

# GENERAL NOTES - STRUCTURAL

## DIVISION 1 - GENERAL

- A. THE FOLLOWING GENERAL NOTES APPLY TO ALL DRAWINGS, UNLESS SPECIFICALLY SHOWN OR NOTED.
  - B. ALL WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE 2006 INTERNATIONAL BUILDING CODE (IBC) AND MONO COUNTY ORDINANCES.
  - C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE BUILDING DURING CONSTRUCTION.
1. THE FOUNDATION HAS BEEN DESIGNED FOR 2,500 PSF, IN ACCORDANCE WITH GEOTECHNICAL INVESTIGATION DATED MARCH 4, 2010 BY SIERRA GEOTECHNICAL SERVICES, INC. AT THE COMPLETION OF THE CLEARING AND STRIPPING AND PRIOR TO PLACING ANY FILLS, THE GEOTECHNICAL ENGINEER SHALL VISIT THE SITE TO OBSERVE INSITU SOILS.

## 02200 - EARTHWORK

- A. REFER TO GEOTECHNICAL INVESTIGATION APPENDIX D FOR SITE PREPARATION, FILLING, AND GRADING.
- B. DO NOT BEGIN EARTHWORK UNDER THE BUILDING UNTIL THE GEOTECHNICAL ENGINEER HAS OBSERVED THE INSITU SOILS. REFER TO DIVISION 1 NOTES ABOVE.
- C. AFTER FOOTING EXCAVATION AND PRIOR TO PLACING FOOTING FORMS AND REINFORCING, RECOMPACT BOTTOM OF EXCAVATION TO 95% MAXIMUM DRY DENSITY. FOOTING SHALL BE HAND CLEANED OF LOOSE MATERIAL PRIOR TO PLACING CONCRETE.
- D. BACKFILL AROUND FOOTINGS SHALL BE PLACED IN 8-INCH LOOSE LIFTS, MOISTURE CONDITIONED TO OPTIMUM, AND COMPACTED TO 95% IN ACCORDANCE WITH ASTM D 1557. SUPPORT WALLS DURING BACKFILL OPERATIONS AND USE LIGHT COMPACTION EQUIPMENT.
- E. SLABS SHALL BE UNDERLAIN BY A 6-INCH MINIMUM LAYER OF BASE. BASE SHALL CONFORM TO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION FOR TYPE 2, CLASS B AGGREGATE BASE. BASE SHALL BE PLACED IN ONE LIFT, MOISTURE CONDITIONED TO OPTIMUM, AND COMPACTED TO 95% PER ASTM D 1557. BASE SHALL BE FINE GRADED TO REQUIRED ELEVATION, WITHIN A TOLERANCE OF  $\pm \frac{1}{2}$ -INCH TO  $\frac{1}{2}$ -INCH.
- F. PROVIDE  $\frac{1}{2}$ -INCH TO  $\frac{1}{4}$ -INCH DRAIN ROCK WITH ENGINEERING FABRIC BEHIND RETAINING WALLS PER DETAILS.
- G. MAINTAIN TEMPORARY DRAINAGE ROUTES TO PREVENT WATER FROM ACCUMULATING ON THE SITE OR IN FOUNDATION EXCAVATIONS. DO NOT PERFORM EARTHWORK DURING INCLEMENT WEATHER OR WHEN MUD, SNOW, ICE, ETC. IS PRESENT.
- H. GEOTECHNICAL ENGINEER SHALL SUPERVISE AND TEST ALL FILL, BACKFILL, AND BASE UNDER BUILDING.

## 03100 - FORMWORK

- A. DESIGN FORMS AS RECOMMENDED IN ACI 347. CONSTRUCT FORMS OF ADEQUATE STRENGTH AND STIFFNESS TO OBTAIN REQUIRED FINISHED CONCRETE SURFACE AND LINE TOLERANCES. FORMS SHALL BE TIGHT ENOUGH TO PREVENT LEAKAGE OF MORTAR FINES. USE NEW OR PROPERLY CLEANED USED FORM MATERIALS.
- B. REMOVE ALL DIRT, CHIPS, SAWDUST, RUBBISH, WATER OR ICE FROM FORM PRIOR TO PLACEMENT OF CONCRETE.
- C. ALL FOOTINGS SHALL BE FORMED.

## 03200 - CONCRETE REINFORCEMENT

- A. REINFORCEMENT SHALL BE ASTM A 615 GRADE 60. LAP SPLICES 40 DIAMETERS UNO AND TIGHTLY WIRE IN PLACE. SECURE REINFORCEMENT IN PLACE WITH CHAIRS, TIES, OR DOBIES AS RECOMMENDED IN CRSI MANUAL OF STANDARD PRACTICES. DOBIES FOR SLAB-ON-GRADE SHALL BE CAST CONCRETE CUBES, WITH WIRE TIES.
- B. PROVIDE CONTINUOUS WIRE BASKETS FOR SUPPORT OF DOWELS IN DOWELLED FLOOR JOINTS. DOWELS SHALL BE SAWCUT FROM ASTM A 36 MATERIAL AND GREASED.
- C. CONCRETE COVERAGE FOR REINFORCING STEEL SHALL BE THE CLEAR DISTANCE FROM THE FORM TO THE EXTERIOR SURFACE OF THE BAR AS FOLLOWS:
  1. FOUNDATIONS PLACED AGAINST GROUND - 3 INCHES.
  2. FORMED SURFACES EXPOSED TO GROUND OR WEATHER - 2 INCHES.
  3. FORMED SURFACES NOT EXPOSED TO GROUND OR WEATHER -  $\frac{3}{4}$  INCHES.
  4. SLAB-ON-GRADE (SEE DETAILS THIS SHEETS).

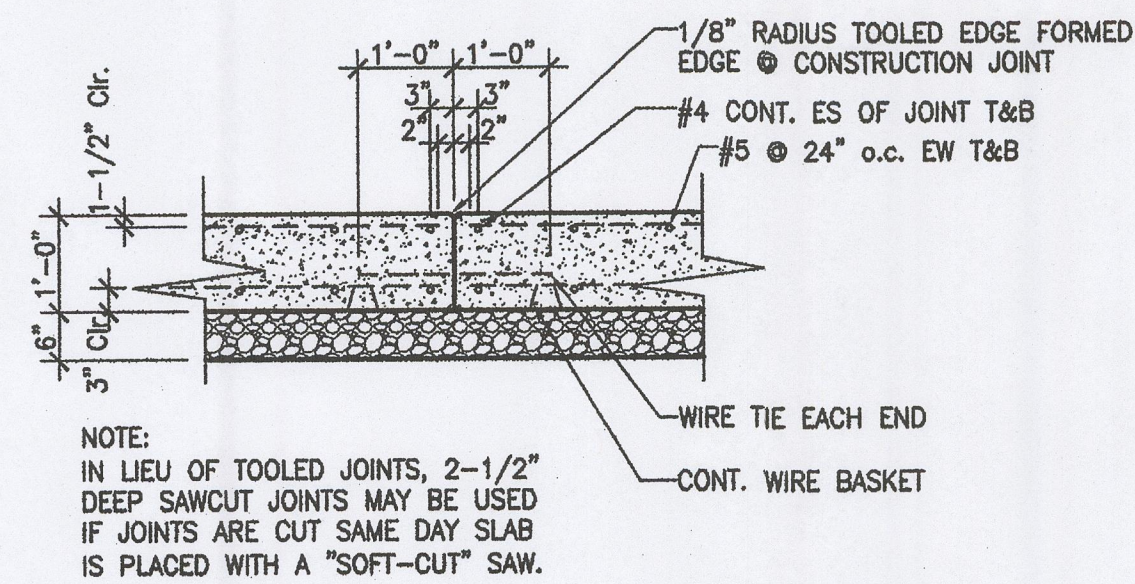
## 03300 - CAST-IN-PLACE CONCRETE

- A. CONCRETE MIX DESIGN IN ACCORDANCE WITH ASTM C 94 SHALL BE AS FOLLOWS:
 

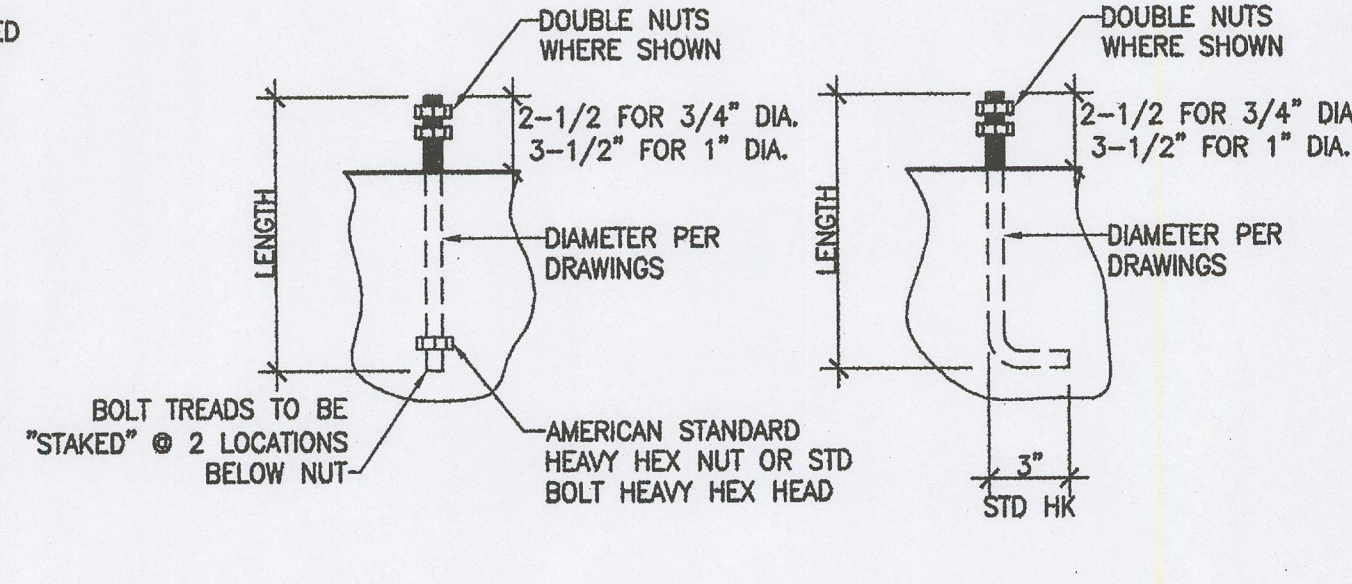
STRENGTH	AGGREGATE	CEMENT	AIR
4,000 PSI	$\frac{1}{2}$ MAX. STONE	TYPE II	6% $\pm$ 1% FOR ALL FLATWORK W/C RATIO 0.45
- B. CONCRETE SHALL BE PLACED AT THE MINIMUM PRACTICAL SLUMP NOT EXCEEDING 4-INCH FOR SLABS ON GRADE AND 6-INCH FOR FORMED WALLS. ADDITIONAL WORKABILITY AND SLUMP MAY BE OBTAINED WITH APPROVED ADMIXTURES WHICH DO NOT INCREASE WATER CONTENT OR SHRINKAGE (I.E. WATER REDUCERS OR SUPER PLASTICIZER).
- C. CLEAN AND ROUGHEN CONSTRUCTION JOINTS AND WET FORMS AND SUBGRADE PRIOR TO PLACING CONCRETE.
- D. PLACE CONCRETE USING METHODS WHICH AVOID SEGREGATION. MECHANICALLY VIBRATE ALL CONCRETE INCLUDING SLABS ON GRADE TO CONSOLIDATE IT IN FORMS.
- E. CONCRETE FINISHES:
  1. FOOTINGS - FLOAT TO A SMOOTH LEVEL SURFACE WITHIN  $\frac{1}{4}$ -INCH OF INDICATED ELEVATION.
  2. INTERIOR FLOORS - SCREED TO EVEN, LEVEL PLANE, FLOAT AND STEEL TROWEL TO A SMOOTH DENSE, HARD SURFACE.
  3. APRONS AT DOORS SHALL RECEIVE A MEDIUM BROOM FINISH.
  4. FORMED SURFACES - STRIP FORMS, PATCH LARGE HOLES OR DEFECTS, FILL SNAP TIE CONE HOLES FLUSH.
  5. ALL EXPOSED CONCRETE EDGES SHALL BE CHAMFERED  $\frac{3}{8}$ -INCH OR TOOLED TO  $\frac{1}{2}$ -INCH RADIUS.
  6. SLAB BEARING SURFACES UNDER PRE-ENGINEERED METAL BUILDING COLUMNS, SHALL BE FINISHED DEAD LEVEL.
- F. CONCRETE CURING:
  1. FRESHLY DEPOSITED CONCRETE SHALL BE PROTECTED FROM PREMATURE DRYING AND EXCESSIVE HOT OR COLD TEMPERATURES FOR A MINIMUM OF 5 DAYS.
  2. SLABS - APPLY ONE (1) COAT OF EUCLID CO. "SUPER REZ SEAL", OR EQUAL, AS SOON AS POSSIBLE AFTER FINISHING. APPLY A SECOND COAT WITHIN 24 HOURS.
- G. WEATHER PROTECTION: IN HOT WEATHER, FOLLOW ACI 305, "HOT WEATHER CONCRETING". IN COLD WEATHER, FOLLOW ACI 306 "COLD WEATHER CONCRETING".

## 05100 - STRUCTURAL METAL FRAMING

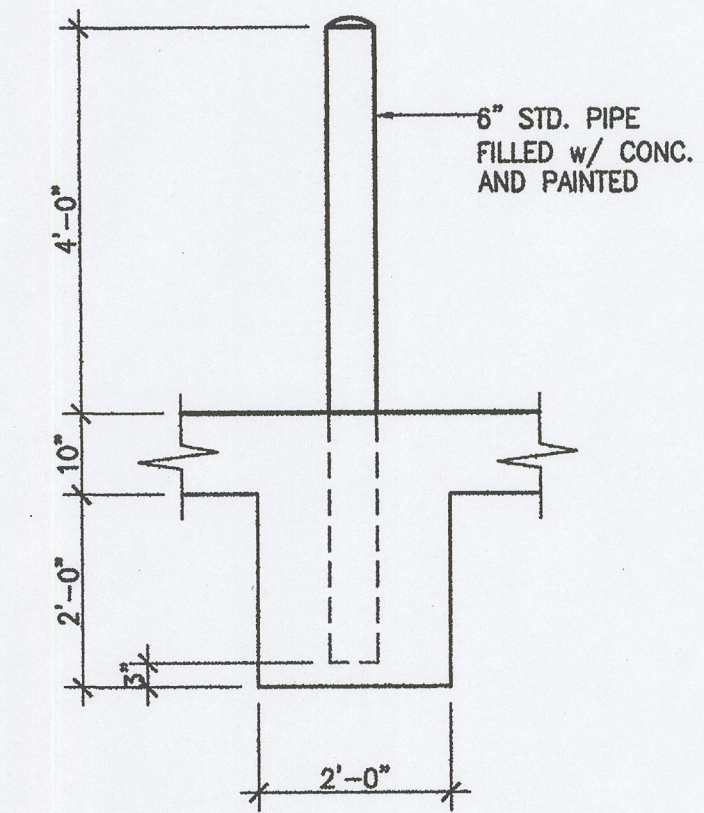
- A. ALL STRUCTURAL STEEL SHAPES AND PLATES, SHALL CONFORM TO ASTM A 36, HSS TUBE TO ASTM S 500 BOLTS (MB) TO ASTM A 307, HIGH STRENGTH BOLTS (HSB) TO ASTM A 325, AND ANCHOR BOLTS TO ASTM A 36 OR A 307.
- B. EMBEDMENT ANCHORS SHALL BE NELSON, OR EQUAL ASTM D 19 OR DEFORMED BAR ANCHORS, AUTOMATICALLY END WELDED.
- C. ALL DETAILING, FABRICATION, AND ERECTION SHALL CONFORM TO THE LATEST EDITION OF THE AISC SPECIFICATIONS.
- D. ALL STRUCTURAL AND MISCELLANEOUS STEEL WORK, EXCEPT STEEL TO BE EMBEDDED IN CONCRETE, SHALL BE SHOP PAINTED AND TOUCHED-UP IN THE FIELD AFTER ERECTION.
- E. ALL WELDING SHALL CONFORM TO AMERICAN WELDING SOCIETY'S SPECIFICATIONS FOR THE MATERIAL BEING WELDED. WELDING SHALL BE PERFORMED ONLY BY CERTIFIED WELDERS.
- F. FURNISH ANCHOR BOLTS FOR PRE-ENGINEERED METAL BUILDING SYSTEM.



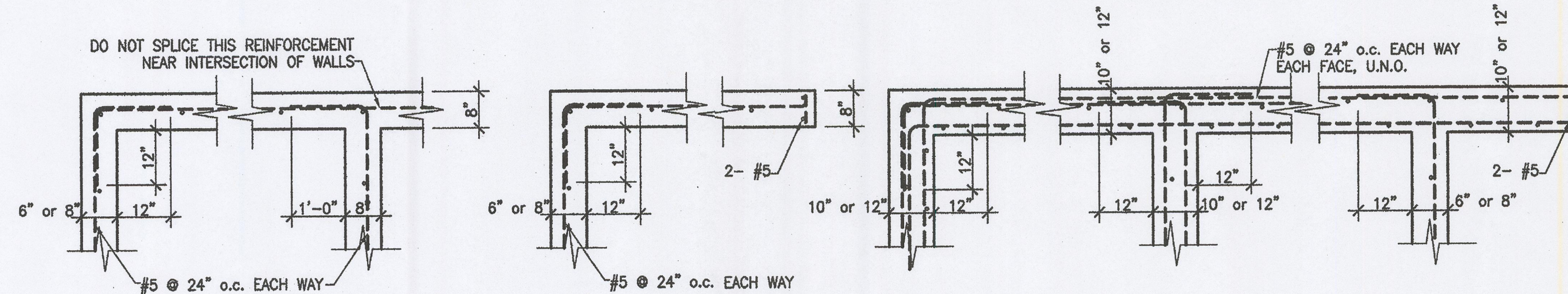
1 TYP. SLAB JOINT (JT)  
SCALE 1/2" = 1'-0"



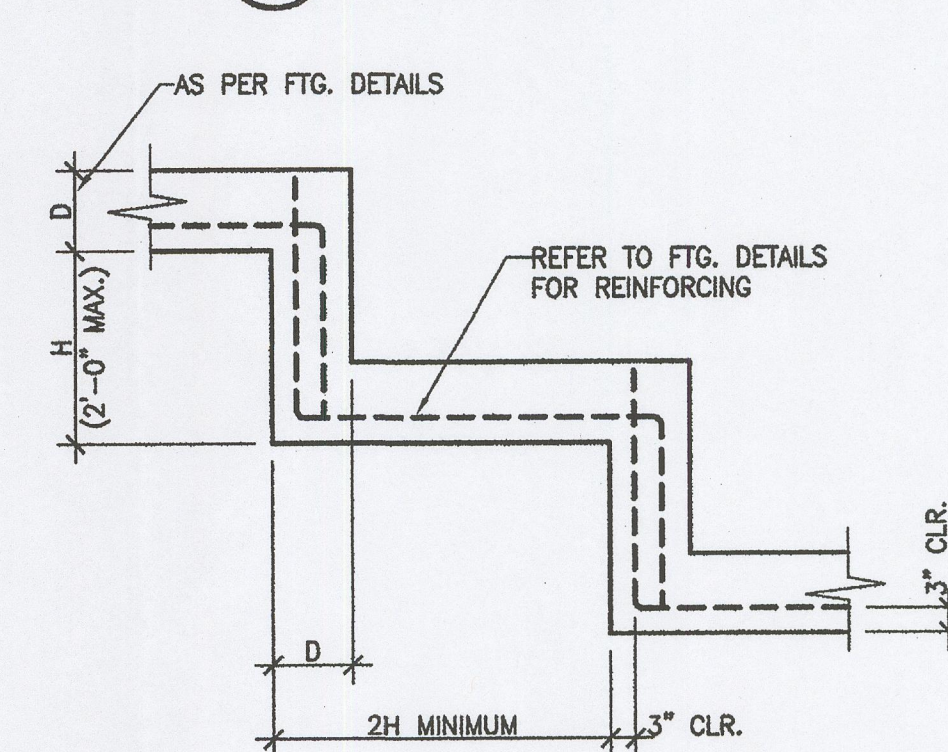
1 TYP. ANCHOR BOLT IN CONC.  
N.T.S.



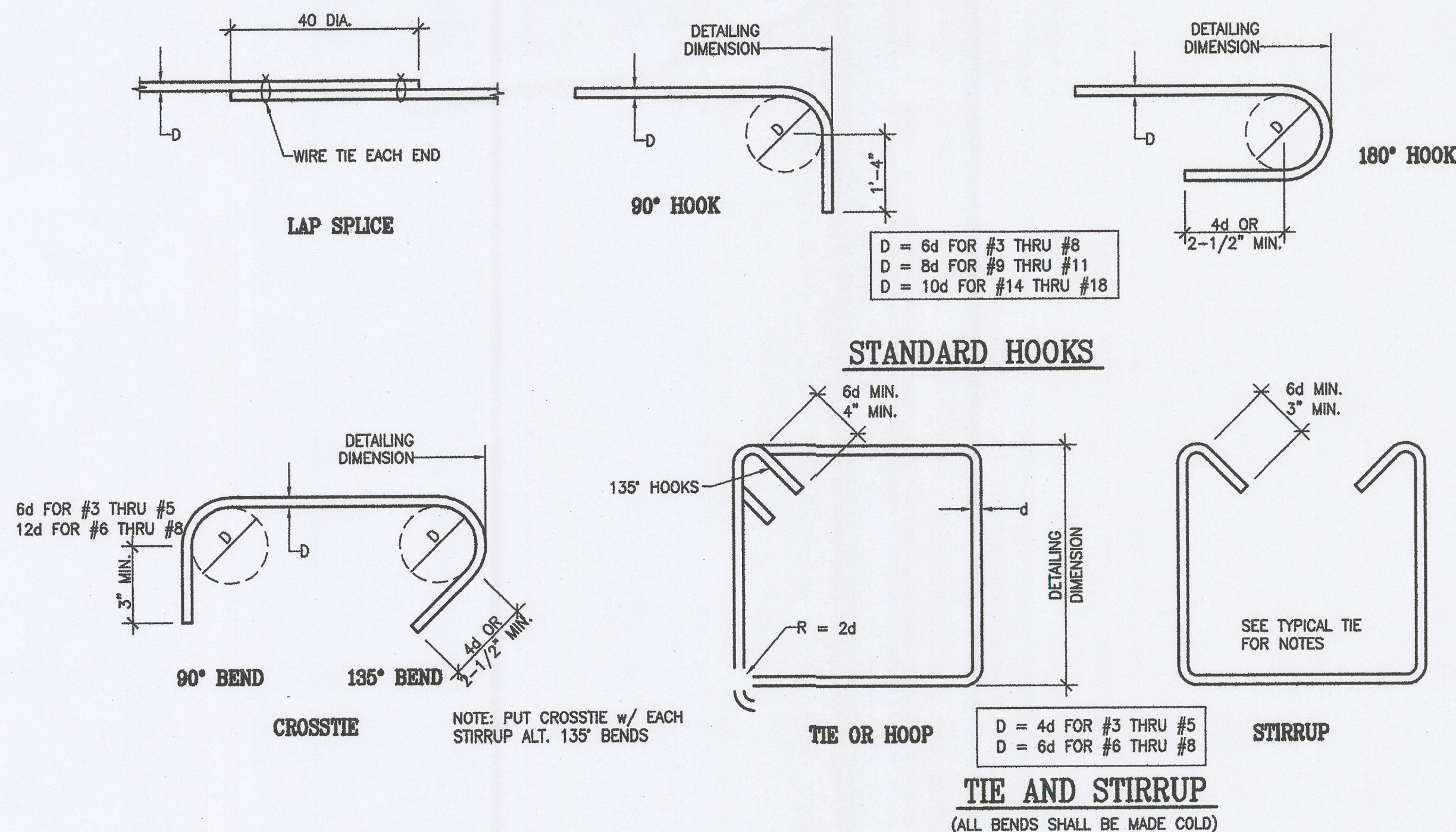
1 TYP. BOLLARD  
SCALE 1/2" = 1'-0"



1 TYPICAL WALL REINFORCING AT CORNERS AND AT OPENINGS  
SCALE 1/2" = 1'-0"



1 TYP. STEPPED FOOTING  
SCALE 1/2" = 1'-0"



1 TYP. REINFORCING DETAILS  
SCALE 1/2" = 1'-0"

## DESIGN CRITERIA

CODES:  
CALIFORNIA BUILDING CODE  
INTERNATIONAL BUILDING CODE 2006

OCCUPANCY GROUP F-1  
CONSTRUCTION TYPE II B  
GROSS AREA 9440 s.f.  
OCCUPANT LOAD 9440/300 = 31.4  
APPLIED DESIGN LOADS  
ROOF LIVE LOADS 20 #/s.f.  
SNOW LOAD  
P = 75 #/s.f. EXP C I=1 C = 1.2 C = 9  
P = .7 x .9 x 1.2 x 75 = 56.7 SAY 60 #/s.f.  
FLOOR LIVE LOAD = 100 #/s.f.  
POINT LOAD 13,000# ON 20" SQ.  
WIND V = 100 MPH  
EXP C  
I = 1  
PARTIALLY ENCLOSED  
GCPI = .55

SEISMIC  
SITE CLASS D  
S = 1.494  
SI = .546  
SMS = 1.494 (.2 SEC)  
SMI = .819 (1 SEC)  
SDS = 996 (.2 SEC)  
SD1 = .546 (1.0 SEC)  
OCC. CATEGORY II  
FDC = D

MATERIALS  
EARTH (SEE SOIL REPORT FROM SGSI DATED 3/4/10)  
BRG 2500 #/s.f.  
LAT. 33 #/s.f. ACTIVE  
50 #/s.f. AT REST  
255 #/s.f. PASSIVE  
0.25 COEF. OF FRICTION

CONCRETE  
FC = 4000 #/s.f.  
WCR = 0.5 MAX.  
SLUMP 4" MAX.  
AIR 6%  $\pm$  1% FLAT WORK ONLY  
REINF. ASTM A615 GR. 60 NG4 & LARGER, 40 SMALLER  
STRUCTURAL STEEL  
BUILDING MPGRS. STD.  
MISC. PLATES & SHAPES ASTM A36  
HSS ASTM A500 GR. B  
ANCHOR BOLTS ASTM A307

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architects + llc  
environmental designers

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Project  
D & S WASTE REMOVAL  
Mono County Transfer Station  
Highway 167, Mile Post 8  
Mono County, California  
by Christman Construction, Inc.

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sheet title  
GENERAL NOTES  
AND DETAILS

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drawn by  
B.B.

checked by  
GE

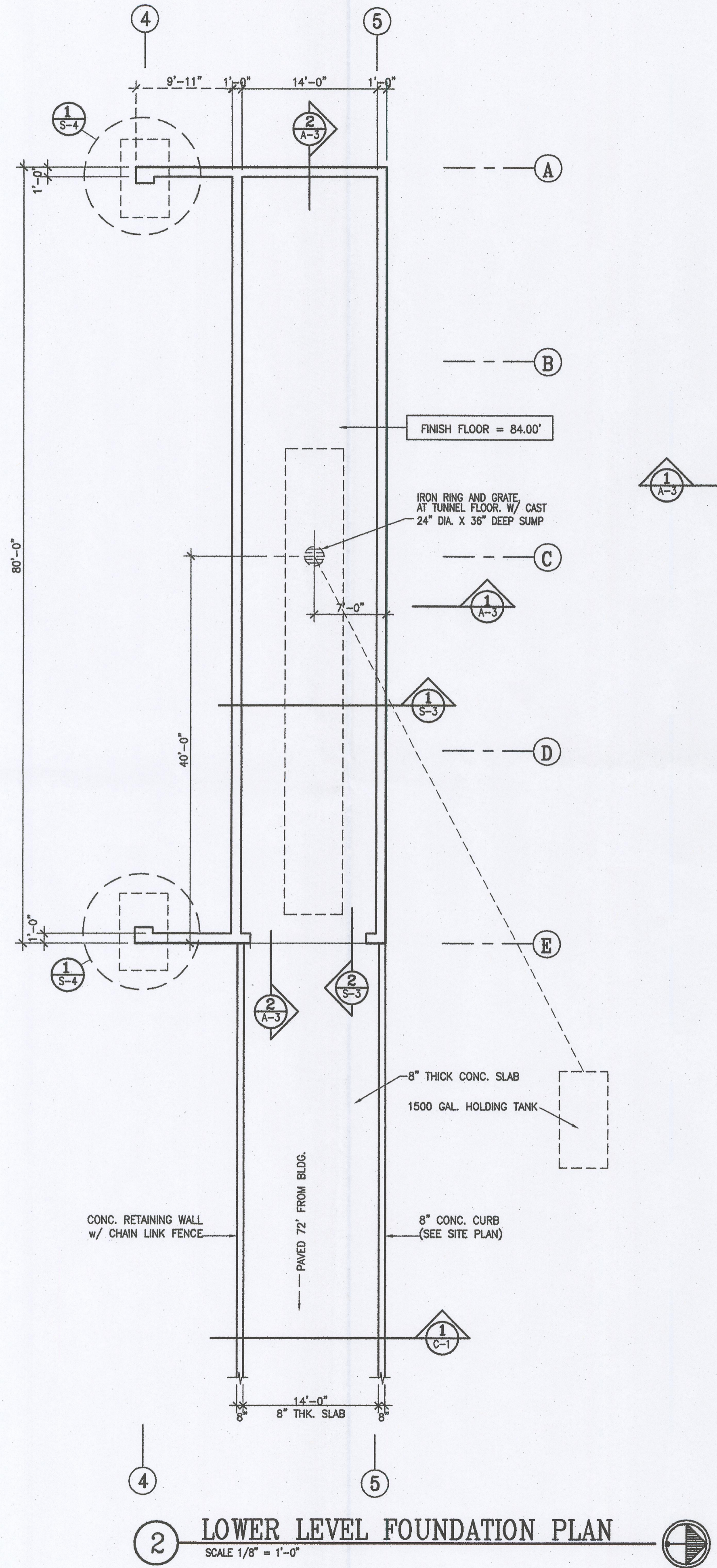
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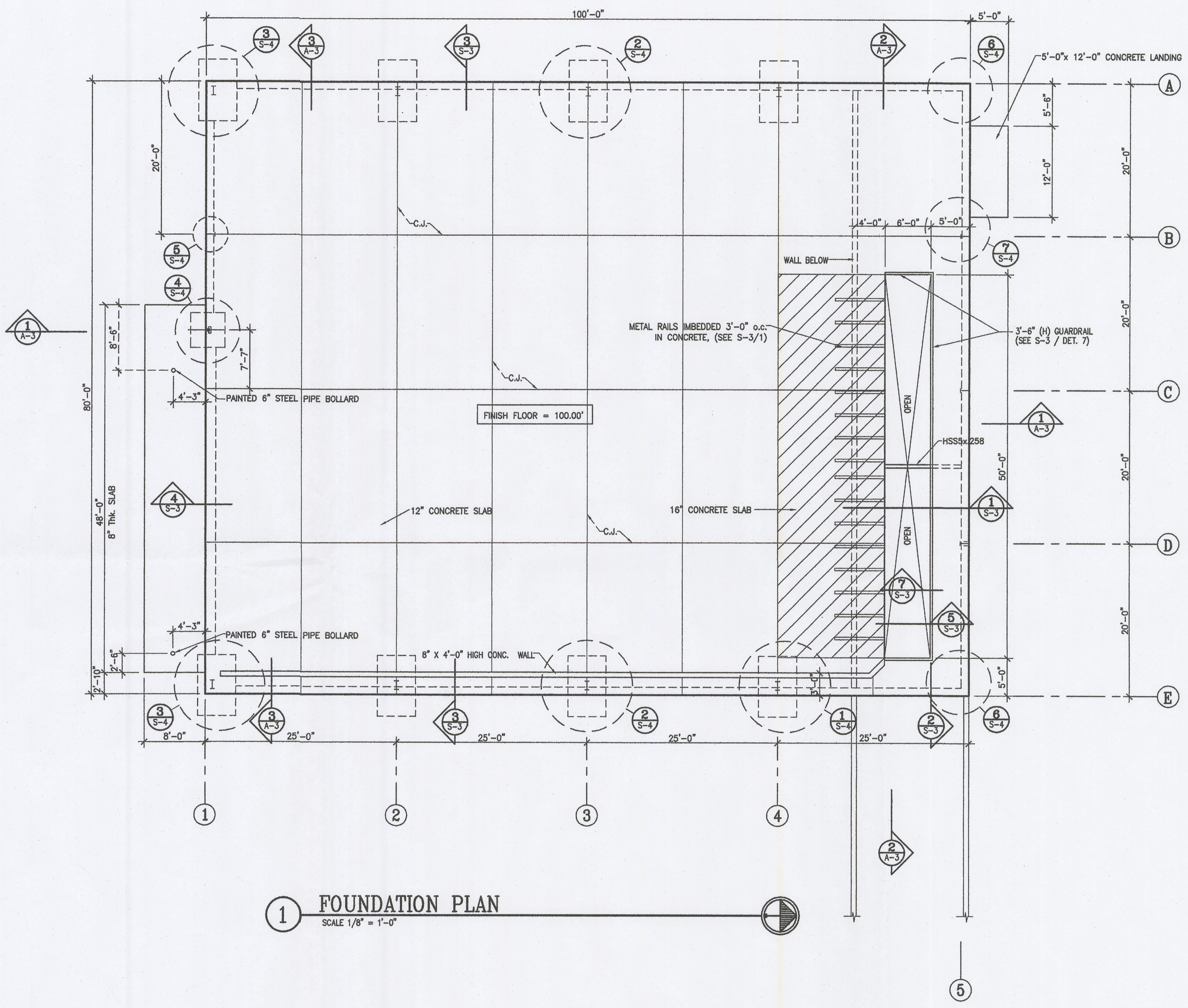
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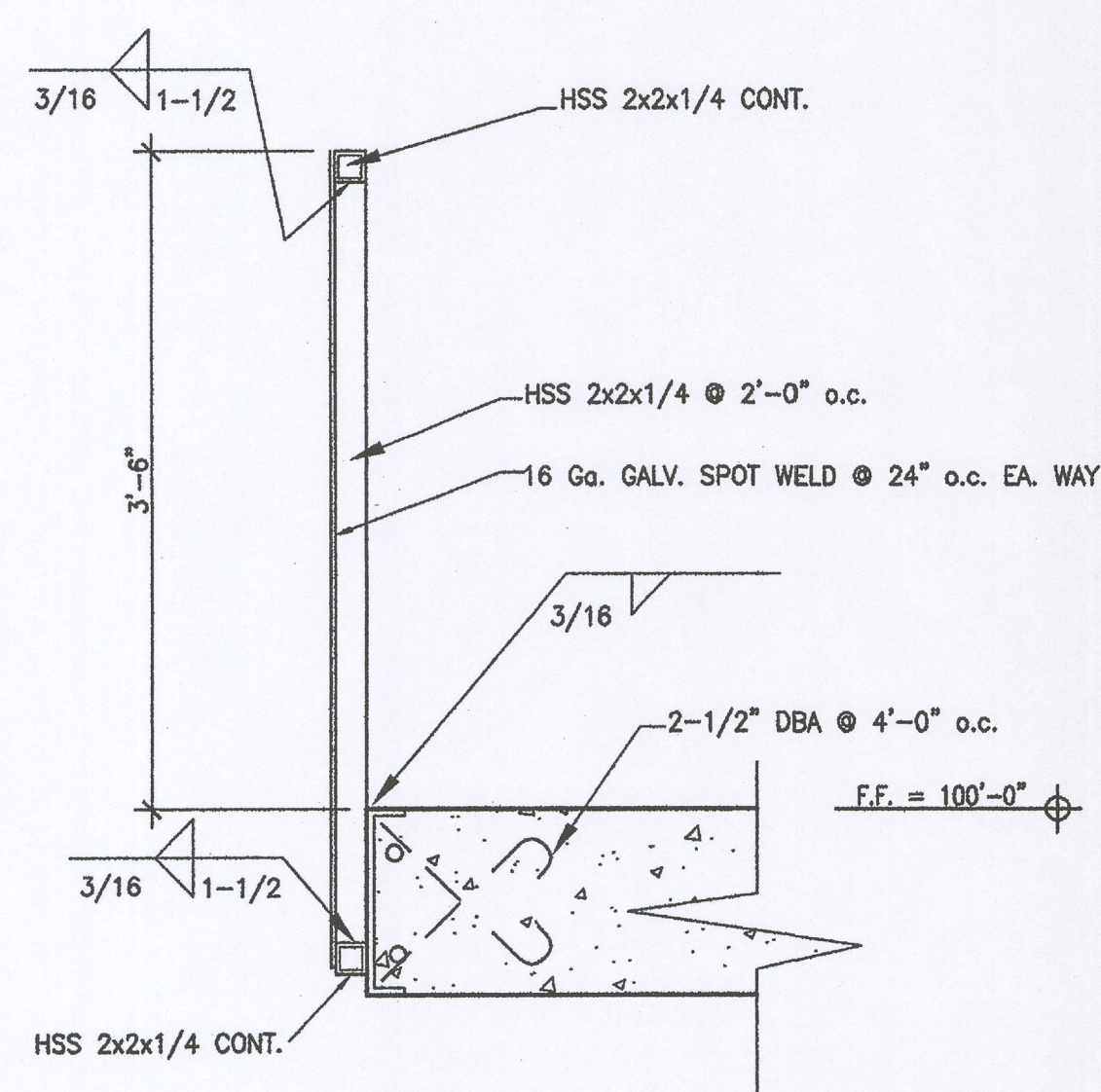


**2 LOWER LEVEL FOUNDATION PLAN**  
SCALE 1/8" = 1'-0"

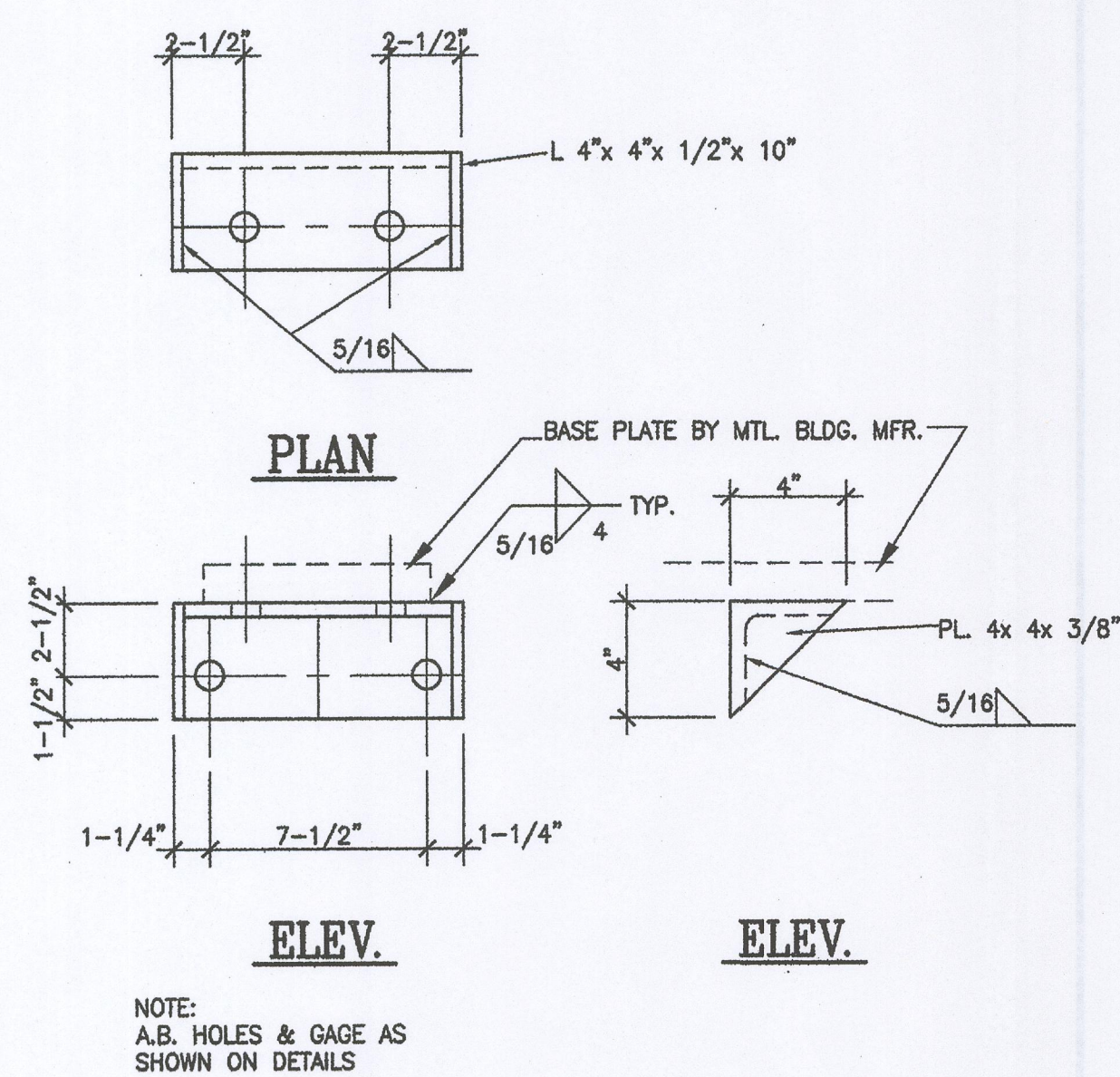


**1 FOUNDATION PLAN**  
SCALE 1/8" = 1'-0"

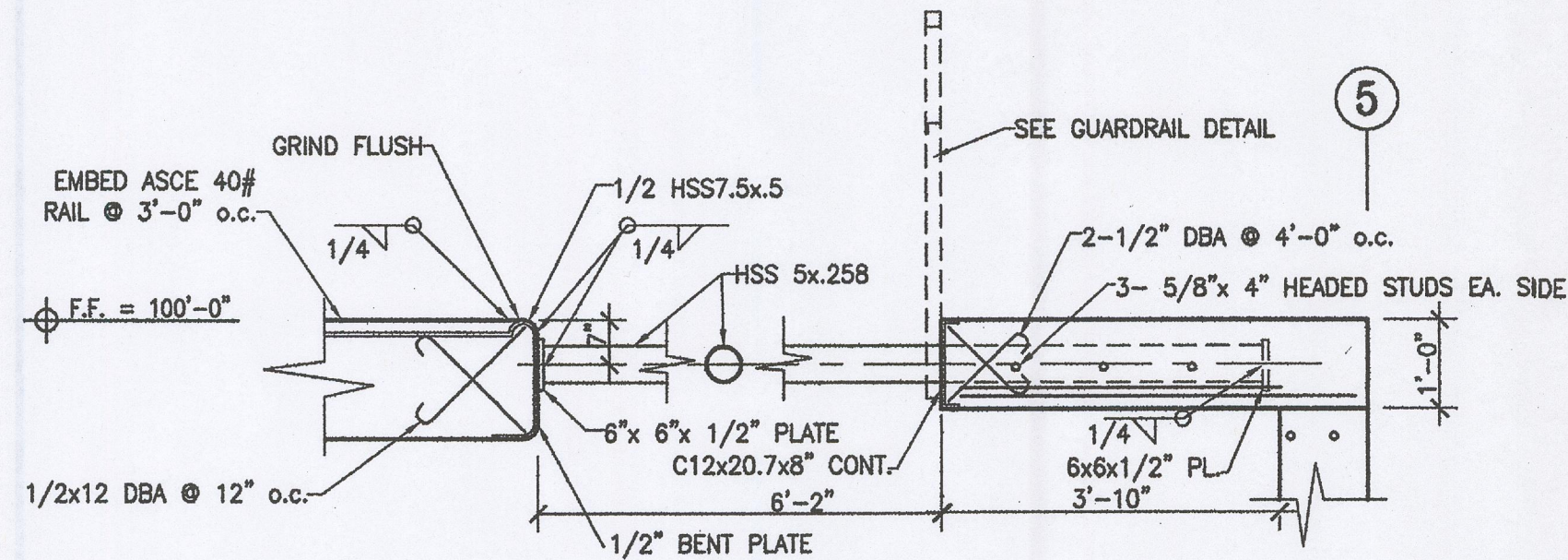
revisions
<b>architects + LLC</b> environmental designers 35 North St. Reno, NV, 89509 775-325-8000 FAX 775-325-8080
<b>JACK MEANS</b> CONSULTING ENGINEER 2140 LAKERIDGE DR. RENO, NV, 89509 (775) 825-2873
<b>D &amp; S WASTE REMOVAL</b> Mono County Transfer Station Highway 167, Mile Post 8 Mono County, California by Christman Construction, Inc.
sheet title <b>MAIN FLOOR &amp; LOWER LEVEL FOUNDATION PLAN</b>
drawn by B.B.
checked by GE
date 05/14/10
job no.
sheet <b>S-2</b>



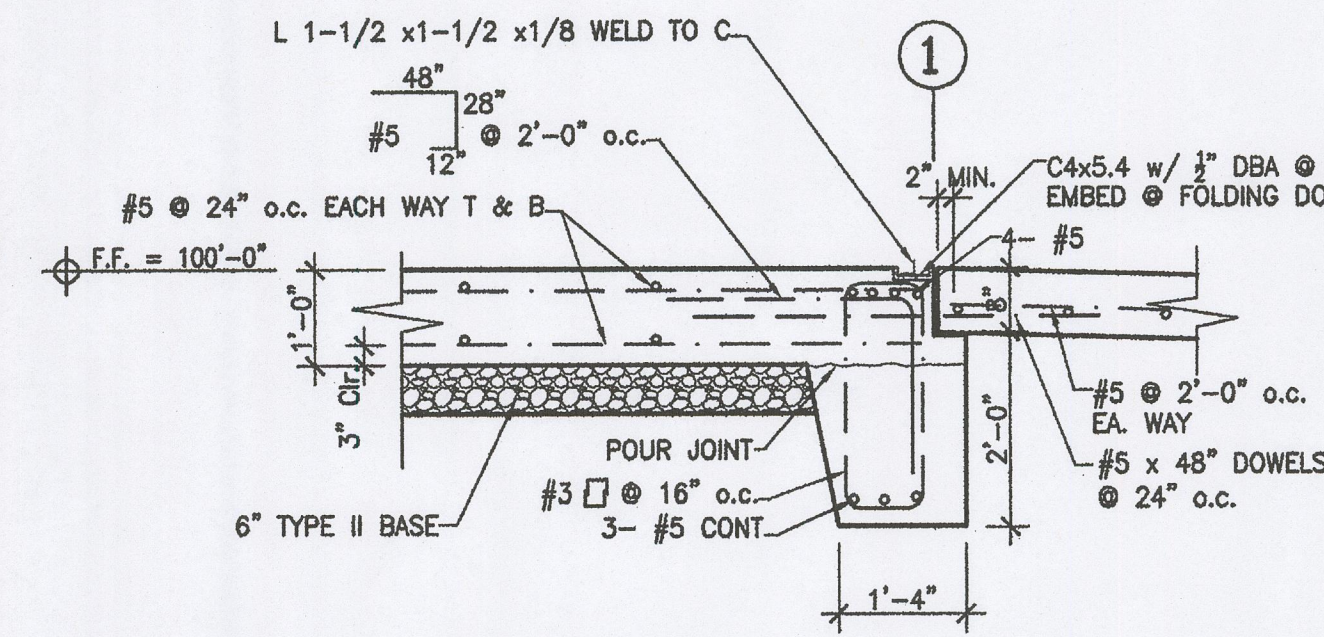
**7** GUARDRAIL DETAIL  
SCALE 1" = 1'-0"



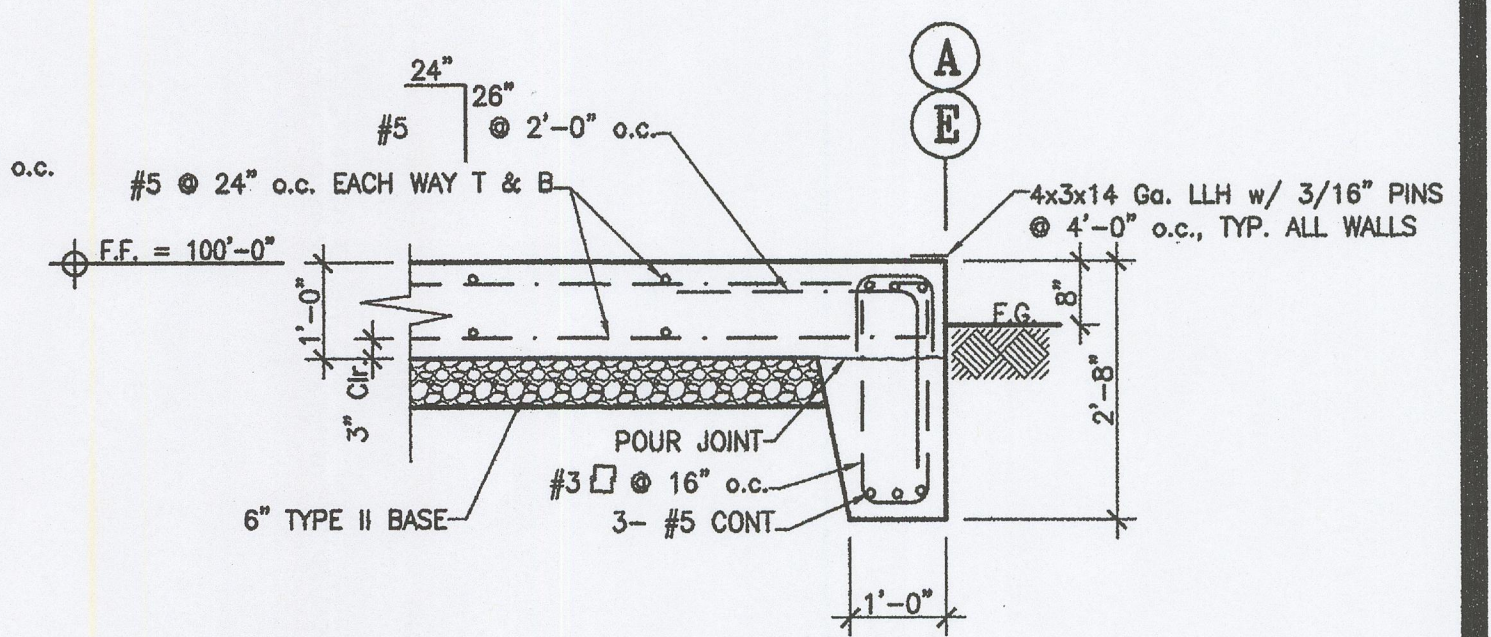
**6** TYP. BASE PLATE ANGLES  
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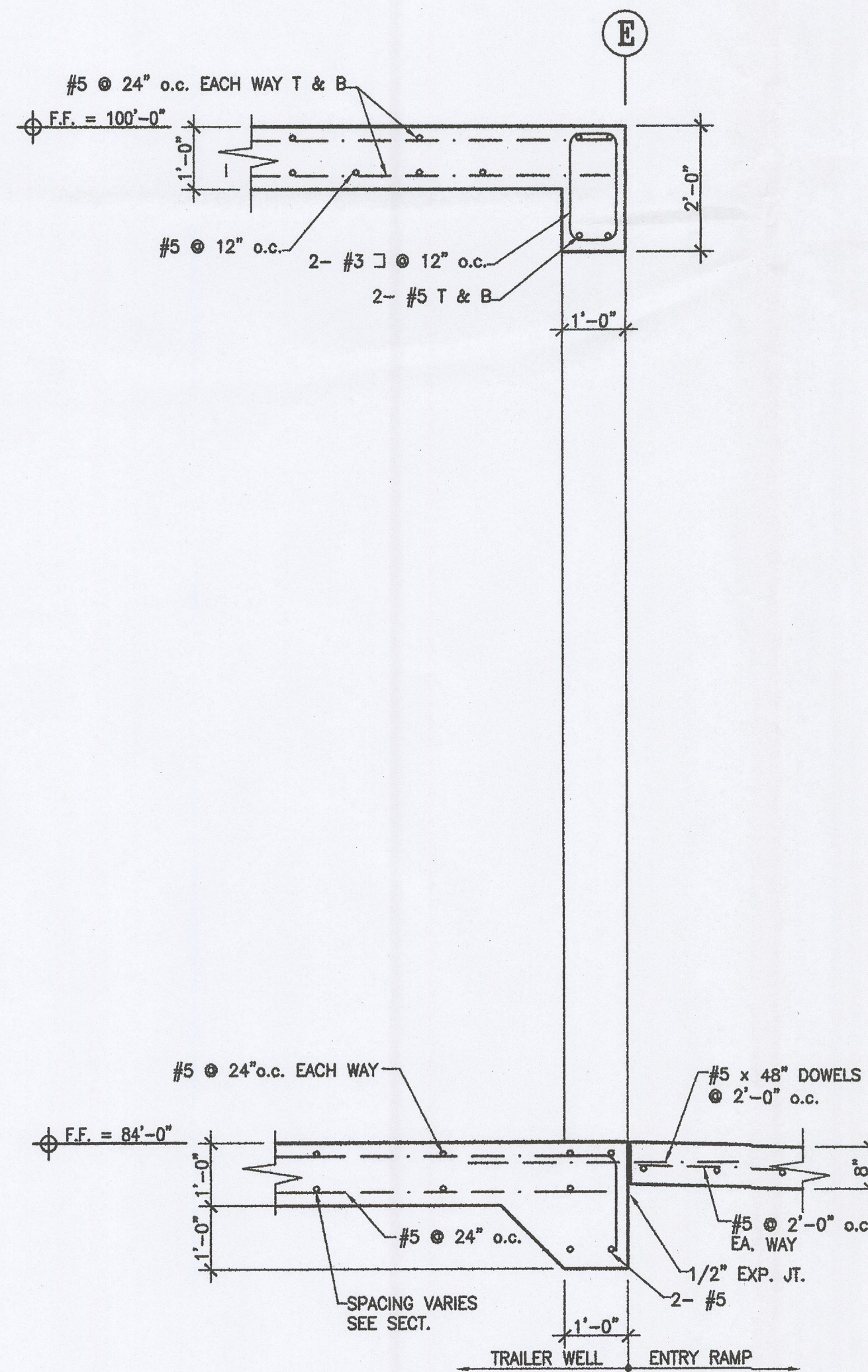
**5** DETAIL  
SCALE 1/2" = 1'-0"



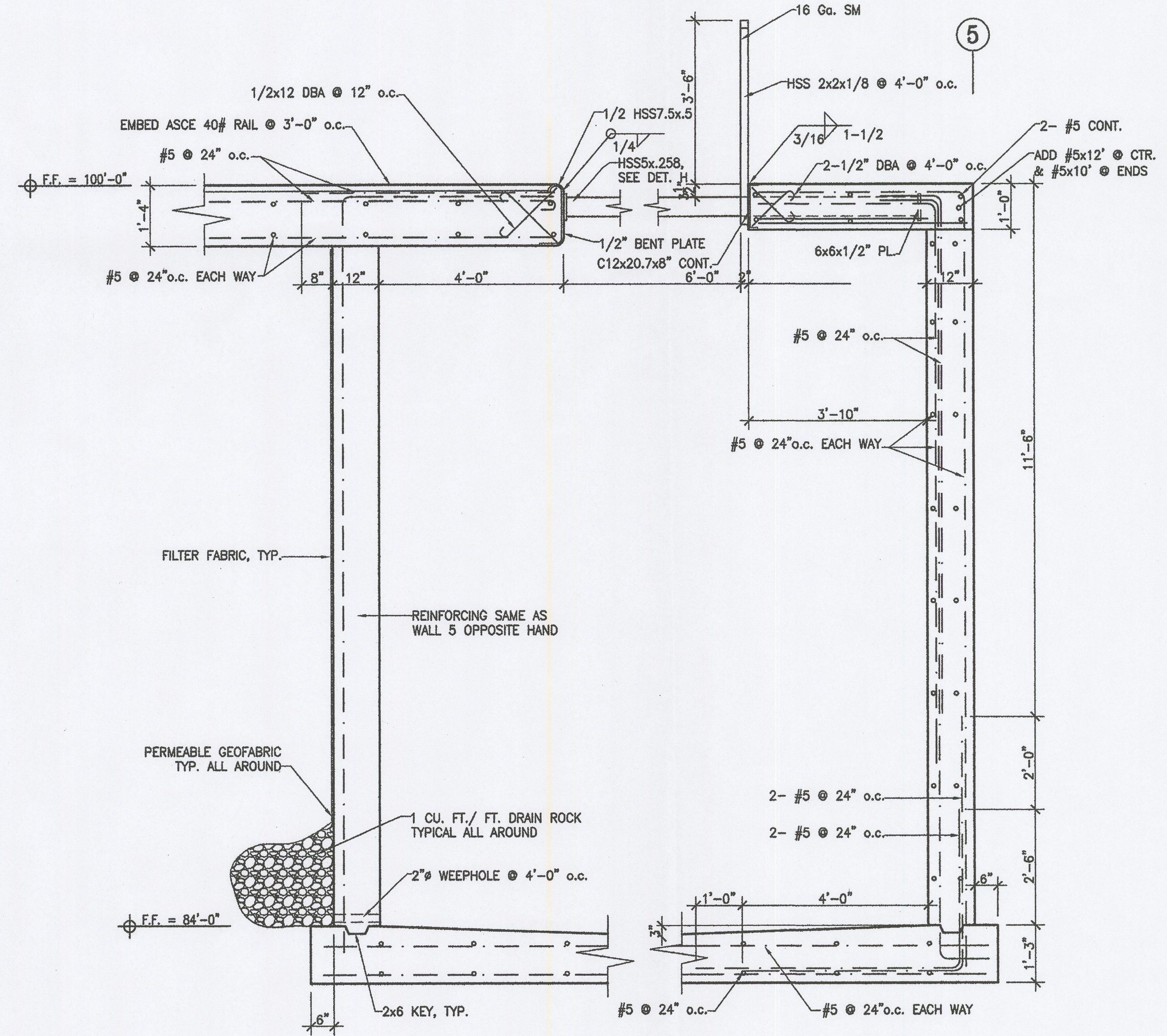
**4** SECTION  
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**3** SECTION TYP.  
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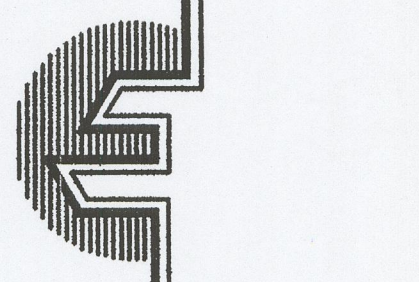


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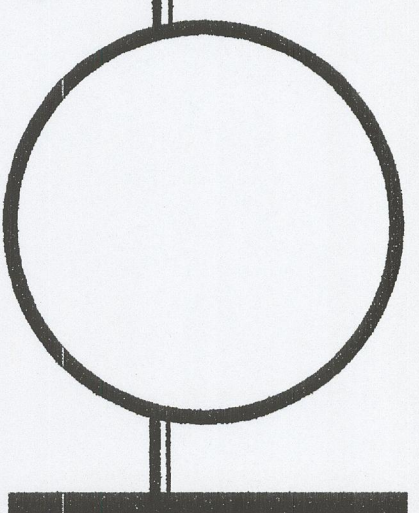


**1** SECTION  
SCALE 1/2" = 1'-0"

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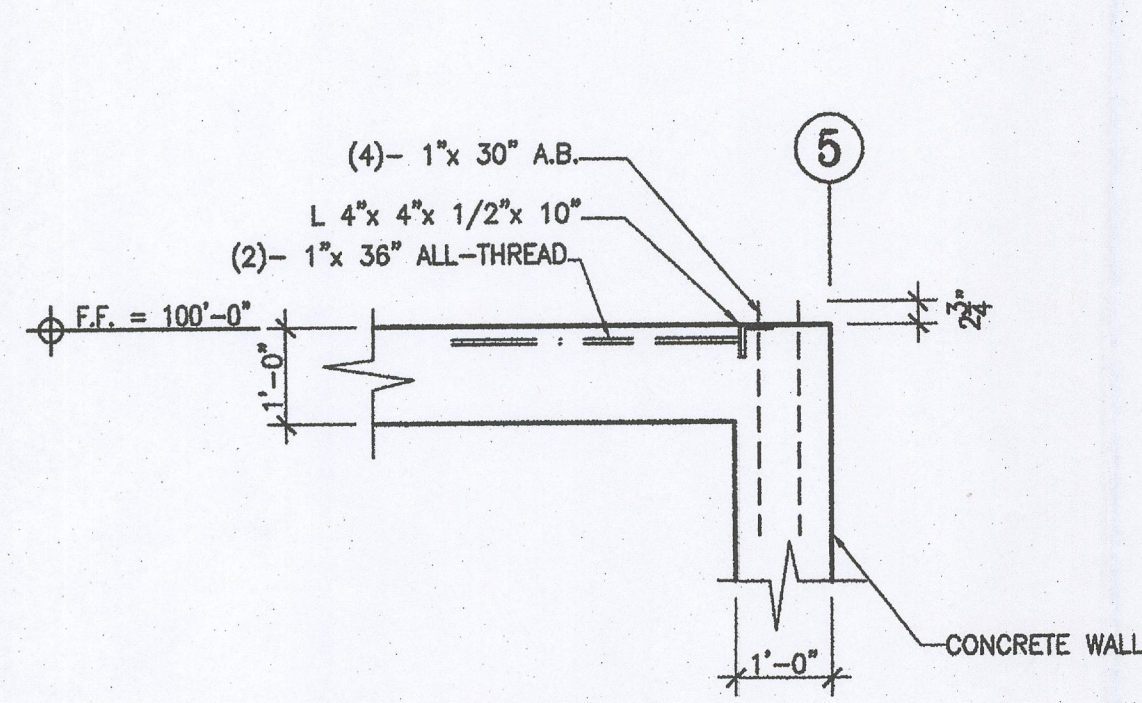
project  
**D & S WASTE REMOVAL**  
Mono County Transfer Station  
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sheet title
FOUNDATION SECTIONS AND DETAILS

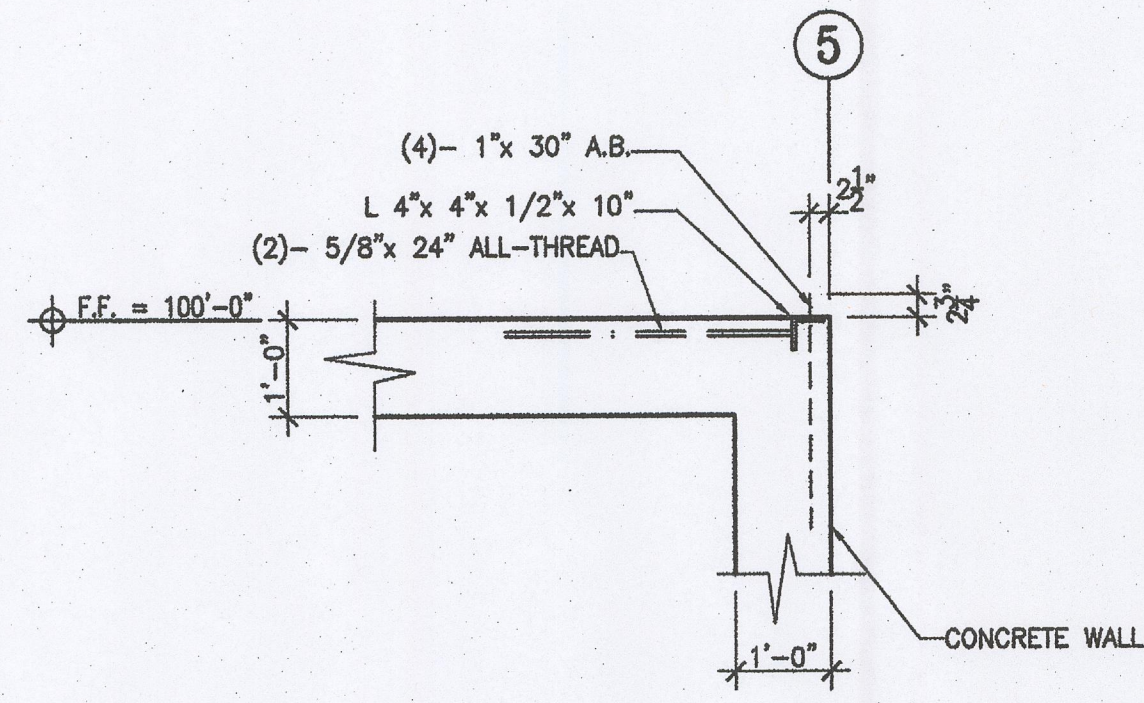
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S-3

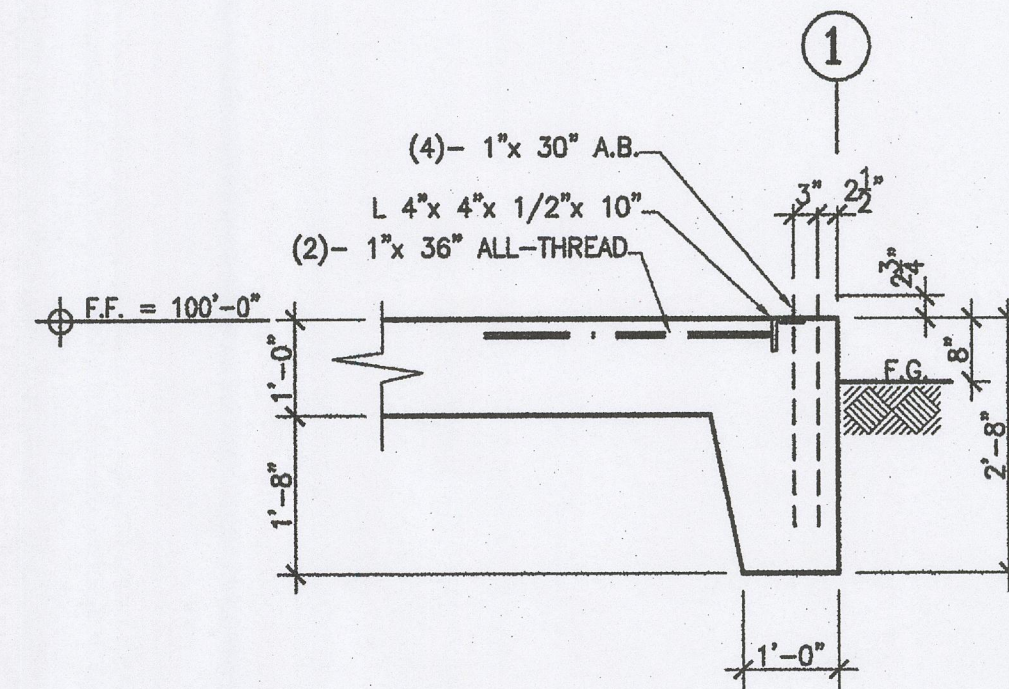
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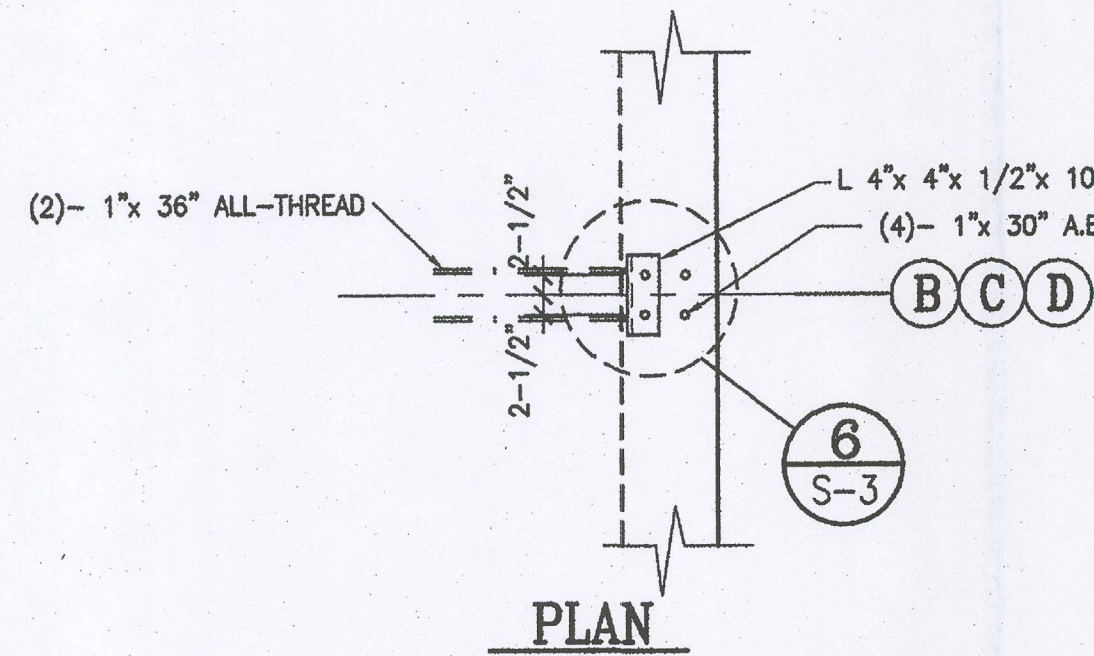
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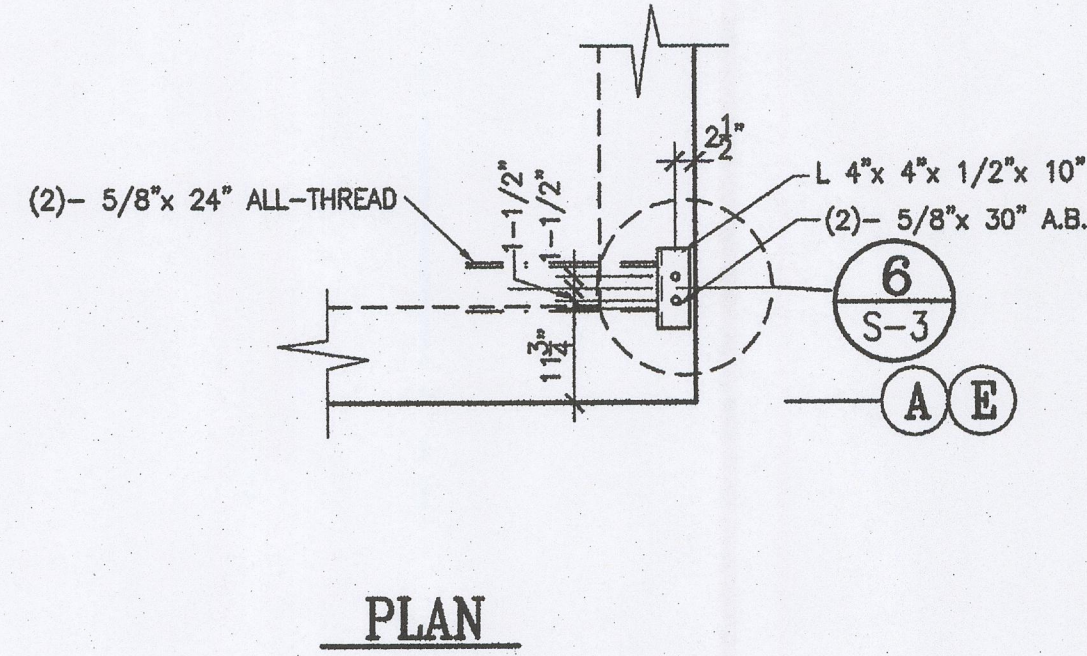
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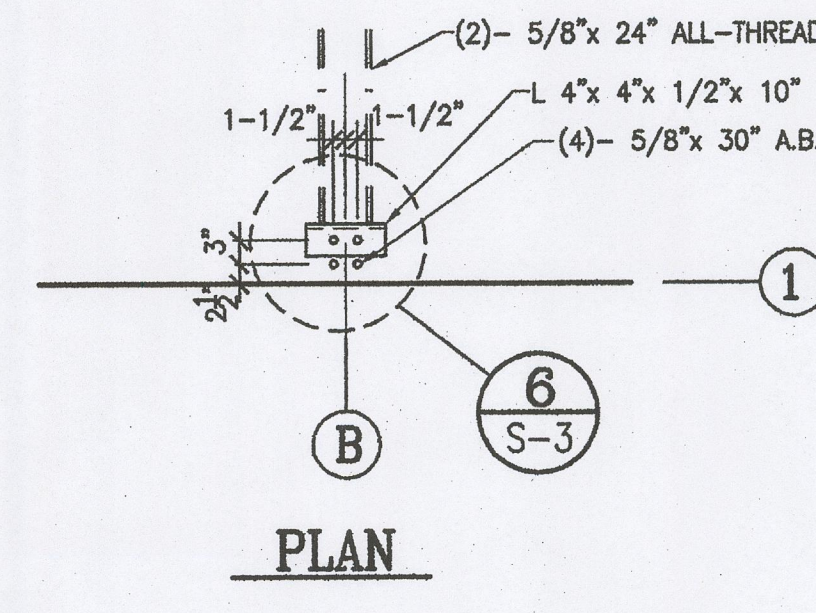
SECTION



PLAN



PLAN

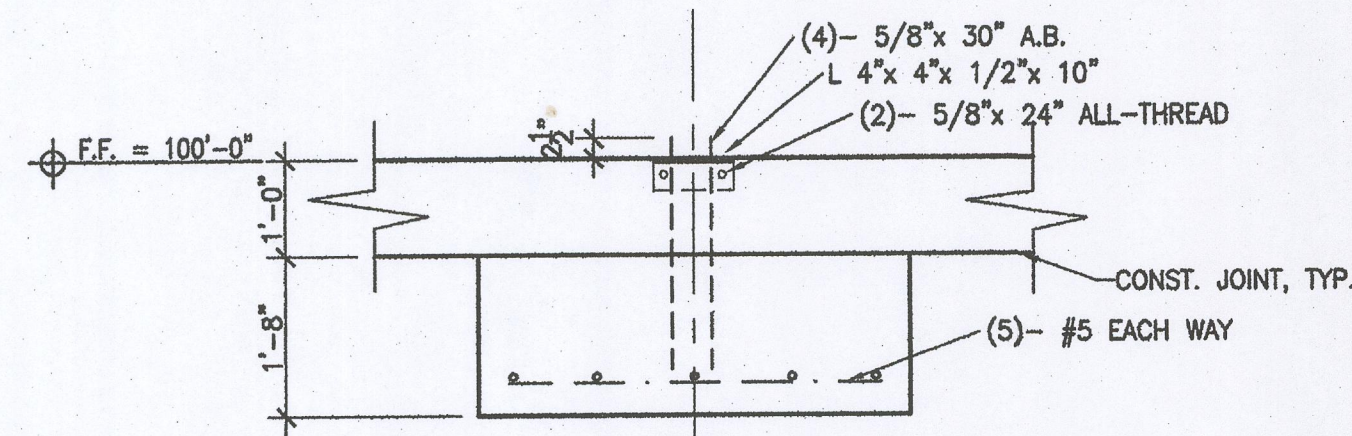


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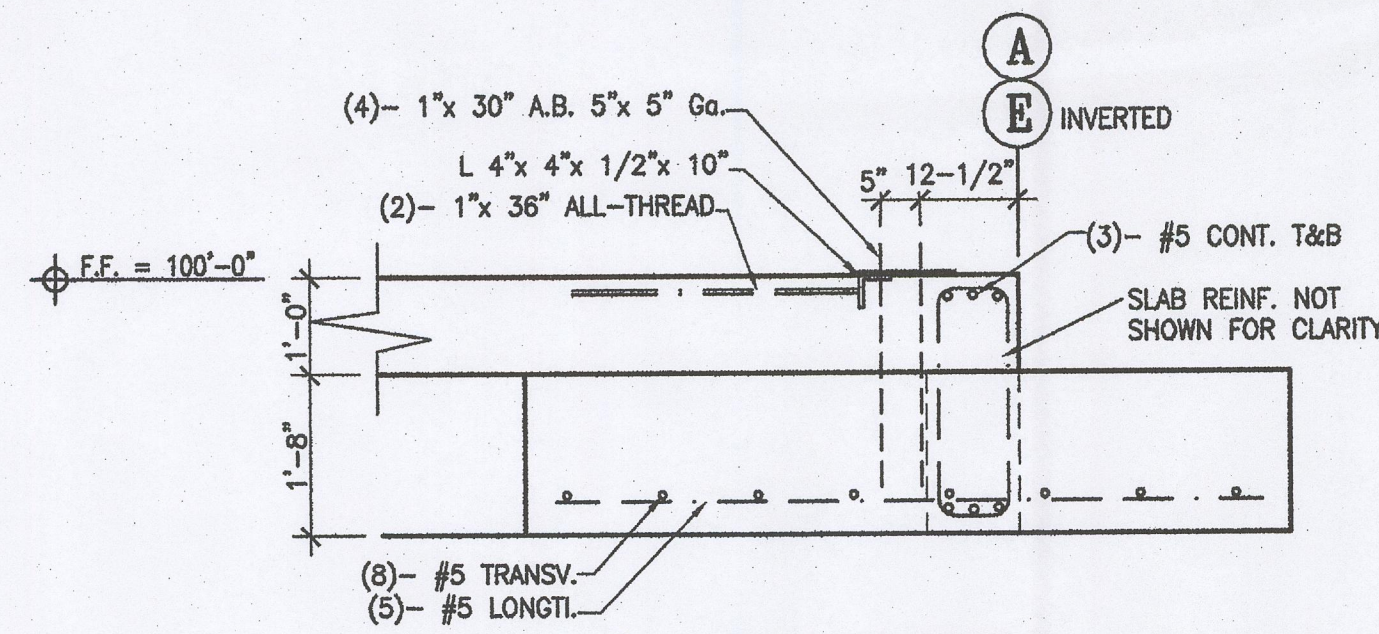
7 DETAIL G TYP. @ 5-B,C, & D  
SCALE 1/2" = 1'-0"

6 DETAIL F TYP. @ 5-A&E  
SCALE 1/2" = 1'-0"

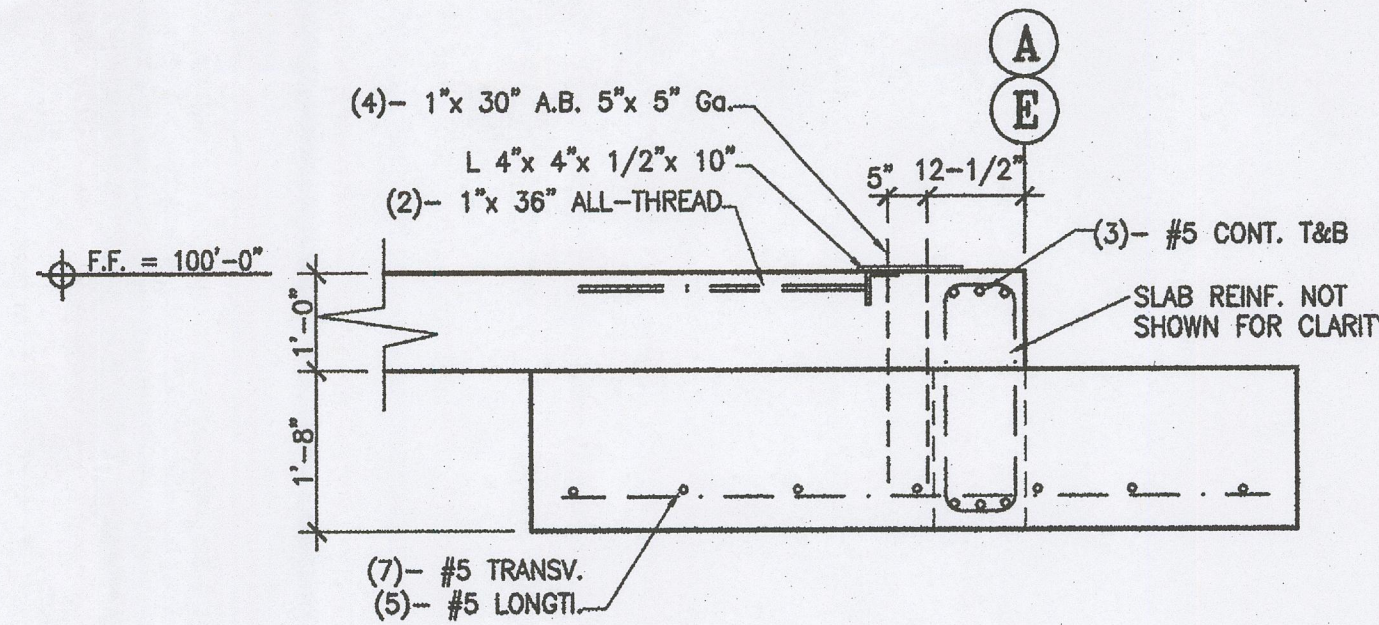
5 DETAIL E  
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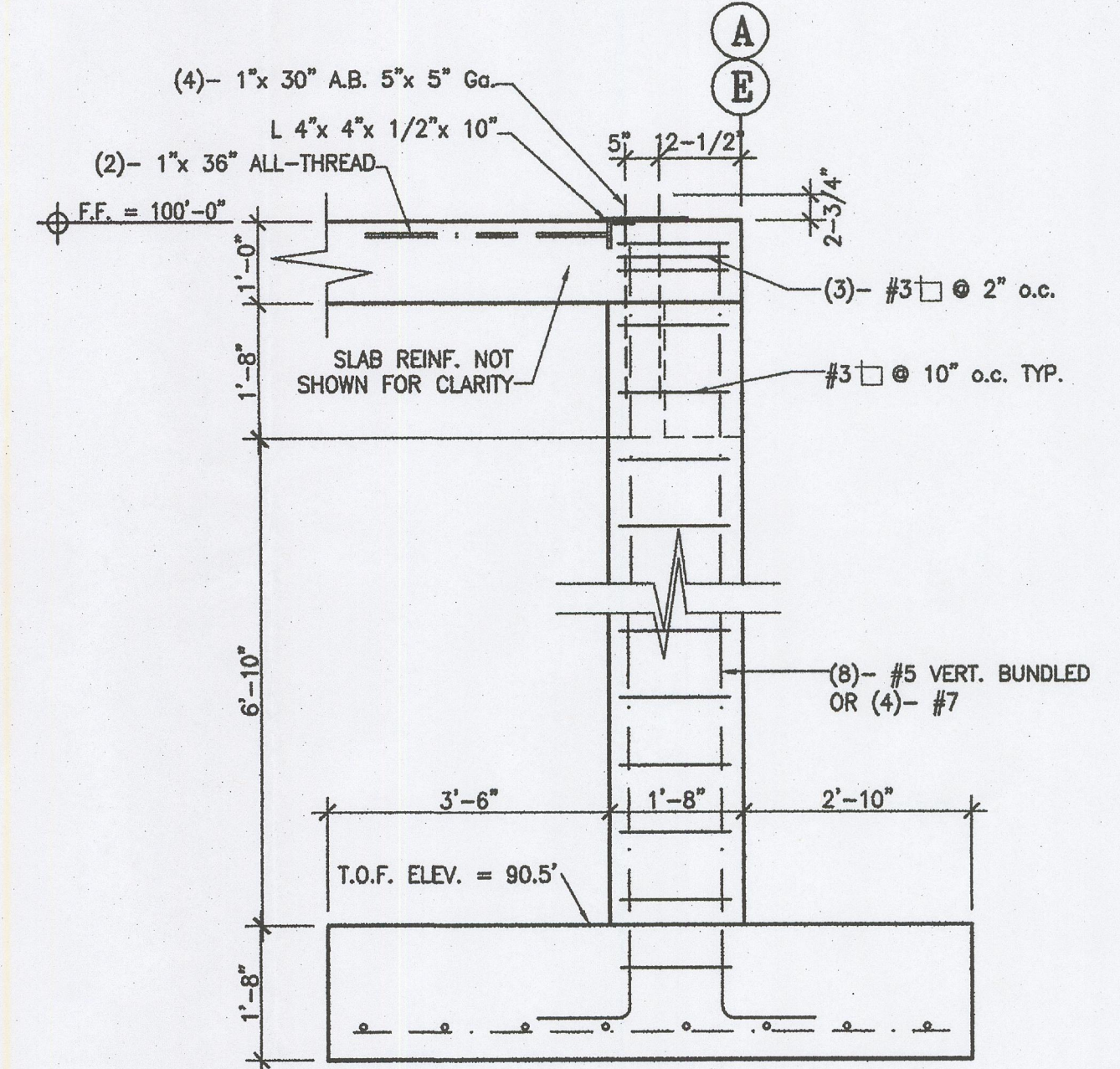
ELEVATION



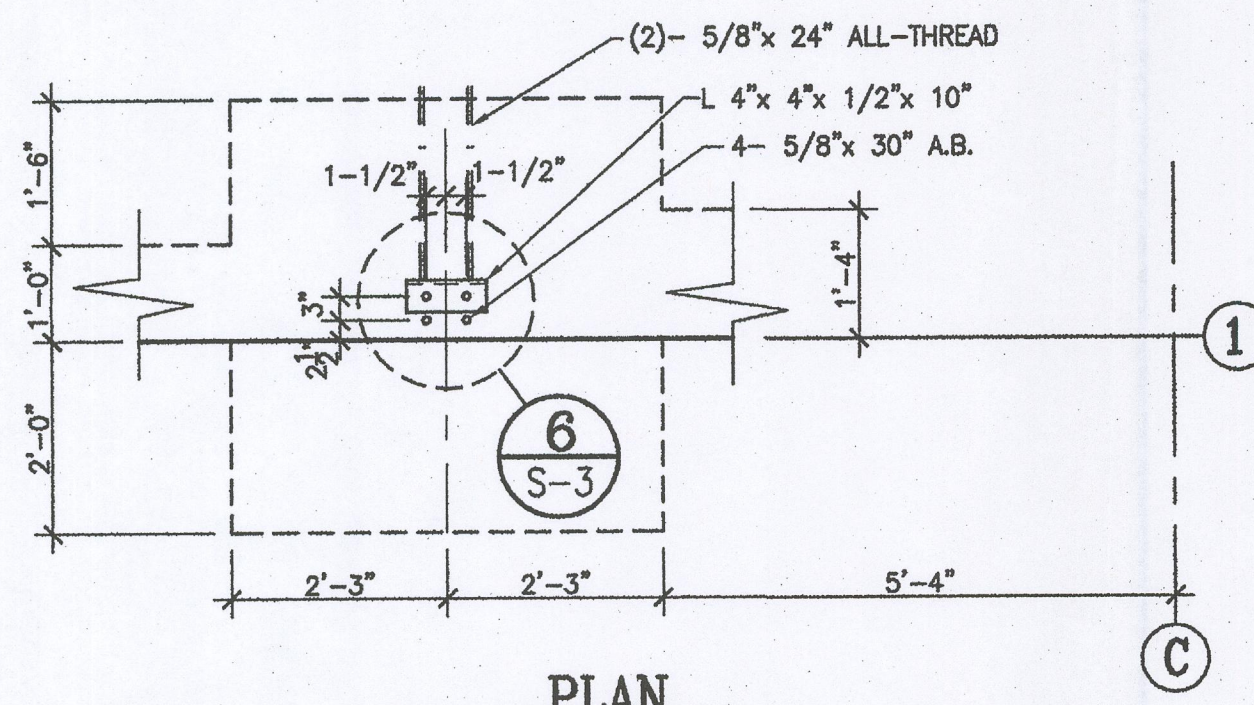
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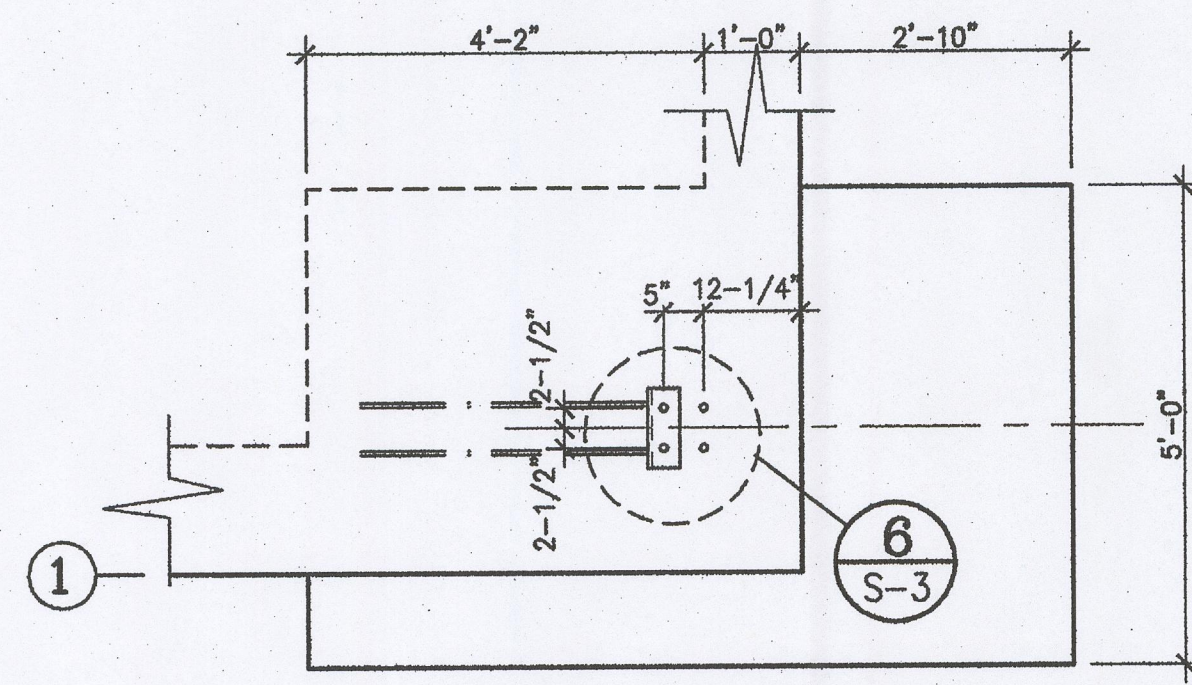
ELEVATION



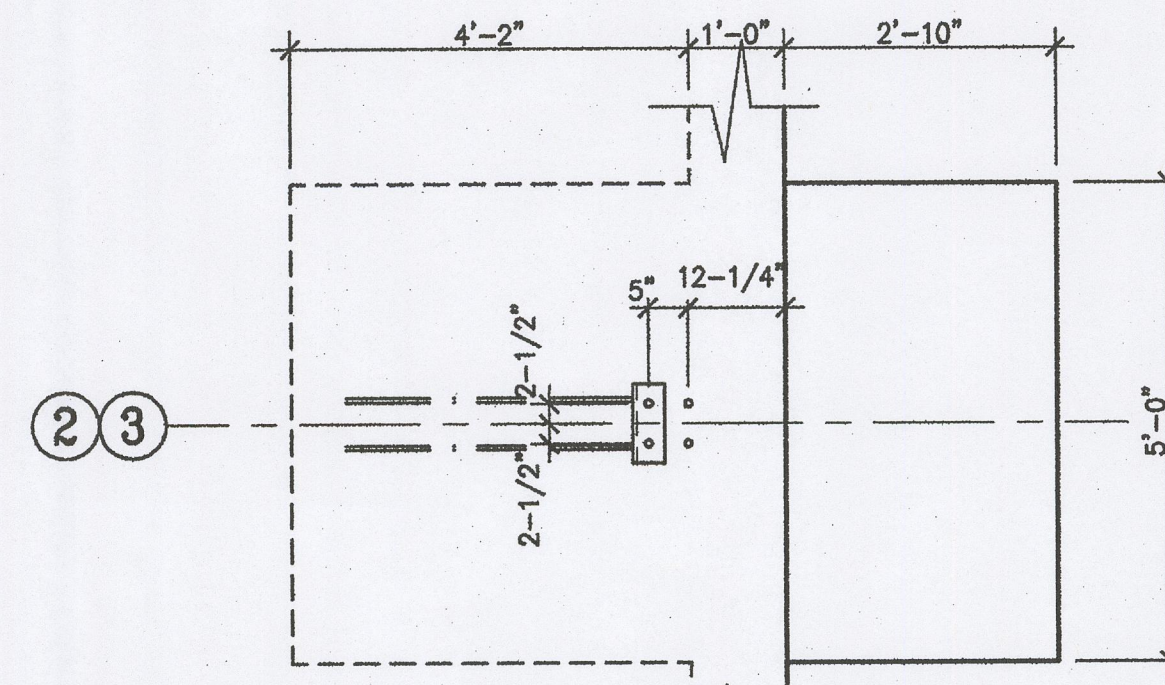
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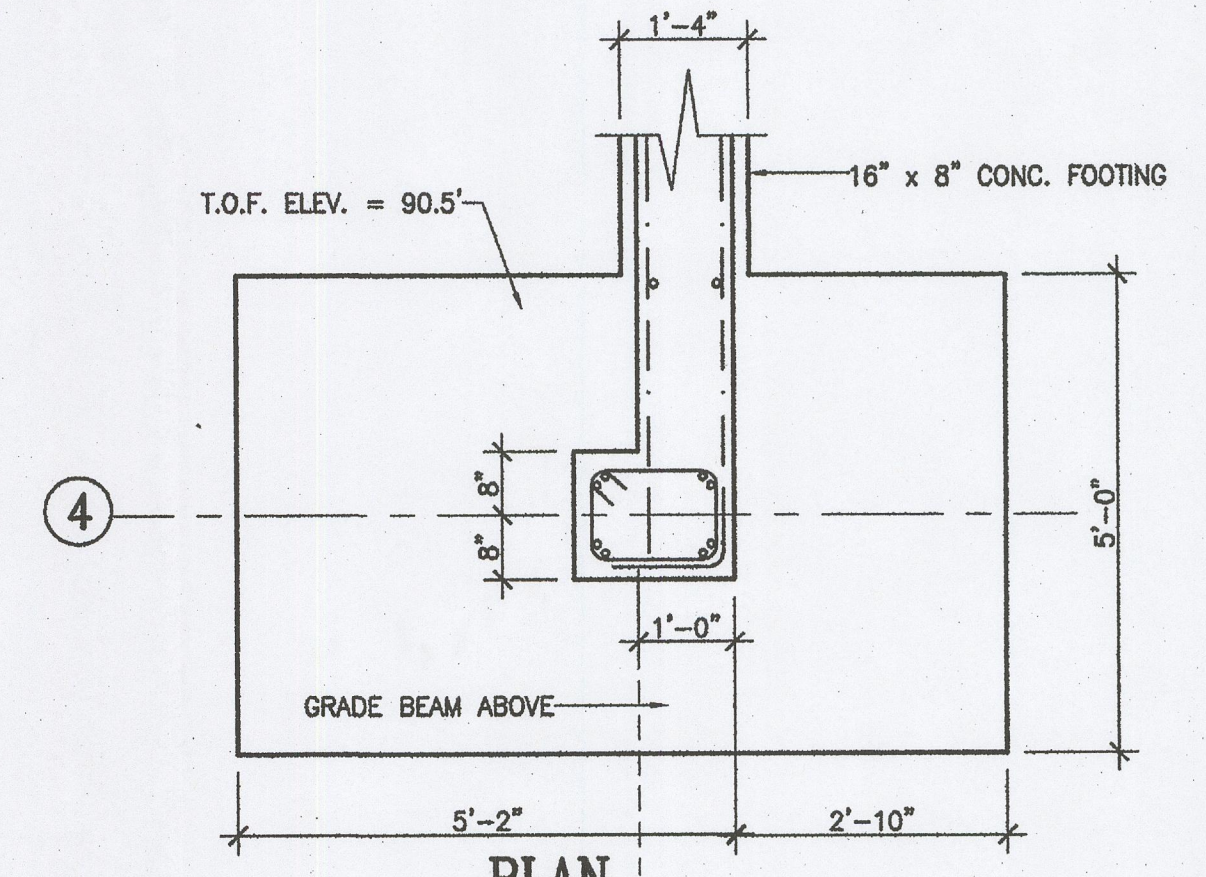
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4 DETAIL D  
SCALE 1/2" = 1'-0"

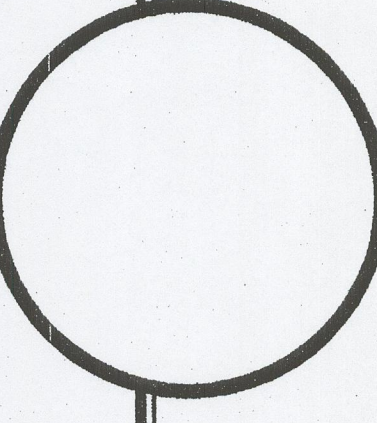
3 DETAIL C TYP. @ 1-A & E  
SCALE 1/2" = 1'-0"

2 DETAIL B TYP. @ A-2,3 & E-2,3  
SCALE 1/2" = 1'-0"

1 DETAIL A TYP. @ A & E  
SCALE 1/2" = 1'-0"

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project  
D & S WASTE REMOVAL  
Mono County Transfer Station  
Highway 167, Mile Post 8  
Mono County, California  
by Christman Construction, Inc.

sheet title  
FOUNDATION DETAILS

drawn by  
B.B.  
checked by  
GE  
date  
05/14/10  
job no.

sheet  
S-4