



The City of **WORCESTER**

Administration & Finance – Purchasing Division
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June 13, 2023

To All Bidders:

Subject: **Bid No. 8024-W3, Floor Upgrade – DCU Convention Center / DPF**

ADDENDUM NO. 2

To Whom It May Concern:

With reference to our bid request relative to the above subject, please refer to the changes/modifications/clarifications to the original proposal request.

- **PLEASE SEE BELOW QUESTIONS RECEIVED AND RESPONSES FROM CITY**

Sheet 1 notes: “Existing building drawing is taken from the 1995 Construction Drawing prepared by Lemessurier Consultants, Inc., Cambridge, MA 02238”. Please provide existing drawings if available.

Please see attachment.

The specifications and general notes both reference hot-dipped galvanized reinforcing bars, however, the reinforcement plans and lap splice schedule both note “epoxy coated reinforcement”. Which is correct?

Hot dipped galvanized is correct.

At the pre-bid conference, it was indicated that coring samples of the existing slab were obtained. Please provide the coring results if available.

Please see attachment.

The drawings state that all existing reinforcement to remain is to be coated with SIKA Armatek-110. Please confirm that just the existing reinforcement to remain gets coated.

Confirmed.

Will it be permitted to discharge used water from the hydro-demolition process into catch basins?

Per note DE-3, the contractor shall include...removing demolished materials (including rebar, water, and concrete debris) from the site in accordance with all applicable laws, codes, and regulations. The contractor is responsible to make arrangements for the disposal of the potable water used for hydro-demolition with the city/town water departments.



Is the plan to have a 3rd party come back and install new surface floor anchors?

Existing floor anchors will be required to be salvaged and reset or new equivalent anchors to be provided.

Are there any liquidated damages for this project?

There are no liquidated damages.

The plans and cast-in-place concrete specifications reference “architectural drawings and specifications”, specifically regarding the floor finish. Please provide architectural plans and specifications if available.

The floor treatment described in general note CM-3 on S0-000 is adequate. “Provide non-metallic dry shake floor hardener and polish.”

Feedback from subcontractors is that the pour sequence as shown is outdated and not quality control friendly. Basically, too many construction joints will yield a less consistent product (both in tolerance & finish) that will take significantly more time. Is there a reason the slab placement was sequenced as shown? Is the G.C. able to modify pour sequences to facilitate a higher quality finished product in a shorter time frame?

The sequence shown allows the contractor to pour 30’x30’ areas to reduce the shrinkage cracking that can occur with larger pours. It is a suggested sequence to limit cracking. The contractor can propose alternate sequences for review and approval by EOR that would deliver the same or better finish with the maximum area of pour at 30ft x 60ft.

Bidders are requested to acknowledge and/or include this addendum with submission. All other terms, conditions and specifications remain unchanged.

Very truly yours,

Christopher J. Gagliastro
Purchasing Director

A - GENERAL

1. STRUCTURAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE COMMONWEALTH OF MASSACHUSETTS STATE BUILDING CODE.

2. EXAMINE ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR VERIFICATION OF LOCATION AND DIMENSIONS OF CHASES, INSERTS, OPENINGS, SLEEVES, WASHERS, DRIPS, REVEALS, DEPRESSIONS, AND OTHER PROJECT REQUIREMENTS NOT SHOWN ON STRUCTURAL DRAWINGS.

3. VERIFY AND COORDINATE DIMENSIONS RELATED TO THIS PROJECT.

4. OPENINGS IN SLABS AND WALLS LESS THAN 12" MAXIMUM DIMENSIONS SHALL NOT BE REVISED WITHOUT PRIOR WRITTEN APPROVAL OF THE ARCHITECT.

5. TYPICAL DETAILS OF STRUCTURAL DRAWINGS S-1.1 AND S-1.2 SHALL BE APPLICABLE TO ALL PARTS OF THE STRUCTURAL WORK EXCEPT WHERE SPECIFICALLY REQUIRED OTHERWISE BY CONTRACT DOCUMENTS.

6. ELEVATIONS SHOWN REFER TO WORCESTER CITY BASE.

7. THE CONTRACTOR IS TO SUBMIT COMPLETE SHOP DRAWINGS FOR ALL PARTS OF THE WORK, INCLUDING DESCRIPTION OF DEMOLITION, AND CONSTRUCTION METHODS AND SEQUENCING WHERE APPLICABLE. NO PERFORMANCE AND OTHER PROJECT REQUIREMENTS NOT SHOWN ON STRUCTURAL DRAWINGS, OR FABRICATION OR ERECTION OF NEW STRUCTURAL ELEMENTS, SHALL COMMENCE WITHOUT REVIEW OF THE SHOP DRAWINGS BY THE ARCHITECT.

8. INFORMATION REGARDING EXISTING WORCESTER CENTRUM CONSTRUCTION IS BASED UPON AVAILABLE CONSTRUCTION DOCUMENTS PREPARED BY ELLERBE DATED 31 MARCH 1978, WHICH MAY NOT REFLECT ALL AS BUILT CONDITIONS. NOTIFY ARCHITECT OF ANY DISCREPANCIES DISCOVERED DURING THE COURSE OF CONSTRUCTION BEFORE PROCEEDING WITH WORK IN THAT AREA.

B - FOUNDATIONS

1. FOUNDATIONS FOR THIS PROJECT CONSIST OF PRESSURE INJECTED FOOTINGS (PIF'S), PILE CAPS, PITWALLS, GRADE BEAMS AND FRAMED SLAB ON GRADE.

2. NO RESPONSIBILITY IS ASSUMED BY THE ARCHITECT FOR THE VALIDITY OF THE SUBSURFACE CONDITIONS DESCRIBED ON THE DRAWINGS, SPECIFICATIONS, TEST BORINGS, OR TEST PITS. THESE DATA ARE INCLUDED ONLY TO ASSIST THE CONTRACTOR DURING BIDDING AND SUBSEQUENT CONSTRUCTION AND REPRESENT CONDITIONS ONLY AT THESE SPECIFIC LOCATIONS AT THE PARTICULAR TIME THEY WERE MADE.

3. ALL PIF'S SHALL HAVE A CAPACITY NOT LESS THAN 120 TONS AND A MINIMUM DIAMETER OF 16".

4. EXTERIOR CONSTRUCTION SHALL BE CARRIED DOWN BELOW FINISHED EXTERIOR GRADE TO A MINIMUM DEPTH OF 4'-0" UNLESS NOTED OTHERWISE.

5. PROVIDE TEMPORARY OR PERMANENT SUPPORTS, WHETHER SHORING, SHEETING, OR BRACING, SO THAT NO HORIZONTAL MOVEMENT OR VERTICAL SETTLEMENT OCCURS TO EXISTING STRUCTURES, STREETS, OR UTILITIES ADJACENT TO THE PROJECT SITE.

6. CARRY OUT CONTINUOUS CONTROL OF SURFACE AND SUBSURFACE WATER DURING CONSTRUCTION SUCH THAT FOUNDATION WORK IS DONE IN DRY AND ON UNDISTURBED SUBGRADE MATERIAL, AS APPLICABLE.

7. BACKFILL UNDER ANY PORTION OF THE STRUCTURE SHALL BE COMPACTED PER SPECIFICATIONS REQUIREMENTS.

8. NO FOUNDATION CONCRETE SHALL BE PLACED IN WATER OR ON FROZEN SUBGRADE MATERIAL.

9. PROTECT IN-PLACE FOUNDATIONS AND SLABS FROM FROST PENETRATION UNTIL THE PROJECT IS COMPLETED.

C - CONCRETE

1. CONCRETE WORK SHALL CONFORM TO "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318-89)", AND "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS (ACI 301-89)".

2. CONCRETE SHALL BE CONTROLLED CONCRETE, PROPORTIONED, MIXED, AND PLACED IN THE PRESENCE OF A REPRESENTATIVE OF AN APPROVED TESTING AGENCY.

3. UNLESS NOTED OTHERWISE, CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH AND BE OF A TYPE AS FOLLOWS:

(A) PILE CAPS, TIE BEAMS, SLABS-ON-GRADE, LEVEL 3 4000 PSI (NORMALWEIGHT)

(B) PRESSURE INJECTED FOOTINGS 4000 PSI (NORMALWEIGHT)

(C) SLABS-ON-DECK 3000 PSI (NORMALWEIGHT) AND LIGHTWEIGHT (SEE PLANS)

4. CONCRETE TO BE EXPOSED TO THE WEATHER IN THE FINISHED PROJECT SHALL BE AIR ENTRAINED PER SPECIFICATIONS REQUIREMENTS.

5. PROVIDE VAPOR BARRIER UNDER INTERIOR SLABS CAST ON GRADE.

6. CONSTRUCTION JOINTS SHOWN ON DRAWINGS ARE MANDATORY, OMISSIONS, ADDITIONS, OR CHANGES SHALL NOT BE MADE EXCEPT WITH THE SUBMITTAL OF A WRITTEN REQUEST TOGETHER WITH DRAWINGS OF THE PROPOSED JOINT LOCATIONS FOR APPROVAL OF THE ARCHITECT.

7. WHERE CONSTRUCTION JOINTS ARE NOT SHOWN, OR WHEN ALTERNATE LOCATIONS ARE PROPOSED, DRAWINGS SHOWING LOCATION OF CONSTRUCTION AND CONTROL JOINTS AND CONCRETE PLACING SEQUENCE SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL PRIOR TO PREPARATION OF THE REINFORCEMENT SHOP DRAWINGS.

8. SIZE OF CONCRETE PLACEMENTS UNLESS NOTED OTHERWISE SHALL BE AS FOLLOWS:

	MAX. LENGTH (FEET)	MAX. AREA (SQ. FT.)
(A) FOOTINGS AND WALLS	30'	
(B) SLABS ON GRADE		9000'
(C) CONCRETE ON STEEL DECK	90'	8100'

* EXCEED ONLY WHERE INTERMEDIATE CONTROL JOINTS ARE PROVIDED

9. MINIMUM OF 72 HOURS SHALL ELAPSE BETWEEN ADJACENT CONCRETE PLACEMENTS.

10. CONCRETE SLABS, INCLUDING CONCRETE PLACED ON STEEL DECK, SHALL BE PLACED SO THAT THE SLAB THICKNESS IS AT NO POINT LESS THAN THAT INDICATED ON THE DRAWINGS. THIS WILL REQUIRE THAT THE SLAB NOT BE CAST DEAD LEVEL WHERE SUPPORTING BEAMS, GIRDERS, OR TRUSSES HAVE AN UPWARD CAMBER.

11. STRUCTURAL STEEL BELOW GRADE SHALL BE ENCASED IN CONCRETE WITH A MINIMUM COVER OF 3".

REINFORCEMENT WORK OF DETAILING, FABRICATION, AND ERECTION SHALL CONFORM TO "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318-89)", "ACI DETAILING MANUAL-1988 (SP-66)", "CRSI MANUAL OF STANDARD PRACTICE (MSP-1-86)", AND "STRUCTURAL WELDING CODE - REINFORCING STEEL (AWS D1.4-79)".

2. STEEL REINFORCEMENT, UNLESS NOTED OTHERWISE, SHALL CONFORM TO THE FOLLOWING:

(A) BARS, TIES, AND STIRRUPS ASTM A615 GRADE 60 (YIELD STRESS 60,000 PSI)

(B) WELDED WIRE FABRIC (WWF) ASTM A185

3. PROVIDE AND SCHEDULE ON SHOP DRAWINGS THE NECESSARY ACCESSORIES TO HOLD REINFORCEMENT SECURELY IN POSITION. MINIMUM REQUIREMENTS SHALL BE: HIGH CHAIRS, 4'-0" O.C. WITH CONTINUOUS #5 SUPPORT BARS; SLAB BOLSTERS, CONTINUOUS AND 3'-6" O.C.; BEAM BOLSTERS, 5'-0" O.C.

4. MINIMUM CONCRETE PROTECTIVE COVERING FOR REINFORCEMENT, UNLESS NOTED OTHERWISE, SHALL BE AS FOLLOWS:

(A) UNFORMED SURFACES CAST AGAINST AND PERMANENTLY IN CONTACT WITH EARTH 3" O.C.

(B) FORMED SURFACES IN CONTACT WITH EARTH OR EXPOSED TO WEATHER

#6 THROUGH #8 BARS 2" O.C.

#5 BARS, 5/8" DIAMETER WIRE, AND SMALLER 1" O.C.

(C) SURFACES NOT IN CONTACT WITH EARTH OR EXPOSED TO WEATHER

WALLS, SLABS, JOISTS

#14 AND #18 BARS 1.5"

#11 BARS AND SMALLER 1" O.C.

BEAMS, GIRDERS, AND COLUMNS

PRINCIPAL REINFORCEMENT, TIES, STIRRUPS, OR SPIRALS 1.5"

5. WHERE CONSTRUCTION JOINTS ARE NOT SHOWN, OR WHEN ALTERNATE LOCATIONS ARE PROPOSED, DRAWINGS SHOWING LOCATION OF CONSTRUCTION AND CONTROL JOINTS AND CONCRETE PLACING SEQUENCE SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL PRIOR TO PREPARATION OF THE REINFORCEMENT SHOP DRAWINGS.

6. WHERE REINFORCEMENT IS NOT SHOWN ON DRAWINGS PROVIDE REINFORCEMENT IN ACCORDANCE WITH APPLICABLE DETAILS AS DETERMINED BY THE ARCHITECT. IN NO CASE SHALL REINFORCEMENT BE LESS THAN THE MINIMUM REINFORCEMENT PERMITTED BY THE APPLICABLE CODES, NOR LESS THAN THE FOLLOWING:

(A) BEAM STIRRUPS #3 @ 12 O.C.

(B) BEAM STIRRUPS SUPPORTS: 1 - #5 @ EACH STIRRUP BEND

(C) FACE REINFORCEMENT IN BEAMS OR PORTIONS OF BEAMS: #4 @ 12" EF

(D) STRUCTURAL SLABS: 0.0020 % GROSS CONCRETE AREA IN EACH DIRECTION

(E) CONCRETE WALLS: 0.0025 % GROSS CONCRETE AREA IN EACH DIRECTION

7. WHERE REINFORCEMENT IS REQUIRED IN SECTION, REINFORCEMENT IS CONSIDERED TYPICAL WHEREVER THE SECTION APPLIES.

8. REINFORCEMENT SHALL BE CONTINUOUS THROUGH CONSTRUCTION JOINTS.

9. DOWELS SHALL MATCH BAR SIZE AND NUMBER, UNLESS NOTED OTHERWISE.

10. WELDED WIRE FABRIC SHALL LAP 8" OR 1'-0" SPACES, WHICHEVER IS LARGER, AND SHALL BE WIRE TOGETHER.

11. REINFORCEMENT SHALL NOT BE TACK WELDED.

12. INSTALLATION OF REINFORCEMENT SHALL BE COMPLETED AT LEAST 24 HOURS PRIOR TO THE SCHEDULED CONCRETE PLACEMENT. NOTIFY ARCHITECT OF COMPLETION AT LEAST 24 HOURS PRIOR TO THE SCHEDULED COMPLETION OF THE INSTALLATION OF REINFORCEMENT.

E - STRUCTURAL STEEL

1. STRUCTURAL STEEL WORK SHALL CONFORM TO "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (AISC 1989)", "AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS & BRIDGES (AISC 1986)", AND "STRUCTURAL WELDING CODE - STEEL (AWS D1.1-90)".

2. STRUCTURAL STEEL SHALL BE DETAILLED IN ACCORDANCE WITH "DETAILING FOR STEEL CONSTRUCTION (AISC)"; AND, WHERE REQUIREMENTS NOT SHOWN ON STRUCTURAL DRAWINGS, THE FOLLOWING REFERENCES:

STRUCTURAL STEEL SHALL BE NEW STEEL CONFORMING TO THE FOLLOWING:

(A) UNLESS NOTED OTHERWISE ASTM A572 GRADE 50 (F_y = 50 KSI)

(B) WERE NOTED BY (K) ON DRAWINGS ASTM A36 (F_y = 36 KSI)

(C) TUBES ASTM A500 GRADE B (F_y = 46 KSI)

(D) PIPES ASTM A501 OR ASTM A53, TYPE E OR S GRADE B

(E) ANCHOR BOLTS ASTM A307

(F) HIGH STRENGTH BOLTS ASTM A325

3. ANCHOR BOLTS, LEVELING PLATES, OR BEARING PLATES SHALL BE LOCATED AND BUILT INTO CONNECTIONS WORK, PRESET BY TEMPLATES OR SIMILAR METHODS. PLATES SHALL BE SET IN FULL BEDS OF NON-SHRINK GROUT.

4. BOLTED CONNECTIONS SHALL BE AS FOLLOWS:

(A) MINIMUM BOLT DIAMETER - 3/4"

(B) STANDARD, OVERSIZED, OR HORIZONTAL SHORT SLOTTED HOLES IN WEBS OF BEAMS.

(C) SHEAR CONNECTIONS FOR CRITICAL CONNECTED MEMBERS - FRICTION TYPE HIGH STRENGTH BOLTS IN SINGLE OR DOUBLE SHEAR.

(D) SHEAR CONNECTIONS FOR OTHER MEMBERS - SIMPLE SHEAR CONNECTIONS WITH EITHER FRICTION TYPE HIGH STRENGTH BOLTS IN SINGLE SHEAR OR BEARING TYPE HIGH STRENGTH BOLTS (THREADS INCLUDED IN SHEAR PLANE) IN SINGLE OR DOUBLE SHEAR.

(E) SIMPLE SHEAR CONNECTIONS SHALL BE CAPABLE OF END ROTATION PER AISC REQUIREMENTS FOR "UNRESTRAINED MEMBERS".

5. WELDED CONNECTIONS SHALL BE MADE BY APPROVED CERTIFIED WELDERS USING FILLER METAL CONFORMING TO E70XX OR F7X-EXXX WITH LOW HYDROGEN.

6. BEAM CONNECTIONS, UNLESS NOTED OTHERWISE, SHALL PROVIDE CONNECTION CAPACITY AS FOLLOWS:

(A) NON-COMPOSITE BEAMS: SUPPORT A REACTION "R" EQUAL TO 1/2 THE TOTAL UNIFORM LOAD CAPACITY OF BEAM FOR A GIVEN SHAPE, SPAN, AND GRADE OF STEEL PER "ALLOWABLE LOADS ON BEAMS" PART 2, AISC MANUAL OF STEEL CONSTRUCTION, 8TH EDITION.

(B) COMPOSITE BEAMS: SUPPORT A REACTION "R" = MULTIPLIER x "R" (AS DEFINED ABOVE)

R₁ = 1.50 x R (FOR BEAM DEPTH GREATER THAN 21")

R₂ = 2.00 x R (FOR BEAM DEPTH GREATER THAN 14" BUT LESS THAN OR EQUAL TO 21")

R₃ = 2.25 x R (FOR BEAM DEPTH GREATER THAN 8" BUT LESS THAN OR EQUAL TO 14")

(C) ADD TO "R" OR "R₁" THE LOADS OR REACTIONS OF MEMBERS SUPPORTED BY THE BEAM NEAR SUPPORTS AND/OR THE VERTICAL COMPONENTS OF FORCE IN DIAGONAL BRACING MEMBERS FRAMING INTO THE BEAM.

7. ENDS OF COLUMNS AT SPLICES AND AT OTHER BEARING CONNECTIONS SHALL BE "FINISHED TO BEAR" TO COMPLETE TRUE BEARING.

8. PROVIDE STIFFENERS "FINISHED TO BEAR" UNDER ALL LOAD CONCENTRATIONS ON SUPPORTING MEMBERS, OVER COLUMNS, AND WHERE SHOWN ON DRAWINGS.

9. PROVIDE TEMPORARY ERECTION BRACING AND SUPPORTS TO HOLD STRUCTURAL STEEL FRAMING SECURELY IN POSITION. SUCH TEMPORARY BRACING AND SUPPORTS SHALL NOT BE REMOVED UNTIL PERMANENT BRACING HAS BEEN INSTALLED AND CONCRETE FOR FLOOR SLABS HAVE ATTAINED 75% OF SPECIFIED COMPRESSIVE STRENGTH.

10. FIELD CUTTING OF STRUCTURAL STEEL OR ANY FIELD MODIFICATIONS OF STRUCTURAL STEEL SHALL NOT BE MADE WITHOUT PRIOR WRITTEN APPROVAL BY ARCHITECT FOR EACH SPECIFIC CASE.

11. STRUCTURAL STEEL MEMBERS SHALL BE FIREPROOFED PER SPECIFICATIONS.

12. STRUCTURAL STEEL MEMBERS AND CONNECTIONS EXPOSED TO THE WEATHER SHALL BE GALVANIZED.

13. CAMBER SHALL BE BY COLD-FORMED PROCESS IN CONFORMANCE WITH AISC SPECIFICATION AND TOLERANCE.

F - STEEL DECK AND SHEAR CONNECTOR

1. STEEL DECK AND SHEAR CONNECTOR WORK SHALL CONFORM TO THE "SPECIFICATION FOR DESIGN OF LIGHT GAUGE COLD-FORMED STEEL STRUCTURAL MEMBERS (AISII)", "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (AISC 1989)", "STRUCTURAL WELDING CODE - STEEL (AWS D1.1-90)", AND "STRUCTURAL WELDING CODE - SHEET STEEL (AWS D1.3-79)".

2. STEEL DECK CROSS SECTIONS ARE ONLY REPRESENTED DIAGRAMMATICALLY ON THE DRAWINGS.

3. STEEL DECK PANELS SHALL BE FORMED FROM STEEL SHEETS CONFORMING TO ASTM A446-76, GRADE C, WITH A MINIMUM YIELD POINT OF 40,000 PSI; ASTM A447-75, GRADE C, OR ASTM A441-72, GRADE C, WITH A MINIMUM YIELD POINT OF 33,000 PSI AND A THICKNESS NOT THINNER THAN 20 GAUGE.

4. FLOOR AND ROOF CONSTRUCTION IN GENERAL CONSISTS OF CONCRETE FILL CAST ON STEEL DECK AND COMPOSITE IN ACTION WITH THE STRUCTURAL STEEL BEAMS BY MEANS OF WELDED SHEAR CONNECTORS.

5. SHEAR CONNECTORS SHALL CONFORM TO ASTM A108, GRADES 1010, 1015, 1017, OR 1020. TYPICALLY SHEAR CONNECTORS SHALL BE 3/4" DIAMETER X 3-1/2" LONG HEADED STUDS, BUT IN NO CASE SHALL SHEAR CONNECTORS EXTEND LESS THAN 1-1/2" ABOVE STEEL DECK.

6. THE NUMBER OF SHEAR CONNECTORS REQUIRED PER BEAM IS INDICATED BY ".32", ETC. ON THE DRAWINGS.

7. WHERE NO SHEAR CONNECTORS ARE INDICATED FOR A BEAM WHICH SUPPORTS A CONCRETE SLAB, PROVIDE SHEAR CONNECTORS AT 24" O.C.

8. SHEAR CONNECTORS SHALL BE EQUALLY SPACED OVER THE LENGTH OF THE BEAM, WHERE THE NUMBER OF STEEL DECK CORRUGATIONS AVAILABLE IS LESS THAN THE NUMBER OF SHEAR CONNECTORS. USE PAIRS OF SHEAR CONNECTORS STARTING FROM EACH END OF BEAM AND CONTINUING TOWARD THE CENTER UNTIL IT IS POSSIBLE TO RETURN TO A SINGLE SHEAR CONNECTOR IN EACH CORRUGATION. SHEAR CONNECTORS SHALL BE SPACED NOT CLOSER THAN 3" TRANSVERSELY AND 4" LONGITUDINALLY.

9. HORIZONTAL CLEARANCE SHALL BE A MINIMUM OF 1" FROM THE EDGE OF ANY SHEAR CONNECTOR TO THE FACE OF CONCRETE, STEEL DECK RIB, OR SIMILAR ADJACENCY.

10. EDGE DISTANCE FROM THE CENTER OF A SHEAR CONNECTOR TO THE EDGE OF A STRUCTURAL STEEL BEAM SHALL PREFERABLY BE 2", BUT IN NO CASE LESS THAN 1-1/4".

G - STEEL JOISTS

1. OPEN WEB JOISTS SHALL CONFORM TO THE REQUIREMENTS OF THE STEEL JOIST INSTITUTE.

2. JOISTS SHALL BE DESIGNED IN ACCORDANCE WITH THE STEEL JOIST INSTITUTE SPECIFICATIONS, AND SHALL BE FABRICATED BY A MANUFACTURER WHO IS A MEMBER OF OR MEETS THE REQUIREMENTS OF THE STEEL JOIST INSTITUTE.

3. FOR PAINTING REQUIREMENTS SEE SPECIFICATIONS.

4. ROOF JOISTS SHALL BE DESIGNED AND ANCHORED TO RESIST A MINIMUM NET UPLIFT OF 15 PSF. BRACE BOTTOM CHORD FOR COMPRESSION STRESSES.

5. PROVIDE CEILING EXTENSIONS ON ALL JOISTS.

6. PROVIDE SPECIAL JOIST SEATING REQUIREMENTS OF THE STEEL JOIST INSTITUTE.

7. PROVIDE CROSS BRIDGING IN ACCORDANCE WITH AISC STANDARD SPECIFICATIONS FOR OPEN WEB STEEL JOISTS, LONGSPAN STEEL JOISTS AND DEEP LONGSPAN STEEL JOISTS.

8. PROVIDE SPECIAL JOIST SEATING WHERE REQUIRED ON SHORT SPAN JOISTS.

9. PROVIDE SEAT ANGLE CONNECTION WHERE JOISTS FRAME INTO COLUMNS.

10. SUSPENDED LOADS SHALL BE APPLIED ONLY AT PANEL POINTS OF JOISTS. ALL NECESSARY SUPPLEMENTAL FRAMING SHALL BE PROVIDED BY THE CONTRACTOR RESPONSIBLE FOR THE SUSPENDED LOAD.

11. DESIGN OF JOISTS SHALL BE BASED ON AN ALLOWABLE FIBER STRESS OF 30,000 PSI.

12. JOISTS SHALL HAVE A MINIMUM BEARING ON STEEL OF 2-1/2" FOR H-SERIES, 4" FOR LH-SERIES, AND MUST PROJECT AT LEAST 1" BEYOND WEB OF BEAM.

13. STEEL DECK AND TOP CHORD OF STEEL JOISTS SHALL EXTEND BEYOND CENTERLINE OF SPANDREL BEAMS, TYPICAL AT ROOF. SEE DRAWINGS FOR DETAILS.

14. OUTRIGGERS AND CEILING EXTENSIONS SHALL BE FURNISHED AS REQUIRED.

15. THE CONTRACTOR SHALL SUBMIT CHECKED SHOP DRAWINGS SHOWING THE LOCATION OF ALL JOISTS AND THE REQUIRED DETAILS FOR PROPER INSTALLATION.

H - MASONRY CONSTRUCTION

1. BRICK MASONRY CONSTRUCTION SHALL CONFORM TO THE BRICK INSTITUTE OF AMERICA "RECOMMENDED PRACTICE FOR ENGINEERED CENTER MASONRY (R-1975)".

2. CONCRETE MASONRY CONSTRUCTION SHALL CONFORM TO "SPECIFICATION FOR CONCRETE MASONRY CONSTRUCTION" (ACI 531.1-76, REVISED 1983) AND TO THE NATIONAL CONCRETE MASONRY ASSOCIATION "SPECIFICATION FOR CONCRETE MASONRY WITH CONTINUOUS SUPPORT" (CT-1978).

3. MATERIALS STRENGTH SHALL BE AS FOLLOWS:

(A) FACE BRICK SHALL CONFORM TO ASTM C-216 GRADE SW WITH COMPRESSIVE STRENGTH OF 5000 PSI.

(B) COMMON BRICK SHALL CONFORM TO ASTM C-90 GRADE N-1.

(C) CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C-90 GRADE N-1.

(D) MORTAR SHALL CONFORM TO ASTM C-270, TYPE FM OR PL TYPE N.

(E) GROUT SHALL CONFORM TO ASTM C-476 FINE OR COARSE.

4. PRIOR TO GROUTING CELLS, BARS AND CELLS MUST BE INSPECTED BY THE TESTING AGENCY.

5. THE BASE OF EACH CELL IN WHICH A BAR IS PLACED MUST HAVE A CLEANOUT HOLE.

6. REINFORCED MASONRY WALLS SHALL HAVE BOND BEAMS AT EACH FLOOR LEVEL. BOND BEAM REINFORCING SHALL BE EXTENDED INTO AND BE CONTINUOUS WITH ALL INTERSECTING BOND BEAMS.

7. BONDING MASONRY WALLS SHALL BE APPROVED BY THE ARCHITECT.

8. MASONRY OPENINGS MORE THAN 16" WIDE REQUIRE APPROVED LINTELS.

9. MASONRY OPENINGS FOR UTILITIES ARE TO BE CLOSED UP WITH NEW BRICK WORK AROUND THE UTILITY. PROVIDE AND INSTALL LINTELS FOR OPENINGS IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:

MAX OPENINGS	4" THICK	8" THICK
3'-0"	1 L 3-1/2 x 3-1/2 x 1/4	2 JL 3-1/2 x 3-1/2 x 1/4
4'-0"	1 L 4 x 3-1/2 x 1/4	2 JL 4 x 3-1/2 x 1/4
5'-0"	1 L 4 x 3-1/2 x 1/4	2 JL 4 x 3-1/2 x 1/4
6'-0"	1 L 5 x 3-1/2 x 1/4	2 JL 5 x 3-1/2 x 1/4
7'-0"	1 L 6 x 3-1/2 x 1/4	2 JL 6 x 3-1/2 x 5/16

FOR WALLS LARGER THAN THE ABOVE THICKNESSES USE MULTIPLES OF THE ABOVE PIECES. LINTELS SHALL BE 12" LONGER THAN SLOTTED OPENINGS, LONG LESS SHALL BE VERTICAL, WHERE LINTEL ABOUT COLUMNS OR WALLS. PROVIDE CONNECTION TO SUCH. (SUBMIT SHOP DRAWINGS OF CONNECTION DETAIL FOR APPROVAL.)

FOR REINFORCED MASONRY USE:

(A) FOR TYPE M MORTAR: 1 PART CEMENT, 1/4 LIME, 2-1/4 SAND (ASTM C270-80)

(B) FOR GROUTING: 1 PART CEMENT, 1/10 LIME, 2-1/4 SAND (ASTM C476-80)

REINFORCED MASONRY WALLS SHALL HAVE #9 GA. WIRE LADDERS (LADUR TYPE) AT 16" OC HORIZONTAL REINFORCEMENT.

I - RENOVATION AND RESTORATION

1. WORK SHALL CONFORM TO THE REQUIREMENTS OF THE COMMONWEALTH OF MASSACHUSETTS STATE BUILDING CODE.

2. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT WHEN, IN THE COURSE OF CONSTRUCTION OR DEMOLITION, CONDITIONS ARE UNCOVERED WHICH ARE UNANTICIPATED OR OTHERWISE APPEAR TO PRESENT A DANGEROUS CONDITION.

3. INFORMATION REGARDING EXISTING CONSTRUCTION OR CONDITIONS IS BASED ON AVAILABLE RECORD DRAWINGS WHICH MAY OR MAY NOT TRULY REFLECT EXISTING CONDITIONS. SUCH INFORMATION IS INCLUDED ON THE ASSUMPTION THAT IT MAY BE OF INTEREST TO THE CONTRACTOR BUT THE ARCHITECT ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY OR COMPLETENESS.

4. WHERE NEW WORK WILL BE ADJACENT TO OR FRAMING EXISTING CONSTRUCTION, VERIFY DIMENSIONS OF EXISTING CONSTRUCTION PRIOR TO FABRICATION OF NEW MEMBERS.

5. TEMPORARY SHORES SHALL BE INDIVIDUALLY DESIGNED, ERECTED, SUPPORTED, BRACED AND MAINTAINED BY THE CONTRACTOR TO SAFELY SUPPORT ALL DEAD LOADS PRESENTLY CARRIED BY THE EXISTING STRUCTURAL WORK BEING REMOVED AND ANY CONSTRUCTION LIVE LOADS.

J - STRUCTURAL DESIGN LOADS

1. DEAD LOADS

(A) WEIGHT OF BUILDING COMPONENTS

(B) HUNG LOADS

(C) TYPICAL ALLOWANCE FOR HUNG CEILING, LIGHTS AND EQUIPMENT

(D) ROOF FRAMING OVER BALLROOM

2. LIVE LOADS

(A) ASSEMBLY HALL, LOADING DOCK

(B) 2ND FLOOR & 3RD FLOOR

(C) 2ND FLOOR STORAGE

(D) MECHANICAL EQUIPMENT ROOM

3. WIND LOAD - PER MASSACHUSETTS STATE BLDG CODE, ZONE 2, EXPOSURE B

(A) 0' - 100' ABOVE GRADE

(B) EARTHQUAKE LOAD PER MASSACHUSETTS STATE BUILDING CODE

(C) V (BASE SHEAR) = (1/3) x K x C x S x W

(D) K = 1.0; S = 1.2; C = 0.065

ABBREVIATIONS

ABBREVIATION	*WORD*
ADDL	ADDITIONAL
ALT	ALTERNATE
AASHTO	AMERICAN ASSOCIATION STATE HIGHWAY & TRANSPORTATION OFFICIALS
ACI	AMERICAN CONCRETE INSTITUTE
AESS	ARCHITECTURALLY EXPOSED
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AISI	AMERICAN IRON AND STEEL INSTITUTE
ASTM	AMERICAN SOCIETY FOR TESTING OF MATERIALS
AWS	AND
&	AND
APPROX	APPROXIMATELY
ARCHT	ARCHITECT OR ARCHITECTURAL AT RATE OF
BM	BEAM
BRG	BEARING
BETW	BETWEEN
B or BOT	BOTTOM
BEW	BOTTOM EACH WAY
BLDG	BUILDING
BOCA	BUILDING OFFICIALS & CODE ADMINISTRATORS INTERNATIONAL
CIP	CAST-IN-PLACE
COL	COLUMN
CONC	CONCRETE
CMU	CONCRETE MASONRY UNIT
CONN	CONNECTION
CONST	CONSTRUCTION
CONST JT or &	CONSTRUCTION JOINT
CONT	CONTINUOUS
CJ	CONTROL JOINTS
DEPR	DEPRESSION
DET	DETAIL
DL	DEVELOPMENT LENGTH
DIA or Ø	DIAMETER
DIM	DIMENSION
DIR	DIRECTION
DITTO	SIMILAR
DOWLS	SLAB ON GRADE
DN	SPECIFICATIONS
DWG	STANDARD
EA	STEEL
EE	STIFF
EF	SYMMETRICAL
ES	TEMPERATURE
EW	ELEVATION
ELECT	ELECTRICAL
ELEV	ELEVATOR
EQ	EQUIPMENT
EXIST	EXISTING
EXP BOLT	EXPANSION BOLT
EXP JT	EXPANSION JOINT
FA	FACE
FF	FEET OF FOOT
FT	FINISH
FIN FL	FINISHED FLOOR
FPF	FIREPROOF
FL	FLOOR
FTO	FOOTING
FDN	FOUNDATION
GALV	GALVANIZED
GA	GAUGE OR GAGE
GEN	GENERAL
GB	GRADE BEAM
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
HT	HEIGHT
HP	HIGH POINT
H or HORIZ	HORIZONTAL
HEF	HORIZONTAL EACH FACE
HIF	HORIZONTAL INSIDE FACE
HOF	HORIZONTAL OUTSIDE FACE
IN	INCH
INCL	INCLUSIVE OF INCLUDING
INFM	INFORMATION
INSUL	INSULATION
JT	JOINT
JST	JOISTS
K	KIP (1000 POUNDS)
LE	LEFT END
LCH	LIGHTWEIGHT CONCRETE
LOC	LOCATION
LLV	LONG LEG VERTICAL
MANUF	MANUFACTURER
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MEP	MECH EQUIPMENT PAD
MID-PT	MIDPOINT
MID	MIDDLE
MIN	MINIMUM
MISC	MISCELLANEOUS
NWC	NORMALWEIGHT CONCRETE
NOT TO SCALE	NOT TO SCALE
NO or #	NUMBER
OC	ON CENTER
OPNG	OPENING
PC	PILE CAP
PT	POINT
PVC	POLYVINYL CHLORIDE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
REF	REFERENCE
REINF	REINFORCE OR REINFORCEMENT
REQD	REQUIRED
SCHED	SCHEDULE
SECT	SECTION
SC	SHEAR CONNECTOR
SH	SHEET
SIM	SIMILAR
SOC	SLAB ON GRADE
SPECS	SPECIFICATIONS
SL	SPLICE LENGTH
STD	STEEL
STL	STANDARD
STIFF	STIFFENER
SYM	SYMMETRICAL
TEMP	TEMPERATURE
TPE	TETRAFLUORETHYLENE
ELEV	ELEVATION
T or B	TOP & BOTTOM
TOP OF CONCR	TOP OF CONCRETE
TOP OF STEEL	TOP OF STEEL
TOW	TOP OF WALL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
V or VERT	VERTICAL
VEF	VERTICAL EACH FACE
VIF	VERTICAL INSIDE FACE
VOF	VERTICAL OUTSIDE FACE
WPG	WATERPROOFING
WWF	WELDED WIRE FABRIC
WWPA	WESTERN WOOD PRODUCTS ASSOCIATION
W/	WITH
WP	WORKING POINT

PDR&P
TVS&A

GENERAL NOTES

NO. DATE REVISION

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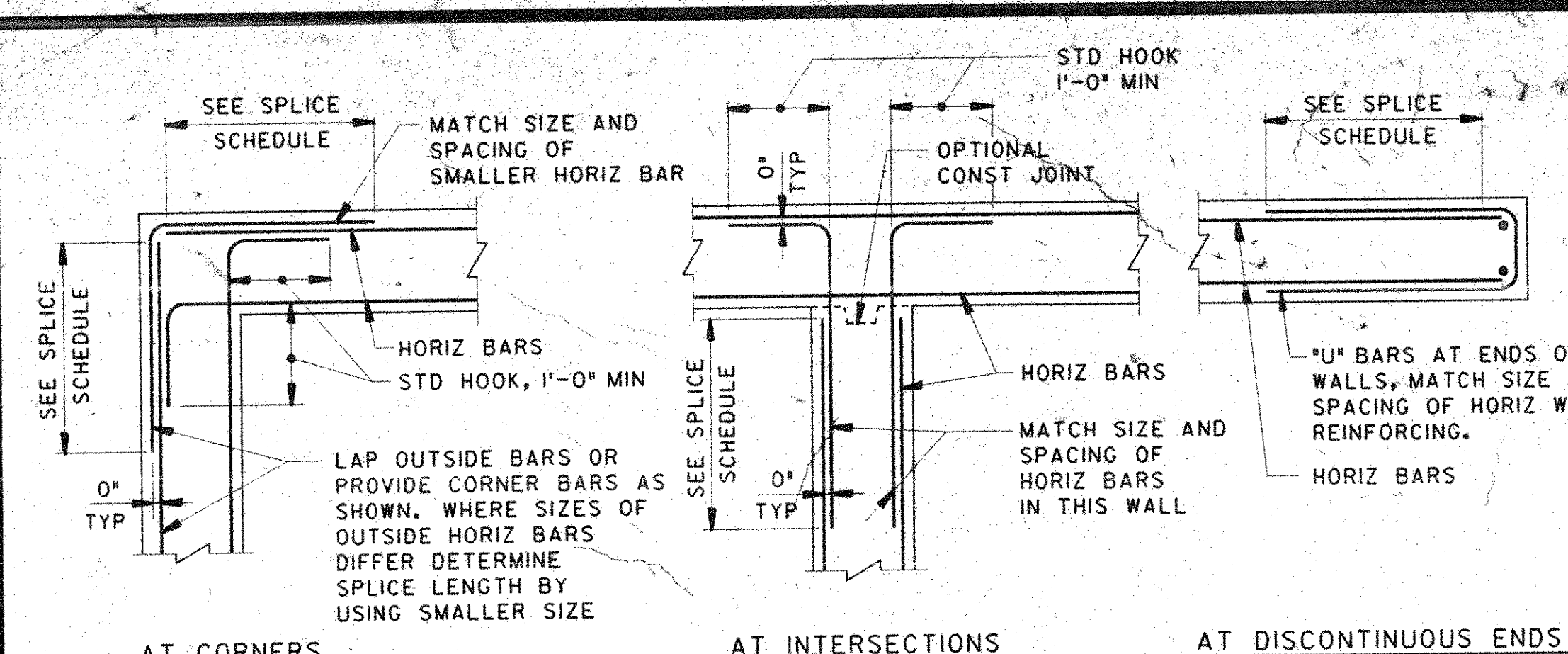
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CONSTRUCTION DRAWINGS

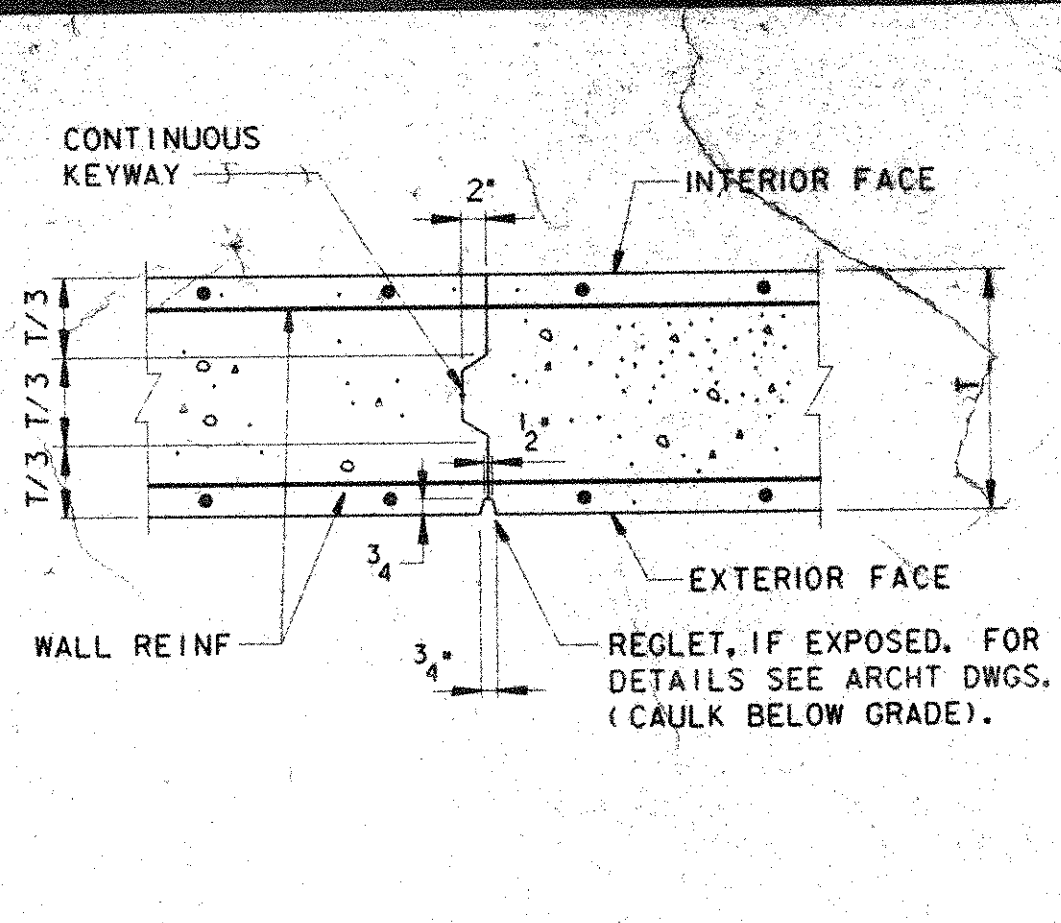
GENERAL NOTES

DATE 19 MAY 95 S 1.1

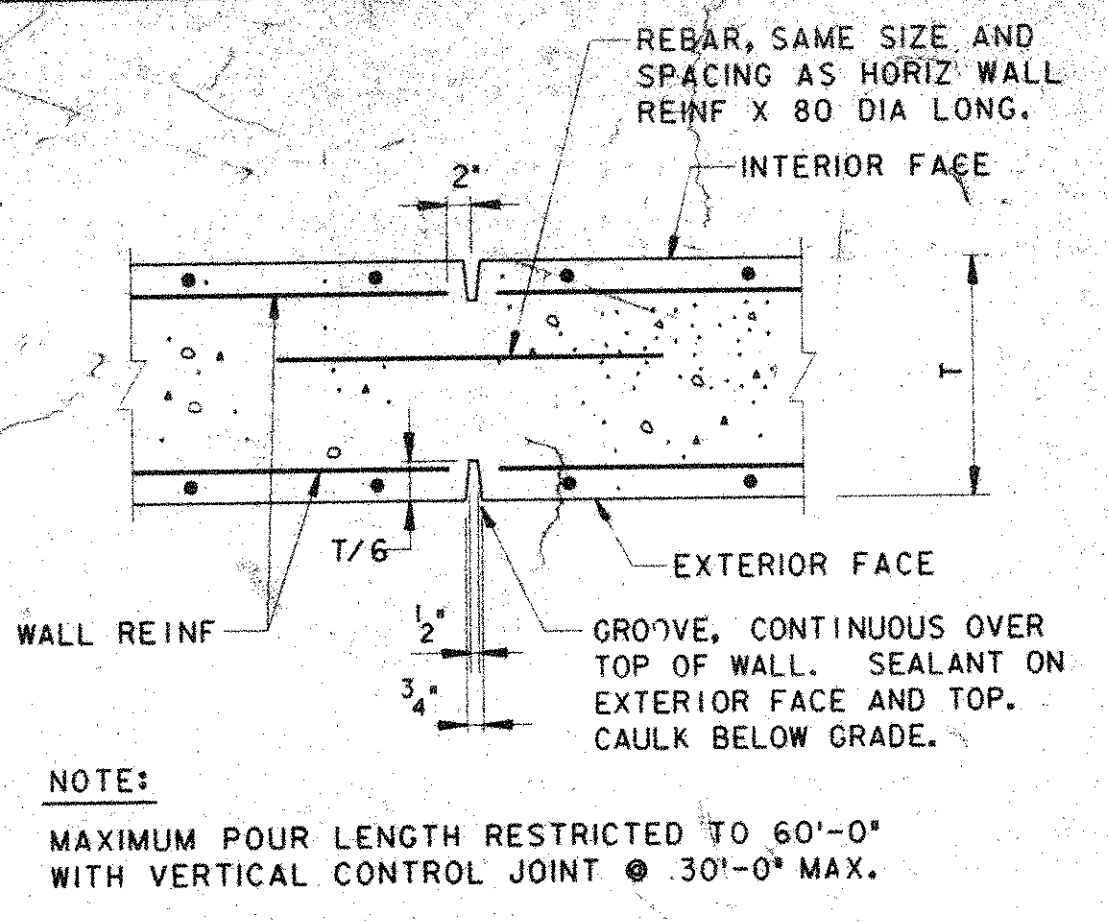
GENERAL NOTES



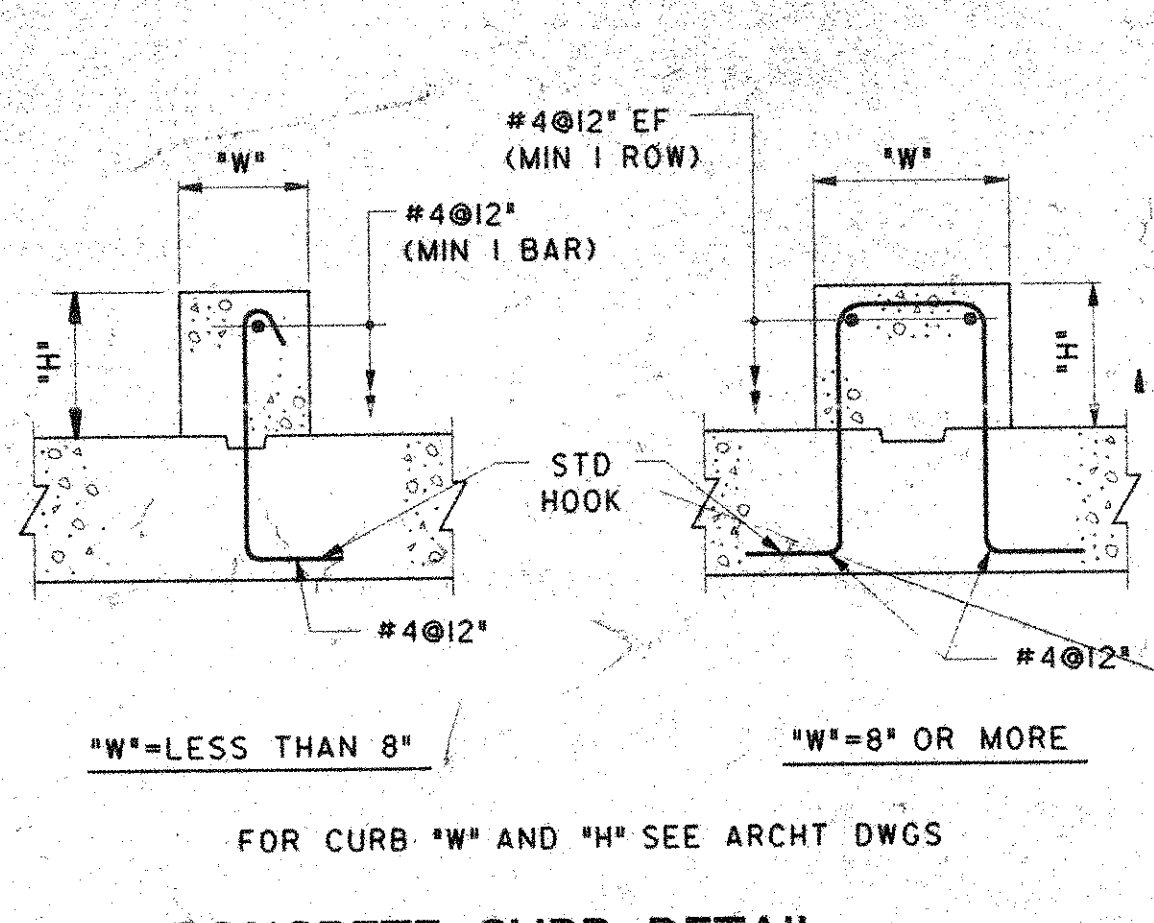
1 HORIZONTAL WALL REINFORCEMENT PLANS



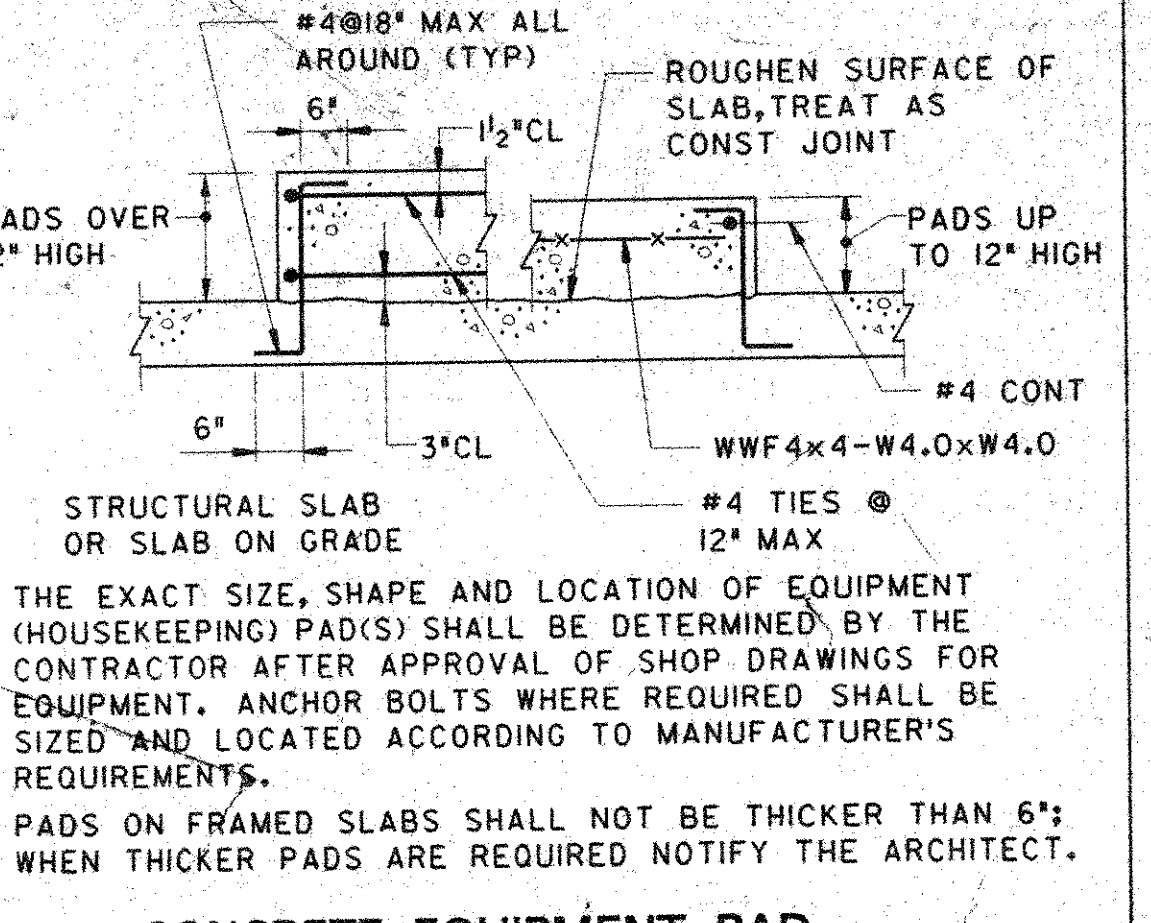
2 VERTICAL CONSTRUCTION JOINT IN CONCRETE WALLS



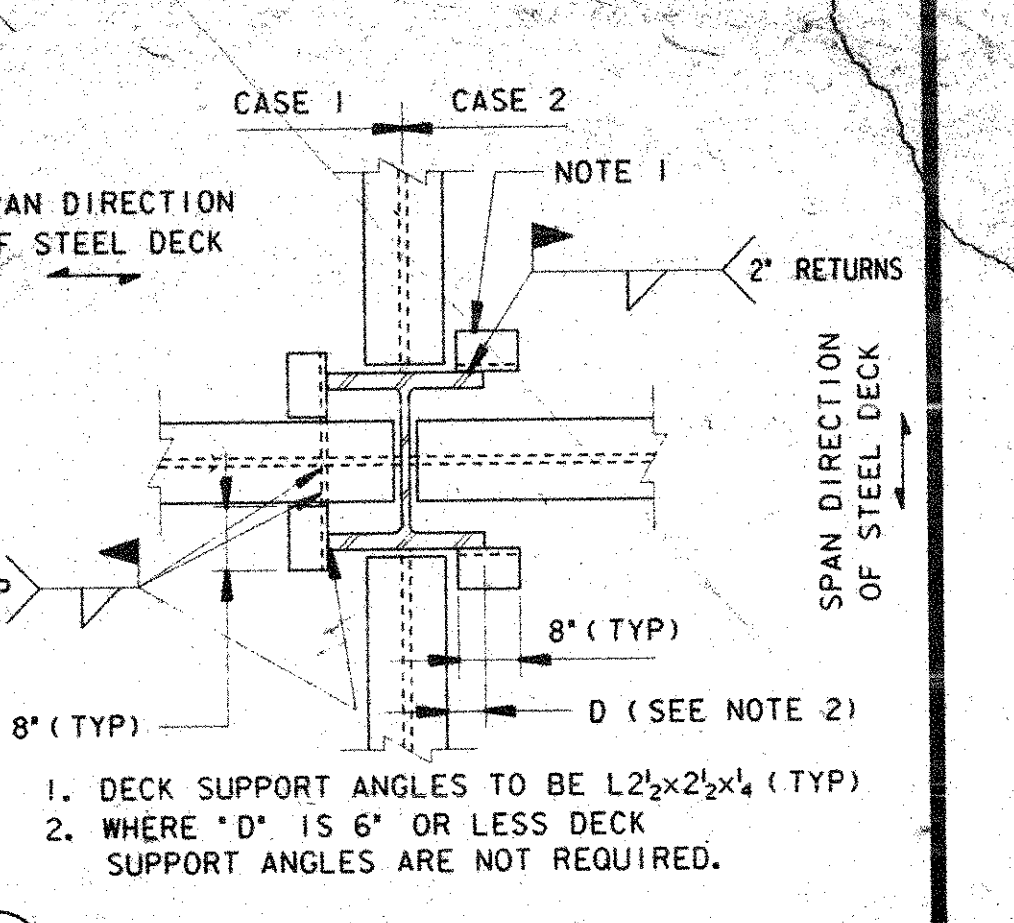
3 VERTICAL CONTROL JOINTS IN CONCRETE WALLS



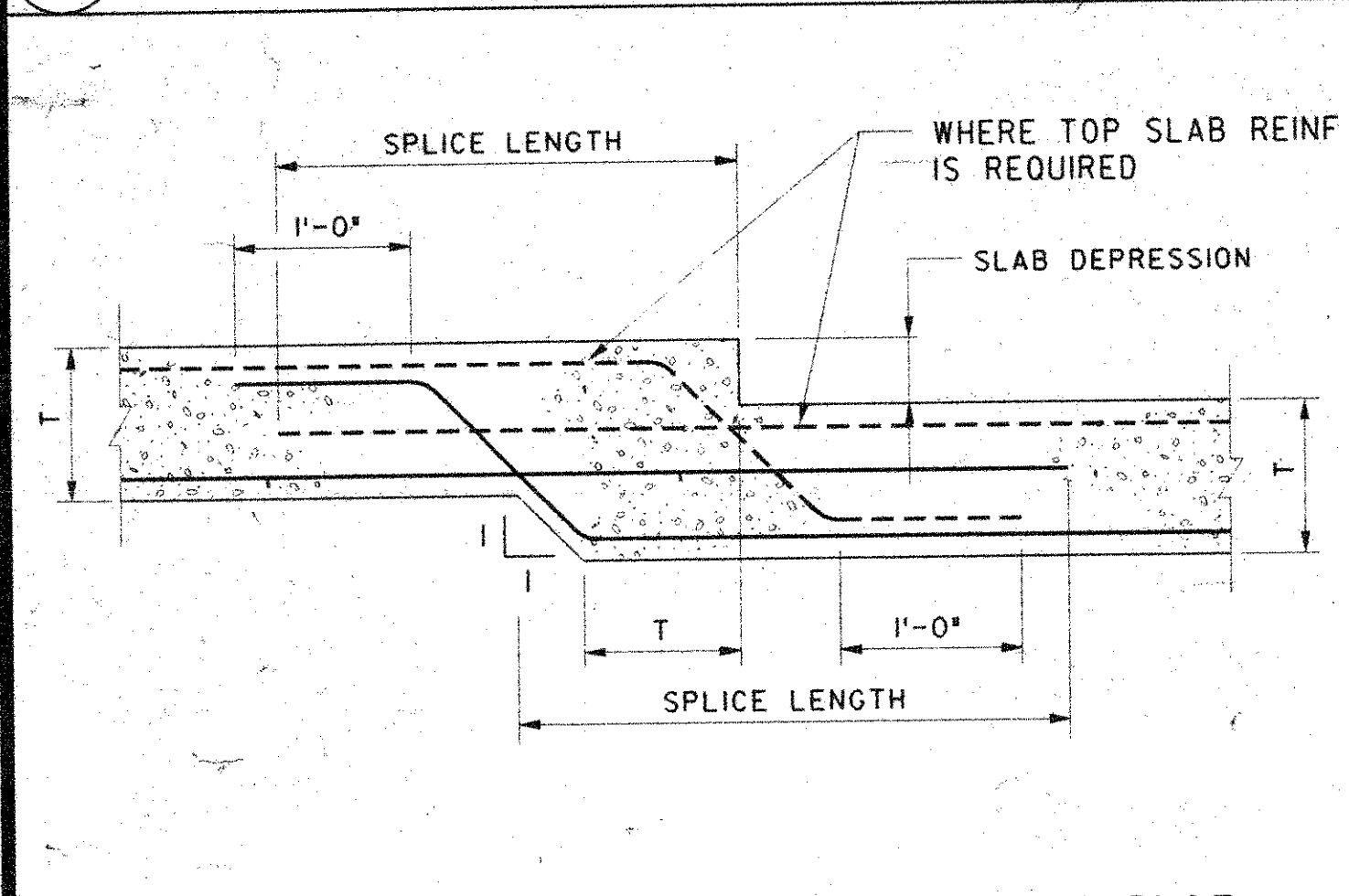
4 CONCRETE CURB DETAIL



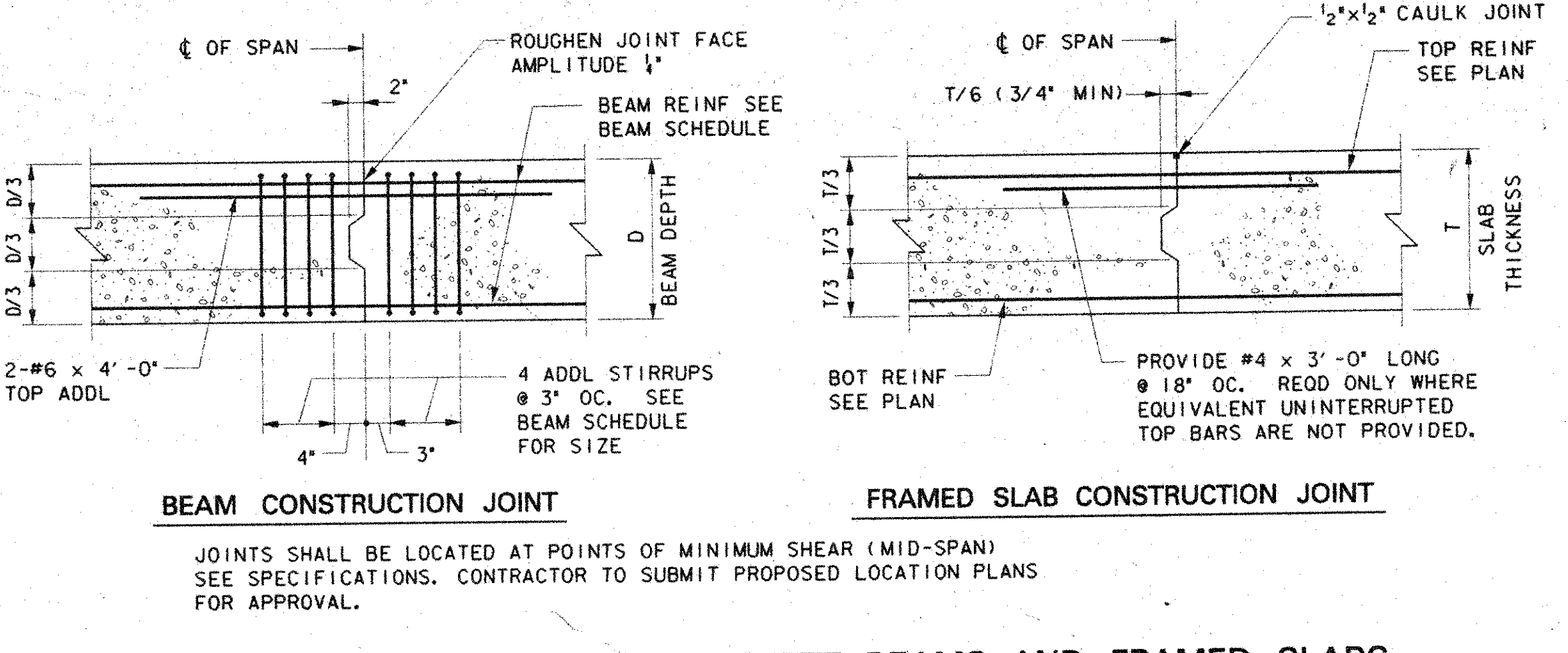
5 CONCRETE EQUIPMENT PAD



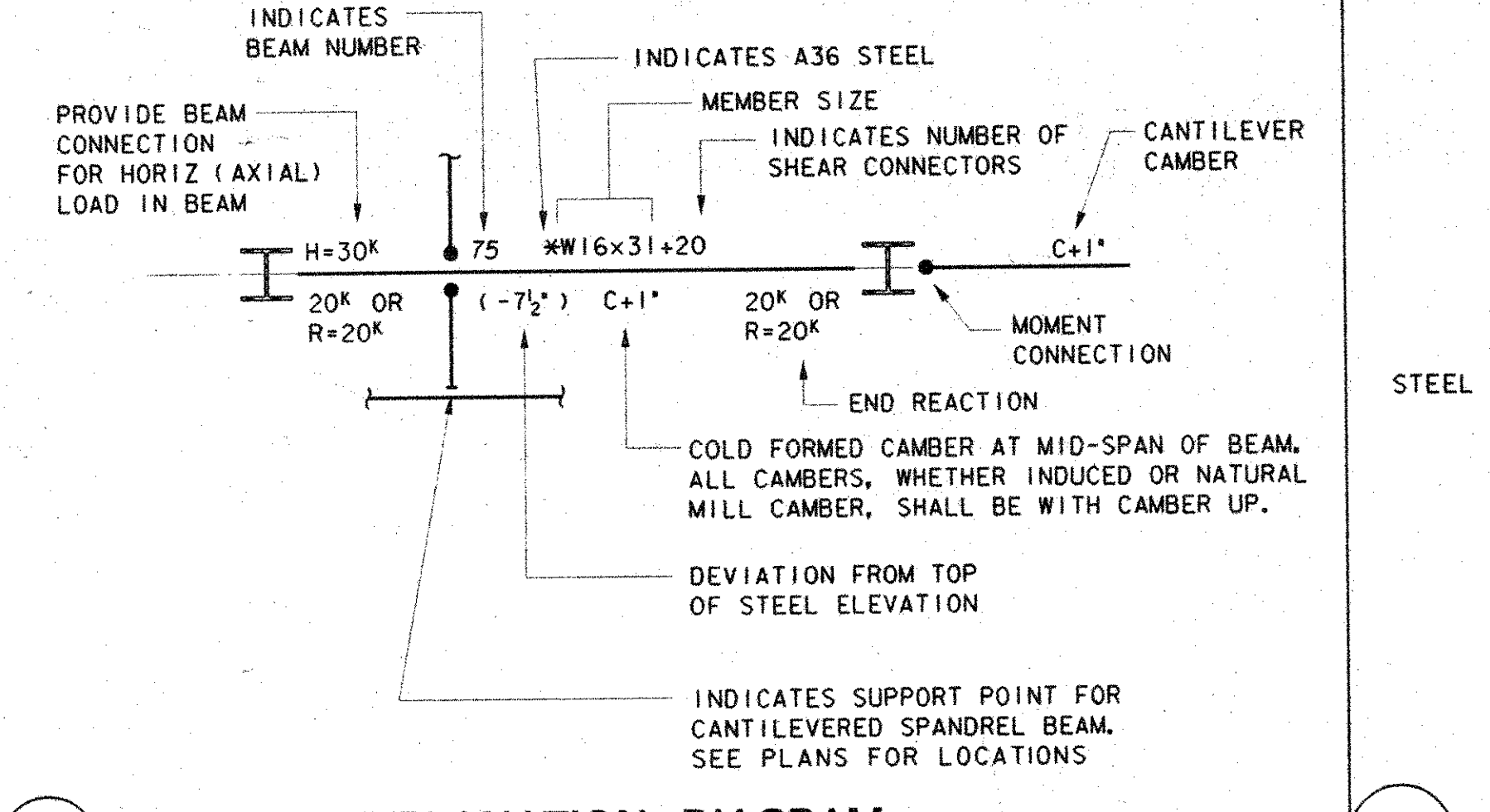
6 DECK SUPPORT AT COLUMNS



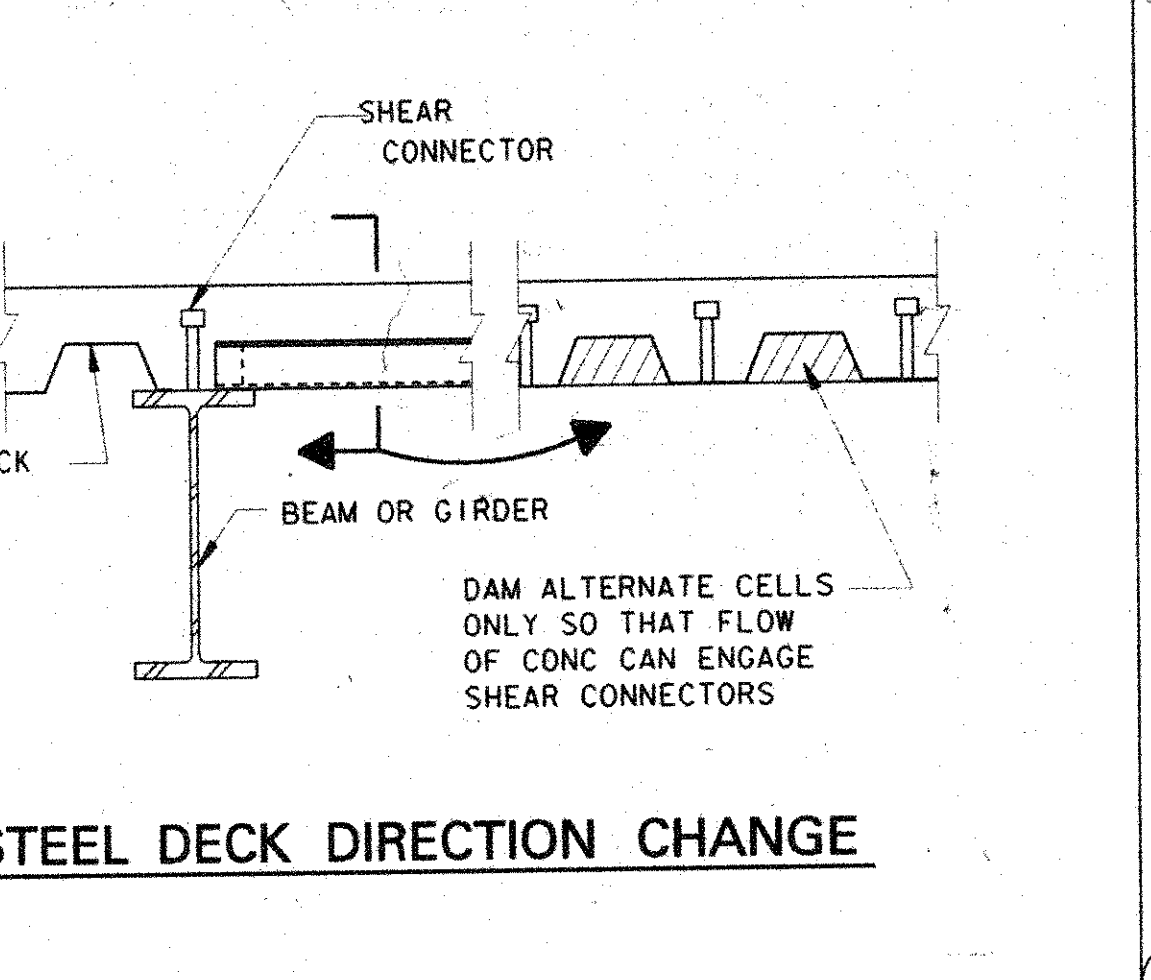
7 DEPRESSION IN FRAMED CONCRETE SLAB



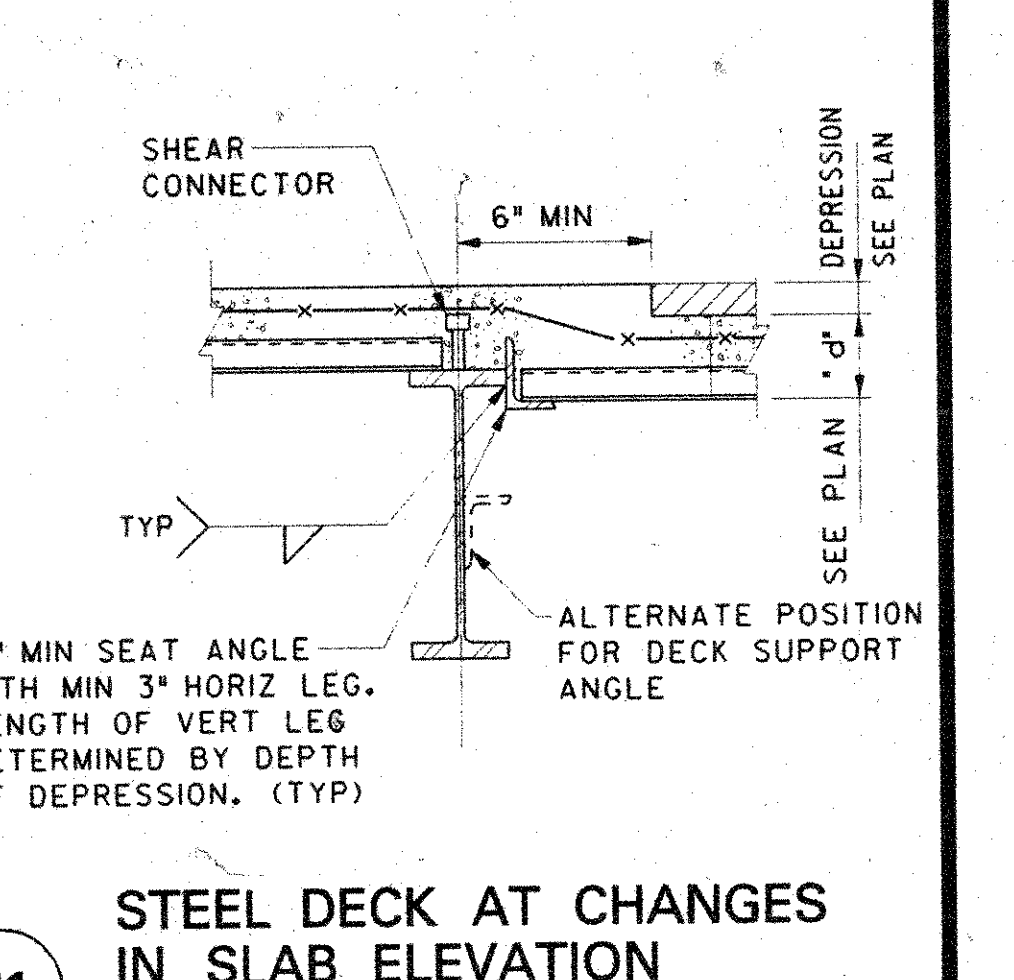
8 CONSTRUCTION JOINT IN CONCRETE BEAMS AND FRAMED SLABS



9 BEAM EXPLANATION DIAGRAM



10 STEEL DECK DIRECTION CHANGE

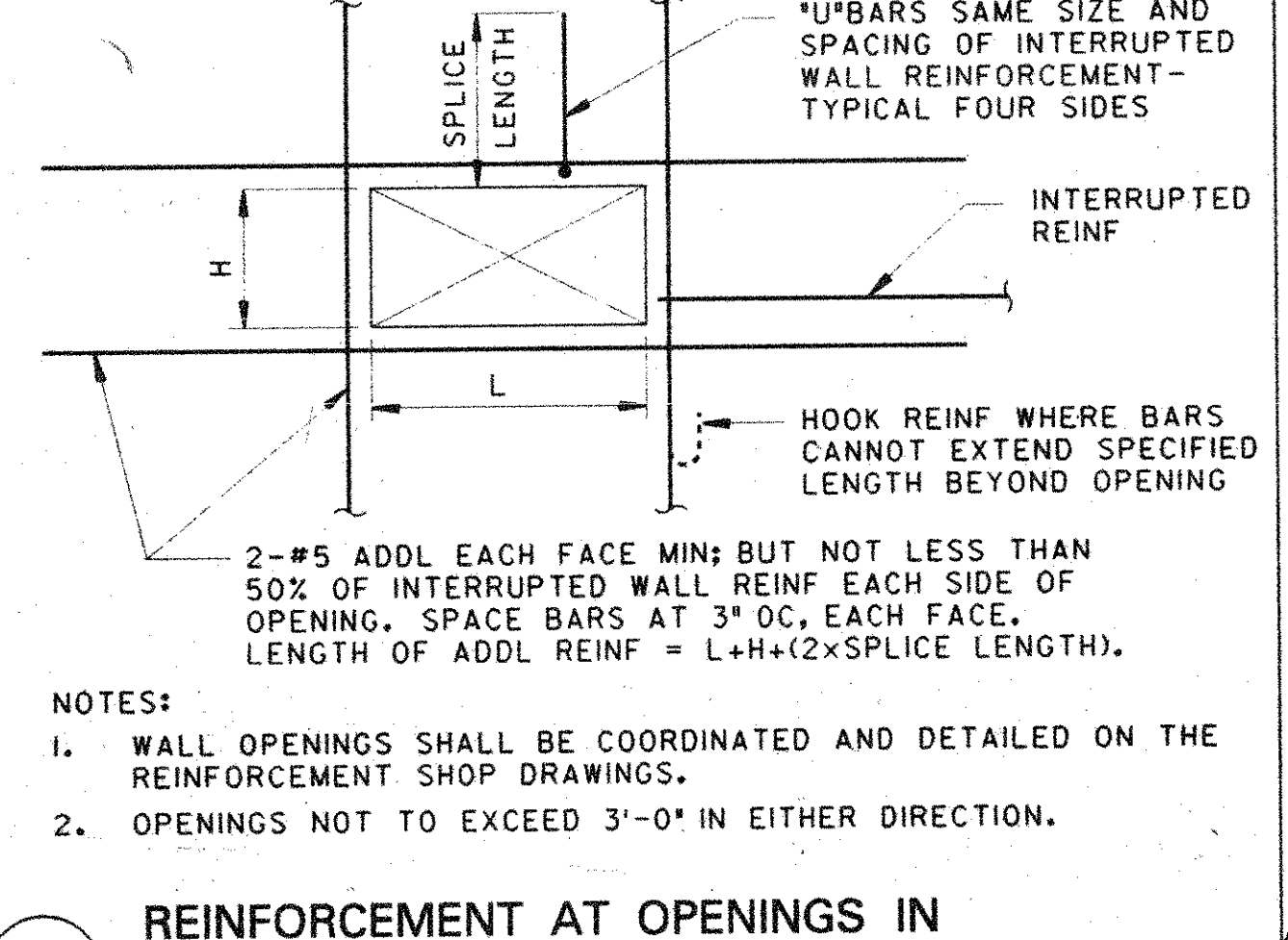


11 STEEL DECK AT CHANGES IN SLAB ELEVATION

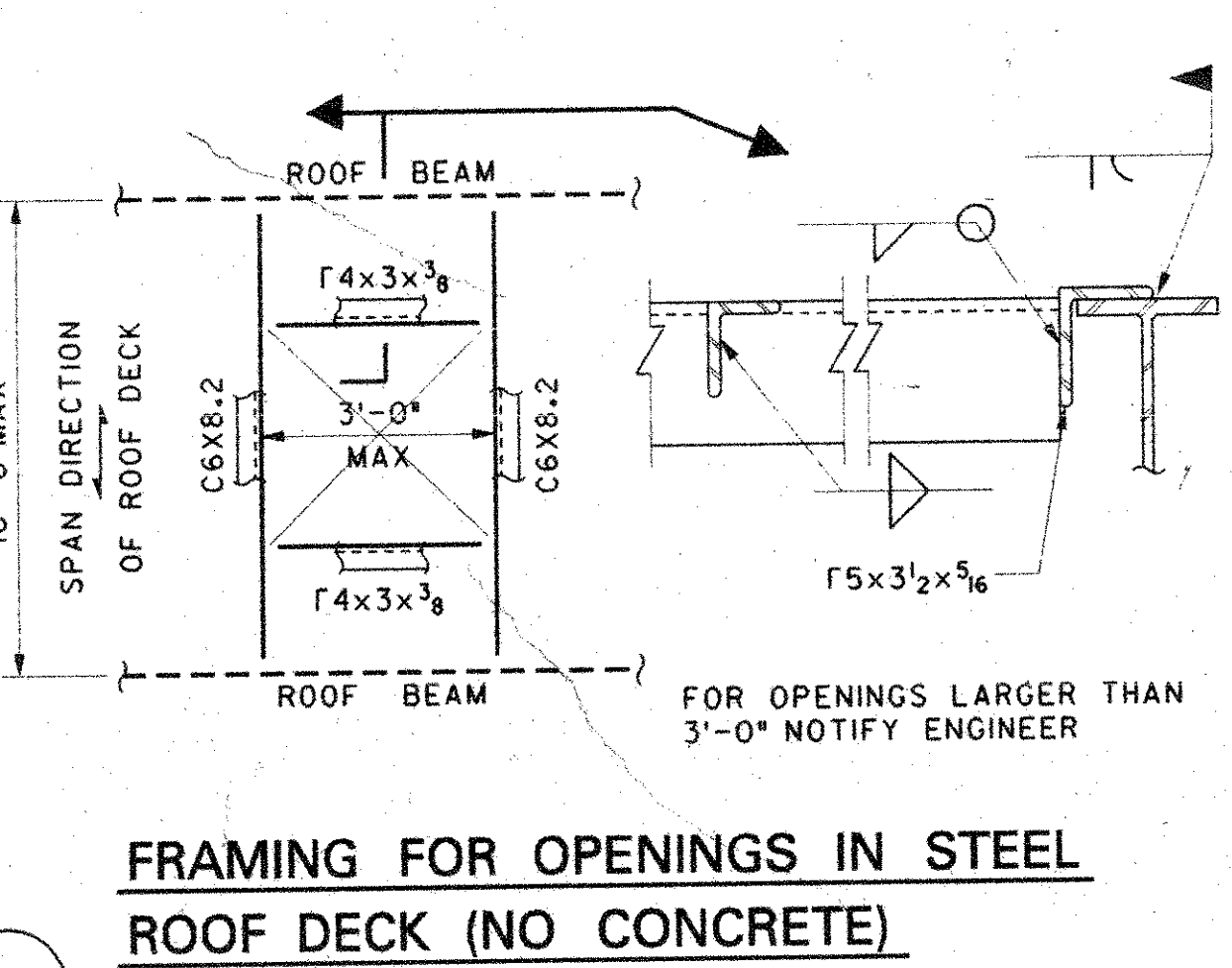
STEEL ANGLE LINTEL SCHEDULE

OPENING MASONRY OPENING	4" WALL	6" WALL	8" WALL	12" WALL
3'-0"	1-L3x3x1/4	2-JL3x3x1/4	2-JL3x3x1/4	3-JL3x3x1/4
4'-0"	1-L4x3x1/4	2-JL3x3x1/4	2-JL4x3x1/4	3-JL4x3x1/4
5'-0"	1-L4x3x1/4	2-JL3x3x1/4	2-JL5x3x1/4	3-JL5x3x1/4
6'-0"	1-L5x3x1/4	2-JL3x3x1/4	2-JL5x3x1/4	3-JL5x3x1/4
8'-0"	1-L5x3x1/4	2-JL3x3x1/4	2-JL6x3x1/4	3-JL6x3x1/4

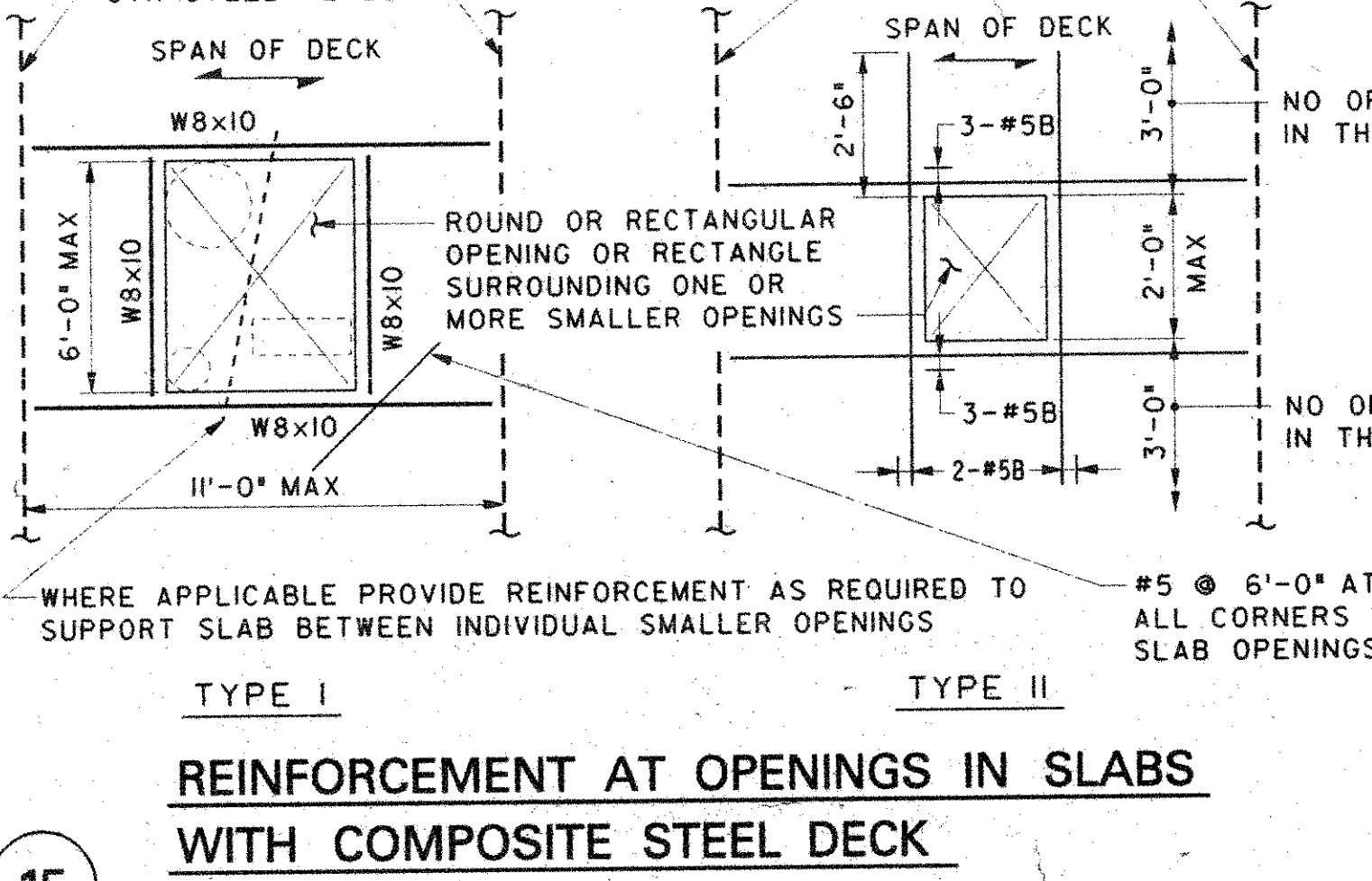
1. PROVIDE AND INSTALL LINTEL ANGLES FOR MASONRY OPENINGS IN ACCORDANCE WITH THE SCHEDULE ABOVE. INSTALL LONG LEG VERTICAL - SEE ARCHT & MECH PLANS FOR LOCATIONS.
2. PROVIDE 6" MIN BEARING AT EACH END BUT NOT LESS THAN 1" PER FOOT OF SPAN. FILL 2 COURSES OF MASONRY BELOW BEARING WITH MORTAR.
3. WHERE MINIMUM BEARING CANNOT BE PROVIDED, ATTACH SECURELY TO ADJACENT STRUCTURAL MEMBERS OR PROVIDE SEPARATE SUPPORTS.
4. WHERE LINTELS OCCUR IN EXTERIOR WALLS MINIMUM THICKNESS SHALL BE 1/2" AND ANGLES SHALL BE HOT DIP GALVANIZED.
5. WHERE WALL THICKNESS EXCEEDS 12" PROVIDE 1/2" ADDITIONAL ANGLE FOR EACH ADDITIONAL 4" OF WALL.



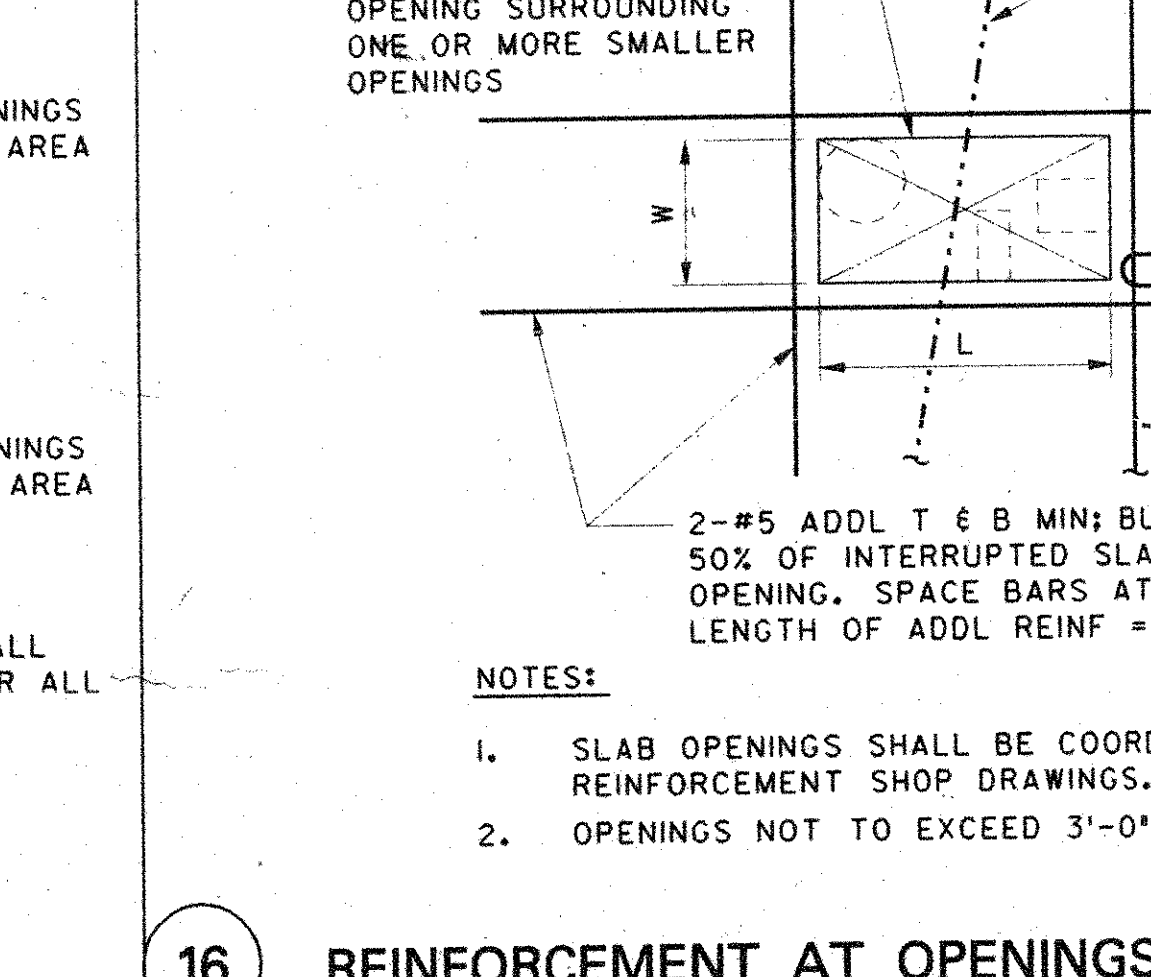
13 REINFORCEMENT AT OPENINGS IN REINFORCED CONCRETE WALLS



14 FRAMING FOR OPENINGS IN STEEL ROOF DECK (NO CONCRETE)



15 REINFORCEMENT AT OPENINGS IN SLABS WITH COMPOSITE STEEL DECK



16 REINFORCEMENT AT OPENINGS IN FRAMED CONCRETE SLABS

MINIMUM SPLICE AND DEVELOPMENT LENGTH SCHEDULE
(UNLESS SHOWN OTHERWISE ON DRAWINGS)

CLASS B TENSION SPLICE	F _y = 60,000 PSI UNCOATED BARS					
	TOP BARS CATEGORY			OTHER BARS CATEGORY		
#3 18"	18"	18"	18"	18"	18"	18"
#4 24"	24"	24"	24"	24"	24"	24"
#5 30"	30"	30"	30"	30"	30"	30"
#6 36"	36"	36"	36"	36"	36"	36"
#7 42"	42"	42"	42"	42"	42"	42"
#8 48"	48"	48"	48"	48"	48"	48"
#9 54"	54"	54"	54"	54"	54"	54"
#10 60"	60"	60"	60"	60"	60"	60"
#11 66"	66"	66"	66"	66"	66"	66"

CATEGORY

STRUCTURAL ELEMENT	CONCRETE COVER	CATEGORY ACCORDING TO CENTER-TO-CENTER BAR SPACING
BEAMS, COLUMNS, AND INNER LAYER OF WALLS OR SLABS	≤ d _b	1
ALL OTHERS	> d _b	2

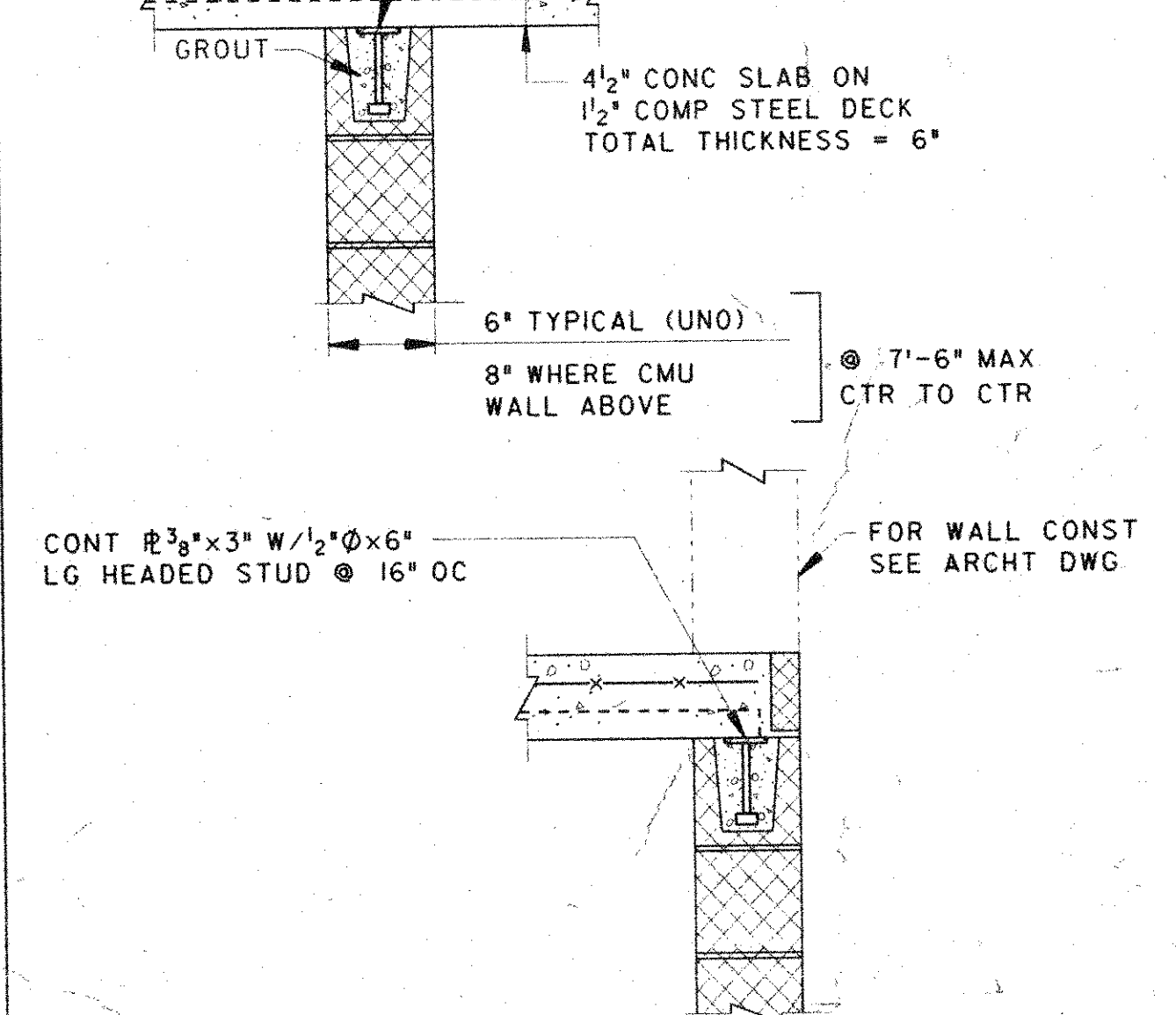
TYPICAL ABBREVIATIONS

SYMBOL	MEANING
d _b	NOMINAL BAR DIAMETER
<	LESS THAN
>	GREATER THAN
≤	EQUAL TO OR LESS THAN
≥	EQUAL TO OR GREATER THAN

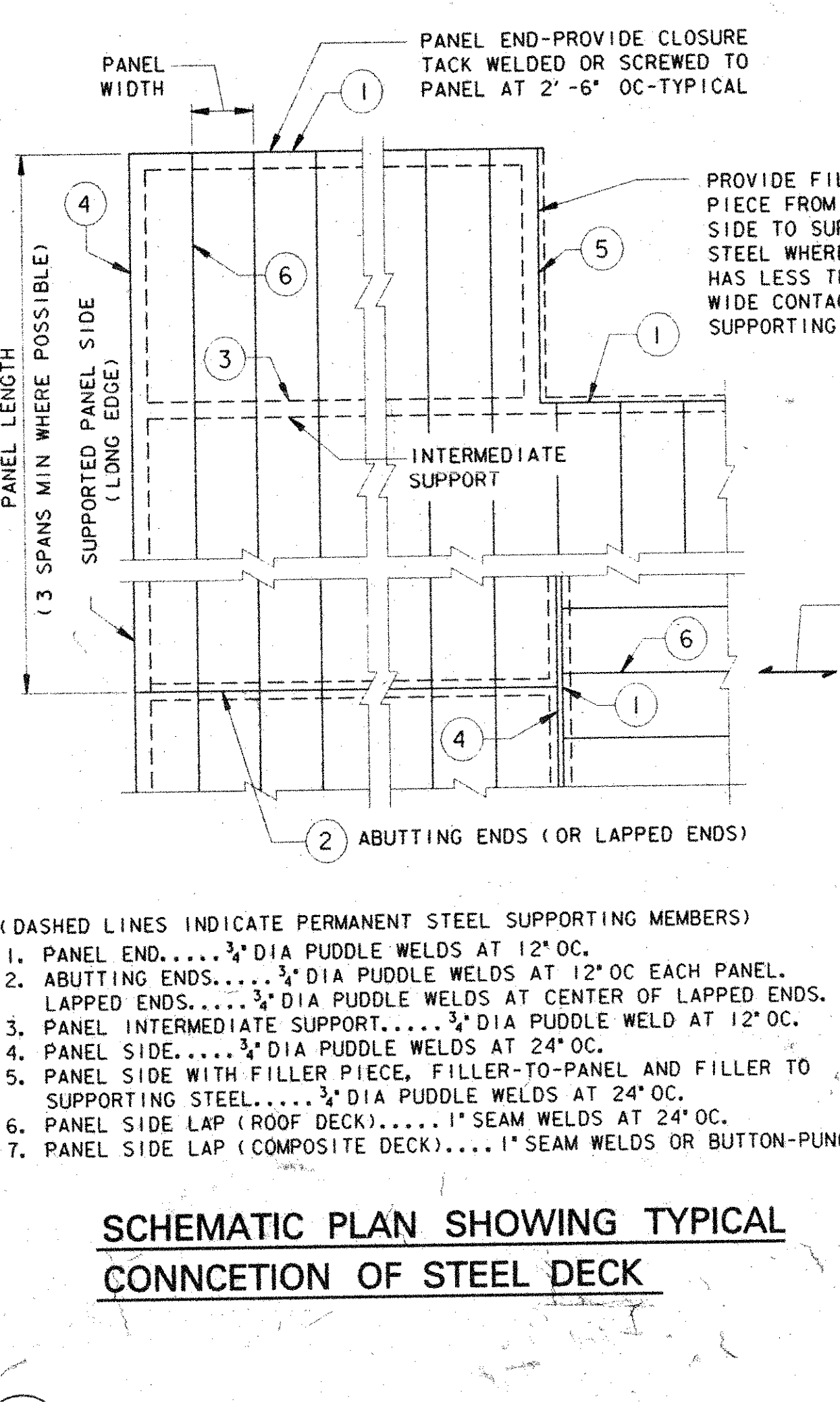
17 REINFORCING SPLICE AND DEVELOPMENT

MINIMUM WALL REINFORCEMENT SCHEDULE

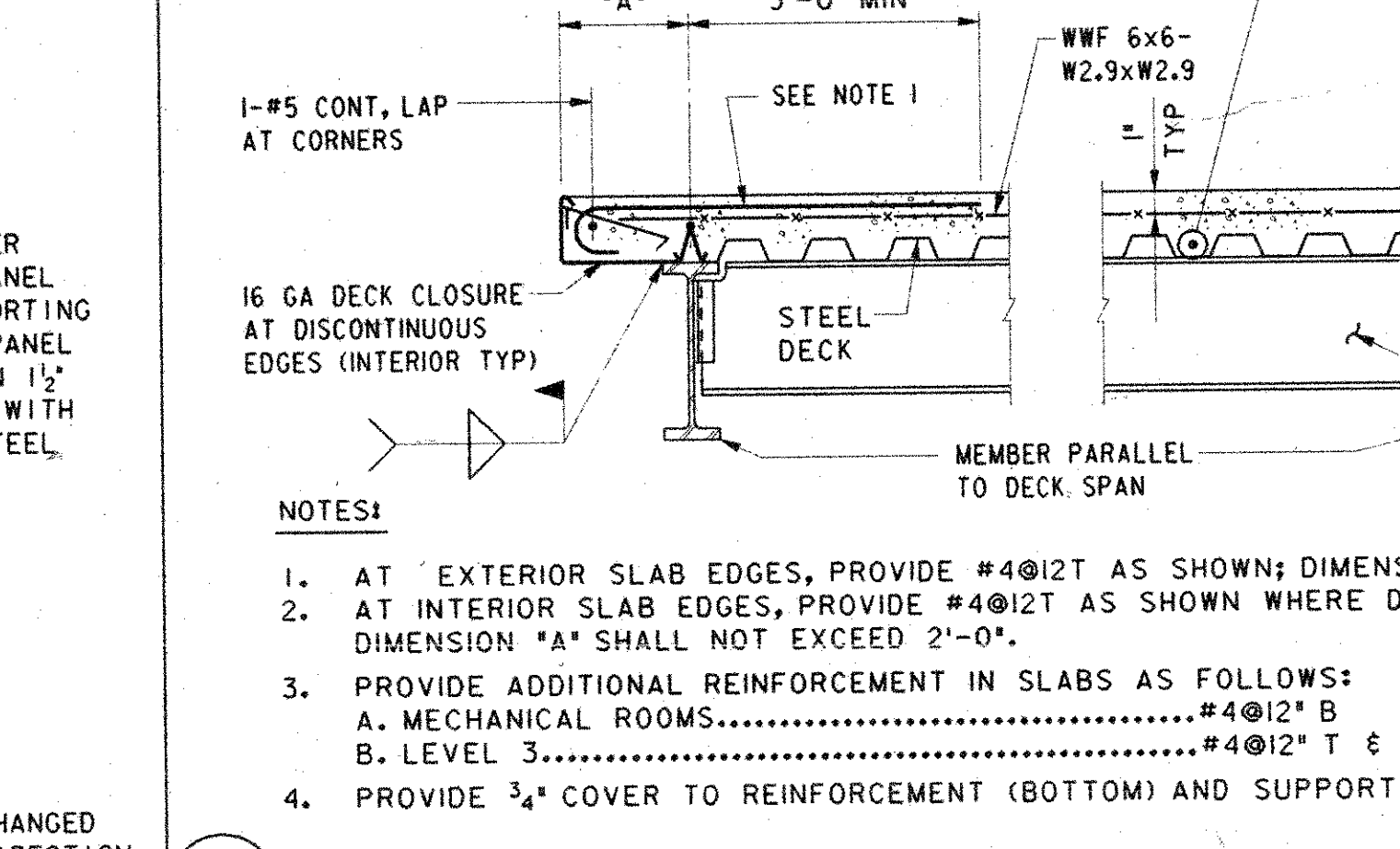
WALL THICKNESS	VERT REINF	HORIZ REINF
LESS THAN 8"	#4@12" C	#4@12" C
8" TO 12" INCL	#4@16" EF	#4@12" EF
OVER 12" TO 18" INCL	#4@12" EF	#4@12" EF
OVER 18" TO 24" INCL	#4@10" EF	#4@10" EF
OVER 24" TO 30" INCL	#5@10" EF	#5@10" EF



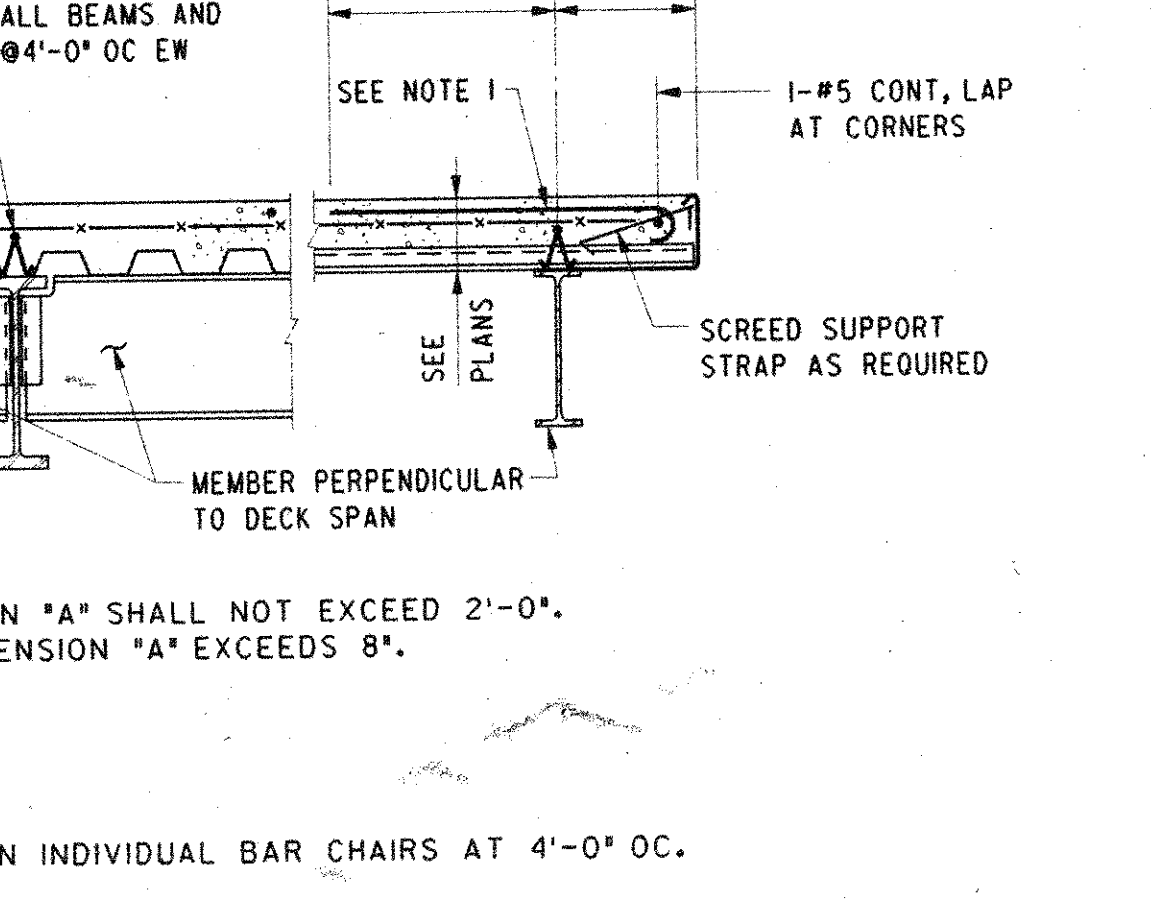
22 BUILT-UP SLAB



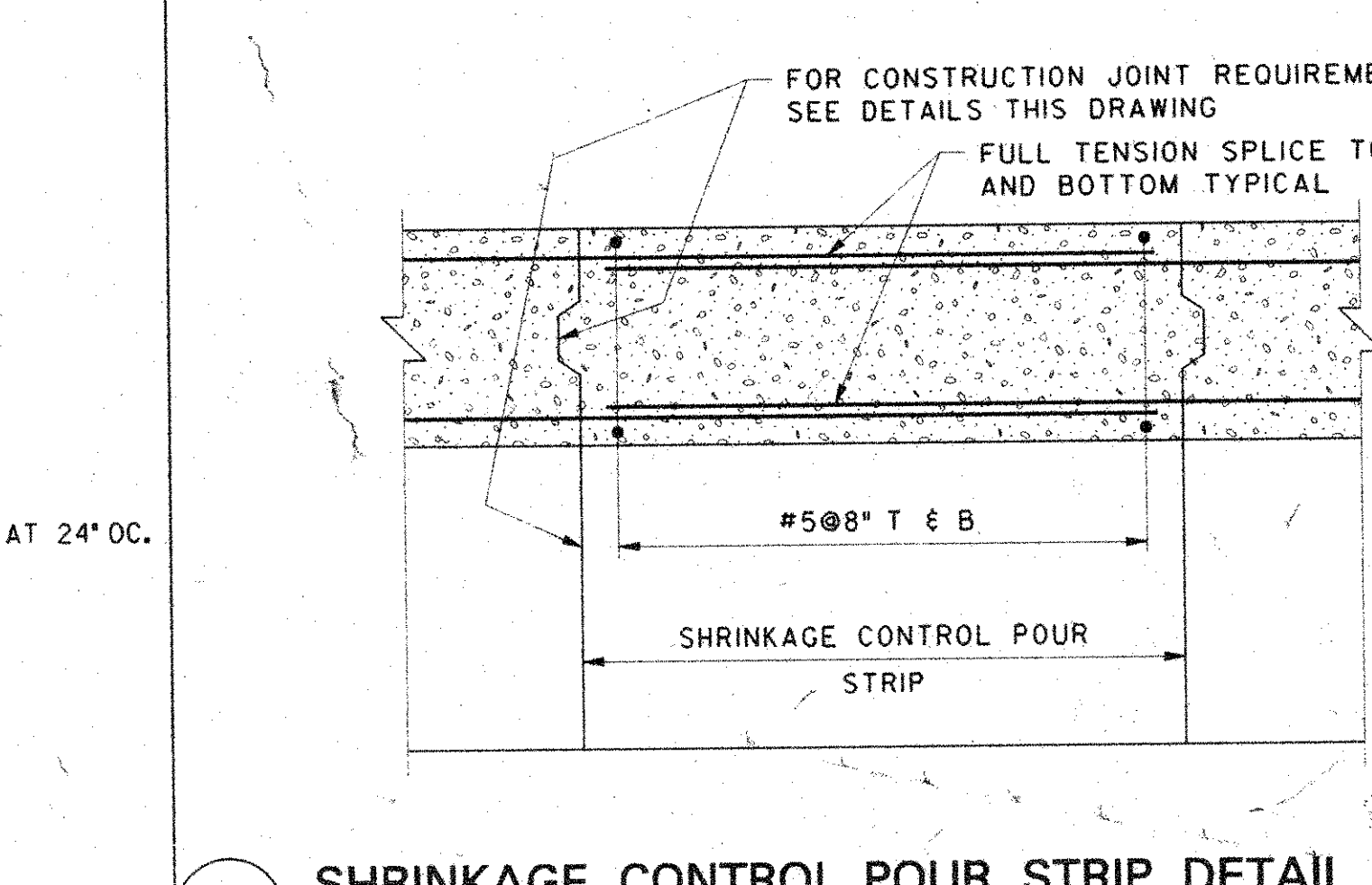
19 SCHEMATIC PLAN SHOWING TYPICAL CONNECTION OF STEEL DECK



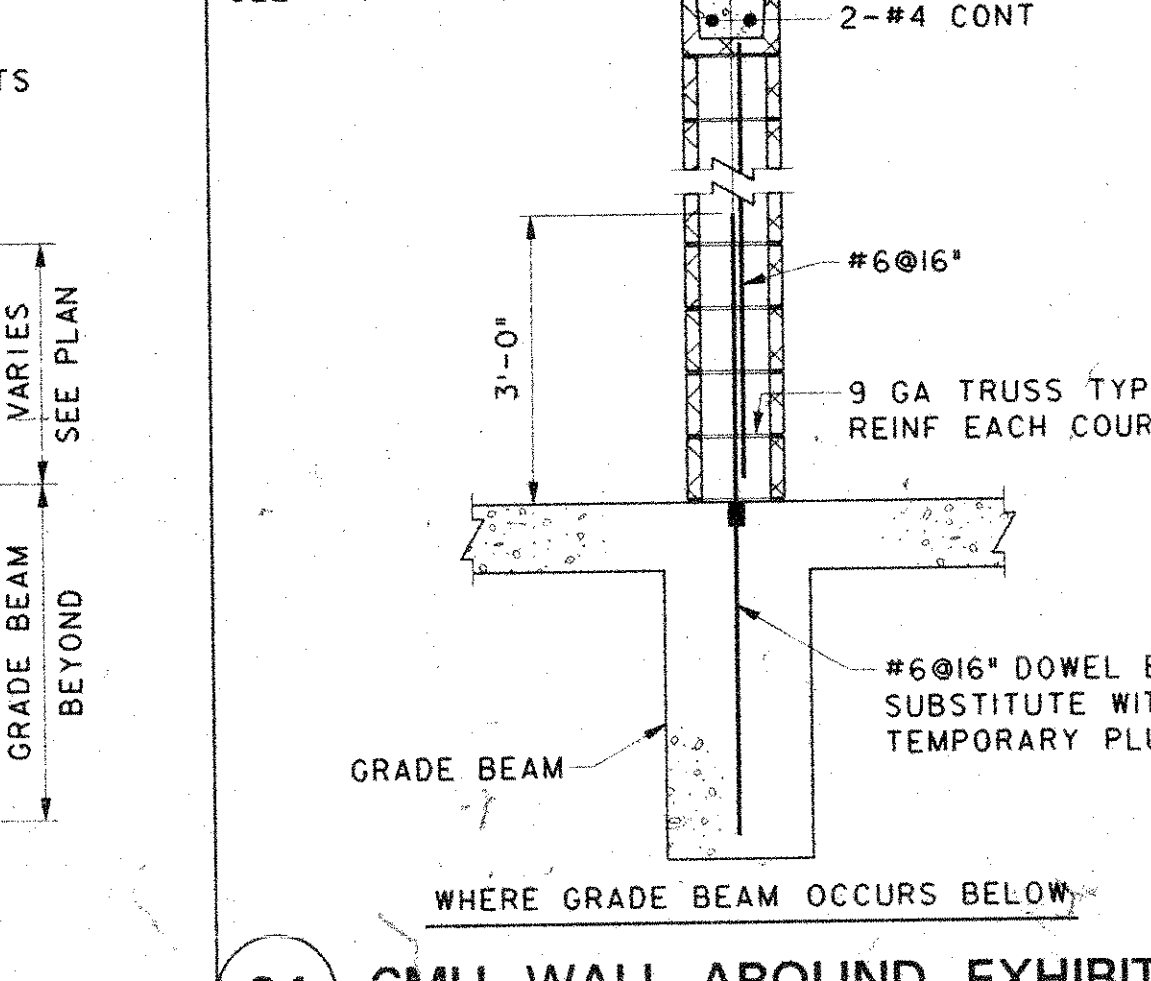
20 TYPICAL REINFORCING IN STEEL DECK SUPPORTED SLABS



21 STEEL DECK PARALLEL TO STEEL BEAM



23 SHRINKAGE CONTROL POUR STRIP DETAIL



24 CMU WALL AROUND EXHIBIT HALL AT LINES 3, 8, F & Q.7

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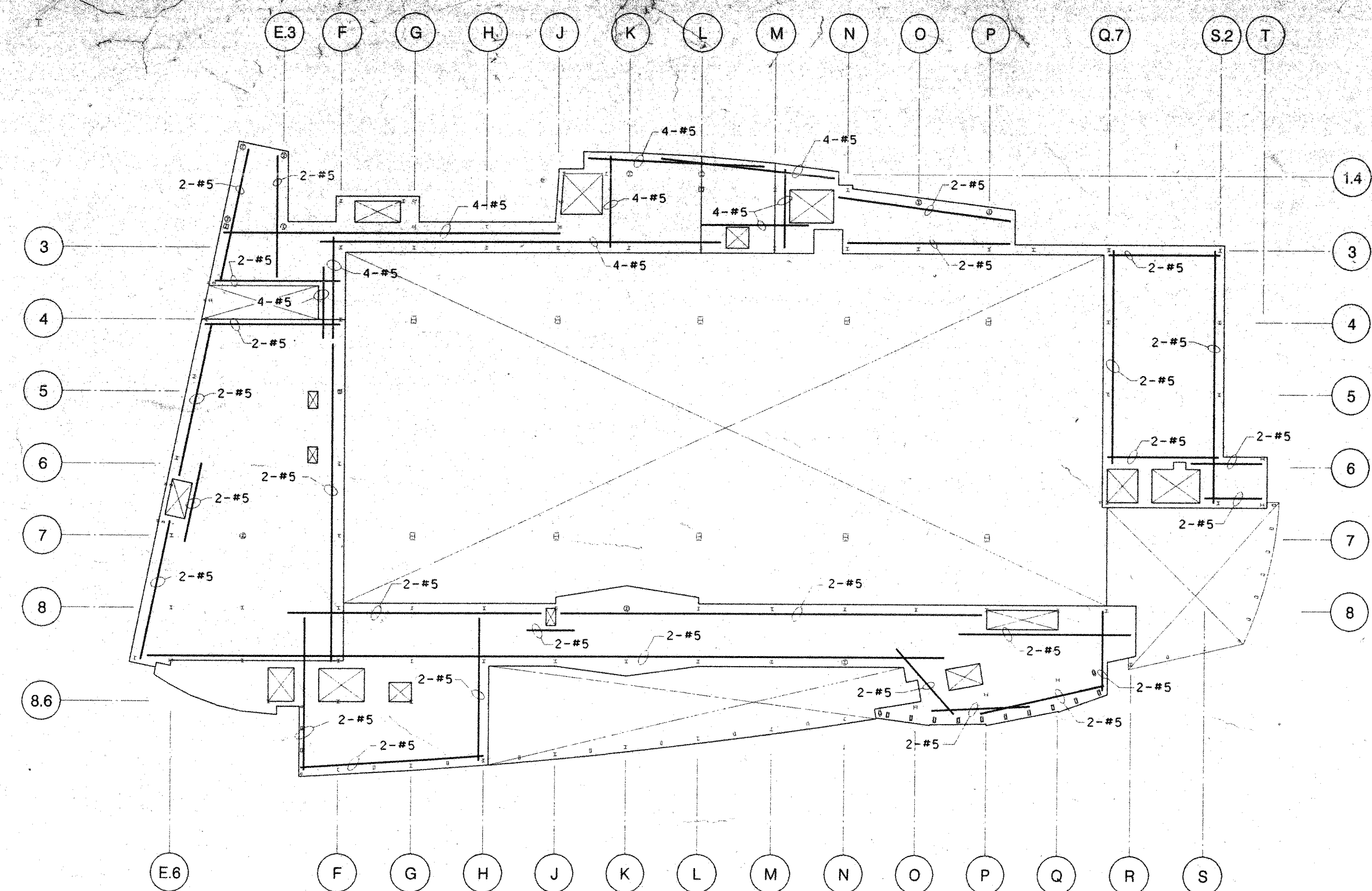
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DATE: NONE JOB NO: 3249
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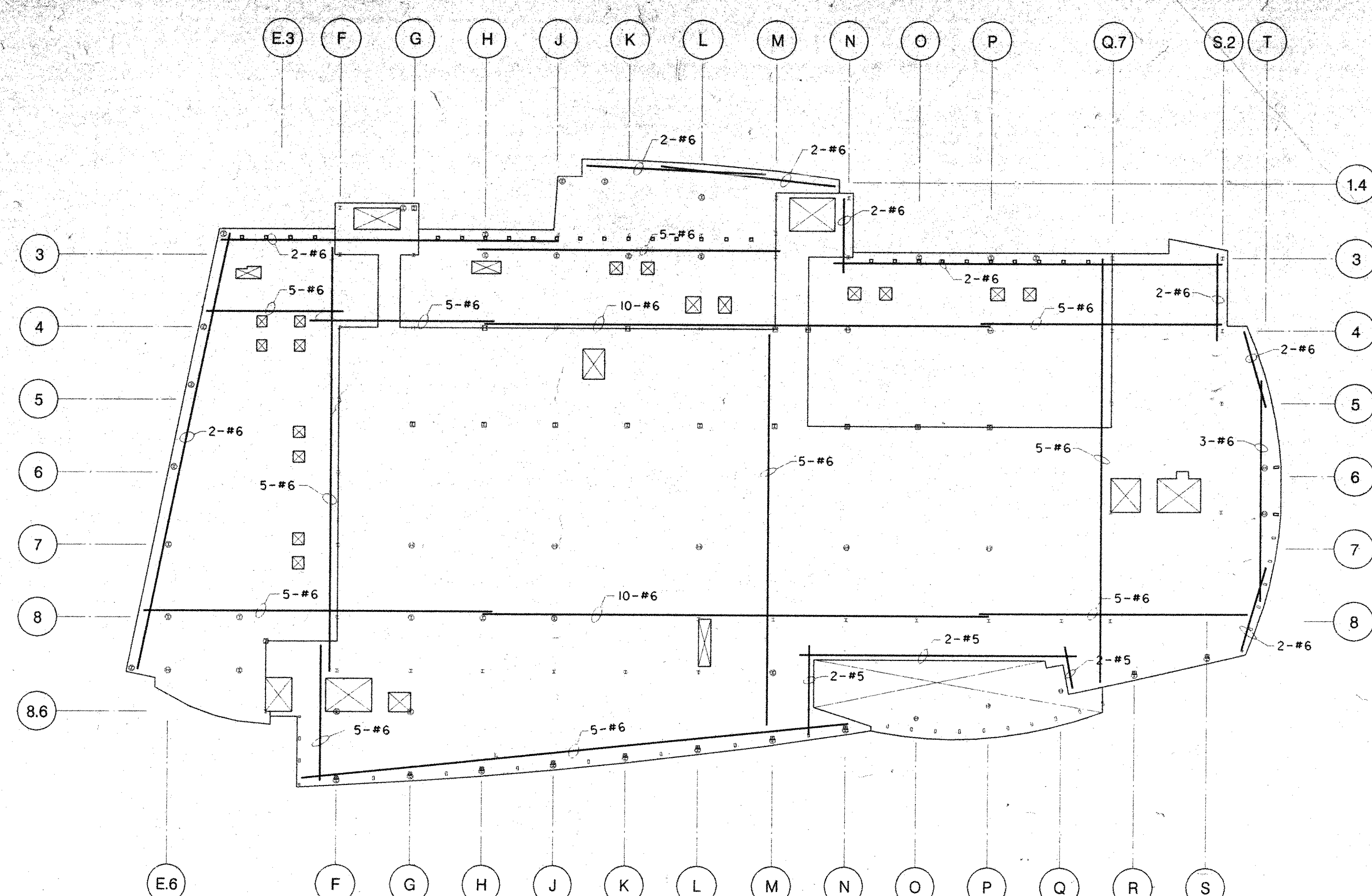
CONSTRUCTION DRAWINGS
TYPICAL DETAILS
DATE: 19 MAY 95 SECTION: S DRAWING NO: 1.2

GENERAL NOTES

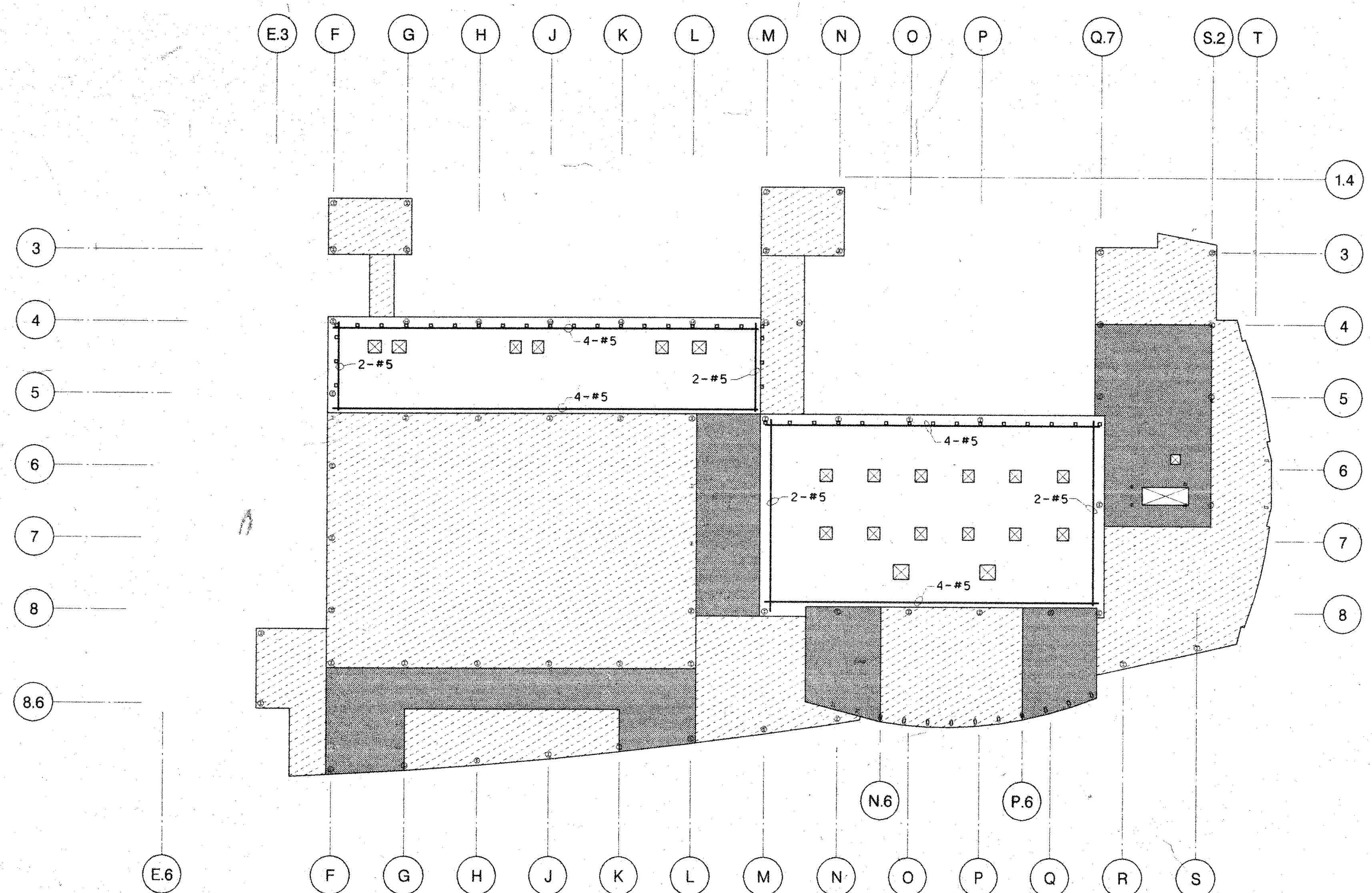
1. ALL MAIN REINFORCEMENT SHOWN ON PLANS TO BE PLACED IN CONCRETE TOPPING ABOVE STEEL DECK.
2. ALL MAIN REINFORCING BARS TO MAINTAIN A MINIMUM CLEAR CONCRETE COVER OF 3" ABOVE AND BELOW BARS. PROVIDE BAR SUPPORTS AT 3'-0" ON CENTER MAXIMUM TO SATISFY COVER REQUIREMENTS.
3. ALL CONTINUOUS MAIN REINFORCING BARS SHALL BE SPLICED USING 30" LAP SPLICES FOR #5 BARS AND 42" LAP SPLICE FOR #6 BARS. SPLICES SHALL BE STAGGERED SO THAT HALF OR LESS OF BARS ARE SPLICED AT ONE POINT.
4. CLEAR SPACING BETWEEN BARS WITHIN MAIN REINFORCING BAR GROUP SHALL BE LIMITED TO A MINIMUM OF 2" AND A MAXIMUM OF 4".
5. PROVIDE A MINIMUM OF 3" CLEAR COVER AT ALL STEEL COLUMNS AND SLAB EDGES.
6. CONTRACTOR SHALL COORDINATE PLACEMENT OF ALL MAIN REINFORCING WITH STEEL BEAM SHEAR CONNECTORS PROJECTING INTO CONCRETE TOPPING.



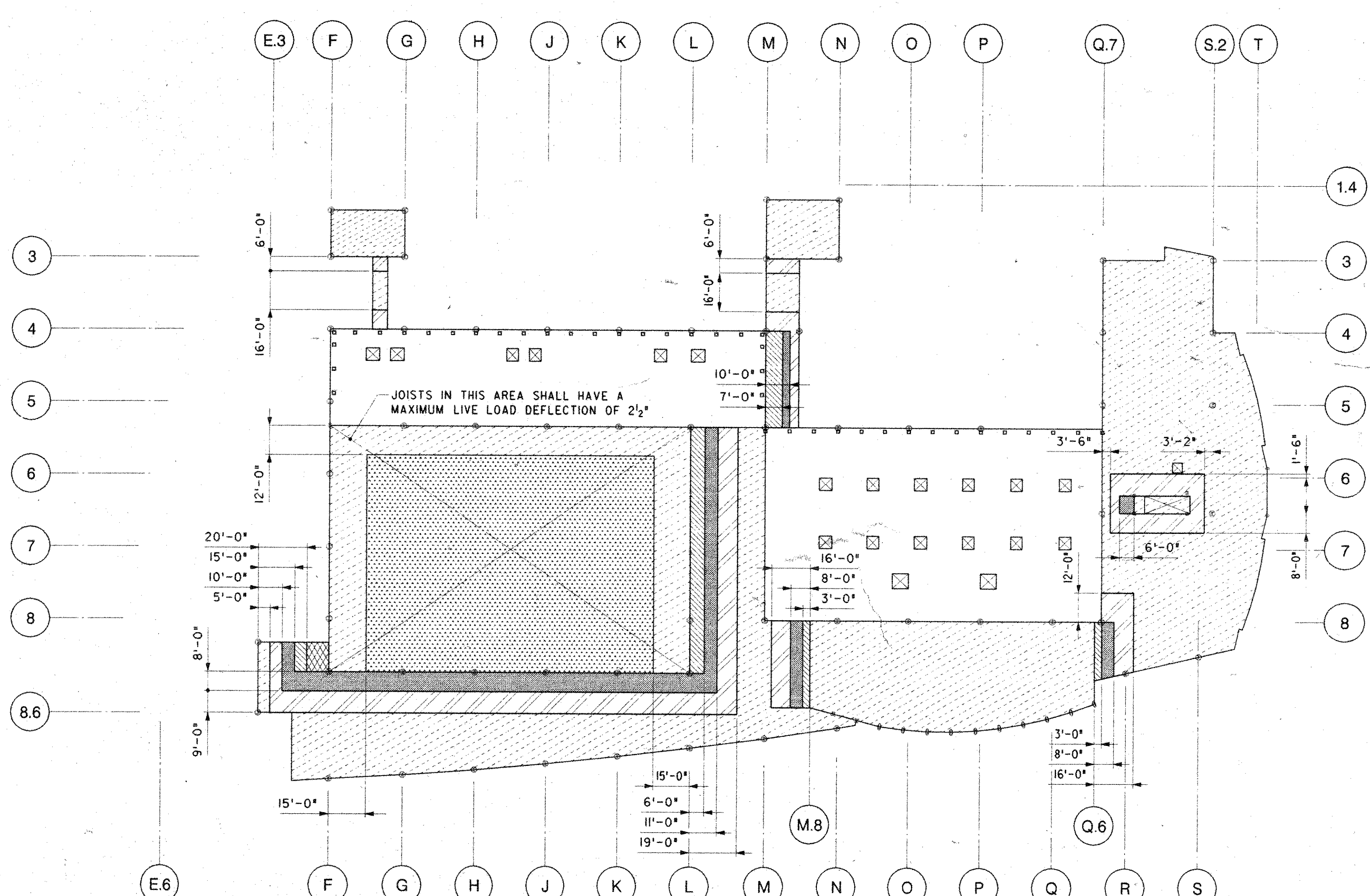
LEVEL 2 SLAB REINFORCING DIAGRAM



LEVEL 3 SLAB REINFORCING DIAGRAM



ROOF SLAB REINFORCING DIAGRAM

ROOF DECK AND OPEN-WEB
STEEL JOIST LOADING DIAGRAM

NOTE:
INCLUDE LOADING REQUIREMENTS SHOWN IN
DETAILS 6 AND 7 ON DRAWING S-4.8 AND
DETAILS 6 AND 7 ON DRAWING S-2.6

LEGEND

- 135 PSF LIVE LOAD + 30 PSF DEAD LOAD
- 115 PSF LIVE LOAD + 30 PSF DEAD LOAD
- 95 PSF LIVE LOAD + 30 PSF DEAD LOAD
- 65 PSF LIVE LOAD + 30 PSF DEAD LOAD
- 35 PSF LIVE LOAD + 40 PSF DEAD LOAD
- 35 PSF LIVE LOAD + 30 PSF DEAD LOAD

LEGEND

- AREA OF 20 GA ROOF DECK
- AREA OF 18 GA ROOF DECK

NO. DATE REVISION

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SCALE

1/32" = 1'-0"

JOB NO.

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CONSTRUCTION DRAWINGS

SLAB REINFORCING DIAGRAMS

DATE

19 MAY 95

SECTION

S

DRAWING NO.

1.3

GENERAL NOTES

1. PC2, ETC., INDICATES PILE CAP TYPE, SEE DWG S-3.
2. FOR TOP OF PILE CAP ELEVATIONS SEE DETAILS 4 AND 5 ON DRAWING S-3.1.
3. DPI, ETC., INDICATES DROP PANEL TYPE, SEE DETAIL 3 ON DRAWING S-3.1.
4. GB-1, ETC., INDICATES GRADE BEAM TYPE. FOR REINFORCEMENT SEE SCHEDULE ON DWG S-3.2. (16x40), ETC., INDICATES GRADE BEAM SIZE. (WIDTH X DEPTH), SEE DETAILS ON DWG S-3.2.
5. FOR REINFORCED CONCRETE PIER LOCATIONS SEE DETAIL 5 ON DRAWING S-3.1.
6. H INDICATES COLUMN STARTS.
7. WB-1, ETC., INDICATES VERTICAL PLANE DIAGONAL BRACING LOCATIONS. SEE DRAWING S-3.5.
8. INDICATES AREAS WHERE TOPPING SLAB PITCHES TO DRAINS. FOR LOCATIONS SEE ARCHT DRAWINGS.
9. FOR GRID LOCATIONS NOT SHOWN SEE DWG S-2.2.
10. INDICATES LIMITS OF 3" SLAB DEPRESSION.
11. EXISTING 6" STRUCTURAL SLAB ON GRADE. MAXIMUM LIVE LOAD = 150 PSF. MAXIMUM CONCENTRATED LOAD = 6000#.
12. PLACE CONCRETE IN SHRINKAGE CONTROL POUR STRIPS NO SOONER THAN 60 DAYS AFTER CONCRETE PLACEMENT IS COMPLETED ON BOTH SIDES. CARE SHALL BE EXERCISED IN THE FINISHING PROCESS TO INSURE SLAB ALIGNMENT ACROSS THE POUR STRIPS.
13. ELEVATOR PIT LOADS ARE BASED UPON INFORMATION SUPPLIED BY BAY STATE ELEVATOR COMPANY, INC. ESCALATOR OPENINGS, LOCATIONS, DETAILS, AND SUPPORT REACTIONS ARE BASED UPON INFORMATION SUPPLIED BY ORK ESCALATORS, INC. ALTERNATE PROPOSALS BY THE CONTRACTOR SHALL INCLUDE REVISED FRAMING AND DESIGN LOADS SUBJECT TO REVIEW OF THE ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.

PART PLAN-RAMP AND LANDING STAIR 1

SCALE: 1/4" = 1'-0"

TRANSFORMER VAULT FOUNDATION-PART PLAN

FOR SLAB REINFORCING SEE DRAWINGS S-2.1A, S-2.1B AND S-2.1C

FIRST FLOOR SLAB NOTES:

1. TYPICAL REINFORCING PLACING ORDER, UNLESS OTHERWISE NOTED SHALL BE, FROM BOTTOM:
(1) EAST-WEST BOTTOM
(2) NORTH-SOUTH BOTTOM
(3) NORTH-SOUTH TOP
(4) EAST-WEST TOP
2. PROVIDE THE FOLLOWING MINIMUM CONTINUOUS REINFORCING IN ALL 1ST FLOOR SLABS:
A. 8" SLABS:
BOTTOM: #5@8" EACH WAY, CONTINUOUS
TOP: #5@12" NORTH-SOUTH, CONTINUOUS
#5@12" EAST-WEST, CONTINUOUS
B. 10" SLABS:
BOTTOM: #6@12" EAST-WEST, CONTINUOUS
#6@10" NORTH-SOUTH, CONTINUOUS
#6@12" EACH WAY, CONTINUOUS
TOP: #5@12" EACH WAY, CONTINUOUS
3. UNLESS OTHERWISE SHOWN, ALL ADDITIONAL SLAB REINFORCING SHALL BE #5 BARS.
4. PROVIDE ADDITIONAL REINFORCING SPACED UNIFORMLY IN COLUMN STRIPS OR MIDDLE STRIPS WHERE NOTED ON DRAWINGS S-2.1A, S-2.1B & S-2.1C. NOTE THAT THE PLANS SHOW ONLY THESE BARS WHICH ARE ADDITIONAL TO THE MINIMUM REINFORCING CALLED FOR IN THE NOTES ABOVE.

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SCALE

1/16" = 1'-0"

JOB NO. 3249

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CONSTRUCTION DRAWINGS

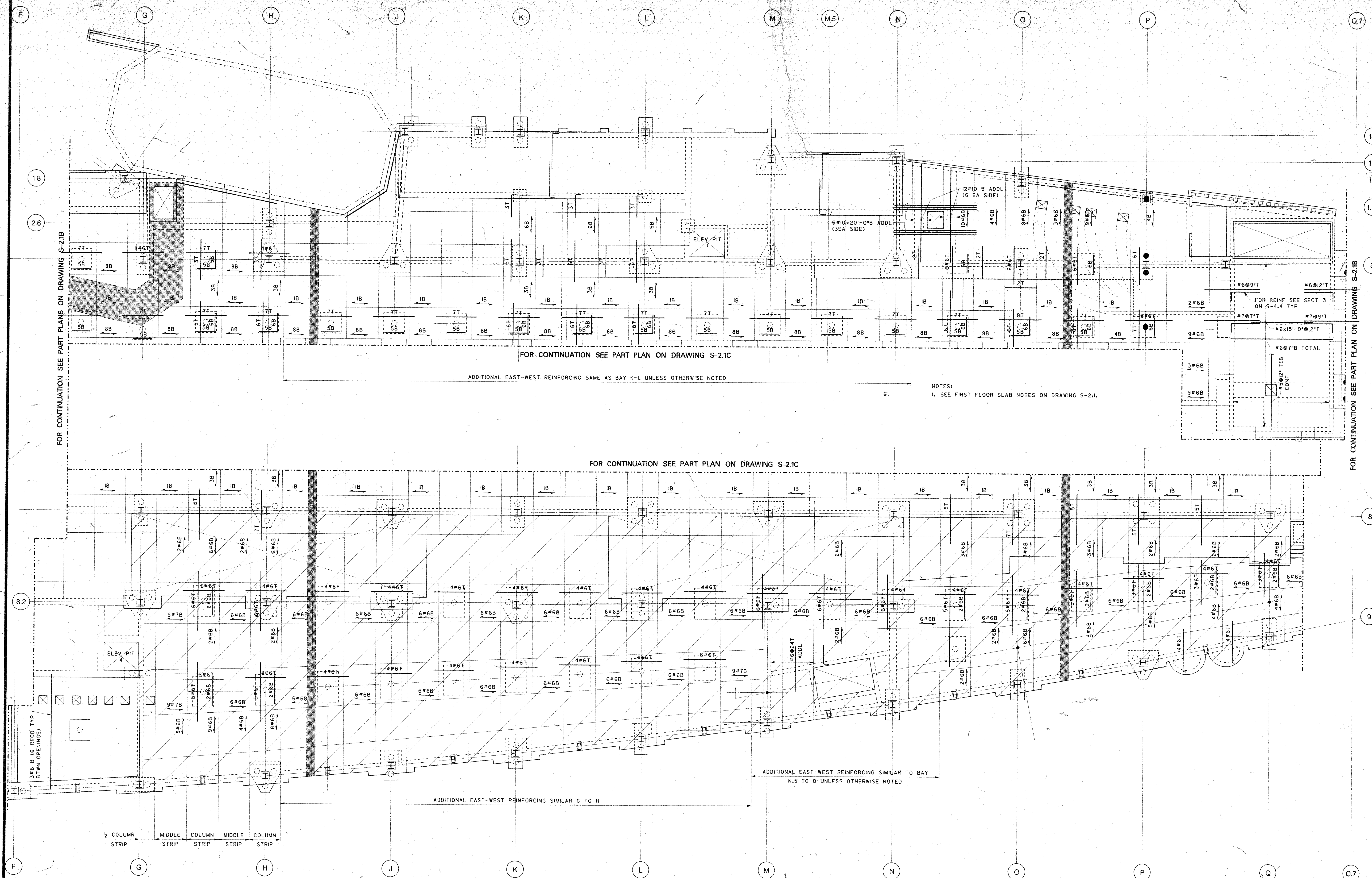
LEVEL 1 FRAMING PLAN

DATE 19 MAY 95

SECTION S

DRAWING NO. 2.1

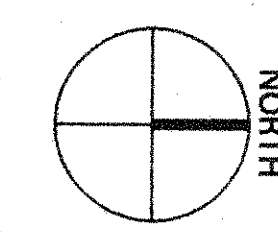
- GENERAL NOTES
1. LENGTH OF ADDITIONAL TOP REINFORCEMENT SHALL BE EQUAL TO 2/3 OF THE LARGER ADJACENT SPAN LENGTH.
 2. LENGTH OF ADDITIONAL BOTTOM REINFORCEMENT, EXCLUDING DROP PANEL REINF, SHALL BE EQUAL TO THE SPAN LENGTH MINUS 2' AT EACH END.
 3. LENGTH OF THE SPANS REFERENCED IN NOTES 1 & 2 SHALL BE EQUAL TO THE DISTANCE BETWEEN CENTER OF SUPPORTS.



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SCALE: 1/8" = 1'-0"

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CONSTRUCTION DRAWINGS

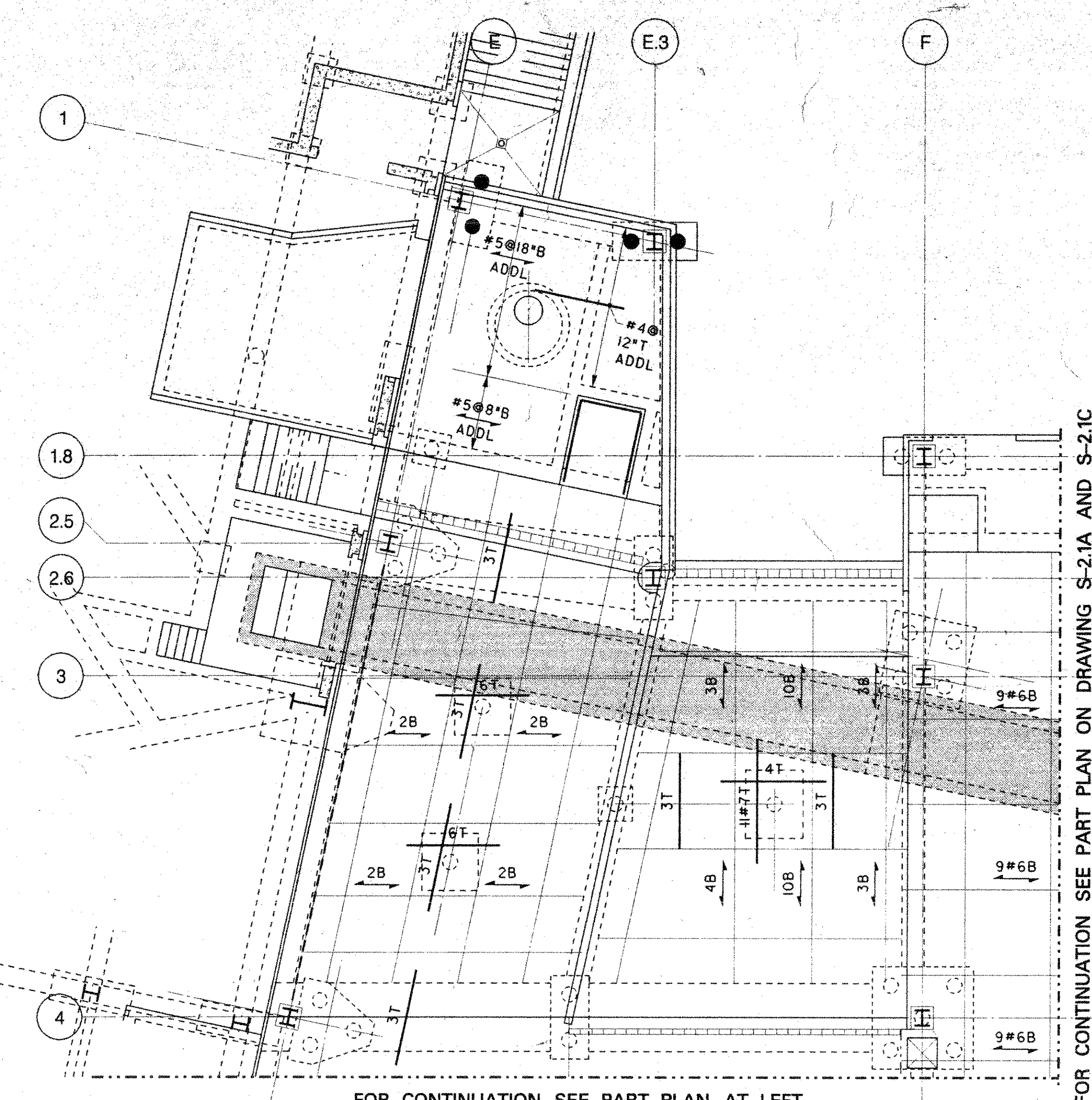
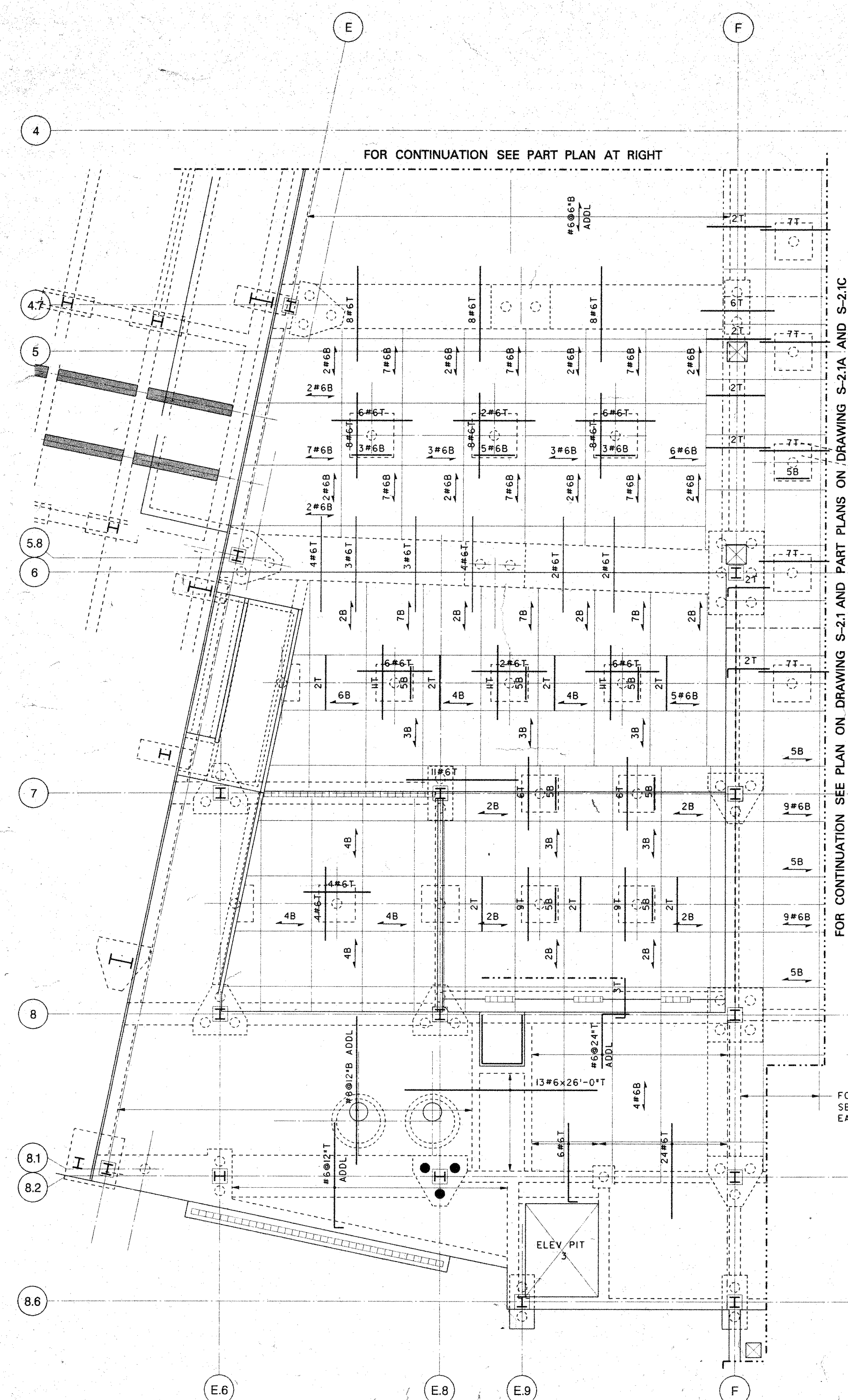
LEVEL 1
SLAB REINFORCEMENT PLANS
PART A

DATE: 19 MAY 95

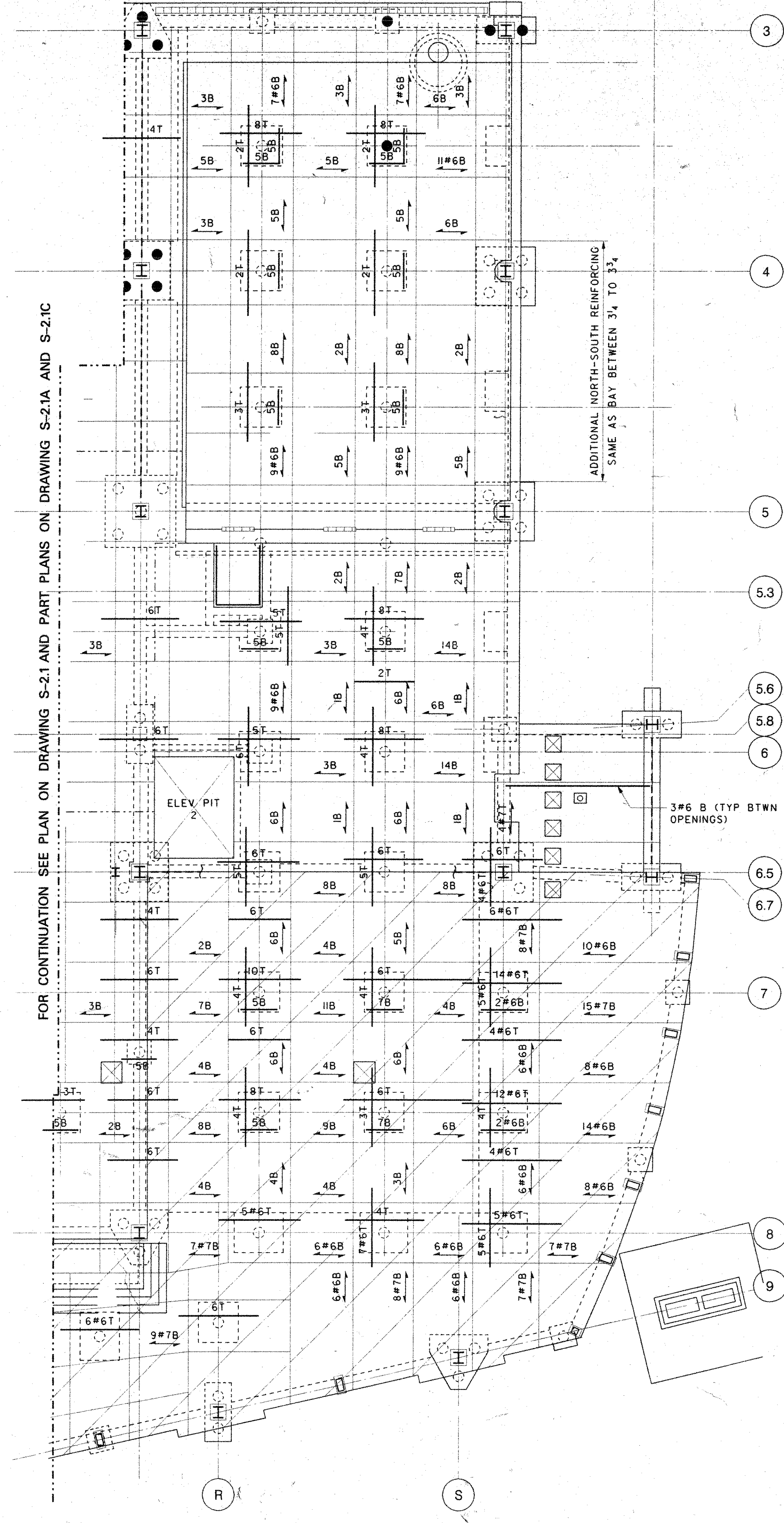
SECTION: S

DRAWING NO.: 2.1A

- GENERAL NOTES
1. LENGTH OF ADDITIONAL TOP REINFORCEMENT SHALL BE EQUAL TO 2/3 OF THE LARGER ADJACENT SPAN LENGTH.
 2. LENGTH OF ADDITIONAL BOTTOM REINFORCEMENT, EXCLUDING DROP PANEL REINF., SHALL BE EQUAL TO THE SPAN LENGTH MINUS 2' AT EACH END.
 3. LENGTH OF THE SPANS REFERENCED IN NOTES 1 & 2 SHALL BE EQUAL TO THE DISTANCE BETWEEN CENTER OF SUPPORTS.



- NOTES:
1. SEE FIRST FLOOR SLAB NOTES ON DRAWING S-2.1.



NO. DATE REVISION

PERRY DEAN ROGERS & PARTNERS, ARCHITECTS

177 MILK STREET, BOSTON, MASSACHUSETTS 02109
617 423-0100

THOMPSON, VENTULETT, STAINBACK & ASSOCIATES, INC. ARCHITECTS
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1230 PEACHTREE STREET N.E.
ATLANTA, GEORGIA 30309-3591
404-888-6600 FAX: 404-888-6700

LeMessurier Consultants, Inc.
PROFESSIONAL ENGINEERS
1033 MASSACHUSETTS AVENUE
CAMBRIDGE, MASSACHUSETTS 02238
TEL: 617/864-1200 FAX: 617/864-1520

SCALE: 1/8" = 1'-0"

JOB NO. 3249

DRAWN BY EAM CHECKED BY PJC

PROJECT

WORCESTER CONVENTION CENTER

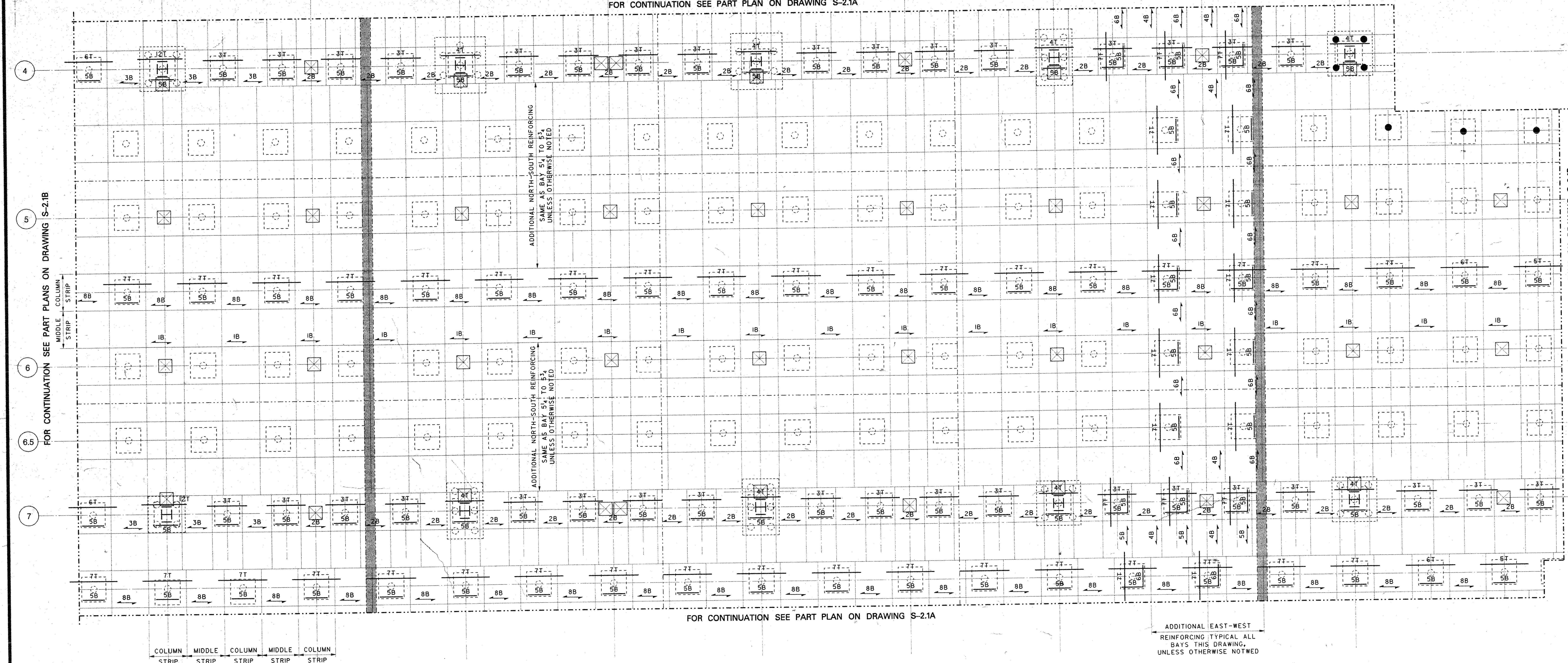
CONSTRUCTION DRAWINGS

TITLE LEVEL 1 SLAB REINFORCEMENT PLANS PART B

DATE 19 MAY 95 SECTION S DRAWING NO. 2.1B

- GENERAL NOTES
1. LENGTH OF ADDITIONAL TOP REINFORCEMENT SHALL BE EQUAL TO 2/3 OF THE LARGER ADJACENT SPAN LENGTH.
 2. LENGTH OF ADDITIONAL BOTTOM REINFORCEMENT, EXCLUDING DROP PANEL REINF, SHALL BE EQUAL TO THE SPAN LENGTH MINUS 2' AT EACH END.
 3. LENGTH OF THE SPANS REFERENCED IN NOTES 1 & 2 SHALL BE EQUAL TO THE DISTANCE BETWEEN CENTER OF SUPPORTS.

FOR CONTINUATION SEE PART PLAN ON DRAWING S-2.1A



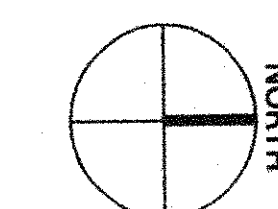
NOTES:
1. SEE FIRST FLOOR SLAB NOTES ON DRAWING S-2.1.

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SCALE: 1/8" = 1'-0"

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PROJECT
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CONSTRUCTION DRAWINGS
LEVEL 1
SLAB REINFORCEMENT PLANS
PART C

DATE 19 MAY 95

SECTION 2.1C

- GENERAL NOTES**
- TOP OF CONCRETE IN FLOOR AREAS AT ELEVATION 504'-10" UNO. TOP OF STEEL IN FLOOR AREAS AT ELEVATION 504'-2½" UNLESS NOTED (+) OR (-) ON PLAN.
- SLAB CONSTRUCTION IN FLOOR AREAS SHALL BE 3" COMPOSITE STEEL DECK PLUS 4" NORMALWEIGHT CONCRETE, TOTAL THICKNESS=7½" UNO, FOR REINFORCEMENT SEE DRAWING S-1,3.
- (---) INDICATES ROOF AREA.
- TOP OF CONCRETE IN ROOF AREAS AT ELEVATION 504'-8" UNO. TOP OF STEEL IN ROOF AREAS AT ELEVATION 504'-2½" UNLESS NOTED (+) OR (-) ON PLAN.
- SLAB CONSTRUCTION IN ROOF AREAS SHALL BE 3" COMPOSITE STEEL DECK PLUS 2½" NORMALWEIGHT CONCRETE, TOTAL THICKNESS=5½" UNO, FOR REINFORCEMENT SEE DRAWING S-1,3.
- (—) INDICATES SPAN DIRECTION OF STEEL DECK ALL STEEL PREFIXED WITH ASTERISK (*) IS FY=36 KSI, ALL OTHER STEEL IS FY=50 KSI.
- INDICATES COLUMN STARTS.
- INDICATES COLUMN STOPS.
- ——— INDICATES MOMENT CONNECTION, SEE DETAILS ON DWG S-5,7.
- (WB-) ———, INDICATES VERTICAL PLANE DIAGONAL BRACING LOCATIONS, SEE DRAWING S-3,5.
- TWO INDICATES TUNED MASS DAMPER, SEE SECTION 5 ON DRAWING S-4,7 AND SPECIFICATIONS.
- OP WALL #1 ———, ETC., INDICATES TRACK FOR OPERABLE WALLS. SEE PART PLANS ON DRAWING S-5,6.
- (---) INDICATES AREA WHERE SLAB-PITCHES TO DRAINS. MINIMUM SLAB THICKNESS AT LOW POINTS SHALL BE 6½". FOR EXTENT OF PITCHED SLABS AND LOCATION OF DRAINS SEE ARCHT DRAWINGS.
- (---) INDICATES AREA WHERE SLAB CONSTRUCTION SHALL BE 3" COMPOSITE STEEL DECK PLUS 2½" CONCRETE. TOP OF CONCRETE AT ELEVATION 504'-4".
- FOR GRID LOCATIONS NOT SHOWN SEE DWG-S-2,2-SUPPORT OF EXISTING MECHANICAL UNITS IS BASED UPON A "PIN" CONNECTION TO THE STRUCTURE.
- ALL CONTRACTOR SHALL INCLUDE REVISED FRAMING SUBJECT TO THE REVIEW OF THE ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.

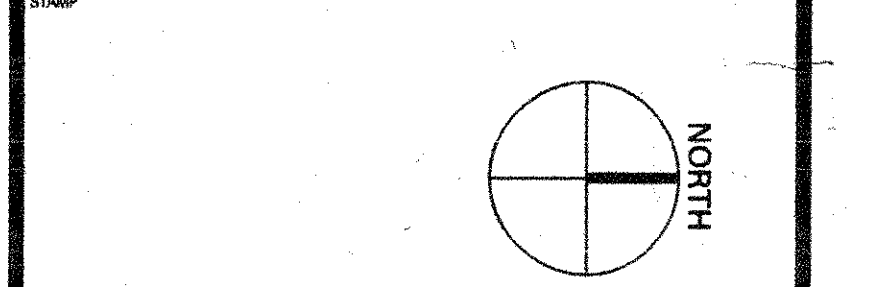
NO. DATE REVISION

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617 423-0100

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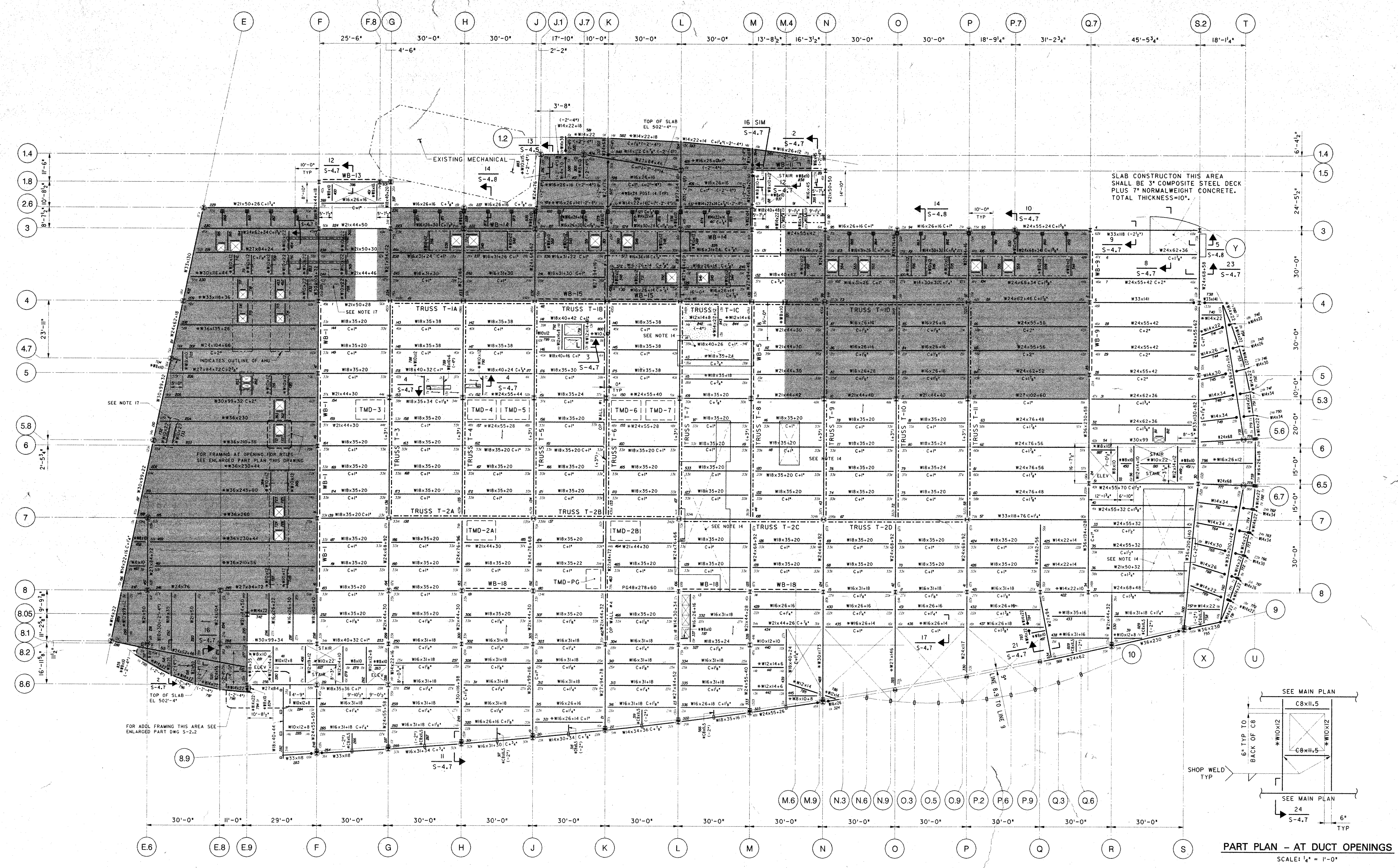


SCALE 1/16" = 1'-0" JOB NO. 3249

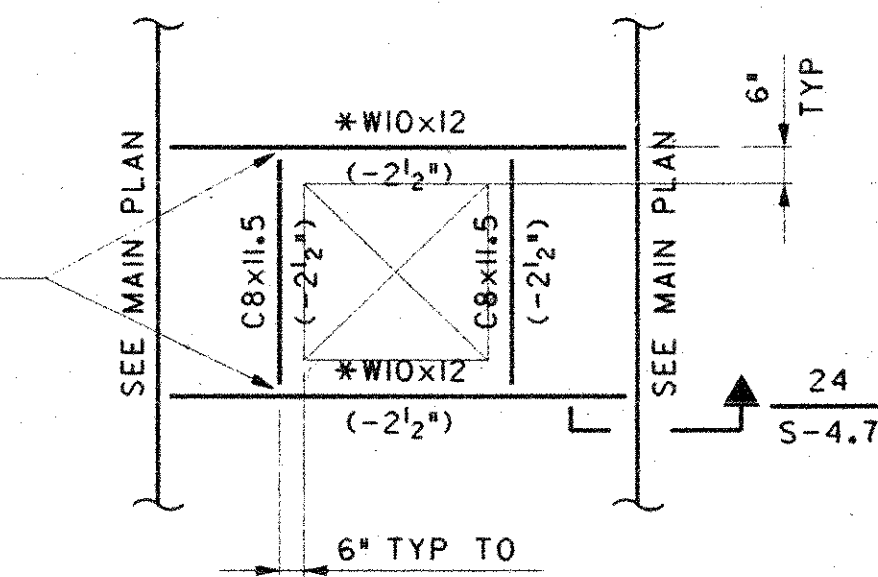
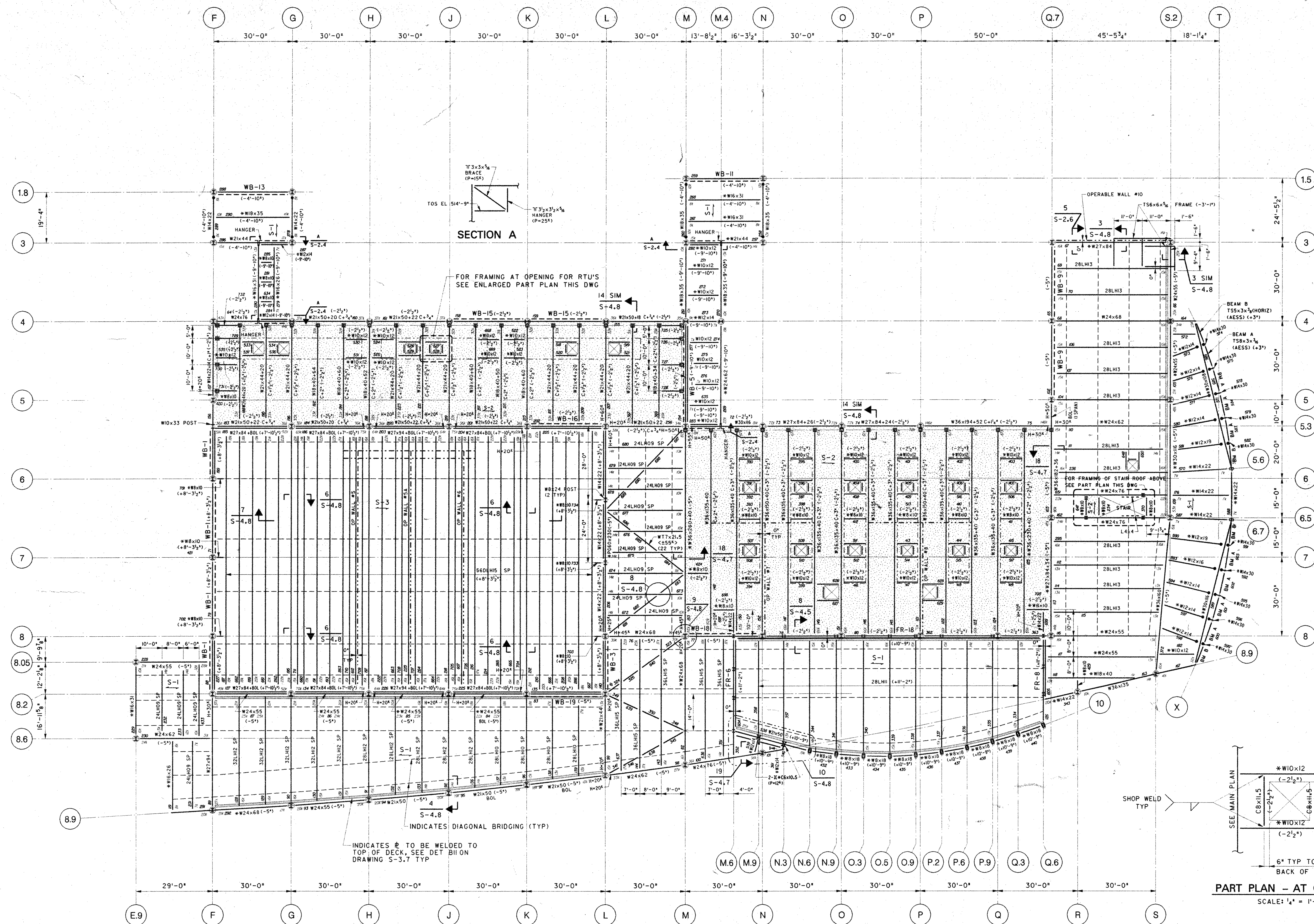
DRAWN BY EAM CHECKED BY PJC

PROJECT
WORCESTER
CONVENTION
CENTER
CONSTRUCTION DRAWINGS
TITLE
LEVEL 3 FRAMING PLAN

DATE	SECTION	DRAWING NO.
19 MAY 95	S	2.3



PART PLAN - AT STAIR ROOF
TOP OF STEEL EL 532'-9"



PART PLAN - AT OPENINGS
SCALE: 1/4" = 1'-0"

- GENERAL NOTES
1. TOP OF STEEL ELEVATION 524'-7" UNLESS NOTED (+) OR (-) ON PLAN.
 2. S-1 INDICATES SPAN DIRECTION OF 3" STEEL DECK, FOR DECK LOADING AND GAGE OF DECK SEE DRAWING S-1.3.
 3. S-2 INDICATES SPAN DIRECTION OF 2 1/2" MINIMUM NORMALWEIGHT CONCRETE PLUS 3" GALVANIZED COMPOSITE STEEL DECK, TOTAL SLAB THICKNESS = 5 1/2". FOR REINFORCEMENT SEE DRAWING S-1.3.
 4. S-3 INDICATES SPAN DIRECTION OF 1 1/2" STEEL ROOF DECK, FOR DECK LOADING AND GAGE OF DECK SEE DRAWING S-1.3.
 5. [Symbol] INDICATES LIMITS OF S-2 SLAB CONSTRUCTION.
 6. ALL STEEL PREFIXED WITH ASTERISK (*) IS Fy=36 KSI. ALL OTHER STEEL IS Fy=50 KSI.
 7. [Symbol] INDICATES COLUMN STARTS.
 8. [Symbol] INDICATES COLUMN STOPS.
 9. [Symbol] INDICATES MOMENT CONNECTION, SEE DETAILS ON DWG S-3.7.
 10. [Symbol] INDICATES VERTICAL PLANE DIAGONAL BRACING LOCATIONS. SEE DRAWING S-3.5.
 11. FR-6, ETC. INDICATES VERTICAL PLANE MOMENT FRAME LOCATIONS. SEE DRAWING S-3.5.
 12. OP WALL #1, ETC. INDICATES TRACK FOR OPERABLE WALLS. SEE PART PLANS ON DRAWING S-2.6.
 13. <XXX> INDICATES WORKING STRESS LEVEL AXIAL MEMBER FORCE, P, IN KIPS, WHERE (+) = TENSION AND (-) = COMPRESSION, TO BE USED FOR CONNECTION DESIGN.
 14. H-XX* INDICATES HORIZONTAL AXIAL FORCE TO BE ADDED TO BEAM VERTICAL REACTION WHEN DESIGNING BEAM END CONNECTION.
 15. *SP* INDICATES SPECIAL JOIST. JOIST SUPPLIER TO DESIGN THESE JOISTS TO SUPPORT THE LOADS SHOWN ON DRAWING S-1.3.
 16. FOR GRID LOCATIONS NOT SHOWN SEE DWG S-2.2.
 17. *BL* INDICATES LENGTH OF BEAM SUPPORTS BOLSTER ON TOP FLANGE. SEE DETAIL B10 ON DRAWING S-3.7.
 18. SUPPORT OF RTU'S IS BASED ON MCQUAY UNITS WITH OPERATING WEIGHTS AS FOLLOWS:
RTU 1, 2, 12 21,400#
RTU 3, 4, 5, 10, 11 22,700#
RTU 6, 7 17,600#
RTU 8 18,300#
RTU 9, 16 15,600#
RTU 13, 17, 18 14,200#
RTU 14, 15 19,800#
ALTERNATE PROPOSALS BY THE CONTRACTOR SHALL INCLUDE REVISED FRAMING AND OPERATING WEIGHTS SUBJECT TO REVIEW OF THE ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.

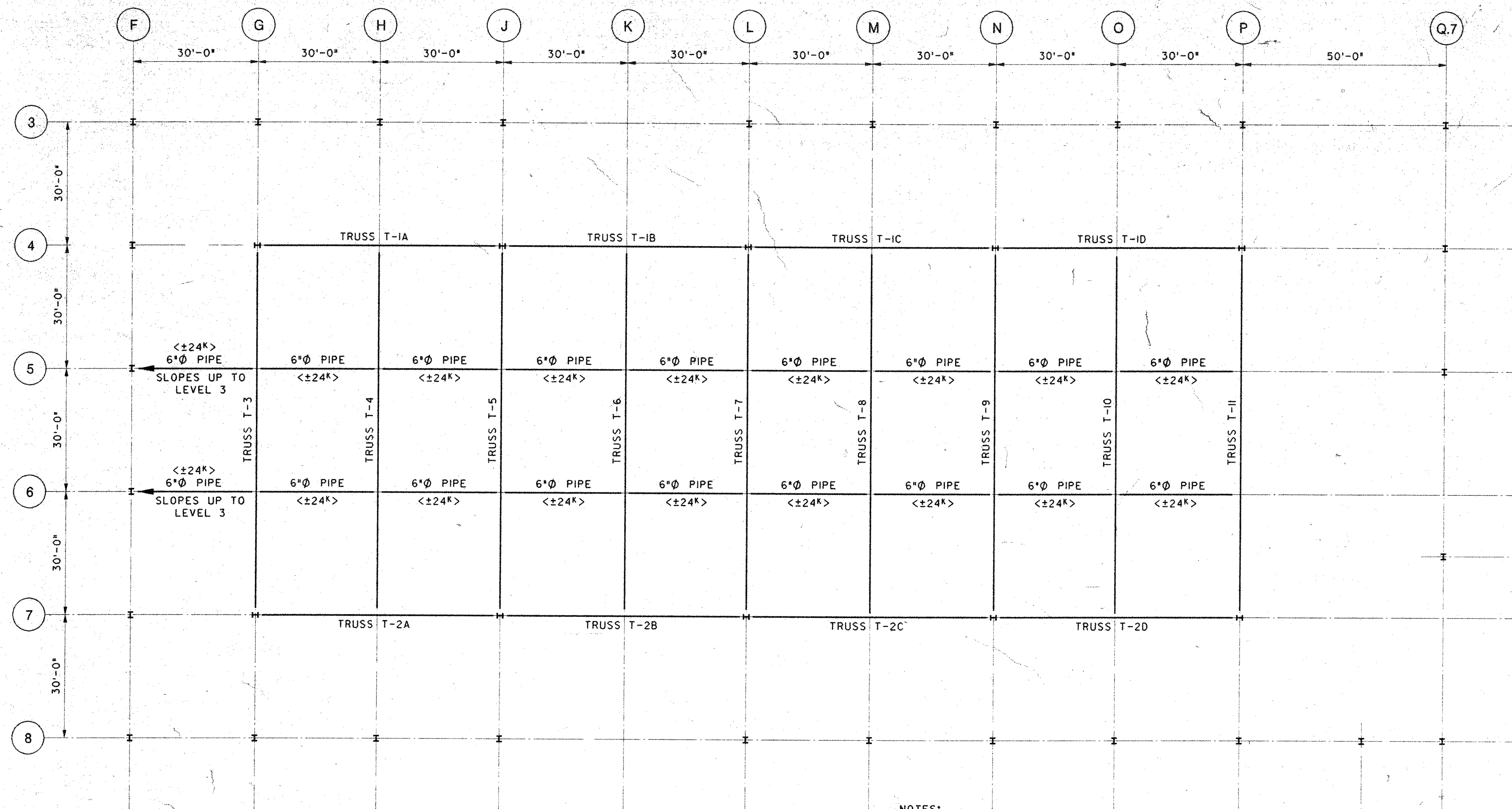
177 MLK STREET, BOSTON, MASSACHUSETTS 02108
617 425-4000

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SCALE: 1/16" = 1'-0" JOB NO: 3249
DRAWN BY: EAM CHECKED BY: PJC
PROJECT: WORCESTER CONVENTION CENTER
CONSTRUCTION DRAWINGS
ROOF FRAMING PLAN
DATE: 19 MAY 95 SECTION: S DRAWING NO: 2.4

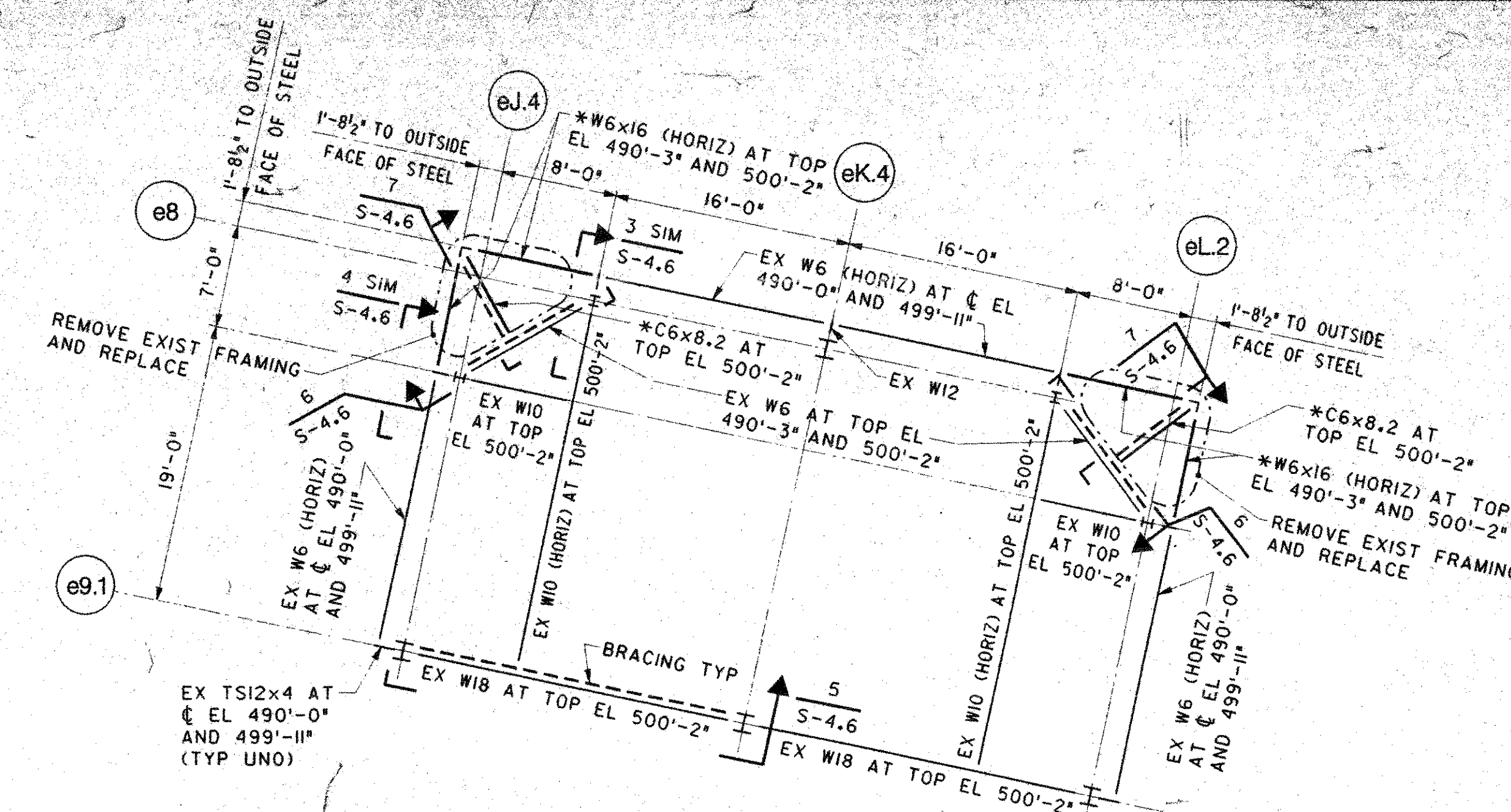
GENERAL NOTES



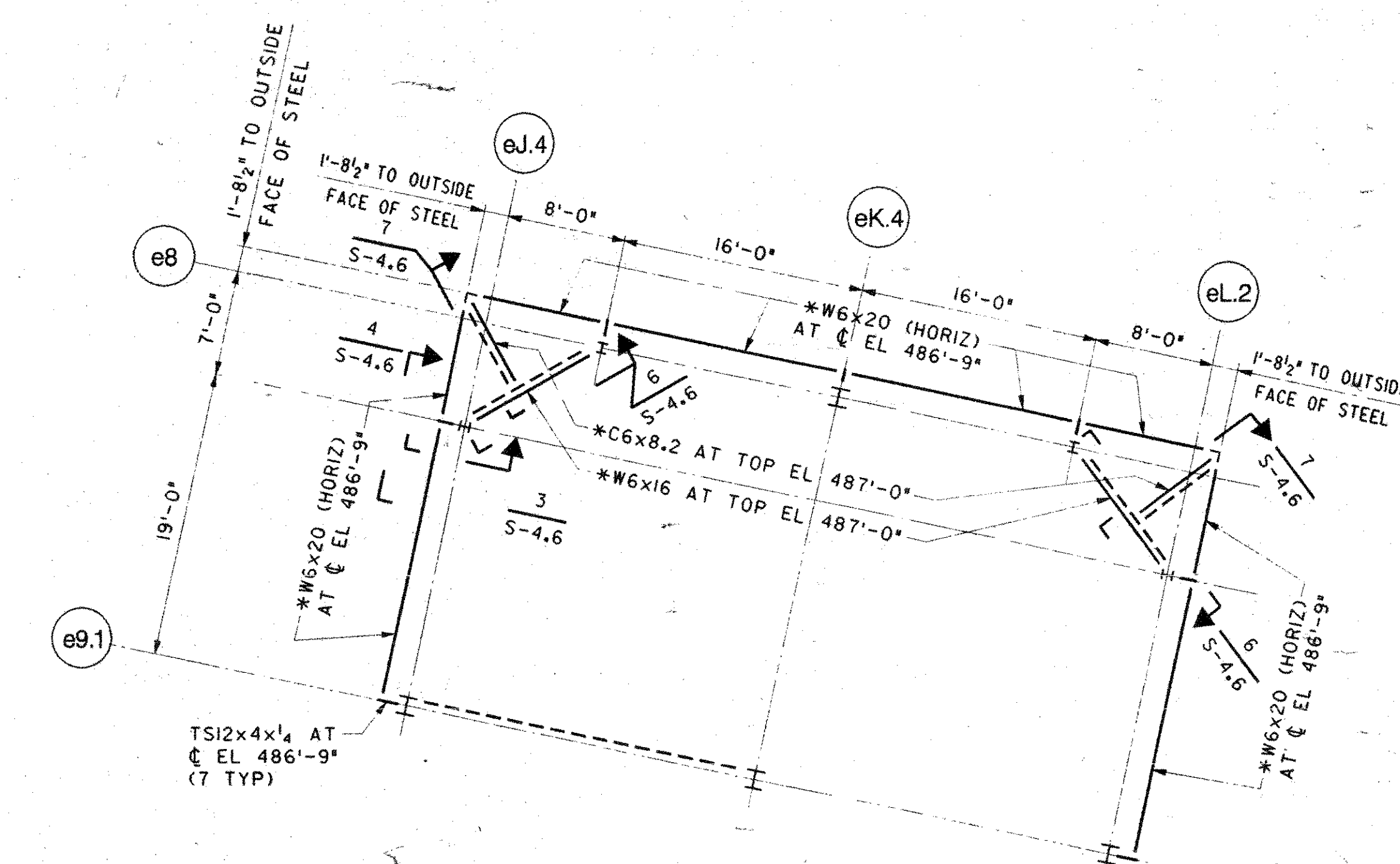
- NOTES:
1. ϕ PIPE ELEVATION 494'-3 1/2\".
 2. <XXX> INDICATES WORKING STRESS LEVEL AXIAL MEMBER FORCE, P, IN KIPS, WHERE (+) = TENSION AND (-) = COMPRESSION, TO BE USED FOR CONNECTION DESIGN.

SCALE: 1/8\"=1'-0\"

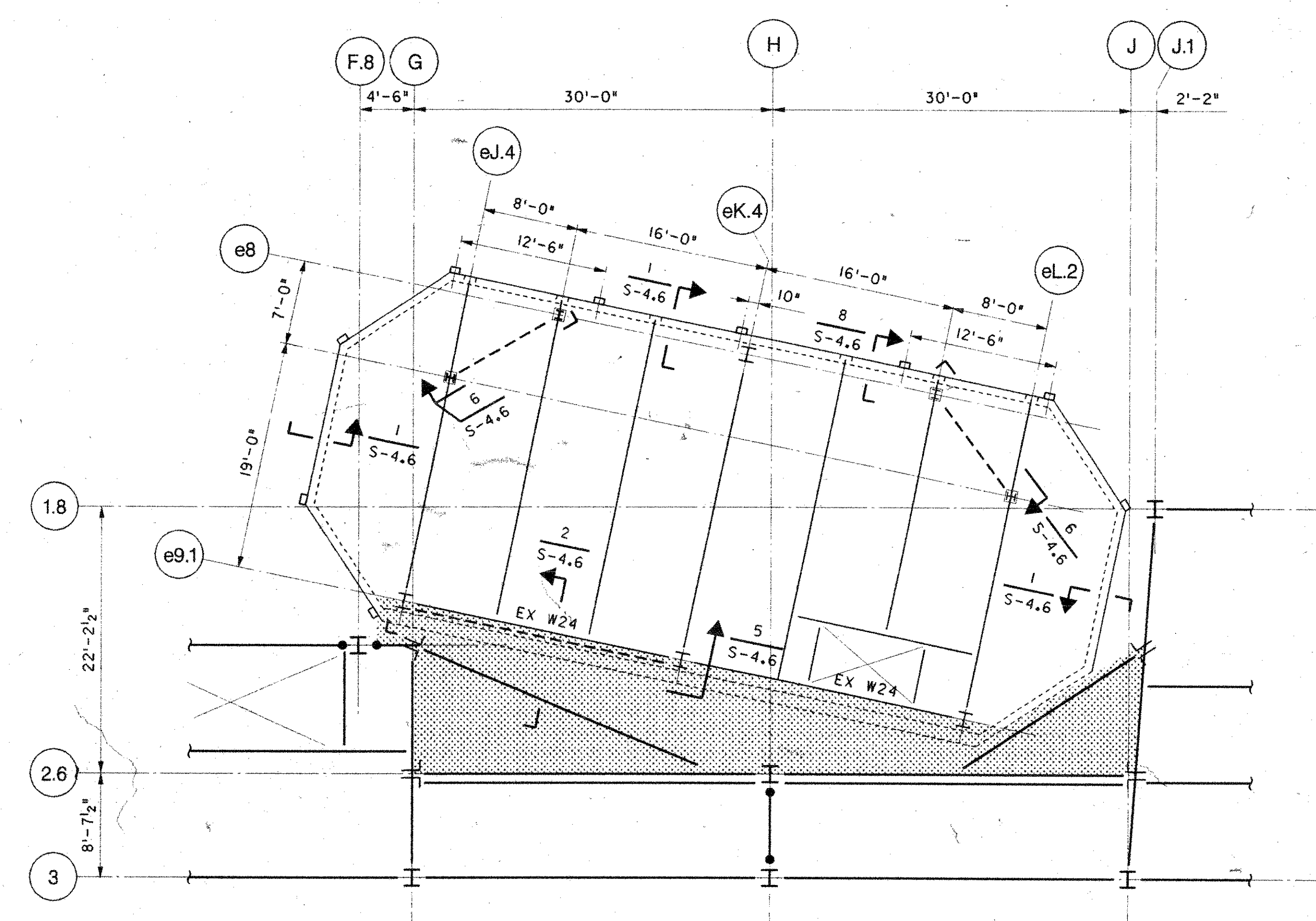
1 PART PLAN - AT BOTTOM CHORD OF LEVEL 3 TRUSSES



PART PLAN AT CENTERLINE OF STEEL ELEVATION 490'-0" AND 499'-11"



PART PLAN AT CENTERLINE OF STEEL ELEVATION 486'-9"



PART PLAN AT TOP OF STEEL ELEVATION 478'-2"

NOTE: EXIST STRUCTURAL STEEL AT CENTERLINE ELEVATION 480'-0" TO REMAIN

2 PART PLANS - EXISTING MECHANICAL PLANT ROOF

SCALE: 1/8\"=1'-0"

NO. DATE REVISION

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STAMP



SCALE AS NOTED JOB NO. 3249

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PROJECT

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CONSTRUCTION DRAWINGS

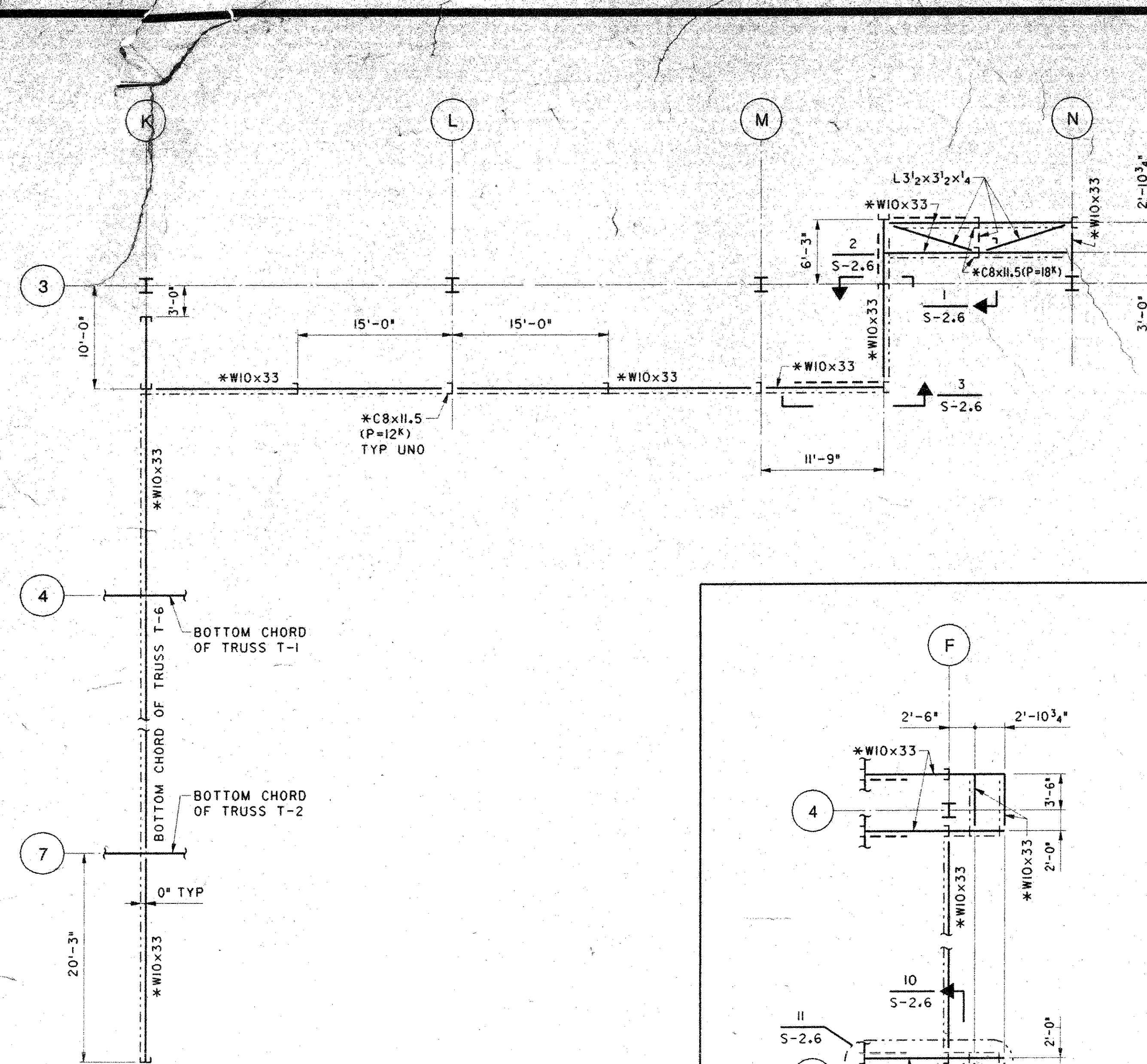
TITLE

PART PLANS

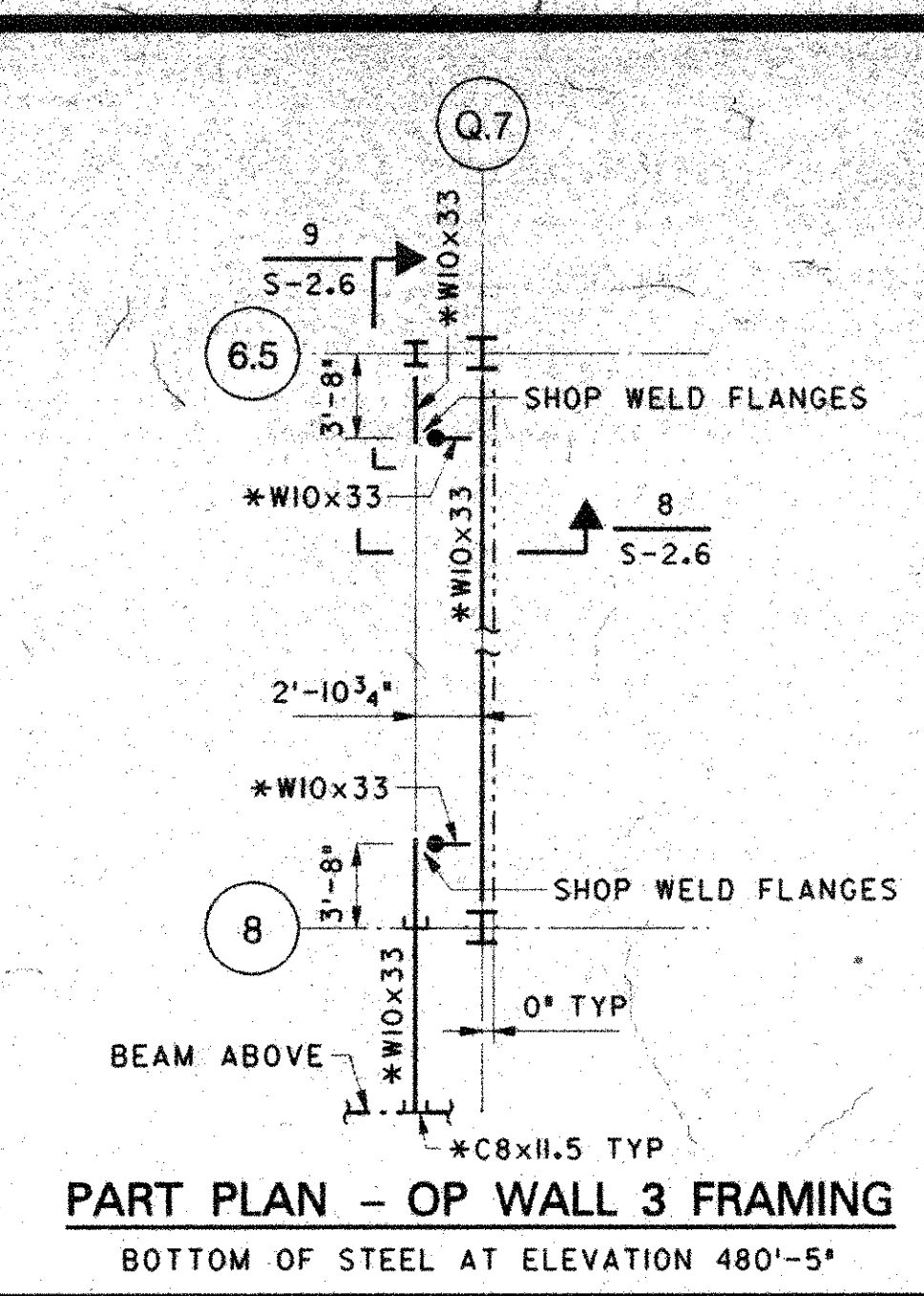
DATE SECTION DRAWING NO.

19 MAY 95 S 2.5

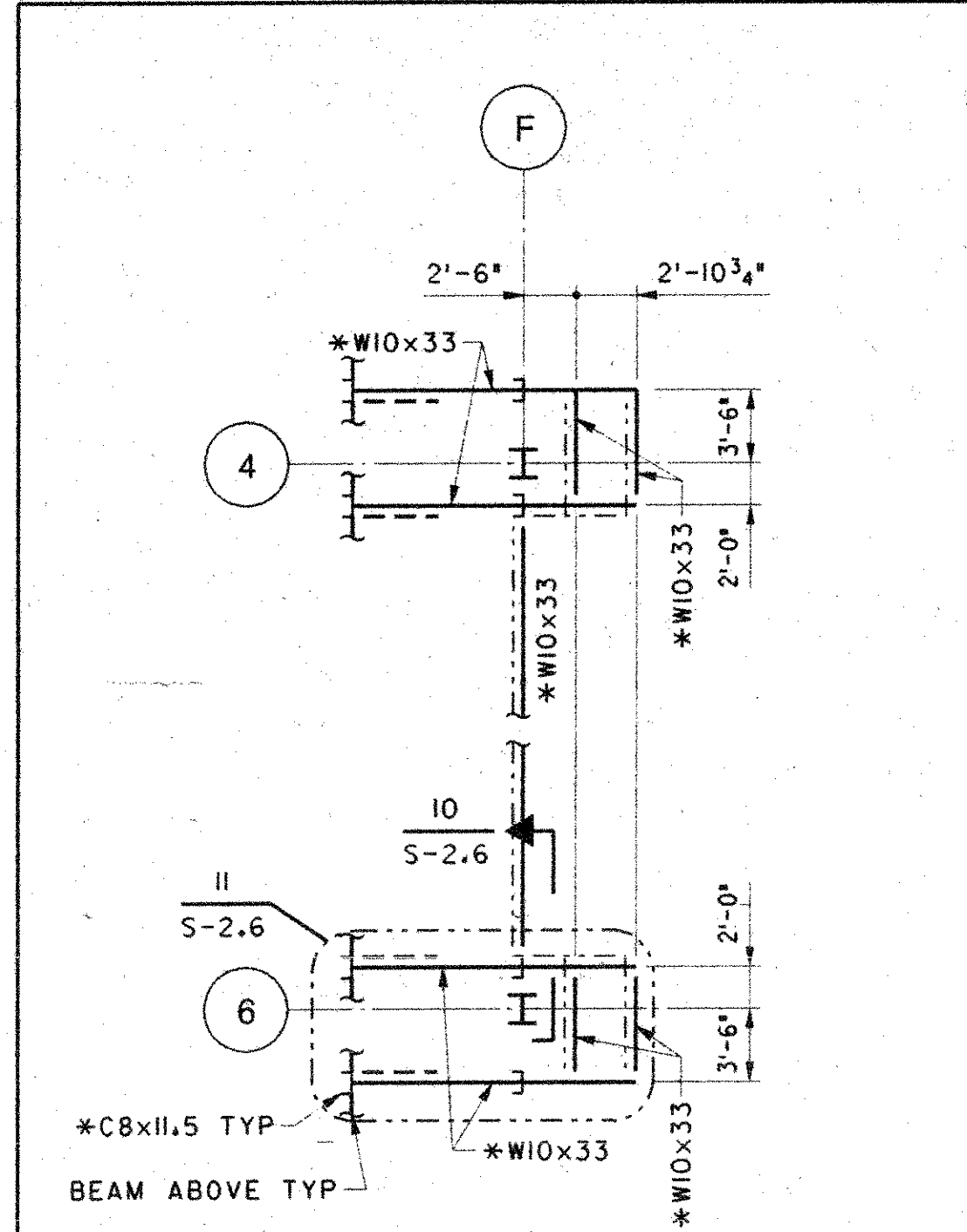
GENERAL NOTES



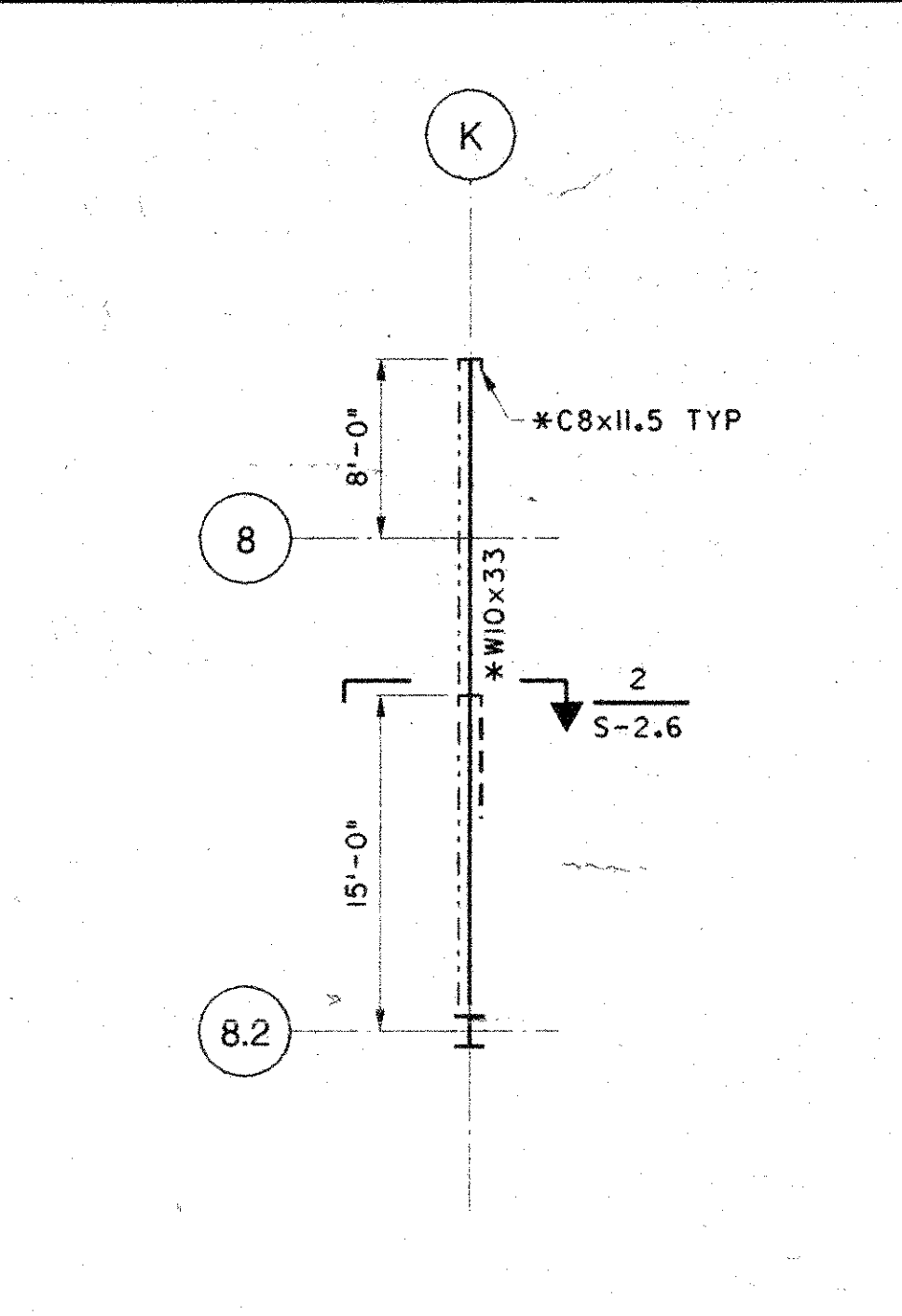
PART PLAN - OP WALL 1 FRAMING
BOTTOM OF STEEL AT ELEVATION 493'-9 1/2"



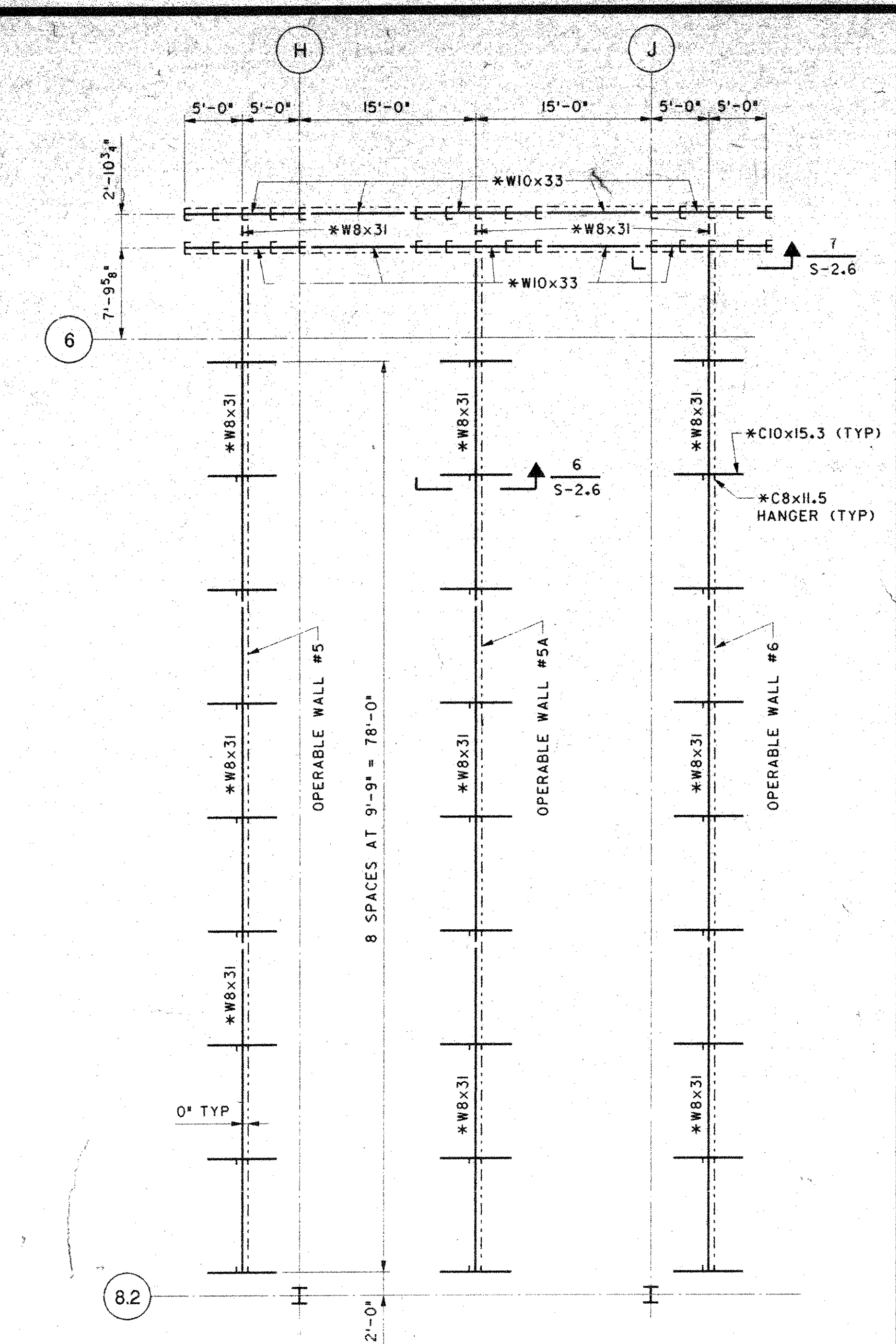
PART PLAN - OP WALL 3 FRAMING
BOTTOM OF STEEL AT ELEVATION 480'-5"



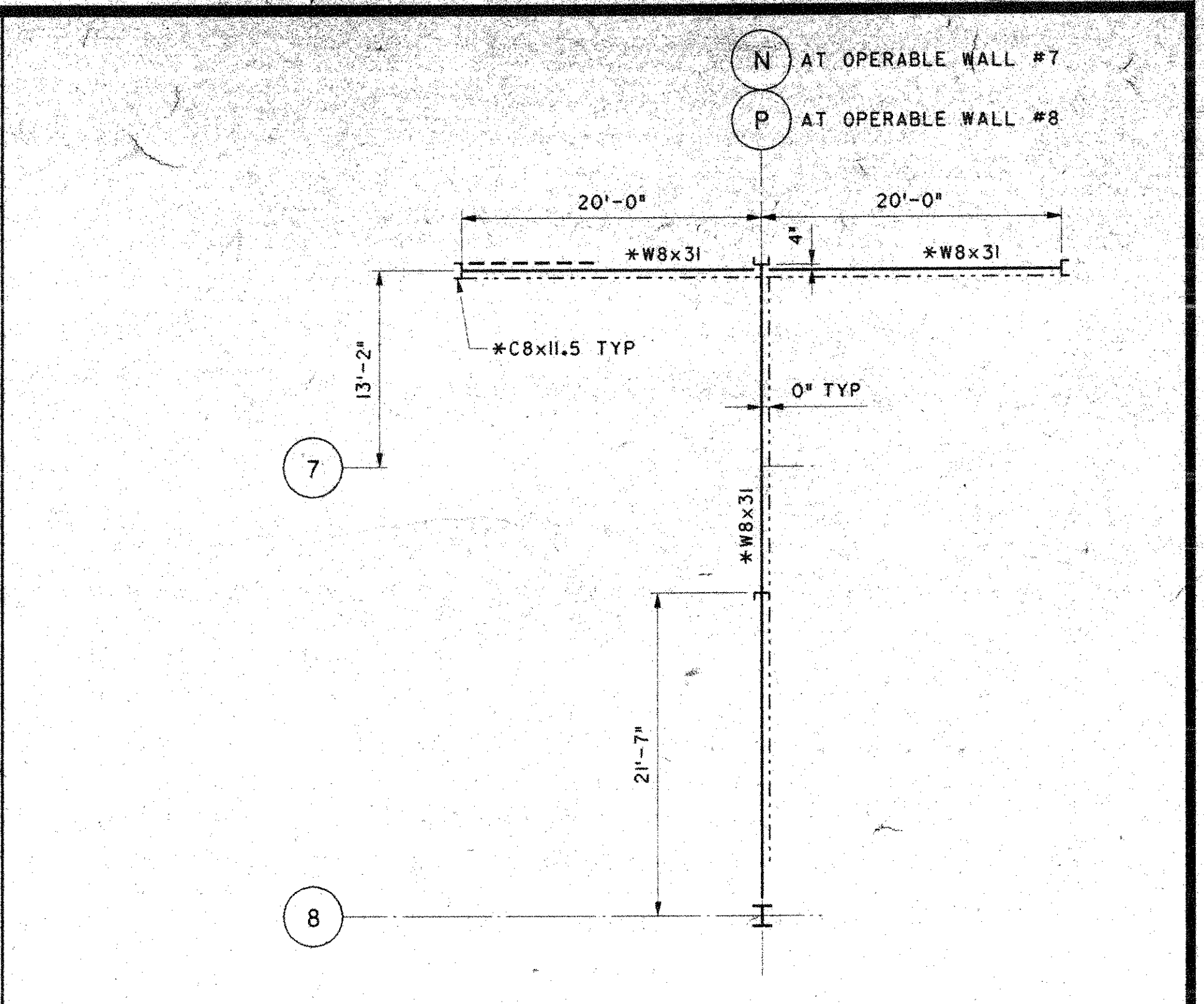
PART PLAN - OP WALL 2 FRAMING
BOTTOM OF STEEL AT ELEVATION 480'-5"



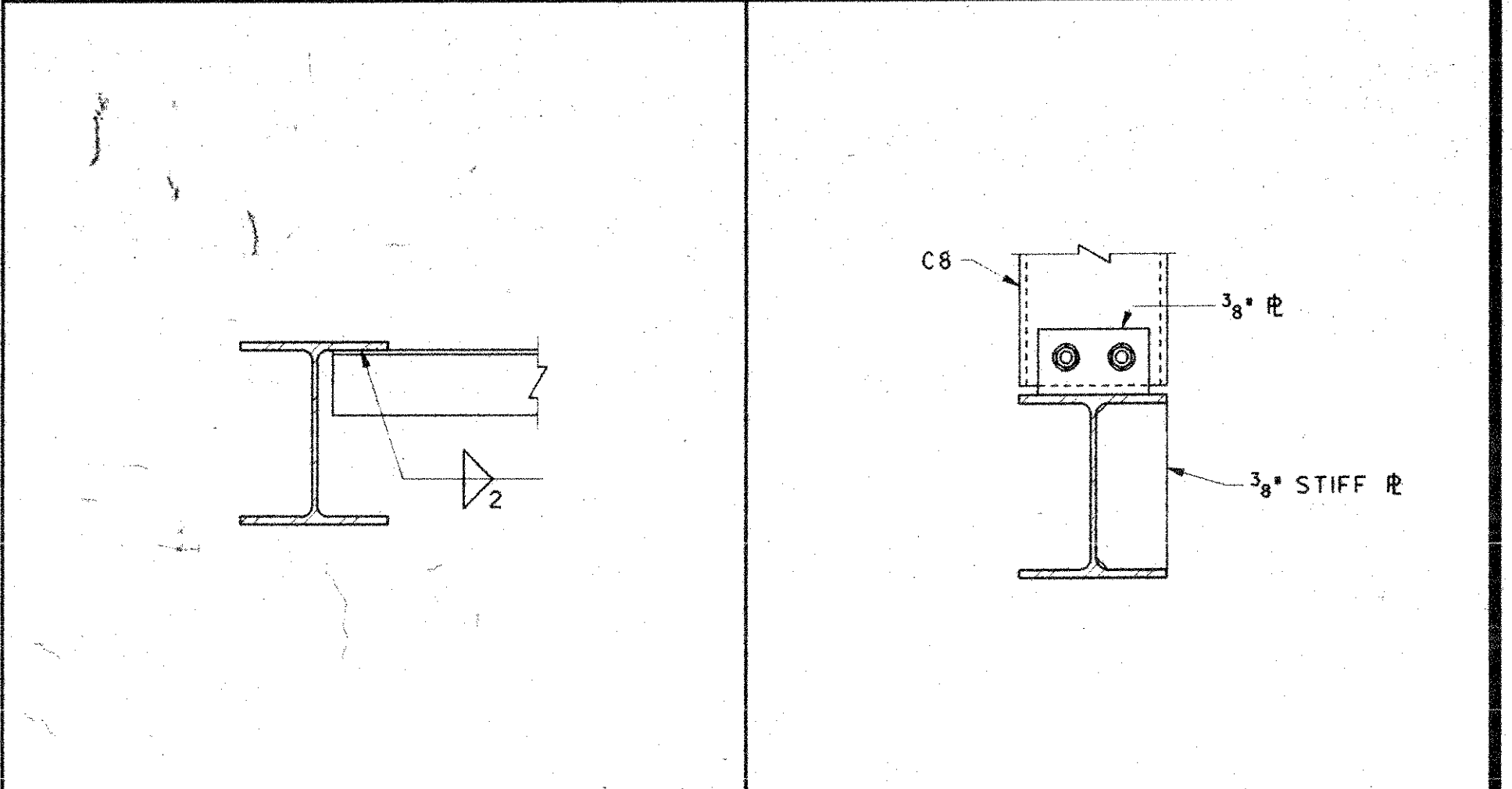
PART PLAN - OP WALL 4 FRAMING
BOTTOM OF STEEL AT ELEVATION 498'-1"



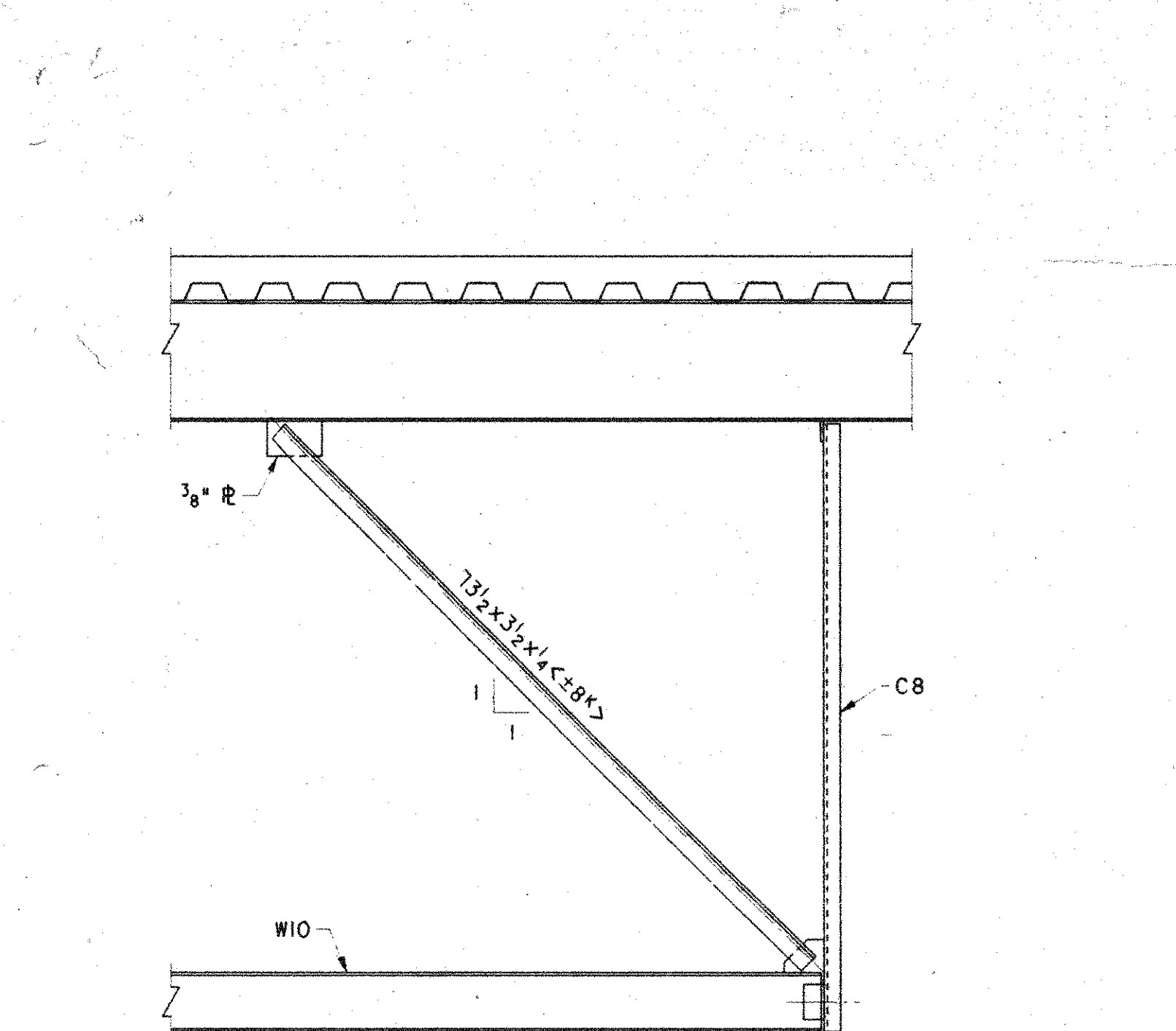
PART PLAN - OP WALL 5, 5A AND 6 FRAMING
BOTTOM OF STEEL AT ELEVATION 526'-1 1/2"



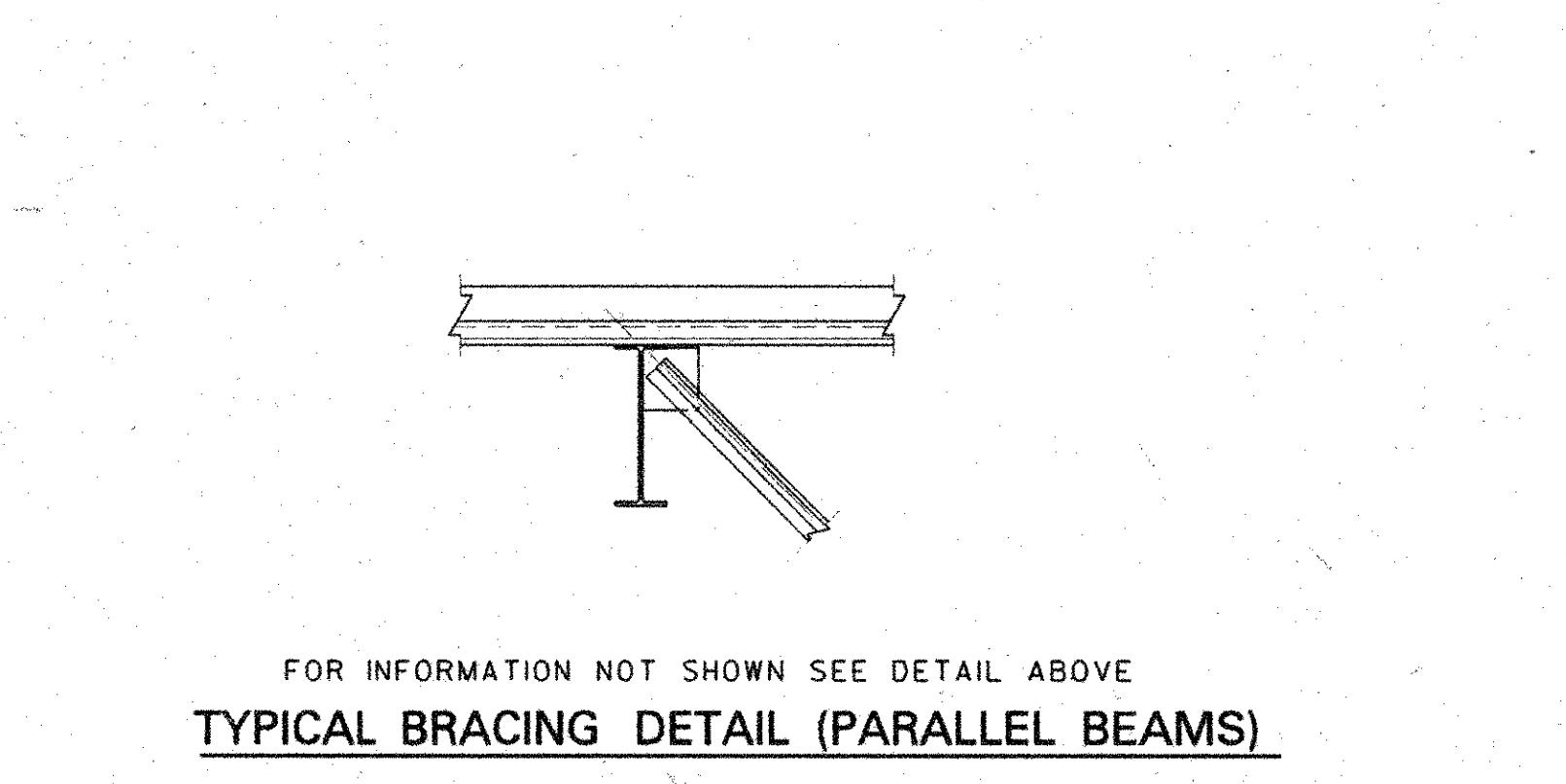
PART PLAN - OP WALL 7 AND 8 FRAMING
BOTTOM OF STEEL AT ELEVATION 515'-6"



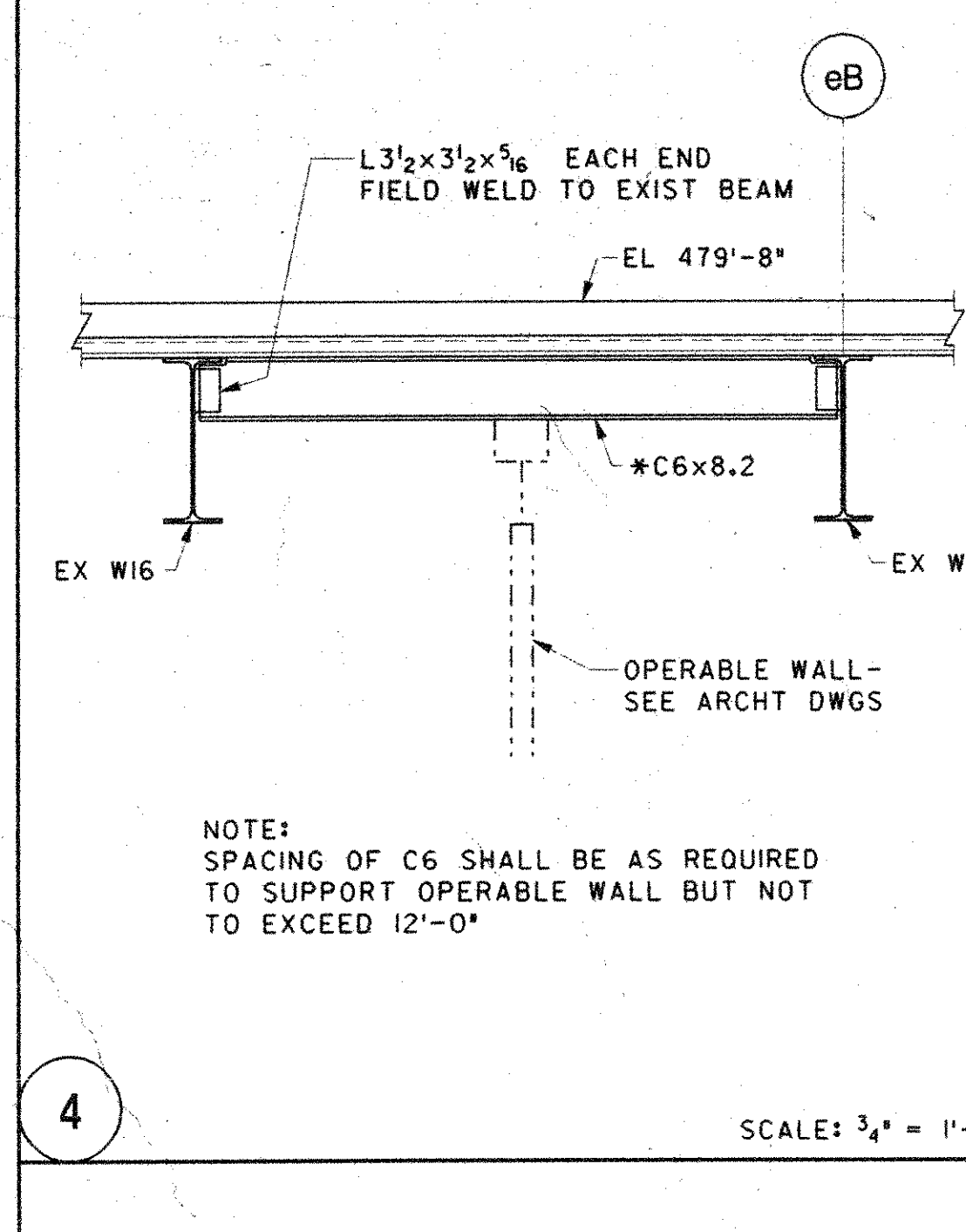
TYP INTERMEDIATE HANGER
SCALE: 1/2" = 1'-0"



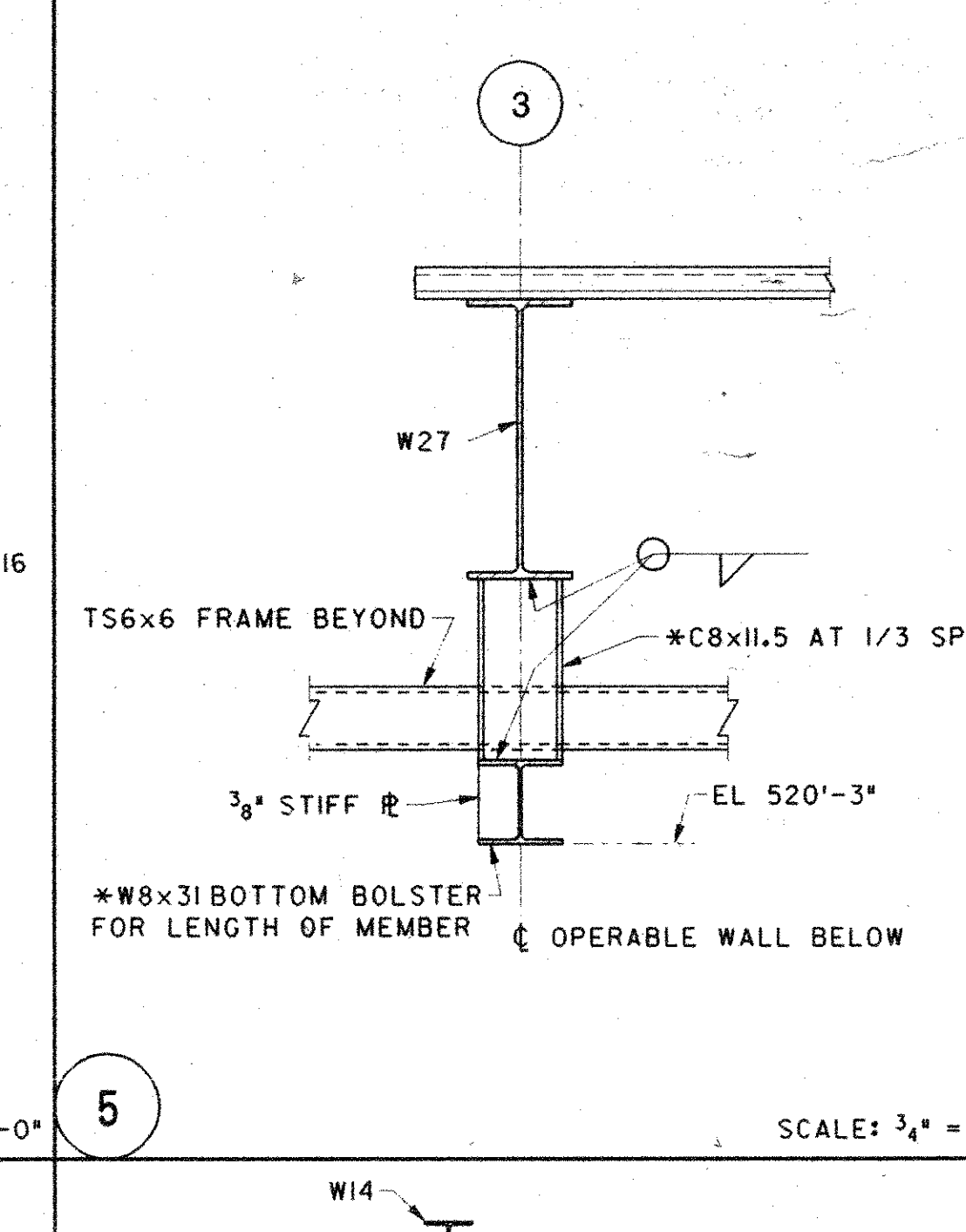
TYPICAL BRACING DETAIL (PARALLEL BEAMS)



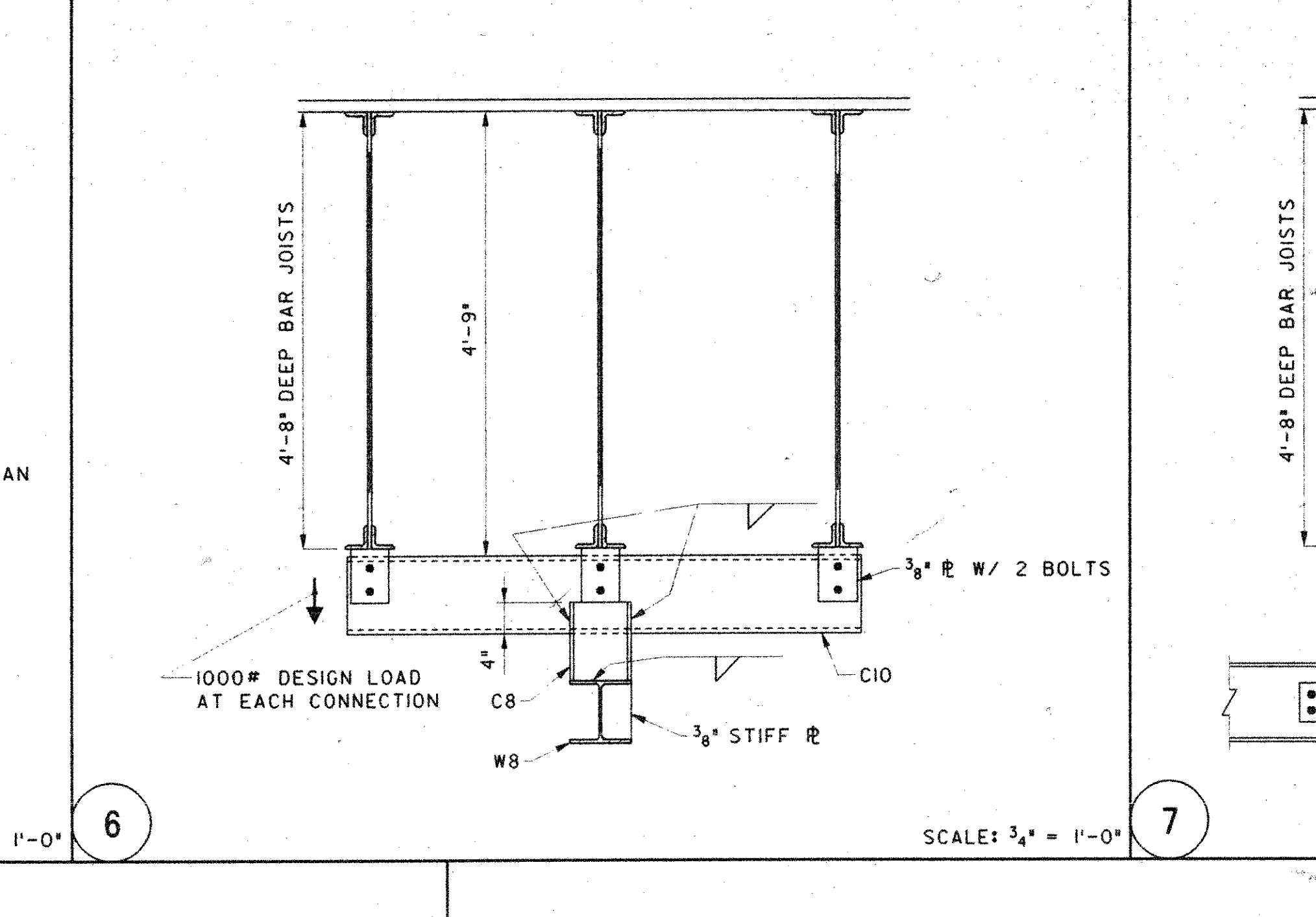
TYPICAL BRACING DETAIL (PARALLEL BEAMS)



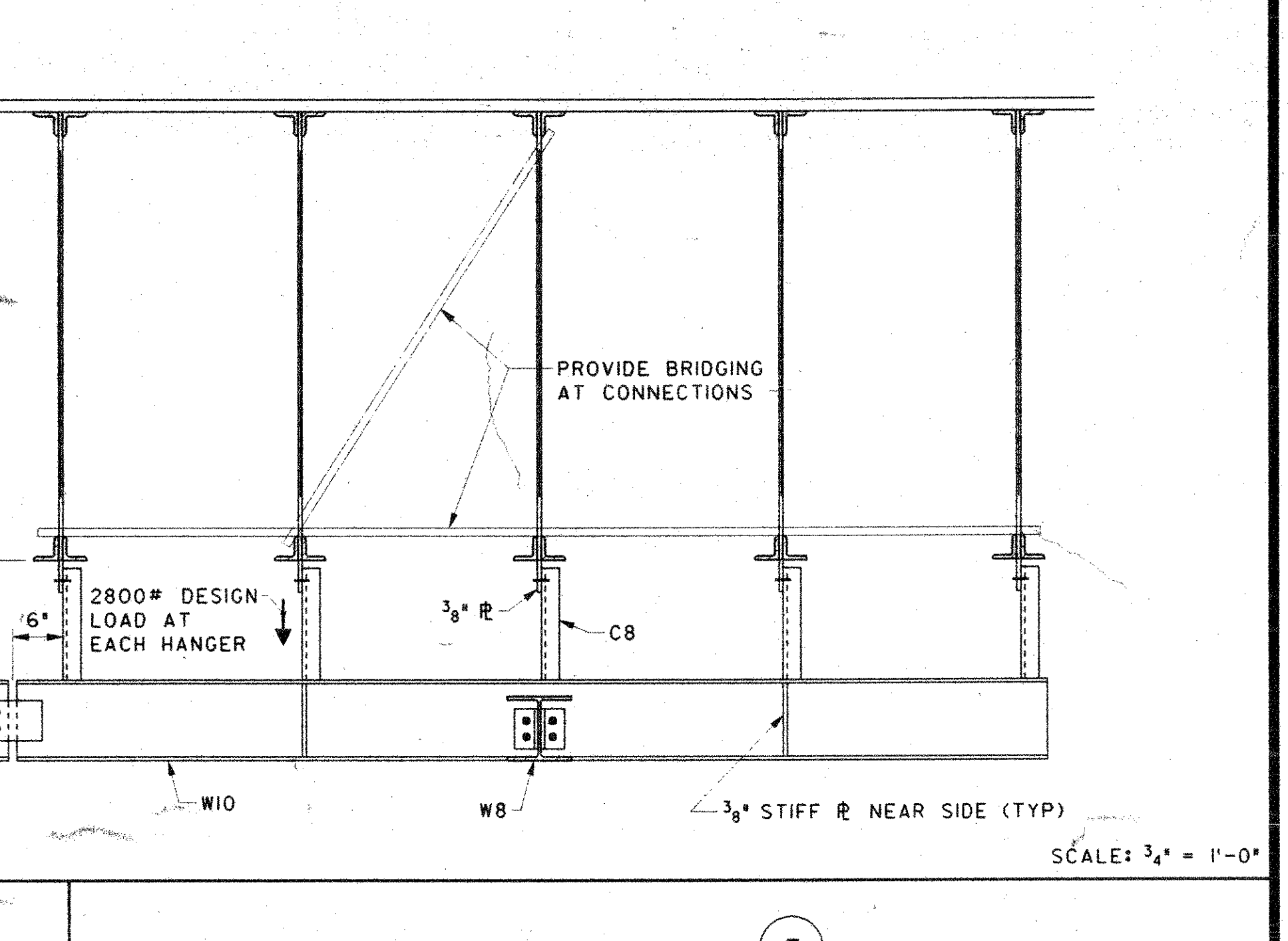
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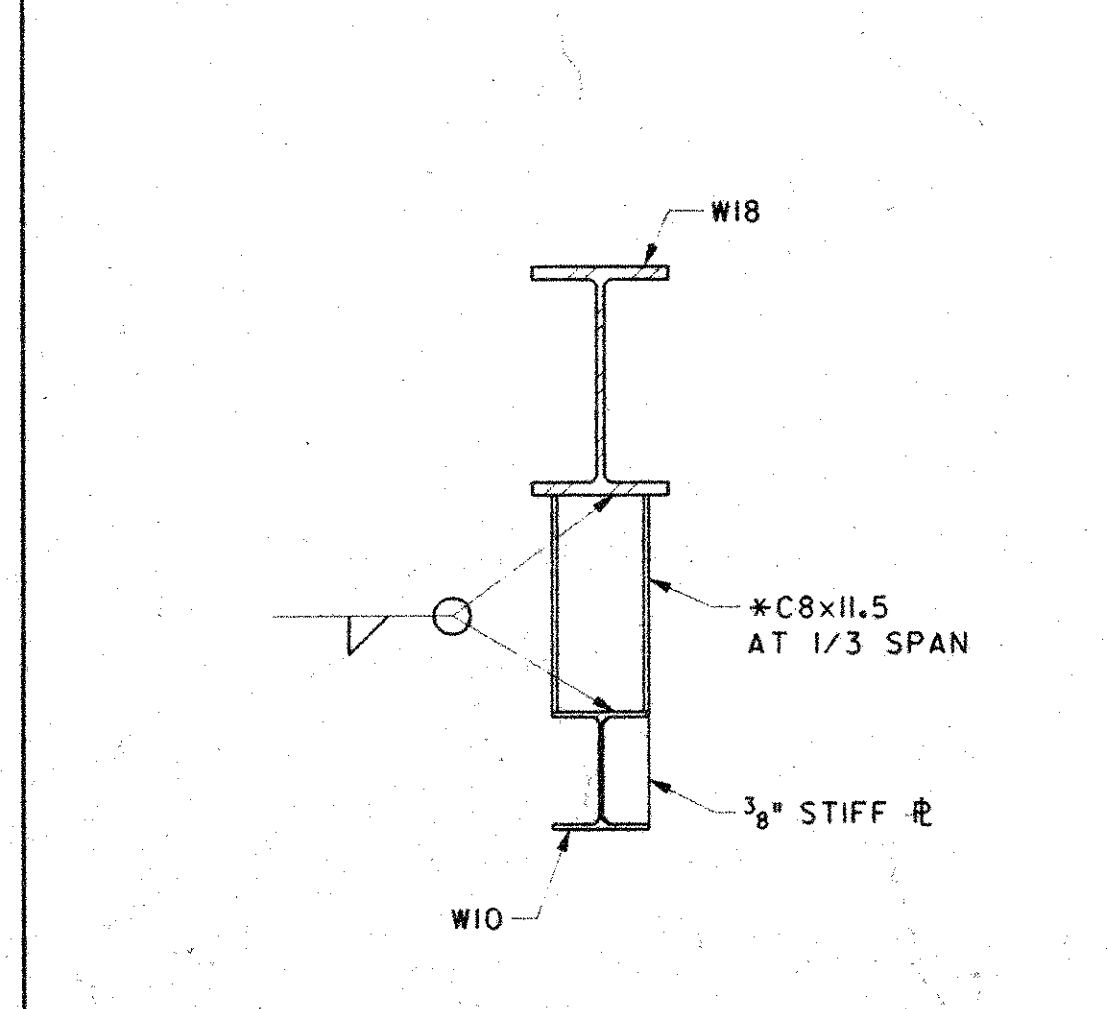
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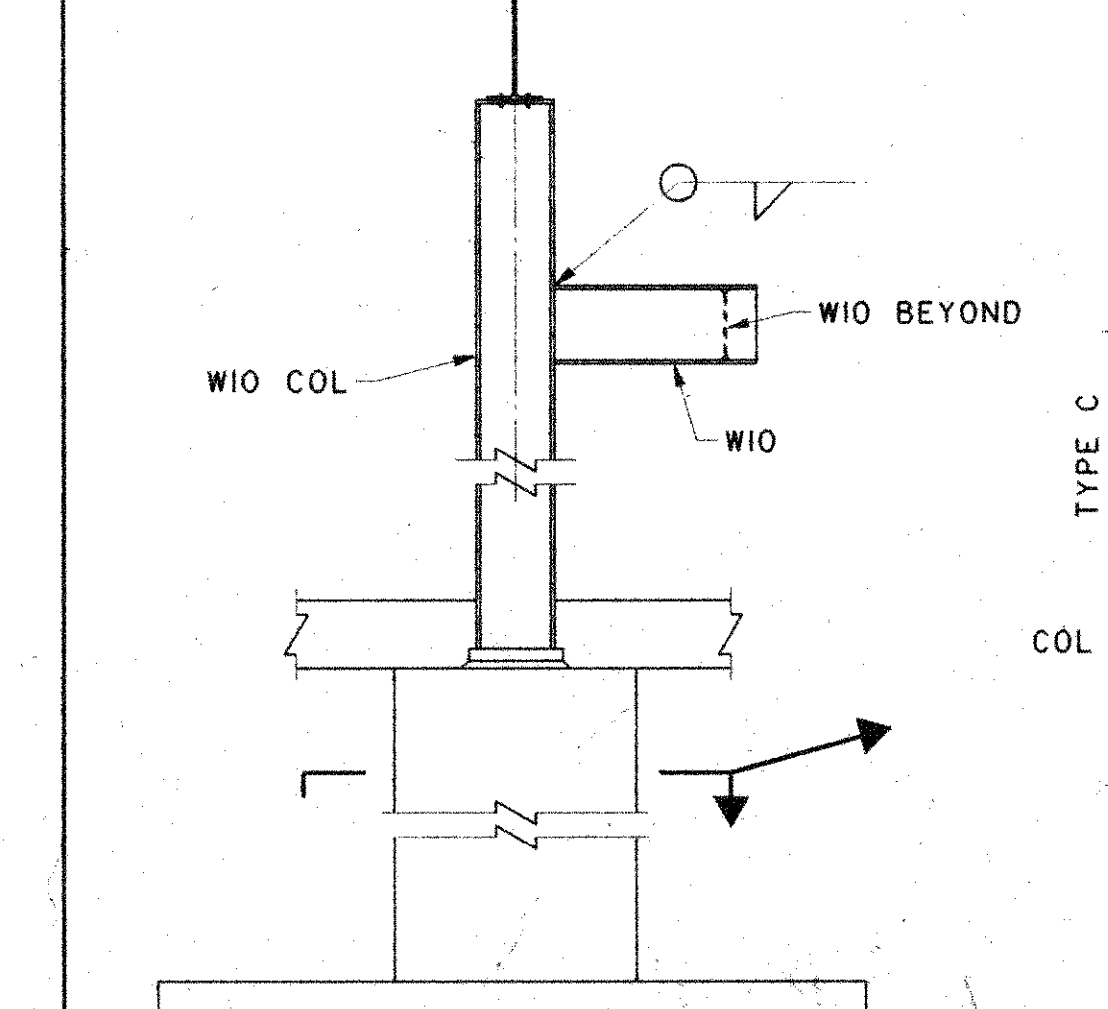
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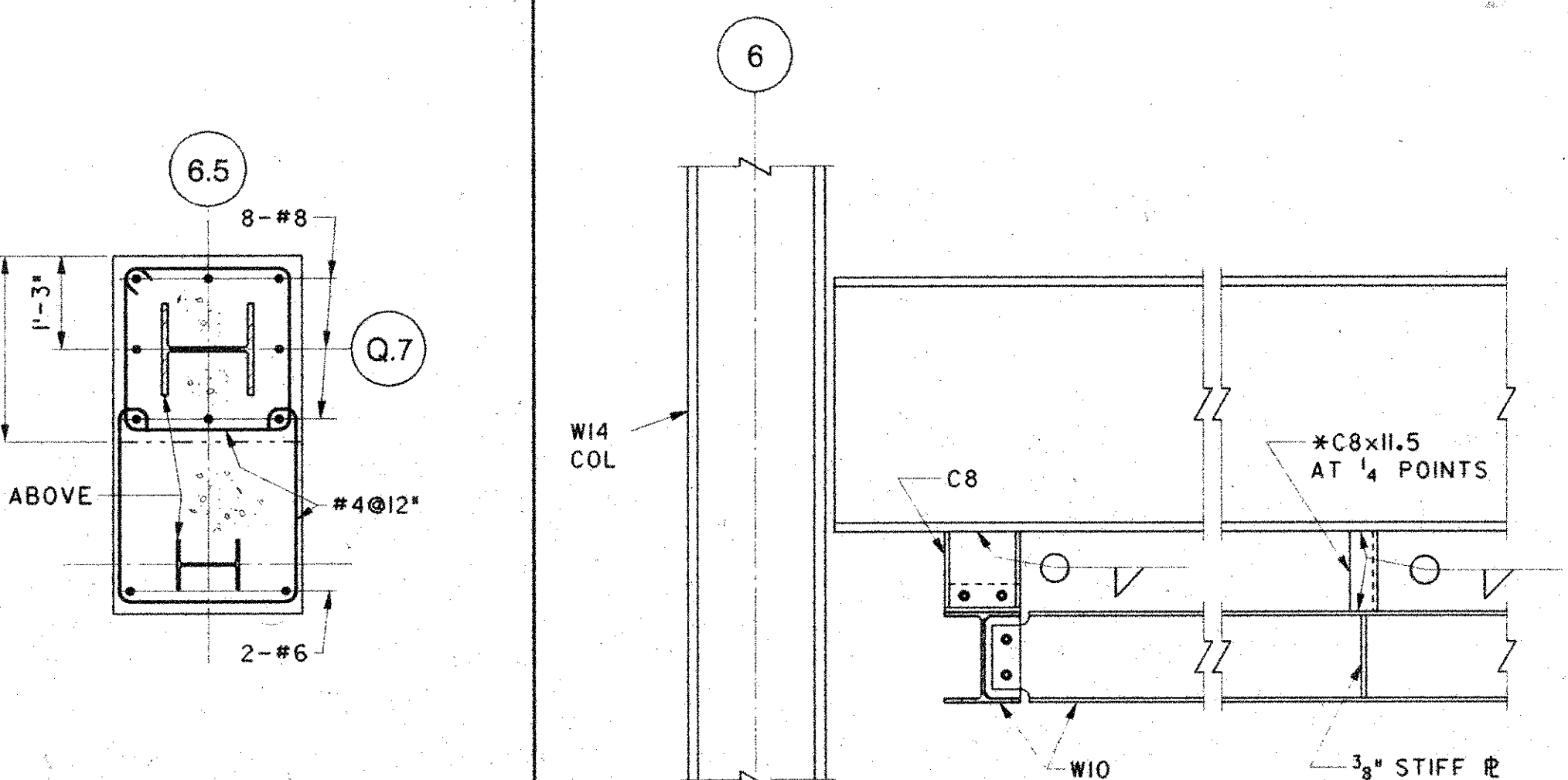
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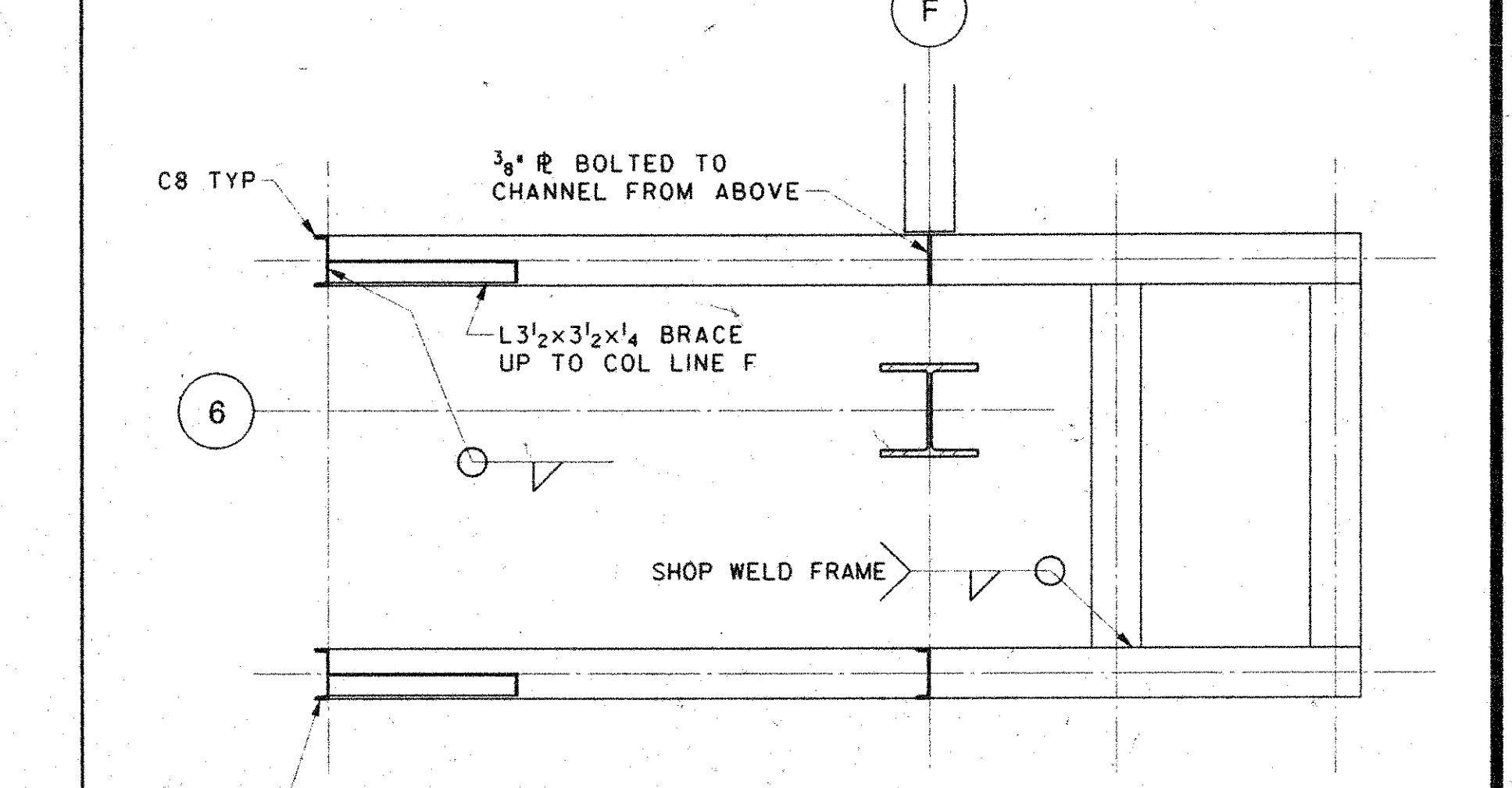
SCALE: 1/2" = 1'-0"



SCALE: 3/4" = 1'-0"



SCALE: 1/2" = 1'-0"



SCALE: 1/2" = 1'-0"

NO. DATE REVISION

PERRY DEAN ROGERS & PARTNERS: ARCHITECTS

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SCALE: 1/8" = 1'-0" JOB NO. 3249

DESIGN BY EAM CHECKED BY PJC

PROJECT: WORCESTER CONVENTION CENTER

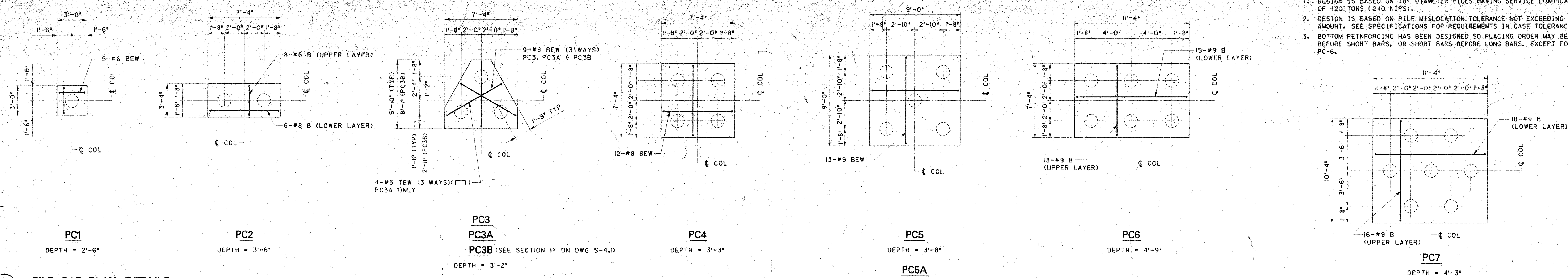
CONSTRUCTION DRAWINGS

PART PLANS

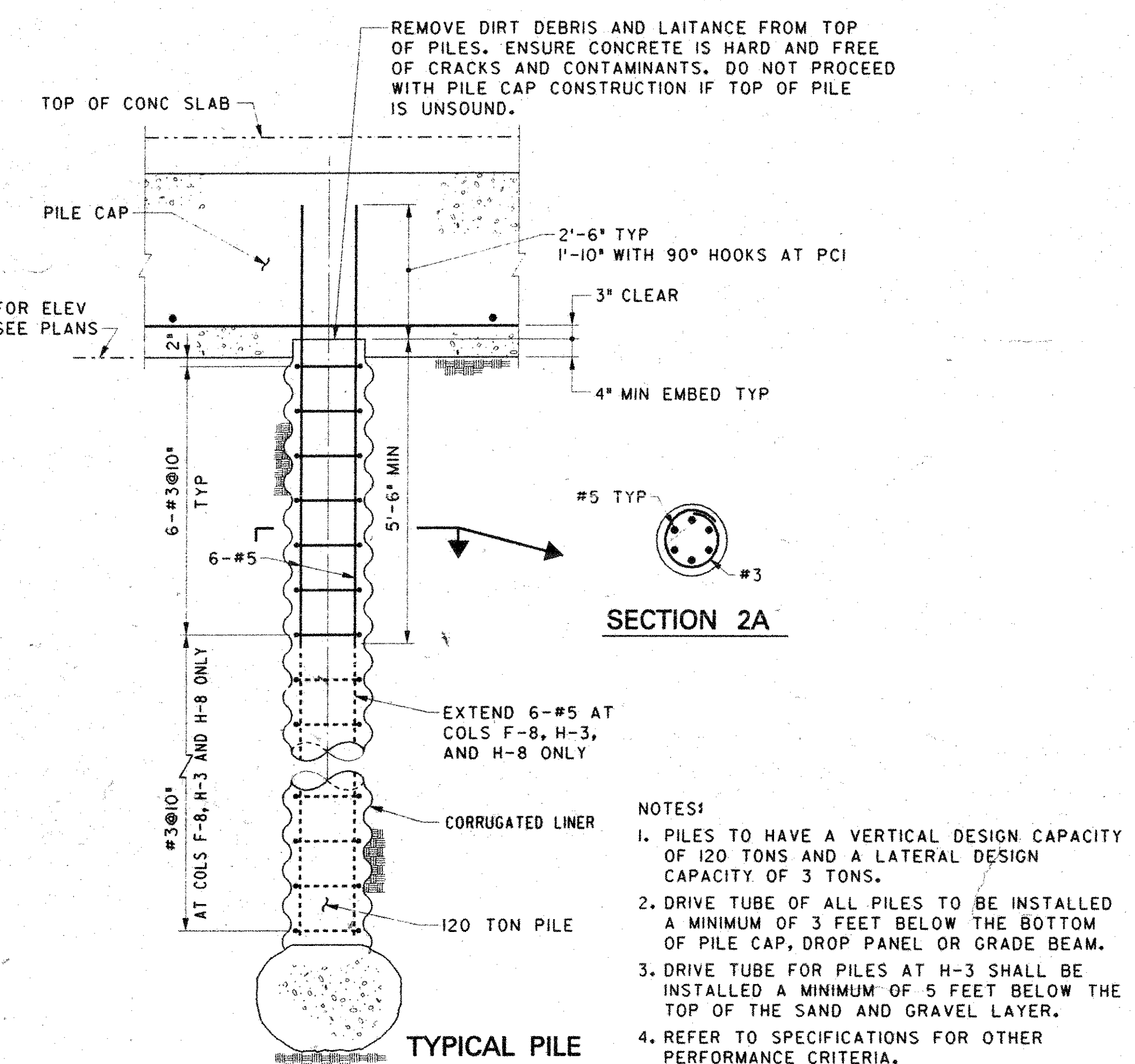
DATE 19 MAY 95 SECTION S DRAWING NO. 2.6

GENERAL NOTES

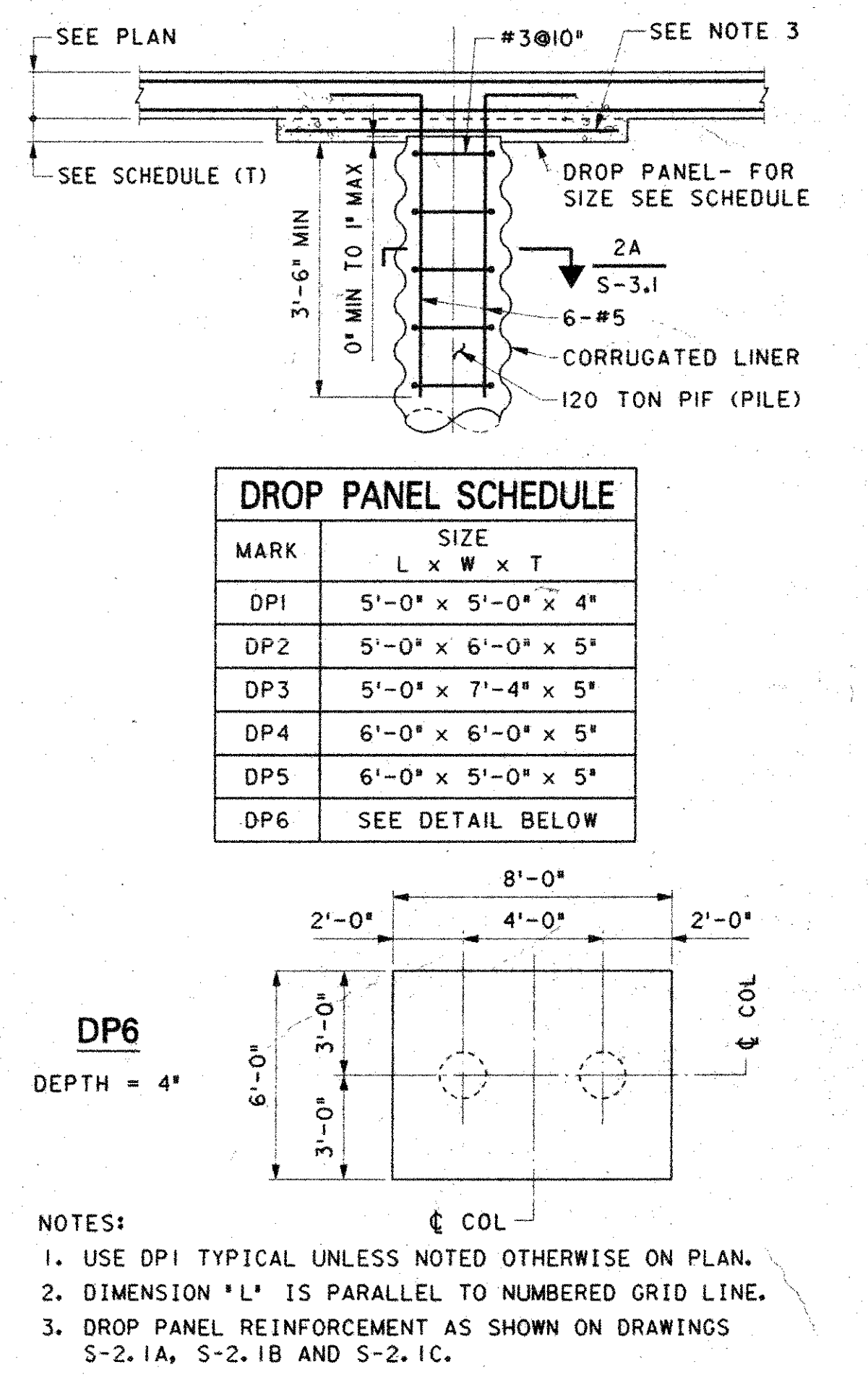
- PILE CAP NOTES:
- DESIGN IS BASED ON 16" DIAMETER PILES HAVING SERVICE LOAD CAPACITY OF 120 TONS (240 KIPS).
 - DESIGN IS BASED ON PILE MISLOCATION TOLERANCE NOT EXCEEDING SPECIFIED AMOUNT. SEE SPECIFICATIONS FOR REQUIREMENTS IN CASE TOLERANCE IS EXCEEDED.
 - BOTTOM REINFORCING HAS BEEN DESIGNED SO PLACING ORDER MAY BE LONG BARS BEFORE SHORT BARS, OR SHORT BARS BEFORE LONG BARS, EXCEPT FOR CAPS PC2 AND PC-6.



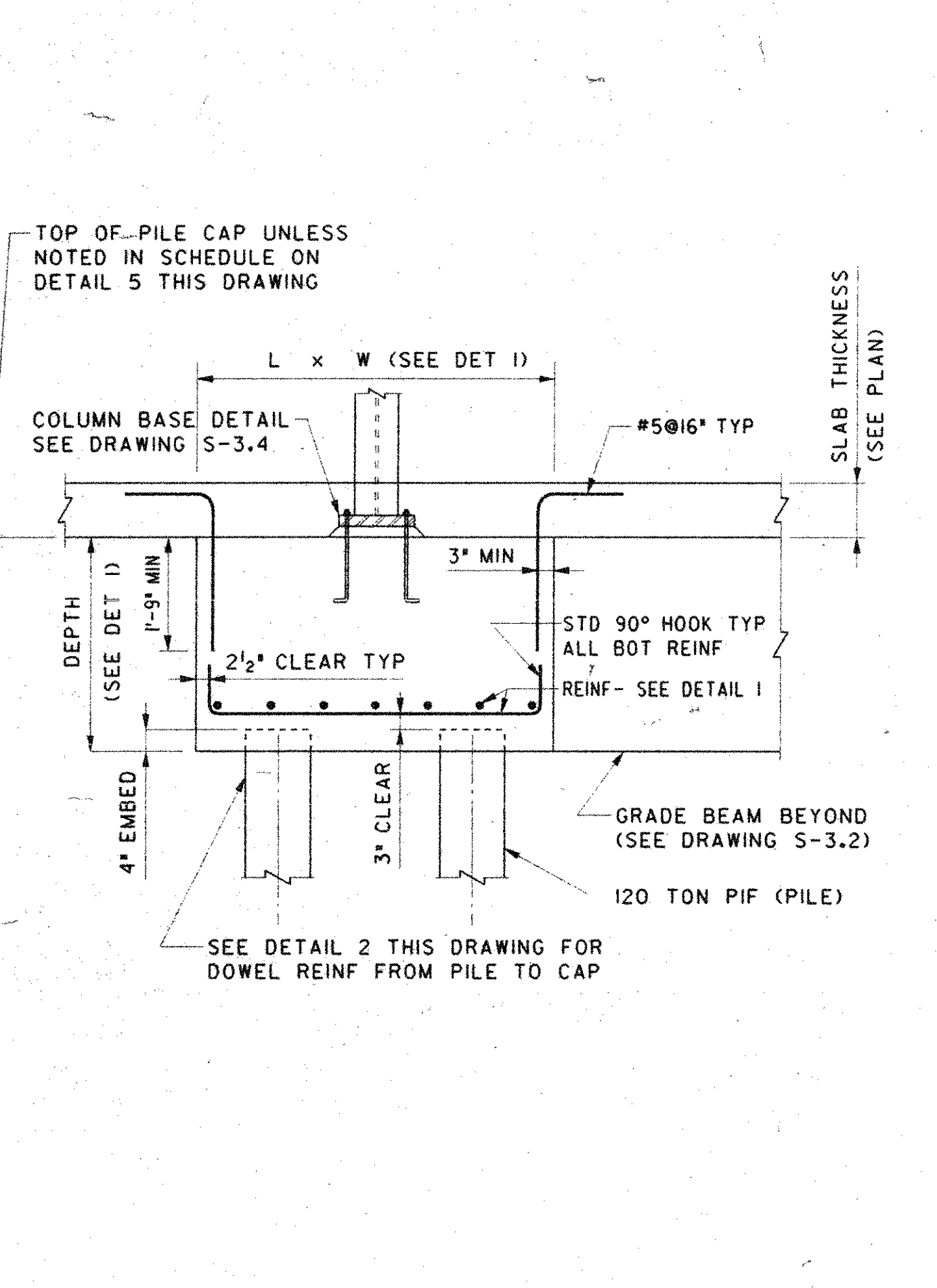
PILE CAP PLAN DETAILS



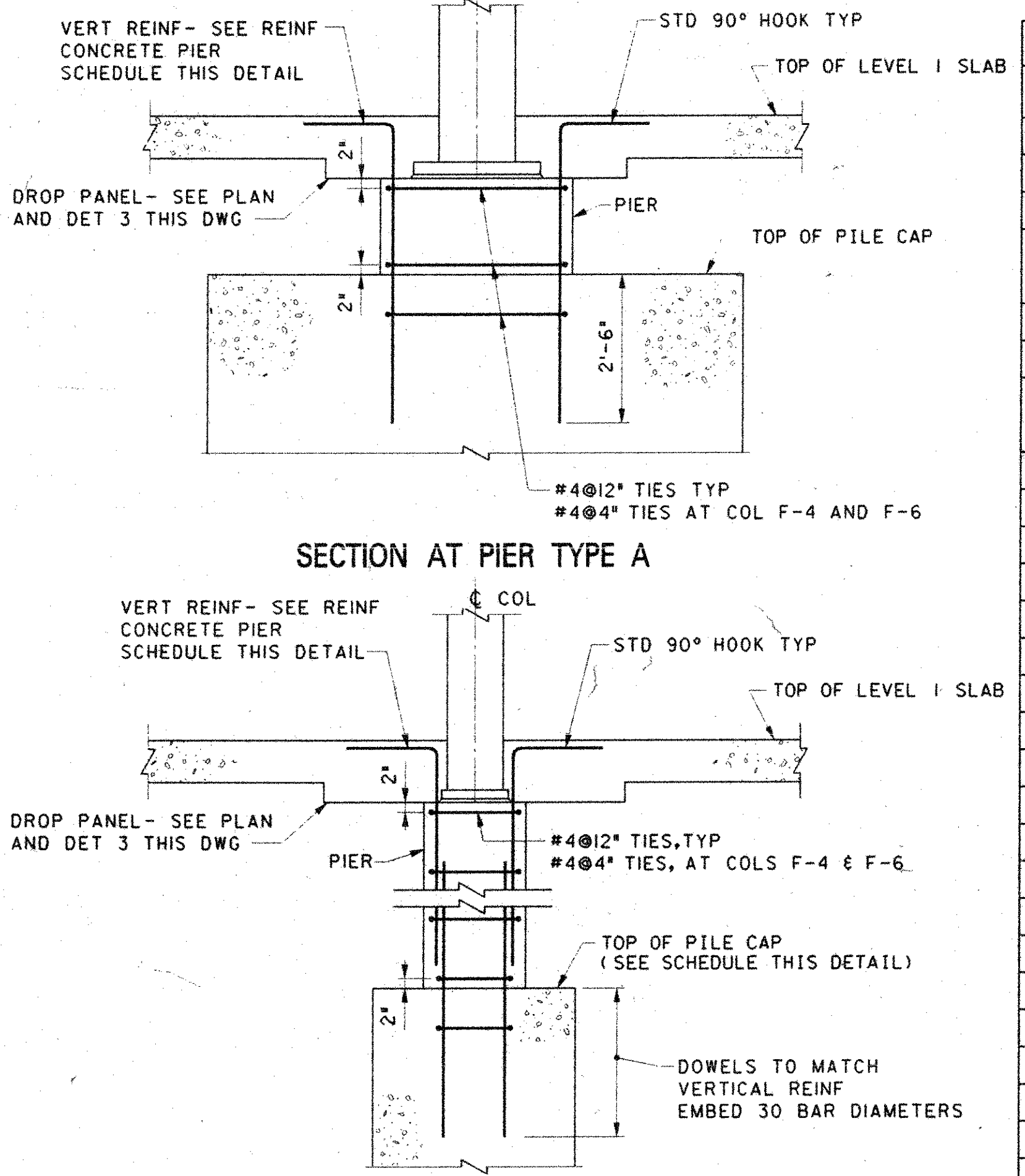
TYPICAL PRESSURE INJECTED FOOTING (PILE) & PILE CAP



TYPICAL SLAB SUPPORT DETAIL AT PRESSURE INJECTED FOOTING



TYPICAL INTERIOR PILE CAP



REINFORCED CONCRETE PIERS

REINFORCED CONCRETE PIER SCHEDULE				
COLUMN LOCATION	PIER TYPE	PIER SIZE	PIER REINF	TOP OF PILE CAP ELEVATION
E-1	A	38" x 38"	12-#8 VERT	461'-9"
E-2.5	A	38" x 38"	12-#8 VERT	458'-0"
E.3-1	A	38" x 38"	12-#8 VERT	461'-9"
E.3-2.6	E	32" DIAM	8-#8 VERT (CIRC PATTERN)	458'-0"
E.6-7	A	38" x 38"	12-#8 VERT	459'-6"
E.8-7	A	38" x 38"	12-#8 VERT	459'-6"
E.8-8	E	32" DIAM	8-#8 VERT (CIRC PATTERN)	457'-6"
E.9-8.6	B	20" x 20"	4-#8 VERT	457'-8"
F-1.8	D	32" x 32"	8-#8 VERT	462'-9 1/2"
F-4	A	38" x 38"	12-#8 VERT	460'-6"
F-6	A	38" x 38"	12-#8 VERT	460'-6"
F-7	D	32" x 32"	8-#8 VERT	460'-5 1/2"
F-8	C	30" x 30"	8-#8 VERT	457'-6"
F-8.6	-	-	-	462'-3 1/2"
F.8-1.8	D	32" x 32"	8-#8 VERT	462'-9 1/2"
G-4	A	38" x 38"	12-#8 VERT	460'-6"
G-7	A	38" x 38"	12-#8 VERT	460'-6"
G-8.6	B	20" x 20"	4-#8 VERT	458'-8"
J-4	A	38" x 38"	12-#8 VERT	460'-6"
J-7	A	38" x 38"	12-#8 VERT	460'-6"
L-4	A	38" x 38"	12-#8 VERT	460'-6"
L-7	A	38" x 38"	12-#8 VERT	460'-6"
N-4	A	38" x 38"	12-#8 VERT	460'-6"
N-7	A	38" x 38"	12-#8 VERT	460'-6"
P-4	A	38" x 38"	12-#8 VERT	460'-6"
P-7	A	38" x 38"	12-#8 VERT	460'-6"
Q.7-5.8	B	20" x 20"	4-#8 VERT	457'-8"
Q.7-6.5	C	57 1/2" x 30"	8-#8 VERT + 2-#6 VERT	457'-8"
S.2-4	E	32" DIAM	8-#8 VERT (CIRC PATTERN)	460'-3 1/2"
S.2-5	E	32" DIAM	8-#8 VERT (CIRC PATTERN)	457'-6"
S.2-6.5	-	-	-	462'-3 1/2"
T-5.6	-	-	-	462'-3 1/2"
T-6.7	-	-	-	462'-3 1/2"

BEAM REINFORCEMENT SCHEDULE				
TYPE	ADJ BEAM	SUPPORT LE	BEAM RE	STIRRUPS
GB71			2-#10UL	#4 EE1406" REM #12"
GB72			3-#10	#4 #12"
GB73			3-#10	#4 #12"
GB74			2-#9UL	#4 #12"
GB75			3-#10	#4 #12"
GB76			2-#9	#4 #12"
GB77			3-#9	#4 #12"
GB78			3-#11	#4 #12"
GB79			3-#10	#4 #12"

BEAM REINFORCEMENT SCHEDULE				
TYPE	ADJ BEAM	SUPPORT LE	BEAM RE	STIRRUPS
GB80			3-#10	#4 #12"
GB81			2-#10	#4 #12"
GB82			3-#9	#4 #12"
GB83			3-#10	#4 #12"
GB84			2-#11UL	#4 #12"
GB85			2-#11	#4 #12"
GB86			3-#11	#4 #12"
GB87			3-#10	#4 #12"
GB88			2-#7	#4 #12"

BEAM REINFORCEMENT SCHEDULE				
TYPE	ADJ BEAM	SUPPORT LE	BEAM RE	STIRRUPS
GB89			2-#8	#4 #12"
GB90			3-#8	#4 #12"
GB91			3-#8	#4 #12"
GB92			3-#8	#4 #12"
GB93			3-#9	#4 #12"
GB94			3-#10	#4 #12"
GB95			3-#10	#4 #12"
GB96			3-#8	#4 #12"
GB97			3-#11	#4 #12"

BEAM REINFORCEMENT SCHEDULE				
TYPE	ADJ BEAM	SUPPORT LE	BEAM RE	STIRRUPS
GB98			2-#8	#4 #12"
GB99			3-#9	#4 #12"
GB100			2-#7	#4 #12"
GB101			2-#10	#4 #12"
GB102			3-#11	#4 #12"
GB103			3-#11	#4 #12"
GB104			3-#11	#4 #12"
GB105			2-#11UL	#5 LE2405" REM #12"
GB106			2-#9UL	#4 #12"

BEAM REINFORCEMENT SCHEDULE				
TYPE	ADJ BEAM	SUPPORT LE	BEAM RE	STIRRUPS
GB107			3-#11	#4 #12"
GB108			2-#8UL	#4 #12"
GB109			2-#8	#4 #12"
GB110			3-#8	#4 #12"
GB111			3-#9	#4 #12"
GB112			4-#6T	#4 #12"

NO. DATE REVISION

PERRY DEAN ROGERS & PARTNERS: ARCHITECTS

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AS NOTED 3248
EAM PJC

WORCESTER CONVENTION CENTER

CONSTRUCTION DRAWINGS

PILE CAP PLANS AND DETAILS

19 MAY 95 S 3.1

GENERAL NOTES

BEAM REINFORCEMENT SCHEDULE

TYPE	ADJ BEAM	SUPPORT	LE	BEAM	RE	SUPPORT	ADJ BEAM	STIRRUPS
GB1		2-#10		2-#8LL		3-#10		#4 LE: 509" RE: 608", 3810" REM: #12"
GB2		2-#10+3-#9		2-#10		3-#10		#4 EE: 707", 408" REM: #12"
GB3		2-#10+3-#9		2-#10		3-#10		#4 EE: 508", 309" REM: #12"
GB4		4-#10		2-#10		3-#10		#4 EE: 508", 309" REM: #12"
GB5		2-#8UL		3-#9LL		3-#10		#4 EE: 805", 306", 2010" REM: #12"
GB6		5-#10		2-#10		3-#10		#4 EE: 705", 206", 308", 2010" REM: #12"
GB7		2-#10						#4 @ 12"
GB8		2-#10		3-#9LL		3-#10		#4 LE: 509", 2010" RE: 905", 306", 208", 3010" REM: #12"
GB9		5-#10		2-#10LL		3-#10		#4 EE: 905", 206", 207", 2010" REM: #12"
GB10		5-#10		2-#8LL		3-#10		#4 EE: 706", 207", 208", 2010" REM: #12"
GB11		4-#10		2-#8LL		3-#10		#4 EE: 607", 208", 2010" REM: #12"
GB12		4-#10		2-#10				#4 EE: 607", 208", 2010" REM: #12"
GB13		2-#10						#4 @ 12"
GB14		3-#9		2-#10		1-#10		#4 @ 12"
GB15		2-#9		2-#10		2-#8LL		3-#10 EE: 607", 208", 1010" REM: #12"
GB16		4-#9		3-#10		FROM GB17		#4 @ 12"
GB17		2-#10		2-#10		3-#10		#4 EE: 607", 208", 2010" REM: #12"
GB18		2-#10		3-#10		3-#11		#4 @ 12"
GB19		5-#10		2-#10		3-#11		#4 EE: 406" REM: #12"
GB20		3-#11UL		2-#10				#4 @ 06"
GB21		2-#9		3-#10				#4 @ 12"
GB22		3-#9		2-#9				#4 @ 12"
GB23		2-#9		3-#9				#4 @ 08"
GB24		3-#10		2-#10		3-#9		#4 @ 12"

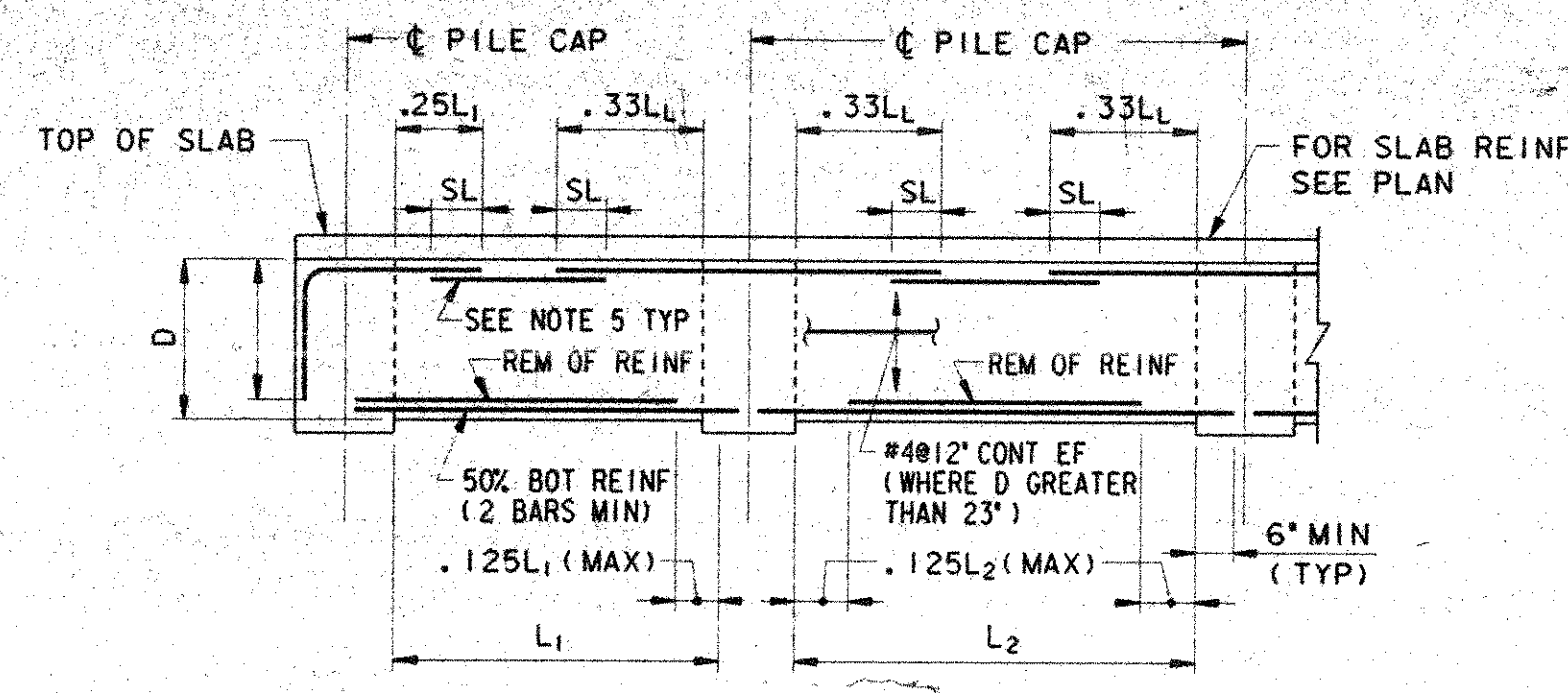
BEAM REINFORCEMENT SCHEDULE

TYPE	ADJ BEAM	SUPPORT	LE	BEAM	RE	SUPPORT	ADJ BEAM	STIRRUPS
GB25		2-#10				3-#9		#4 EE: 509", 2010" REM: #12"
GB26		2-#10+2-#9		2-#10				#4 @ 12"
GB27		2-#10		2-#7				#4 @ 12"
GB28		2-#10+2-#9		2-#10		2-#7		#4 @ 12"
GB29		2-#10		2-#10		2-#9		#4 @ 12"
GB30		2-#10		2-#7LL		2-#10		#4 @ 12"
GB31		2-#10		2-#7LL		2-#10		#4 EE: 707", 408" REM: #12"
GB32		4-#10		2-#10		1-#9		#4 @ 12"
GB32A		2-#10						#4 @ 12"
GB33		2-#10 CONT						#4 @ 12"
GB34		FROM GB33		2-#7LL		2-#10		#4 @ 12"
GB35		2-#10+1-#8		2-#9				#4 EE: 707", 308" REM: #12"
GB36		FROM GB35		2-#9				#4 LE: 5010" RE: 609", 2010" REM: #12"
GB37		2-#10		2-#10		1-#8		#4 @ 12"
GB38		2-#10				1-#8		#4 @ 12"
GB39		2-#9		2-#10				#4 @ 12"
GB40		10-#11		10-#11				#5 @ 12"
GB41		11-#10		6-#7				#5 @ 12"
GB42		4-#11LL		11-#11		9-#11		CANT: #604" REM: #5012"
GB43		6-#11		6-#7				#5 @ 12"
GB44		5-#11LL		11-#11		10-#11		CANT: #604" REM: #5012"
GB45		11-#11		6-#8				#5 @ 12"
GB46		10-#11		6-#8				#5 @ 12"
GB47		4-#11		8-#7				#5 @ 12"
GB48		11-#11		6-#7				#5 @ 12"

BEAM REINFORCEMENT SCHEDULE

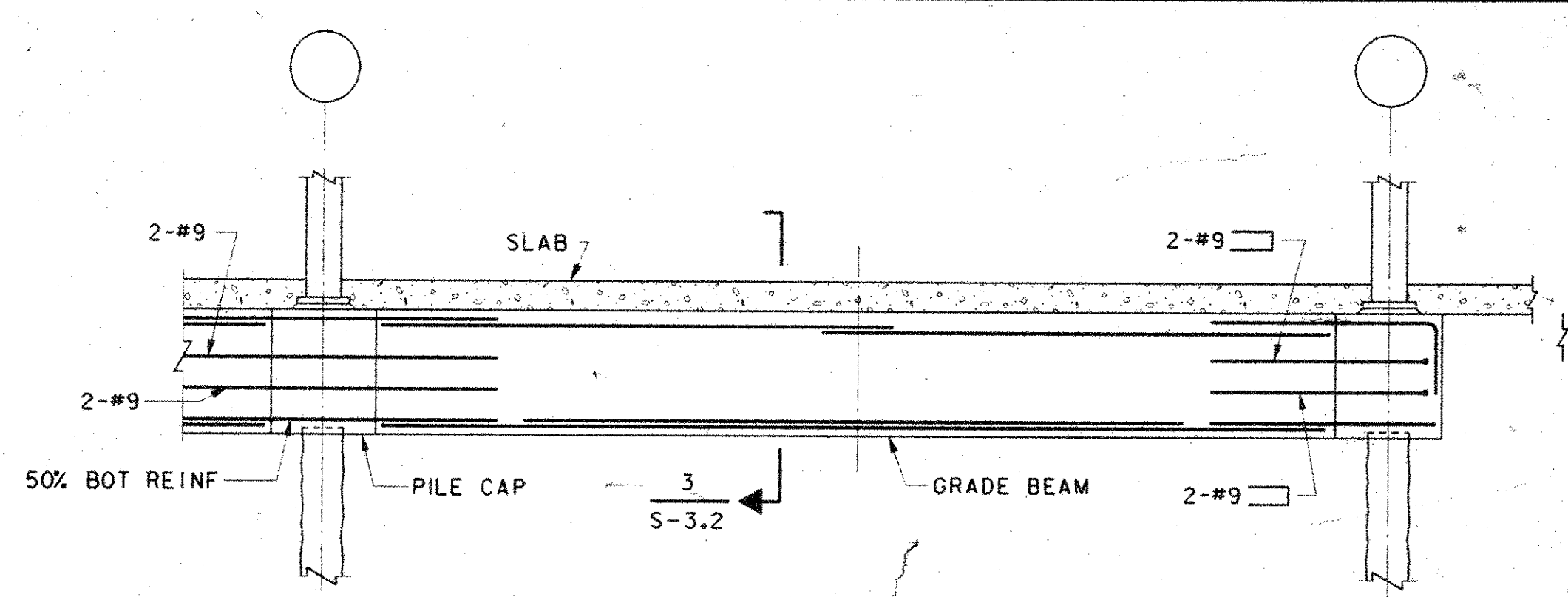
TYPE	ADJ BEAM	SUPPORT	LE	BEAM	RE	SUPPORT	ADJ BEAM	STIRRUPS
GB49		2-#7		2-#7				#4 EE: 1406" REM: #12"
GB50		2-#11UL		2-#5				#4 @ 12"
GB51		2-#6		3-#8				#4 @ 12"
GB52		3-#11		2-#6				#4 @ 12"
GB53		3-#10		3-#10				#4 @ 12"
GB54		3-#8		2-#10				#4 @ 12"
GB55		2-#11UL		2-#7				#4 EE: 1206" REM: #12"
GB56		3-#9						#4 @ 12"
GB57		4-#11		5-#11				LE: 7-#4 @ 08" LE: 4-#4 @ 12" RE: 4-#4 @ 12" REM: #4 @ 12"
GB58		5-#11		4-#11				RE: 5-#4 @ 12" REM: #4 @ 12"
GB59		3-#10		4-#11				LE: 6-#4 @ 12" REM: #4 @ 12"
GB60		3-#10		4-#11				RE: 5-#4 @ 08" REM: #4 @ 12"
GB61		5-#11		3-#11UL				#4 @ 12"
GB62		3-#8		3-#11UL		3-#8		#4 RE: 2406" REM: #12"
GB63		4-#11		2-#8				#4 @ 12"
GB64		2-#10		2-#10UL				#4 @ 12"
GB65		3-#11		2-#9				#4 @ 12"
GB66		3-#11		2-#10				#4 @ 12"
GB67		3-#10		3-#11UL				#5 @ 08"
GB68		3-#11		2-#10				#4 @ 12"
GB69		3-#10		3-#10				#5 @ 12"
GB70		2-#10		2-#10UL		3-#10		#4 EE: 1406" REM: #12"

FOR CONTINUATION OF GRADE BEAM
SCHEDULE SEE DRAWING S-3.2A

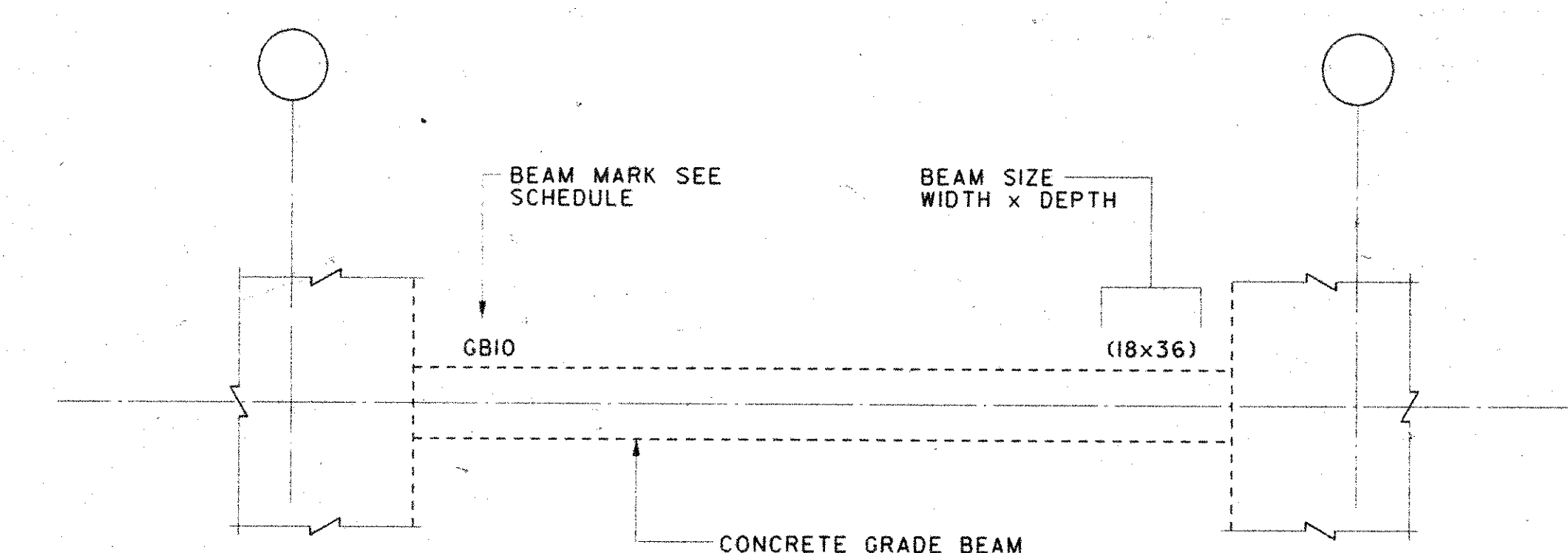


- NOTES:
- USE THIS DETAIL TO DETERMINE REINFORCEMENT LENGTHS. REFER TO BEAM SCHEDULE FOR QUANTITY AND SIZE OF REINFORCEMENT AND QUANTITY, SIZE, TYPE AND SPACING OF STIRRUPS.
 - PLACE ALL BARS IN SINGLE LAYER, WITH LARGER BARS NEAREST BEAM SIDES, UNLESS NOTED UL OR LL IN BEAM SCHEDULE.
 - WHERE TOP BARS SPLICE AT MID-SPAN OF BEAM, LAP BARS A SPLICE LENGTH OF THE SMALLER BAR.
 - PROVIDE STIRRUPS THROUGHOUT BEAM LENGTH, STARTING WITHIN 3' OF SUPPORT FACE.
 - PROVIDE 1-#5 CONT STIRRUP SUPPORT BAR AT EACH CORNER OF EACH STIRRUP WHEREVER MAIN BEAM REINFORCEMENT DOES NOT PROVIDE SUPPORT.
 - USE SAME DETAILS WHERE BEAMS ARE SUPPORTED ON CONCRETE WALLS OR OTHER BEAMS.
 - TERMS: L₁ = LARGER OF TWO ADJACENT SPAN LENGTHS
SL = SPLICE LENGTH FOR SMALLER BAR BEING SPLICED
DL = DEVELOPMENT LENGTH
 - BEAM NUMBER IS SHOWN AT LEFT SUPPORT ON PLAN, WITH BEAM VIEWED LOOKING TOWARD TOP OR LEFT SIDE OF SHEET.

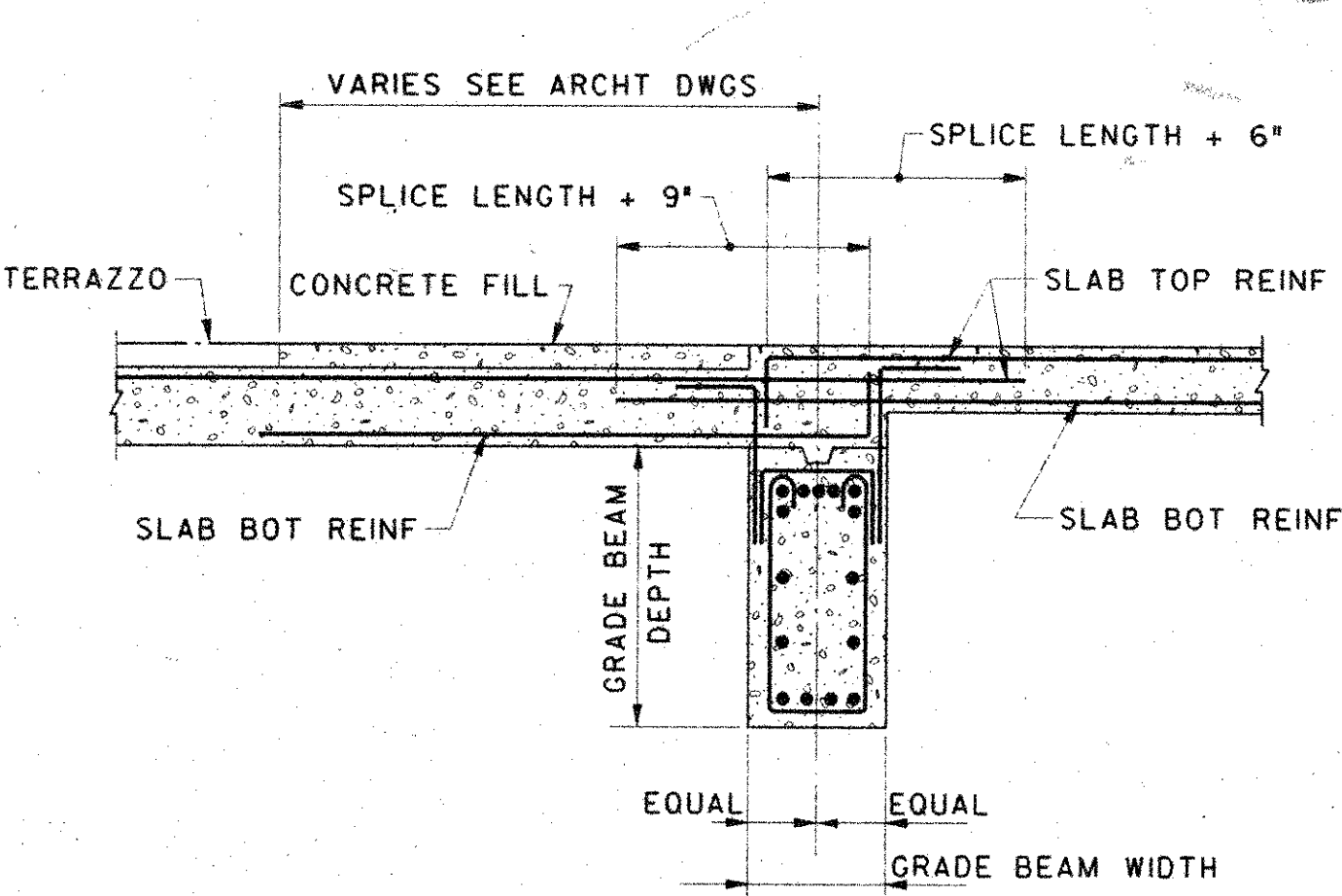
1 CONCRETE BEAM REINFORCEMENT CUT OFF DIAGRAM



4 TYPICAL INTERIOR GRADE BEAM AT PILE CAPS

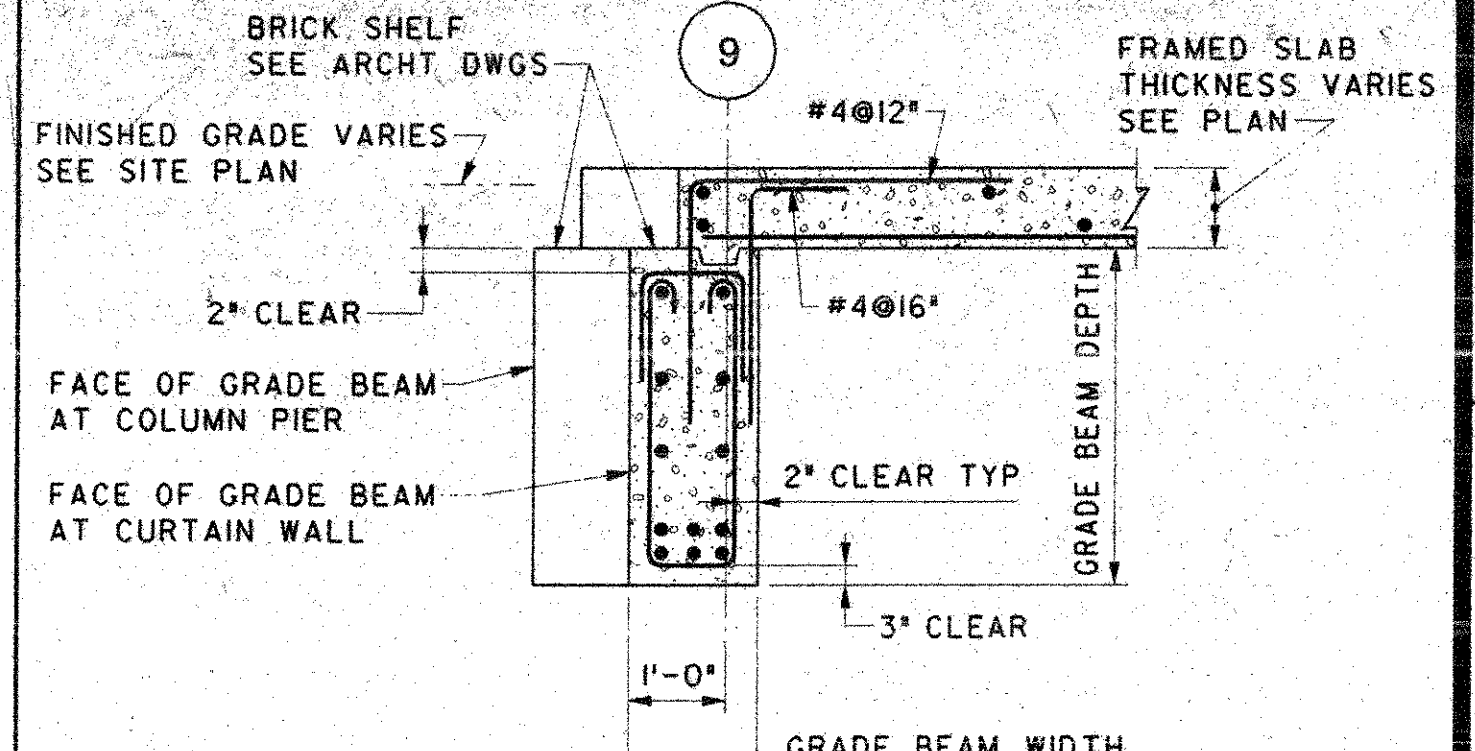


5 CONCRETE GRADE BEAM EXPLANATION DIAGRAM

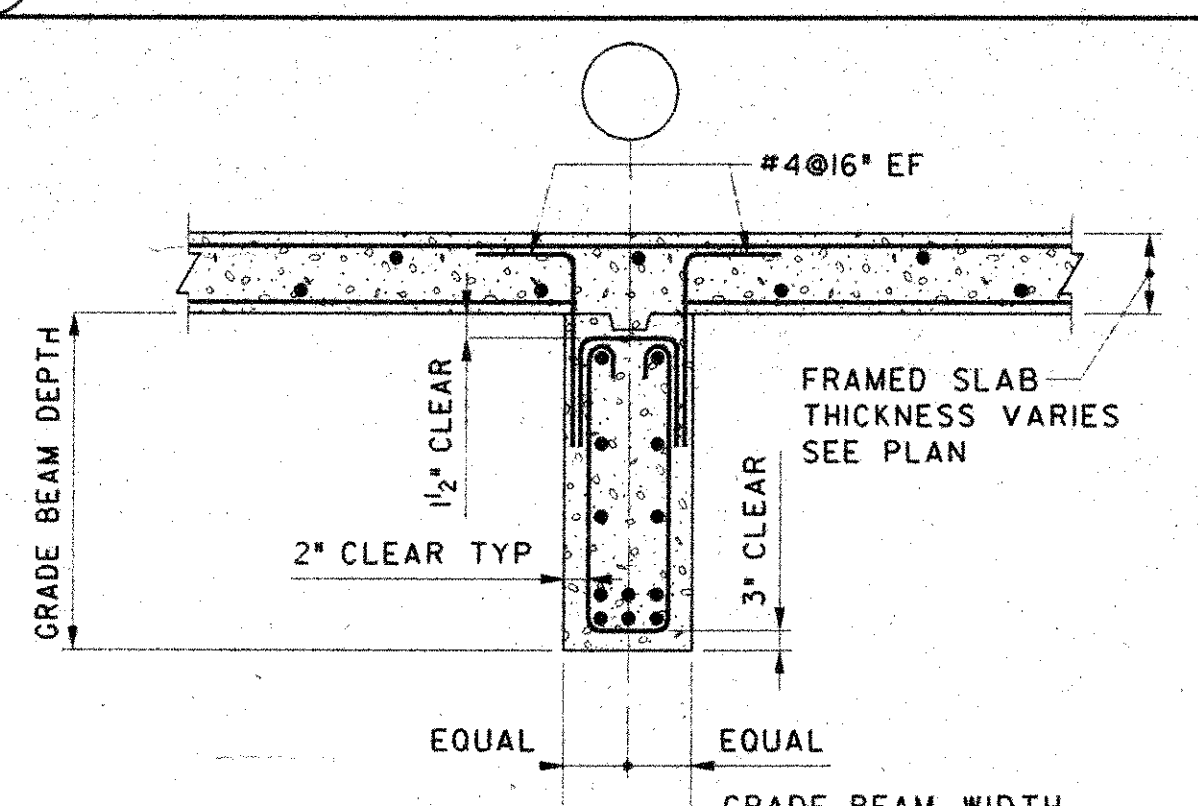


TYPICAL GRADE BEAM AT LINE E
BETWEEN LINE 2.5 TO LINE 8.1

(FOR GRADE BEAM AT LINE E BETWEEN
LINES 1 AND 2.5 SEE DETAIL 5 ON DWG S-4.4)



2 TYPICAL EXTERIOR GRADE BEAM



3 TYPICAL INTERIOR GRADE BEAM

NO. DATE REVISION

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SCALE NONE JOB NO. 3249

DRAWN BY EAM CHECKED BY PJC

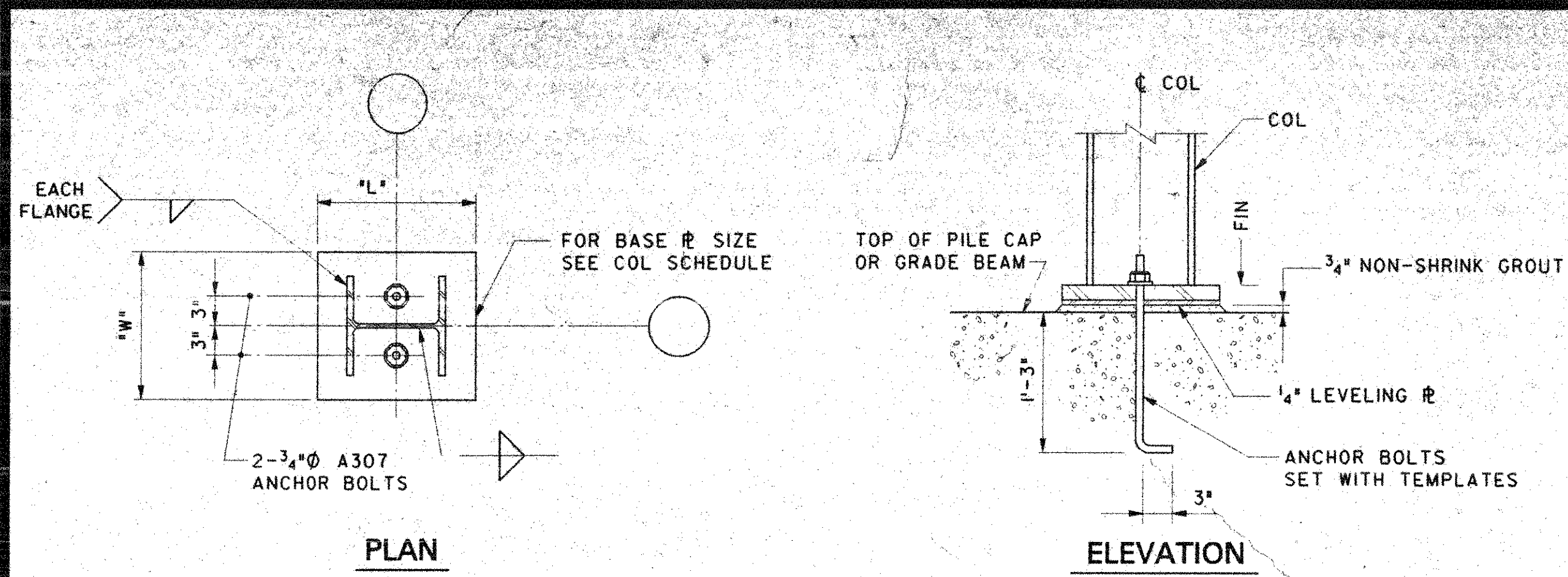
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CONSTRUCTION DRAWINGS

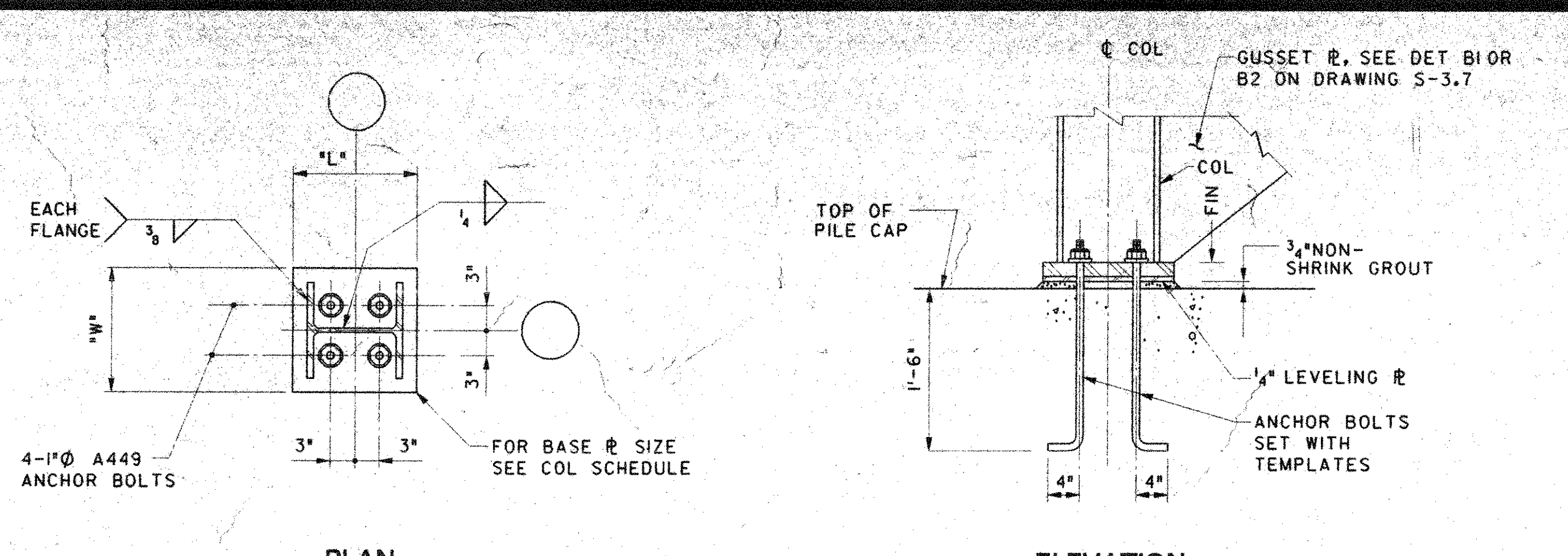
GRADE BEAM SCHEDULE
AND DETAILS

DATE 19 MAY 95 SECTION S DRAWING NO. 3.2

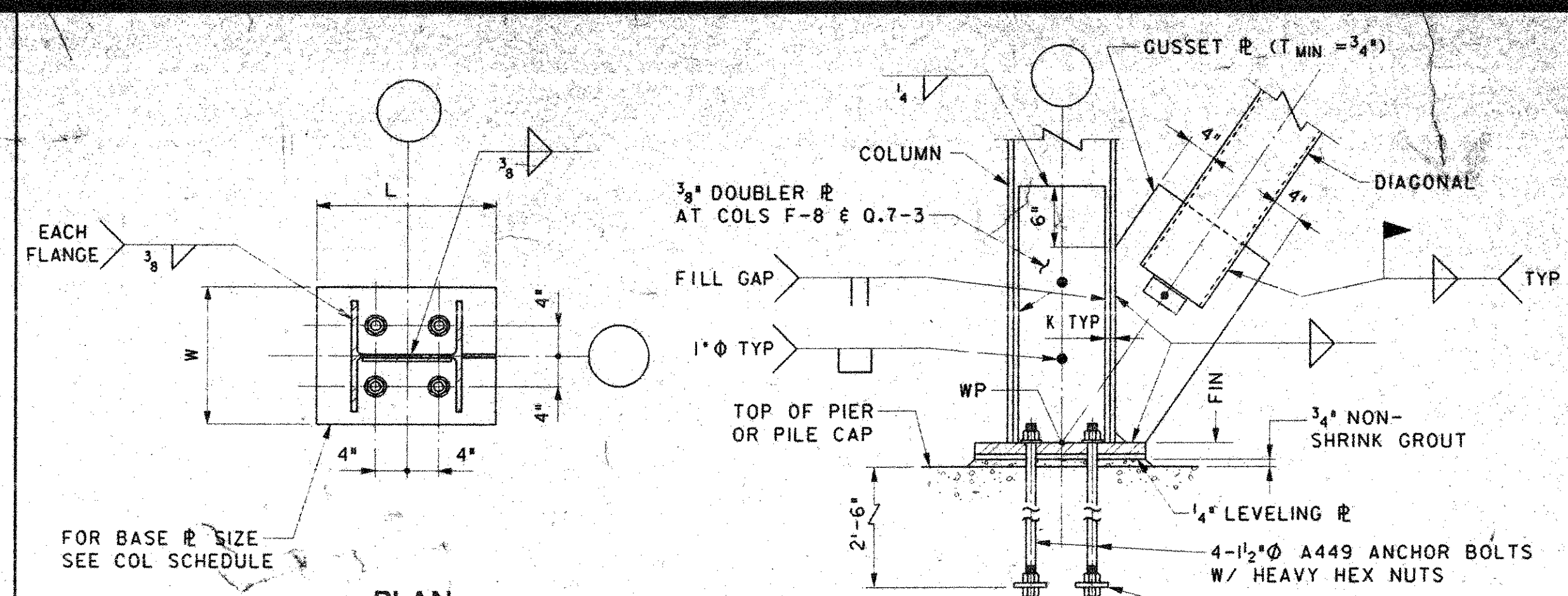
GENERAL NOTES



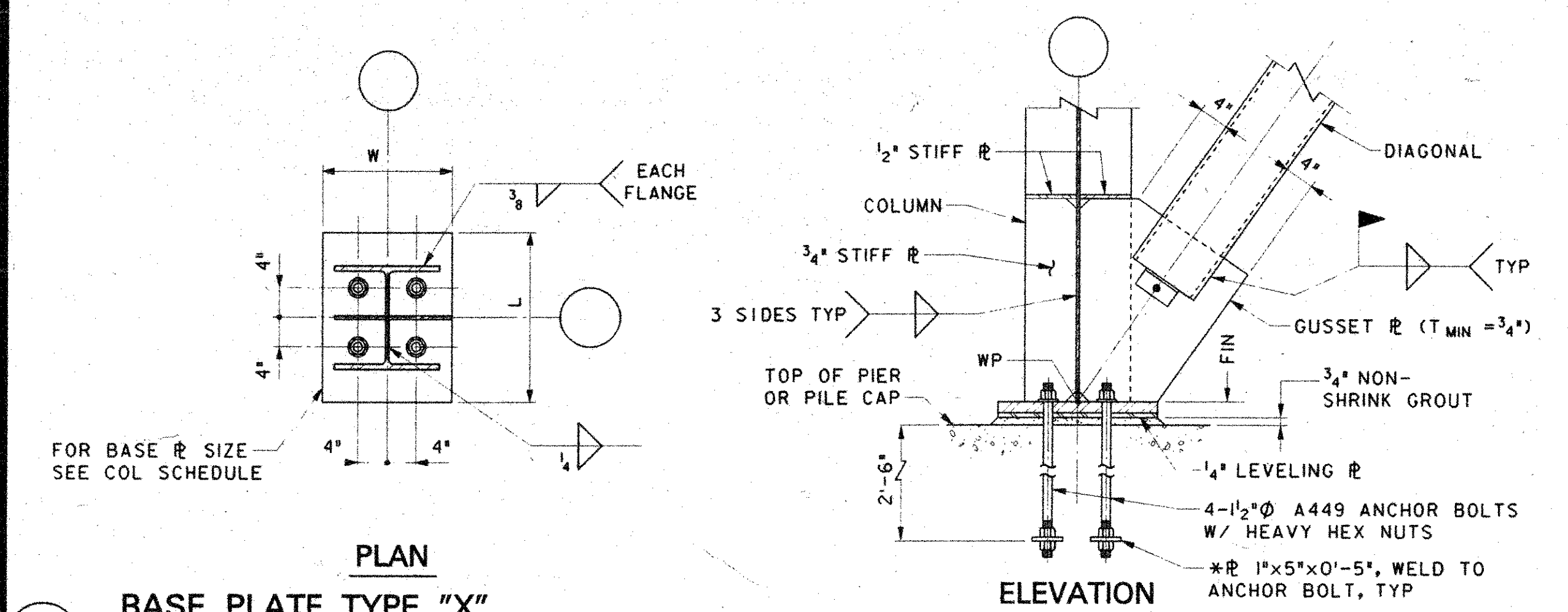
U
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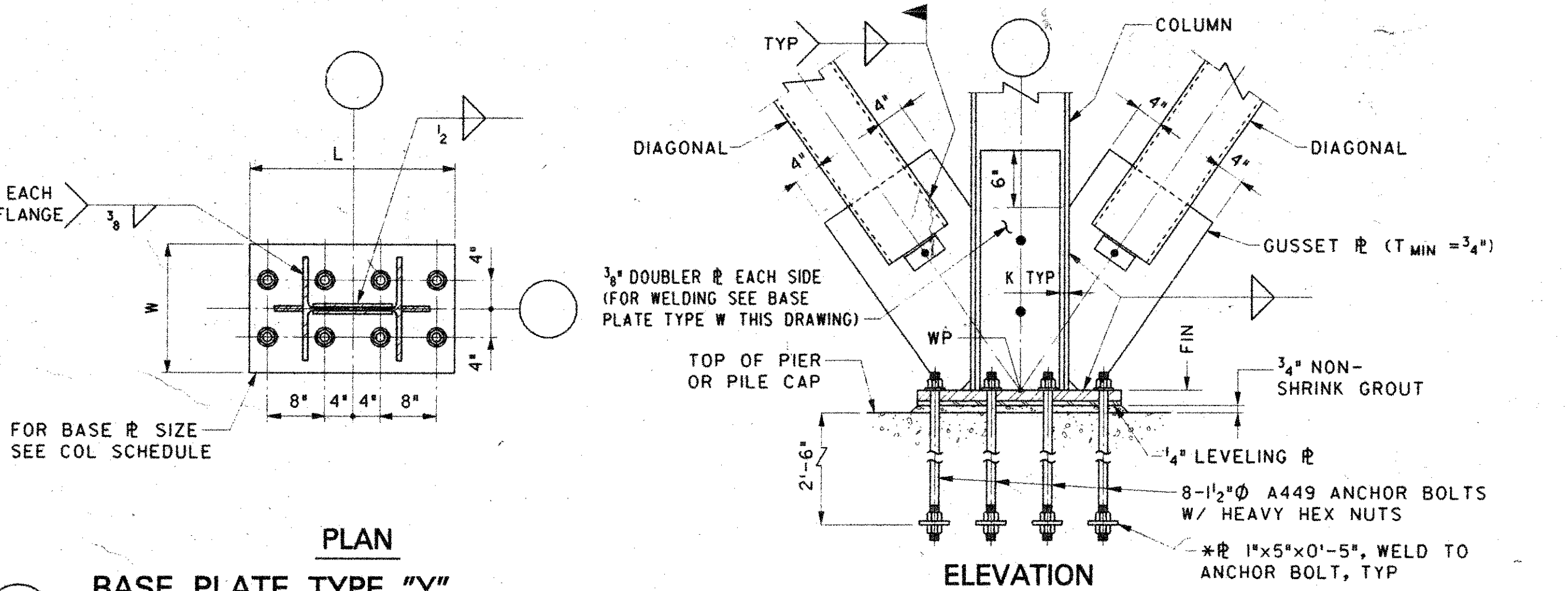
V
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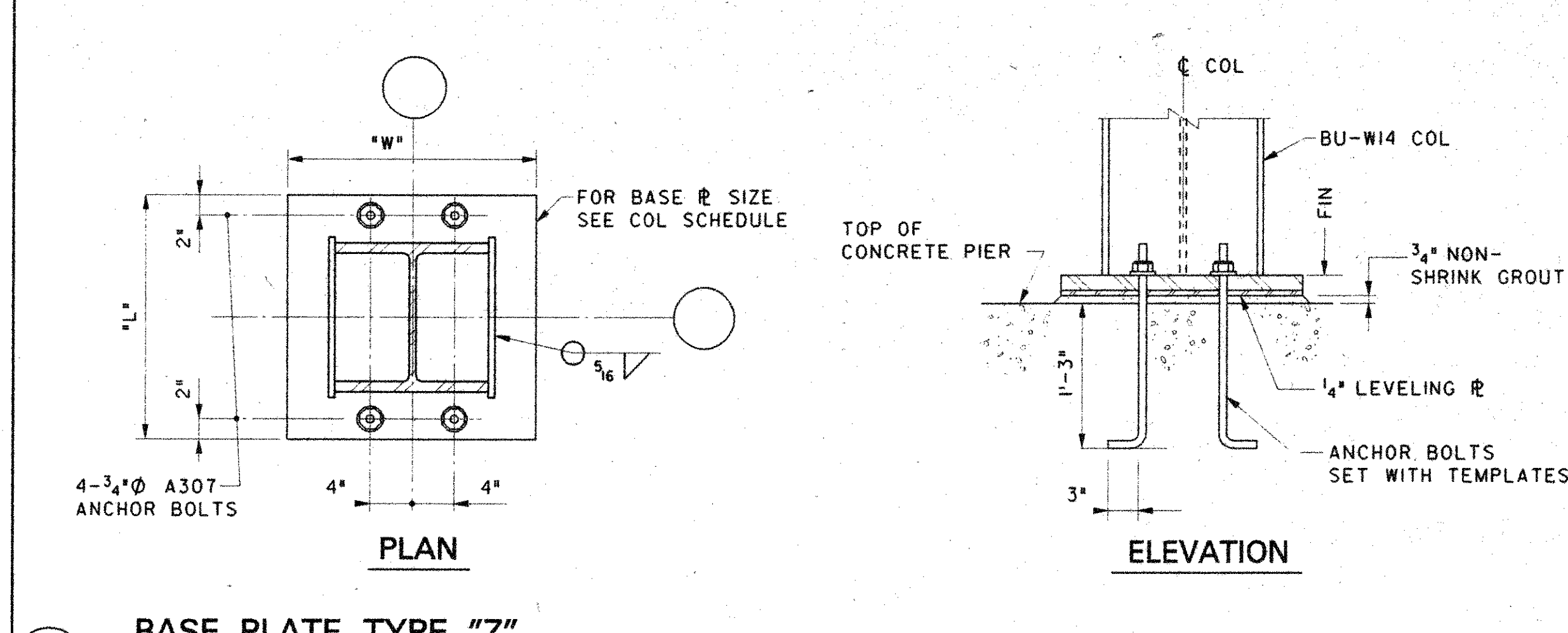
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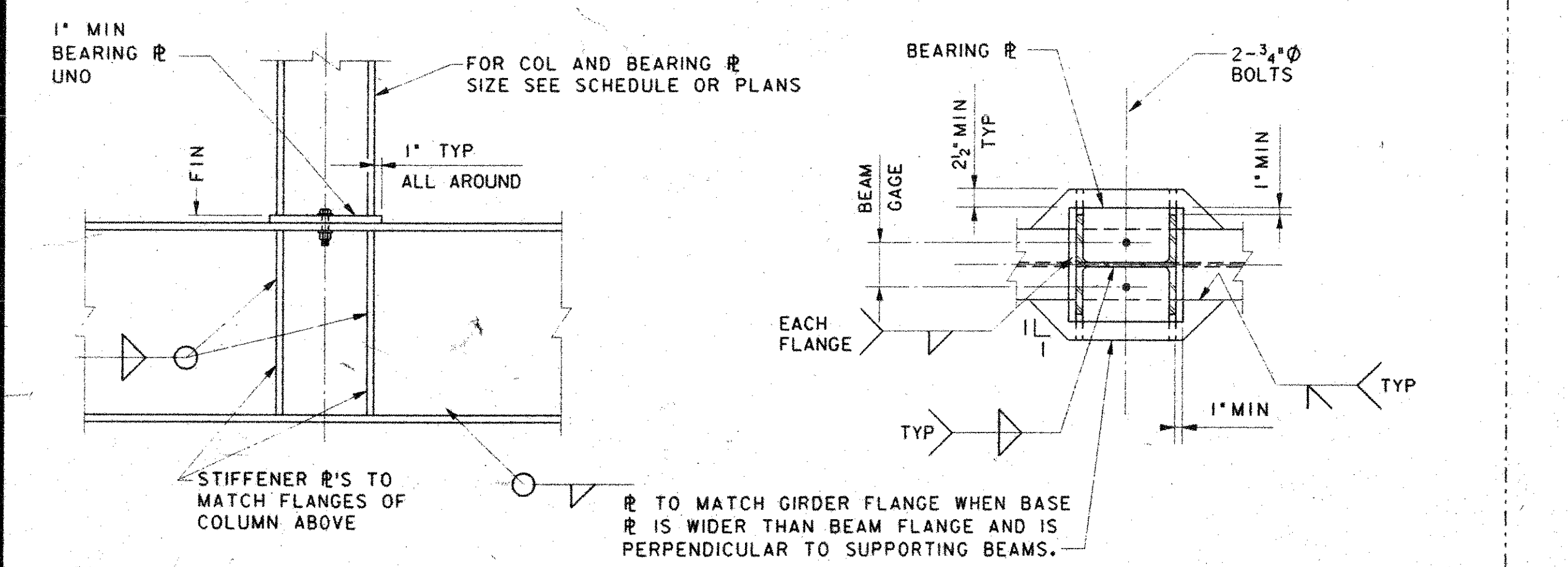
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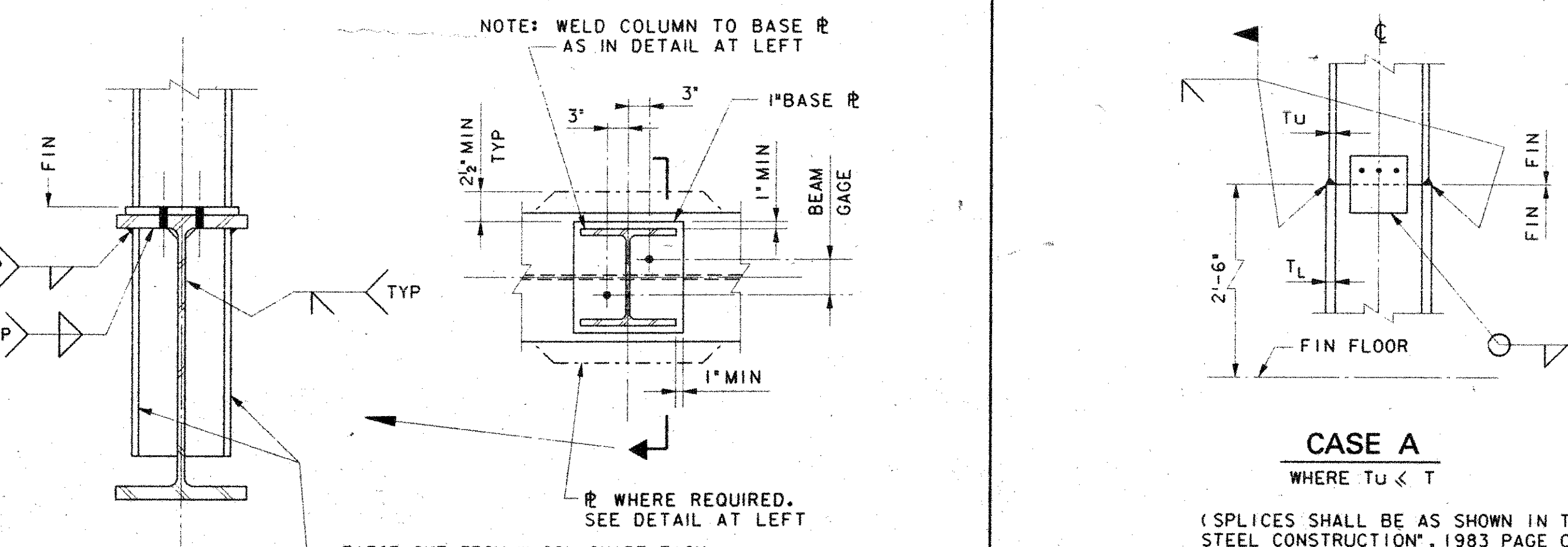
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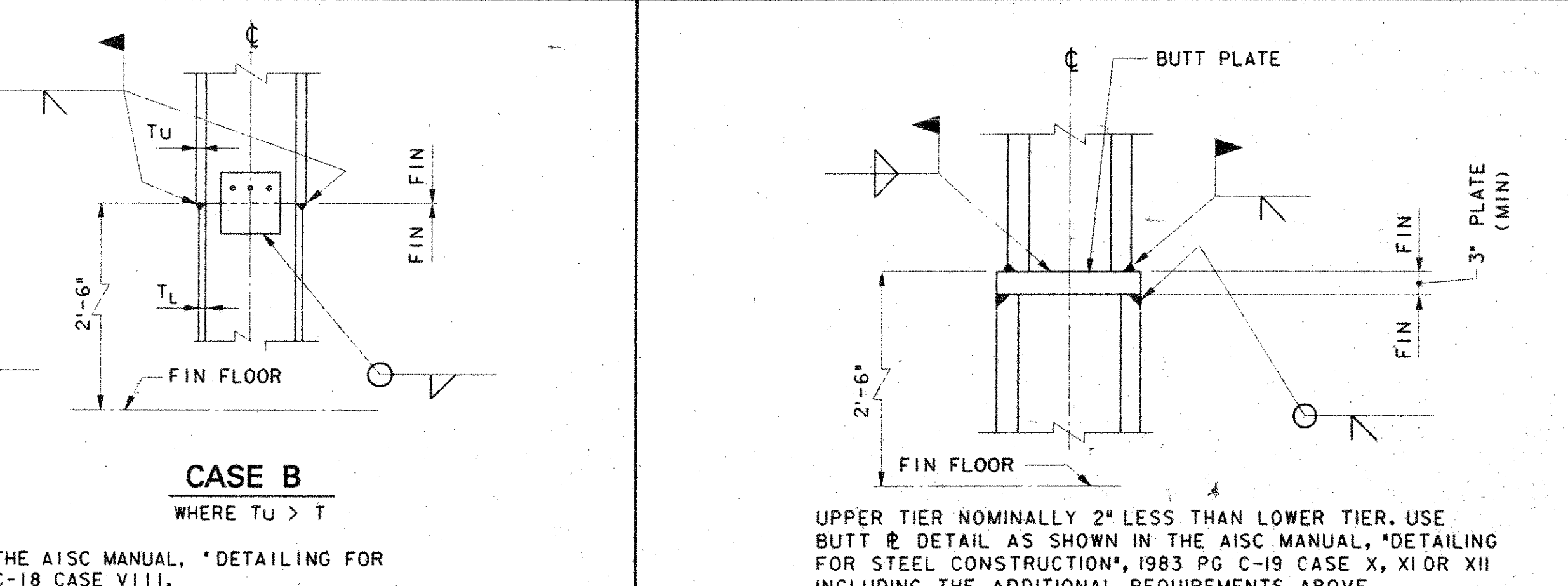
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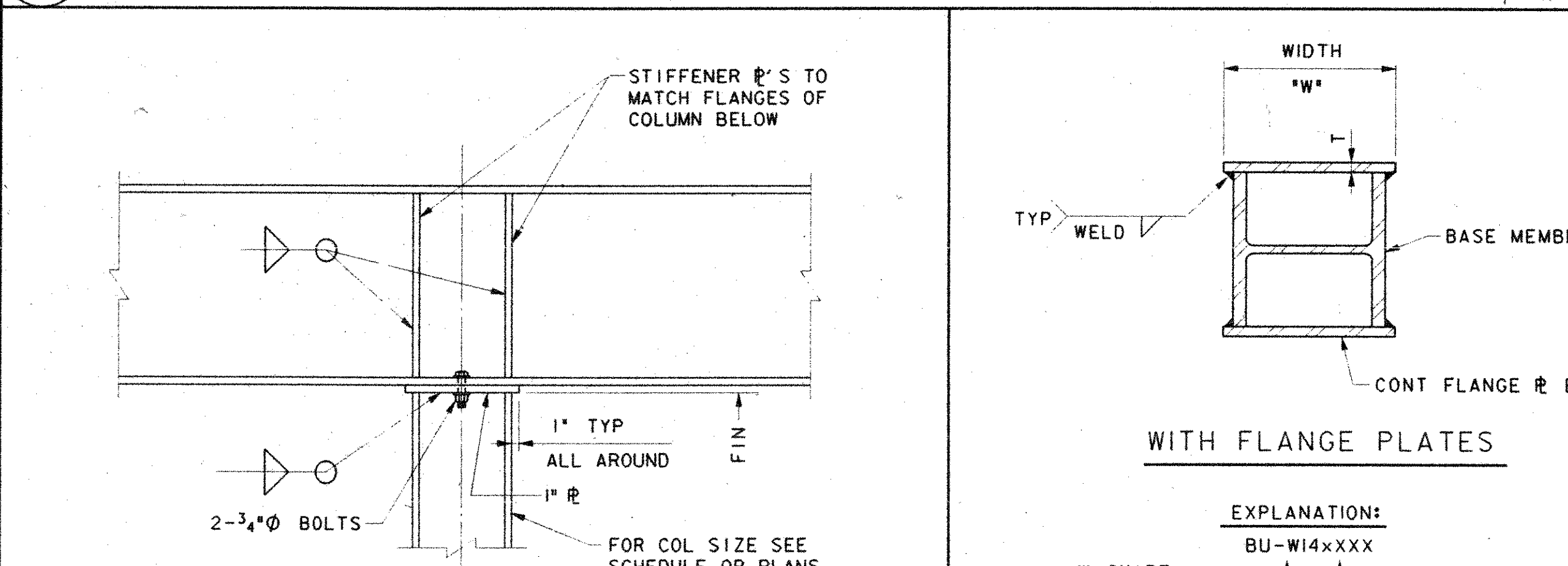
1
TYPICAL DETAIL AT BASE PLATE OF COLUMN TRANSFER BEAM



2
TYPICAL COLUMN SPLICE DETAILS
UPPER AND LOWER TIER NOMINALLY THE SAME



3
BUTT PLATE COLUMN SPLICE DETAIL

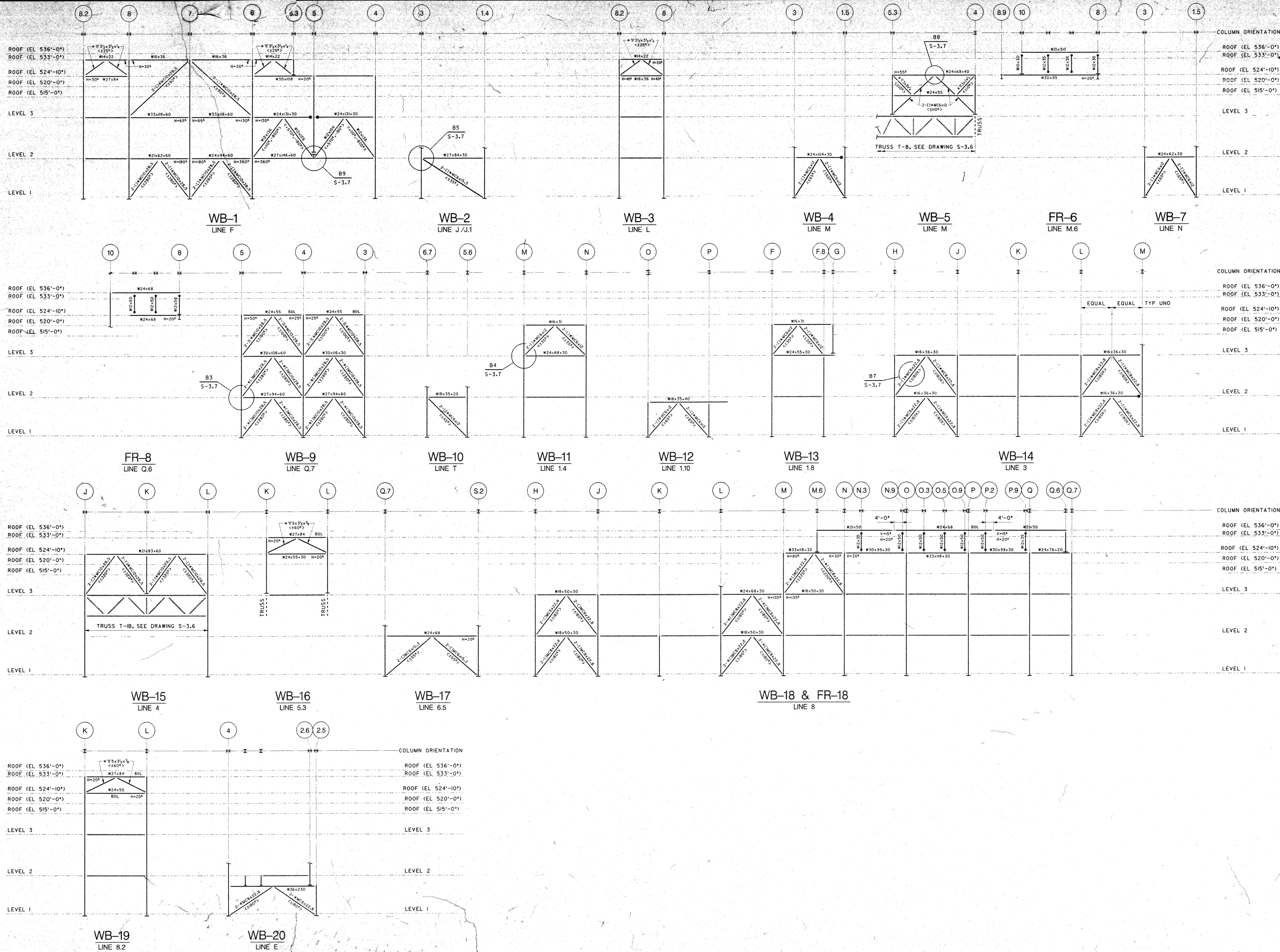


4
TYPICAL COLUMN CAP PLATE DETAIL

BUILT-UP W SHAPE PLATE SCHEDULE

MEMBER DESIGNATION	BASE MEMBER	FLANGE PLATE SIZE x CONT T x W	WELD	REMARKS
BU-W14x199	W14x132	5/8" x 15 3/4"	5/8"	
BU-W14x227	W14x159	5/8" x 16"	5/8"	

5
TYPICAL COLUMN CAP PLATE DETAIL



- GENERAL NOTES
1. <XXX> INDICATES WORKING STRESS LEVEL AXIAL MEMBER FORCE, P, IN KIPS, WHERE (+) = TENSION AND (-) = COMPRESSION, TO BE USED FOR CONNECTION DESIGN.
 2. SEE DRAWING S-1, NOTE E7, FOR BEAM VERTICAL REACTION, R, TO BE USED FOR BEAM END SHEAR CONNECTION DESIGN.
 3. H=XXX INDICATES HORIZONTAL AXIAL FORCE TO BE ADDED TO BEAM VERTICAL REACTION WHEN DESIGNING BEAM END CONNECTION.
 4. BRACE CONNECTIONS MUST FULLY DEVELOP BOTH THE VERTICAL AND HORIZONTAL COMPONENTS OF THE DIAGONAL AXIAL FORCE, P, THROUGH THE JOINT. WHERE BRACING JOINTS OCCUR AT A COLUMN, JOINT DESIGN MUST ACCOUNT FOR THE VERTICAL BEAM REACTION, R, IN ADDITION TO THE VERTICAL COMPONENT OF THE DIAGONAL FORCE.
 5. DOUBLE CHANNELS (C) SHALL BE TOE TO TOE UNO.
 6. DOUBLE ANGLES (L) SHALL BE LONG LEGS BACK TO BACK UNO.
 7. ALL STEEL PREFIXED WITH ASTERISK (*) IS Fy=36 KSI. ALL OTHER STEEL IS Fy=50 KSI.
 8. WHERE WORKING POINT IS NOT DIMENSIONED AT BRACE TO GIRDER JOINT, LOCATE AT CENTERLINE BETWEEN COLUMN GRID LINES.
 9. FOR TOP OF STEEL ELEVATIONS AND BEAM SIZES NOT SHOWN SEE PLAN.
 10. FOR COLUMN SIZES SEE SCHEDULE ON DWG S-3.3.
 11. FOR ADDITIONAL DESIGN AND FABRICATION CONSIDERATIONS SEE SPECIFICATIONS.
 12. 'BOL' INDICATES LENGTH OF BEAM SUPPORTS BOLSTER ON TOP FLANGE. SEE DETAIL BIO ON DRAWING S-3.7.

NO. DATE REVISION

PERRY DEAN ROGERS & PARTNERS, ARCHITECTS

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SCALE

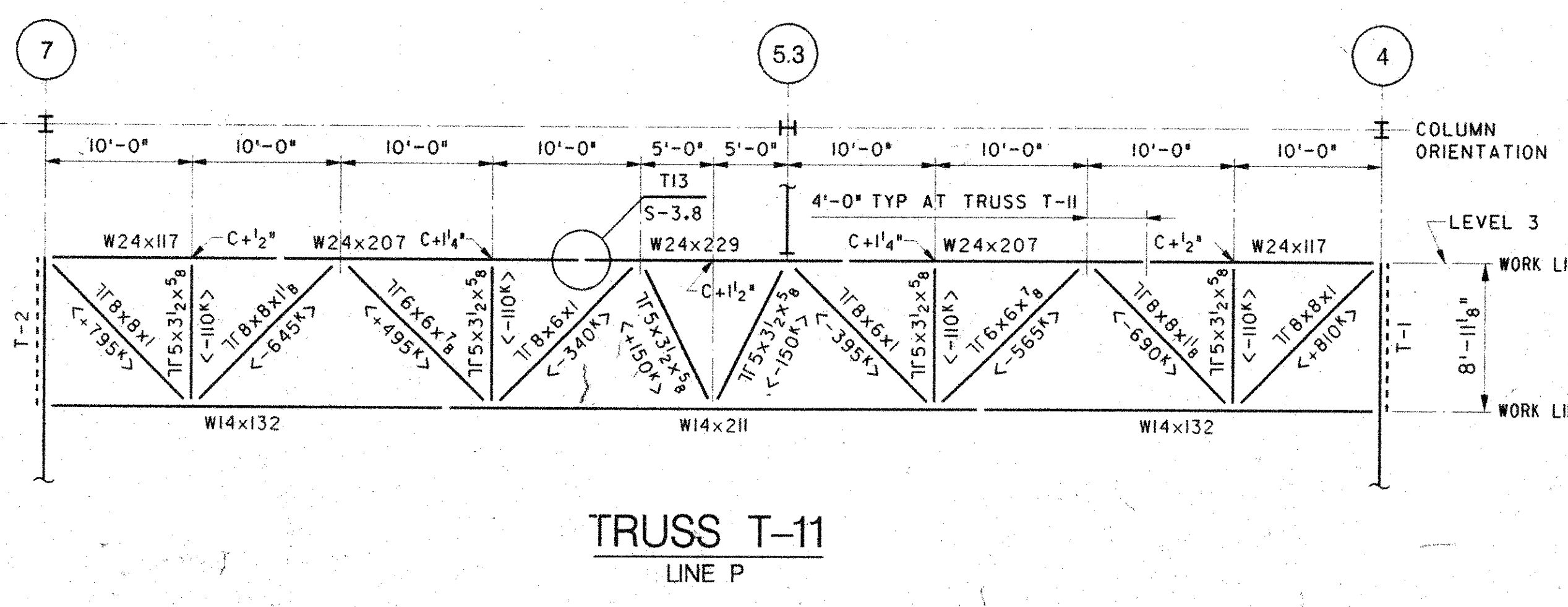
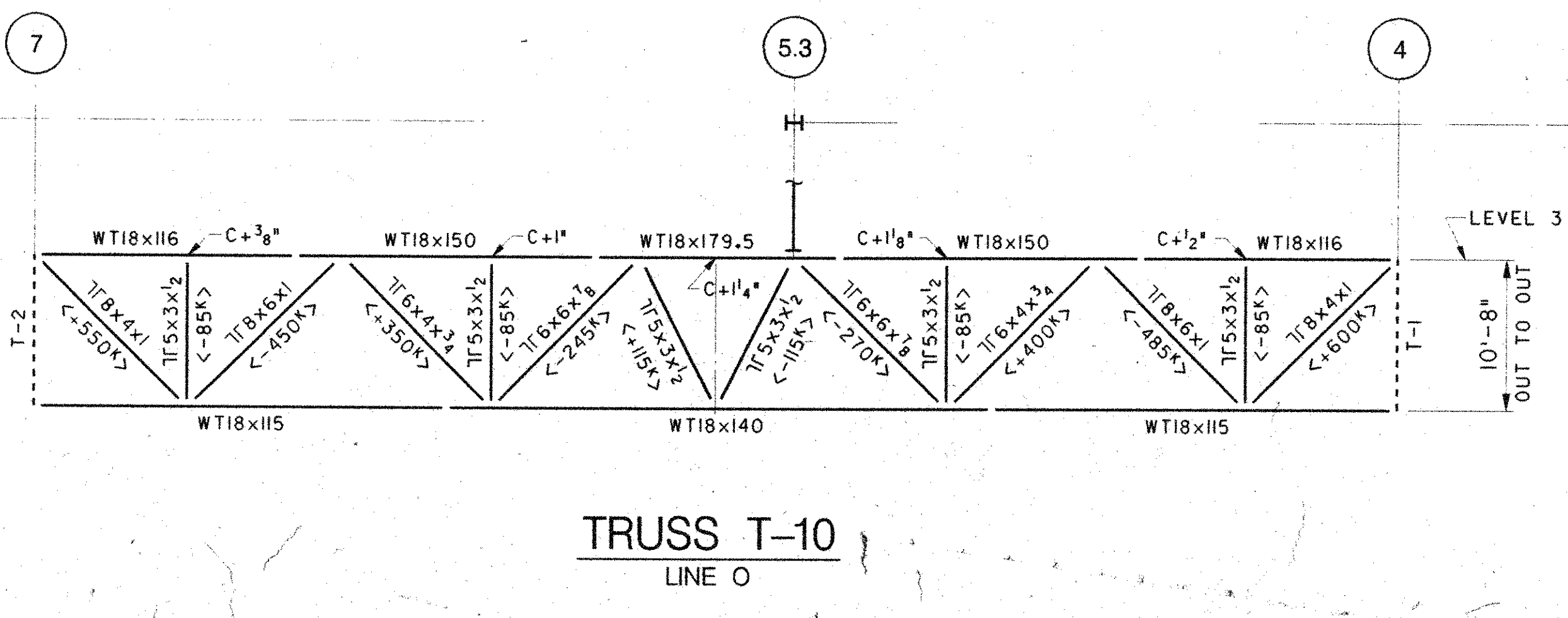
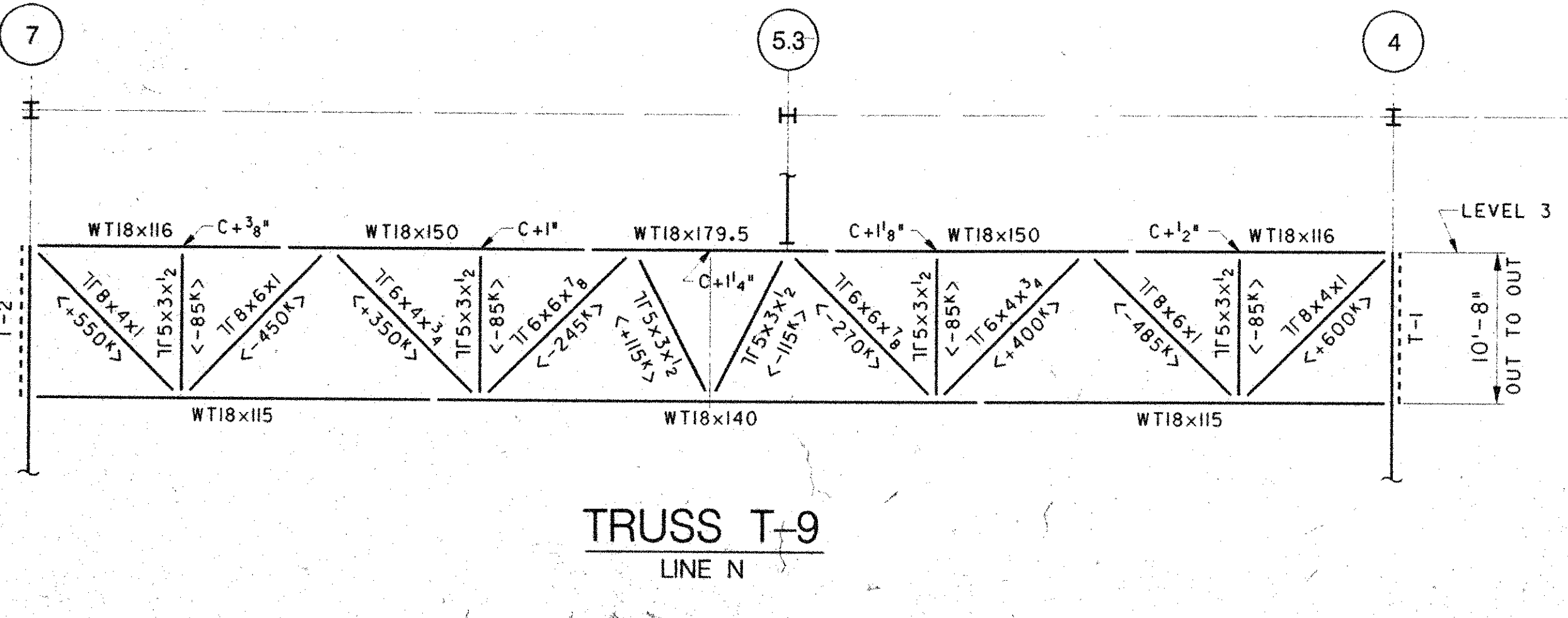
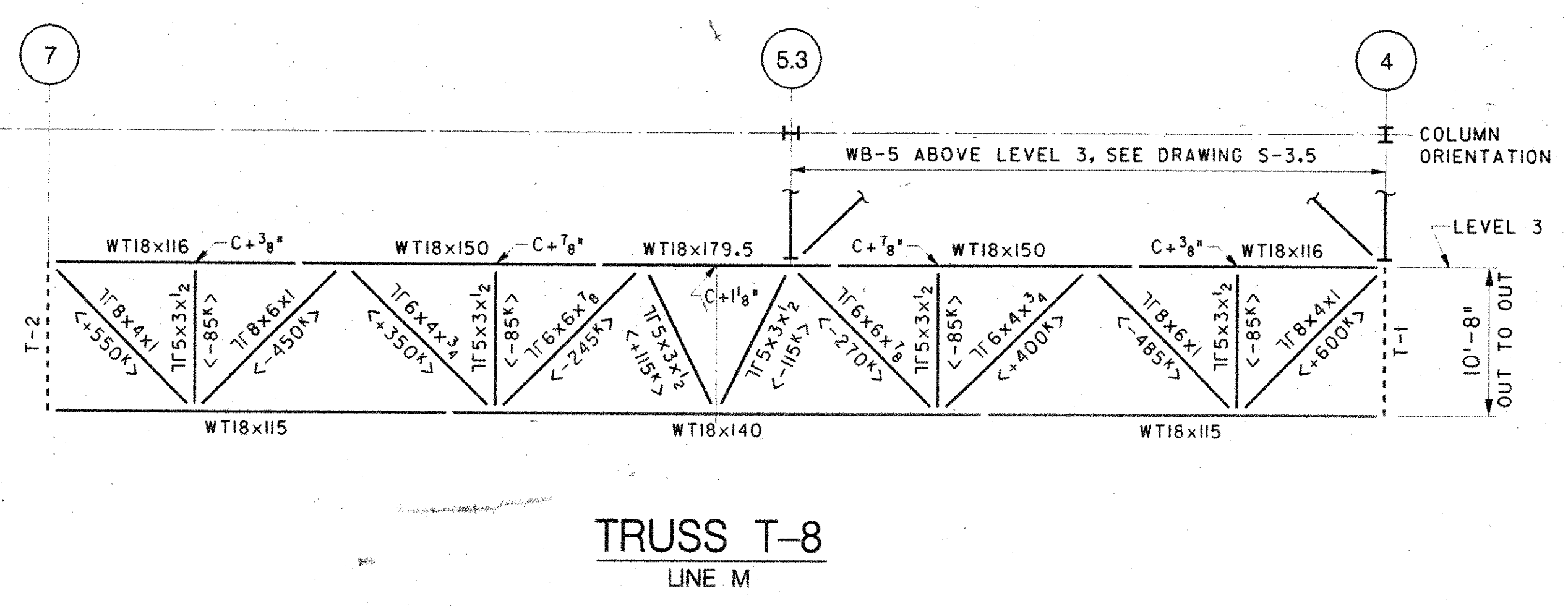
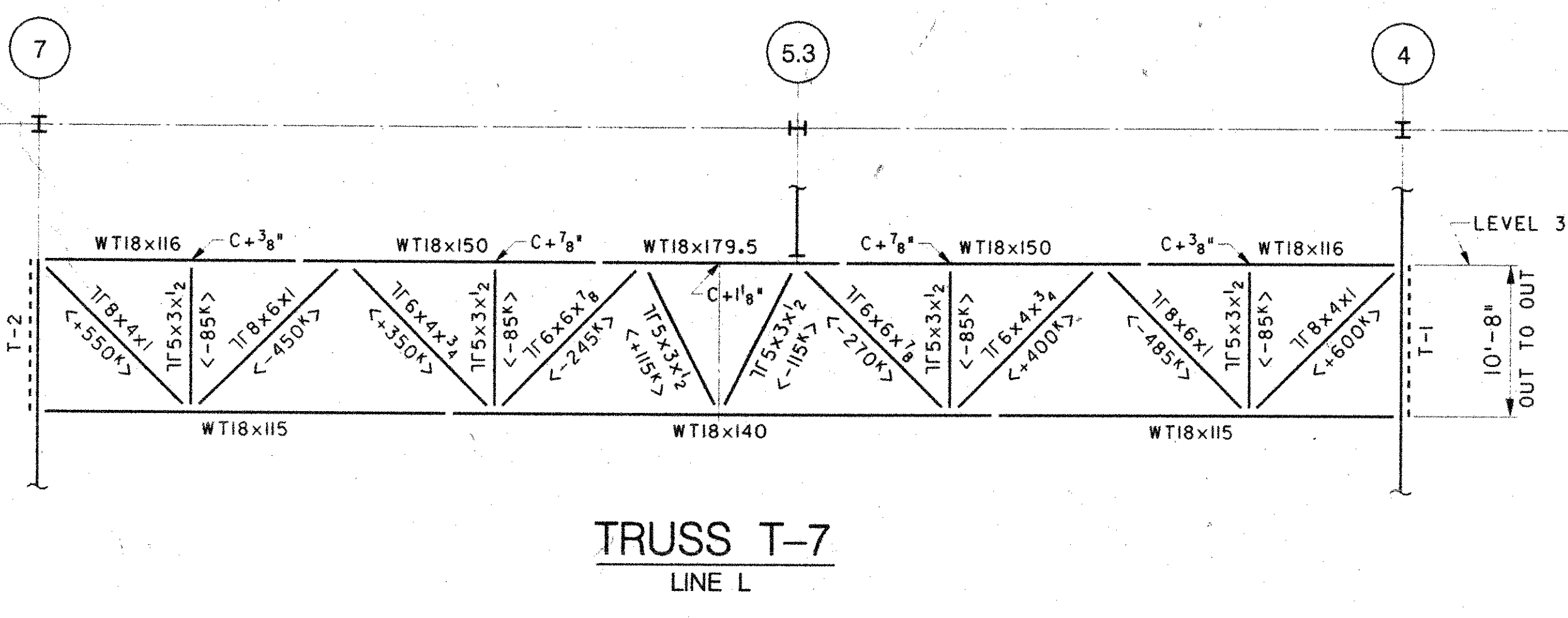
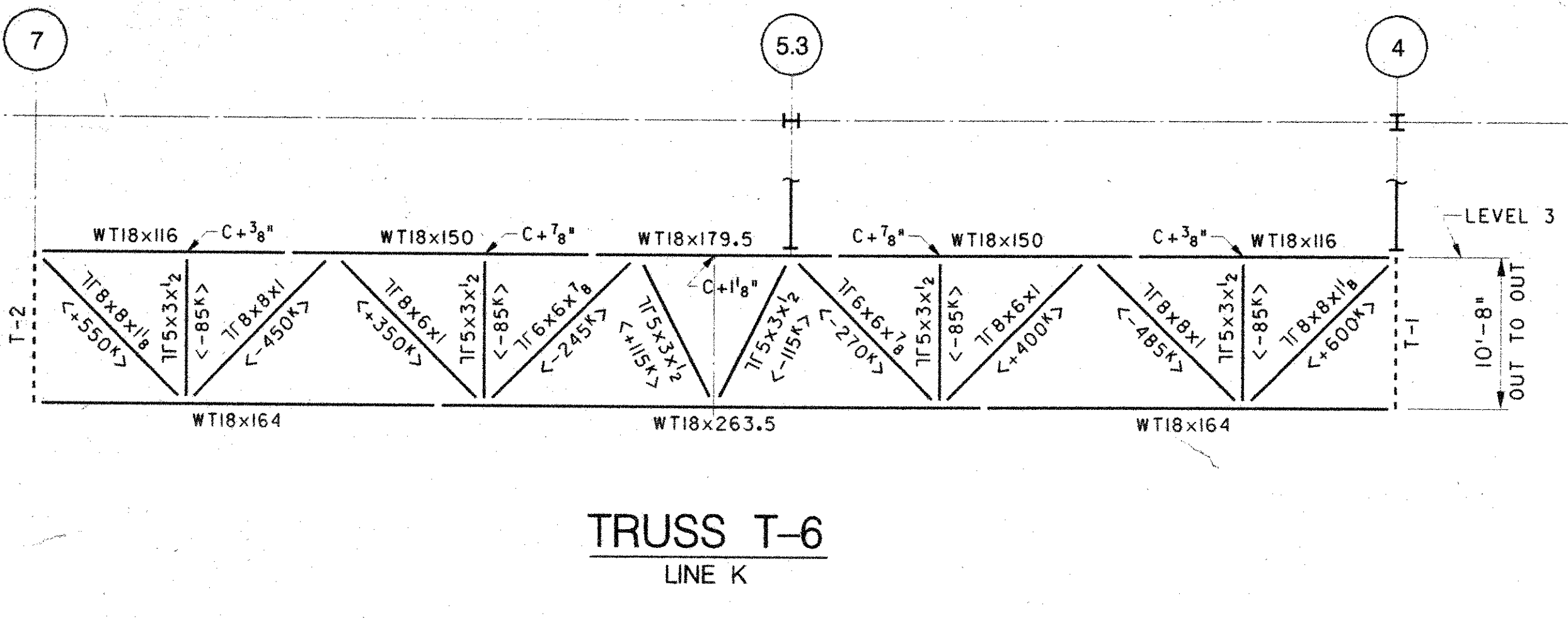
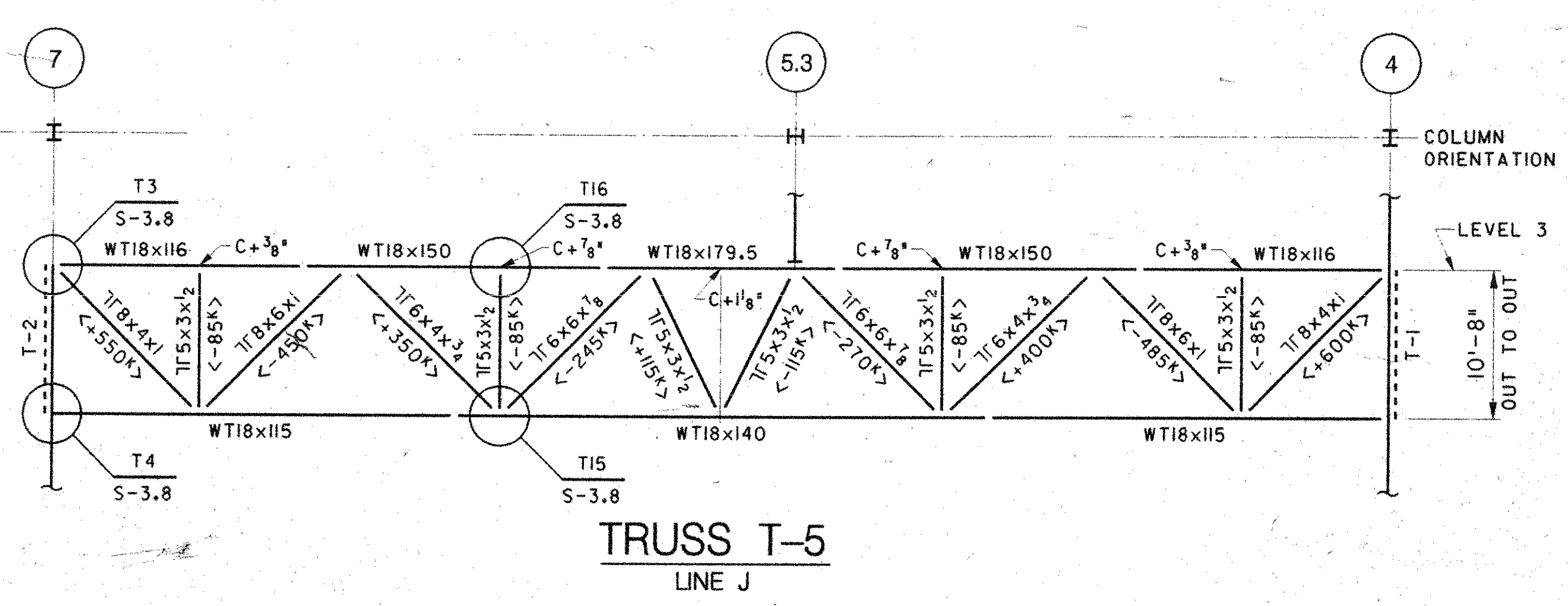
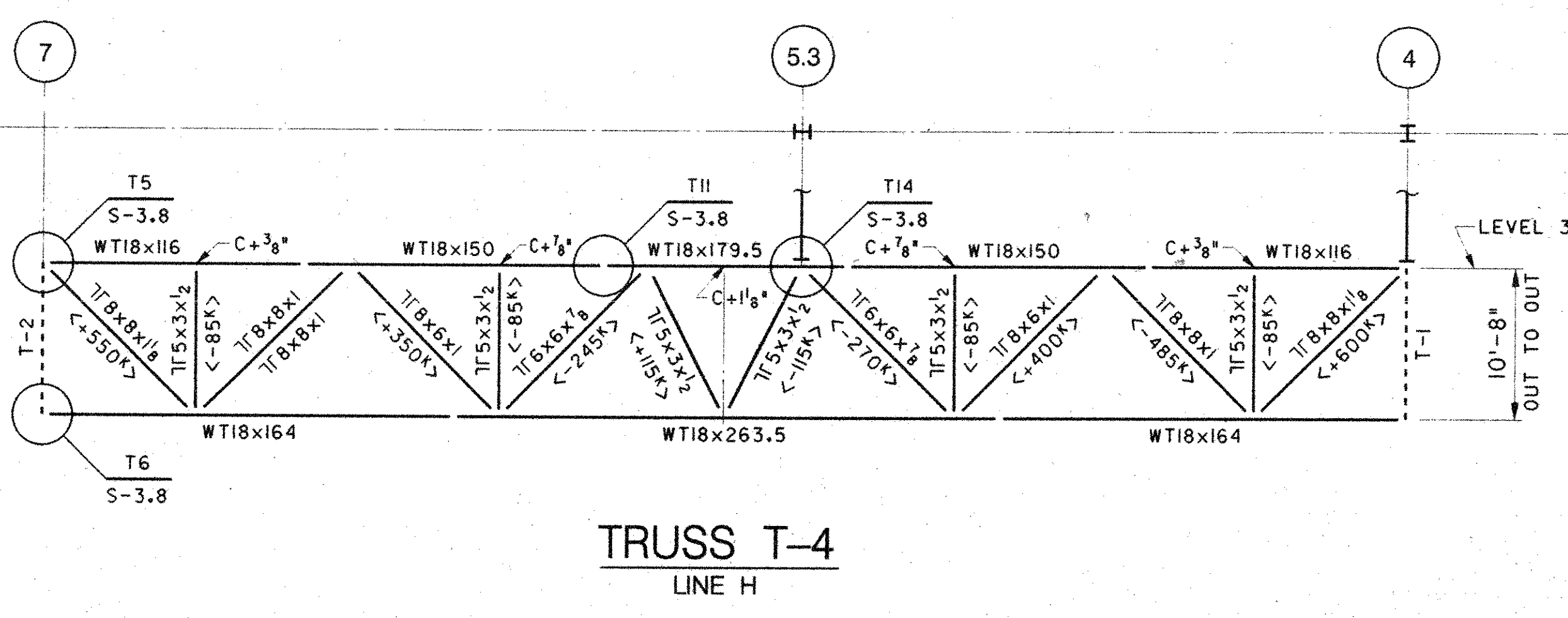
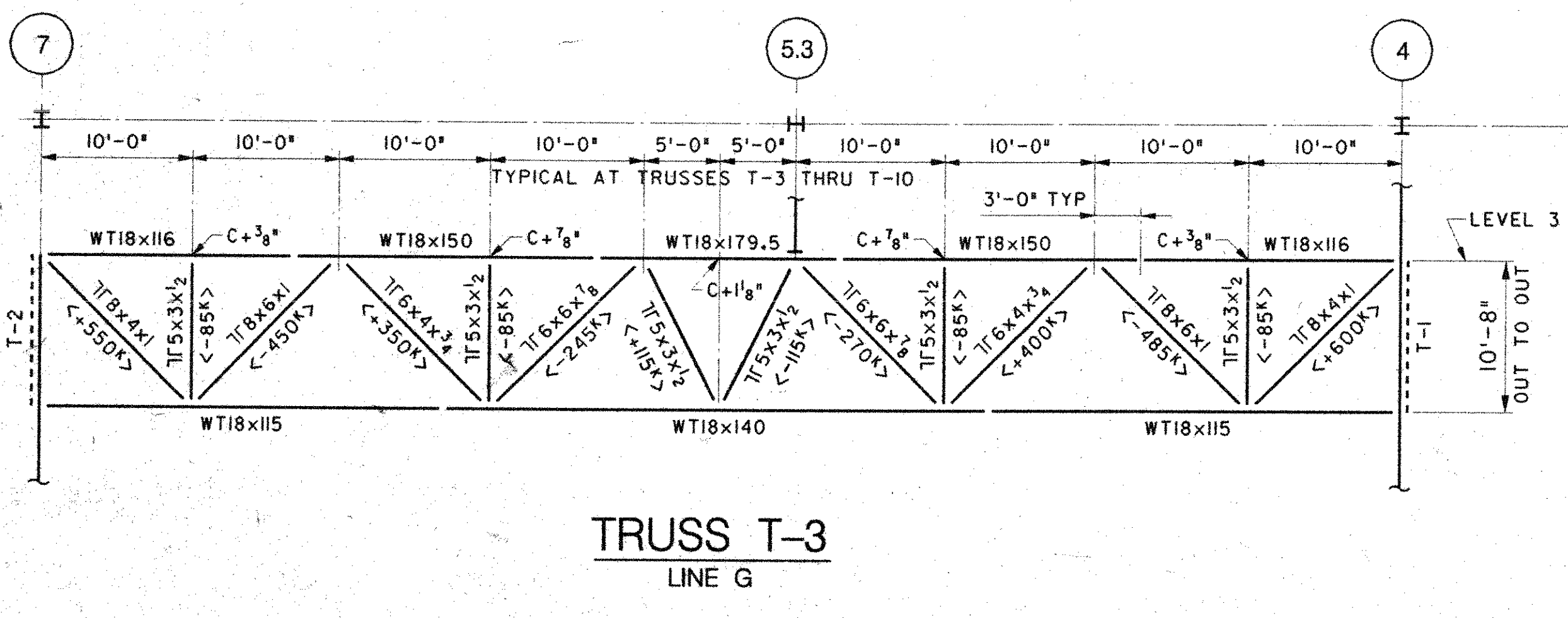
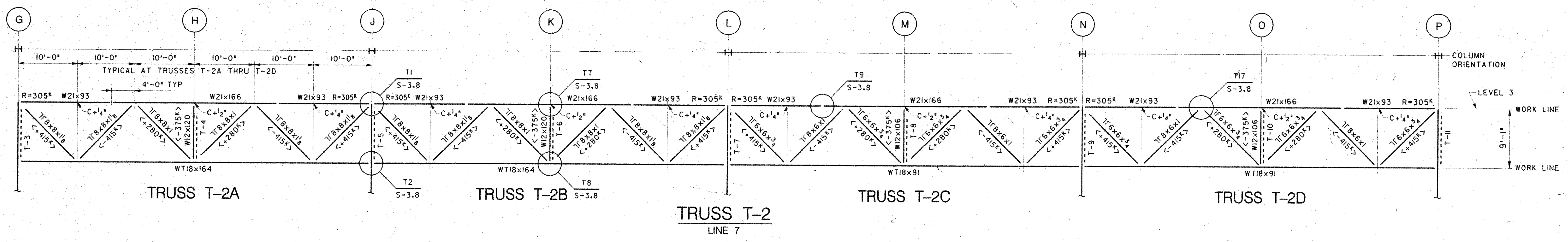
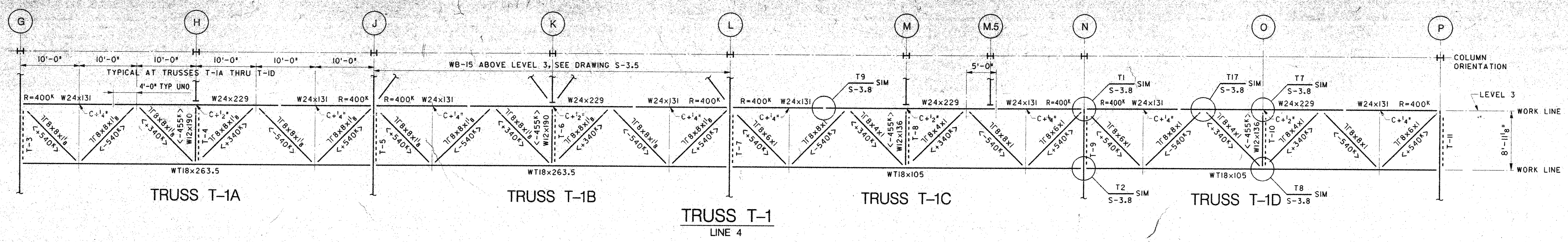
SCALE 1/16"=1'-0" JOB NO. 3249
DRAWN BY EAM CHECKED BY PJC
PROJECT

WORCESTER
CONVENTION
CENTER

CONSTRUCTION DRAWINGS

BRACING ELEVATIONS

DATE 19 MAY 95 SECTION S DRAWING NO. 3.5



- GENERAL NOTES
- FOR TOP OF STEEL ELEVATIONS SEE PLAN.
 - FOR COLUMN SIZES SEE SCHEDULE ON DWG S-3.5.
 - IF DIAGONALS SHALL HAVE LONG LEGS BACK TO BACK UNLESS NOTED OTHERWISE.
 - C+X INDICATES UPWARD CAMBER IN INCHES TO BE COLD FORMED INTO TRUSS TOP AND BOTTOM CHORDS AT THE PANEL POINTS INDICATED. DIAGONAL MEMBER LENGTHS SHALL BE ADJUSTED ACCORDINGLY TO ACCOUNT FOR CAMBERING OF CHORD MEMBERS.
 - XXXXX INDICATES WORKING STRESS LEVEL AXIAL MEMBER FORCE, P IN KIPS, WHERE (+) = TENSION AND (-) = COMPRESSION, TO BE USED FOR CONNECTION DESIGN.
 - R=XXXX INDICATES WORKING STRESS LEVEL VERTICAL TRUSS REACTION TO BE USED FOR TRUSS BOLTED END CONNECTION DESIGN. WHERE R IS NOT INDICATED ON TRUSS ELEVATION, R SHALL BE TAKEN AS THE VERTICAL COMPONENT OF THE TRUSS END DIAGONAL AXIAL FORCE. BOLTED CONNECTIONS SHALL BE DESIGNED TO RESIST BOTH THE END SHEAR, R, PLUS THE MOMENT, M = R x e, WHERE e = THE ECCENTRICITY BETWEEN BOLT GROUP CENTROID AND TRUSS WORKING POINT. SEE ALSO TYPICAL TRUSS DETAILS ON DRAWING S-3.6.
 - FOR PART PLAN AT BOTTOM CHORD OF LEVEL 3 TRUSSES SEE DETAIL I ON DRAWING S-2.5.
 - STITCH PLATES SHALL BE PROVIDED AT THIRD POINTS FOR ALL T1 DIAGONAL AND VERTICAL TRUSS MEMBERS. SEE ALSO DETAILS T14 AND T16 ON DWG S-3.6.
 - PROVIDE 2-3/4" Øx6" STUDS @12" OC ALONG TOP CHORD FOR TRUSSES T1 AND T2. SEE ALSO DETAIL T10 ON DWG S-3.6.
 - PROVIDE 3-3/4" Øx3" STUDS @12" OC ALONG TOP CHORD FOR TRUSSES T3 THRU T11. SEE ALSO DETAIL T12 ON DWG S-3.6.

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STAMP

SCALE: 1/8"=1'-0"

JOB NO. 3249

DRAWN BY EAM CHECKED BY PJC

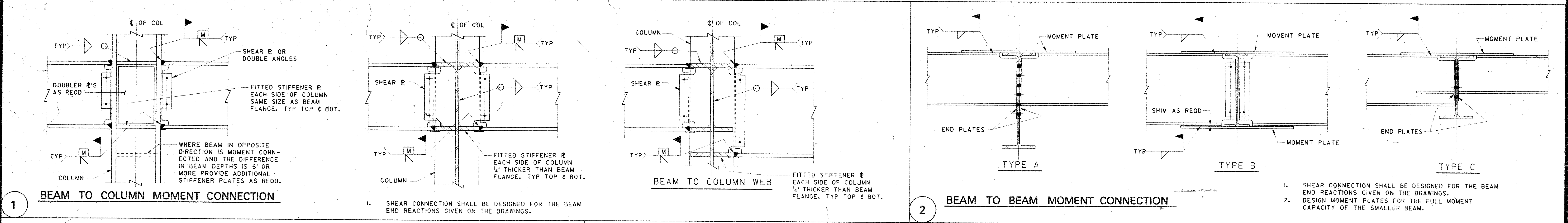
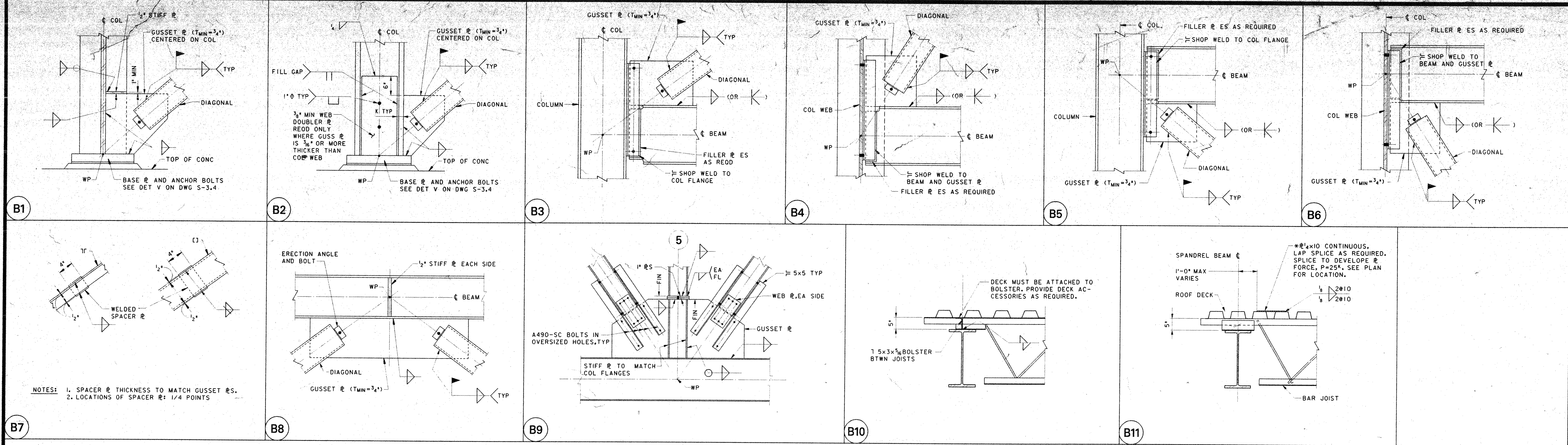
PROJECT: WORCESTER CONVENTION CENTER

CONSTRUCTION DRAWINGS

TRUSS ELEVATIONS

DATE: 19 MAY 95 SECTION: S DRAWING NO. 3.6

GENERAL NOTES



BUILT-UP PLATE GIRDER SCHEDULE

MEMBER DESIGNATION	DEPTH D	T _f	WIDTH W	T _w	WELD	REMARKS
PG48x278	48"	1 1/2"	16"	3/4"	5/8"	F _y =50 KSI
*PG60x230	60"	1"	12"	3/4"	5/8"	F _y =36 KSI

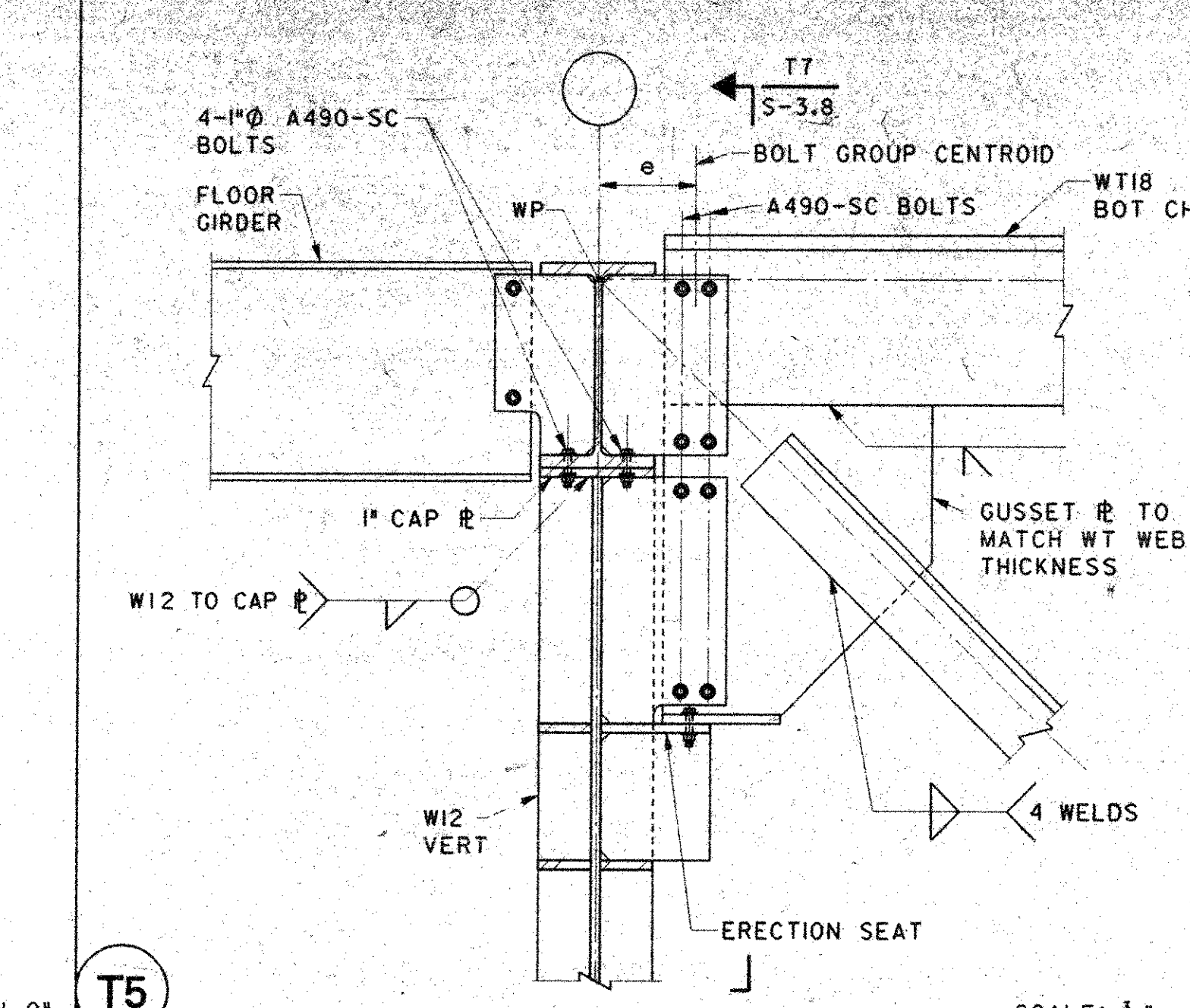
EXPLANATION:

PG60x245

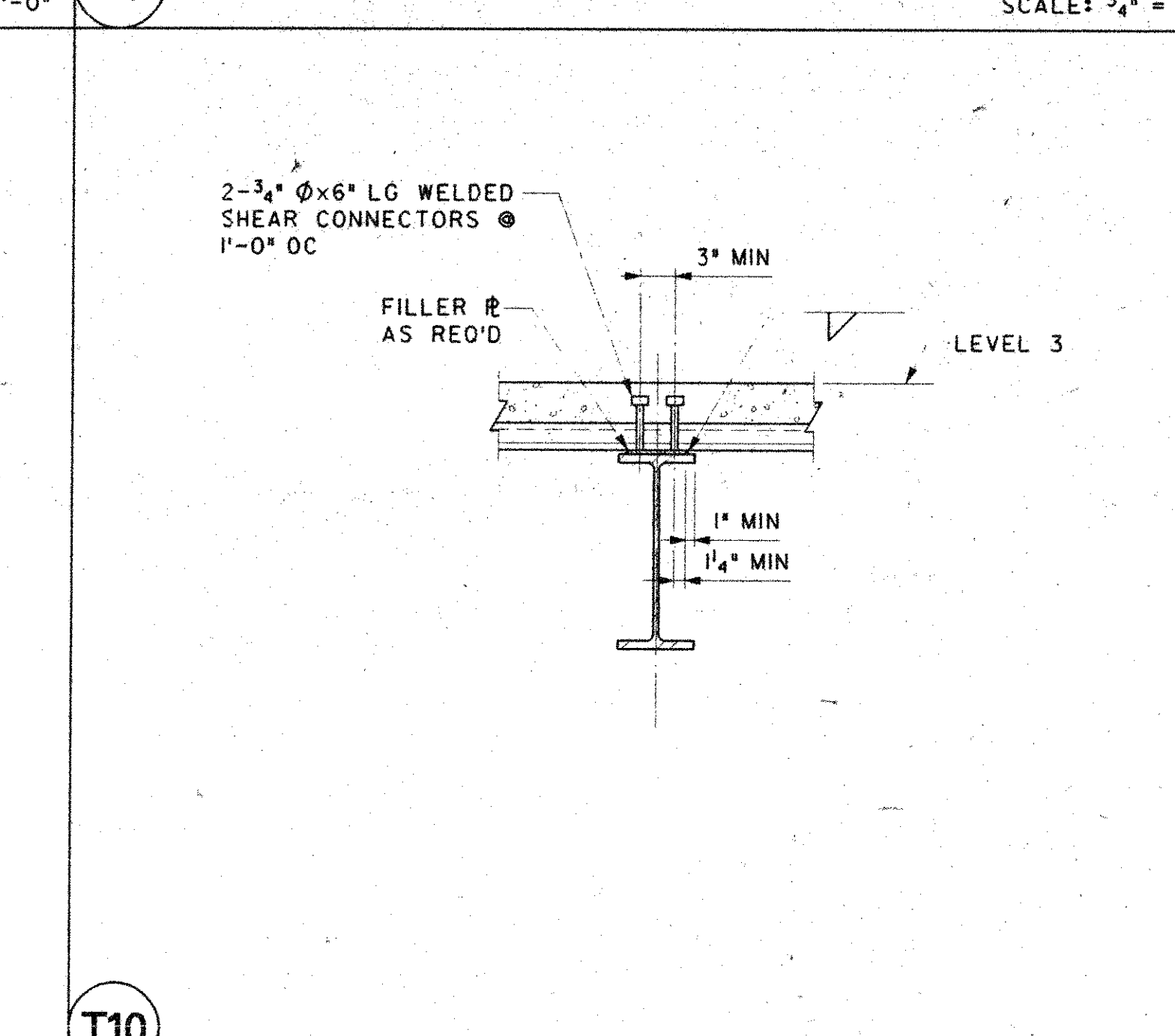
PLATE GIRDER

WEIGHT / FT (LB)

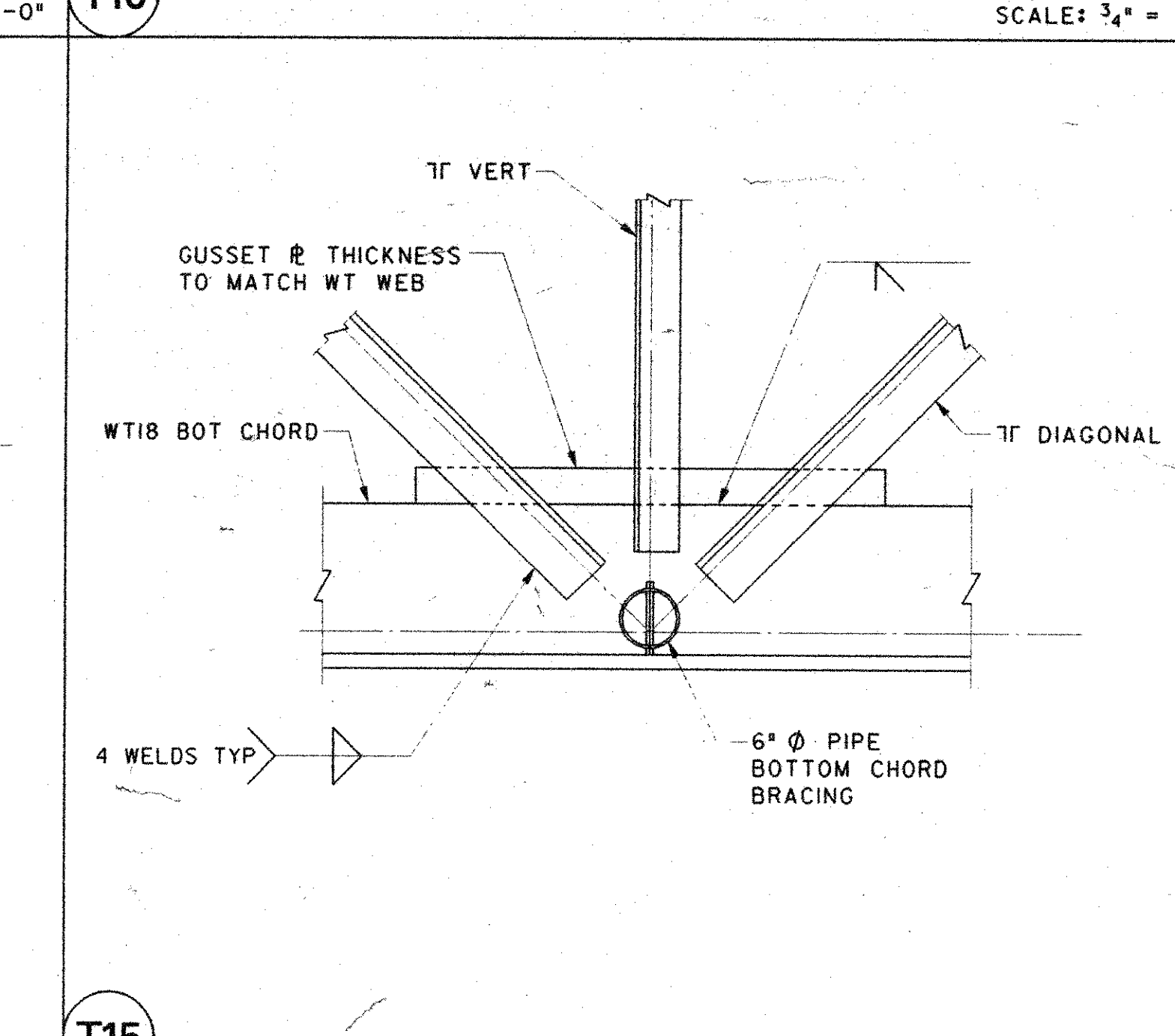
DEPTH (IN)



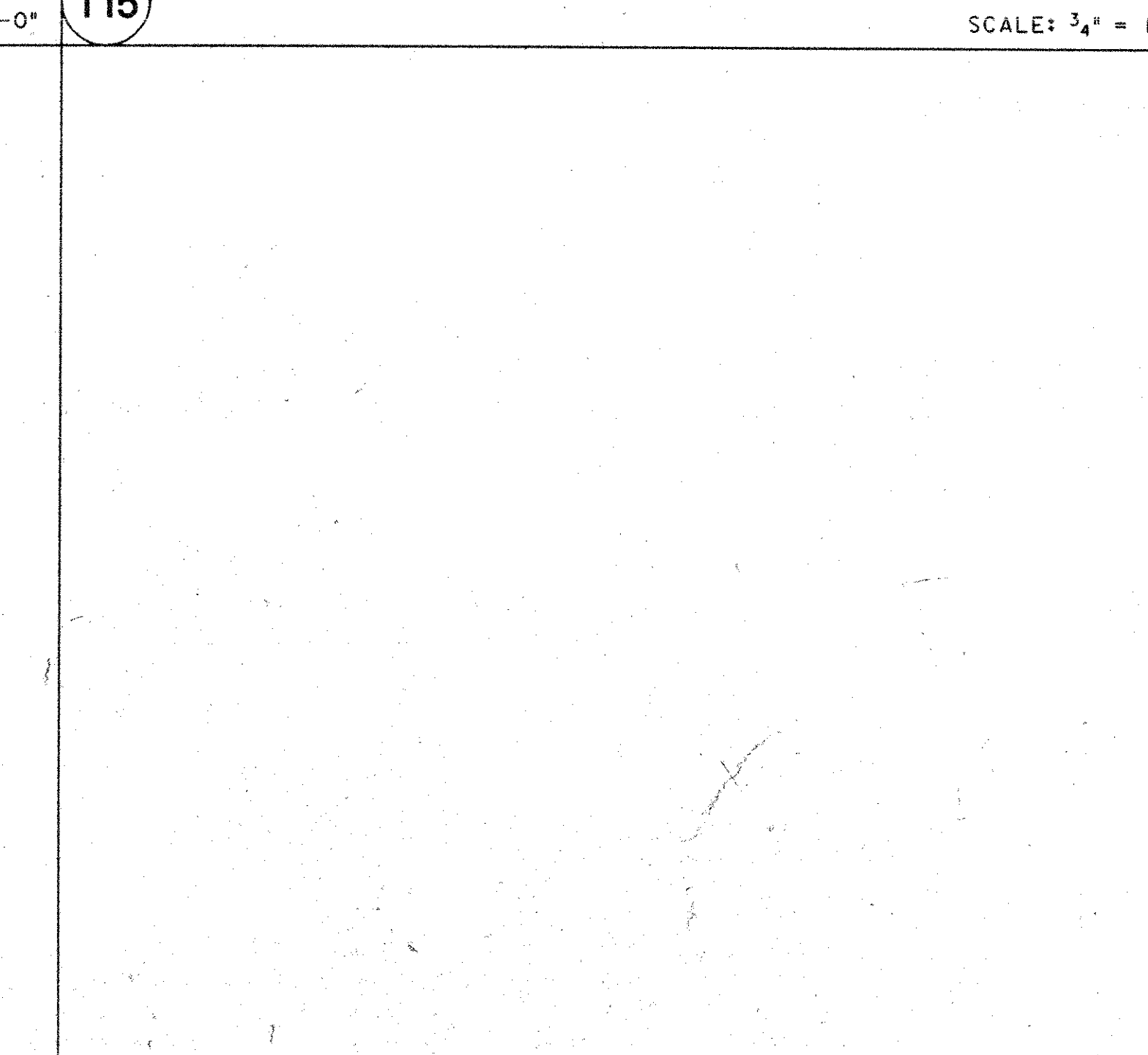

 ERECTION SEAT
 T5
 SCALE: 3"

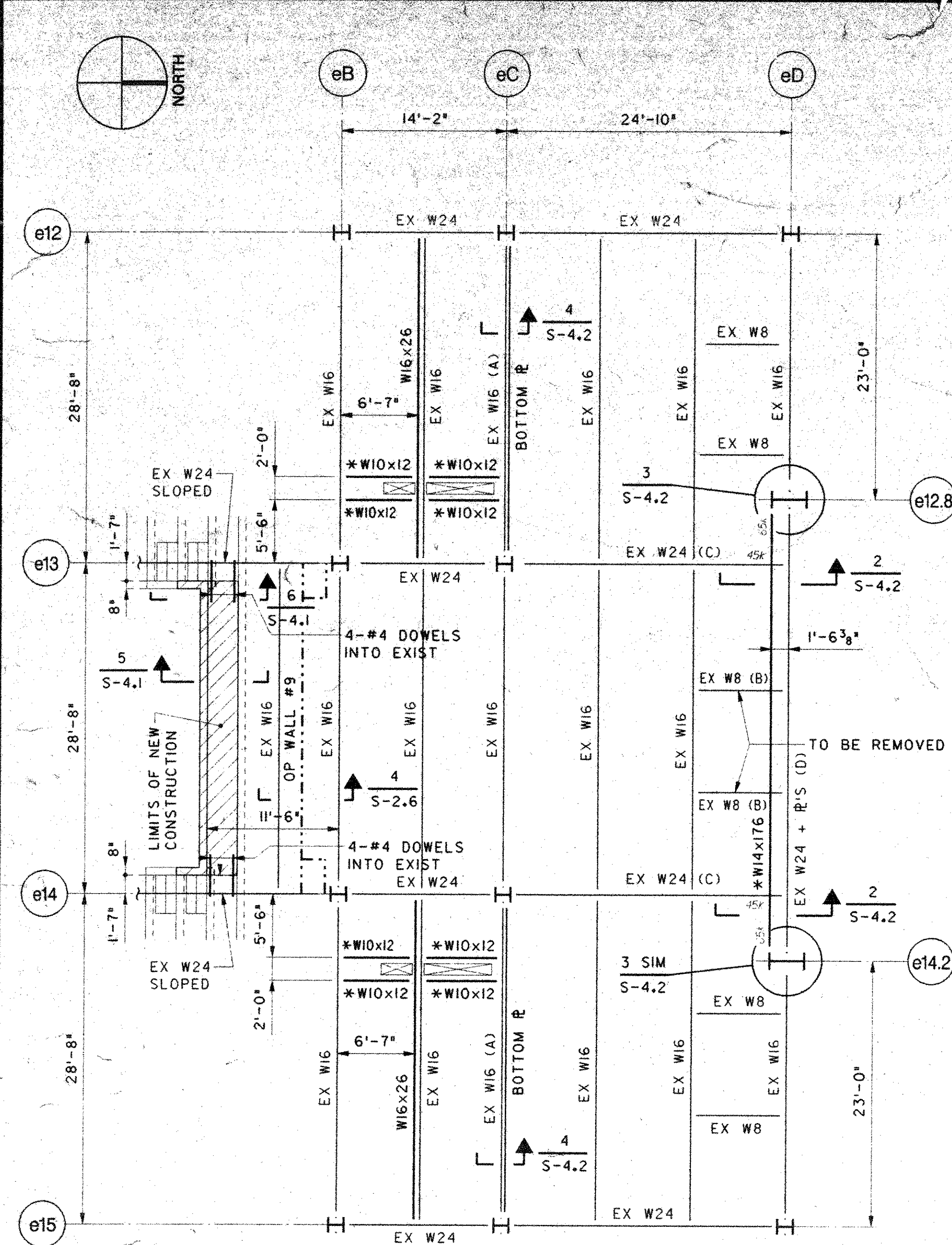


T10



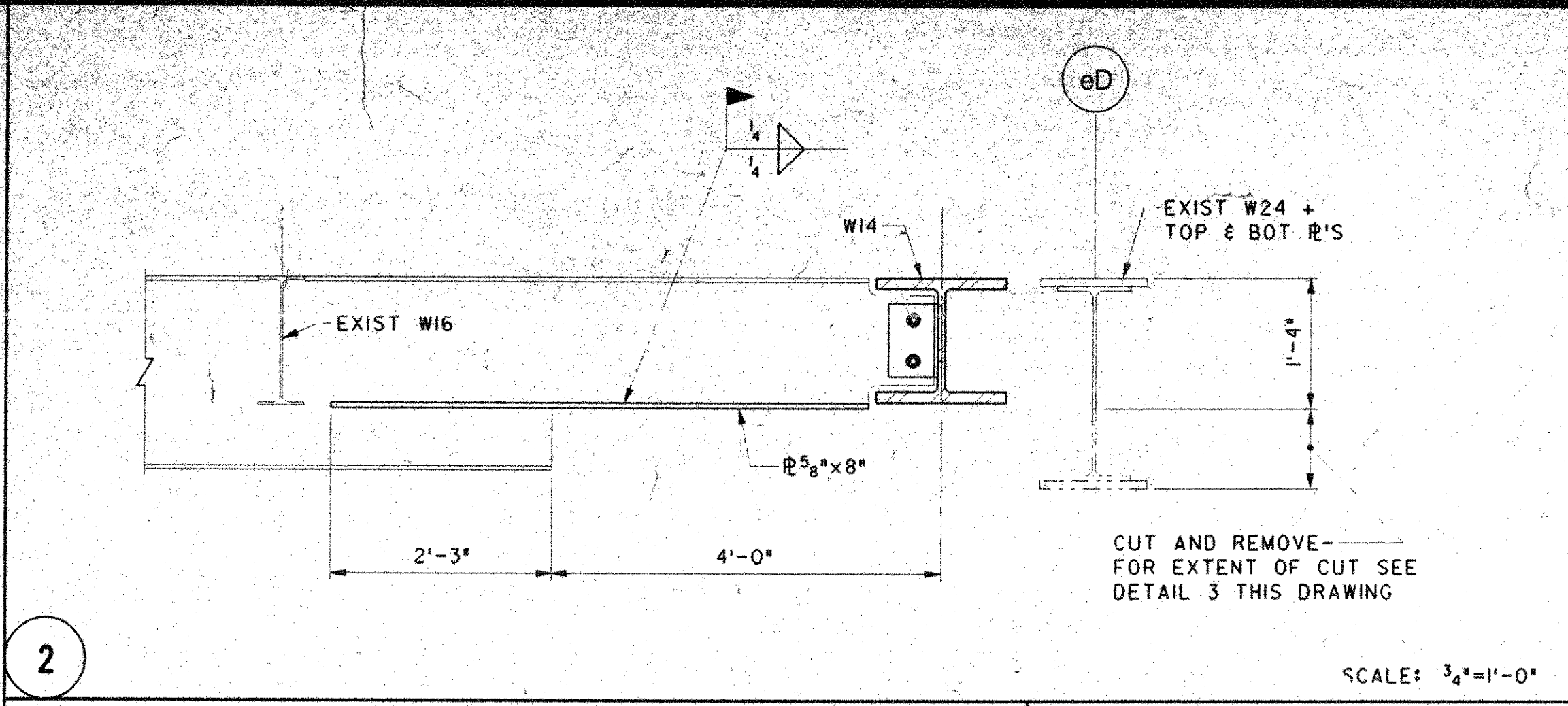
T15



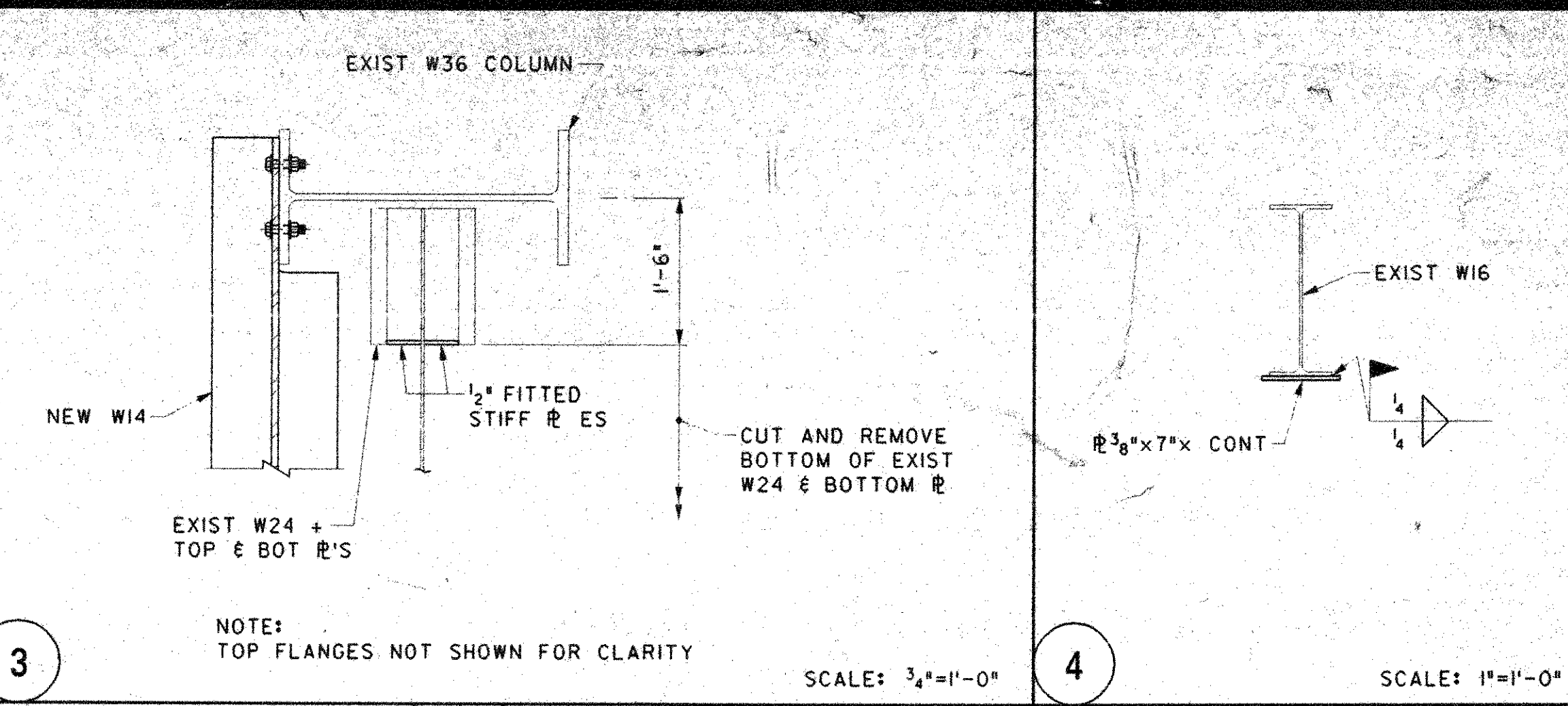


1 PART PLAN - LEVEL 2 EXISTING CENTRUM

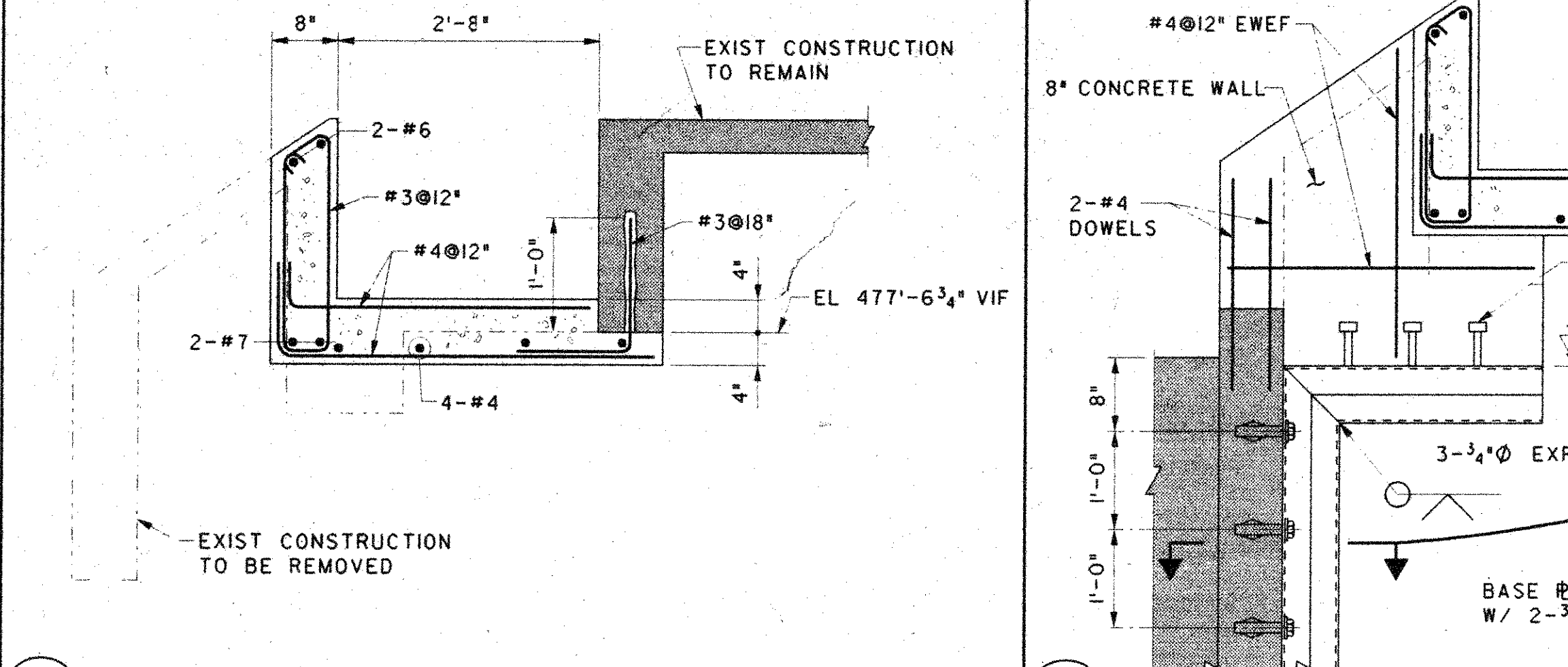
- NOTES:
1. INFORMATION CONCERNING MEMBER SIZES AND DIMENSIONS WERE TAKEN FROM ELLERBE-BECKET DRAWINGS DATED MARCH 31, 1978. THIS INFORMATION SHOULD BE USED ONLY AS A GUIDE.
 2. VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS.
 3. INSTALL NEW STRUCTURAL STEEL AROUND NEW OPENINGS AND REIN EX W16(A) BEFORE CUTTING OPENINGS IN SLAB.
 4. REMOVE EXIST 8" CMU WALL ADJACENT TO LINE eD AT LEVEL 2 BETWEEN COLUMNS eD-e12.9 AND eD-e14.2. REMOVE FOLDING PARTITIONS HANGING FROM LEVEL 2 BETWEEN COLUMNS eB-e12 AND eD-e15. DESIGN OF FRAMING REVISIONS ASSUMES THAT WALL AND PARTITIONS ARE PERMANENTLY REMOVED. REMOVE EX W8(B)'S.
 5. SHORE EX W24(C)'S ALONG LINE e13 AND e14 AT APPROXIMATELY 7'-0" SOUTH OF THEIR CONNECTION AT LINE eD. VERIFY THAT EX W24(C)'S ARE COMPOSITE WITH AT LEAST 2-3" STUDS PER FOOT.
 6. MODIFY END OF EX W24(C)'S AS SHOWN IN DETAIL 2 THIS DRAWING. ADD NEW W14x176 NEAR LINE eD WHERE SHOWN. INSTALL CONNECTIONS OF NEW W14 TO COLUMNS. INSTALL CONNECTIONS OF EX W24(C)'S TO NEW W14. CUT OFF BOTTOM OF EX W24(D) AS SHOWN ON DETAIL 2 AND DETAIL 3 THIS DRAWING AND INSTALL STIFF E'S.
 7. EXISTING TOP OF STEEL AT ELEVATION 479'-2 3/4". VERIFY IN FIELD.



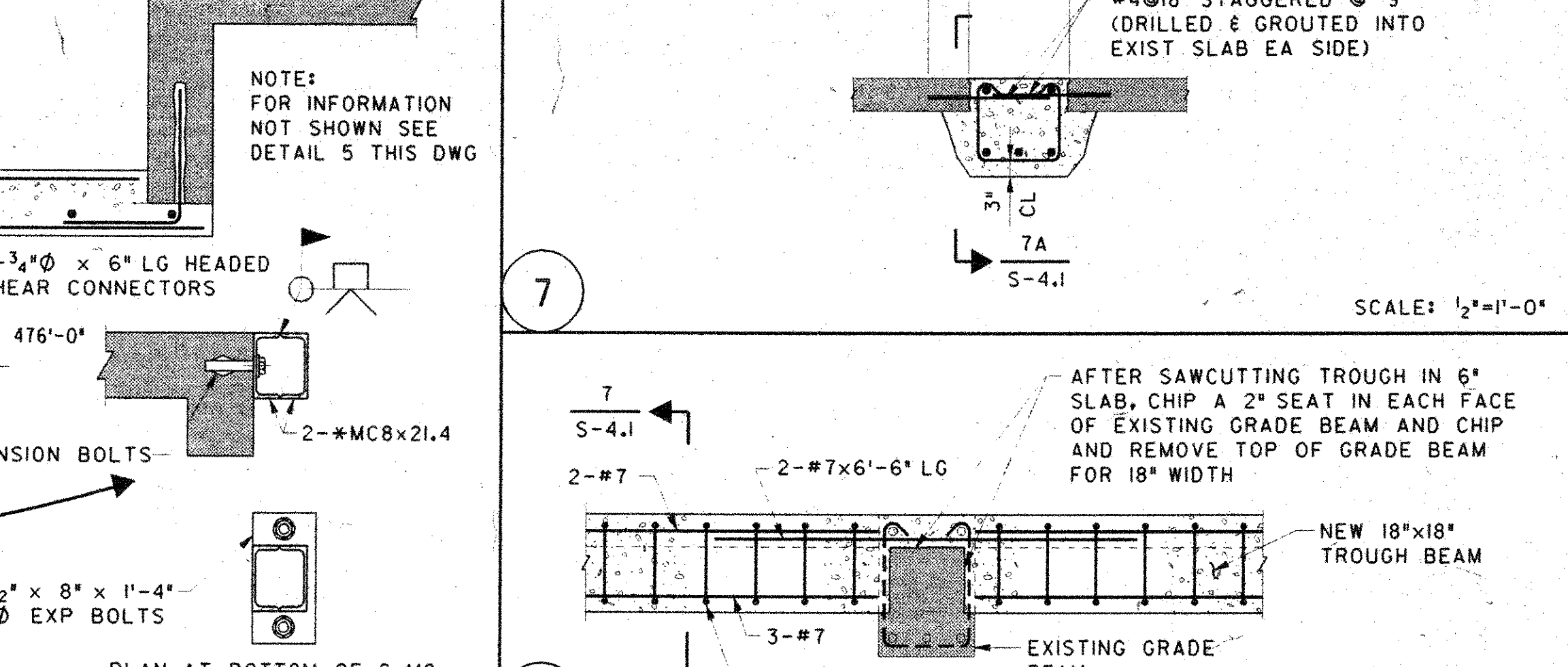
2 SCALE: 3/4"=1'-0"



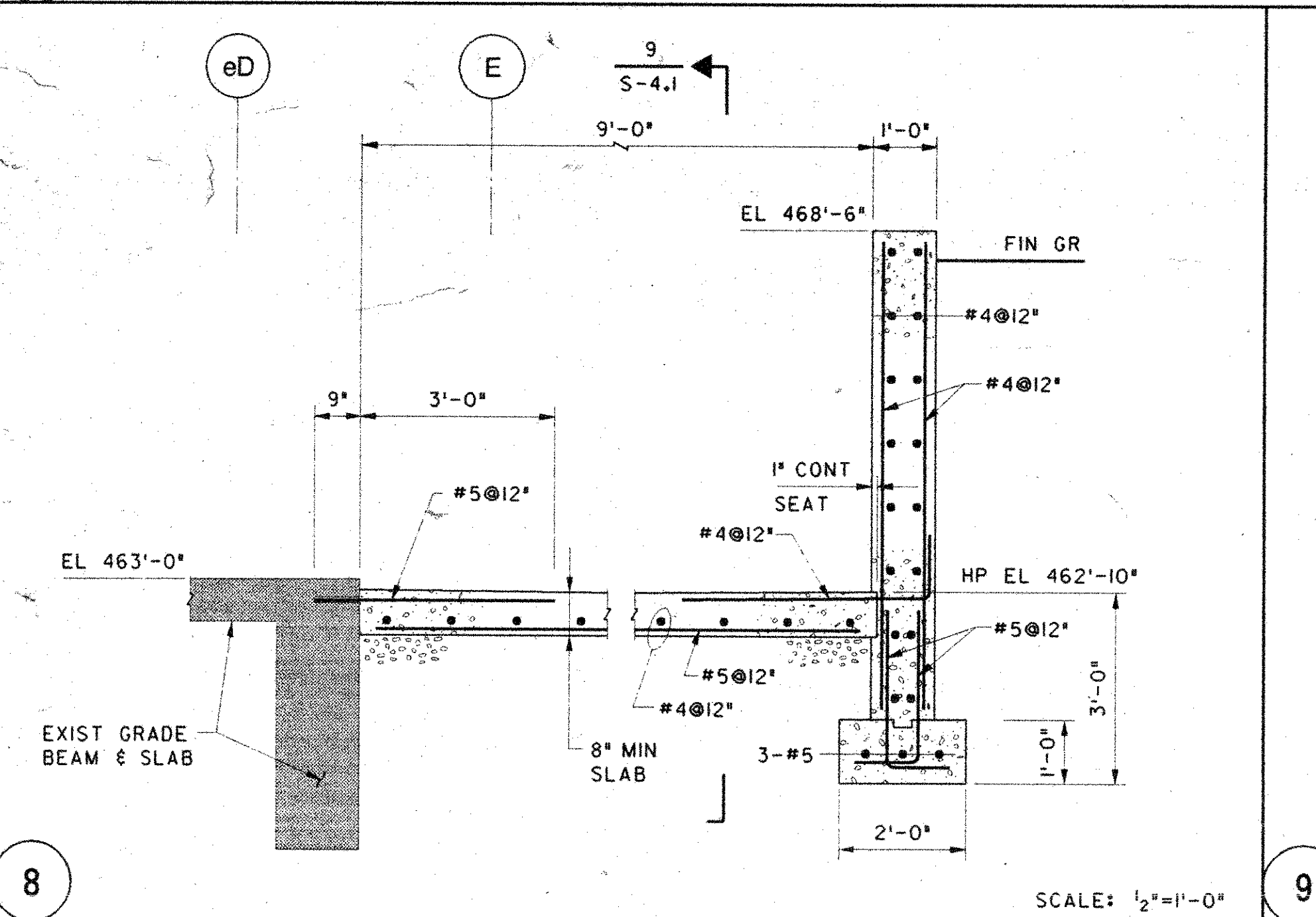
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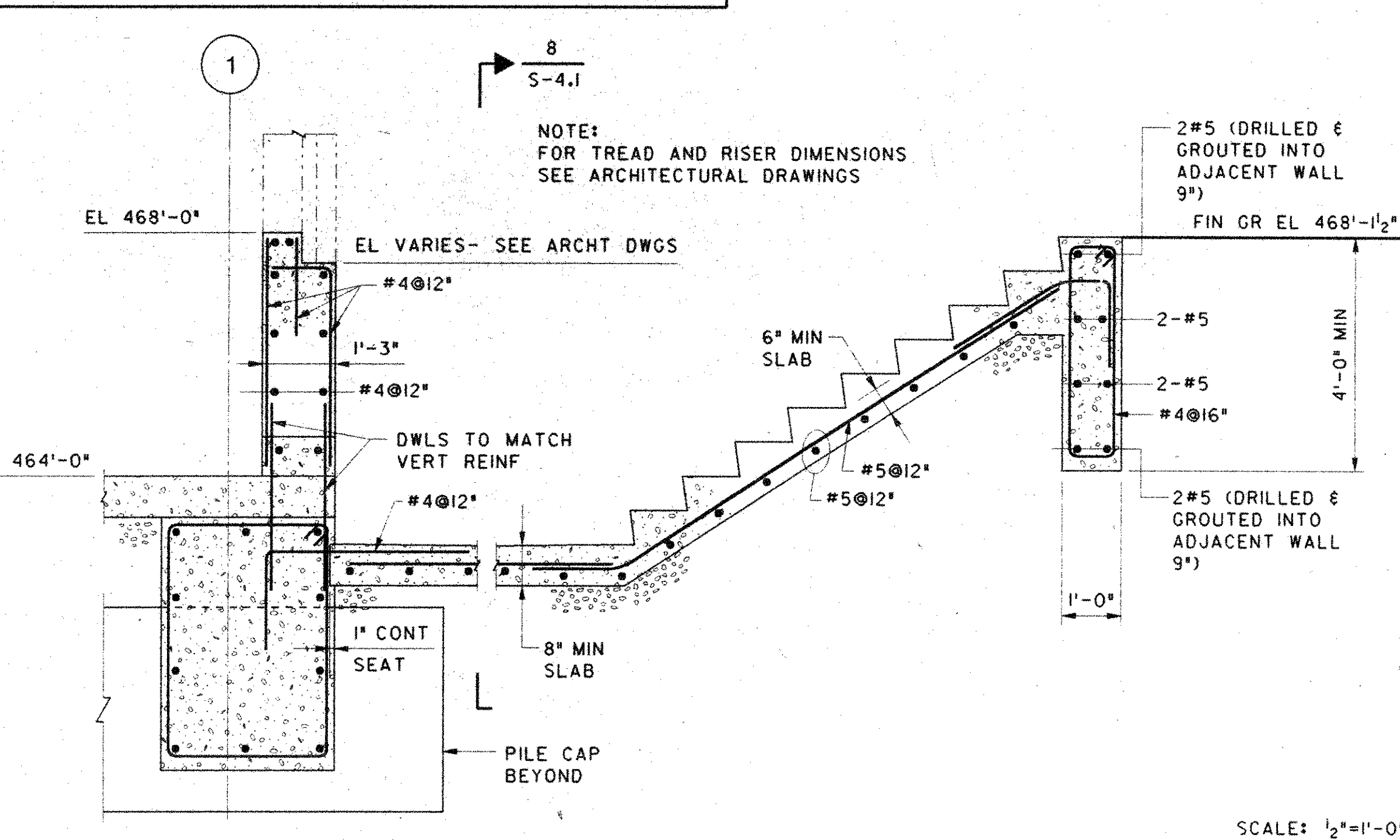
4 SCALE: 3/4"=1'-0"



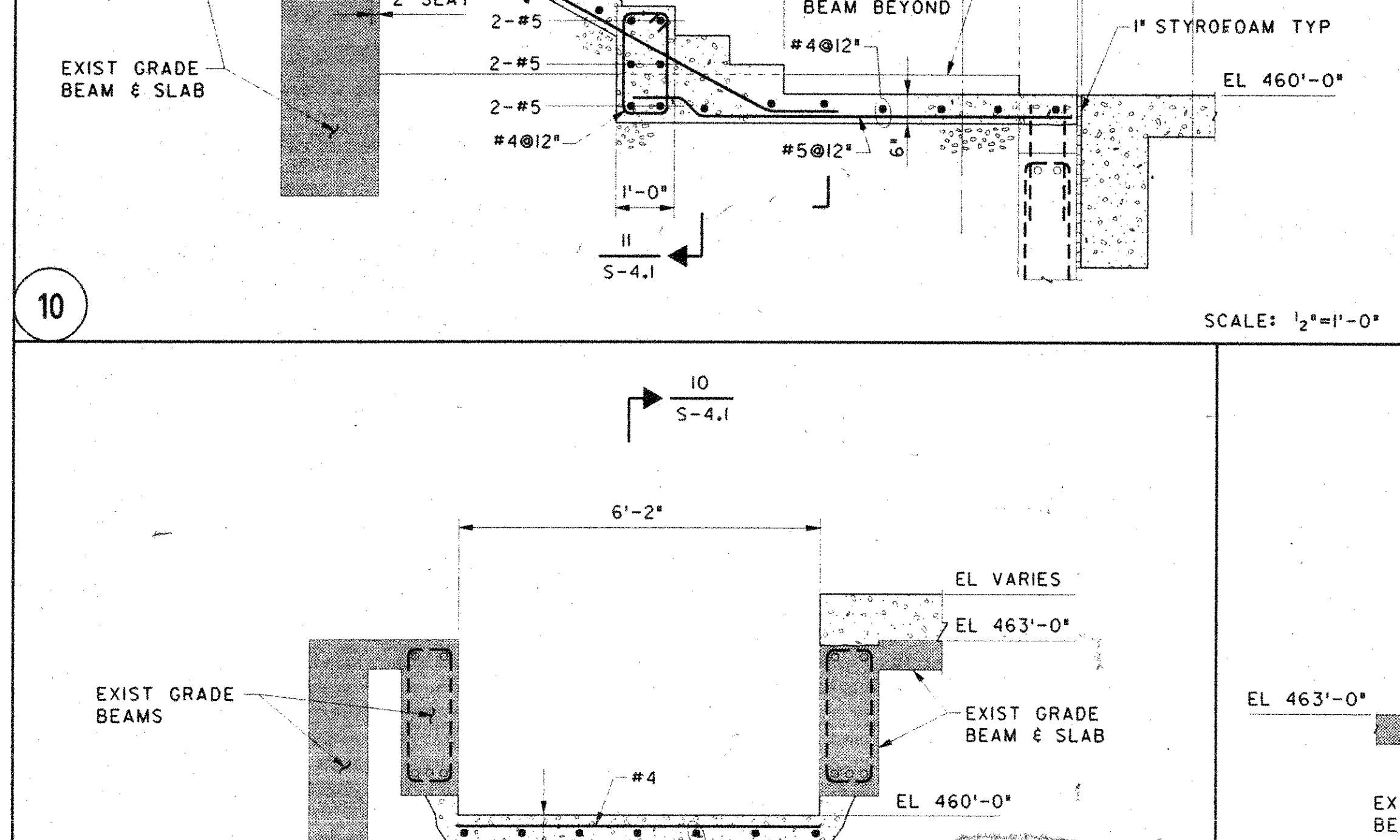
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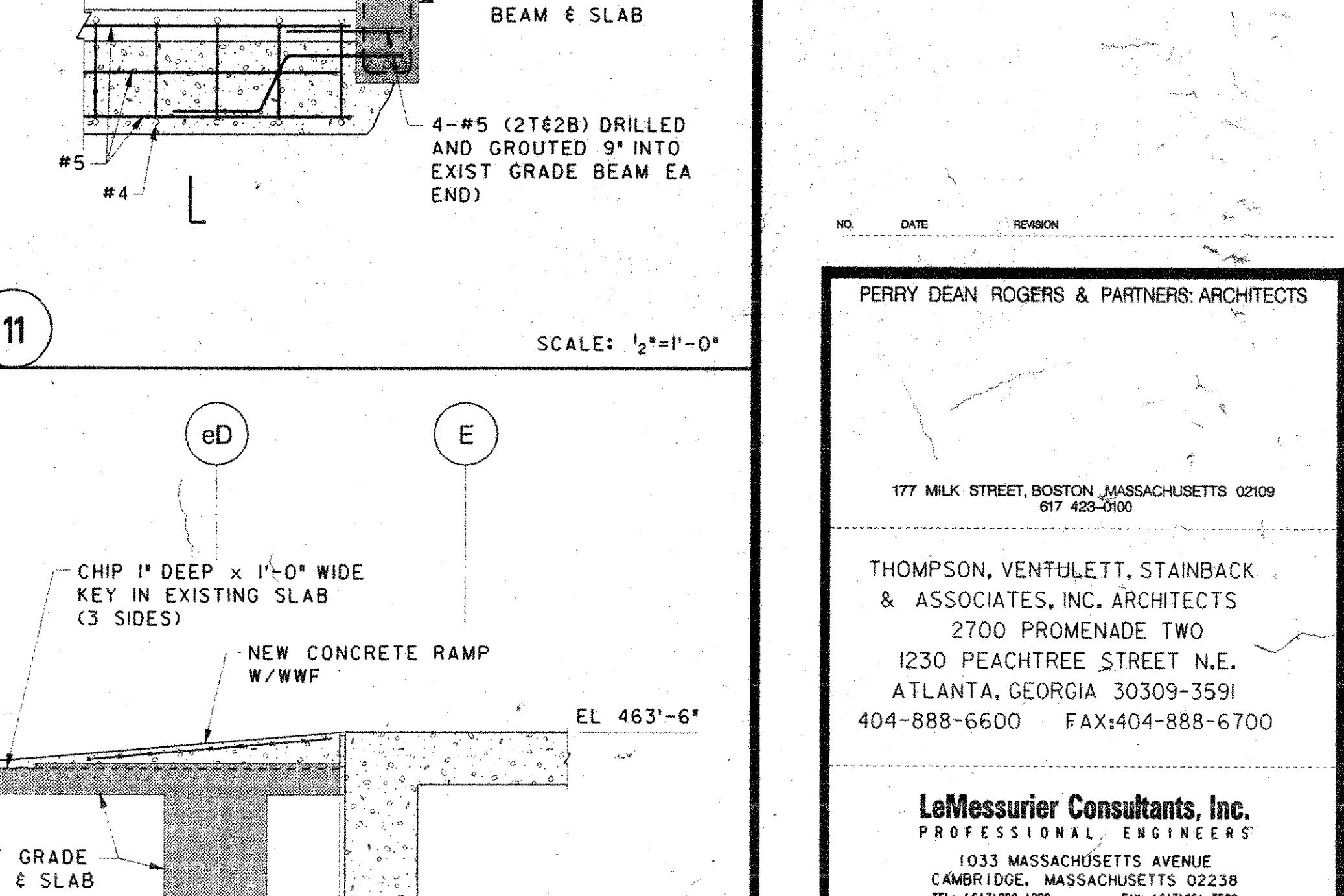
6 SCALE: 1/2"=1'-0"



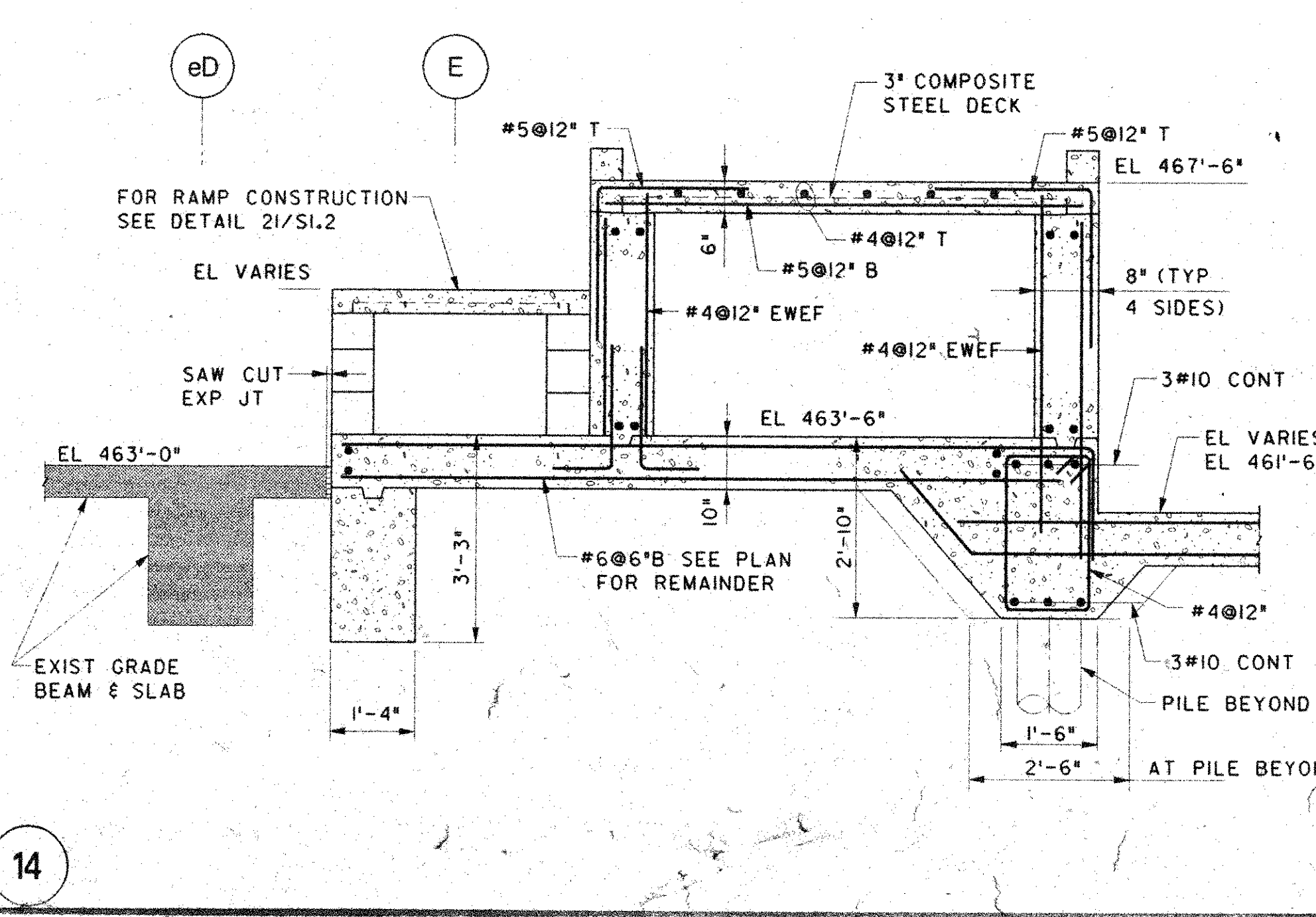
7 SCALE: 1/2"=1'-0"



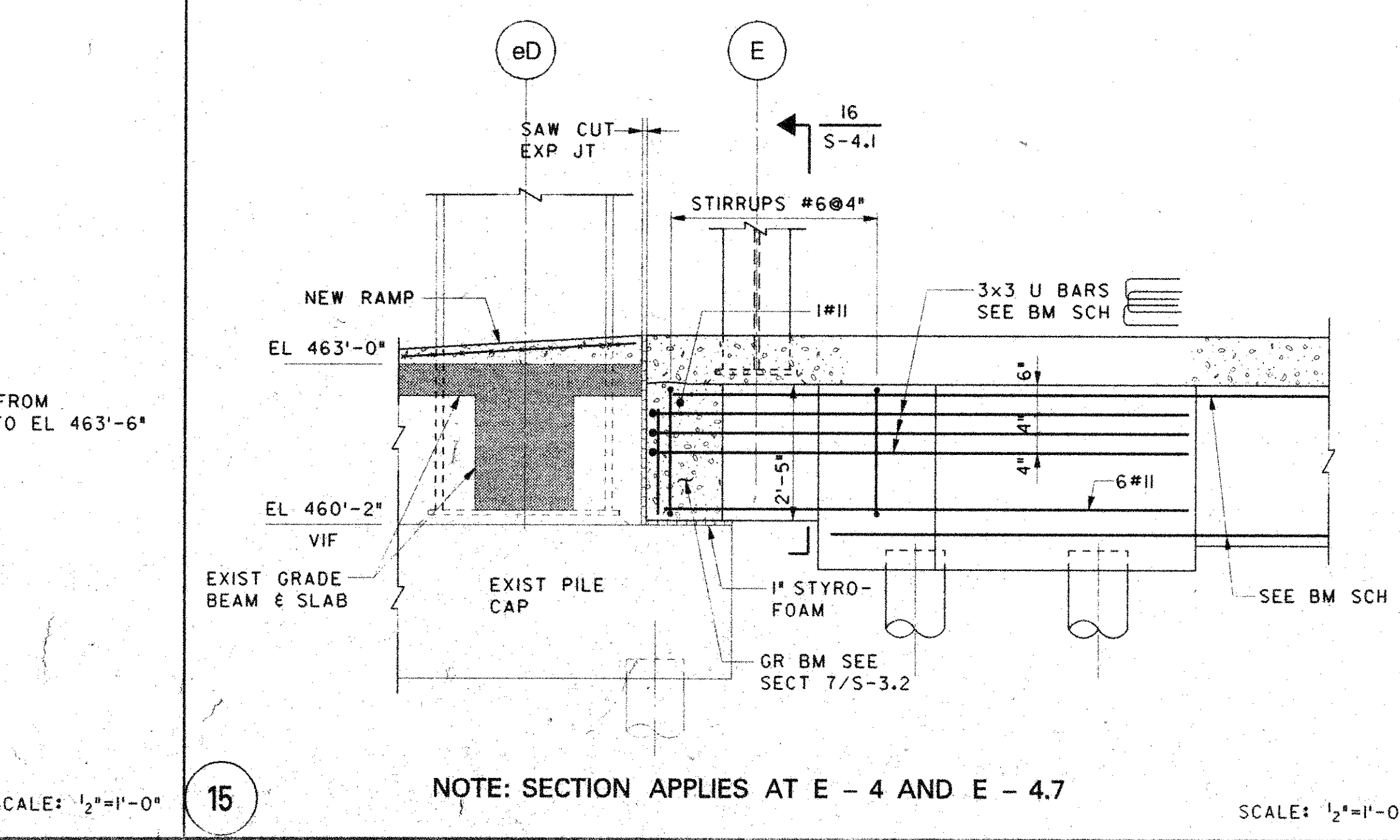
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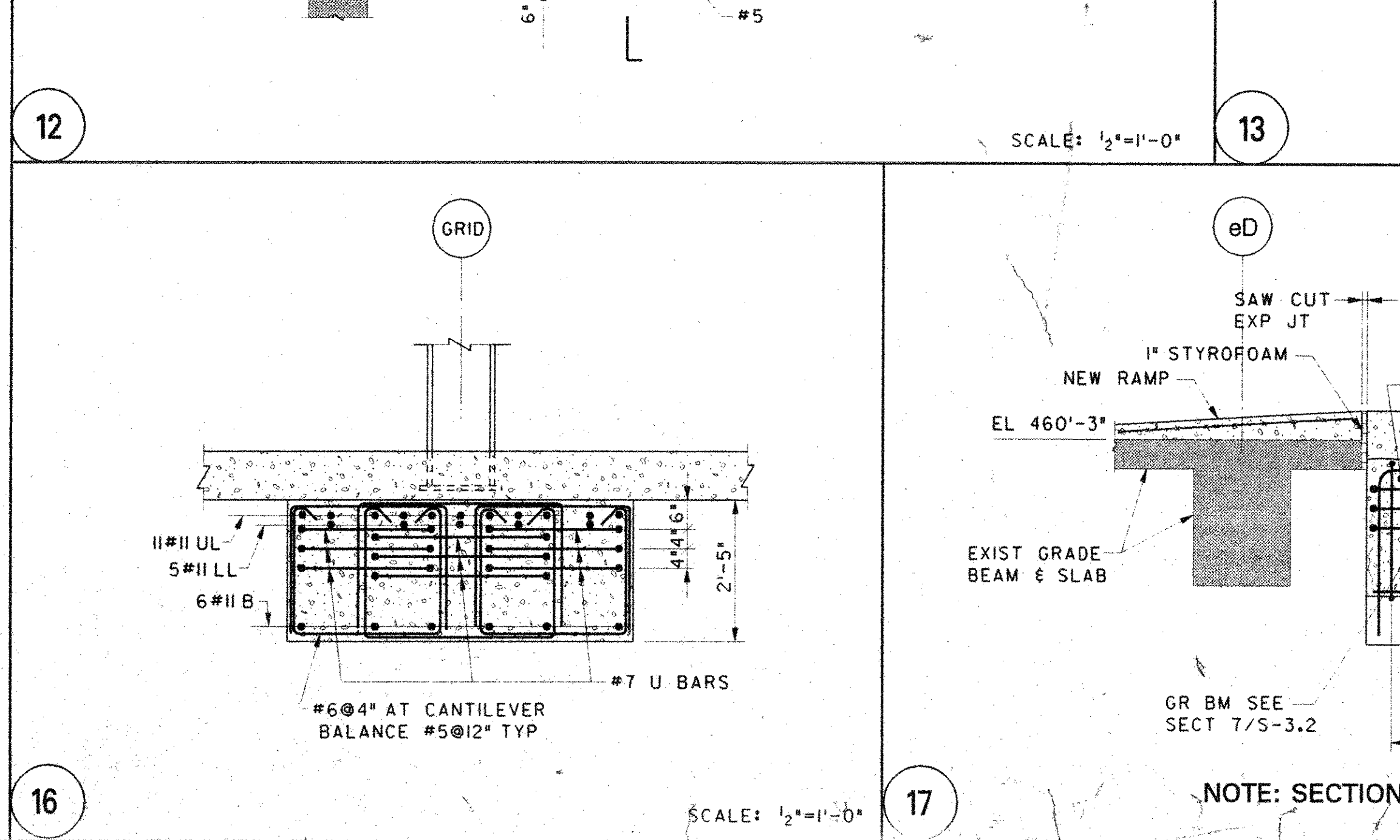
9 SCALE: 1/2"=1'-0"



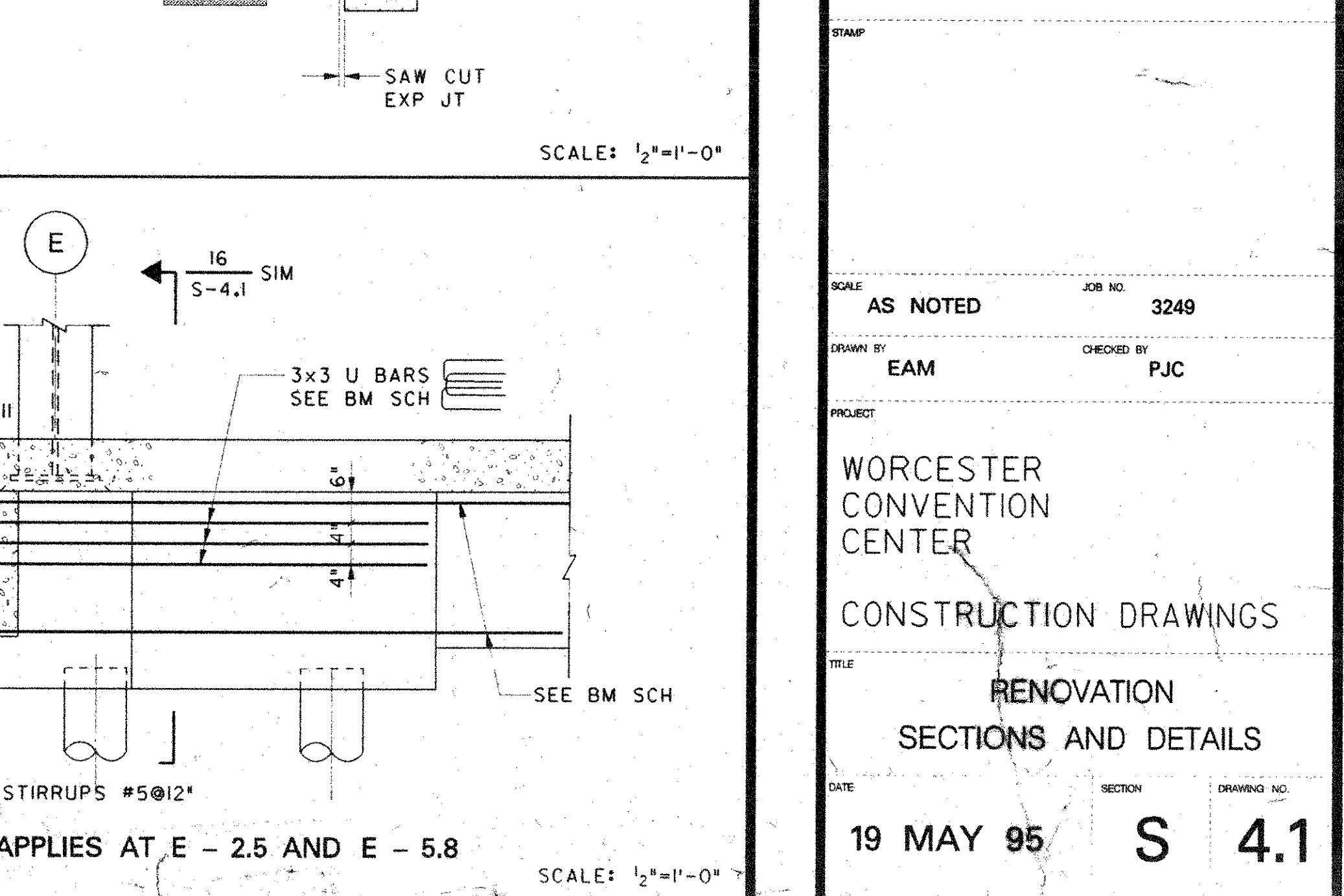
10 SCALE: 1/2"=1'-0"



11 SCALE: 1/2"=1'-0"



12 SCALE: 1/2"=1'-0"



13 SCALE: 1/2"=1'-0"

GENERAL NOTES

NO. DATE REVISION

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SCALE AS NOTED JOB NO. 3249

DRAWN BY EAM CHECKED BY PJC

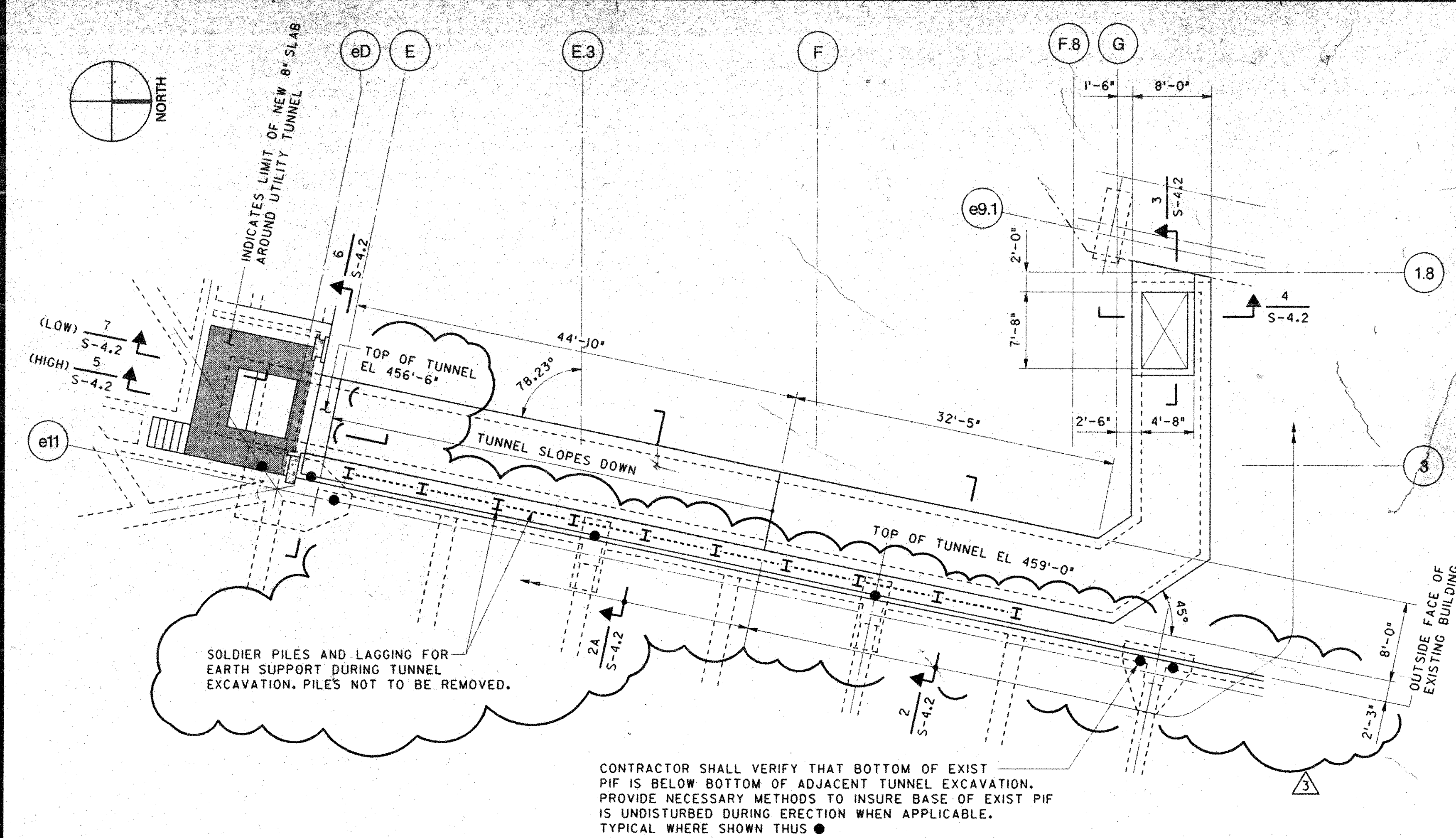
PROJECT WORCESTER CONVENTION CENTER

CONSTRUCTION DRAWINGS

RENOVATION SECTIONS AND DETAILS

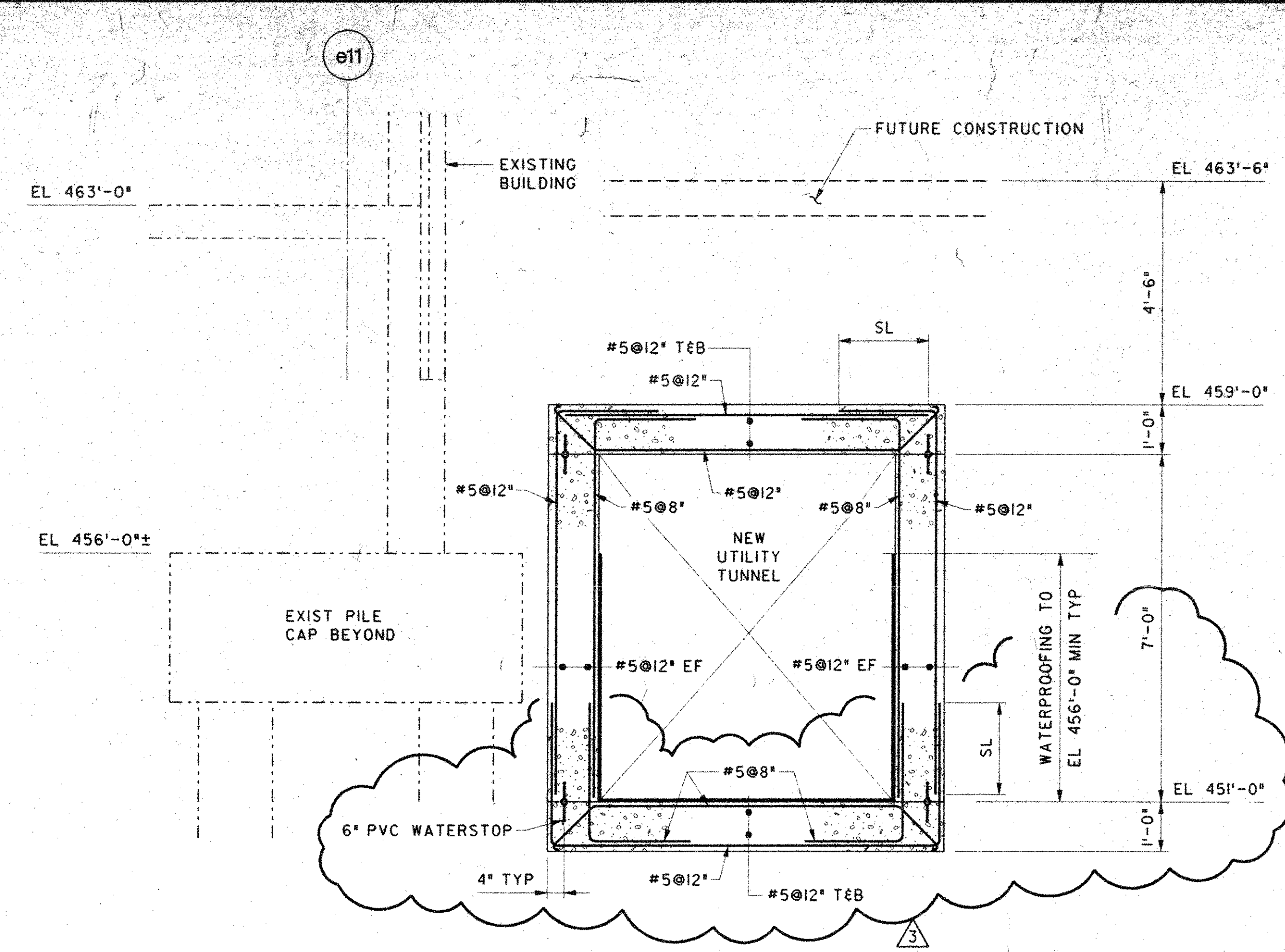
DATE 19 MAY 95 SECTION DRAWING NO. S 4.1

GENERAL NOTES



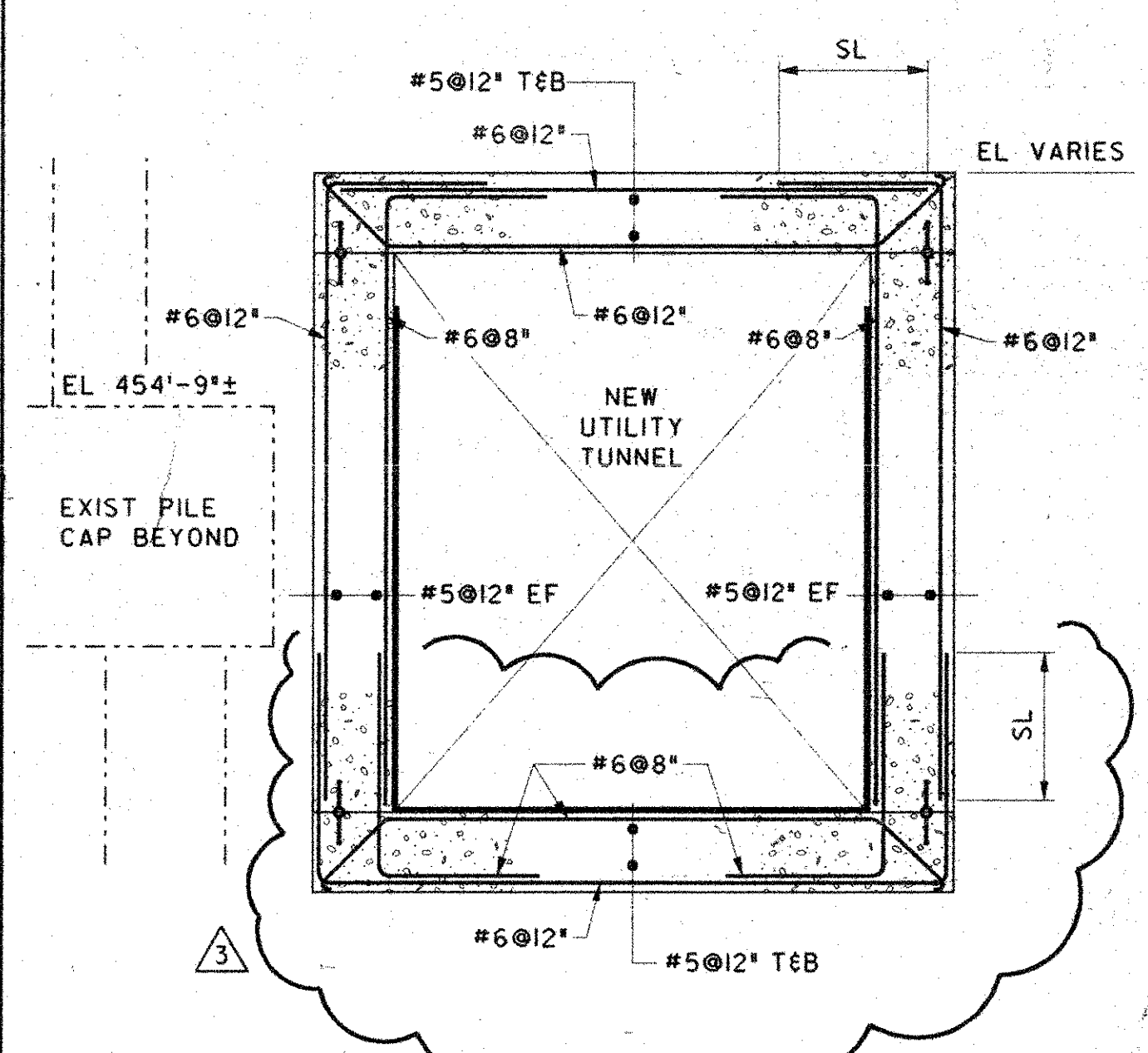
1 PART PLAN - NEW UTILITY TUNNEL

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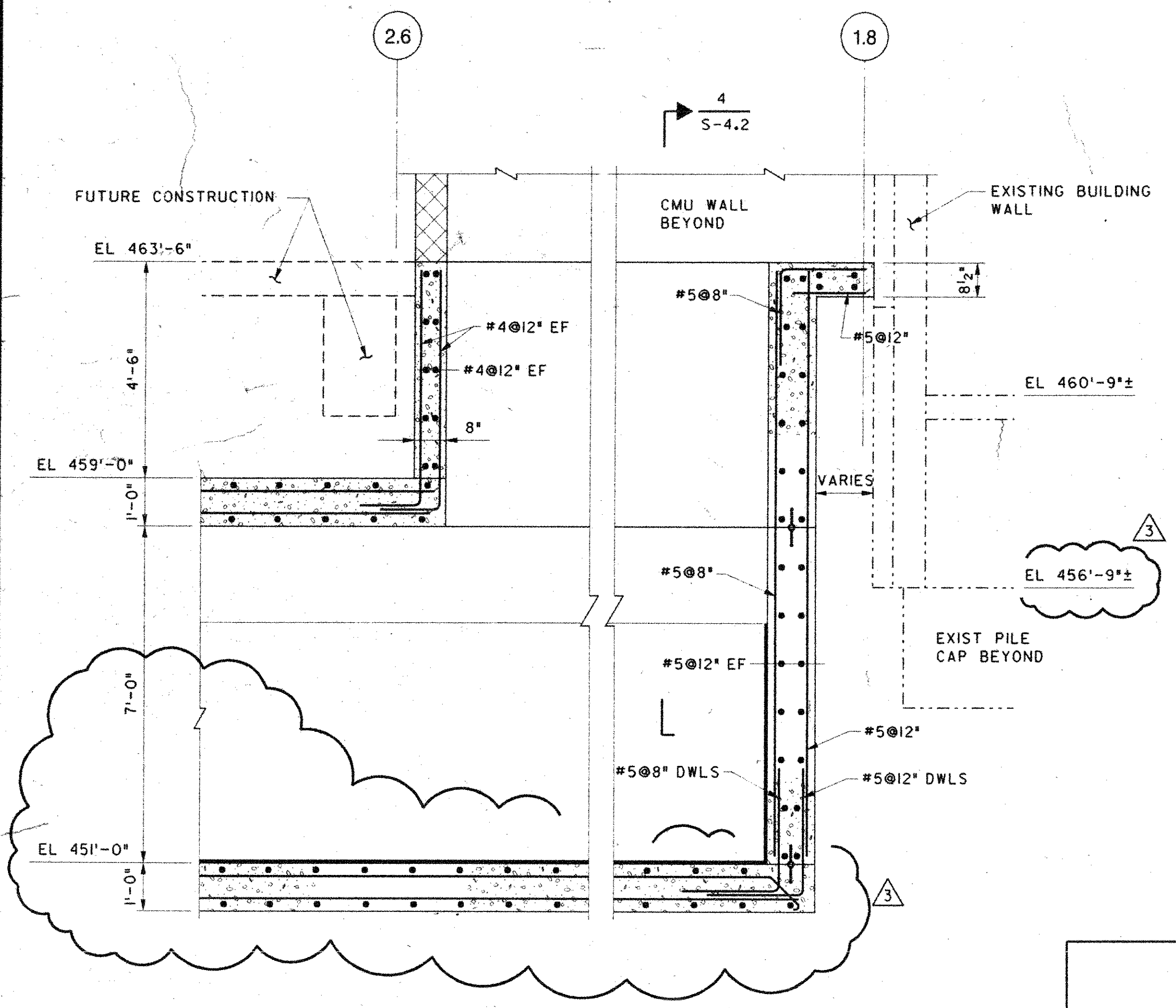
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SCALE: 1/2"=1'-0"



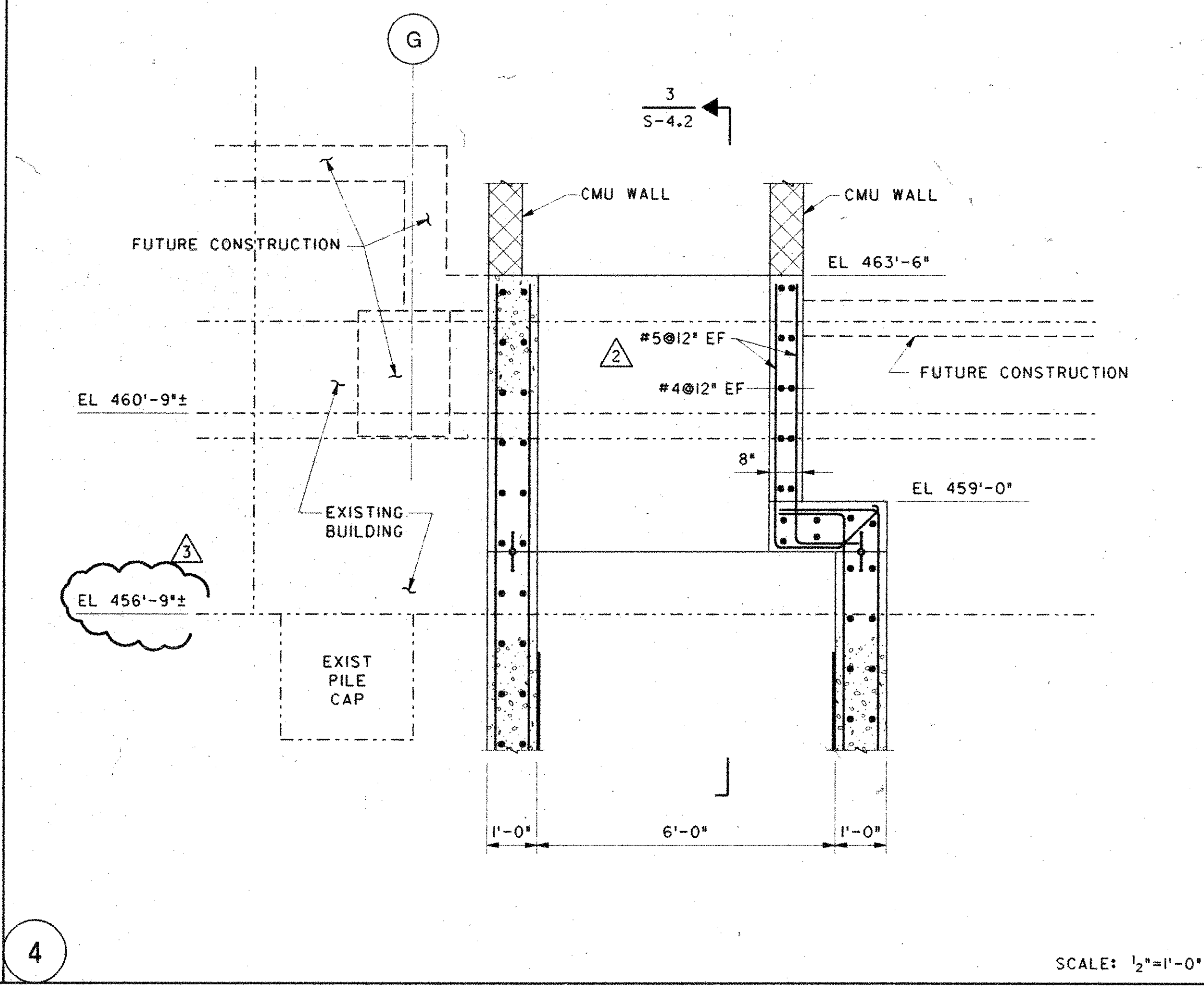
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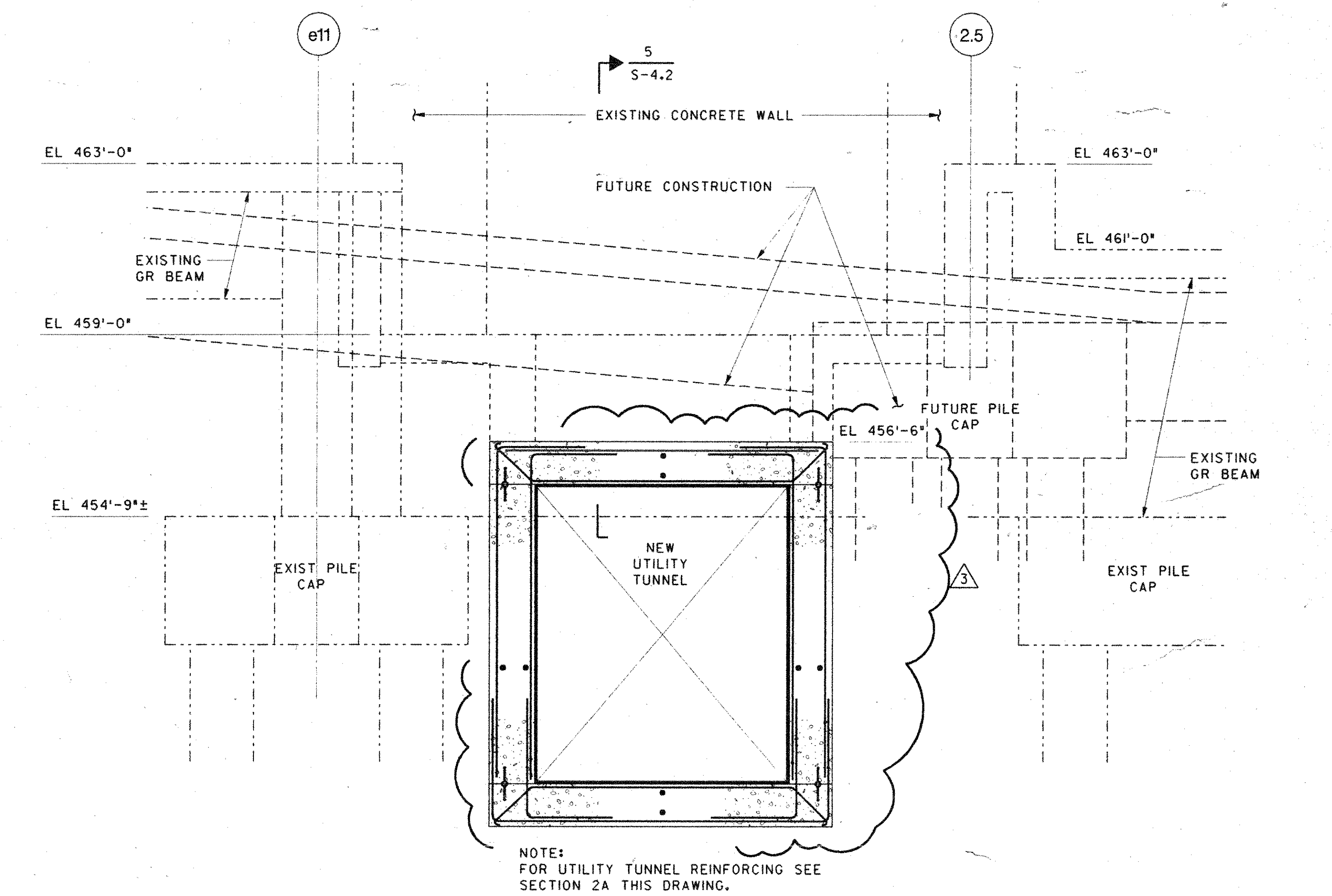
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SCALE: 1/2"=1'-0"



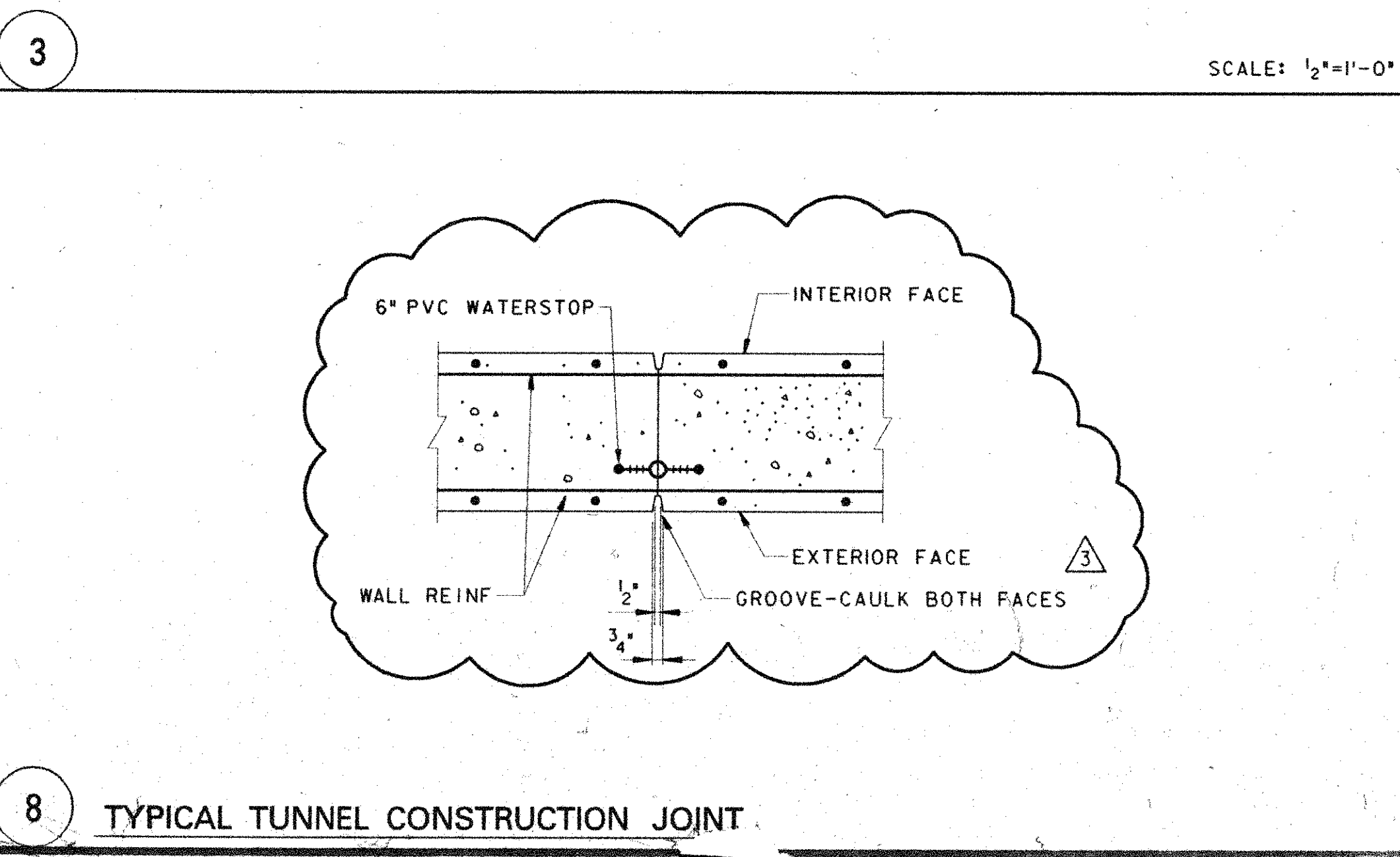
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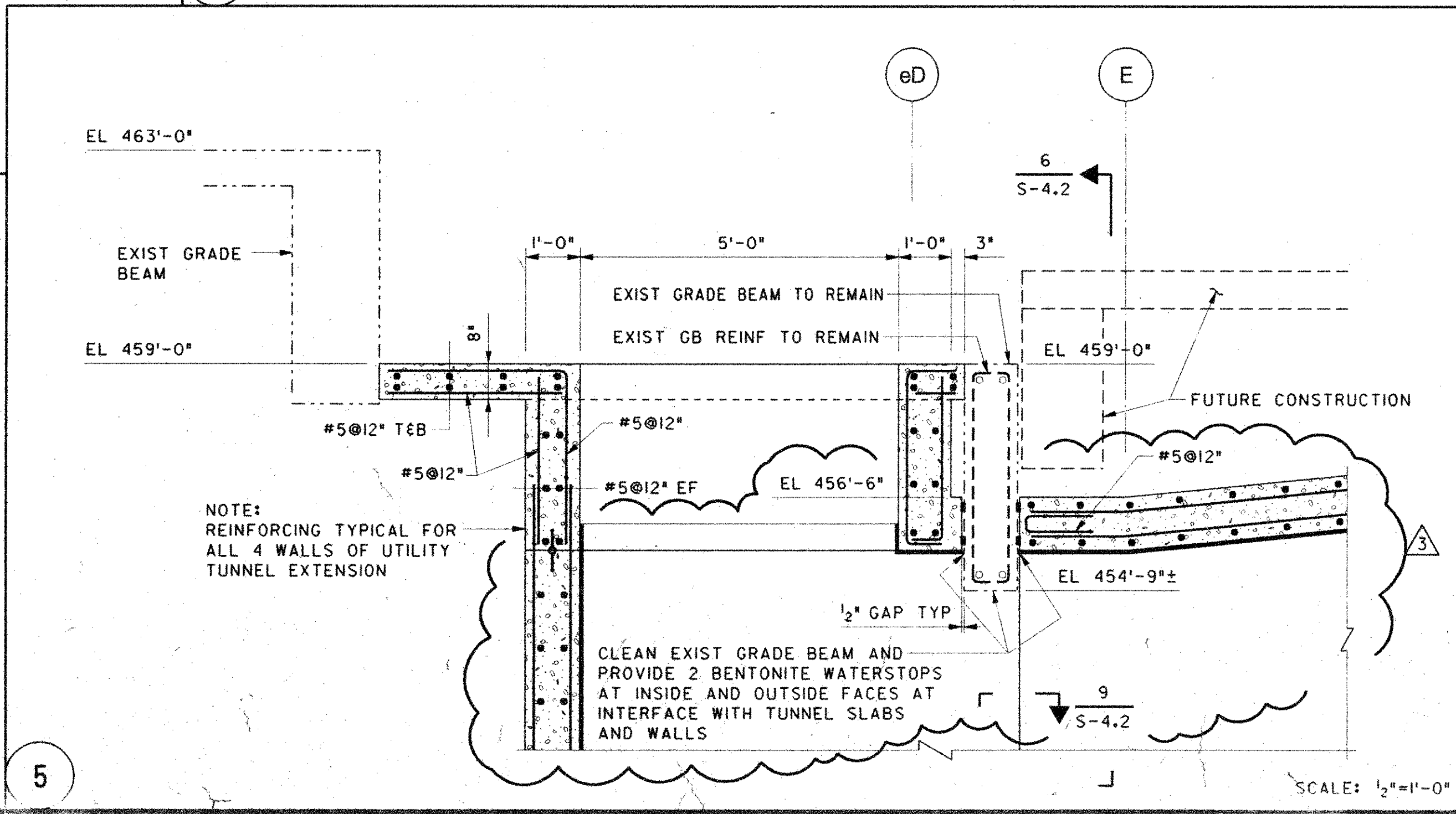


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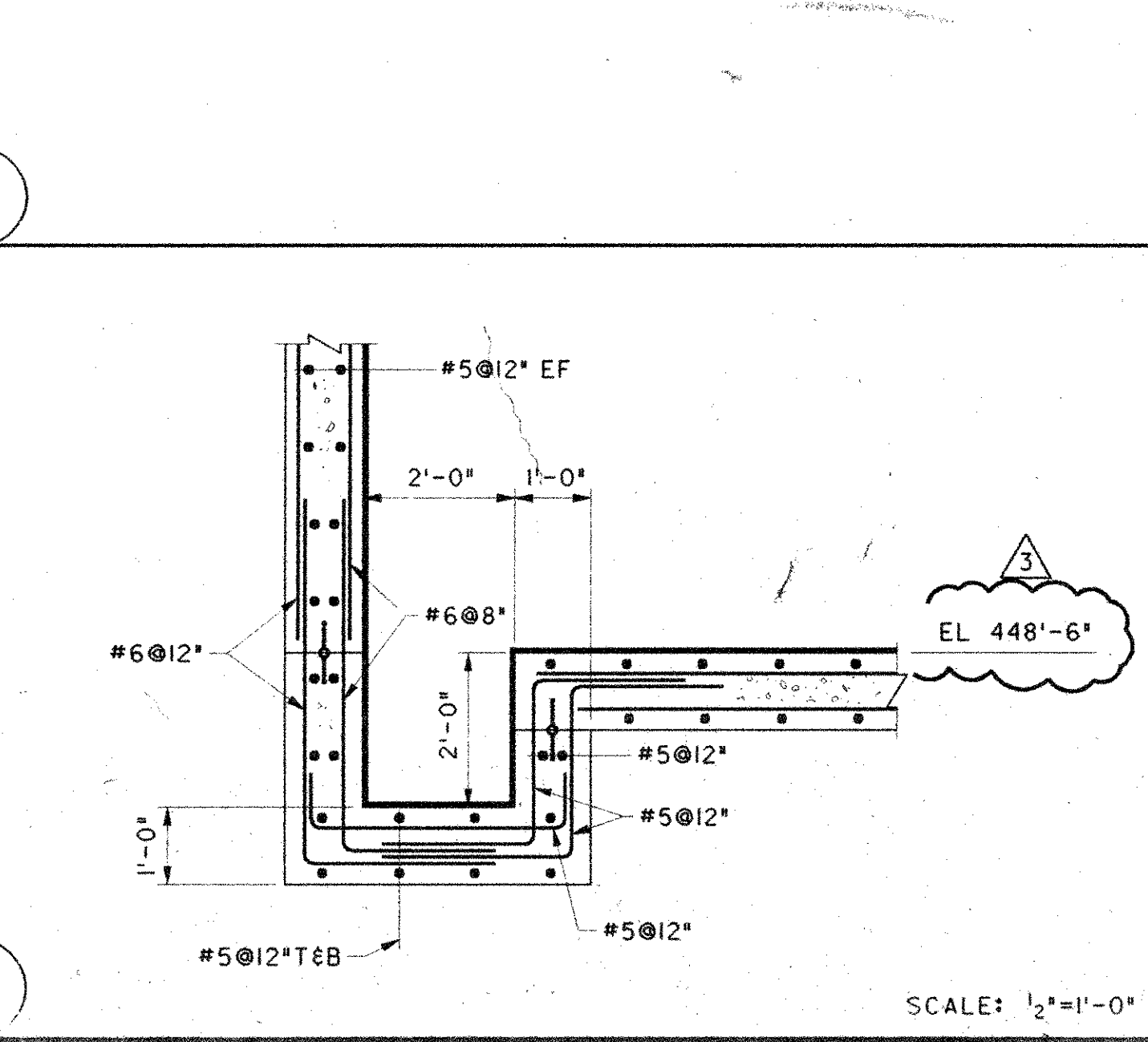


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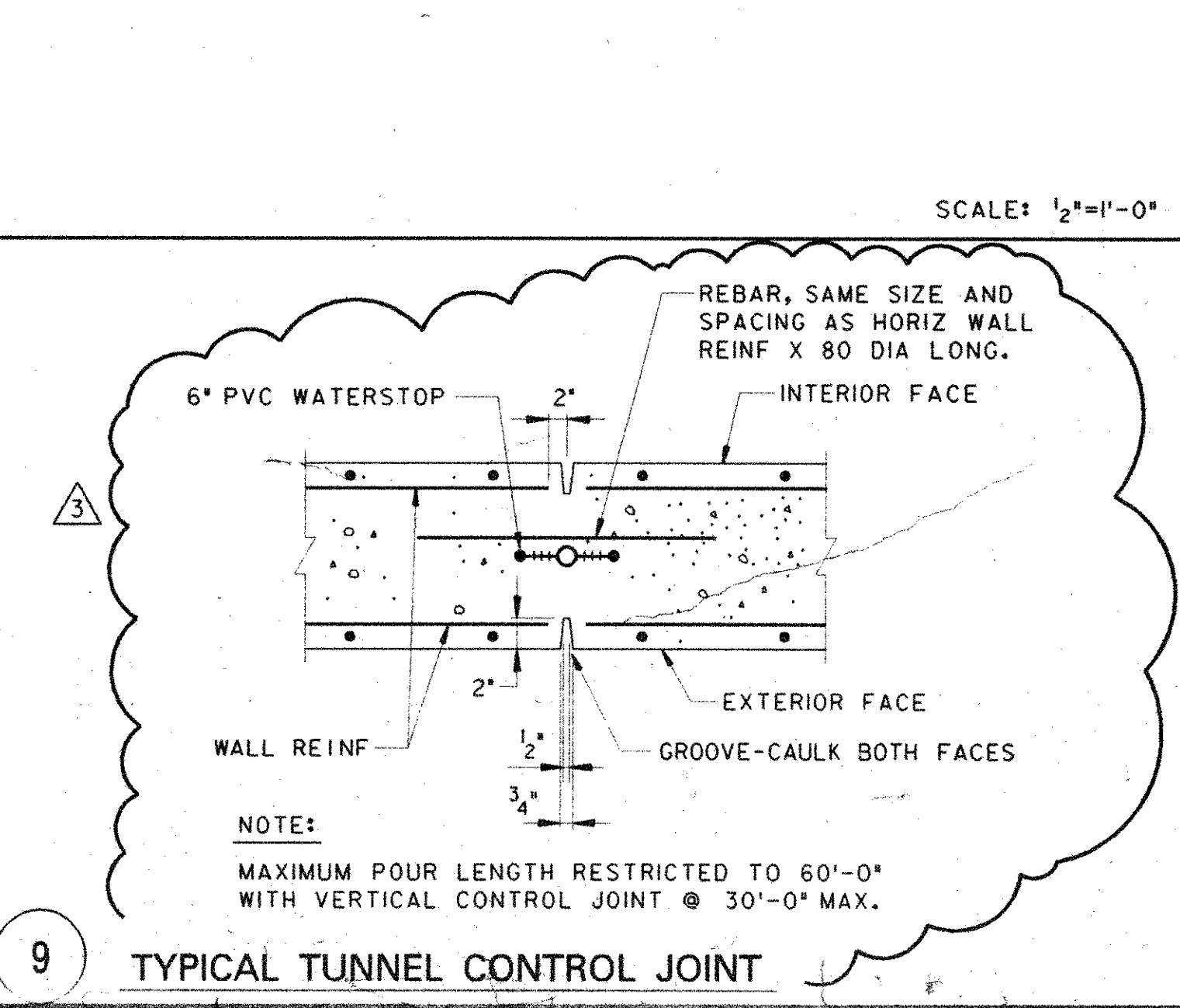
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SCALE: 1/2"=1'-0"



8

SCALE: 1/2"=1'-0"



9

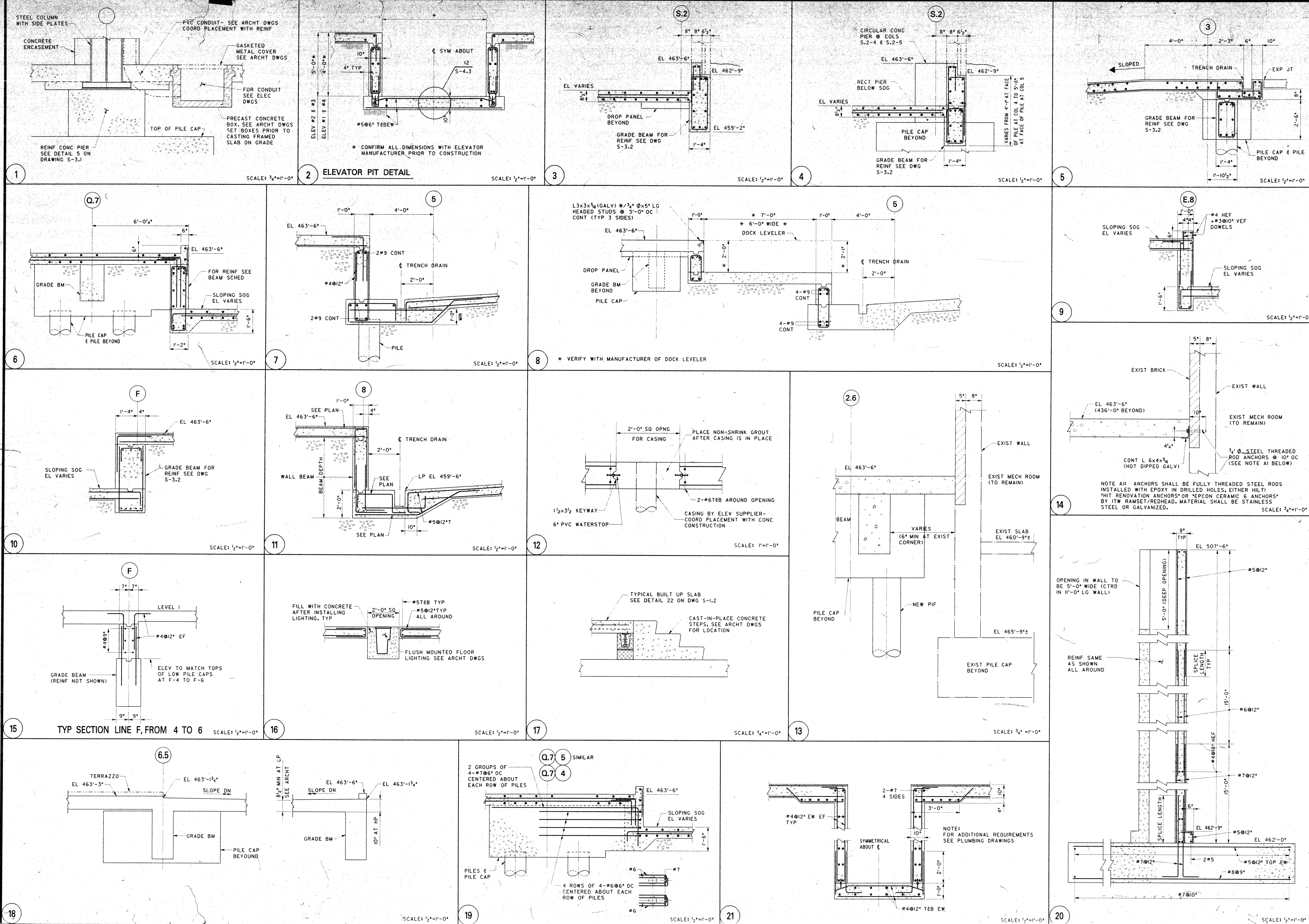
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5-19-95 CONSTRUCTION DRAWINGS
4-10-95 ADDENDUM #3

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SCALE: AS NOTED JOB NO: 3249
DRAWN BY: EAM CHECKED BY: PJC
PROJECT: WORCESTER CONVENTION CENTER
NOT IN CONTRACT
TITLE: UTILITY TUNNEL PART PLAN AND SECTIONS
DATE: 15 MAR 95 SECTION: S DRAWING NO: 4.2

GENERAL NOTES



NO. DATE REVISION

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SCALE: AS NOTED JOB NO.: 3249

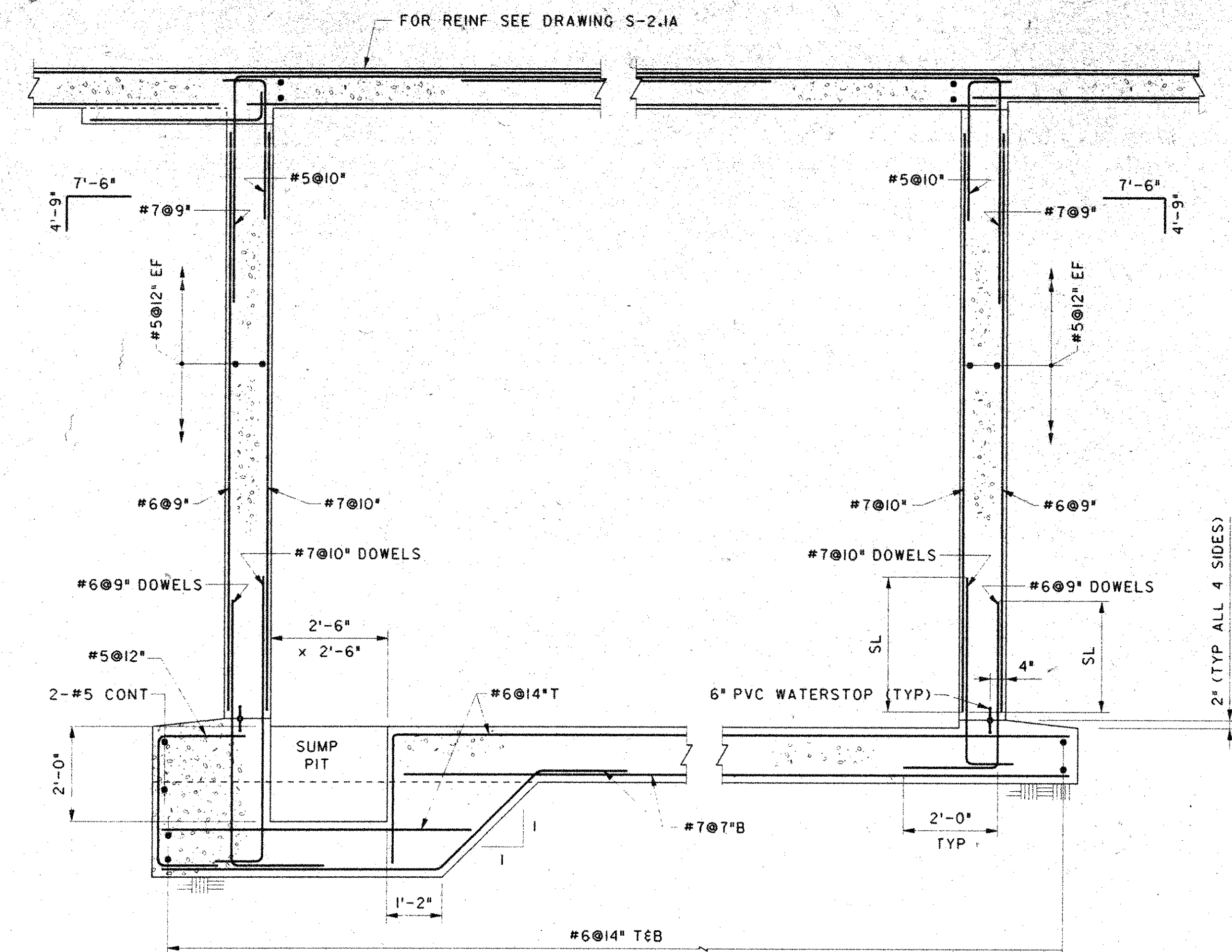
DRAWN BY: EAM CHECKED BY: PJC

PROJECT: WORCESTER CONVENTION CENTER

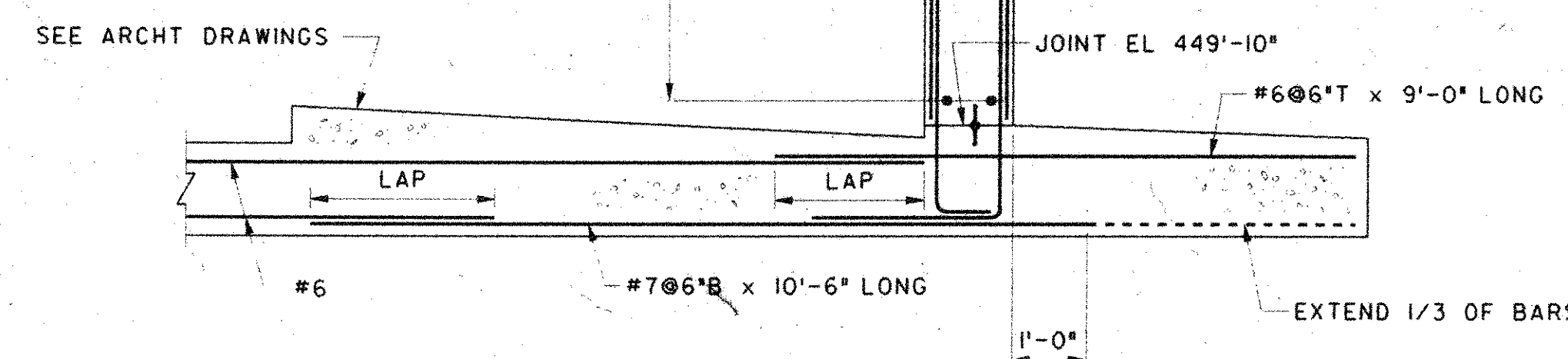
CONSTRUCTION DRAWINGS

FOUNDATION SECTIONS AND DETAILS

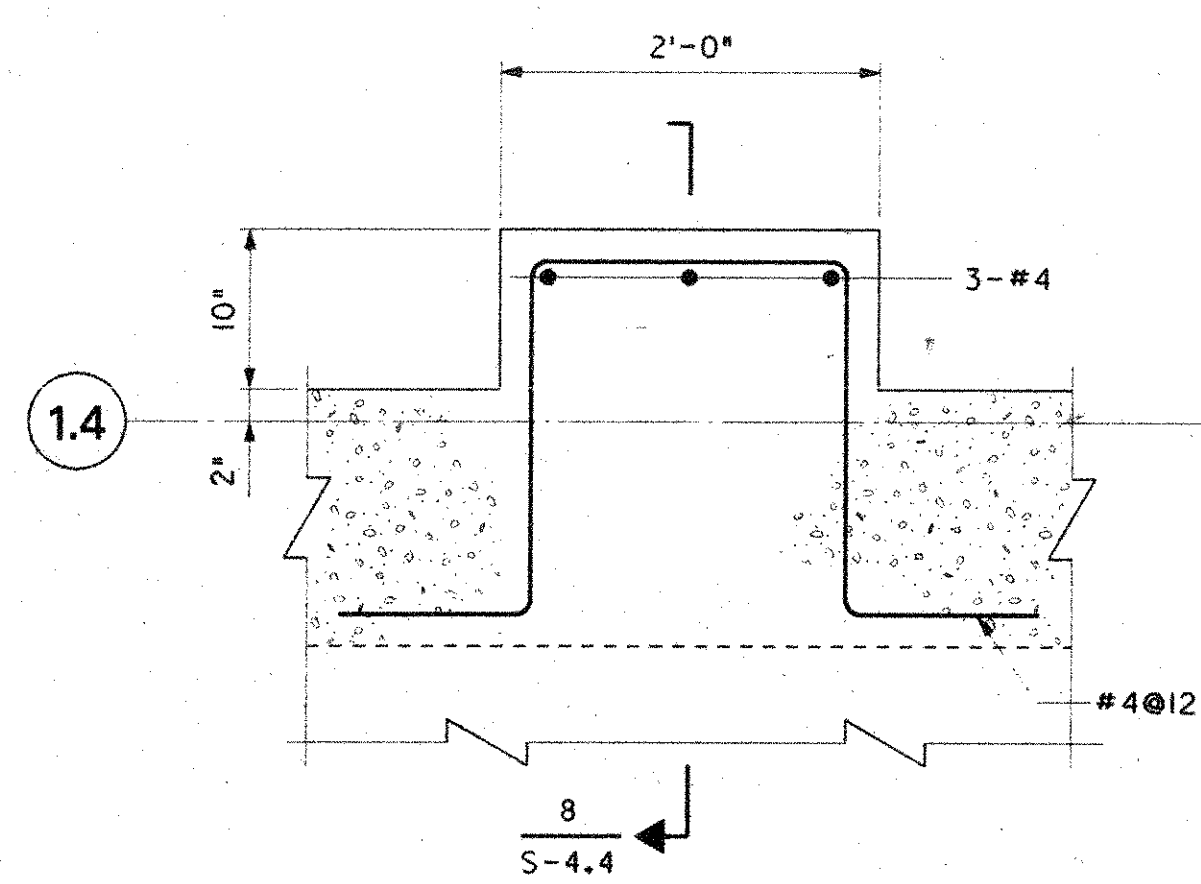
DATE: 19 MAY 95 SECTION: S DRAWING NO.: 4.3



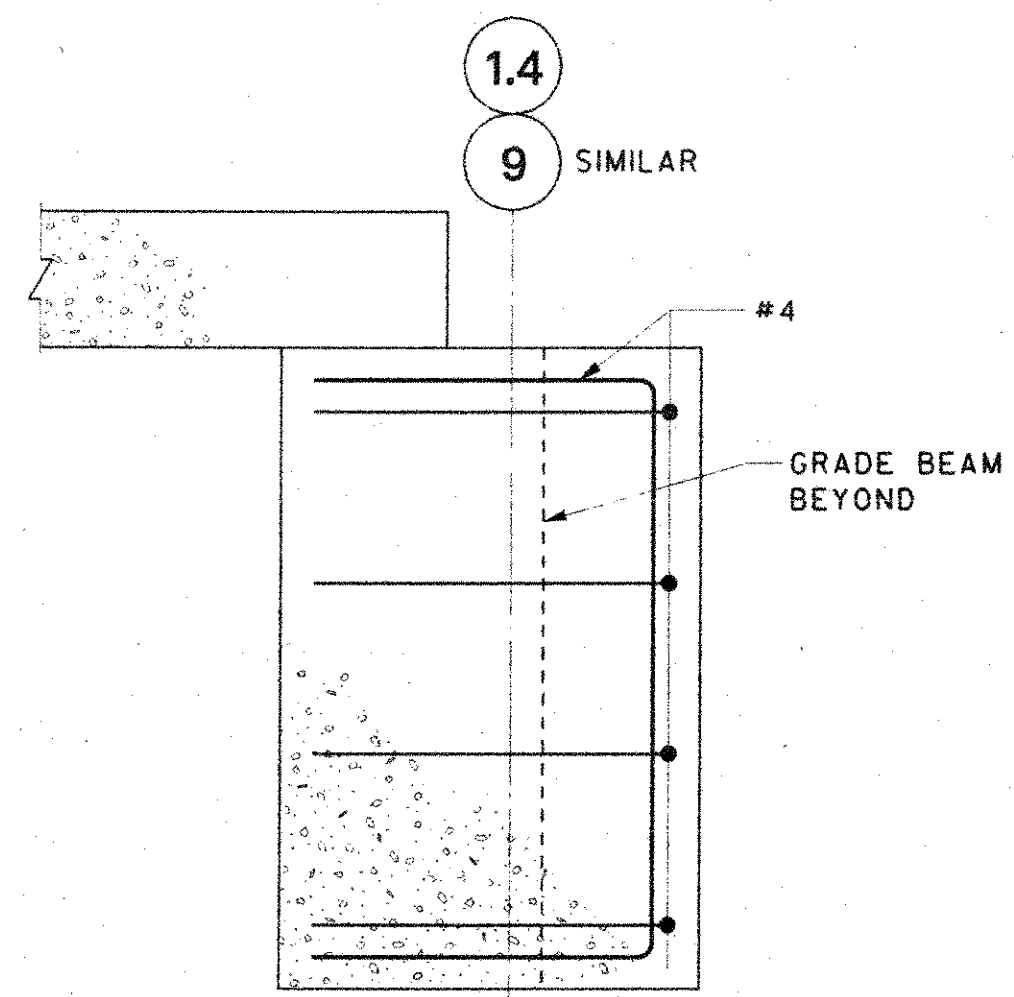
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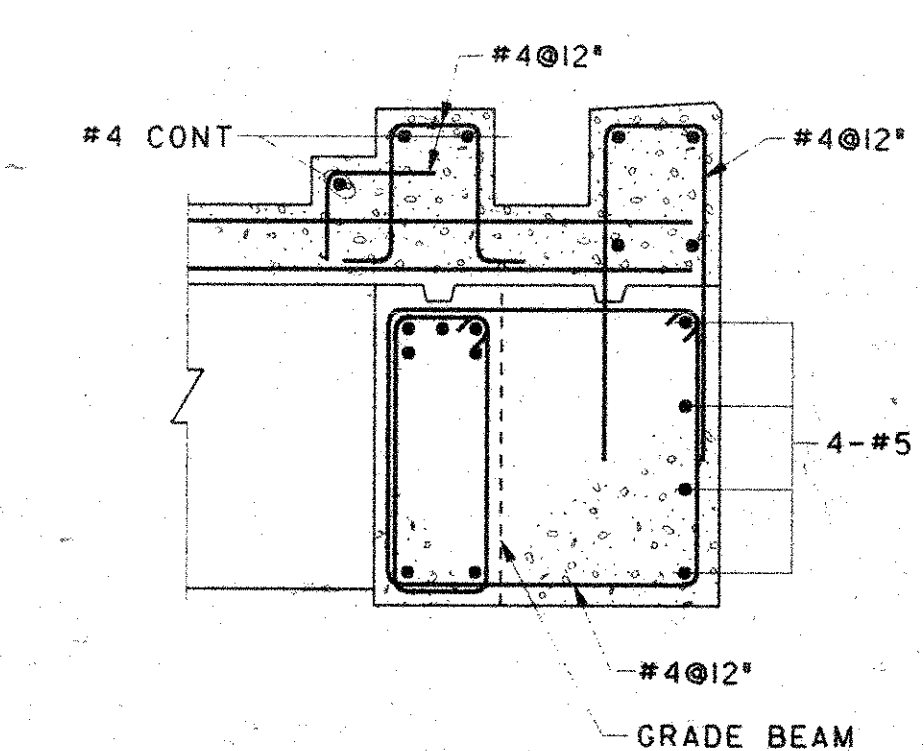
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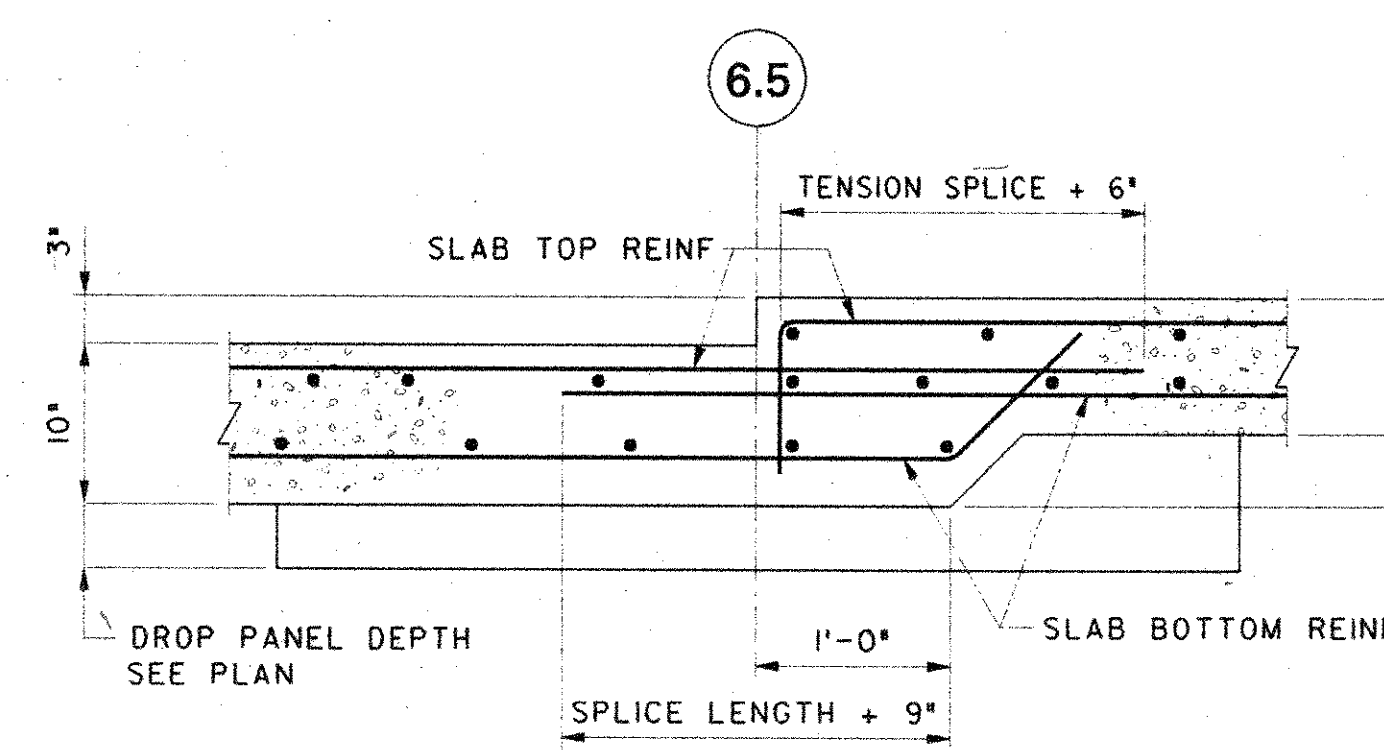
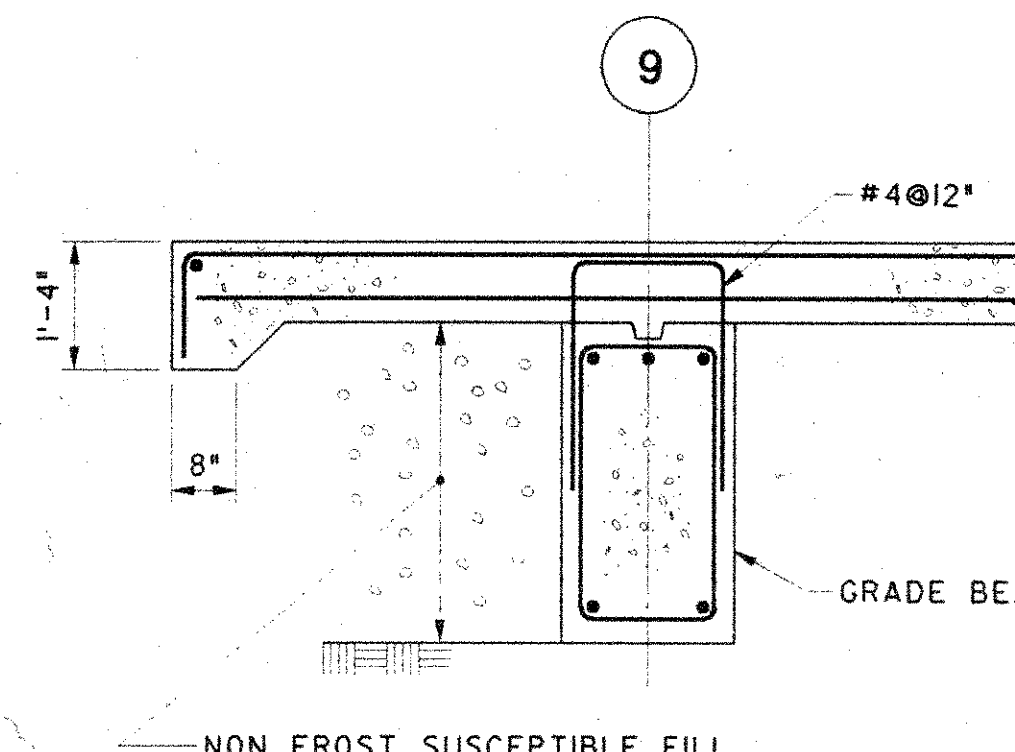
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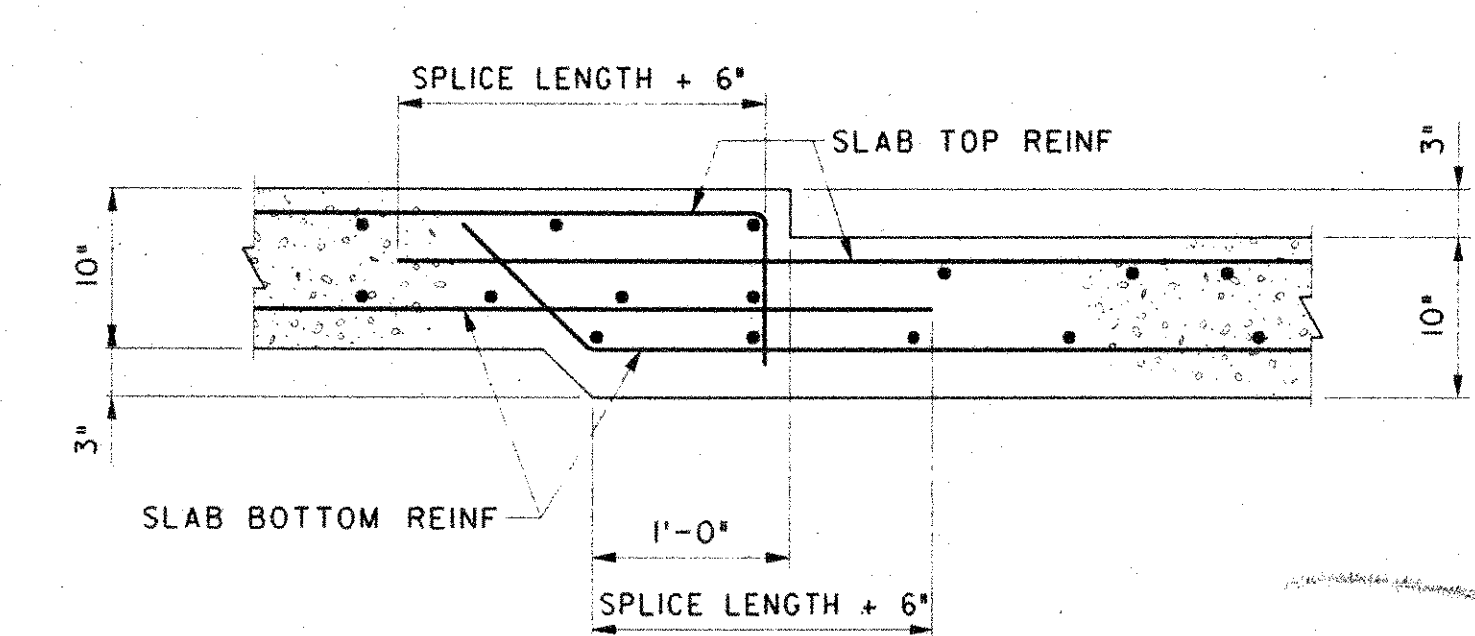
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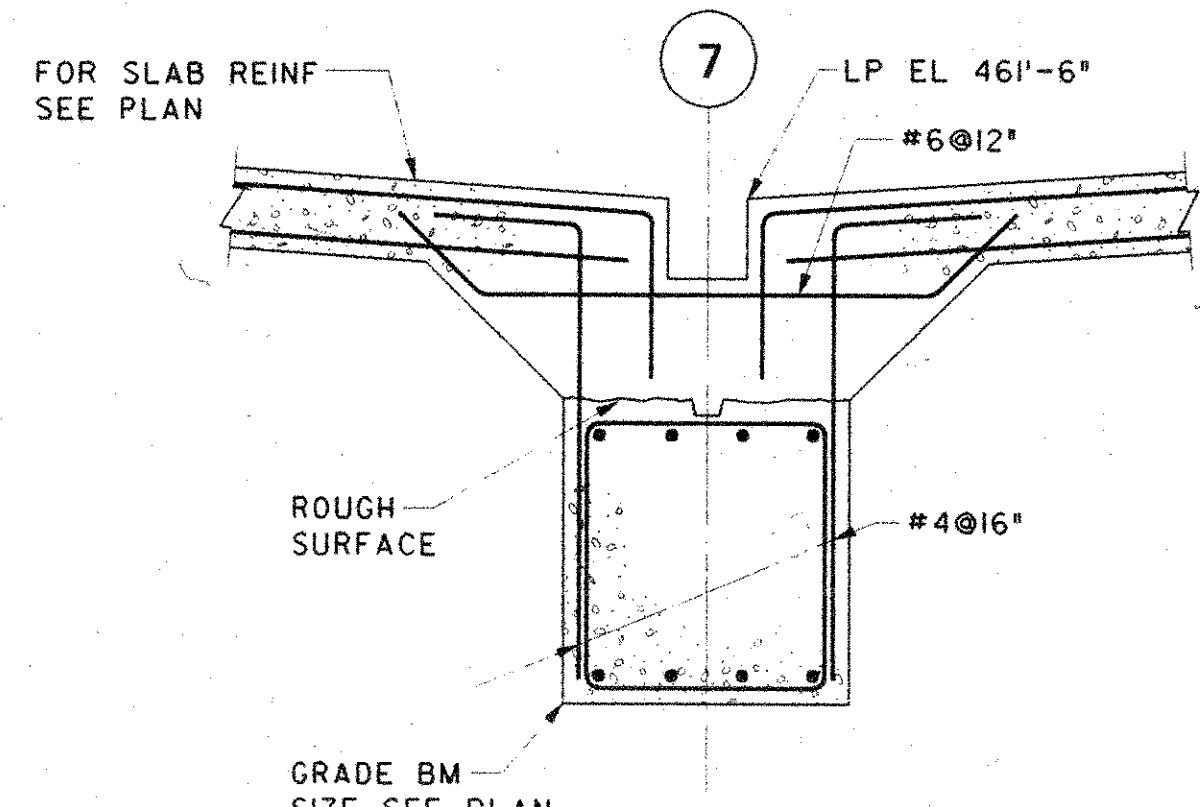
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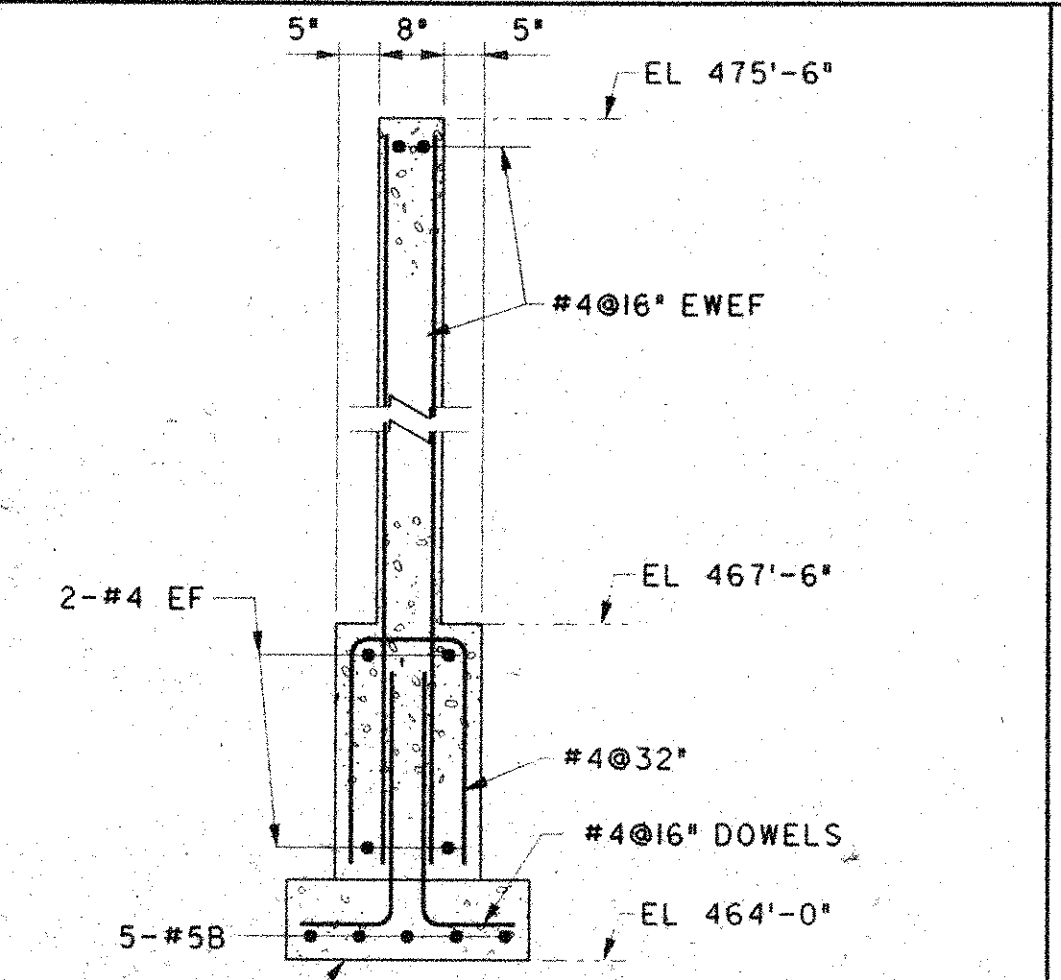
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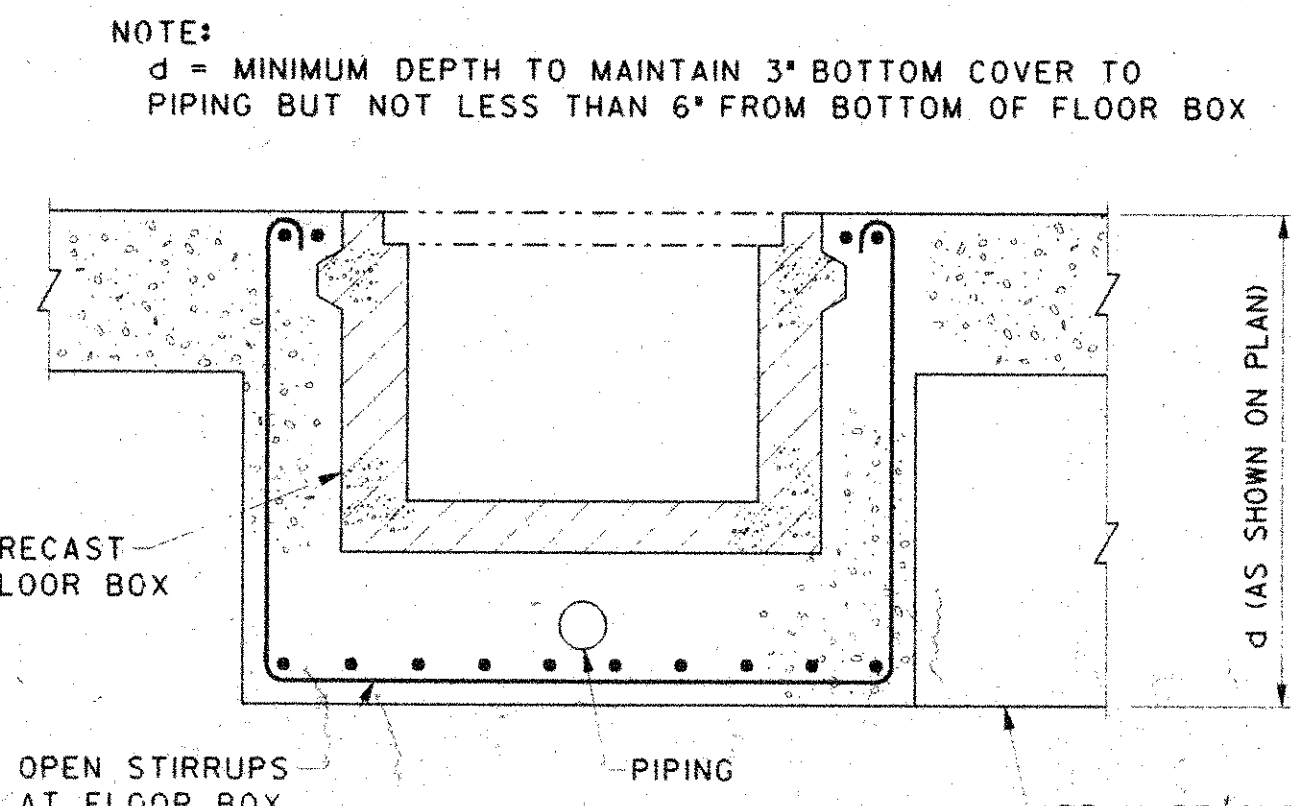
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conclusion



SCALE: 1/2" = 1'-0"



SCALE: 1"=1'-0"

NO.	DATE	REVISION
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STAMP

SCALE
AS NOTED

JOB NO. 3249

DRAWN BY EA

CHECKED BY
PIC

PROJECT

WORCESTER
CONVENTION
CENTER

CONSTRUCTION DRAWINGS

FOUNDATION
SECTIONS AND DETAILS

DATE _____

10

SECTION

CREATING

19 MAY 95

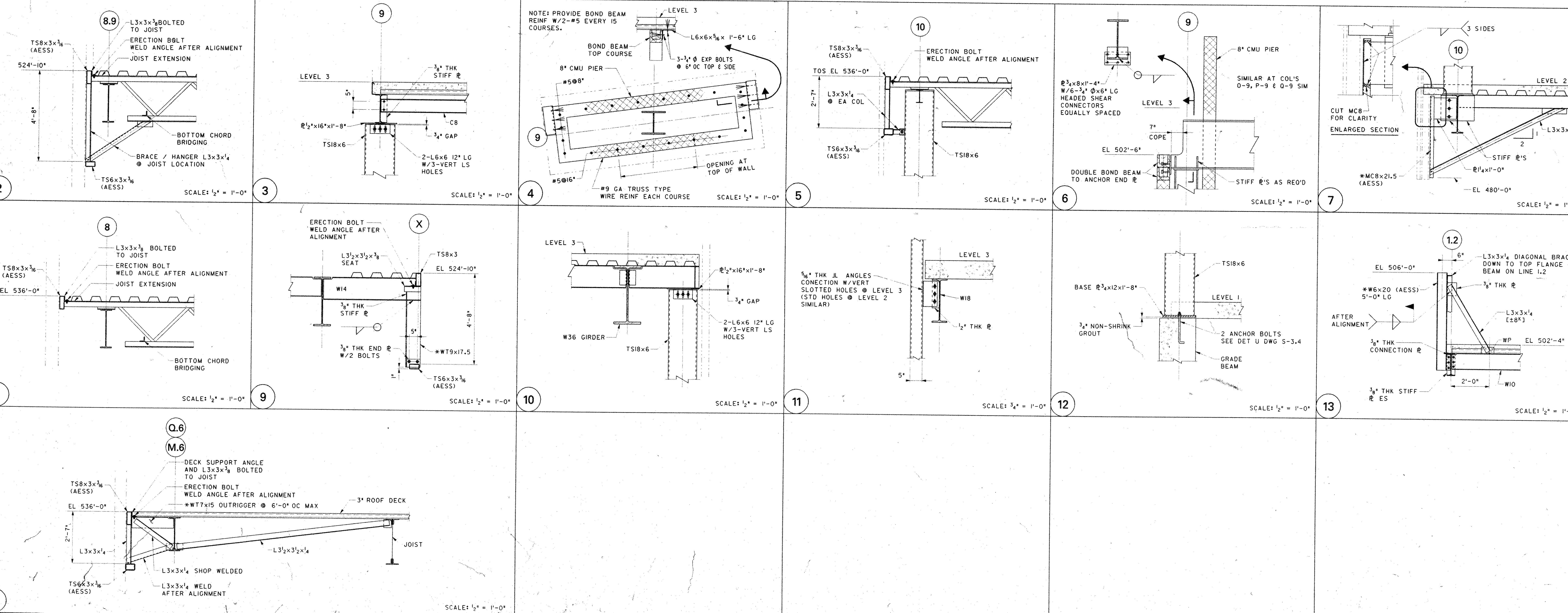
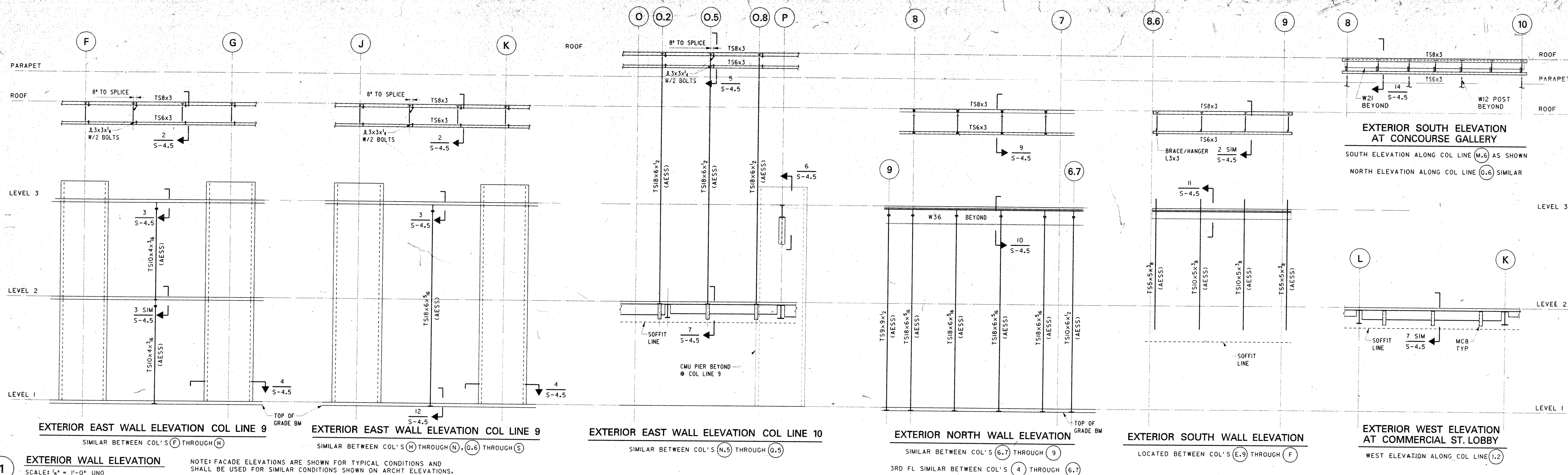
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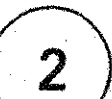
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GENERAL NOTES

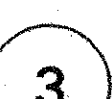




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SCALE: $3_4'' = 1'-0''$



SCALE: $\frac{3}{4}" = 1'-0"$



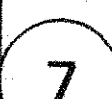
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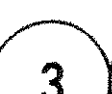
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SCALE: $1/8" = 1' - 0"$

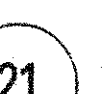
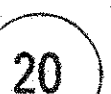
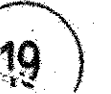
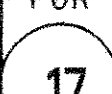
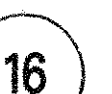
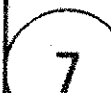


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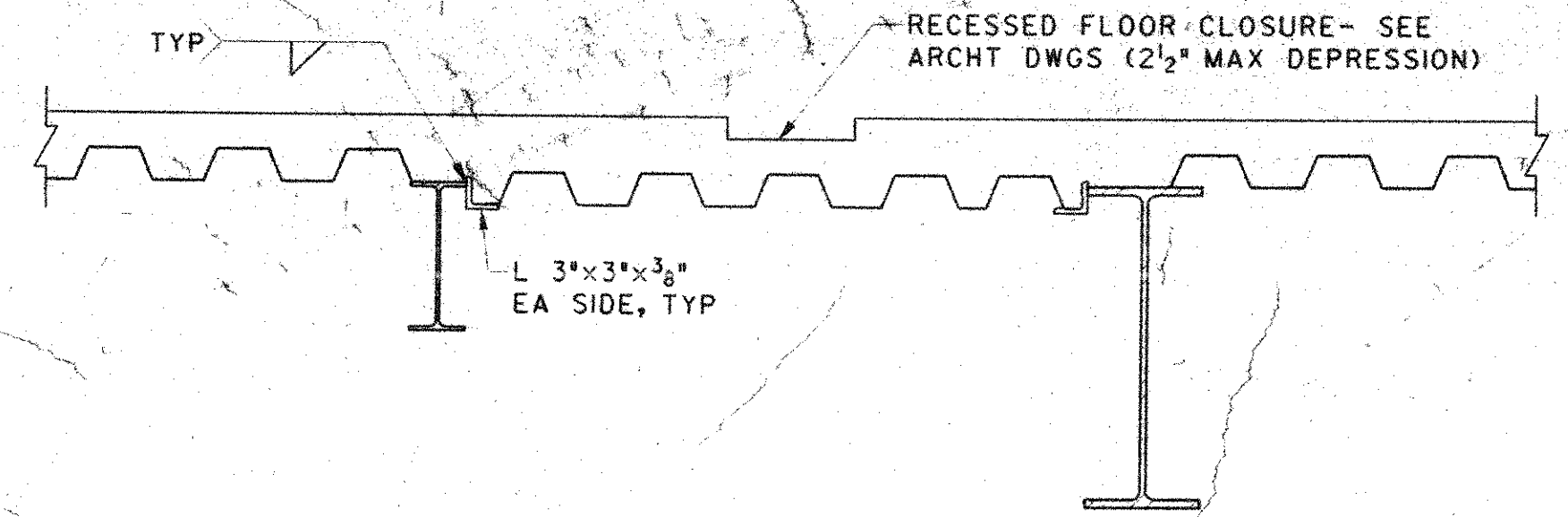
NOTES:

1. SOLID MASONRY SHALL BE BANDED WITH STEEL STRAPS AND SECURED TO SUBFRAME.
2. FOR FURTHER INFORMATION SEE SPECIFICATION ON FLOOR VIBRATION DAMPING SYSTEM.



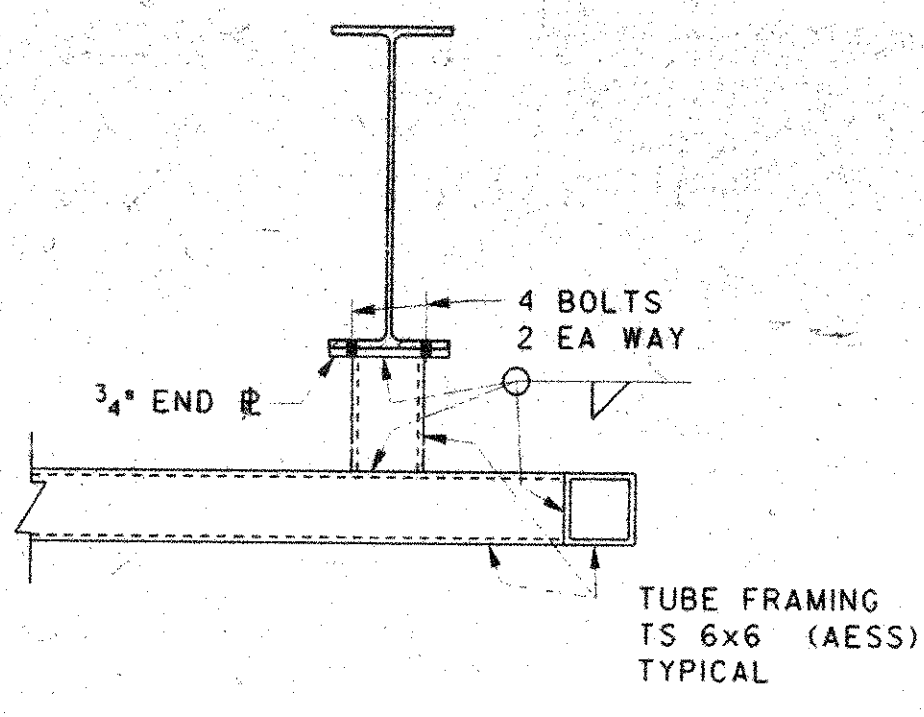
GENERAL NOTES

2



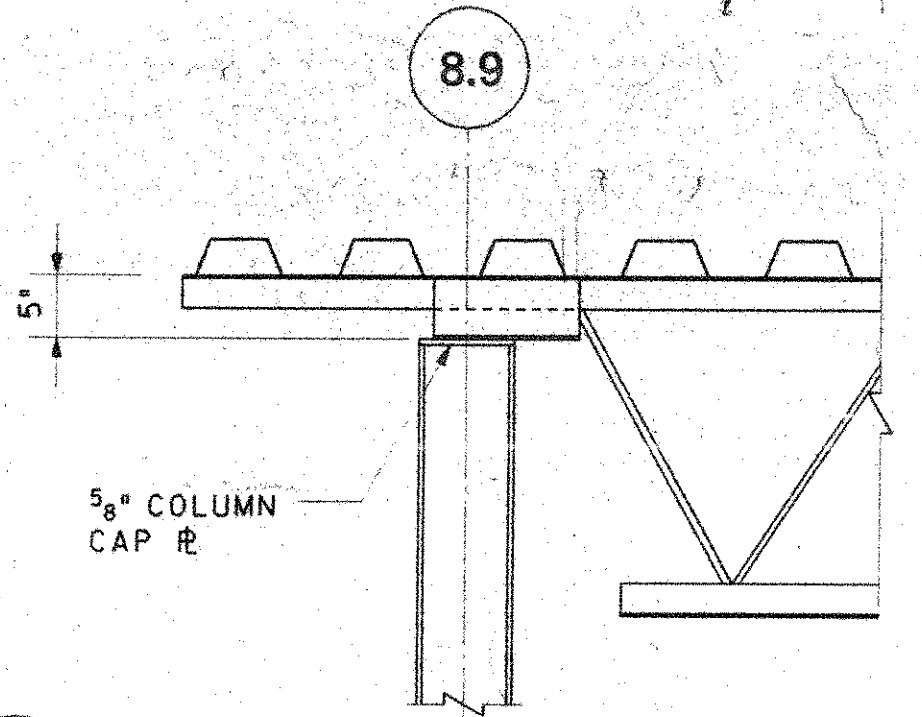
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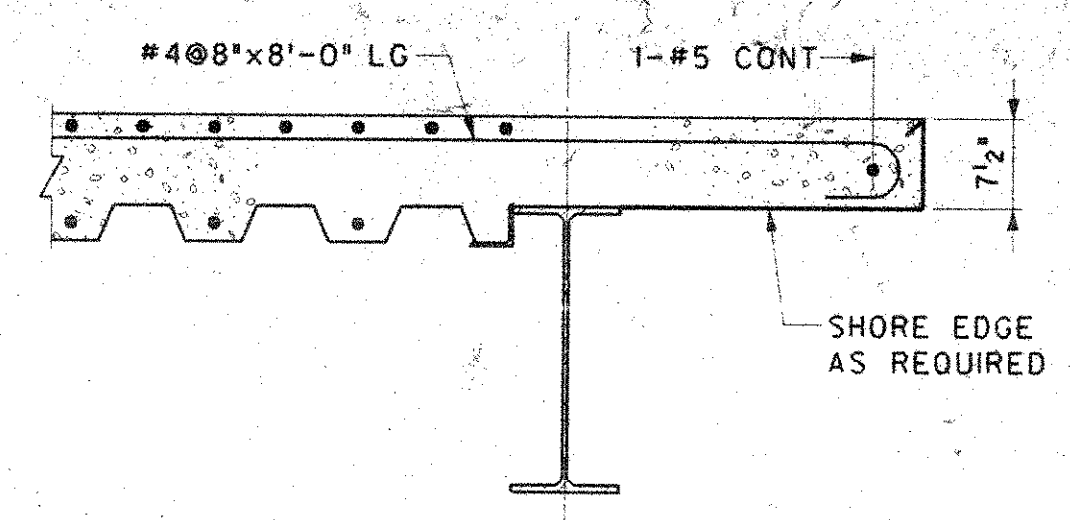
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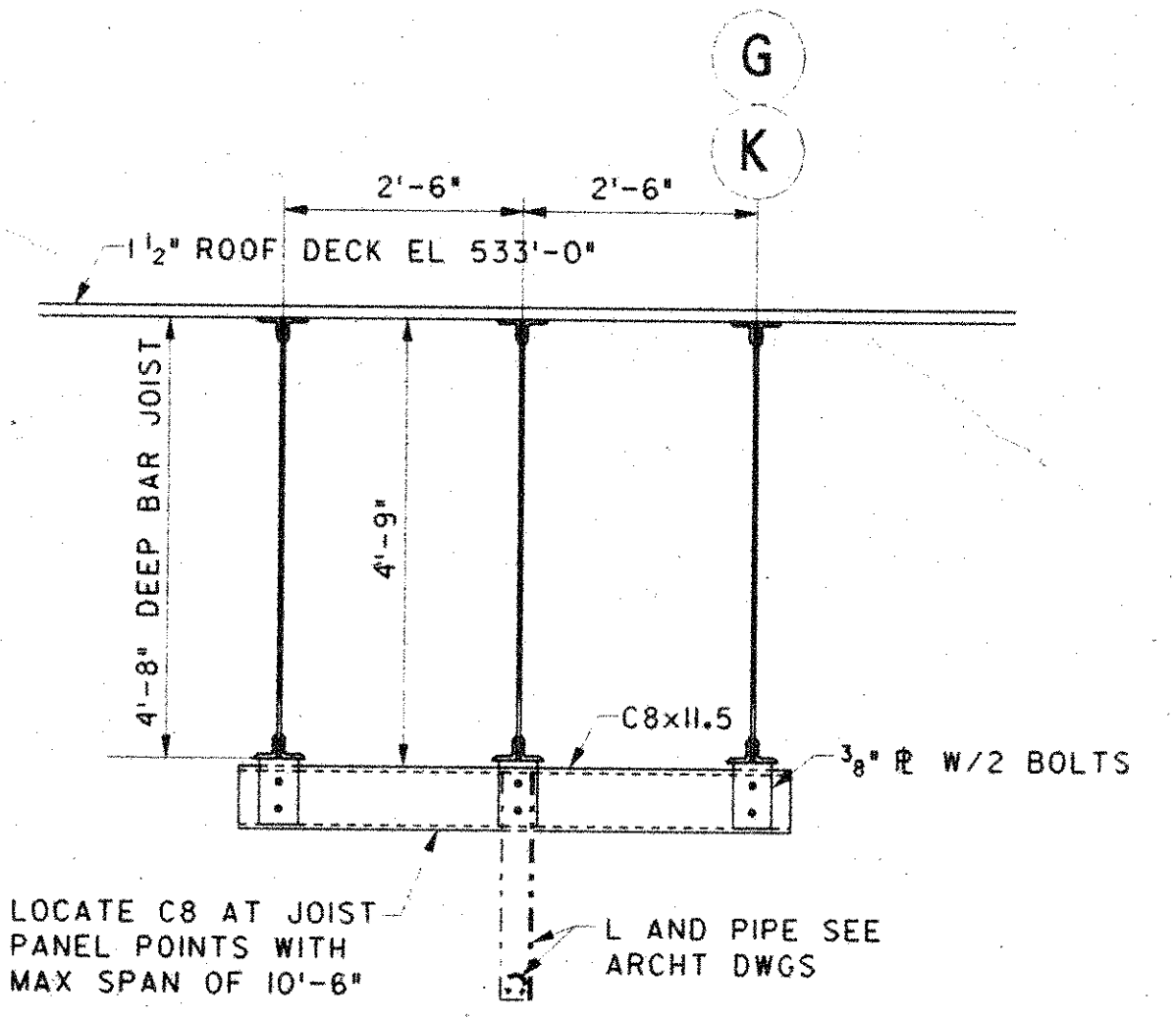
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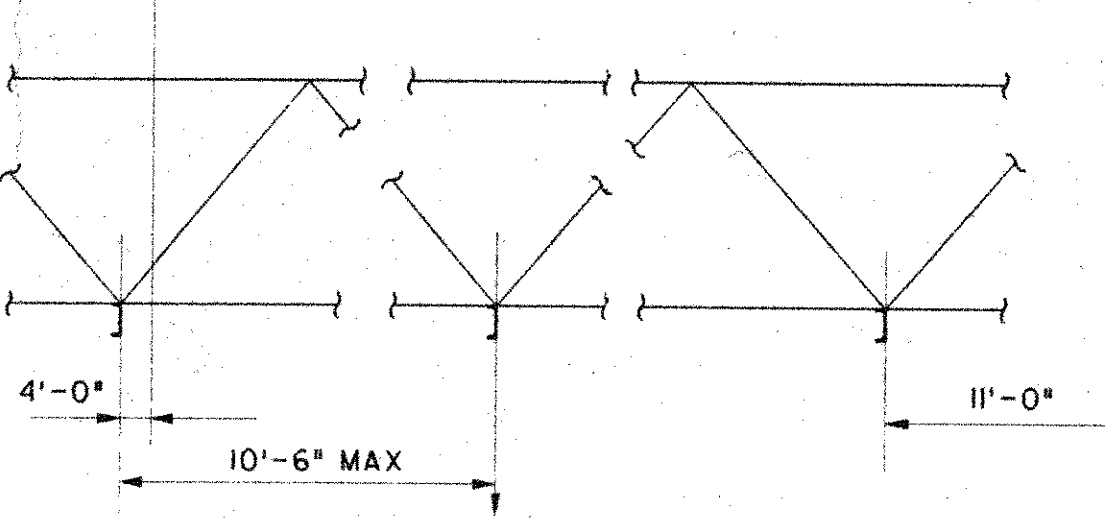
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6



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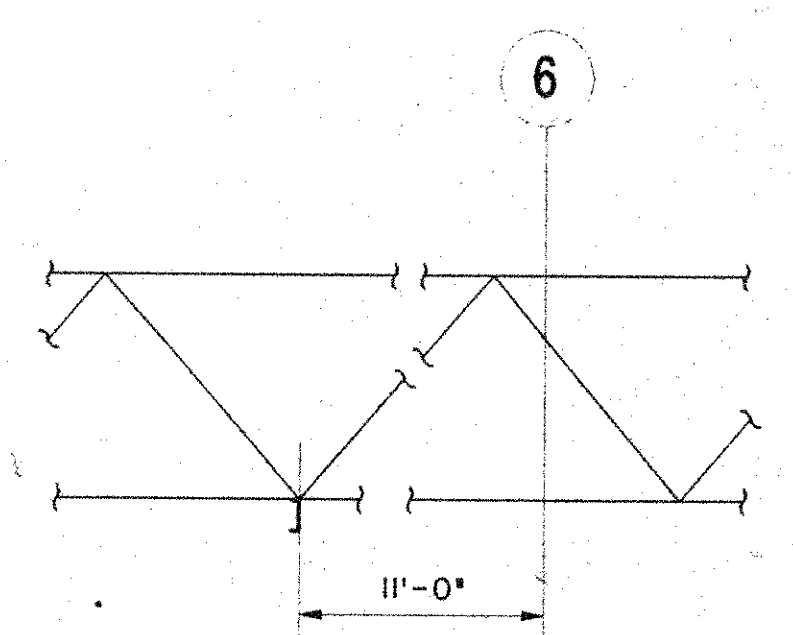
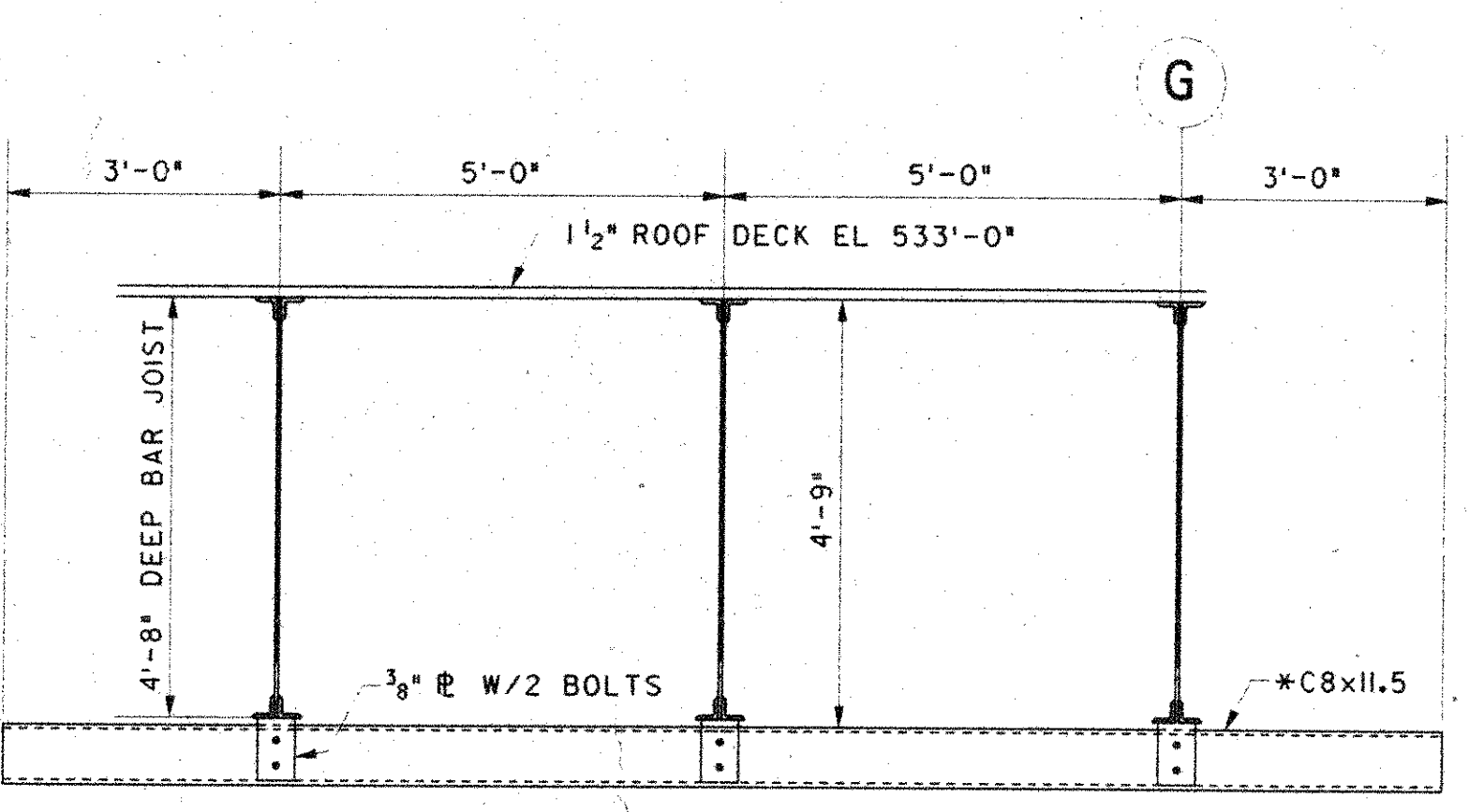


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(NOT TO SCALE)

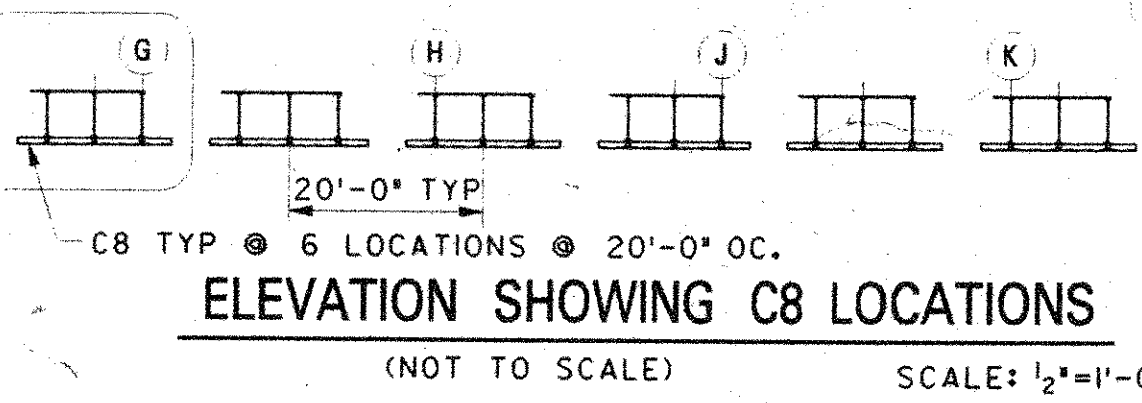
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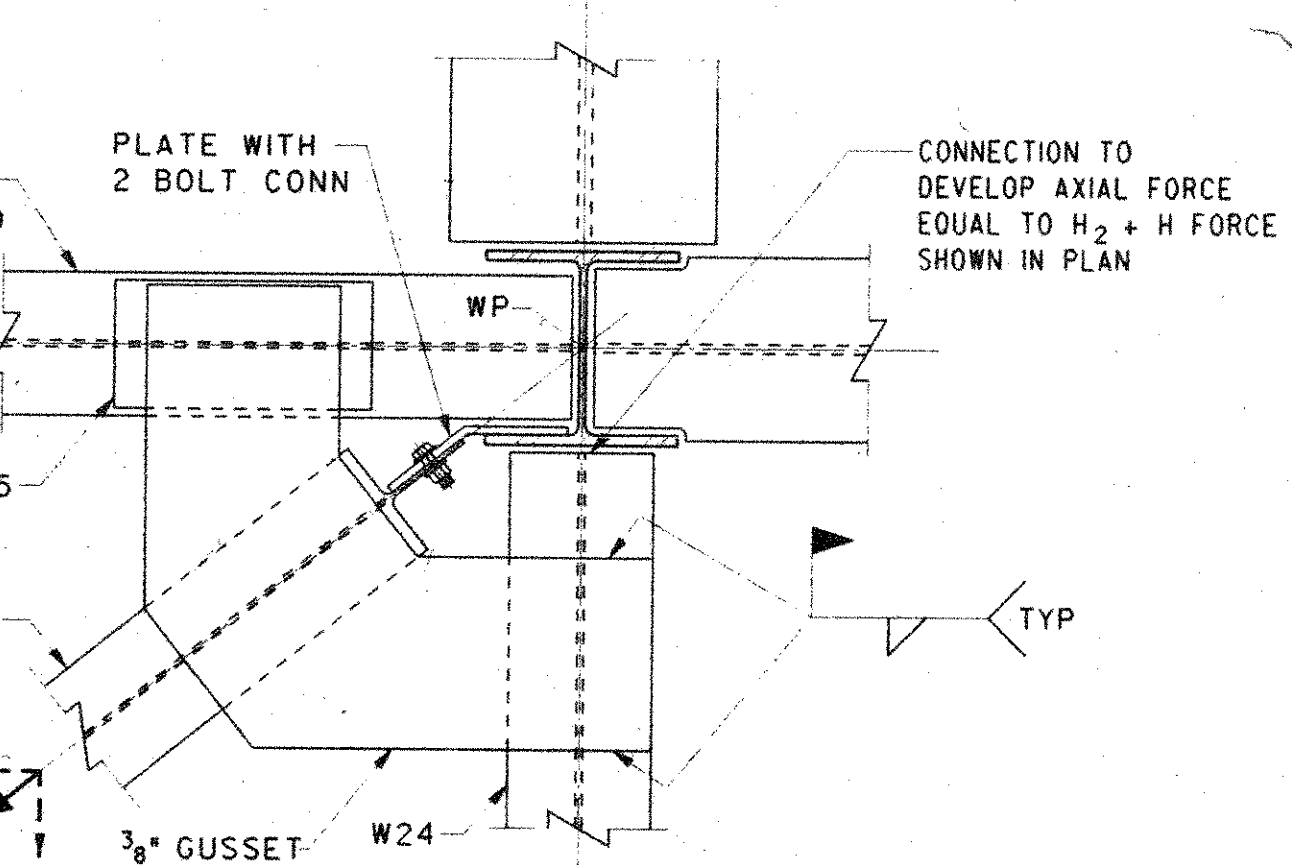


PARTIAL JOIST ELEVATION
(NOT TO SCALE)



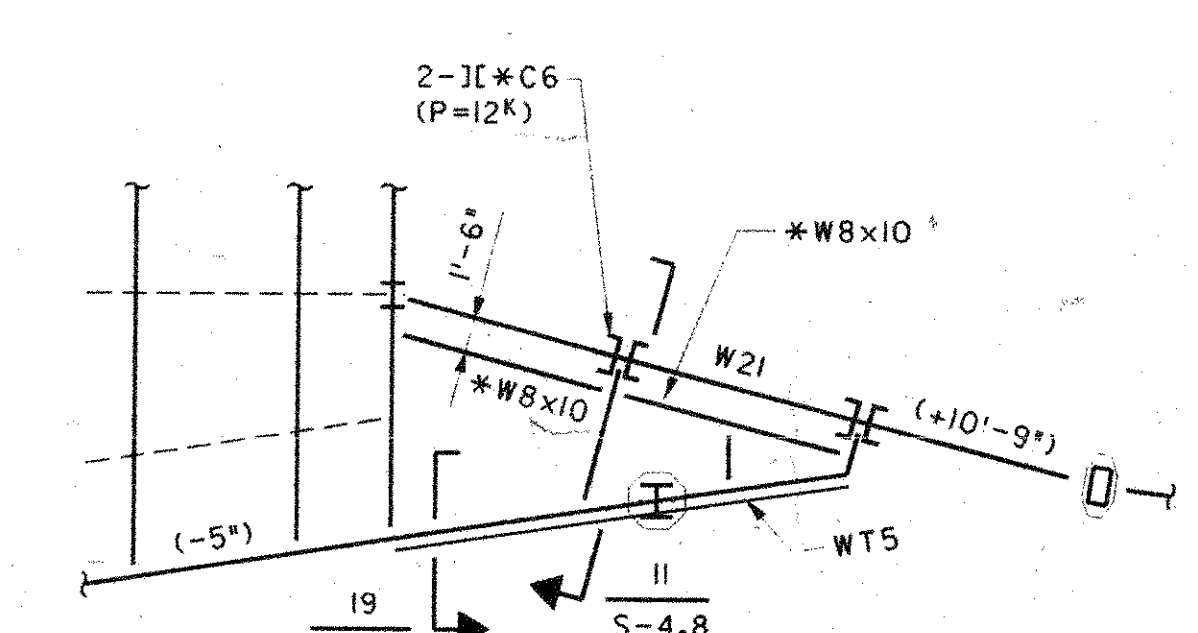
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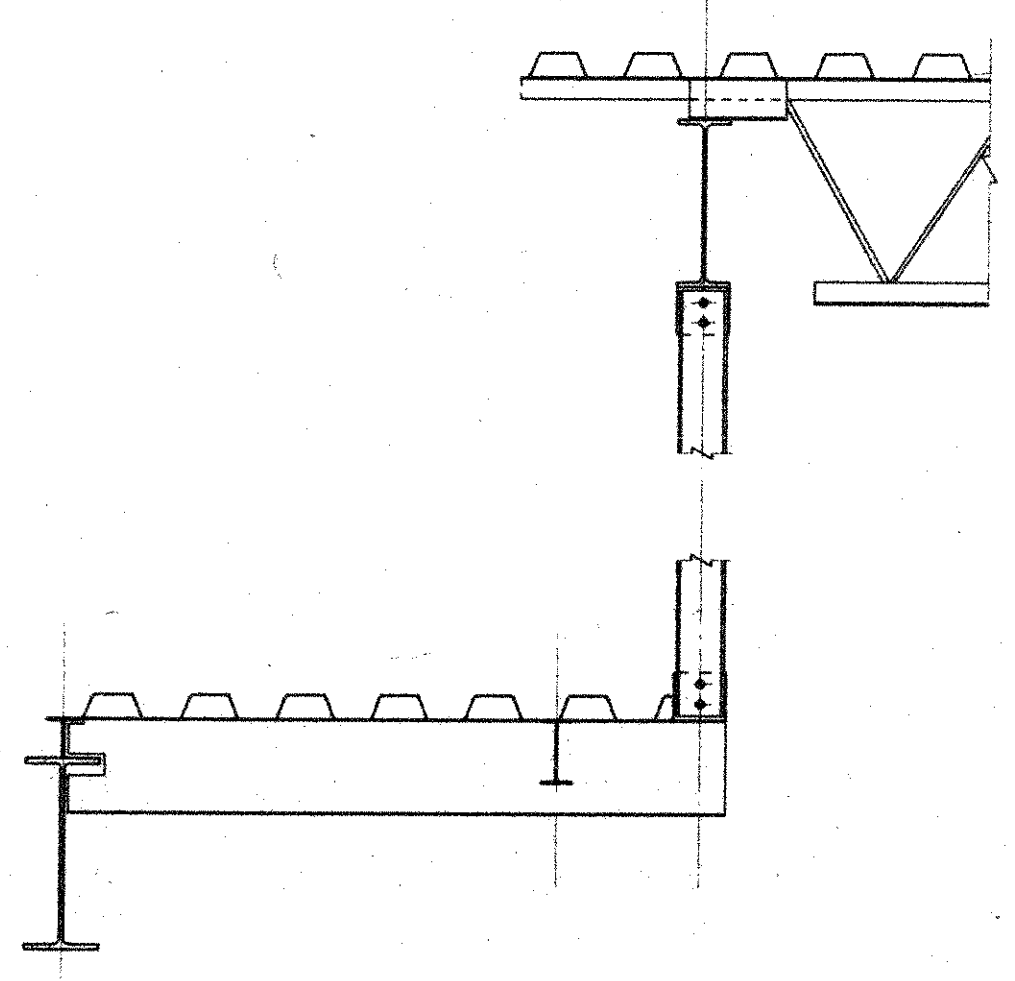
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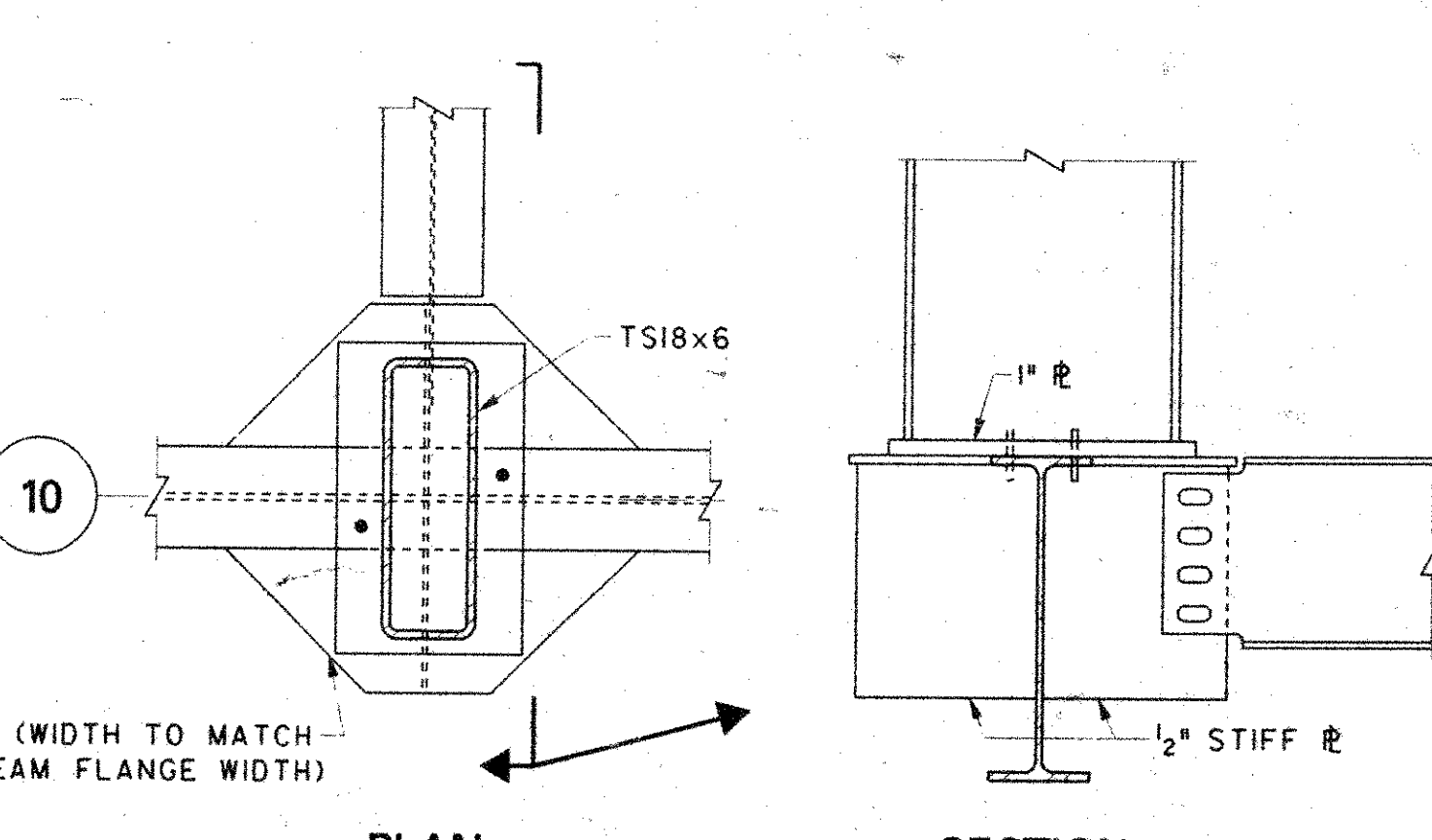
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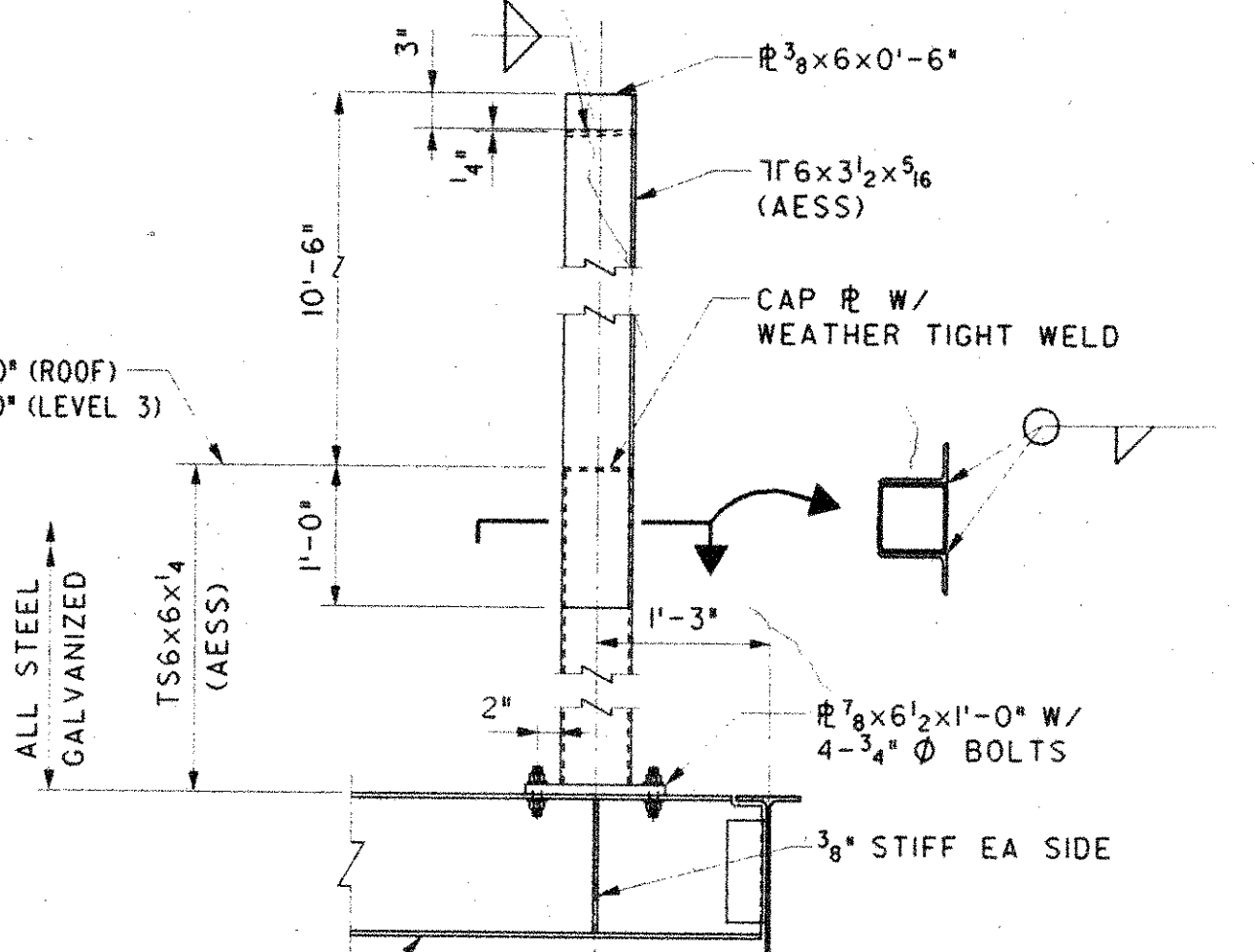
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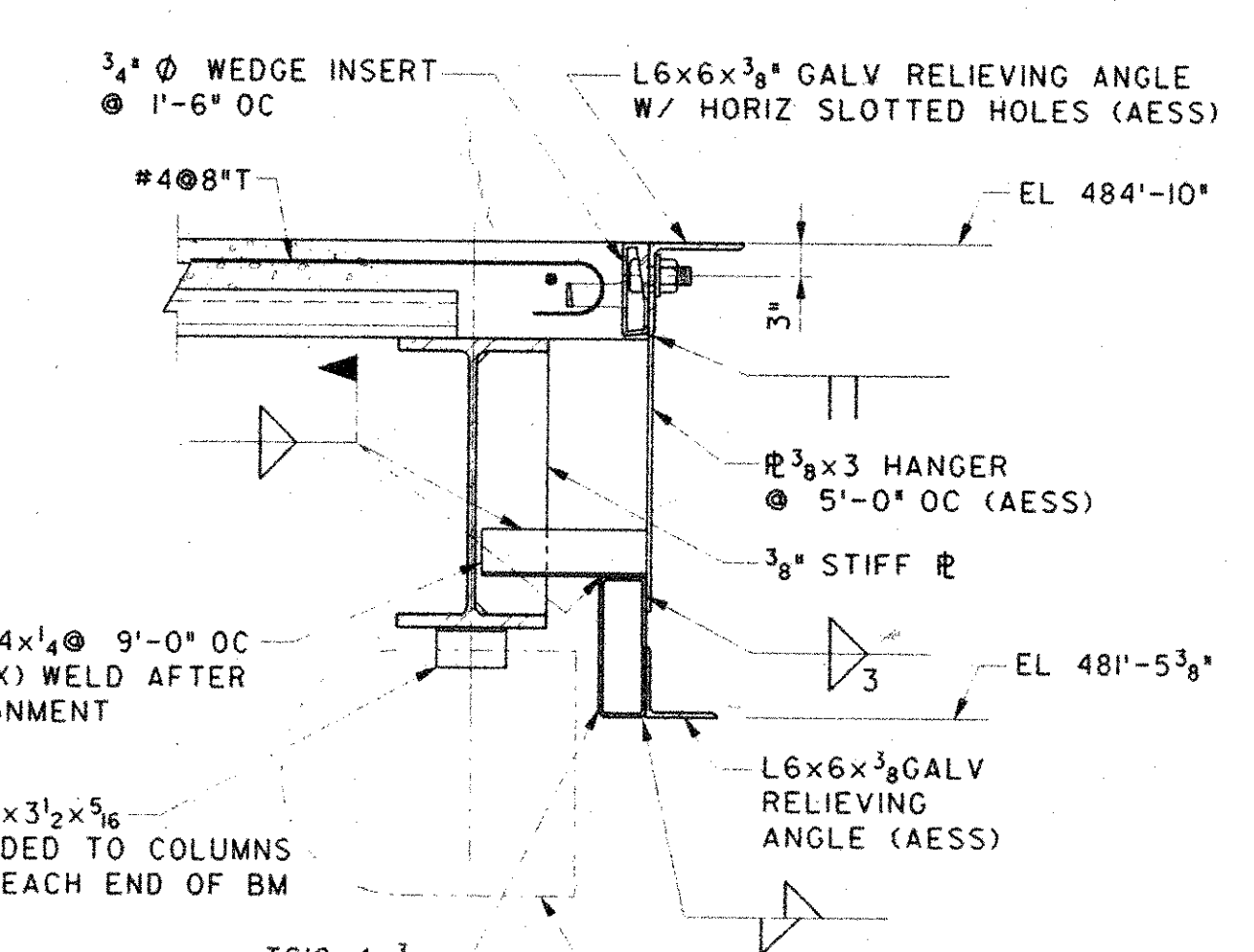
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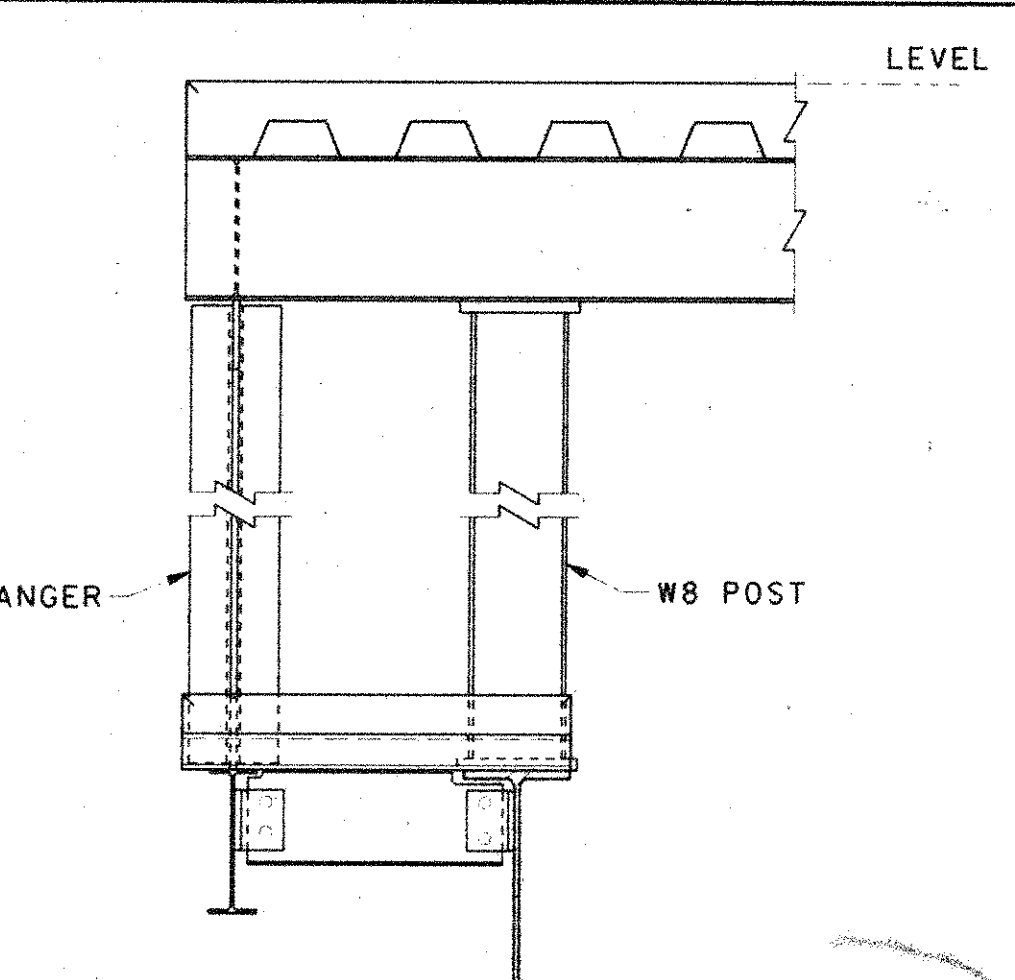
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16



SCALE: 3/4\"/>

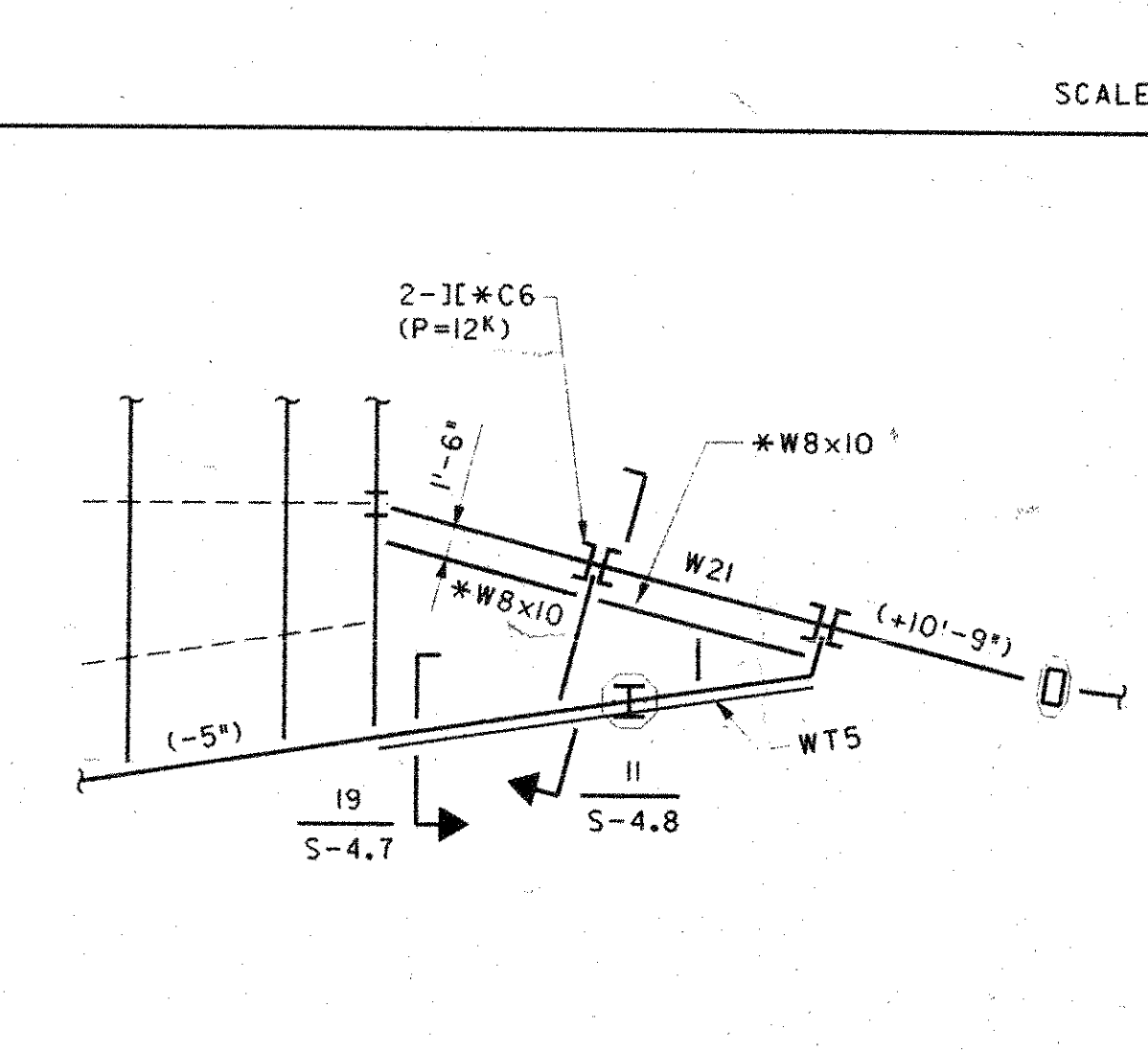
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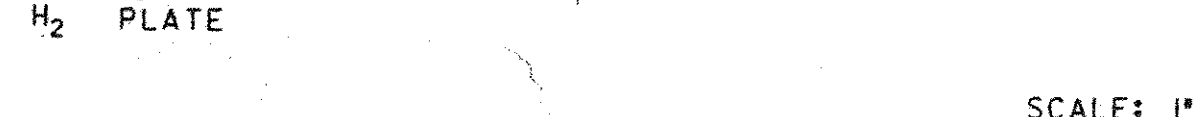
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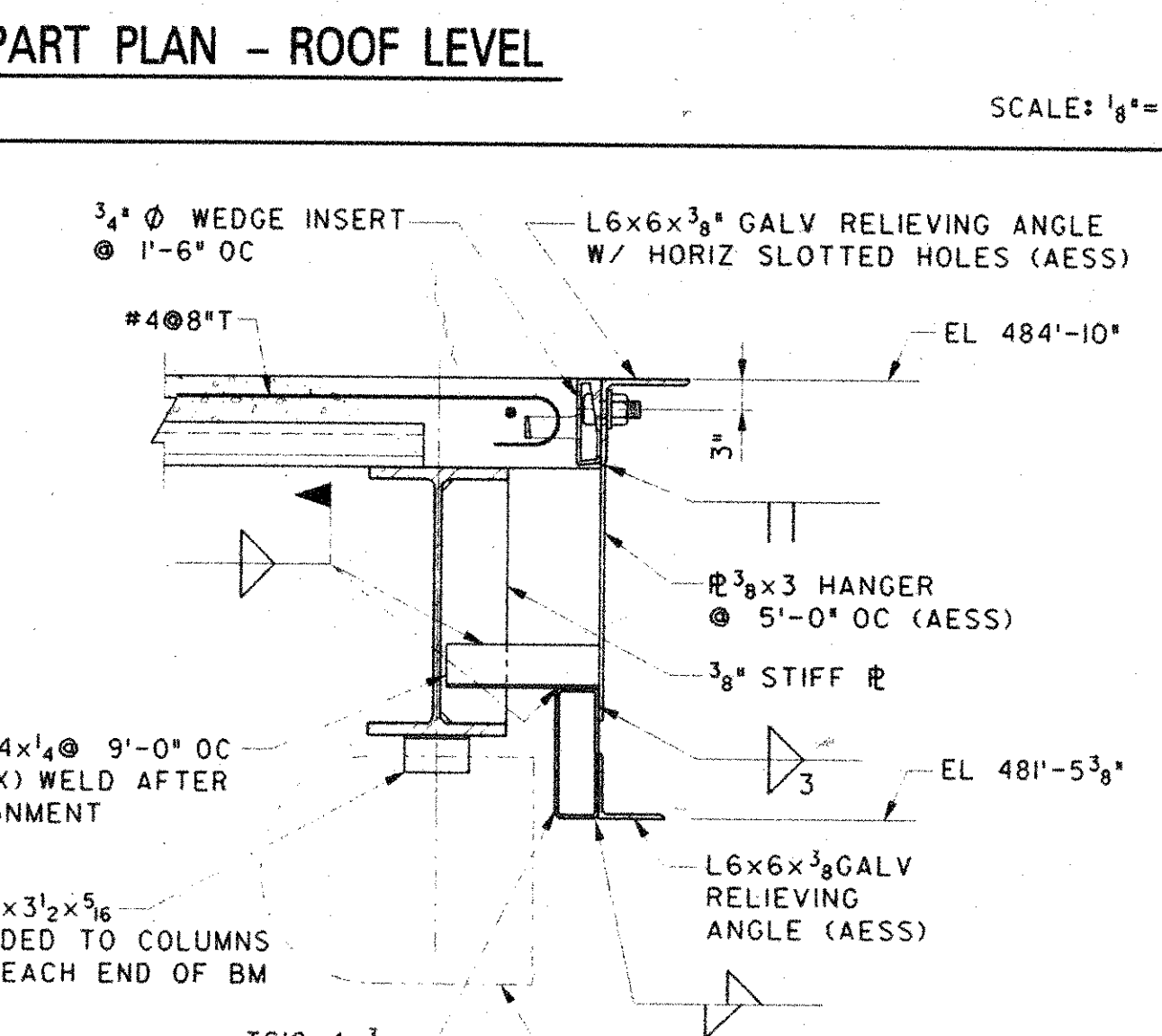
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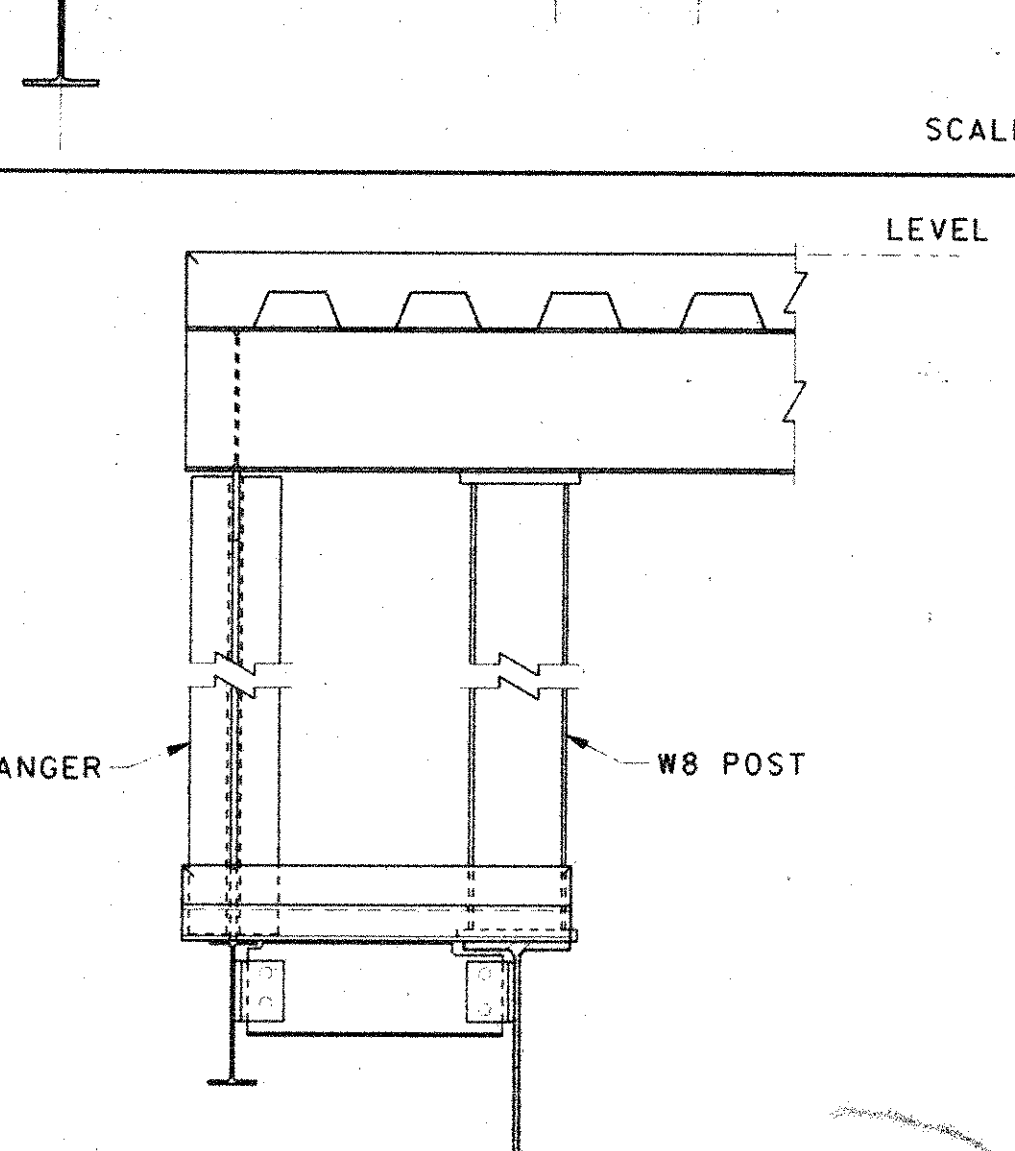
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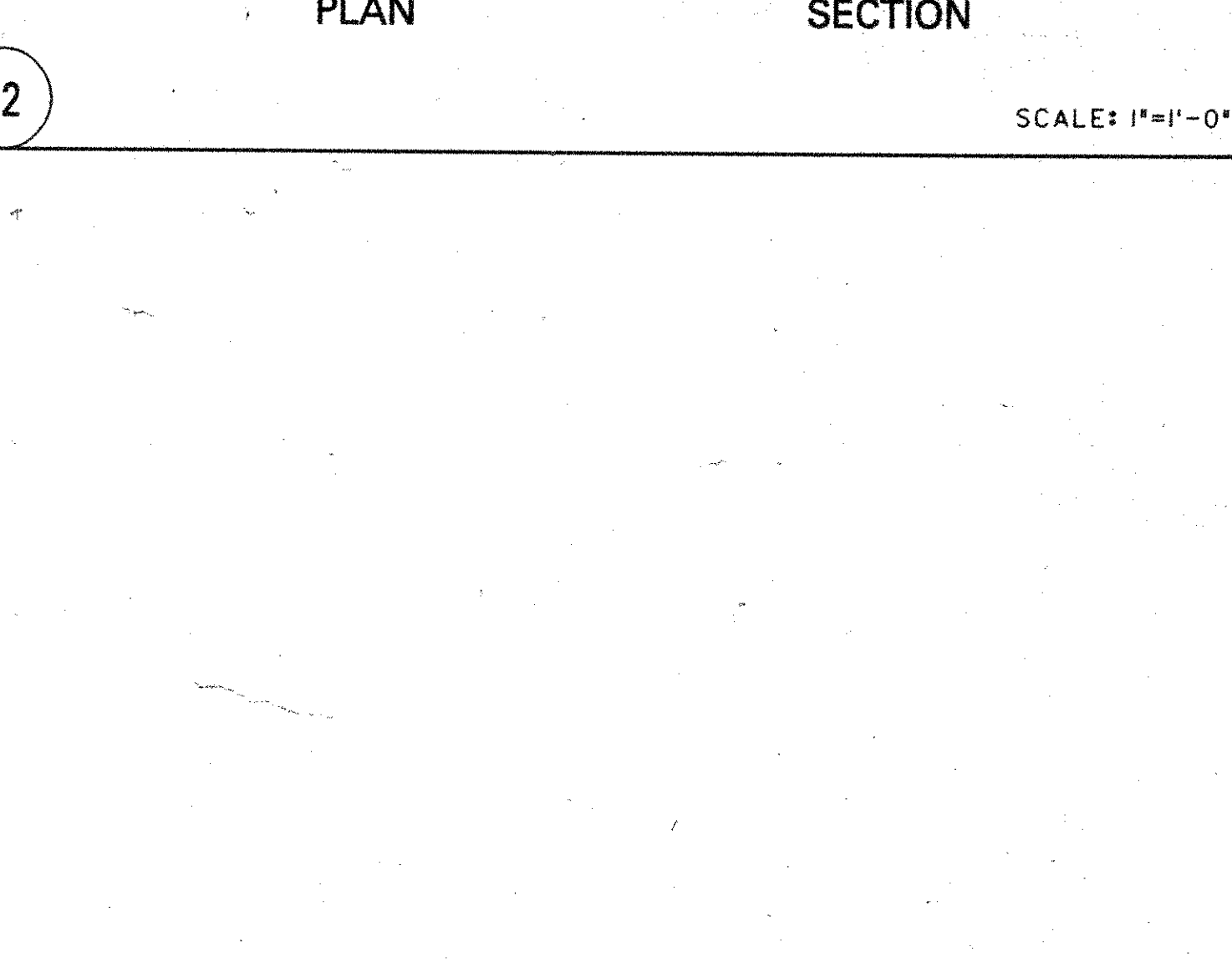
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16



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617 423-0100

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CAMBRIDGE, MASSACHUSETTS 02238
TEL: (617) 861-1200 FAX: (617) 861-7520

SCALE: AS NOTED JOB NO.: 3249
DRAWN BY: EAM CHECKED BY: PJC
PROJECT:

WORCESTER
CONVENTION
CENTER
CONSTRUCTION DRAWINGS

SECTIONS AND DETAILS

DATE: 19 MAY 95 SECTION: S DRAWING NO.: 4.8



Project No.: 93055C
Report No.: 05033
Date: 5/3/2023

**COMPRESSIVE STRENGTH OF
CONCRETE CORED TEST SPECIMENS (ASTM C-42)**

Client:	City of Worcester 50 Officer Manny Familia Way Worcester, MA 01605	Project:	DCU Center Coring Commercial St Worcester, MA
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DESIGN DATA:	Specified Strength (f'c):	Unknown psi	Mix No.:	Unknown
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FIELD & LAB:	Date Recieved:	4/24/2023	Time Sampled:	n/a
	Sampled By:	JR & AC	Slump:	n/a
	Truck Number:	n/a	Air Content:	n/a
	Ticket Number:	n/a	Concrete Temperature:	n/a
	Time Batched:	n/a	No. of Cores Sampled:	10
	Quantity of Load:	n/a	Ambient Temperature:	n/a
	Water Added at Site:	n/a	Weather Conditions:	n/a
	Contractor:	n/a	Admixture:	n/a
	Supplier:	n/a		
	Location of Placement:	Client supplied locations (see attached)		

TESTING RESULTS:	Date Tested	Core No.	Weight (lbs)	L/D	Specimen X-sect. Area (in. ²)	Max Compressive Load (lbs.)	Test Compressive Strength (psi)	Corrected Compressive Strength (psi)
	5/3/2023	C6	5.9	1.54	11.70	69,956	5,981	5,740
	5/3/2023	C7	4.8	1.26	11.70	82,655	7,067	6,570
	5/3/2023	C8	6.3	1.65	11.70	72,215	6,174	5,990
							Average	6,100

REMARKS:

The cores were tested in accordance with ASTM C-42 (Specimens were sealed in plastic bags and kept from additional moisture for at least 5 days after trimming and sulfur capped)

ACI 318-5.6.5.4 (Building Code Requirements for Structural Concrete) - Concrete in an area represented by core tests shall be considered structurally adequate if the average of three cores is equal to at least 85 percent of f'c and if no single core is less than 75 percent of f'c. Additional testing of cores extracted from locations represented by erratic core strength results shall be permitted.

NOTES: All concrete was placed more than 28 days prior

Reviewed by: Scott M. Mensen, P.E., P.G.



Project No.: 93055C
Report No.: 05033
Date: 5/3/2023

TESTING

RESULTS:

Date Tested	Sample ID	L/D	Specimen X-sect. Area (in. ²)	Max Compressive Load (lbs.)	Test Compressive Strength (psi)	Corrected Compressive Strength (psi)
5/3/2023	C6	1.54	11.70	69956	5981	5740
5/3/2023	C7	1.26	11.70	82655	7067	6570
5/3/2023	C8	1.65	11.70	72215	6174	5990

MEASURE:

Core Number	Weight (lbs)	Cut Length w/ Cap	Ave. Diameter	L/D	Correction Factor	Density (pcf)
C6	5.9	5.95	3.86	1.54	0.96	146.5
C7	4.8	4.85	3.86	1.26	0.93	146.2
C8	6.3	6.35	3.86	1.65	0.97	146.6

Thornton Tomasetti

DCU CONVENTION CENTER
CORE PLAN
SSK-001A

Date: 3/31/2023
By: JG
Ref:

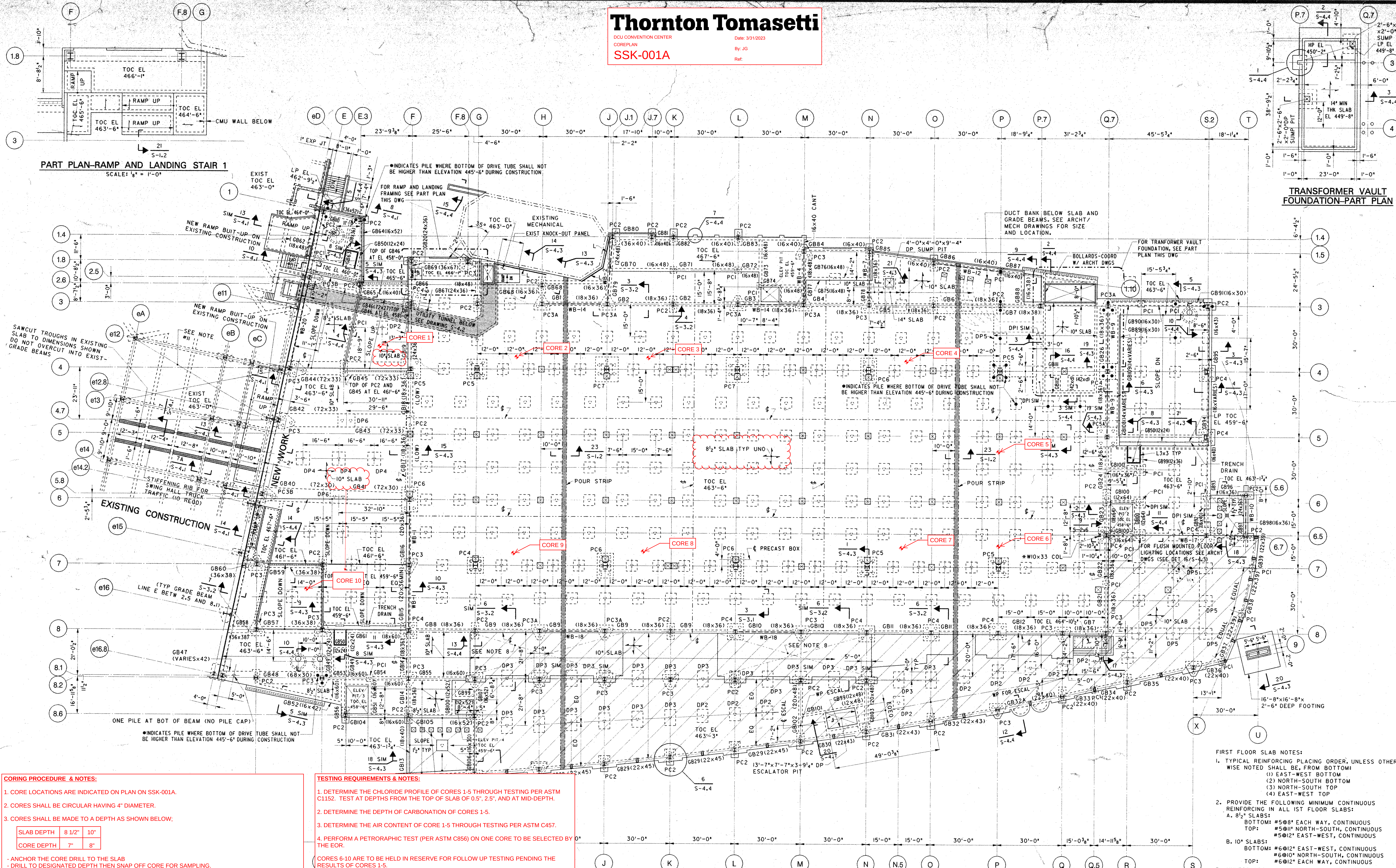
PDR&P

TVS&A

PART PLAN-RAMP AND LANDING STAIR 1

SCALE: 1/4" = 1'-0"

TRANSFORMER VAULT FOUNDATION-PART PLAN



CORING PROCEDURE & NOTES:

1. CORE LOCATIONS ARE INDICATED ON PLAN ON SSK-001A.
2. CORES SHALL BE CIRCULAR HAVING 4" DIAMETER.
3. CORES SHALL BE MADE TO A DEPTH AS SHOWN BELOW:

SLAB DEPTH	8 1/2"	10"
CORE DEPTH	7"	8"

- ANCHOR THE CORE DRILL TO THE SLAB
- DRILL TO DESIGNATED DEPTH THEN SNAP OFF CORE FOR SAMPLING.
- DO NOT EXCEED SPECIFIED CORE DEPTH

4. CORES SHALL BE EXTRACTED INTACT WITH NO BREAKAGE, CRACKING, OR SPALLING.

5. CORE LOCATIONS AS INDICATED ON PLAN ARE APPROXIMATE. ACTUAL CORE LOCATIONS SHALL BE CONFIRMED ON SITE BY TT. CORES SHALL BE POSITIONED TO MISS EXISTING REBAR AND EMBEDDED CONDUITS.

6. EXTRACTED CORES SHALL BE MARKED AND LABELED BY TT PRIOR TO SHIPPING TO THE TESTING LABORATORY.

7. THE CLIENT'S CONTRACTOR SHALL GATHER AND PREPARE THE CORES FOR SHIPPING TO THE TESTING LABORATORY. EACH INDIVIDUAL CORE SHALL BE WRAPPED COMPLETELY IN AT LEAST THREE (3) LAYERS OF PLASTIC BUBBLE WRAP AND SEALED WITH TAPE. THE WRAPPED CORES SHALL BE PACKAGED IN HEAVY DUTY PLASTIC CONTAINERS FOR SHIPPING. CLIENT'S CONTRACTOR SHALL ENSURE THAT THE CORES ARE PROPERLY PACKAGED TO PREVENT BREAKAGE DURING SHIPPING TO THE TESTING LABORATORY.

8. REPAIR CORE HOLES WITH NON-METALLIC NON-SHRINK GROUT, 5000 PSI MINIMUM (SUBMIT FOR REVIEW AND APPROVAL BY EOR).

TESTING REQUIREMENTS & NOTES:

1. DETERMINE THE CHLORIDE PROFILE OF CORES 1-5 THROUGH TESTING PER ASTM C1152. TEST AT DEPTHS FROM THE TOP OF SLAB OF 0.5", 2.5", AND AT MID-DEPTH.
2. DETERMINE THE DEPTH OF CARBONATION OF CORES 1-5.
3. DETERMINE THE AIR CONTENT OF CORE 1-5 THROUGH TESTING PER ASTM C457.

4. PERFORM A PETROGRAPHIC TEST (PER ASTM C856) ON ONE CORE TO BE SELECTED BY THE EOR.

CORES 6-10 ARE TO BE HELD IN RESERVE FOR FOLLOW UP TESTING PENDING THE RESULTS OF CORES 1-5.

Thornton Tomasetti

DCU CONVENTION CENTER
CORE PLAN
SSK-001A

Date: 3/31/2023
By: JG
Ref:

FOR SLAB REINFORCING SEE DRAWINGS S-2.1A, S-2.1B AND S-2.1C

FIRST FLOOR SLAB NOTES:

1. TYPICAL REINFORCING PLACING ORDER, UNLESS OTHERWISE NOTED SHALL BE, FROM BOTTOM:
 - (1) EAST-WEST BOTTOM
 - (2) NORTH-SOUTH BOTTOM
 - (3) NORTH-SOUTH TOP
 - (4) EAST-WEST TOP
2. PROVIDE THE FOLLOWING MINIMUM CONTINUOUS REINFORCING IN ALL 1ST FLOOR SLABS:
 - A. 8" SLABS:
 - BOTTOM: #5@8" EACH WAY, CONTINUOUS
 - TOP: #5@12" NORTH-SOUTH, CONTINUOUS
 - #5@12" EAST-WEST, CONTINUOUS
 - B. 10" SLABS:
 - BOTTOM: #6@12" EAST-WEST, CONTINUOUS
 - #6@10" NORTH-SOUTH, CONTINUOUS
 - #6@12" EACH WAY, CONTINUOUS
3. UNLESS OTHERWISE SHOWN, ALL ADDITIONAL SLAB REINFORCING SHALL BE #5 BARS.
4. PROVIDE ADDITIONAL REINFORCING SPACED UNIFORMLY IN COLUMN STRIPS OR MIDDLE STRIPS WHERE NOTED ON DRAWINGS S-2.1A, S-2.1B & S-2.1C. NOTE THAT THE PLANS SHOW ONLY THESE BARS WHICH ARE ADDITIONAL TO THE MINIMUM REINFORCING CALLED FOR IN THE NOTES ABOVE.

GENERAL NOTES

1. PC2, ETC., INDICATES PILE CAP TYPE, SEE DWG S-3.
2. FOR TOP OF PILE CAP ELEVATIONS SEE DETAILS 4 AND 5 ON DRAWING S-3.1.
3. DPI, ETC., INDICATES DROP PANEL TYPE, SEE DETAIL 3 ON DRAWING S-3.1.
4. GB-1, ETC., INDICATES GRADE BEAM TYPE. FOR REINFORCEMENT SEE SCHEDULE ON DWG S-3.2. (16x40), ETC., INDICATES GRADE BEAM SIZE. (WIDTH x DEPTH), SEE DETAILS ON DWG S-3.2.
5. FOR REINFORCED CONCRETE PIER LOCATIONS SEE DETAIL 5 ON DRAWING S-3.1.
6. H INDICATES COLUMN STARTS.
7. WB-1, ETC., INDICATES VERTICAL PLANE DIAGONAL BRACING LOCATIONS. SEE DRAWING S-3.5.
8. INDICATES AREAS WHERE TOPPING SLAB PITCHES TO DRAINS. FOR LOCATIONS SEE ARCHT DRAWINGS.
9. FOR GRID LOCATIONS NOT SHOWN SEE DWG S-2.2.
10. INDICATES LIMITS OF 3" SLAB DEPRESSION.
11. EXISTING 6" STRUCTURAL SLAB ON GRADE. MAXIMUM LIVE LOAD = 150 PSF. MAXIMUM CONCENTRATED LOAD = 6000#.
12. PLACE CONCRETE IN SHRINKAGE CONTROL POUR STRIPS NO SOONER THAN 60 DAYS AFTER CONCRETE PLACEMENT IS COMPLETED ON BOTH SIDES. CARE SHALL BE EXERCISED IN THE FINISHING PROCESS TO INSURE SLAB ALIGNMENT ACROSS THE POUR STRIPS.
13. ELEVATOR PIT LOADS ARE BASED UPON INFORMATION SUPPLIED BY BAY STATE ELEVATOR COMPANY, INC. ESCALATOR OPENINGS, LOCATIONS, DETAILS, AND SUPPORT REACTIONS ARE BASED UPON INFORMATION SUPPLIED BY O&K ESCALATORS, INC. ALTERNATE PROPOSALS BY THE CONTRACTOR SHALL INCLUDE REVISED FRAMING AND DESIGN LOADS SUBJECT TO REVIEW OF THE ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.

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WORCESTER
CONVENTION
CENTER

CONSTRUCTION DRAWINGS

LEVEL 1 FRAMING PLAN

19 MAY 95

S

2.1