOR THIS CONTRACT BEING IN A LOCALITY HAVING A PEAK GROUND ACCELERATION OF 0.066 AND A 1/50 WIND 0.36 kPa, THE FOLLOWING REINFORCEMENT SHALL BE PROVIDED FOR

MASONRY WALLS	HORIZONTAL REINFORCEMENT	VERTICAL	
EXTERIOR WALLS UPTO 290mm	DW100 DUR-O-WALL TRUSS STANDARD OR APPROVED EQUIVALENT AT EVERY BLOCK COURSE	NONE	
INTERIOR PARTITION WALLS 240mm	DW100 DUR-O-WALL TRUSS STANDARD OR APPROVED EQUIVALENT AT EVERY BLOCK COURSE	SEE WALL SCHE.	
INTERIOR PARTITION WALLS 190mm	DW100 DUR-O-WALL TRUSS STANDARD OR APPROVED EQUIVALENT AT EVERY SECOND BLOCK COURSE	SEE WALL SCHE.	

#### 13. INTERSECTING OR ABUTTING WALLS SHALL BE BONDED ADEQUATELY TOGETHER.

14. SECURE ALL MASONRY WALLS TO ABUTTING STRUCTURAL MEMBERS WITH 38mm x 5mm GALVANIZED ADJUSTABLE METAL ANCHORS AT 400mm o/c VERTICALLY AND 2000mm HORIZONTALLY

15. PROVIDE 100% SOLID MASONRY BEARING AS FOLLOWS:

LOCATION	LENGTH - PARALLEL TO SPAN	WIDTH - PERPENDICULAR TO SPAN	VERTICAL DEPTH
UNDER STEEL BEAM	200mm (8")	400mm (16")	400mm (16")
UNDER CONC. BEAM	200mm (8")		
UNDER STEEL LINTELS	150mm (6")	ATLEAST EQUAL TO STEEL I	INTEL WIDTH
UNDER CONC. OR REINF. LINTELS	200mm (8")		
UNDER CONC. SLAB	100mm (4")	CONTINUOUS	200mm (8")

16. PROVIDE MINIMUM 25mm (1") GROUT UNDER ALL WALL PLATES AND BASE PLATES.

17. PROVIDE ONE COURSE OF SOLID BLOCK AT TOP OF ALL EXTERIOR MASONRY FOUNDATION WALLS.

**CONCRETE & REINFORCEMENT** 

1. CONCRETE MATERIALS, CONSTRUCTION, AND TESTING SHALL CONFORM TO THE REQUIREMENTS OF CAN/CSA A-23.1 AND CAN/CSA A23.2 LATEST EDITIONS.

2. COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS TO BE AS FOLLOWS:

FOUNDATIONS	25 MPa
FOUNDATION WALLS	25 MPa CLASS F2
INTERIOR SLAB ON GRADE	25 MPa CLASS N-CF
INTERIOR PIERS, WALLS, COLUMNS	25 MPa
RETAINING WALLS	35 MPa CLASS C1
EXTERIOR REINFORCED CONCRETE	35 MPa CLASS C1
EXTERIOR UNREINFORCED CONCRETE	32 MPa CLASS C2
CALCIUM CHLORIDE ADMIXTURES SHALL NOT	BE USED

4. YIELD STRENGTH OF REINFORCEMENT BARS TO BE CSA G30.18-M92 LATEST EDITION GRADE 400 MPa

- 5. DETAIL, FABRICATE AND PLACE ALL REINFORCEMENT BARS IN CONFORMITY TO CURRENT MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES ACI 315 CAN/CSA A23.3 LATEST EDITION AND THE REINFORCING STEEL MANUAL OF STANDARD PRACTICE BY RSIO
- 6. TENSION LAP SPLICES ARE TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF CAN/CSAA23.3 LATEST EDITION. ALL OTHER

## **BLOCK LINTEL SCHEDULE**

PROVIDE LINTELS OVER ALL OPENINGS AND RECESSES IN MASONRY PARTITIONS AND WALLS AS SCHEDULED BELOW UNLESS NOTED OTHERWISE ON PLAN FOR LOCATION SEE ARCHITECTURAL DRAWINGS. REINFORCED BLOCK OR TILE LINTEL STRUCTURAL STEEL LINTELS MAX CLEAR NON BEARING PARTITIONS BEARING WALLS SPAN 4"(90) THICK 6"(140) THICK 8"(190) THICK 10"(240) THICK 13 1/2"(340) THICK CAVITY WALL OVER 12" 12"(290) THICK TYPE REINF. TYPE REINF. TYPE MATERIAL TYPE | MATERIAL TYPE MATERIAL TYPE MATERIA 4'-0" 1-10M 1-10M L125x90x8 LLH + (1200) T&B T&B (2) L 90x90x6 0 0 | || | | || || L90x90x6 (3) L 90x90x6 (3) L90x90x6 6"(140) 4"(90) 1-15M 1-15M 6'-0" L125x90x8 LLH + DO DO (1800) T&B T&B (2) L 90x90x8 L90x90x8 (3) L 90x90x8 (3) L90x90x8 8'-0" L125x125x8 + (2400) (3) L125x90x8 LLV (2) L 125x90x8 LL\ L125x90x8 LLV (3) L 125x90x8 LLV MIN. LENGTH OF BEARING TO BE 8"(200) AT EACH SUPPORT MINIMUM LENGTH OF BEARING TO BE 6"(150) AT EACH SUPPOR MAX CLEAR SPAN 12' (3600) TOP AND BOTTOM BARS HOOKED -DOUBLE ANGLES OVER 6'-0"(1800) CLEAR SPAN SHALL BE BOLTED BACK TO BACK (L.L.B.B.) CAVITY WALL WITH 8" (190) BLOCK WITH 5/8"(16) DIA. BOLTS @ 24"(600) C/C OR EQUIVALENT STICH WELD SHALL BE PROVIDED EACH END WHERE LINTEL CONSISTS OF COMPONENTS NOT BEARING ON COMMON ELEVATION PROVIDE STEEL PACKING TO ENSURE EVEN BEARING. FILL VOIDS WITH 20 MPa CONC. WHERE TYPES  $\underline{\bot}$   $\underline{\Box}$   $\underline{\Box}$   $\underline{\Box}$   $\underline{\Box}$   $\underline{\Box}$  ARE USED ATTACH PLATES AND ANGLES TO MAIN SECTIONS WITH 1/4"(6) FILLET WELDS 2"(50) LONG @ 12"(300) c/c. 100% SOLID UNIT FOR DOUBLE CHANNELS PROVIDE 5/8"(16) DIA. BOLTS WITH SEPARATORS @ 36"(900) MAX. FOR BEARING WHEN 'h' IS SMALLER THAN 'b' CONSULT ENGINEER FOR SIZE OF LINTELS TO BE USED. EACH END TOP OF WALL OR U/S OF MIN BEARING 8"(200) @ EA SUPPORT FLOOR OR ROOF ABOVE MAX CLEAR SPAN 12' (3600) 12" (290) BLOCK WALL T > /USE MASONRY WALLS HSS203x102x6.4 + CONT 3/8" PLATE - OPENING OR RECESS **PROVIDE BUILDING** PAPER JOINT MIN BEARING 8"(200) @ EA SUPPORT WHERE LINTELS ABUT COLUMNS OR CONCRETE WALLS PROVIDE 100x100x10 SHELF ANGLES; FOR ANCHORAGE USE 1/4"(6) FILLET WELDS 4"(100) LONG OR 2-3/4"(19) DIA. INSERT ANCHORS.

#### STEEL DECK NOTES

- 1. ALL METAL DECK TO BE 38mm DEEP WITH DECK FLUTES AT 150mm CENTERS AND CONTINUOUS OVER AT LEAST 3 SPANS. 2. METAL DECK TO BE FORMED FROM SHEET STEEL CONFORMING TO STRUCTURAL QUALITY SHEET STEEL FOR ROOF DECK AND
- FLOOR DECK AND A MINIMUM GRADE 'A' WITH BASE STEEL NOMINAL THICKNESS SPECIFIED ON PLANS.
- 3. REFER TO THE ROOF FRAMING PLAN AND DIAPHRAGM DETAILS FOR ROOF DECK CONNECTIONS WHERE ROOF DECK IS DESIGNED FOR DIAPHRAGM ACTION TO RESIST LATERAL LOADS AND SNOW LOADS.
- 4. ROOF DECK NOT INTENDED FOR DIAPHRAGM ACTION SHALL BE ATTACHED TO SUPPORTING STEEL WITH: -A MINIMUM 19mm FUSION WELD -TRANSVERSE PUDDLE WELDS AT 300mm o/c -SIDE LAP SCREWS AT 600mm o/c
- CONTRACTOR IS RESPONSIBLE TO COORDINATE, SUPPLY AND INSTALL ALL REQUIRED DECK CLOSURES
  - 6. DECK FLUTES ARE TO BE FILLED SOLID WITH BLOCKING UNDER SLEEPERS OR CURBS CARRYING ROOF TOP UNITS
  - 7. DO NOT HANG EQUIPMENT OR ACCESSORIES FROM ROOF DECK. DO NOT SCREW OR PUNCH THROUGH THE BOTTOM OF FLUTES.
  - 8. STEEL ROOF DECK SHALL CONFORM TO CANAM P3615 OR APPROVED EQUIVALENT. 38mm DEEP CONTINUOUS OVER A MINIMUM OF 3 SPANS. 0.91mm THICKNESS UNLESS NOTED OTHERWISE.

#### OPEN WEB STEEL JOISTS

- 1. ALL STRUCTURAL STEEL NOTES SHALL APPLY TO THIS SECTION.
- 2. ALL JOISTS ARE TO INTENDED TO BE EQUALLY SPACED BETWEEN TIE JOISTS OR PERIMETER JOISTS
- 3. ALL JOISTS ARE TO BE CAMBERED FOR FULL DEAD LOAD DEFLECTION LIMIT. 4. LIMIT THE LIVE LOAD DEFLECTIONS TO NOT MORE THAN L/360 FOR AREAS SUPPORTING DRYWALL CEILINGS AND L/240 IN ALL
- OTHER AREAS.
- 5. LOCATE JOIST DIAGONALS TO LINE UP WITH ADJACENT JOISTS TO FACILITATE MECHANICAL DUCTS, PIPES ETC., THROUGH THE JOIST OPEN WEBS.
- 6. TJ DENOTES TIE JOIST. FULL SIZE OF BOTTOM CHORD TO BE EXTENDED AND FRAMED INTO COLUMNS OR BEAMS. DESIGN AND CONNECT TIE JOISTS FOR NEGATIVE SPECIFIED END MOMENT OF 14 kN-m (ADDITIONAL TO THE GRAVITY DESIGN LOADS NOTED ON PLANS)
- 7. MINIMUM BOTTOM CHORD FOR TIE JOISTS TO BE (2) L45x45x4.8
- 8. ALL PIPES MUST BE HUNG FROM THE TOP CHORD PANEL POINTS OF JOISTS.
- REFER TO THE MOST RECENT SPRINKLER/MECHANICAL DRAWINGS FOR PIPE LINE LOCATIONS.
- 10. DESIGN ROOF JOISTS FOR THE BASIC SPECIFIED DESIGN LOADS SHOWN ON PLAN IN ADDITION TO THE FOLLOWING LOADS: 100mm DIAM. PIPE AND SMALLER: 125mm DIAM. PIPE

0.1 kN/m

0.35kM/m

0.50kN/m

0.75kN/m

#### 150mm DIAM. PIPE 200mm DIAM. PIPE

- 11. JOIST DESIGNER TO ADD AN ADDITIONAL 0.45 KN POINT LOAD AT PIPE HANGER LOCATIONS IN ADDITION TO THE ABOVE NOTED LOADING. (i.e P = w(L) + 0.45 kN WHERE w=LOADS ABOVE, L=SPACING OF PIPE SUPPORTS)
- 12. DESIGN THE ROOF JOISTS FOR ALL LOADING CONDITIONS SPECIFIED IN THE ONTARIO BUILDING CODE IN ADDITION TO THE SPECIFIED LOADS ON PLANS.
- 13. ALL JOIST BRIDGING TO BE BOLTED TO JOISTS AND BEAMS
- 14. ALL PIPES ARE TO BE HUNG FROM TOP CHORD OF JOISTS AT PANEL POINT LOCATIONS.
- 15. PROVIDE ADDITIONAL X-BRIDGING BETWEEN PERIMETER BEAMS AND 1st ROW OF O.W.S.J. PARALLEL SHOWN ON PLAN L35x35x4.8 @ 6'-8" U.N.O.

#### SOILS AND EXCAVATIONS

- 1 PREPARE SHORING DESIGN AND DRAWINGS TO THE APPROVAL OF ALL ALTHORITIES HAVING JURISDICTION AS REQUIRED TO PROTECT ALL EXCAVATION CUTS FROM DAMAGE BY CAVE IN, RAINFALL OR OTHER CAUSES.
- ENSURE THAT ALL EXTERIOR FOOTINGS HAVE ADEQUATE FROST PROTECTION AS RECOMMENDED IN THE SOIL REPORT.
- 3. BACKFILL SIMULTANEOUSLY EACH SIDE OF WALLS AND OTHER STRUCTURES TO EQUALIZE SOIL PRESSURES IN MAX.
- 4. TOP OF ALL COLUMN FOUNDATIONS TO BE 50mm BELOW U/S OF COLUMN BASE PLATES (ALLOWING FOR 50mm OF GROUT

LIFTS OF 200mm.

- BELOW STEEL COLUMN BASE PLATES). U.N.O.
- 5. STRUCTURAL STEEL IN CONTACT WITH EARTH SHALL BE PROTECTED WITH MINIMUM 50mm CONCRETE OR EQUIVALENT. 6. OBTAIN PROFESSIONAL SOIL ENGINEER'S INSPECTION AND APPROVAL ON THE FOLLOWING ITEMS: a) ALL EXCAVATIONS, PRIOR TO CASTING CONCRETE FOR FOUNDATION.
- b) ALL ENGINEERED (COMPACTED) BACKFILL AS THE WORK PROCEEDS. c) ALL EARTH SUPPORT SYSTEMS (SHORING TO EXCAVATIONS). d) ALL EARTH BANKS. e) DEWATERING - FOR LOWERING THE WATER TABLE. f) ANY WORK INVOLVING SOIL, ROCK, WATER, GASES, ETC. IN SOIL.

#### \*REFER TO SPECIFICATIONS FOR REMAINDER OF STRUCTURAL STEEL, STEEL JOISTS, STEEL DECK, STEEL STUDS, AND CONCRETE NOTES.

7. EXCAVATIONS TO BE LEVEL AND FREE FROM LOOSE OR ORGANIC MATTER. PROTECT THE BOTTOM OF EXCAVATIONS FROM SOFTENING.

#### CONSTRUCTION REVIEW

- 1. CONTRACTOR ASSUMES COMPLETE RESPONSIBILITY FOR FULL SUPERVISION OF CONSTRUCTION WORK. 2. SITE VISITS AND REVIEWS BY THE DESIGN ENGINEER OR REPRESENTATIVE ARE INTENDED FOR THE PURPOSE OF ASCERTAINING GENERAL CONFORMANCE WITH THE DESIGN CONCEPT. THE SITE REVIEWS DO NOT MEAN THAT THE DESIGN ENGINEER HAS SEEN ALL OF THE CONSTRUCTION OR CONSTRUCTION PROCEDURES.
- 3. REVIEW OF CONSTRUCTION BY THE DESIGN ENGINEER DOES NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY FOR
- ERRORS AND OMISSIONS AND FOR MEETING ALL THE REQUIREMENTS OF THE CONSTRUCTION AND CONTRACT DOCUMENTS. 4. NOTIFY THE DESIGN ENGINEER 24 HOURS IN ADVANCE OF ANY REQUIRED SITE VISITS.
- 5. THIRD PARTY INSPECTIONS ARE TO BE CARRIED OUT AS PER PROJECT SPECIFICATIONS.
- 6. CONTRACTOR IS RESPONSIBLE FOR ANY COSTS ASSOCIATED WITH THE REMOVAL OF FINISHES REQUIRED FOR INSPECTIONS
- OR TESTING THAT IS COVERED BEFORE INSPECTIONS ARE COMPLETED. 7. OBTAIN A PROFESSIONAL GEOTECHNICAL ENGINEER APPROVAL OF THE FOLLOWING ITEMS: A) ALL EXCAVATIONS. PRIOR TO CASTING CONCRETE FOR FOUNDATIONS. B) ALL ENGINEERED (COMPACTED) BACKFILL AS WORK PROGRESSES C)ALL EARTH SUPPORT SYSTEMS (SHORING/EXCAVATIONS)

#### D)ALL EARTH BANKS E)DEWATERING FOR LOWERING WATER TABLE F)ANY WORK INVOLVING SOIL/ROCK/WATER/GASES ETC., IN SOIL 8. PRIOR TO CASTING CONCRETE OBTAIN ENGINEERS APPROVAL OF PLACEMENT OF REINFORCEMENT STEEL.

- 9. AT LEAST 75% OF REINFORCEMENT STEEL IN ANY STRUCTURAL MEMBER IS TO BE COMPLETED BEFORE INSPECTION CAN BE
- COMPLETED.
- LAPS AND EMBEDMENT OF DOWELS SHALL BE 24 x BAR DIAMETER AND NOT LESS THAN 450mm IF NOT SPECIFIED. 7. REINFORCEMENT AROUND OPENINGS IS TO BE PROVIDED IN ACCORDANCE WITH TYPICAL DETAILS.
- 8. DOWELS TO MATCH REINFORCEMENT UNLESS NOTED OTHERWISE

(290)

# CONT 3/8" PLATE

# SLAB ON GRADE

- PER TYPICAL DETAILS.
- 1. SLAB POURS ARE TO BE BONDED BY A VERTICAL BULKHEAD OR ABUTTING CONSTRUCTION JOINT AS

- 2. SLAB POURS SHOULD NOT EXCEED 950 m<sup>2</sup>

STRUCTURAL STEEL NOTES

SECTIONS AND CLASS H FOR HSS MEMBERS.

3. ALL STEEL SHOULD BE GIVEN A COAT OF PRIMER.

11. DO NOT SPLICE ANY STRUCTURAL MEMBERS.

ENGINEER PRIOR TO FABRICATION.

SHOP DRAWINGS NOTES

REGISTERED IN THE PROVINCE.

REQUIRED BY OTHER PARTIES.

CONSTRUCTION PLANNING & SAFETY

PROFESSIONAL ENGINEER

2. LOCATION OF CONSTRUCTION JOINTS SHALL BE PLANNED IN ADVANCE

FINISHED STRUCTURE, AND MAY NOT BE SUFFICIENT FOR ERECTION PURPOSES.

GOOD TO THE APPROVAL OF THE ARCHITECT NO COST TO THE OWNER.

a) PRECAST CONCRETE DRAWINGS

b) DRAWINGS FOR ANY TEMPORARY WORK

ANCHORS AS SPECIFIED MASONRY NOTES.

18. BEAMS SHALL NOT BE SPLICED UNLESS APPROVED BY ENG.

1. ALL MATERIALS AND COMPONENTS ARE TO CONFORM TO THE LATEST CSA STANDARDS S16.1

4. CONNECTIONS MUST BE WELDED OR HIGH TENSILE BOLTED ASTM STANDARD A325.

ALL WELDING IS TO CONFORM TO W59 AND PERFORMED BY A QUALIFIED FABRICATOR

6. MINIMUM SIZE OF WELDS TO BE 6mm. ALL EXPOSED WELDS TO BE GROUND SMOOTH.

8. TOP OF BEAM ELEVATIONS SUPPORTING JOISTS TO BE AT UNDERSIDE OF JOIST SHOES.

9. TOP OF BEAMS NOT SUPPORTING JOISTS TO BE AT UNDERSIDE OF DECK ELEVATION.

12. ALL EXTERIOR EXPOSED STRUCTURAL STEEL TO BE HOT DIPPED GALVANIZED.

17. ALL EXTERIOR EXPOSED STRUCT. STEEL SHALL BE HOT DIPPED GALVANIZED.

ARCHITECTS AND ENGINEER'S CONSENT BEFORE PROCEEDING WITH THE FABRICATION.

COMPLIANCE WITH THIS REQUIREMENT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

ALL SHOP DRAWINGS SHALL BEAR THE SEAL OF A REGISTERED PROFESSIONAL ENGINEER UNDER JURISDICTION.

5. GENERAL CONTRACTOR AND SUBTRADES SHALL INCLUDE TIME IN THEIR SCHEDULE FOR PROPER SHOP DRAWING REVIEW BY

10. DO NOT MAKE ANY HOLES OR OPENINGS IN STRUCTURAL MEMBERS

2. ALL STEEL IS TO BE NEW MATERIAL AND CONFORMING TO CSA G40.20 AND G40.21 ALL STEEL TO BE GRADE 350W FOR W

7. HEADER CONNECTIONS SHALL BE USED AT ALL EXPANSION JOINTS, AND AT ENDS OF ALL BEAMS FOR STRUCTURAL STEEL

13. DO NOT CUT OR COPE ANY STRUCTURAL STEEL WITHOUT WRITTEN APPROVAL FROM THE DESIGN ENGINEER

14. STEEL CONTRACTOR TO PROVIDE L65x65x4.8 FRAMING AROUND ALL OPENINGS IN ROOF DECK BETWEEN 450mm AND 1200mm.

15. WHEN STRUCTURAL MEMBERS SPECIFIED ON THE DRAWINGS ARE NOT AVAILABLE TO THE CONTRACTOR THE STRUCTURAL

16. MASONRY WALLS SHALL BE ANCHORED TO ABUTTING COLUMNS AND BEAMS BY ADJUSTABLE GALVANIZED IN MASONRY

STEEL CONTRACTOR SHALL PROVIDE ALTERNATIVE MEMBERS HAVING ALL SECTION PROPERTIES EQUAL OR BETTER THAN THE

SPECIFIED MEMBER AT NO ADDITIONAL COST TO THE OWNER. ALTERNATIVE FRAMING MEMBERS ARE TO BE APPROVED BY THE

1. SUBMIT SHOP DRAWINGS FOR ALL STRUCTURAL WORK AND ANY WORK AFFECTING THE STRUCTURE TO THE ARCHITECT. OBTAIN

2. EACH OF THE FOLLOWING SHOP DRAWINGS MUST BEAR THE SIGNATURE AND STAMP OF A QUALIFIED PROFESSIONAL ENGINEER

c) DRAWINGS FOR ANY STRUCTURAL PARTS DESIGNED BY THE CONTRACTOR'S FORCES, INCLUDING EXTERIOR BUILDING ENVELOPE.

4. SUBMIT STRUCTURAL STEEL, STEEL JOIST AND STEEL DECK SHOP DRAWINGS FOR STRUCTURAL ENGINEERS REVIEW BEFORE FABRICATION.

6. SHOP DRAWINGS MUST BE ORIGINAL, AND PRODUCED BY THE RESPECTIVE SUBTRADES. ANY DRAWINGS SUBMITTED FOR REVIEW WHICH

RESPONSIBLE FOR PRODUCING THE SHOP DRAWINGS SHALL TAKE RESPONSIBILITY FOR ANY RESULTING DELAYS IN CONSTRUCTION.

7. THE SHOP DRAWING REVIEW IS NOT AN APPROVAL PROCESS. GRAVITY ENGINEERING INC., WILL REVIEW SHOP DRAWINGS FOR THE SOLE PURPOSE OF ASCERTAINING GENERAL CONFORMANCE WITH THE DESIGN CONCEPT SHOWN ON THE STRUCTURAL DRAWINGS. REVIEW OF

TECHNIQUES OF CONSTRUCTION AND INSTALLATION AND FOR CO-ORDINATION OF THE WORK OF ALL SUB-TRADES.

CONSULTATION WITH CORRESPONDING MANUFACTURERS OR SUPPLIERS AND THE ARCHITECT.

1. REQUIREMENTS FOR MECH. EQUIPMENT, AND ANY TRADES OR SERVICES AFFECTING THE STRUCTURE, SHALL BE ESTABLISHED IN

3. GRAVITY ENGINEERING INC., SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION SAFETY, MEANS, TECHNIQUES AND CONSTRUCTION

CONFORMITY WITH CONTRACT DOCUMENTS. CONTRACTOR TO RETAIN AN INDEPENDENT STRUCTURAL ENGINEER TO CARRY OUT

THE NECESSARY TECHNIQUES TO BE USED TO BUILD AND COMPLETE THE STRUCTURE ACCORDING TO THE CONTRACT DOCUMENTS

BRACING TO KEEP THE STRUCTURE PLUMB AND IN TRUE ALIGNMENT AT ALL PHASES OF THE WORK, UNTIL COMPLETION (INCLUDING

PERMISSION HAS BEEN GRANTED BY THE CONSTRUCTION HEALTH AND SAFETY BRANCH OF THE GOVERNING MINISTRY OF LABOUR.

6. PROTECT EXISTING BUILDINGS, TREES, FENCING, UTILITIES POLES, CABLES, ACTIVE UNDERGROUND SERVICES AND PAVING ON THE

SITE OR ANY ADJOINING PROPERTIES FROM DAMAGE. DAMAGE RESULTING FROM THIS CONSTRUCTION WORK SHALL BE MADE

7. TRUCKS, CRANES, HOISTS, OR ANY HEAVY EQUIPMENT OR MATERIALS ARE NOT ALLOWED TO ENTER ANY STRUCTURAL FLOOR OR

PREVENT ACCIDENTAL OVERLOADING DURING CONSTRUCTION. DESIGN, INSTALL AND MAINTAIN ADEQUATE SHORING SYSTEM AS

SUPPORTS TO CARRY MECHANICAL/ELECTRICAL EQUIPMENT SHALL BE BY THE MECHANICAL/ELECTRICAL CONTRACTORS. OBTAIN

STRUCTURAL ENGINEERS APPROVAL TO CONNECT TO EXISTING/NEW MAIN BUILDING STRUCTURE. DESIGN OF SUPPORTS SHALL BE

ROOF AREA UNLESS SPECIFICALLY DESIGNED AND DESIGNATED FOR THESE PURPOSES. INSTALL TEMPORARY BARRIERS TO

8. NOTIFY ARCHITECT IMMEDIATELY UPON DISCOVERY OF ANY CONSTRUCTION ERROR, OMISSION, DEFECTIVE WORK, ETC., SO THAT

9. GENERAL CONTRACTOR SHALL NOTIFY MECHANICAL/ELECTRICAL CONTRACTORS THAT SUPPORT AND THE DESIGN OF SUCH

REQUIRED TO CARRY ANY SUCH TEMPORARY LOADING FROM CONSTRUCTION MATERIALS AND/OR EQUIPMENT.

STAMPED BY A QUALIFIED STRUCTURAL ENGINEER RETAINED BY THE MECHANICAL/ELECTRICAL CONTRACTOR.

THE MOST ECONOMICAL REMEDIAL MEASURES MAY BE DESIGNED AT THE EARLIEST POSSIBLE TIME.

MASONRY WALLS, FLOOR AND ROOF DECKS, ETC.). ANY BRACING MEMBERS SHOWN ON PLANS ARE THOSE REQUIRED FOR THE

PROCEDURES OR TEMPORARY WORK AS REQUIRED BY THE CONSTRUCTOR TO BUILD AND COMPLETE THE STRUCTURE IN

AND SAFETY GUIDELINES FROM LOCAL CODES/AUTHORITIES. CONTRACTOR SHALL SUPPLY DRAWINGS STAMPED BY A

4. THE CONTRACTOR SHALL MAKE ADEQUATE PROVISIONS FOR CONSTRUCTION STRESSES AND FOR SUFFICIENT TEMPORARY

5. ALL CONSTRUCTION WORK FOR TEMPORARY SHORING AND BRACING OF EXISTING STRUCTURE SHALL BE DONE ONLY AFTER

CONTAIN DRAWINGS OR PARTS OF DRAWINGS PRODUCED BY GRAVITY ENGINEERING INC.,. WILL BE REJECTED, AND THE CONTRACTOR

SHOP DRAWINGS SHALL NOT MEAN THAT GRAVITY ENGINEERING INC., APPROVES THE DETAIL DESIGN INHERENT IN THE SHOP DRAWINGS,

RESPONSIBILITY FOR WHICH SHALL REMAIN WITH THE CONTRACTOR SUBMITTING SAME. REVIEW BY GRAVITY ENGINEERING INC., SHALL NOT RELIEVE THE CONTRACTOR OF ITS RESPONSIBILITY FOR ERRORS OR OMISSIONS IN THE SHOP DRAWINGS OR OF ITS RESPONSIBILITY FOR

MEETING ALL REQUIREMENTS OF THE CONSTRUCTION AND CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS TO BE CONFIRMED AND CORRELATED AT THE JOB SITE, FOR INFORMATION THAT PERTAINS SOLELY TO FABRICATION PROCESSES AND TO

SHOP DRAWINGS MUST BE REVIEWED AND STAMPED REVIEWED BY THE GENERAL CONTRACTOR BEFORE ISSUING TO THE ARCHITECT. SHOP

DRAWINGS NOT STAMPED BY THE GENERAL CONTRACTOR WILL BE REJECTED. ANY DELAYS IN THE CONSTRUCTION SCHEDULE DUE TO NON-

CONSULTANTS. CONTRACTORS SHALL ALLOW 3 BUSINESS DAYS TIME FOR REVIEW BY THE STRUCTURAL CONSULTANT, IN ADDITION TO TIME

- 3. PROVIDE A SEPARATE CONCRETE POUR AROUND COLUMNS AND SAW CUTS ARE PROVIDED AS PER
- TYPICAL DETAILS.

- 4. CAULK SAW CUT LINES WITH APPROVED FLEXIBLE CAULKING MATERIAL. ENSURE PROPER SPACED SYSTEM OF SAW CUTS IS USED TO MITIGATE SLAB SHRINKAGE CRACKING
- 5. REFER TO GEOTECHNICAL REPORT RECOMMENDATIONS FOR GRANULAR MATERIALS AND
- COMPACTION UNDER SLAB ON GRADE. GEOTECHNICAL REPORT AND SPECIFICATIONS SHALL
- GOVERN WHEN SPECIFICATIONS CONFLICT.
- 6. TRENCHES, HOLES ETC., DUG AFTER THE GRADE COMPACTION IS TO BE FILLED WITH A MIN. GRANULAR 'B' MATERIAL AND COMPACTED AS PER THE GEOTECHNICAL RECOMMENDATIONS.
- 7. CONTRACTOR IS RESPONSIBLE TO OBTAIN THE MOST RECENT INFORMATION FOR MECHANICAL
- BASES, PITS, SUMPS, TRENCHES ETC., NOT SHOWN ON STRUCTURAL DRAWINGS. 8. DO NOT USE FROZEN MATERIALS (ICE OR SNOW) AND DO NOT PLACE CONCRETE ON FROZEN SUBGRADE OR ON SUBGRADE CONTAINING FROZEN MATERIALS. FORMWORK REINFORCEMENT STEEL AND ADJACENT CONCRETE SURFACES MUST BE ENTIRELY FREE OF FROST, SNOW AND ICE
- PRIOR TO CONCRETING.
- 9. ENSURE THAT MATERIALS IN CONTACT WITH CONCRETE ARE ABOVE FREEZING TEMPERATURE.
- 10. PERMISSION TO POUR CONCRETE SLAB ON GRADE SHALL BE GRANTED SUBJECT TO THE FOLLOWING CONDITIONS:
  - DENSITY OR AS RECOMMENDED BY THE SOIL ENGINEER.
  - A) THAT THE GRADE IS COMPACTED TO A MIN. 98% STANDARD PROCTOR MAX. DRY B) THAT ANY TRENCHES, HOLES ETC., WHICH ARE DUG AFTER THE COMPACTION AS STATED IN A) ABOVE, ARE FINISHED, ARE FILLED WITH NEW GRANULAR 'B' MATERIAL AND COMPACTED TO A MINIMUM OF 98% STANDARD PROCTOR MAXIMUM DRY DENSITY.
  - C) THAT A PROPERLY SPACED SYSTEM IF SAW CUTS IS USED TO TAKE CARE OF SHRINKAGE OF THE SLAB ON GRADE. D) THAT THE OPERATIONS MENTIONED UNDER ITEMS A TO C INCLUSIVE ARE CARRIED OUT UNDER APPROVED SUPERVISION.

# THIRD-PARTY STRUCTURAL INSPECTION SERVICES

PLACEMENT, GRADE AND SIZE, ETC.

PLUMBNESS AND LEVELNESS.

AUTHORITIES HAVING JURISDICTION.

CONTRACT DOCUMENTS.

- WHERE NOT EMPLOYED BY THE OWNER, CONTRACTOR IS TO EMPLOY THE SERVICES OF A DOCUMENTS:
- QUALIFIED THIRD-PARTY INSPECTION ORGANIZATION TO CARRY OUT ROUTINE INSPECTION OF
- GEOTECHNICAL REPORT BACKFILL AND COMPACTION
- FOUNDATION BEARING SOIL CAPACITY IN ACCORDANCE WITH THE PROJECT

ROOF DECK, ETC. IN ACCORDANCE WITH CSA

- THE FOLLOWING STRUCTURAL WORK TO ASSURE COMPLIANCE WITH THE CONTRACT

## GENERAL NOTES

- STUDY THE GEOTECHNICAL REPORT, BOREHOLES AND WATER CONDITION BEFORE SUBMITTING THE TENDER PRICE.
- VISIT THE SITE AND EXAMINE IT FOR ALL CHARACTERISTIC FEATURES AFFECTING NEW CONSTRUCTION.
- COMPARE THE ACTUAL ORIGINAL ELEVATIONS WITH THOSE SHOWN ON PLAN.
- CHECK ALL DIMENSIONS, LEVELS AND DETAILS SHOWN ON STRUCTURAL DRAWINGS AGAINST ARCHITECTURAL, MECHANICAL, ELECTRICAL, LANDSCAPE, AND OTHER RELEVANT DRAWINGS.
- REPORT ANY DISCREPANCIES TO ARCHITECT BEFORE SUBMITTING PRICE. REPORT ANY DISCREPANCY TO THE ARCHITECT BEFORE COMMENCEMENT OF WORK.
- OBTAIN ALL DETAILS AND DIMENSIONS OF EXISTING WORK IN FIELD AND INCORPORATE SAME INTO NEW CONSTRUCTION. IF DETAILS VARY FROM WHAT IS ASSUMED IN DRAWINGS CONTACT ENGINEER IMMEDIATELY.
- WHERE TWO OR MORE INTERPRETATIONS CAN BE MADE FROM THE INFORMATION PROVIDED IN THE CONTRACT DOCUMENTS RELATION TO THE STRUCTURAL ITEMS, THE MOST EXPENSIVE INTERPRETATION SHALL BE ASSUMED FOR PRICING.
- NO ALLOWANCE WILL BE MADE FOR DIFFICULTIES ENCOUNTERED OR EXPENSES INCURRED RESULTING FROM CONDITIONS CONSIDERED KNOWN AT THE TIME THE TENDERS ARE OPEN.
- COMPLY WITH THE PROVINCIAL BUILDING CODE, NATIONAL BUILDING CODE, CANADIAN CONSTRUCTION CODE, LOCAL BY-LAWS AND ALL REGULATIONS SET BY AUTHORITIES HAVING JURISDICTION. THE MORE STRINGENT REQUIREMENTS SHALL APPLY IN CASE OF DISCREPANCIES OR CONFLICTS.
- SHOULD DEMOLITION ON ARCHITECTURAL DRAWINGS INTERFERE WITH THE INTENT OF THE STRUCTURAL DRAWINGS, DO NOT PROCEED WITH WORK UNTIL ISSUES HAVE BEEN RESOLVED WITH ALL CONSULTANTS.
- 11. DRAINAGE SHALL BE WORKED IN CONFORMITY TO RELEVANT DETAILS.
- MAXIMUM SPACING BETWEEN VERTICAL CONSTRUCTION JOINTS SHALL BE 9000mm. ENGINEER'S APPROVAL SHALL BE OBTAINED FOR, LOCATION AND DETAILS OF CONSTRUCTION JOINTS, IF REQUIRED OTHERWISE BY SITE CONDITION.
- DO NOT PROCEED WITH ANY REPAIR WORK UNTIL INSPECTION AND WRITTEN INSTRUCTIONS ARE OBTAINED FROM THE ARCHITECT AND THE ENGINEER.

## **TEMPORARY FORMWORK**

- THE FORMING CONTRACTOR IS RESPONSIBLE TO DESIGN AND ERECT/MAINTAIN AND REMOVE ALL TEMPORARY FORMWORK NECESSARY TO CARRY OUR THE WORK. TO CONTRACTOR IS REQUIRED TO ENGAGE A PROFESSIONAL ENGINEER TO DEVELOP DESIGN DRAWINGS AND FIELD SUPERVISION OF CONSTRUCTION OF ALL FORMWORK INCLUDING THE STRIPPING AND RE-SHORING PROCEDURES AS WELL AS MAINTENANCE OF FORMWORK AND SHORES. LOCATION AND DETAILS FOR CONSTRUCTION JOINTS NOT SHOWN ON THE DRAWINGS IS TO BE SUBJECT TO THE ENGINEERS APPROVAL.
- FORMWORK SHALL BE CONSTRUCTED, MAINTAINED AND REMOVED IN CONFORMITY TO THESE DRAWINGS AND REVIEWED, STAMPED AND SIGNED BY THE DESIGN PROFESSIONAL ENGINEER. THE CONTRACTOR IS TO DESIGN FORMWORK
  - PRODUCE FORMWORK SHOP DRAWINGS DEVELOP PROCEDURES AND TIMING FOR REMOVAL OF FORMS. DEVELOP PROCEDURES FOR CONTROL OF CONCRETE STRENGTHS
  - CARRY OUT FIELD SUPERVISION OF CONSTRUCTION/MAINTENANCE AND REMOVAL OF FORMS/SHORES INSPECTIONS PERFORMED BY THE CONTRACTOR'S ENGINEER REQUIRED TO CERTIFY THAT ALL REQUIREMENTS OF THE DRAWINGS HAVE BEEN FOLLOWED.
- 5. DO NOT REMOVE FORMS/SHORES UNTIL IN-PLACE STRENGTH OF CONCRETE HAS REACHED 75% OF THE SPECIFIED 28 DAY STRENGTH.

#### DESIGN LOADS

- 1. STRUCTURE OF THE BUILDING HAS BEEN DESIGNED IN ACCORDANCE WITH OUR UNDERSTANDING OF THE CURRENT 2012 ONTARIO BUILDING CODE AND THE LATEST AMENDMENT: 2. IMPORTANCE FACTOR Is = 1.25
- SNOW ACCUMULATION ON ROOF FOR CITY OF ALLISTON, ONTARIO AS PER TABLE 1.2 Ss = 2.0 kPa GROUND SNOW LOAD Sr = 0.4 kPa RAIN LOAD
- 3. IMPORTANCE FACTOR Iw = 1.25
  - THE REFERENCE WIND VELOCITY PRESSURE SPECIFIC TO ALLISTON AS PER TABLE 1.2 1/10 = 0.28 kPa

## 1/50 = 0.36 kPa

- 4. SEISMIC DATA SPECIFIC TO ALLISTON AS PER TABLE 1.2: Sa(0.2)=0.111 Sa(5.0)=0.0059Sa(0.5)=0.076 Sa(10.0)=0.0025 Sa(1.0)=0.046 PGA=0.066, PGV=0.060 Sa(2.0)=0.024
- 5. ASSUMED SITE CLASSIFICATION FOR SEISMIC SITE RESPONSE: CLASS 'D'

## Fv=1.4

Fa=1.3

- 6. IMPORTANCE FACTOR le = 1.5 TYPE OF SFRS: CONVENTIONAL STEEL CONSTRUCTION
- Rd=1.5 Ro=1.3
- 7. FUNDAMENTAL LATERAL PERIOD: Ta= 0.16
- 8. IRREGULARITIES: NONE
- 9. SEISMIC FORCE
- HIGH ROOF: = 170kN IN TRANSVERSE DIRECTION, 140KN IN LONGITUDINAL DIRECTION LOW ROOF: = 235kN IN TRANSVERSE DIRECTION, 200KN IN LONGITUDINAL DIRECTION

STEEL REINFORCEMENT PLACEMENT IN CONCRETE AND MASONRY INCLUDING COVER, CONCRETE TESTING IN ACCORDANCE WITH CSA A23.2 AND A23.3

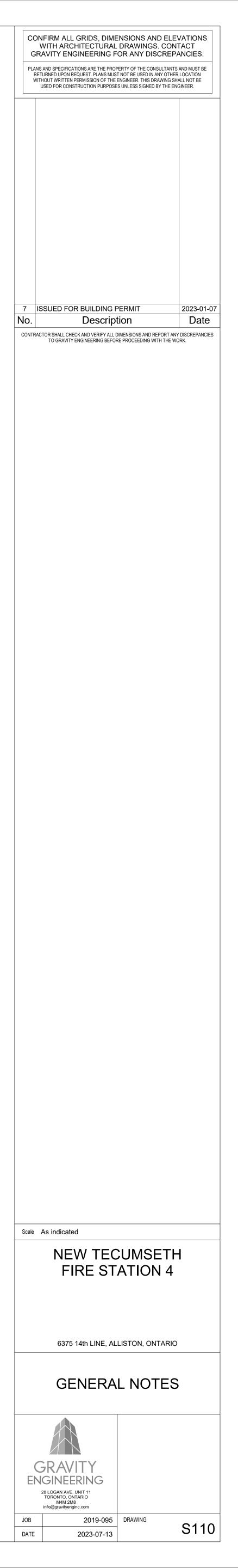
#### ALL STEEL ELEMENTS INCLUDING STRUCTURAL STEEL, OPEN WEB STEEL JOISTS, INSPECTION OF BOLTED AND WELDED STEEL CONNECTIONS

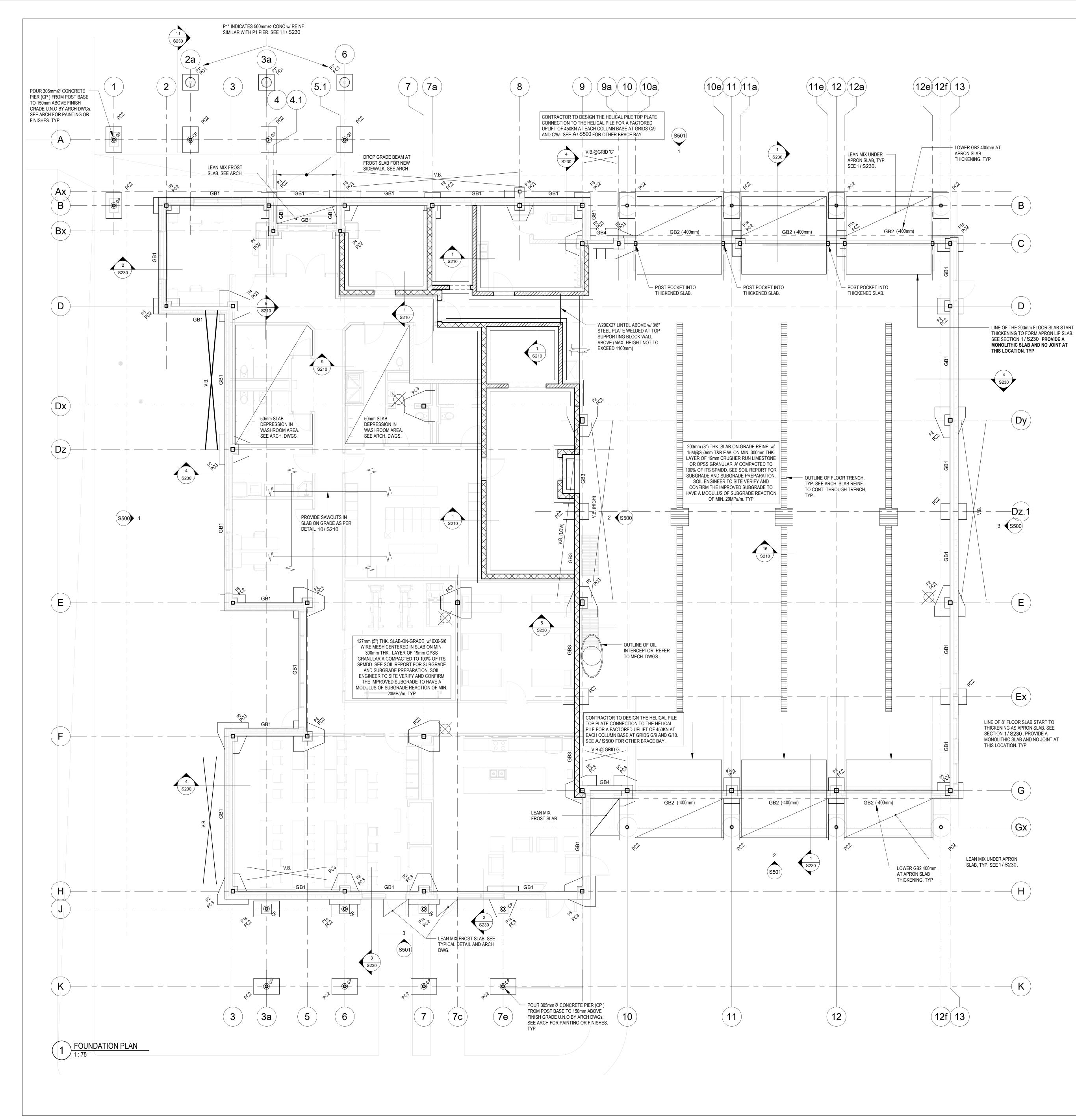
INSPECTION SERVICES ARE TO INCLUDE CHECK OF OVERALL DIMENSIONS, CAMBERS, LAYOUT,

## INSPECTORS ARE TO ENSURE THAT MATERIALS CONFORM TO THE REQUIREMENTS OF THE

INSPECTOR SHALL MAKE A FULL PROMPT WRITTEN REPORT TO THE ARCHITECT OF ALL INSPECTIONS AND TESTS. CIRCULATE REPORTS TO THE ARCHITECT, ENGINEERS, OWNER AND

ABBREVIATIONS LIST	-
ADD. ARCH.	- ADDITIONAL - ARCHITECTURAL
B.f	- BASE PLATE
BM BUL	- BEAM - BOTTOM UPPER LAYER
BLL B OR BOT.	- BOTTOM LOWER LAYER
c/c	- BOTTOM - CENTRE TO CENTRE
C.L. COL.	- CENTRE LINE - COLUMN
C.J.	- CONTROL JOINT
CONC. CONT.	- CONCRETE - CONTINUOUS, CONTINUED,
	CONTINUATION
Ø OR DIA. DWG.	- DIAMETER - DRAWING
EE	- EACH END
EF ELECT.	- EACH FACE - ELECTRICAL
EL. OR ELEV. FW	- ELEVATION - EACH WAY
EX. OR EXIST.	- EXISTING
FF FIN. FL.	- FAR FACE - FINISHED FLOOR
FL.	- FLOOR
FTG. HB	- FOOTING - HIGH BEAM
HL	- HIGH LINE
HORIZ. OR H I.D.	- HORIZONTAL - INSIDE DIAMETER
I.F.	- INSIDE FACE
KB LLH	- KNEE BRACE MIN. SIZE 2-L65x65x6 - LONG LEG HORIZONTAL
LLV LB	- LONG LEG VERTICAL
LL	- LOWER BEAM - LOW LINE
LP MAX.	- LOW POINT - MAXIMUM
MC	- FULL MOMENT CONNECTION
MIN. MECH.	- MINIMUM - MECHANICAL
NF	- NEAR FACE
No. o/c	- NUMBER - ON CENTRE
0.D.	- OUTSIDE DIAMETER
0.F. P.C.	- OUTSIDE FACE - PRECAST
PL. R.C.	- PLATE - REINFORCED CONCRETE
REINF.	- REINFORCEMENT
RTU SFU	- ROOF TOP UNIT - STEP FOOTING UP
S.J.	- STEEL JOIST
STRUCT. T.J.	- STRUCTURAL - TIE JOIST
Т	- TOP
TUL TLL	- TOP UPPER LAYER - TOP LOWER LAYER
T.O.C	- TOP OF CONCRETE
T.O.S U/S	- TOP OF STEEL - UNDERSIDE
U.N.O UB	- UNLESS NOTED OTHERWISE - UPPER BEAM
UL	- UPPER LAYER
VERT. OR V W.P	- VERTICAL - WALL PLATE
	- WELDED WIRE FABRIC/WELDED
	WIRE MESH





- FOUNDATION NOTES

   1.
   ENSURE THAT THE MINIMUM FROST DEPTH AS SPECIFIED IN THE SOIL REPORT IS ATTAINED FOR ALL EXTERIOR AND BUILDING

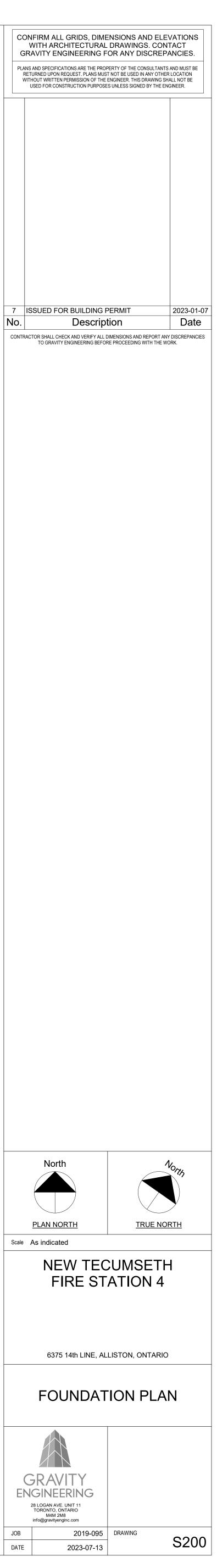
   PERIMETER FOUNDATIONS, AND ALL INTERIOR FOUNDATIONS IN UNHEATED AREAS. SEE REPORT No. SP19-463-10-A1-R3

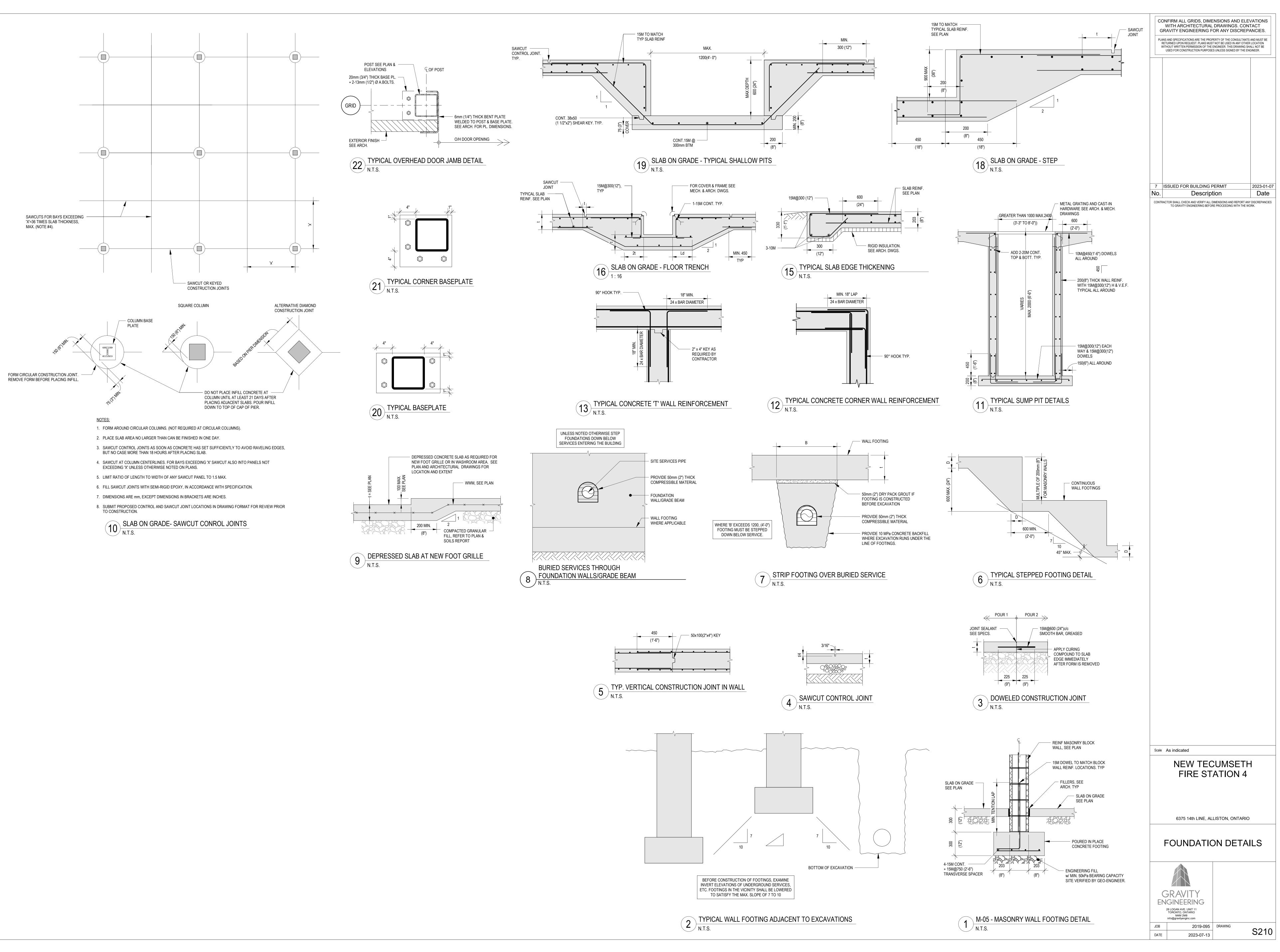
   PREPARED BY SIRATI & PARTNERS CONSULTANTS LTD.
- 2. ALL WALL FOOTINGS TO HAVE 300mm PROJECTIONS AND BE 300mm THICK. U.N.O
- 3. FOUNDATION WALLS ARE SHOWN THUS ON PLAN.
- 4. LOWER FOOTINGS BELOW ALL INCOMING SERVICES. ALSO SEE TYPICAL DETAIL DRAWING. SEE MECH/ELEC.
- 5. S.F.U. DENOTES STEP FOOTING UP. SEE DETAILS ON TYPICAL DETAILS DRAWING.
- ALL FOOTING EXCAVATIONS SHALL BE INSPECTED AND APPROVED BY A COMPETENT SOIL ENGINEER BEFORE PLACING CONCRETE.
- 7. CENTRE ALL BASE PLATES, PIERS, AND FOOTINGS UNDER COLUMN UNLESS NOTED OTHERWISE ON PLANS.
- 8. STRUCTURAL STEEL IN CONTACT WITH EARTH SHALL BE PROTECTED WITH MINIMUM 75mm OF CONCRETE OR EQUIVALENT WATERPROOFING.
- 9. PROVIDE SAWCUTS IN SLAB ON GRADE 3mm WIDE x 25mm DEEP ALONG COLUMN LINES AND AT MAXIMUM 36 TIMES THE SLAB THICKNESS. INSTALL IN ACCORDANCE WITH CSA A23.1 RECOMMENDATIONS. ALSO SEE C.J. ON PLAN.
- 10. WHERE FLOOR DEPRESSIONS OCCUR, MAINTAIN THE SLAB THICKNESS SPECIFIED ON THE FOUNDATION PLANS. SEE ARCH. DRAWINGS FOR LOCATIONS AND AREAS.
- 11. FOR COLUMN, PIER, AND FOOTING SCHEDULES, SEE SCHEDULE DRAWING.
- 12. FINISHED GROUND FLOOR ELEVATION 221.75m.
- 13. LOWER UNDERSIDE OF BASE PLATE AT RAIN WATER LEADER (RWL) LOCATIONS INDICATED THUS ON PLAN: -1'-6" (-460mm) BELOW TOP OF SLAB
- 14. ALL PILES SHALL EXTEND INTO COMPETENT SOIL STRATUM AS PER THE GEOTECHNICAL REPORT
- 15. HELICAL PILES SHALL BE DESIGNED AND INSTALLED BY A QUALIFIED HELICAL PILE CONTRACTOR WITH AT LEAST 5 YEARS EXPERIENCE MANUFACTURING AND INSTALLING HELICAL PILES
- 16. DESIGN DRAWINGS SEALED BY A PROFESSIONAL ENGINEER STATING THE PROPOSED HELICAL PILE AND ASSOCIATED GEOTECHNICAL RESISTANCE FACTOR SHALL BE SUBMITTED
- 17. MINIMUM COMPRESSIVE LOAD CAPACITY PER PILE OF 370 kN (SLS) AND 500 kN (ULS) AS PER GEOTECHNICAL REPORT RECOMMENDATIONS. CONTRACTOR TO DESIGN MINIMUM CAPACITY OF THE GROUP OF PILES PER PILE CAP LOADING SCHEDULE.
- MINIMUM TENSILE UPLIFT CAPACITY PER PILE OF 135 kN (SLS) AND 150 kN (ULS) AS PER GEOTECHNICAL REPORT RECOMMENDATIONS. CONTRACTOR TO DESIGN UPLIFT CAPACITY OF THE GROUP OF PILES AT BRACING BAY AS SHOWN ON THE DRAWINGS.
- ALL HELICAL PILE SHAFTS AND HELICES SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 AFTER FABRICATION
- 20. CEMENT FOR HELICAL PULL DOWN MICROPILE GROUT SHALL BE TYPE G PORTLAND CEMENT CONFORMING TO CSA A3000 CEMENTITIOUS MATERIAL COMPENDIUM.
- 21. CENTERLINE OF HELICAL PILE SHALL NOT BE MORE THAN 75 mm (3 INCHES) FROM INDICATED LOCATION ON PLAN.
- 22. HELICAL PILE PLUMBNESS SHALL BE WITHIN 2 DEGREES OF DESIGN ALIGNMENT
- 23. TOP ELEVATION OF HELICAL PILE SHALL BE WITHIN +/- 50 mm (2 INCHES) OF THE DESIGN VERTICAL ELEVATION
- 24. HOT ROLLED ROUND-CORNER-SQUARE BARS MEETING THE DIMENSIONAL AND WORKMANSHIP REQUIREMENTS OF ASTM A29
- 25. STRUCTURAL STEEL TUBE OR PIPE, WELDED OR SEAMLESS, IN COMPLIANCE WITH ASTM 500 OR A618

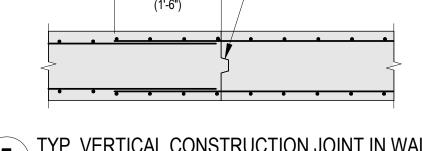
#### CONCRETE BLOCK WALL REINFORCEMENT:

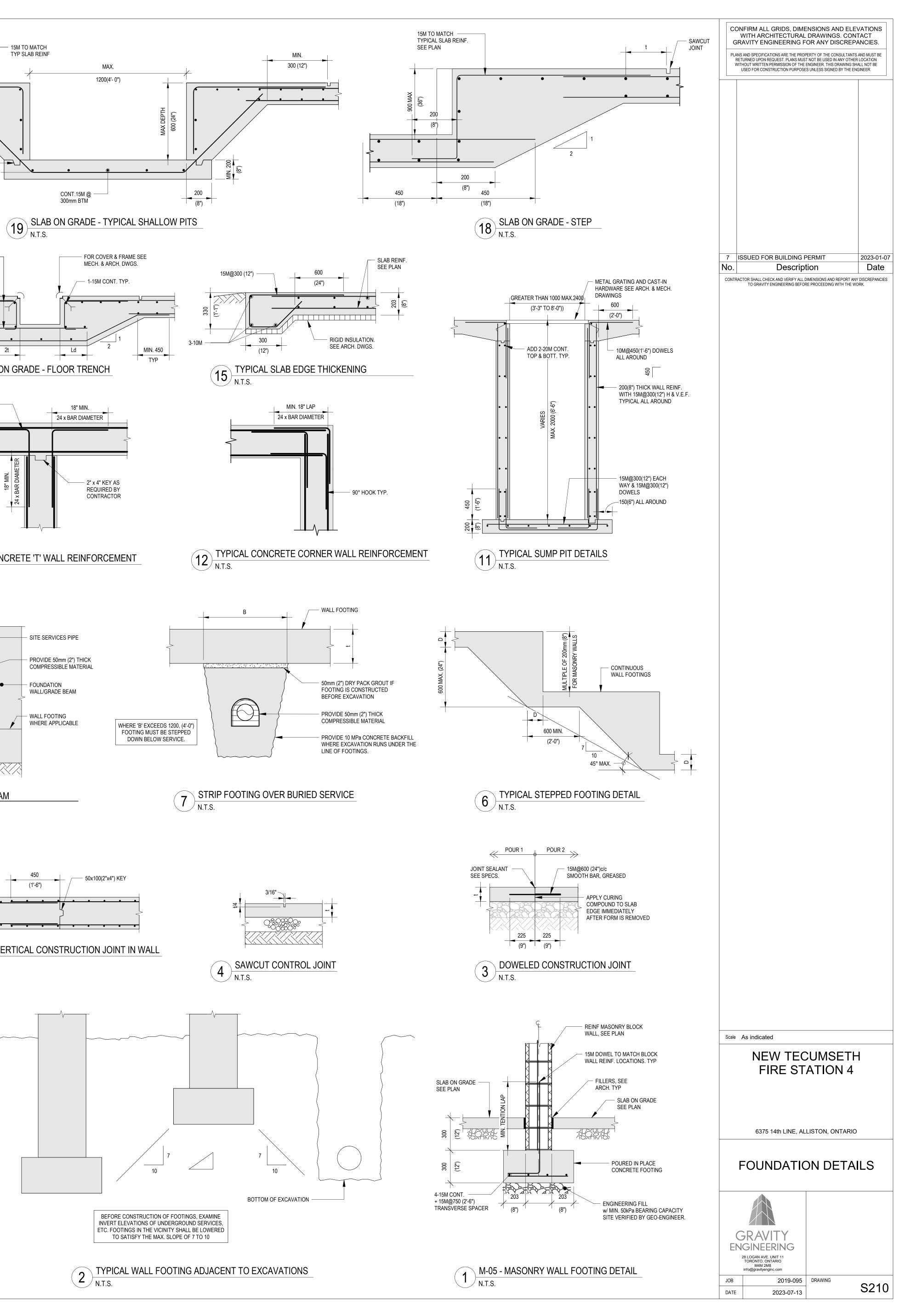
SYMBOL	THICKNESS (ACTUAL)	DESCRIPTION	REINFORCEMENT
	190mm	INTERIOR NON-LOADING BEARING PARTITION	15M@800mm o/c w/ DOWELS INTO GRADE BEAM OR FOOTING.
	240mm	INTERIOR NON-LOADING BEARING PARTITION	20M@800mm o/c w/ DOWELS INTO GRADE BEAM OR FOOTING.

NOTE: CONFIRM WITH ARCH DWGs FOR WALL SCHEDULE AND FINISHES.

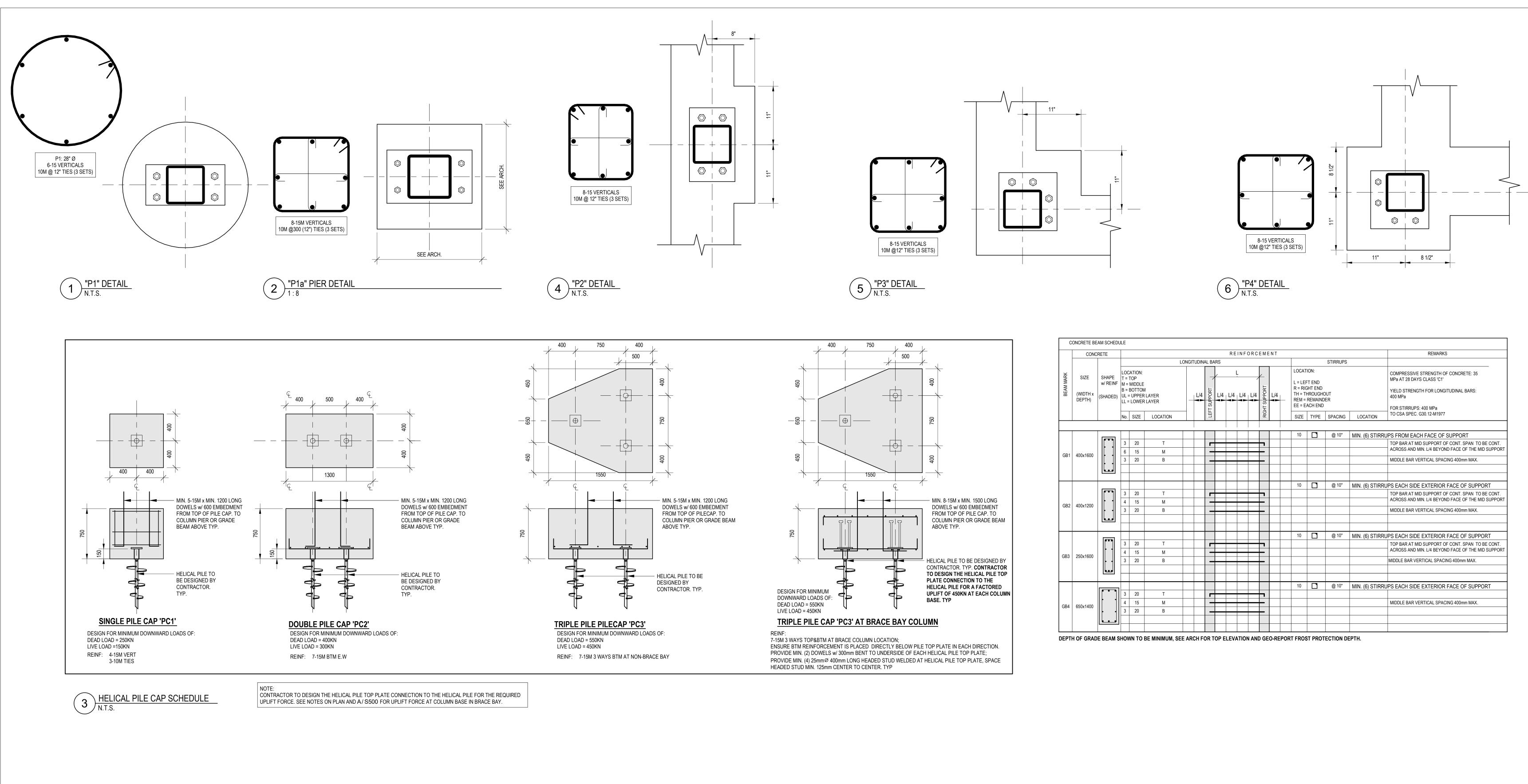




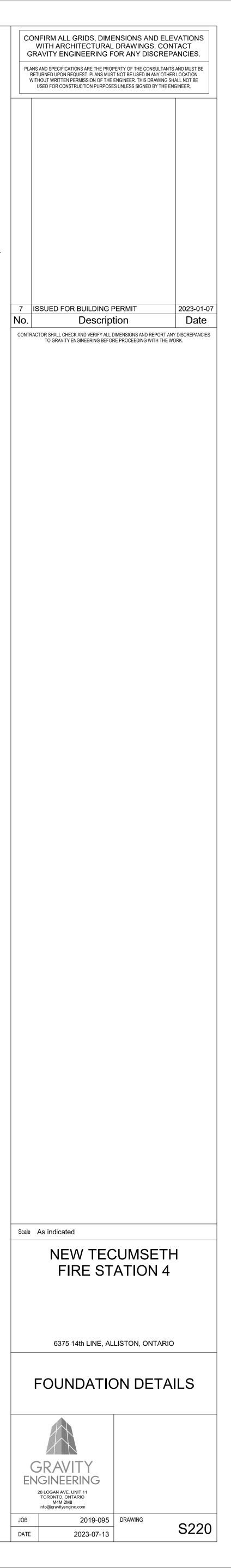


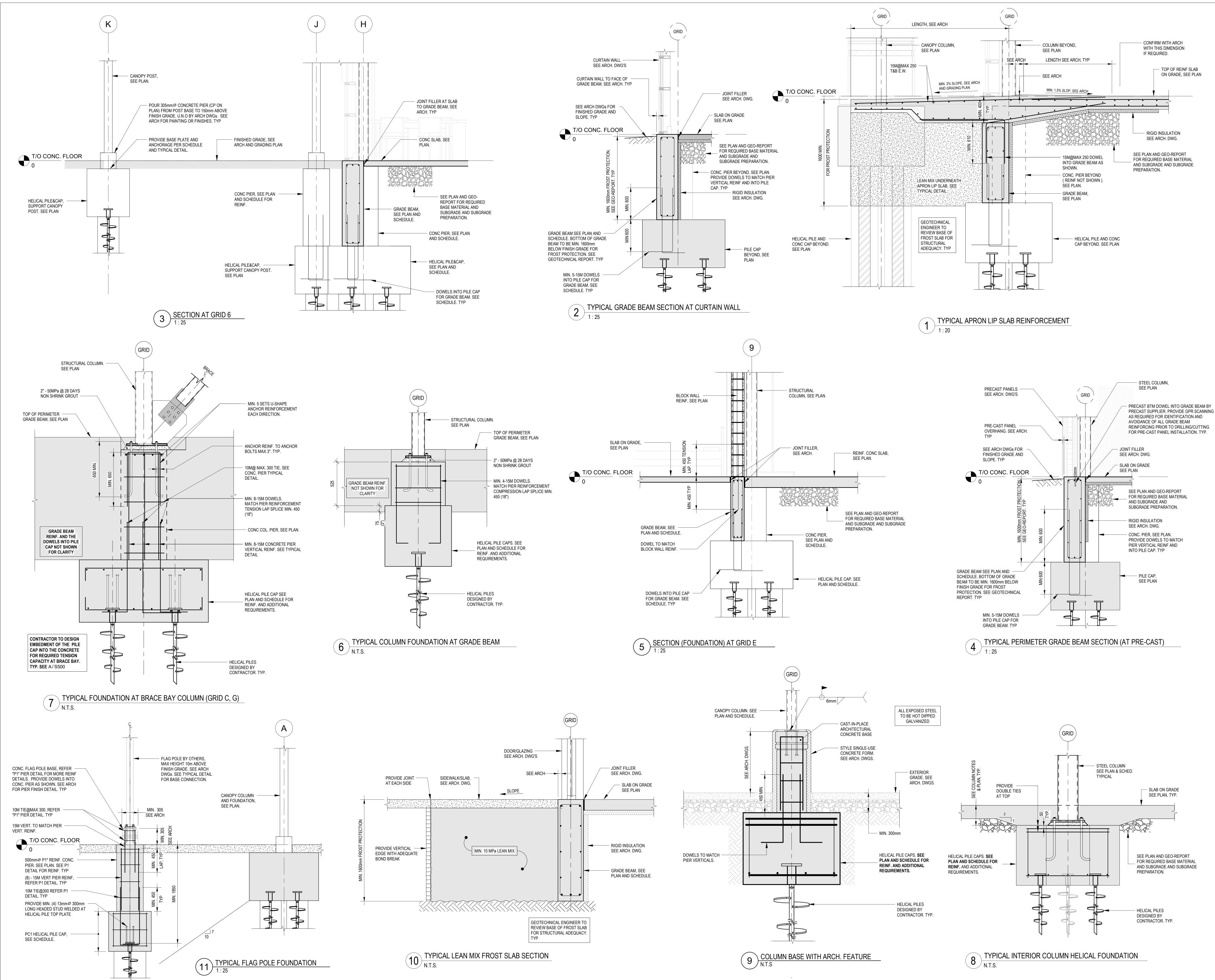


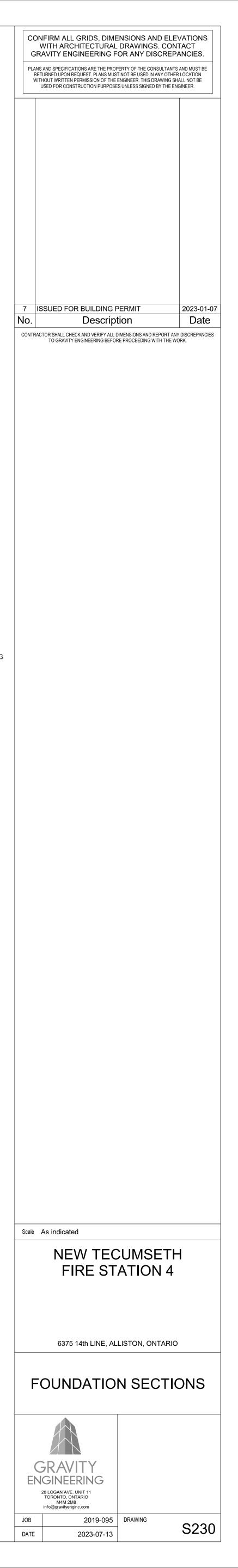


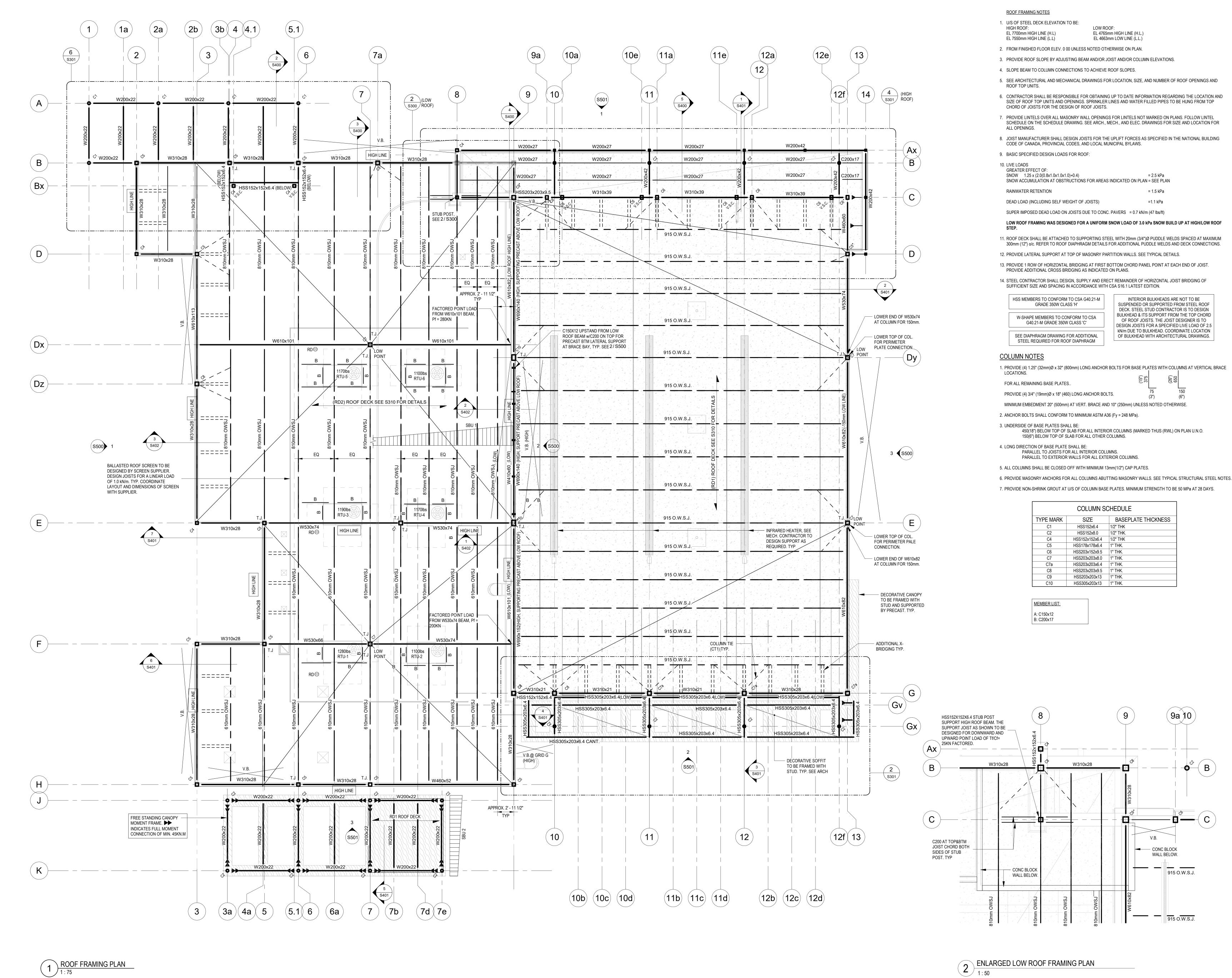


	CONC	RETE		REINFORCEMENT													REMARKS		
				LONGITUDINAL BARS STIRRUPS															
BEAM MARK	SIZE (WIDTH x DEPTH)	SHAPE w/ REINF (SHADED)	T = T M = N B = B UL = LL = L	ATION: OP MIDDLE OTTOM UPPER LOWER SIZE	LAYER		L/4		_/4		4   L/4		L/4		TH = TI REM =			LOCATION	COMPRESSIVE STRENGTH OF CONCRETE: 35 MPa AT 28 DAYS CLASS 'C1' YIELD STRENGTH FOR LONGITUDINAL BARS: 400 MPa FOR STIRRUPS: 400 MPa TO CSA SPEC. G30.12-M1977
															10		@ 10"	MIN. (6) STIRRU	PS FROM EACH FACE OF SUPPORT
0.5.4	100 1000		3	20 15	Т М														TOP BAR AT MID SUPPORT OF CONT. SPAN TO BE CONT ACROSS AND MIN. L/4 BEYOND FACE OF THE MID SUPPO
GB1	400x1600		3	20	В			_				-							MIDDLE BAR VERTICAL SPACING 400mm MAX.
		لععا																	
															10		@ 10"	MIN. (6) STIRRU	PS EACH SIDE EXTERIOR FACE OF SUPPORT
			3	20 15	T														TOP BAR AT MID SUPPORT OF CONT. SPAN TO BE CONT ACROSS AND MIN. L/4 BEYOND FACE OF THE MID SUPPO
GB2	400x1200	•••	3	20	В			_				-							MIDDLE BAR VERTICAL SPACING 400mm MAX.
															40		0.40		
		٩٠٩	3	20	Т										10		@ 10"	MIN. (6) STIRRU	PS EACH SIDE EXTERIOR FACE OF SUPPORT
GB3	250x1600		4	15	M														TOP BAR AT MID SUPPORT OF CONT. SPAN TO BE CONT ACROSS AND MIN. L/4 BEYOND FACE OF THE MID SUPPO
000	23021000		3	20	В			_				-							MIDDLE BAR VERTICAL SPACING 400mm MAX.
			3	20	Т										10		@ 10"	MIN. (6) STIRRU	PS EACH SIDE EXTERIOR FACE OF SUPPORT
GB4	650x1400		4	15	М			_				-							MIDDLE BAR VERTICAL SPACING 400mm MAX.
	50071700	• •	3	20	В			_				<b>—</b>							
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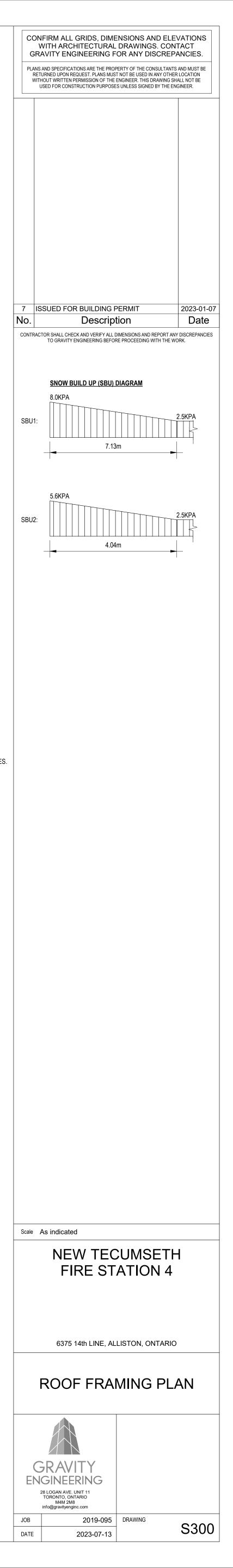


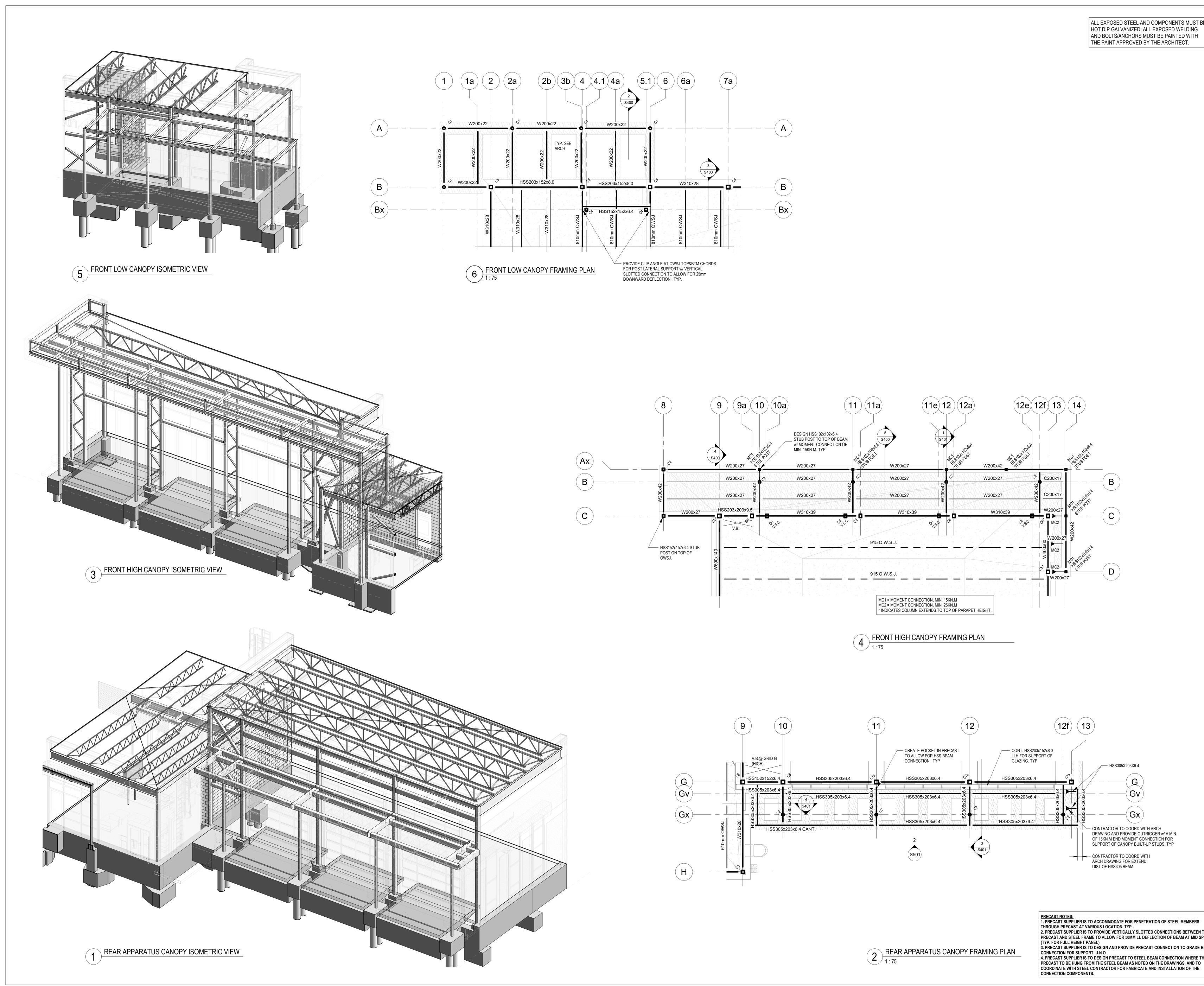






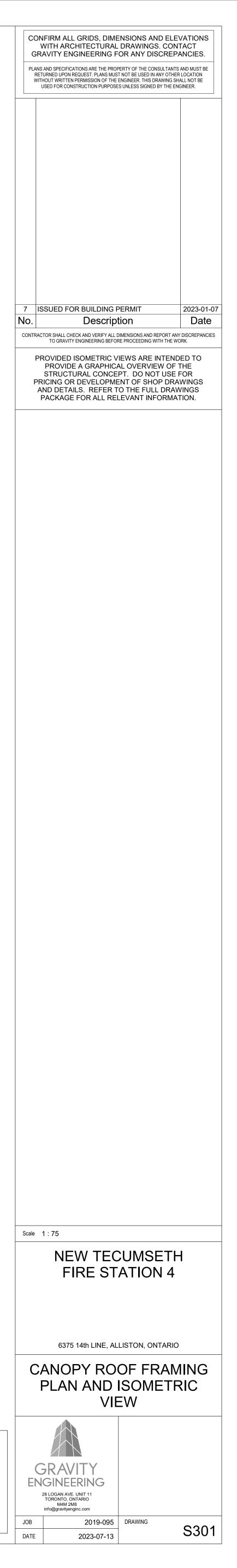
- SCHEDULE ON THE SCHEDULE DRAWING. SEE ARCH., MECH., AND ELEC. DRAWINGS FOR SIZE AND LOCATION FOR
- 6. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING UP TO DATE INFORMATION REGARDING THE LOCATION AND SIZE OF ROOF TOP UNITS AND OPENINGS. SPRINKLER LINES AND WATER FILLED PIPES TO BE HUNG FROM TOP

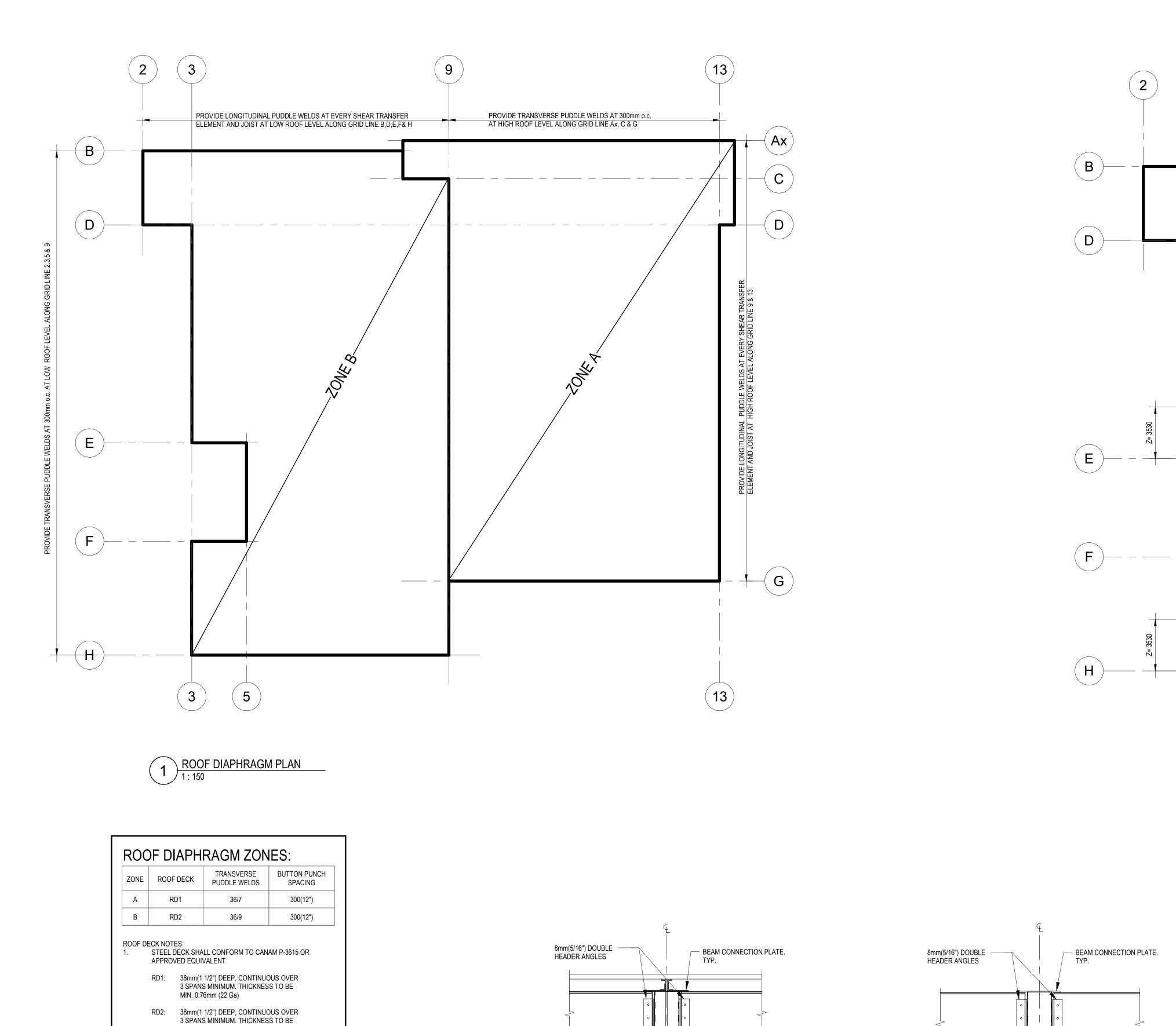


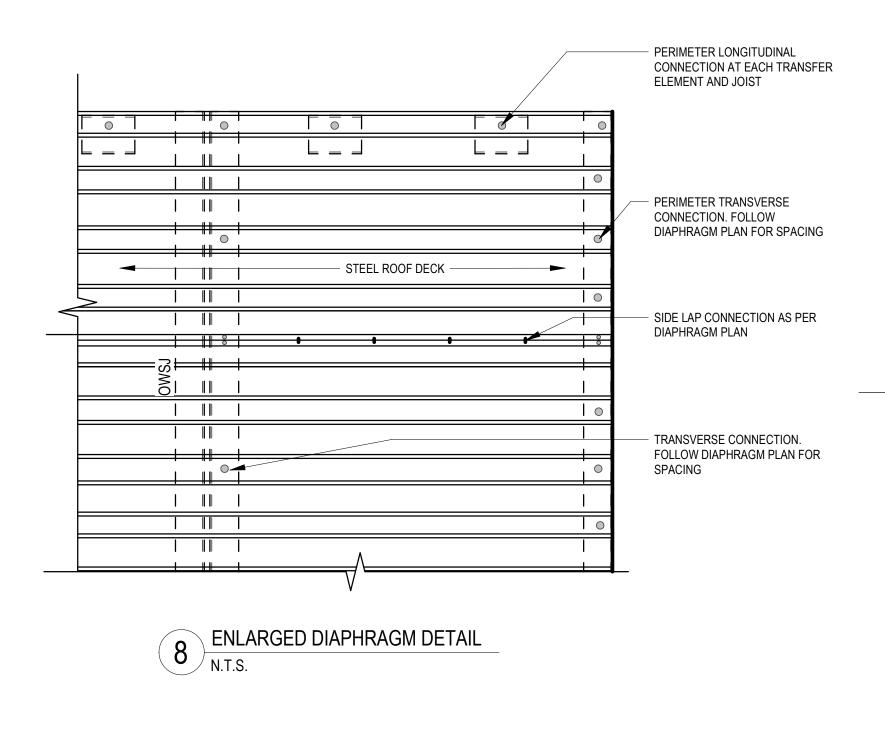


ALL EXPOSED STEEL AND COMPONENTS MUST BE HOT DIP GALVANIZED; ALL EXPOSED WELDING AND BOLTS/ANCHORS MUST BE PAINTED WITH

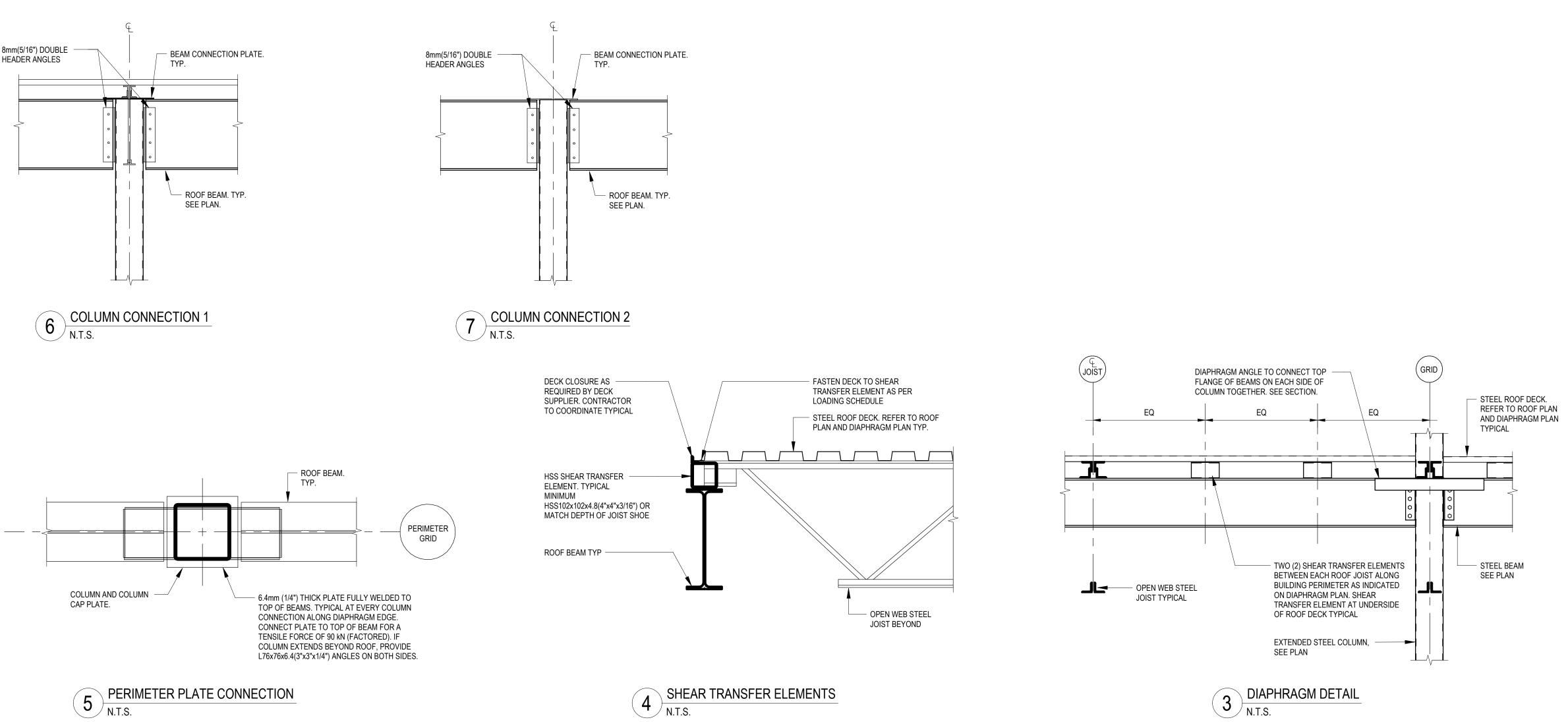
2. PRECAST SUPPLIER IS TO PROVIDE VERTICALLY SLOTTED CONNECTIONS BETWEEN THE PRECAST AND STEEL FRAME TO ALLOW FOR 50MM LL DEFLECTION OF BEAM AT MID SPAN. 3. PRECAST SUPPLIER IS TO DESIGN AND PROVIDE PRECAST CONNECTION TO GRADE BEAM 4. PRECAST SUPPLIER IS TO DESIGN PRECAST TO STEEL BEAM CONNECTION WHERE THE PRECAST TO BE HUNG FROM THE STEEL BEAM AS NOTED ON THE DRAWINGS, AND TO







MIN. 1.21mm (18Ga)



3

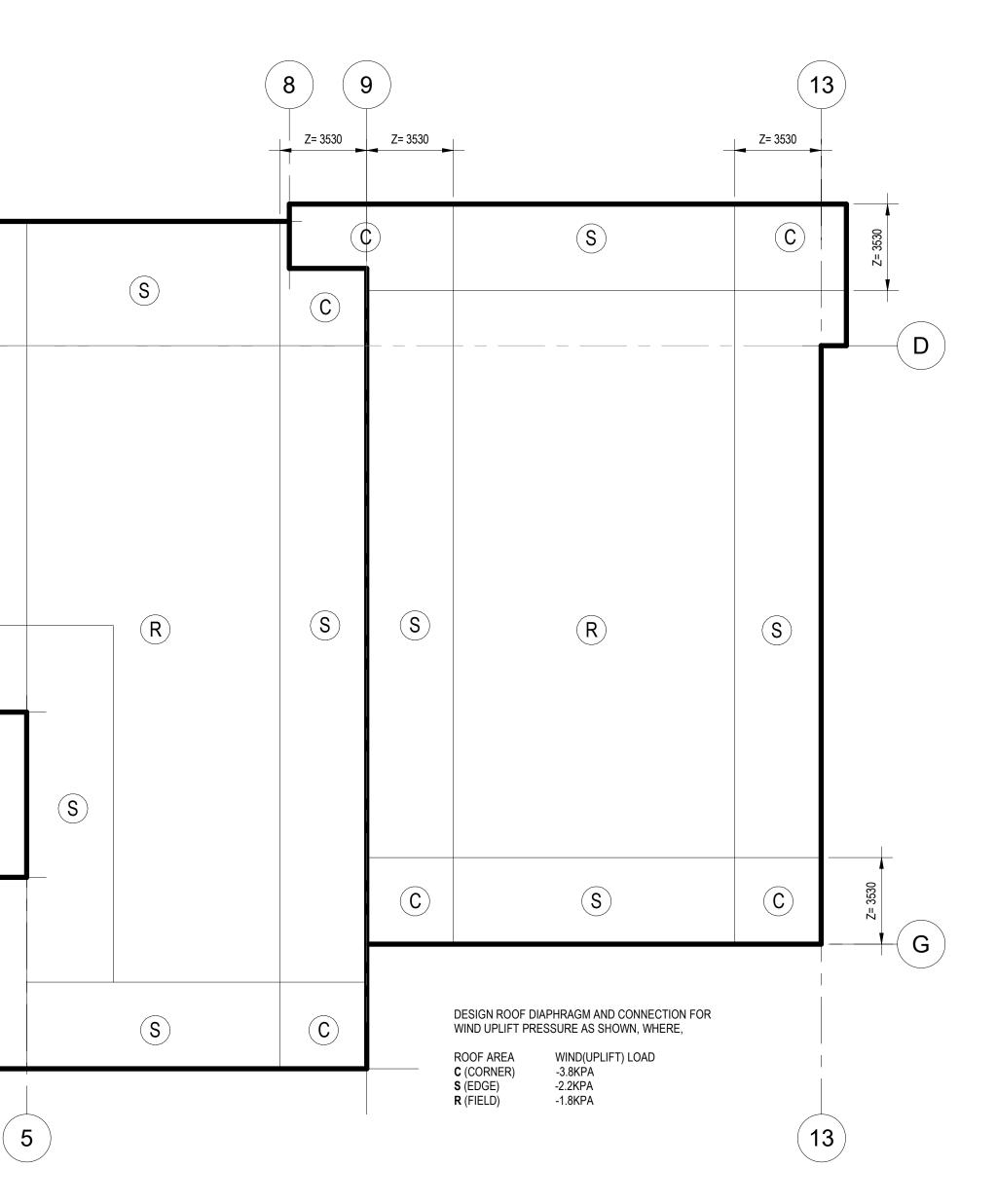
 $(\mathbf{C})$ 

S

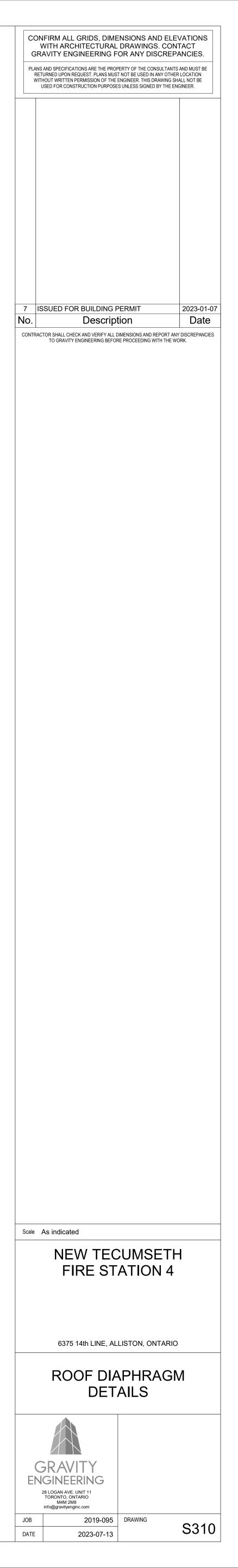
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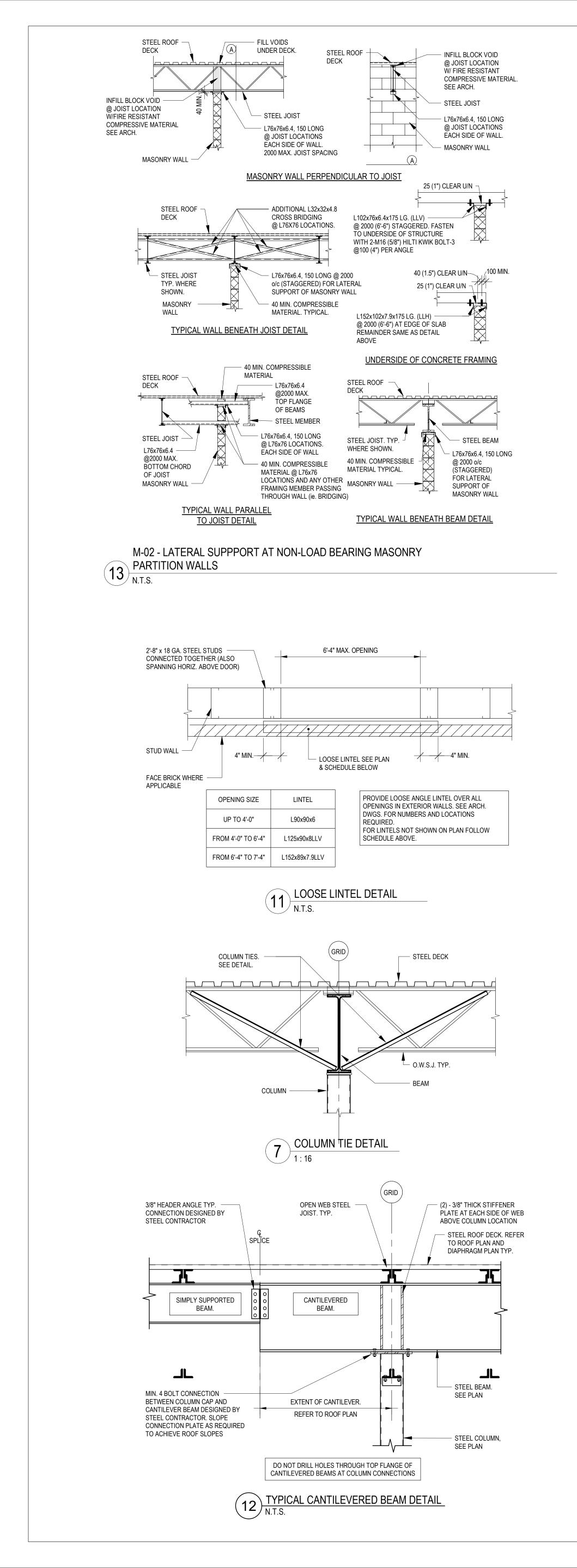
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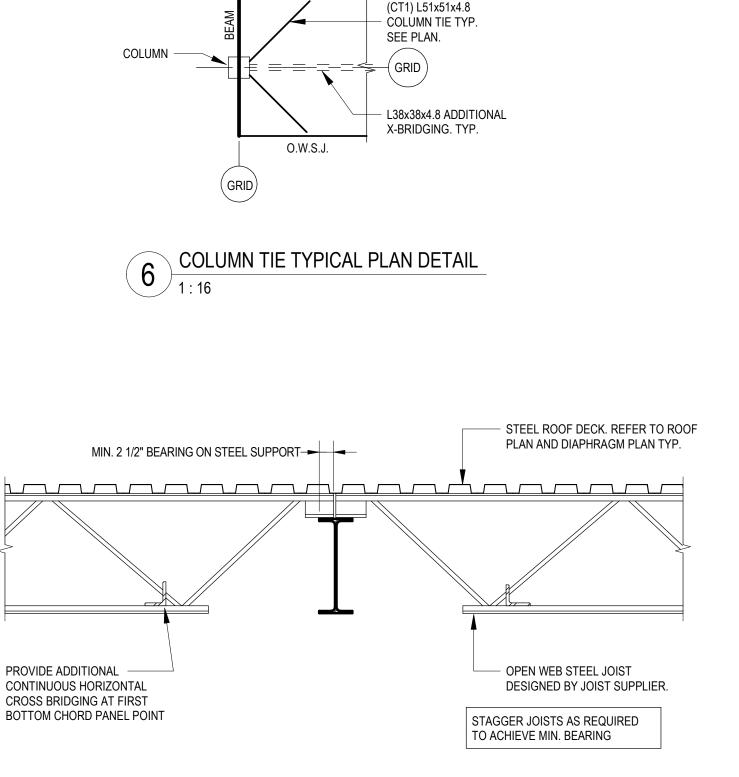
3



2 ROOF WIND UPLIFT PLAN







- STEEL STUD FRAMING.

PROVIDE BENT CLOSURE PLATE 18 GA

BOTT. STEEL TRACK TO BE DESIGNED BY

PRESSURE TREATED WOOD BLOCKING @

EVERY 2nd FLUTE. TYP. SEE ARCH.

UNDER STUD TRACK ATTACHED TO

DECK BY DECK INSTALLER.

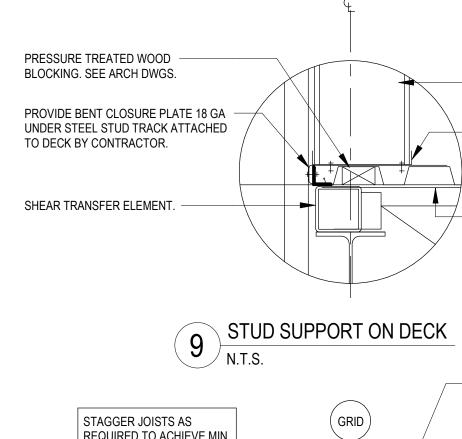
DECK CONTRACTOR. TYP.

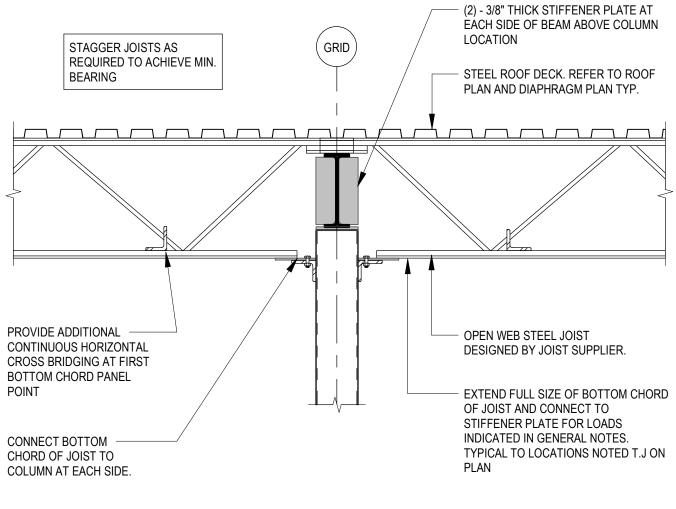
SEE ARCH.

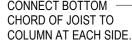
- ROOF DECK.

10 STUD SUPPORT ON DECK N.T.S.

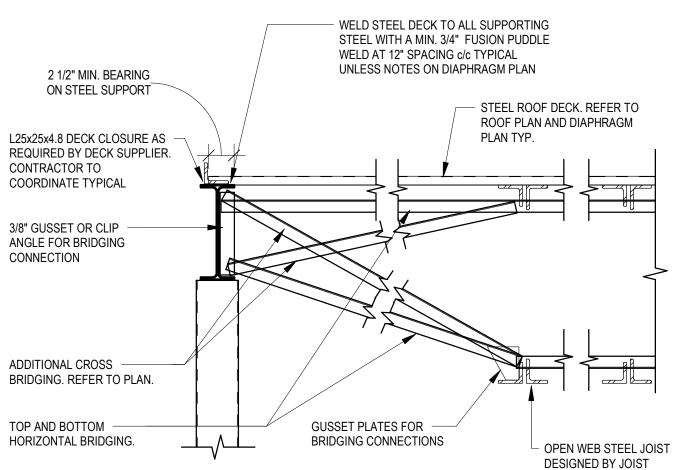
0.W.S.J.











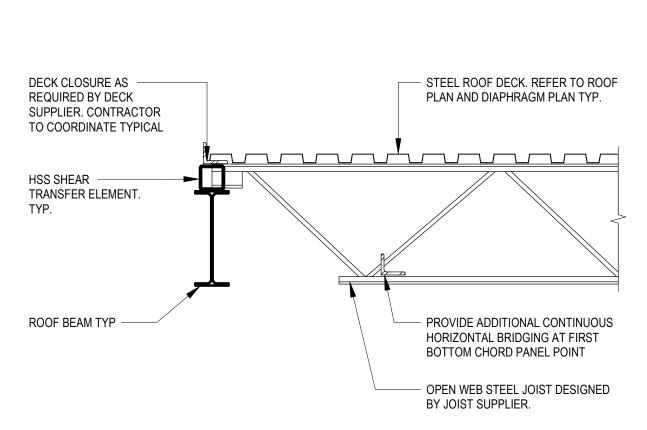
SUPPLIER.



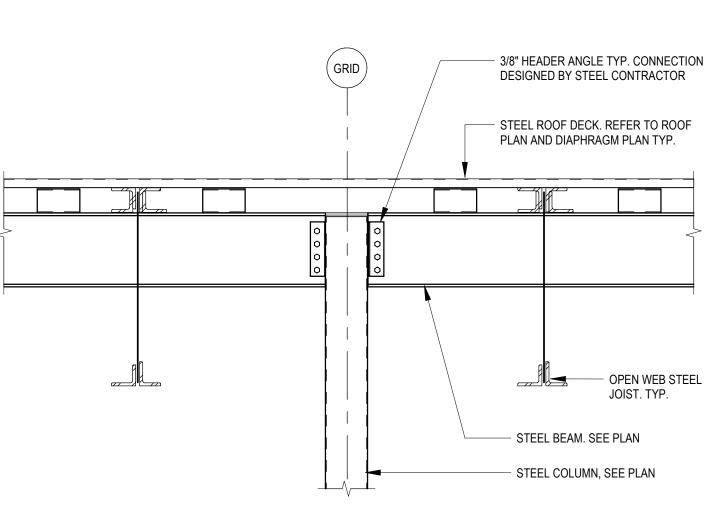
- ROOF DECK.

- STEEL STUD FRAMING. SEE ARCH. DWGS. – BOTT. STEEL TRACK. TYP.



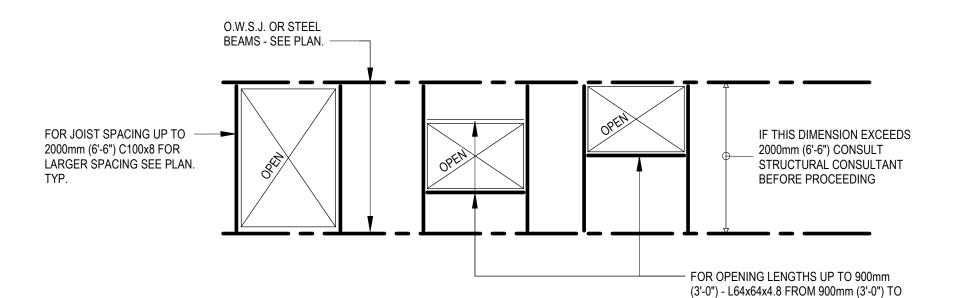




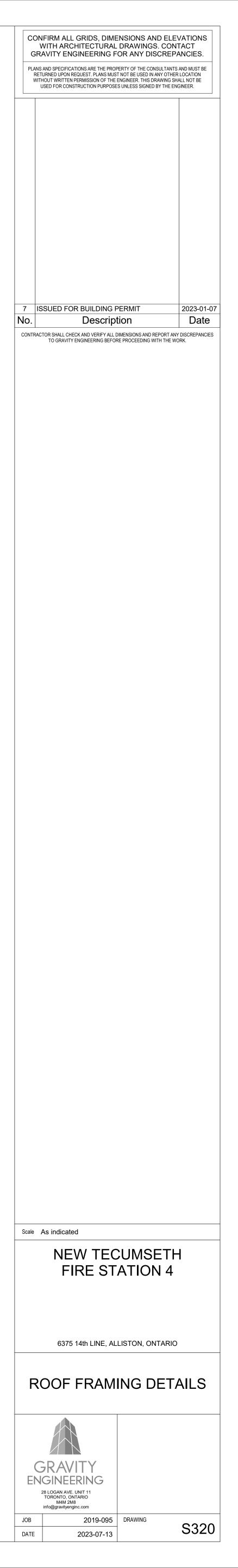


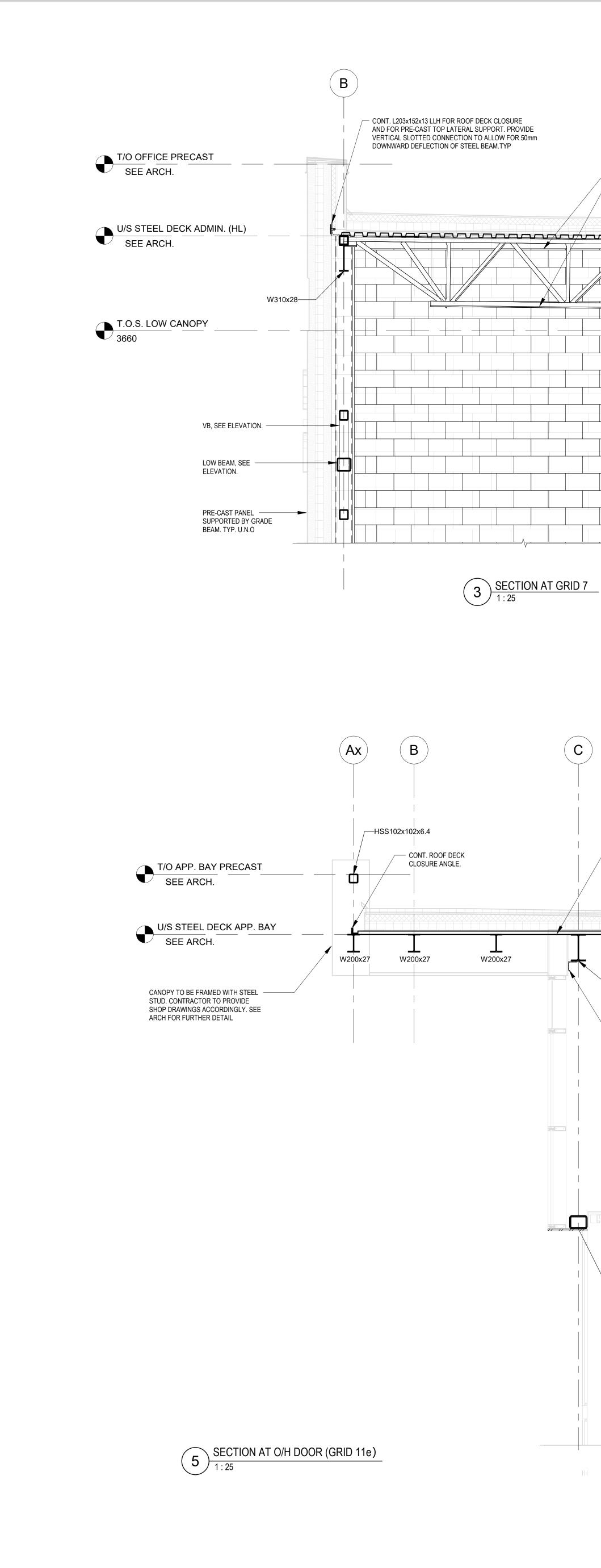
## TRIMMING AT OPENINGS IN DECK (8) TRIM N.T.S.

- 5. THE STRUCTURAL STEEL SUB-CONTRACTOR IS TO SUBMIT ERECTION DRAWINGS TO THE MECHANICAL ENGINEER AND/OR CONTRACTOR APPROVAL OF SIZE AND LOCATION OF OPENINGS FOR MECHANICAL UNITS.
- 3. O.W.S.J. MUST BE DESIGNED FOR ADDITIONAL LOADS FOR MECHANICAL UNITS. 4. IF ACTUAL LOCATIONS OR DETAILS VARY FROM THOSE SHOWN, THE STRUCTURAL CONSULTANT MUST BE INFORMED AND INSTRUCTIONS RECEIVED BEFORE PROCEEDING WITH THE WORK.
- MECHANICAL DRAWINGS. THE STRUCTURAL STEEL SUB-CONTRACTOR MUST CONFIRM ALL THESE DIMENSIONS AND SIZES WITH THE MECHANICAL CONTRACTOR.
- NOTES: 1. TOP OF ALL TRIMMING AT UNDERSIDE OF STEEL DECK UNLESS OTHERWISE NOTED. 2. LOCATION OF MECHANICAL UNITS AND OPENINGS THROUGH ROOF IS BASED ON INFORMATION SHOWN ON

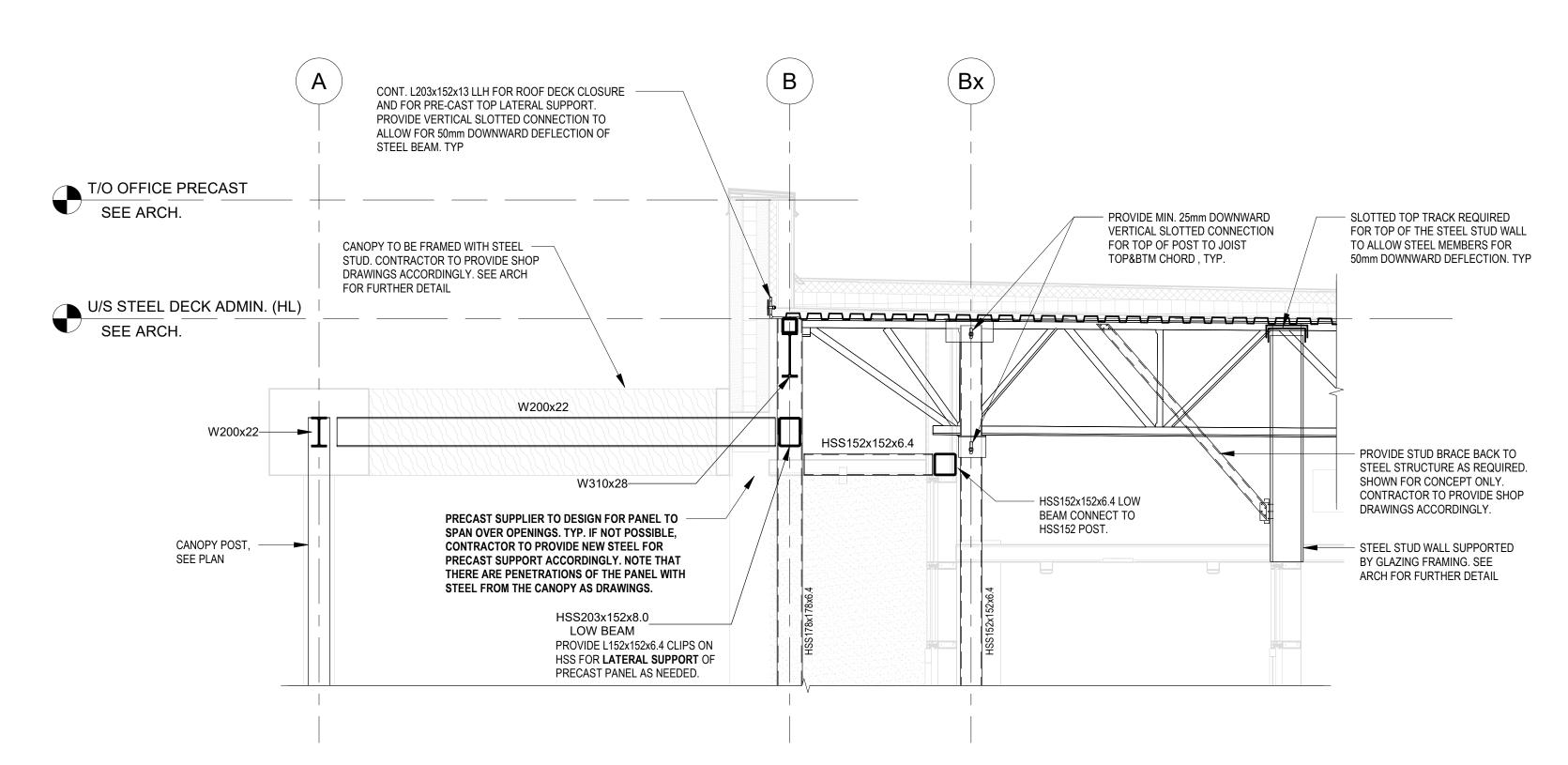


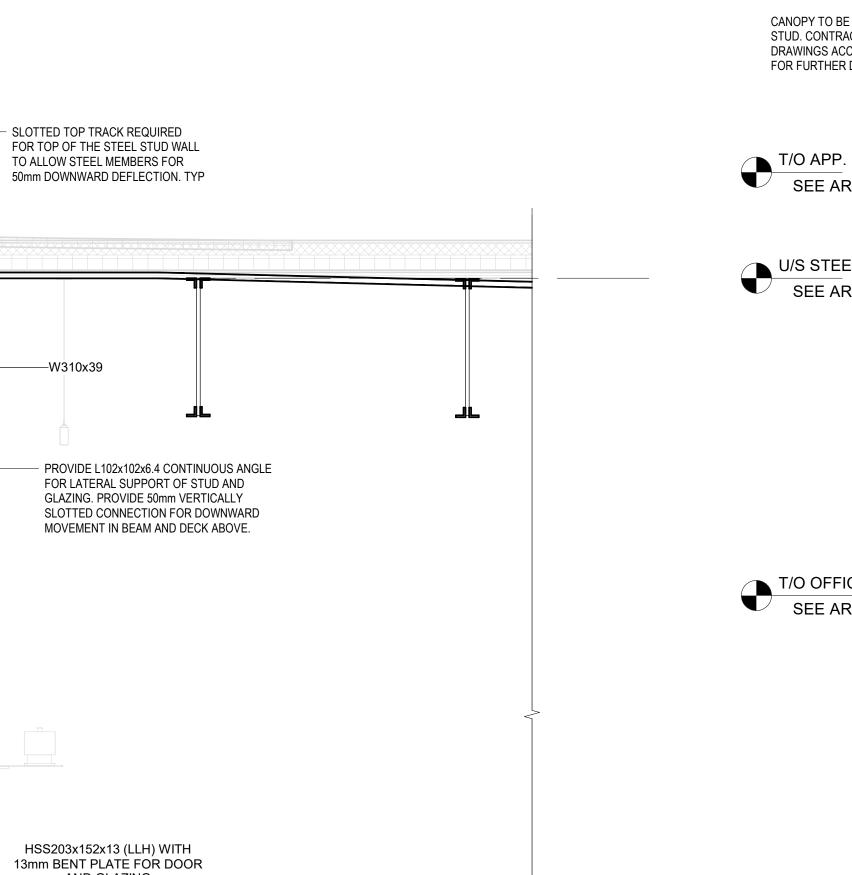
1800mm (6'-0") - C100x8

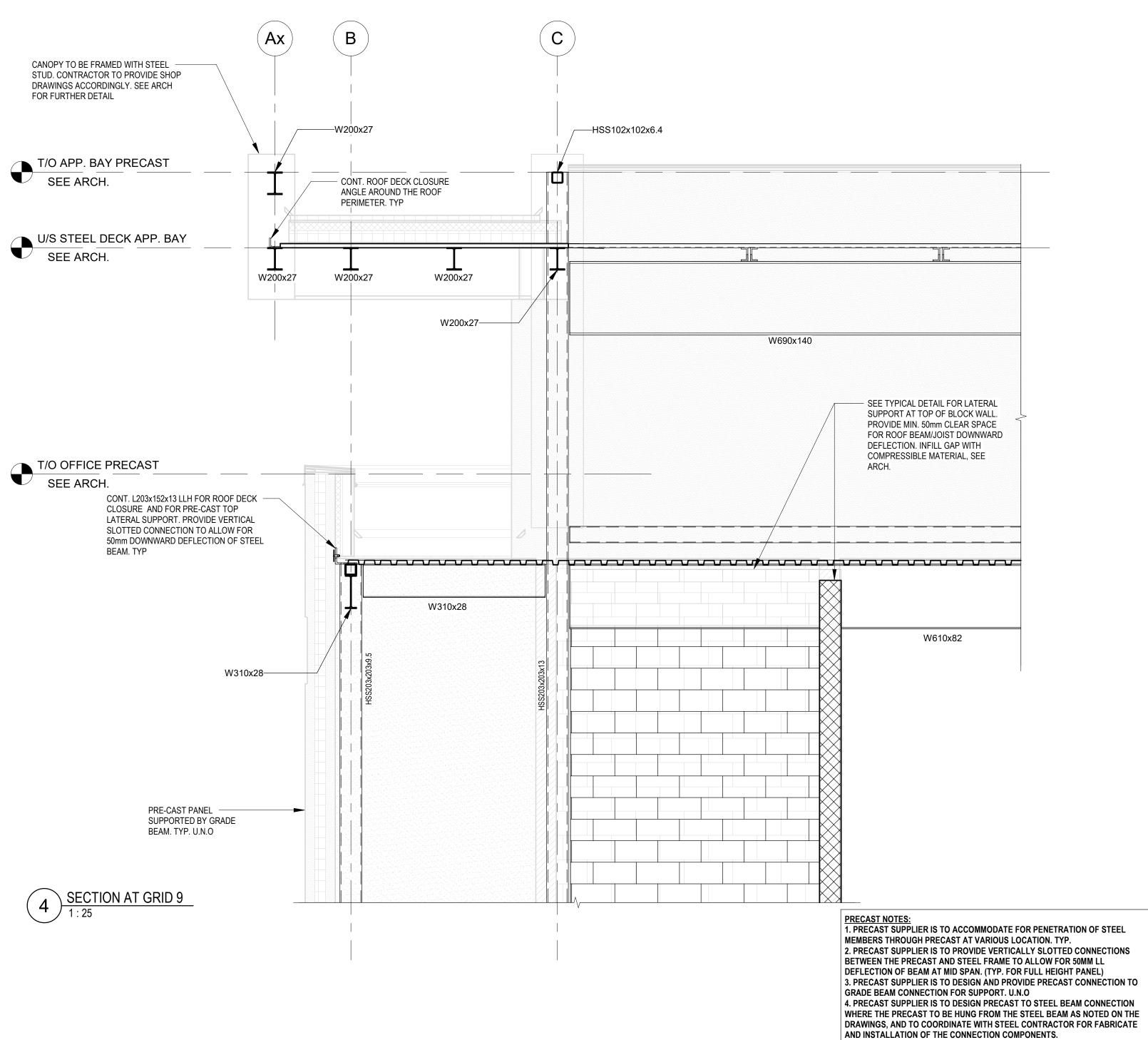




SEE TYPICAL DETAIL FOR LATERAL SUPPORT AT TOP OF BLOCK WALL AT OWSJ TOP&BTM CHORD. TYP. PROVIDE MIN. 50mm CLEAR SPACE FOR ROOF BEAM/JOIST DOWNWARD DEFLECTION. INFILL GAP WITH COMPRESSIBLE MATERIAL AS REQUIRED, SEE ARCH.



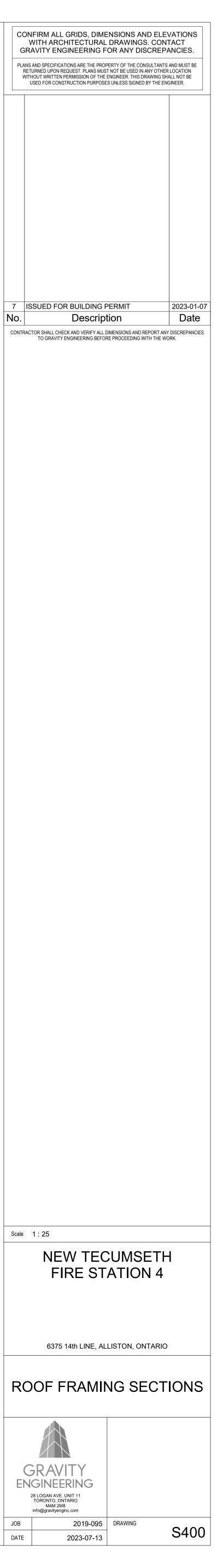


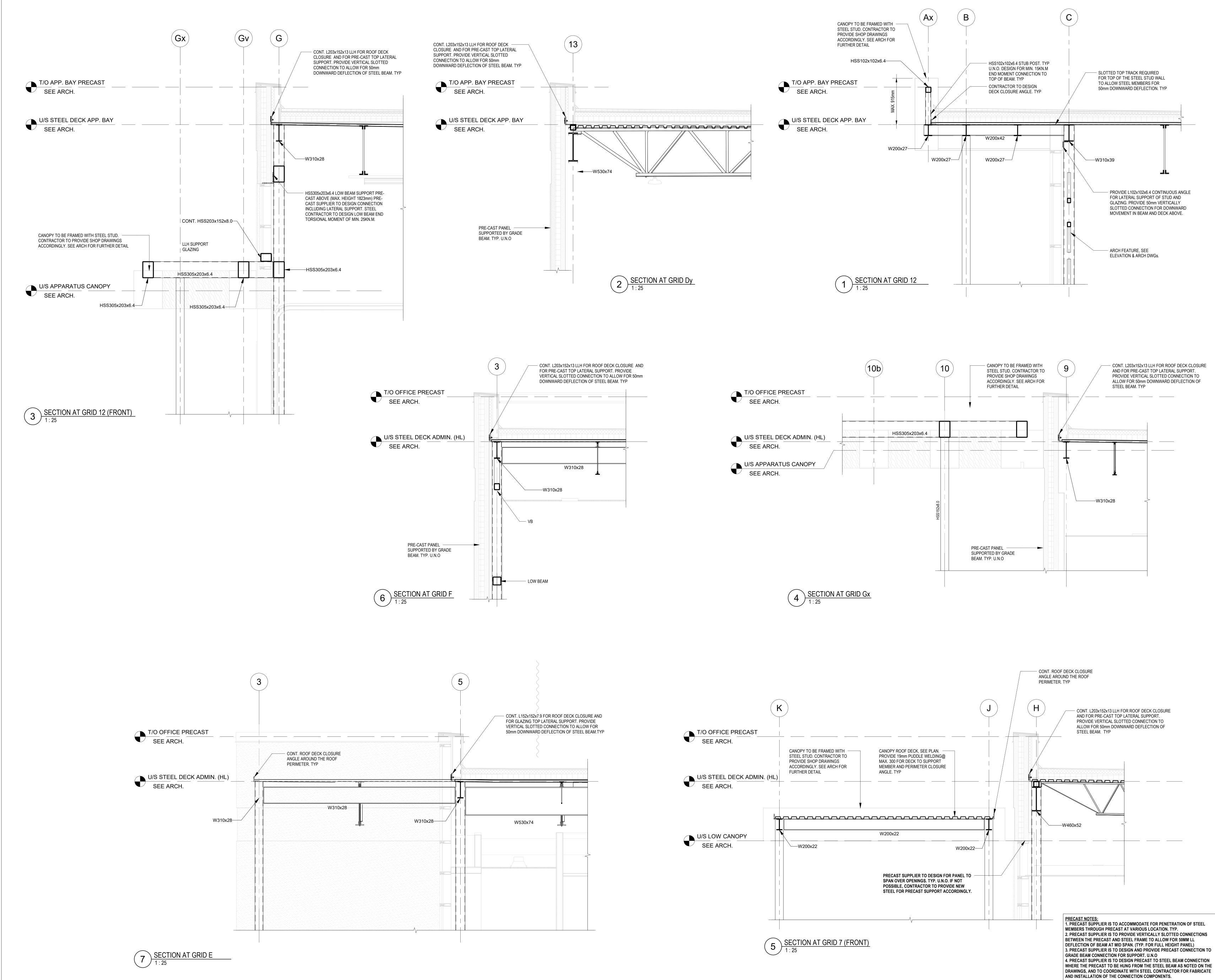


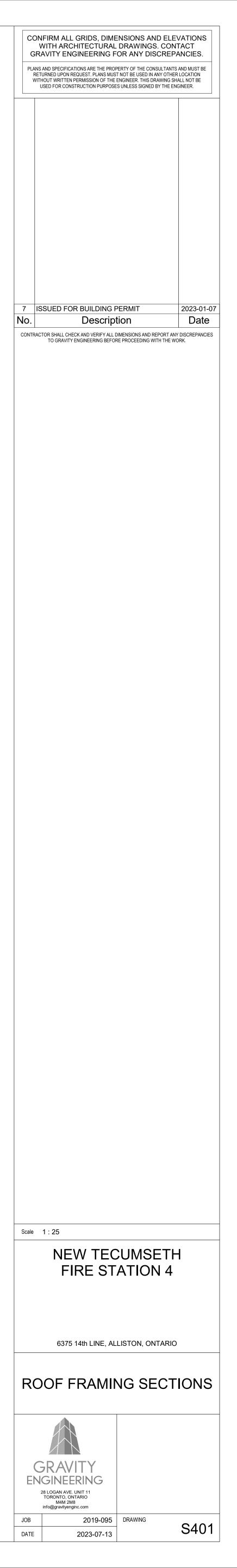
HSS203x152x13 (LLH) WITH 13mm BENT PLATE FOR DOOR — AND GLAZING SUPPORT.COORD. w/ ARCH DWGs FOR DETAIL.

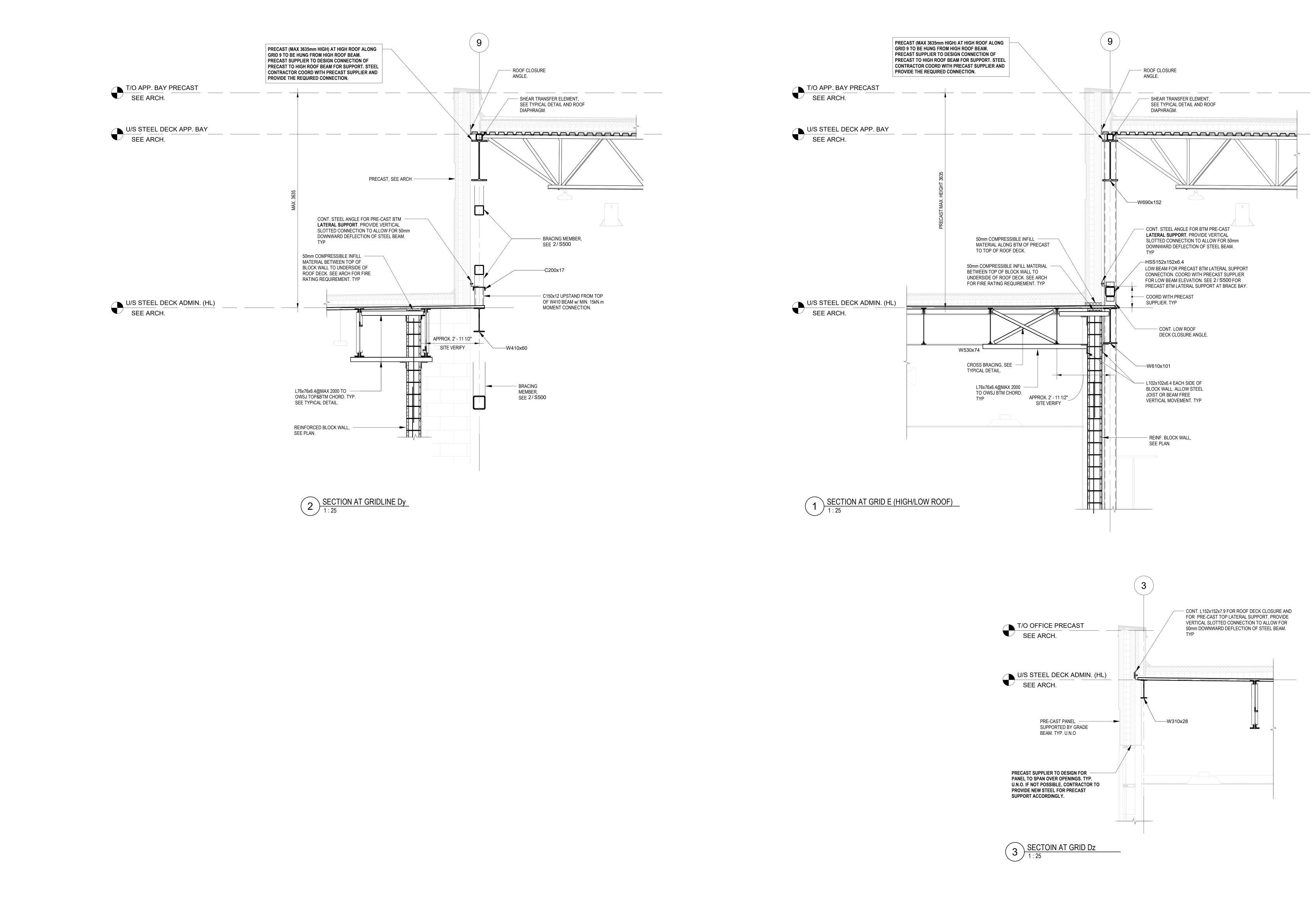
—W310x39

2 SECTION AT GRID 5.1

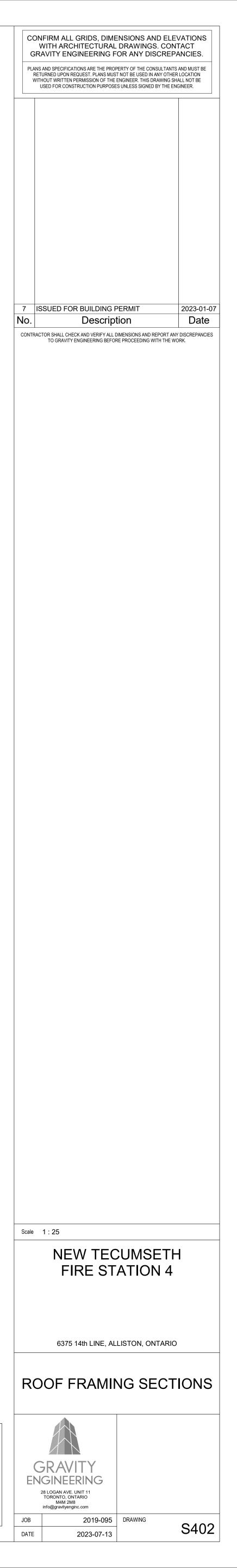


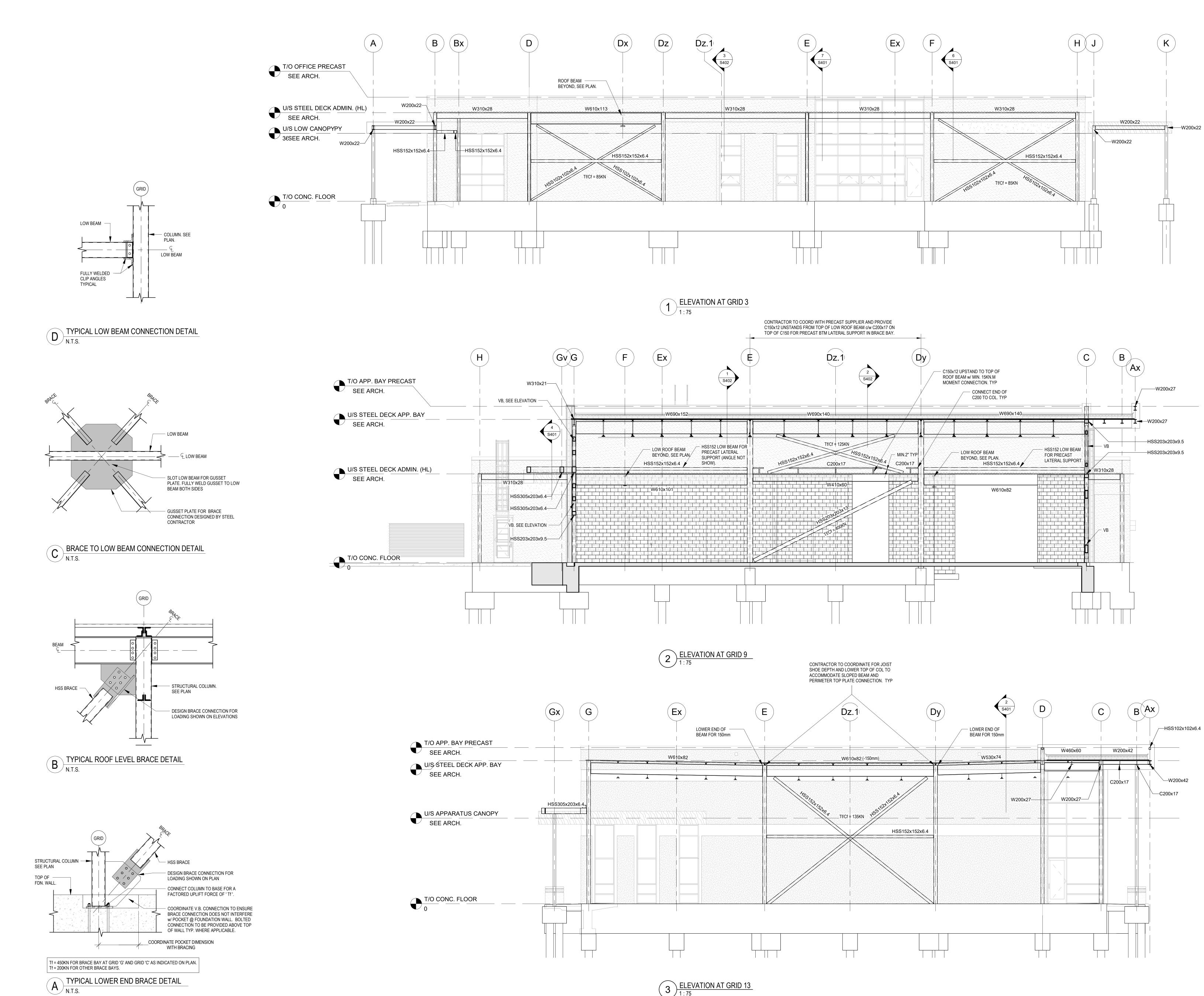




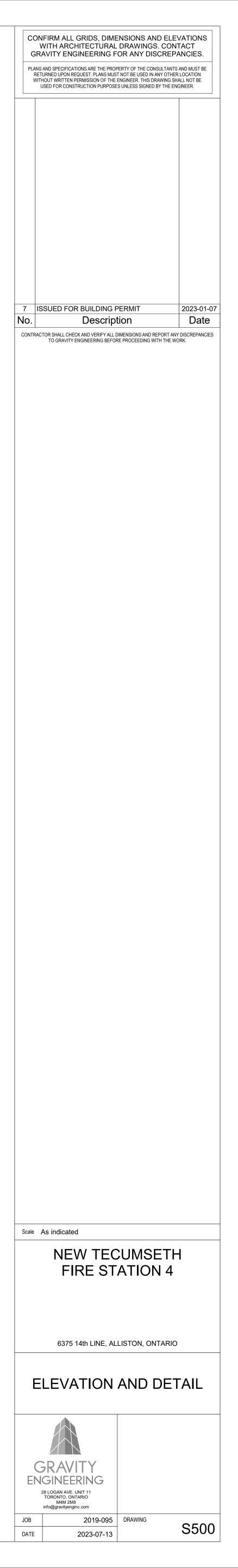


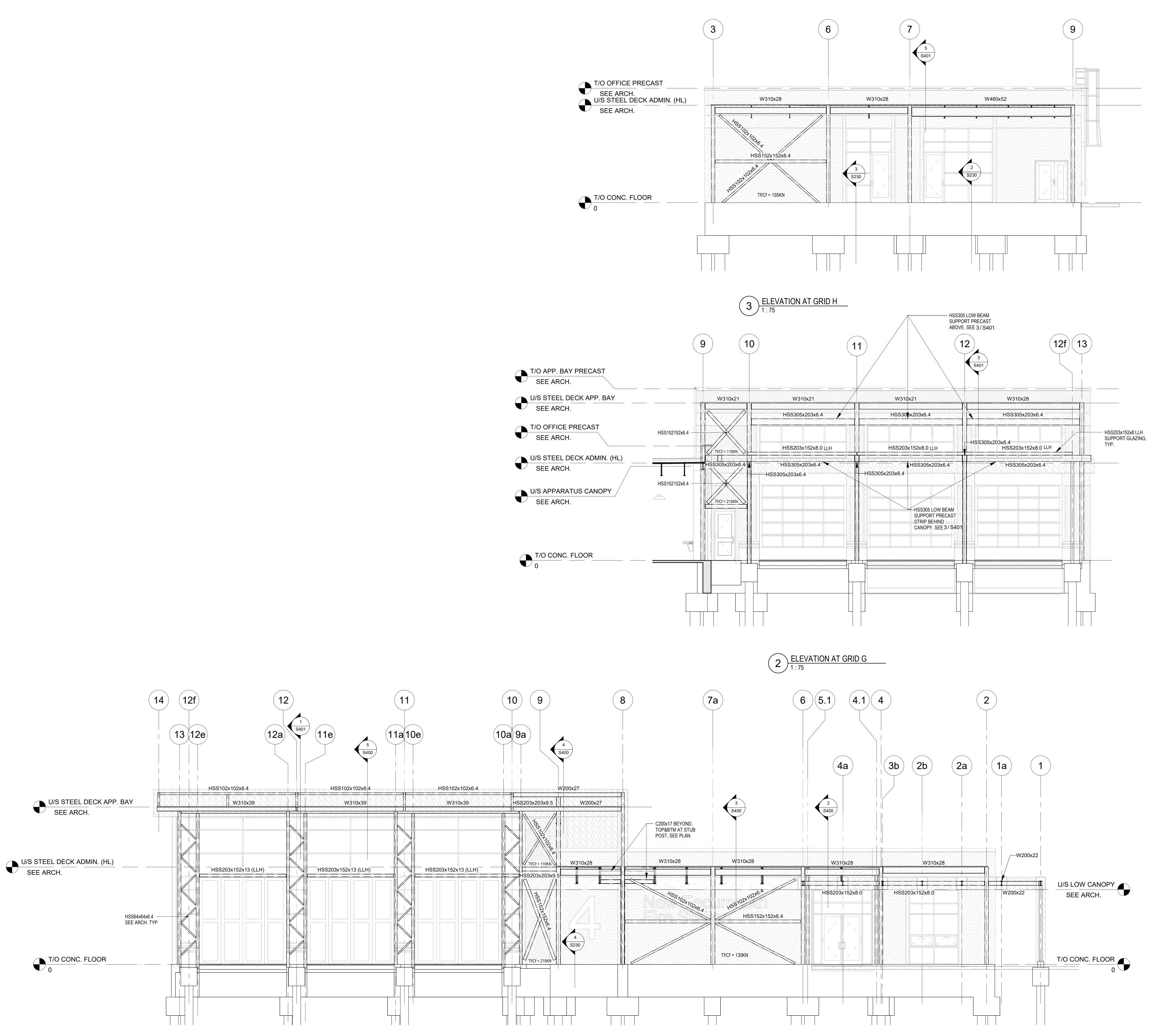
PRECAST NOTES: 1. PRECAST SUPPLIER IS TO ACCOMMODATE FOR PENETRATION OF STEEL MEMBERS THROUGH PRECAST AT VARIOUS LOCATION. TYP. 2. PRECAST SUPPLIER IS TO PROVIDE VERTICALLY SLOTTED CONNECTIONS BETWEEN THE PRECAST AND STEEL FRAME TO ALLOW FOR 50MM LL DEFLECTION OF BEAM AT MID SPAN. (TYP. FOR FULL HEIGHT PANEL) 3. PRECAST SUPPLIER IS TO DESIGN AND PROVIDE PRECAST CONNECTION TO GRADE BEAM CONNECTION FOR SUPPORT. U.N.O 4. PRECAST SUPPLIER IS TO DESIGN PRECAST TO STEEL BEAM CONNECTION WHERE THE PRECAST TO BE HUNG FROM THE STEEL BEAM AS NOTED ON THE DRAWINGS, AND TO COORDINATE WITH STEEL CONTRACTOR FOR FABRICATE AND INSTALLATION OF THE CONNECTION COMPONENTS.

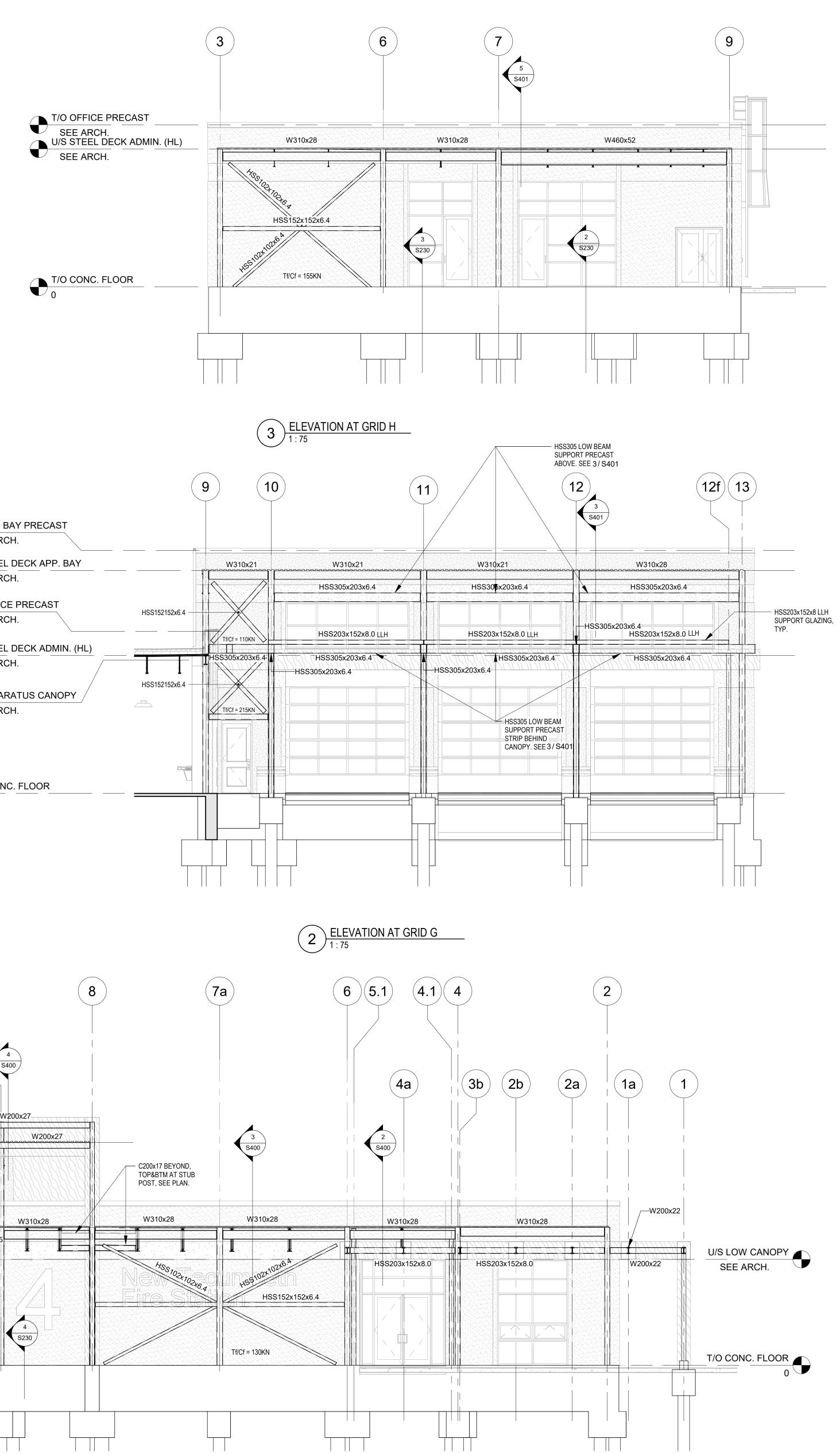


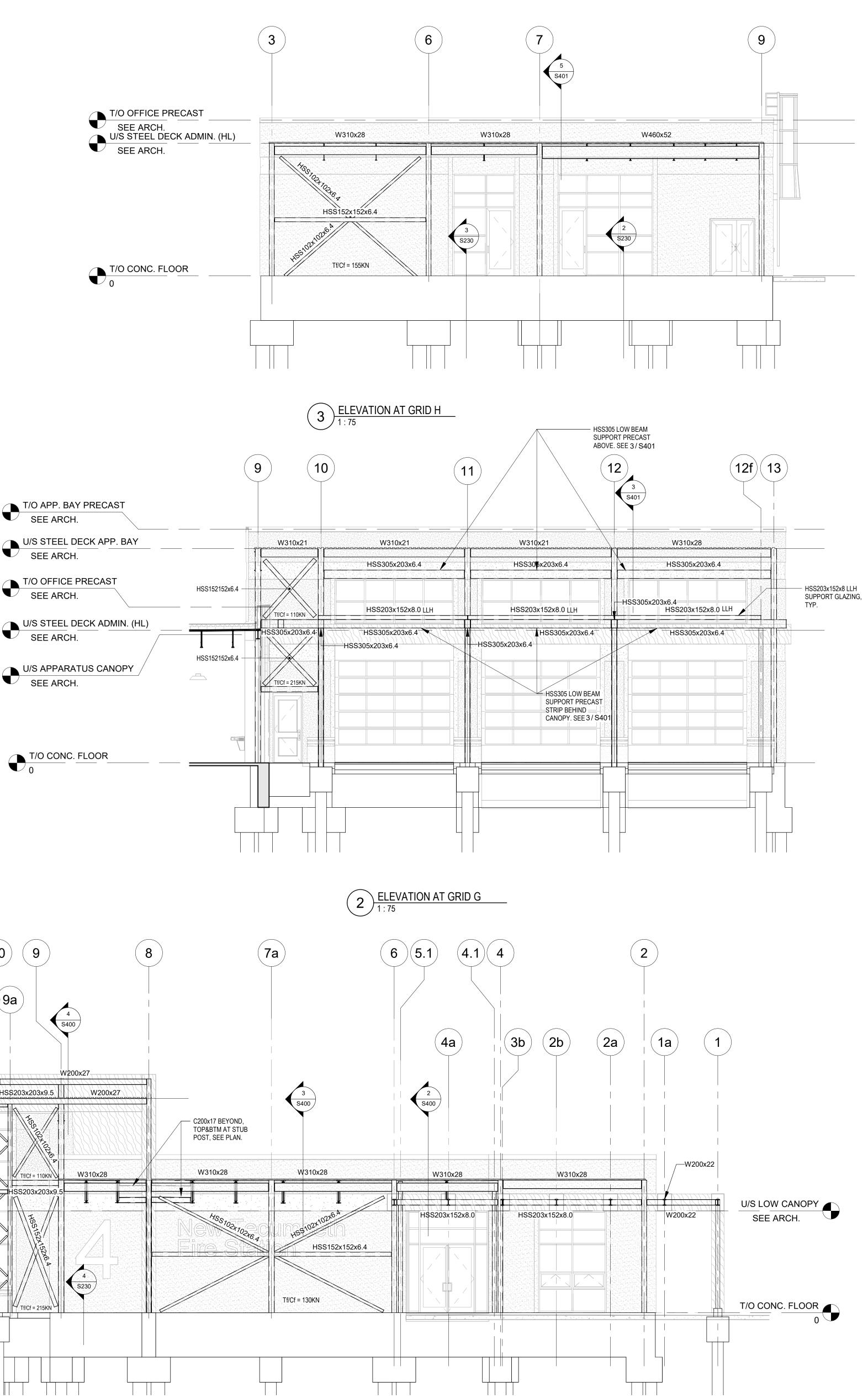


3 ELEVATION AT GRID 13 1:75









1) ELEVATION AT GRID B

