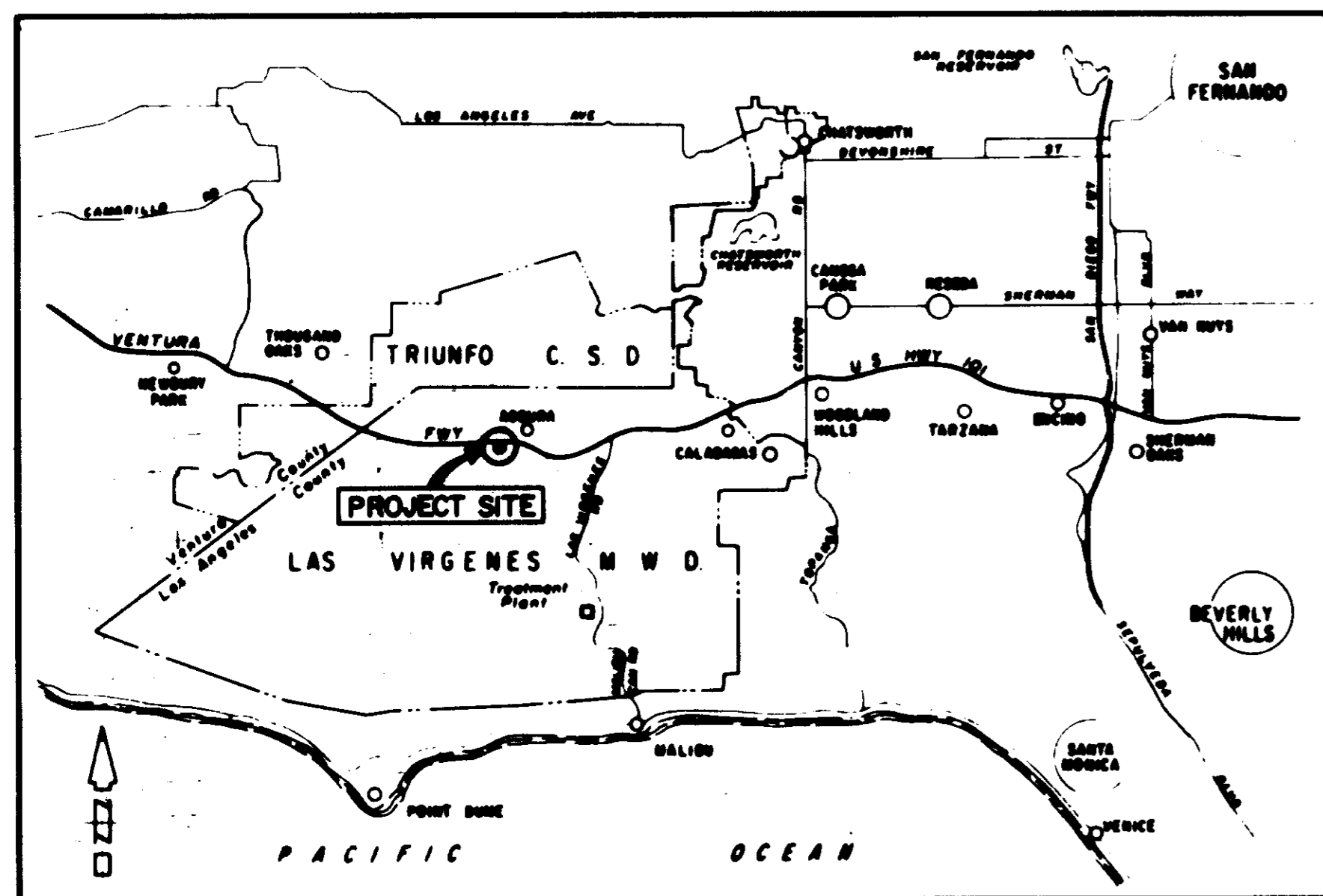


LAS VIRGENES MUNICIPAL WATER DISTRICT

LOS ANGELES COUNTY, CALIFORNIA

CONSTRUCTION PLANS FOR

CORNELL PUMP STATION EXPANSION



VICINITY MAP

SCALE IN FEET

PLANS APPROVED BY:

Donald F. Mills
 DONALD F. MILLS - R.C.E. 15940
 PROJECT MANAGER

B. **Bols Engineering Corporation**
 consulting engineers / architects

BOARD OF DIRECTORS LAS VIRGENES MUNICIPAL WATER DISTRICT

BEN DORGELO - PRESIDENT
 A. M. STELLE
 GEORGE R. LONG
 HAROLD V. HELSLEY
 RICHARD B. BAIRD - GENERAL MANAGER

Approved by the Board of Directors
 on this 12th day of JULY 1982

By: *Ben Dorgelo*
 BEN DORGELO - PRESIDENT
 By: *Fern Need Christian*
 FERN NEED CHRISTIAN - DEPUTY SECRETARY
 By: *H.W. Stokes*
 H. W. STOKES - CHIEF ENGINEER

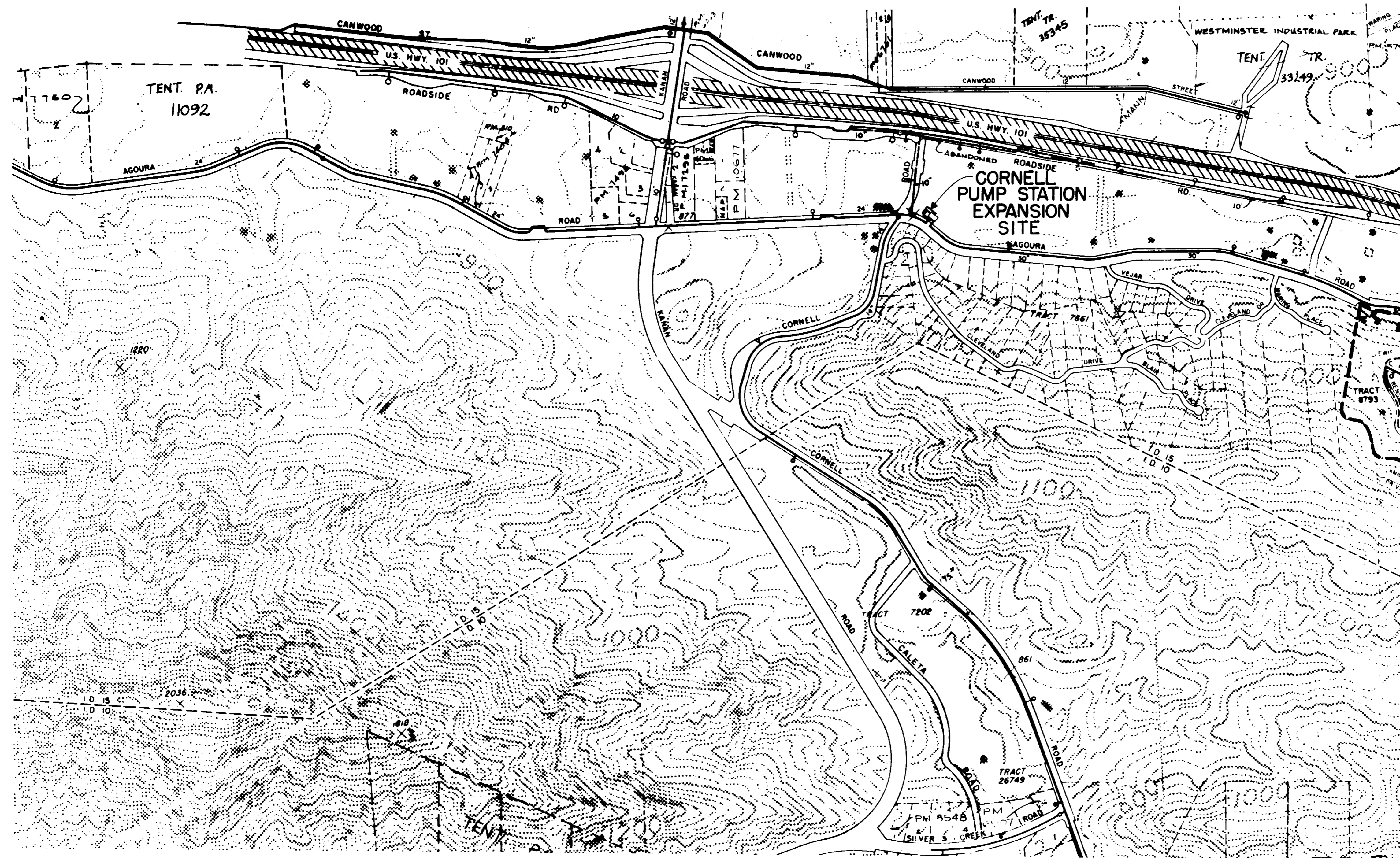
05946

PLAN OF RECORD
 DATE: *APPROVED BY: 12*

SHEET 1 OF 2

LIST OF DRAWINGS

| SHEET NO. | DESCRIPTION |
|-----------|--|
| 1 | TITLE SHEET |
| 2 | INDEX SHEET & LOCATION PLAN |
| 3 | SITE PLAN |
| 4 | EXCAVATION |
| 5 | MAIN PIPING PLAN |
| 6 | PIPING SECTIONS A-A, B-B, & C-C |
| 7 | PIPING SECTION D-D |
| 8 | EXHAUST PIPING SECTION E-E |
| 9 | MISCELLANEOUS PIPING PLAN |
| 10 | MISCELLANEOUS PIPING SECTION F-F |
| 11 | MISCELLANEOUS PIPING SECTION G-G |
| 12 | MISCELLANEOUS DETAILS |
| 13 | MISCELLANEOUS METAL |
| 14 | FOUNDATION PLAN |
| 15 | REINFORCING PLAN |
| 16 | REINFORCING SECTIONS A-A & B-B |
| 17 | REINFORCING SECTIONS C-C, D-D, & E-E |
| 18 | PUMP & ENGINE BLOCK-REINFORCING & BASE PLATE DETAILS |
| 19 | ARCHITECTURAL |
| 20 | ARCHITECTURAL DETAILS |
| 21 | ARCHITECTURAL ROOF DETAILS |
| 22 | SINGLE LINE DIAGRAM, SYMBOL LIST, LIGHTING FIXTURE AND PANEL SCHEDULES |
| 23 | LIGHTING AND POWER PLAN |
| 24 | LEGEND AND ABBREVIATIONS |
| 25 | PROCESS AND INSTRUMENTATION DIAGRAM |
| 26 | CORNELL PUMP STATION TELEMETRY CABINET MODIFICATIONS |
| 27 | DISTRICT HEADQUARTERS CONTROL PANEL MODIFICATIONS |



LOCATION PLAN
SCALE: 1" = 400'

05947

PLAN OF RECORD

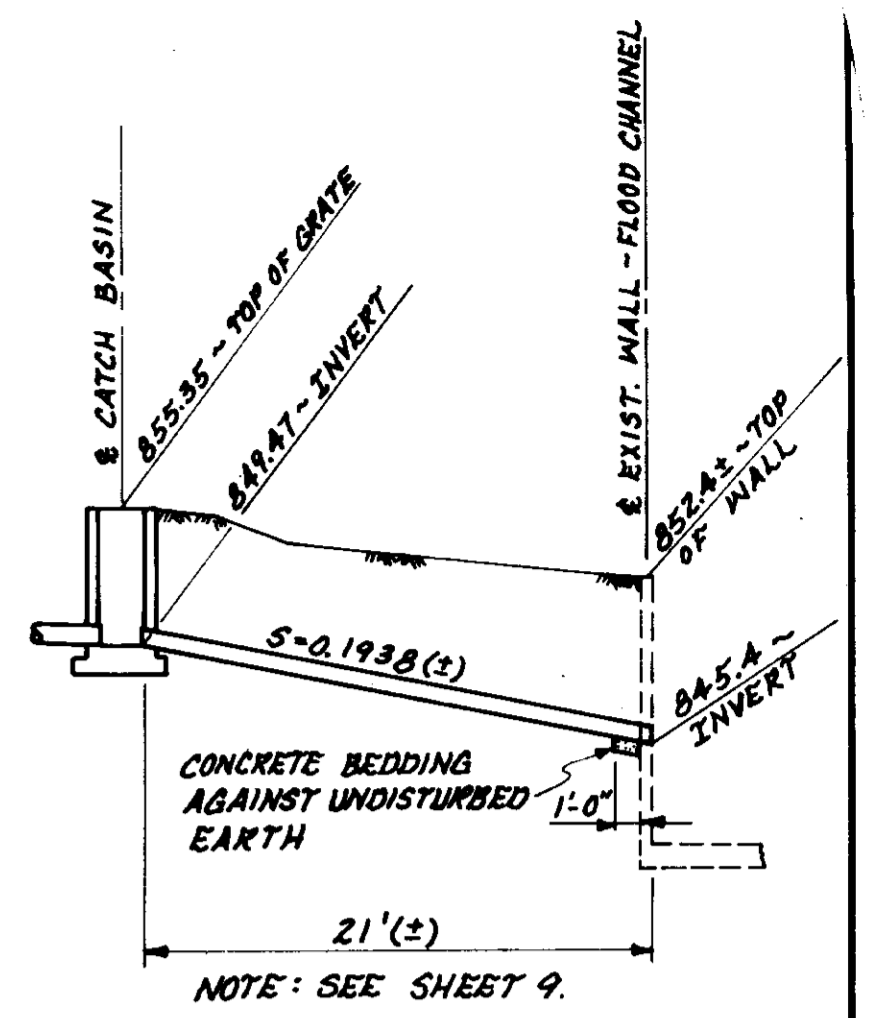
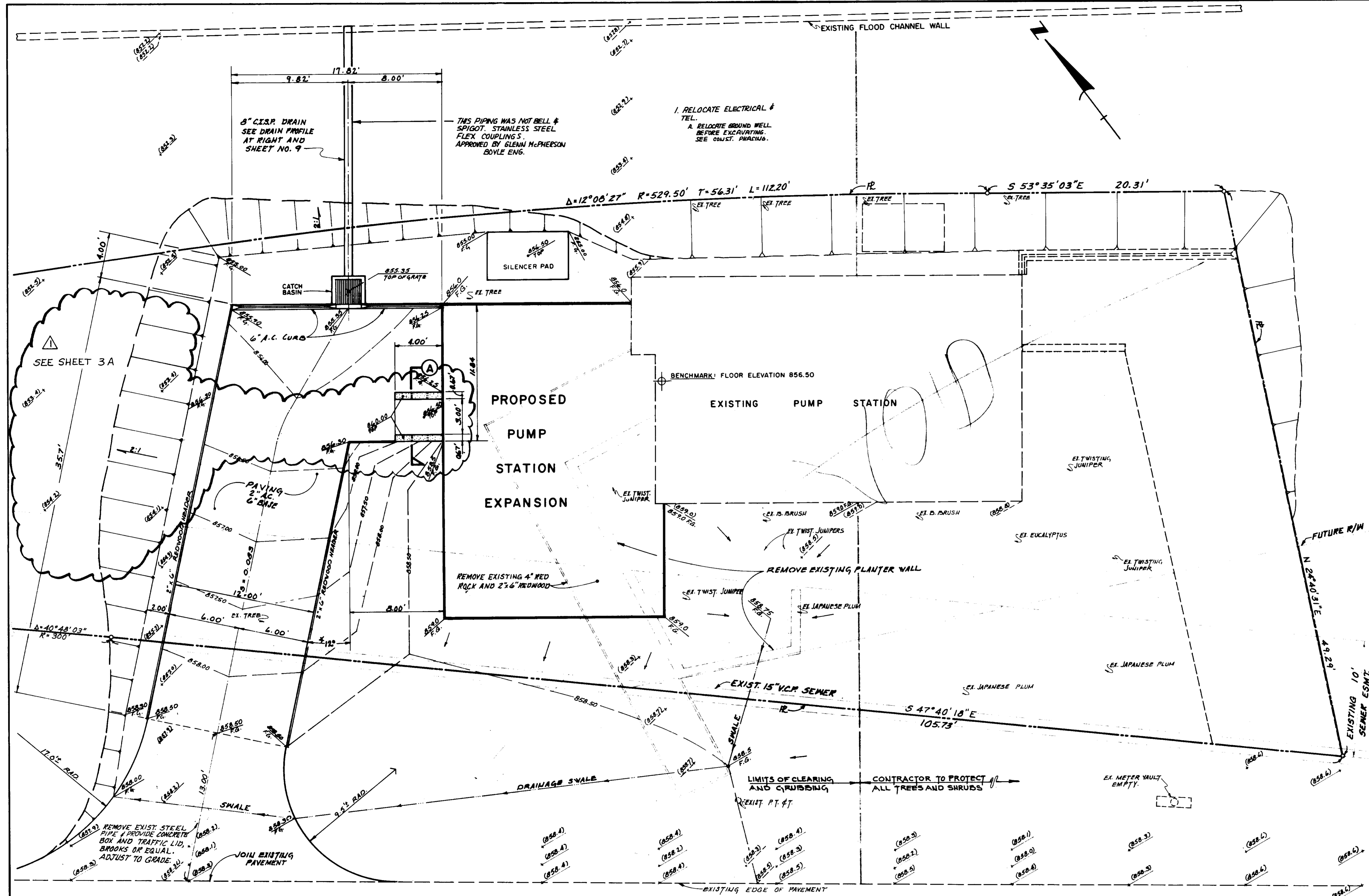
DATE: SEPTEMBER 17, 1981 BY: *me*

LAS VIRGENES
MUNICIPAL WATER DISTRICT

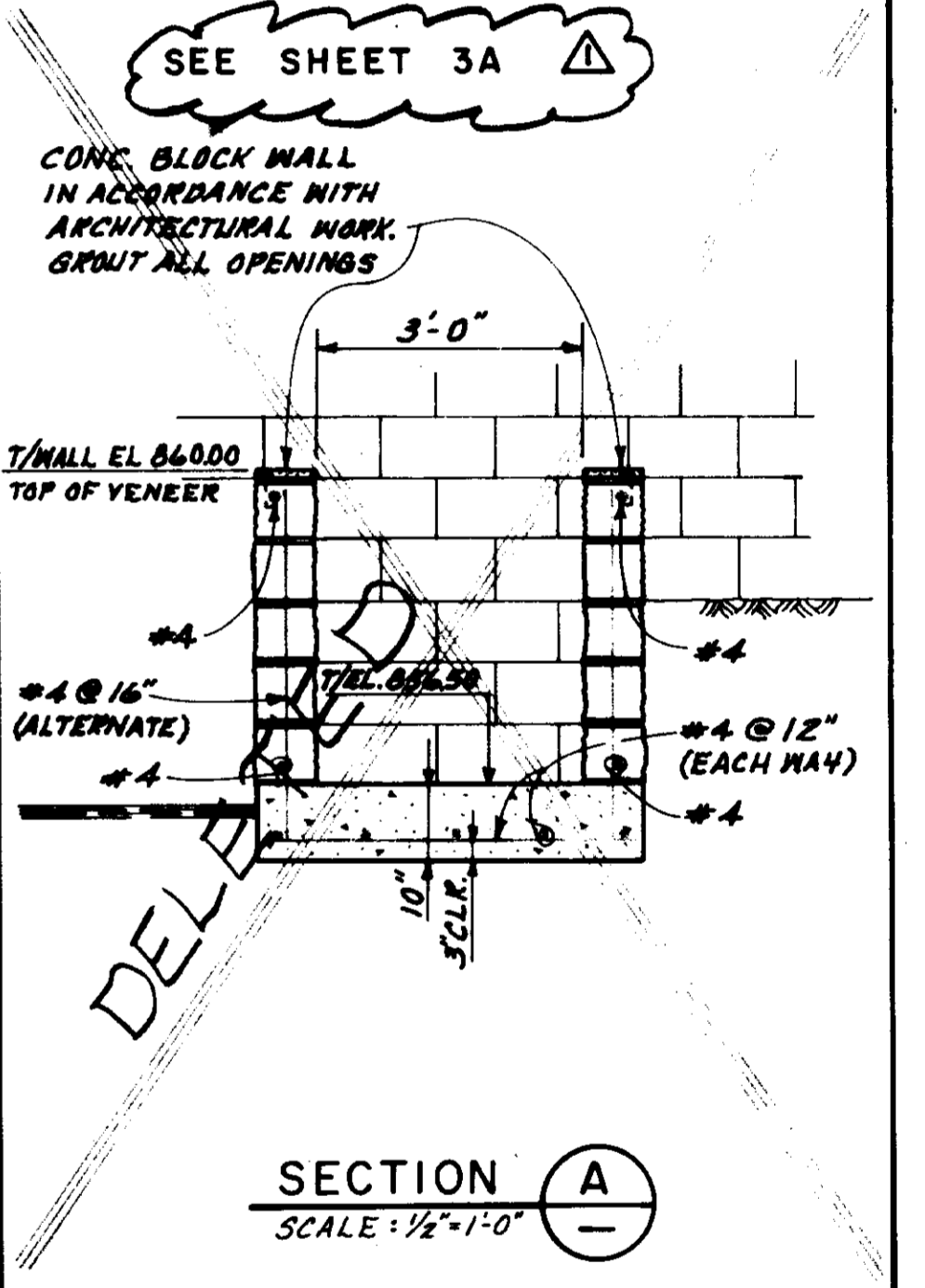
CORNELL PUMP STATION EXPANSION

**INDEX SHEET
&
LOCATION PLAN**

| | | | | | | | | | | | | | | | | | | | | |
|--------|--|------|--|----|--|------|--|------|--|-------------|--|------|--|----|--|------|--|------|--|-------------|
| DESIGN | | DATE | | BY | | APP. | | DATE | | DESCRIPTION | | DATE | | BY | | APP. | | DATE | | DESCRIPTION |
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DRAIN PROFILE
SCALE: 1/8" = 1'-0"



05948

LAS VIRGENES MUNICIPAL WATER DISTRICT

CORNELL PUMP STATION EXPANSION

SITE PLAN

PLAN OF RECORD

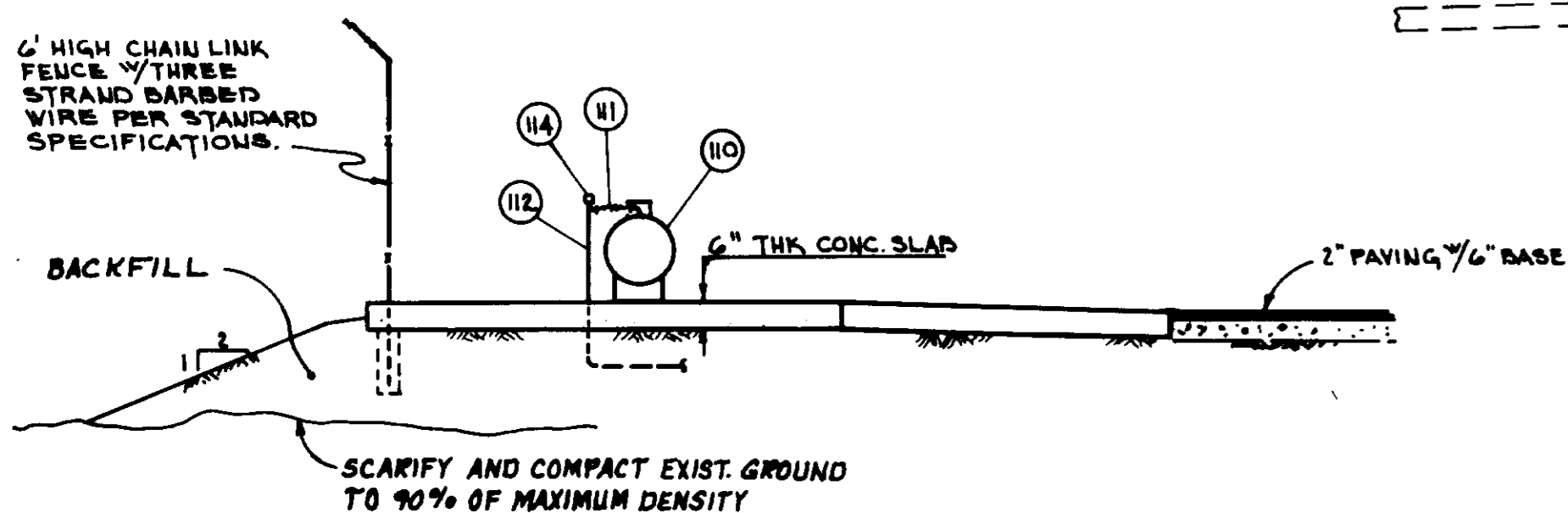
DATE: SEPTEMBER 17, 2004 BY: MC

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|------|---------|---------------------------|-------------|
| 1 | 3-22-03 | REVISION OF L.P.G. SYSTEM | [Signature] |
| 2 | 7/26/04 | ISSUED FOR BIDDING | [Signature] |

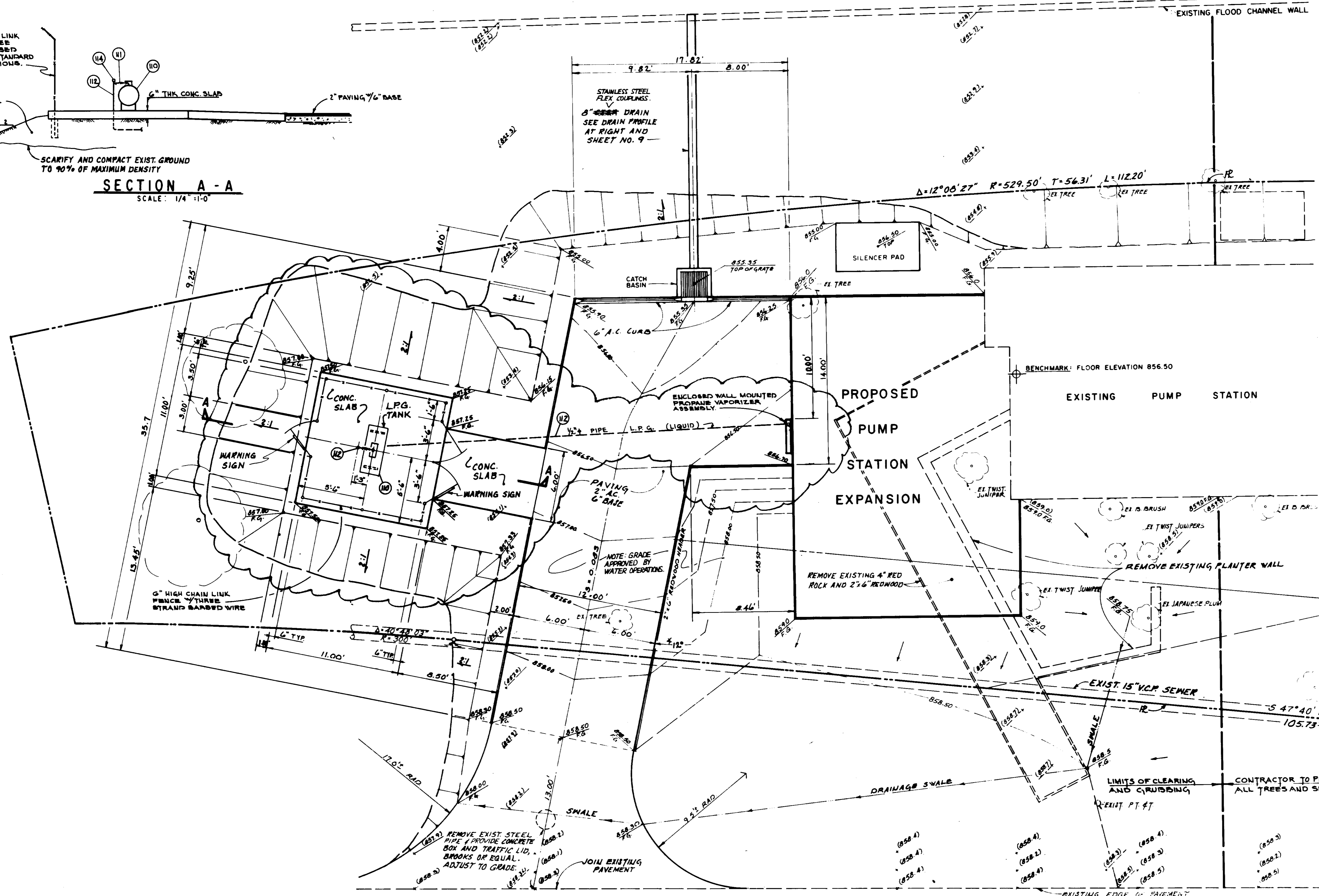
BOYLE ENGINEERING CORPORATION
consulting engineers / architects
VENTURA, CA

DATE: 6/25/04
DATE: 6/25/04

VT-102-114-04



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



NOTE: AREA AFFECTED BY L.P.G. REVISION IS SHOWN ENCIRCLED WITH THE FOLLOWING SYMBOL -

05949

LAS VIRGENES MUNICIPAL WATER DISTRICT
CORNELL PUMP STATION EXPANSION
SITE PLAN
L.P.G. FACILITY

PLAN OF RECORD
DATE: SEPTEMBER 17, 1994 BY: *me*

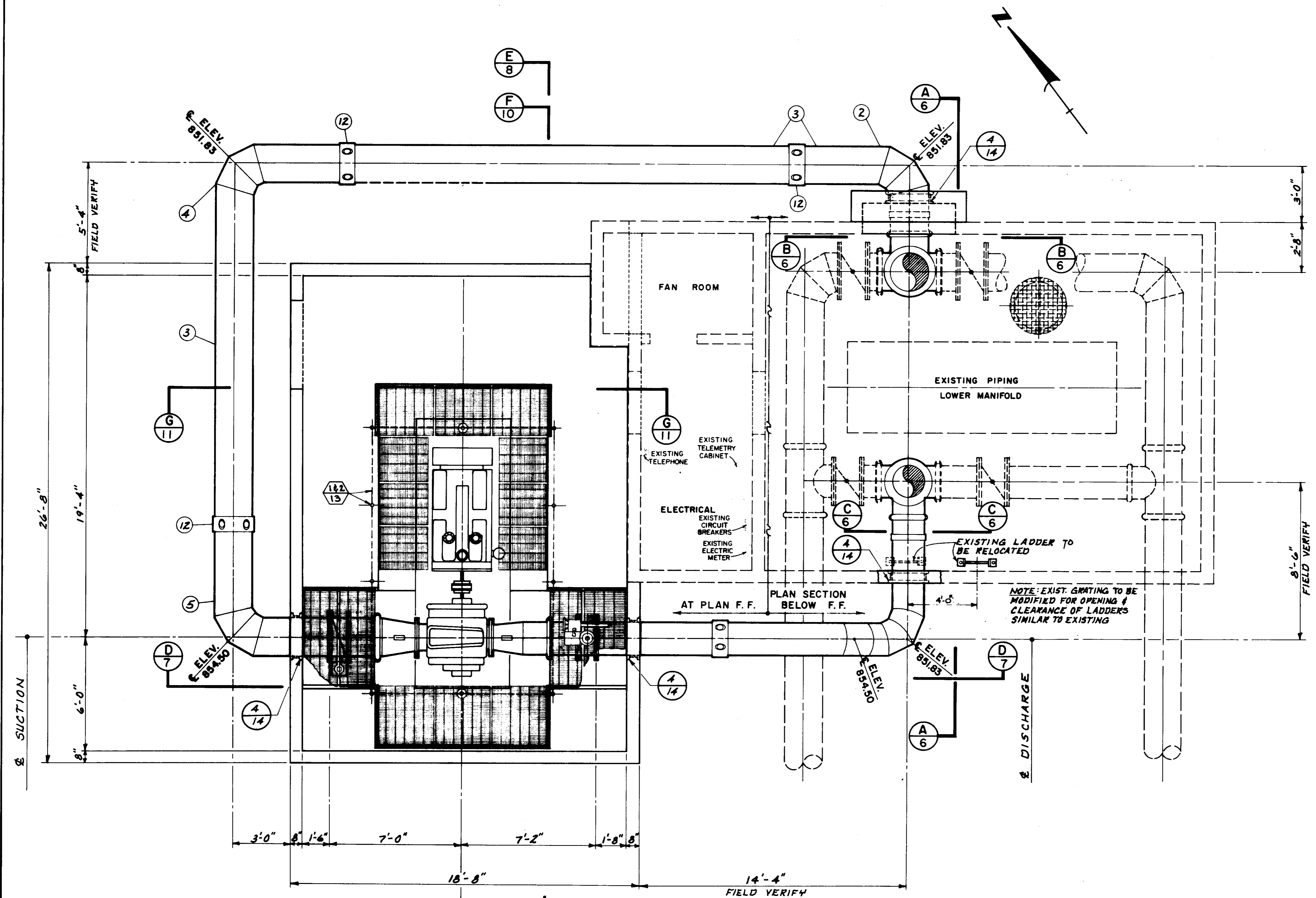
AGOURA

ROAD

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

| | | | | |
|-------------------------------|-----------------|--------------------------------------|-----|-----|
| DESIGN G.A.M. | DATE 9-22-94 | ISSUED FOR REVISION OF L.P.G. SYSTEM | APR | 3 A |
| DRAWN A.S.P. | | | | |
| CHECKED <i>[Signature]</i> | | | | |

SHEET NO.
3 A
OF 27 SHEETS
VT-102-114-01



PLAN
SCALE: 3/8" = 1'-0"

PLAN OF RECORD
DATE: _____ BY: _____

05951
LAS VIRGENES
MUNICIPAL WATER DISTRICT
CORNELL PUMP STATION EXPANSION

MAIN PIPING PLAN

| | | | | | | | | |
|---------------------------|--------|--------------------|------|------|-------------|------|------|-------------|
| DESIGN A.S.P. | DATE | DESCRIPTION | APP. | DATE | DESCRIPTION | APP. | DATE | DESCRIPTION |
| DRWN J.R.G. | 7/2/01 | ISSUED FOR BIDDING | RV | | | | | |
| ENGR J.R.G. | | | | | | | | |
| CHKD C. J. [Signature] | | | | | | | | |
| APP. RV | | | | | | | | |

Boyle Engineering Corporation
consulting engineers / architects
VENTURA, CA.

5
27
102-104
5-078

LIST OF MATERIAL

MAIN PIPING:

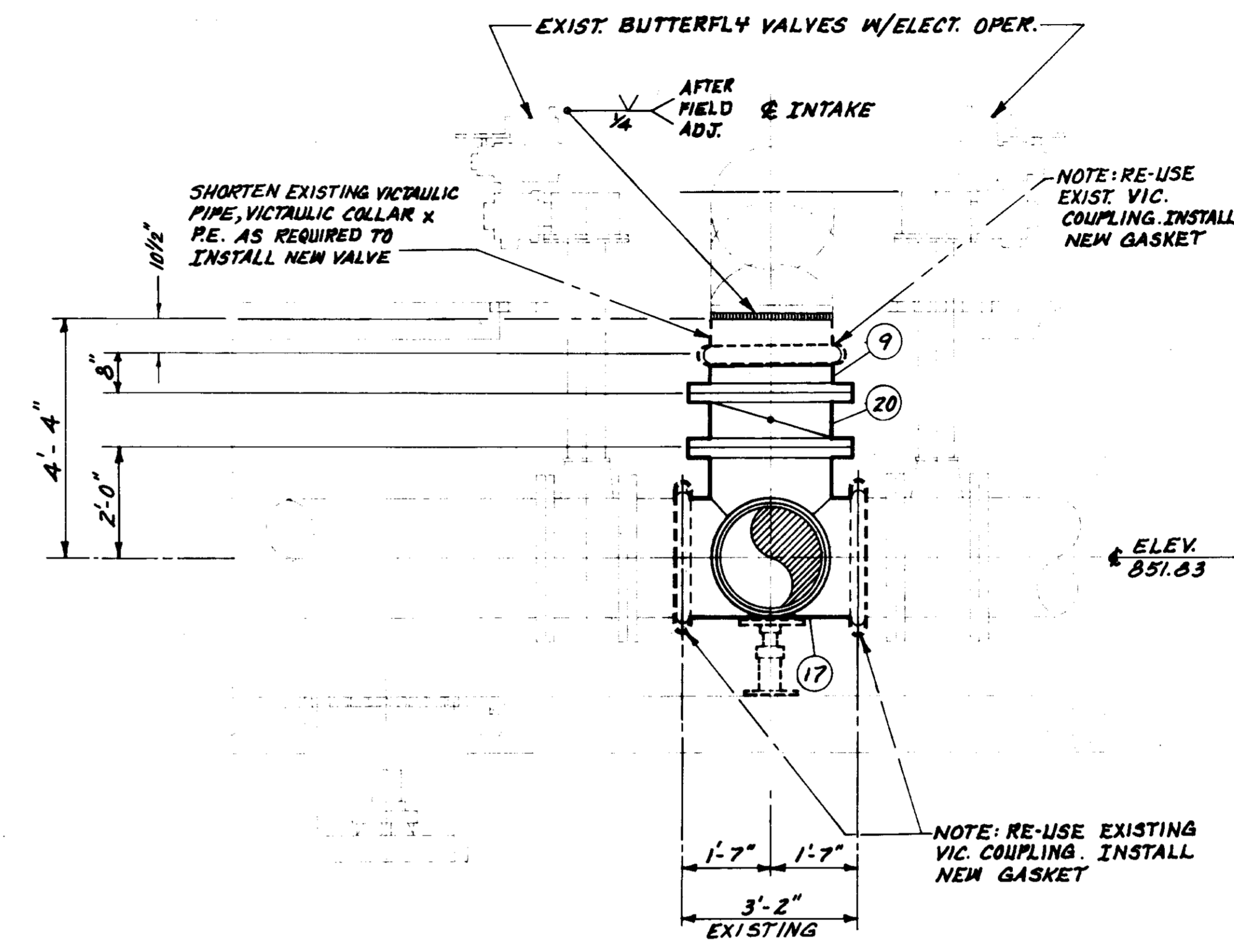
1. ENGINE AND PUMP ASSEMBLY
2. 24" M.L. & C. STEEL PIPE, 4-PIECE 90° ELBOW VICTAULIC x PLAIN END.
3. 24" M.L. & C. STEEL PIPE, P.E. x P.E.
4. 24" M.L. & C. STEEL PIPE, 4-PIECE 90° ELBOW, P.E. x P.E.
5. 24" M.L. & C. STEEL PIPE, 4-PIECE 90° ELBOW, 300LB. FLANGE x PLAIN END.
6. 20" M.L. & C. STEEL PIPE, 300LB. FLANGE x P.E.
7. 20" M.L. & C. STEEL PIPE, 4-PIECE 45° ELBOW AND 4-PIECE 90° ELBOW, VICTAULIC x PLAIN END.
8. 20" M.L. PAINTED STEEL PIPE, VICTAULIC x PLAIN END.
9. 24" M.L. STEEL PIPE, 300LB. FLANGE x VICTAULIC. TYPE C COLLAR TO MATCH EXISTING.
10. 24" M.L. STEEL CONCENTRIC REDUCER, FLANGE x VICTAULIC. FLANGE AND SMALL PIPE TO MATCH PUMP. INCLUDE 1" EXTRA HEAVY STEEL HALF COUPLING AND 3" EXTRA HEAVY STEEL HALF COUPLING PER PLAN.
11. 20" M.L. STEEL CONCENTRIC REDUCER, FLANGE x VICTAULIC. FLANGE AND SMALL PIPE TO MATCH PUMP. INCLUDE 3" EXTRA HEAVY STEEL HALF COUPLINGS PER PLAN.
12. BUTT-STRAP CLOSURE PER L.V.M.W.D. STD. DWG. NO. 7.
13. WALL PENETRATION DETAIL, SEE SHEET 14.
14. STEEL PIPE PER LINE SIZE WITH 300 LB. FLANGE x VICTAULIC END.
15. VICTAULIC STYLE 44 COUPLING PER LINE SIZE.
16. 20" M.L. PAINTED STEEL SIDE OUTLET CROSS, 300LB. FLANGE x VICTAULIC x VICTAULIC x VICTAULIC - SEE SPECIFICATIONS.
17. 24" M.L. PAINTED STEEL SIDE OUTLET CROSS, 300LB. FLANGE x VICTAULIC x VICTAULIC x VICTAULIC WITH 3" EXTRA HEAVY STEEL HALF COUPLING.
18. 20" BUTTERFLY VALVE, CLASS 250, WITH ELECTRIC MOTOR OPERATOR.
19. EXISTING 20" BUTTERFLY VALVE TO BE REMOVED AND DELIVERED TO DISTRICT. SEE #18
20. 24" BUTTERFLY VALVE, CLASS 250, WITH MANUAL OPERATOR.
21. ADJUSTABLE PIPE SUPPORT WITH PIPE RISER AND FLANGE, GRINNELL FIG. 264 OR APPROVED EQUAL.
22. EXISTING PIPE SUPPORTS TO BE MODIFIED AND RE-ADJUSTED TO MEET FIELD CONDITIONS.
23. 1/2" PRESSURE GAUGE MARCH-TYPE 1, C/P PATTERN 1/4" MALE BOTTOM, EQUIPPED WITH RECALLERATOR. PRESSURE RANGE: 0-300 P.S.I. ACCURACY ±1% - SEE DETAIL, SHEET 7.

05952

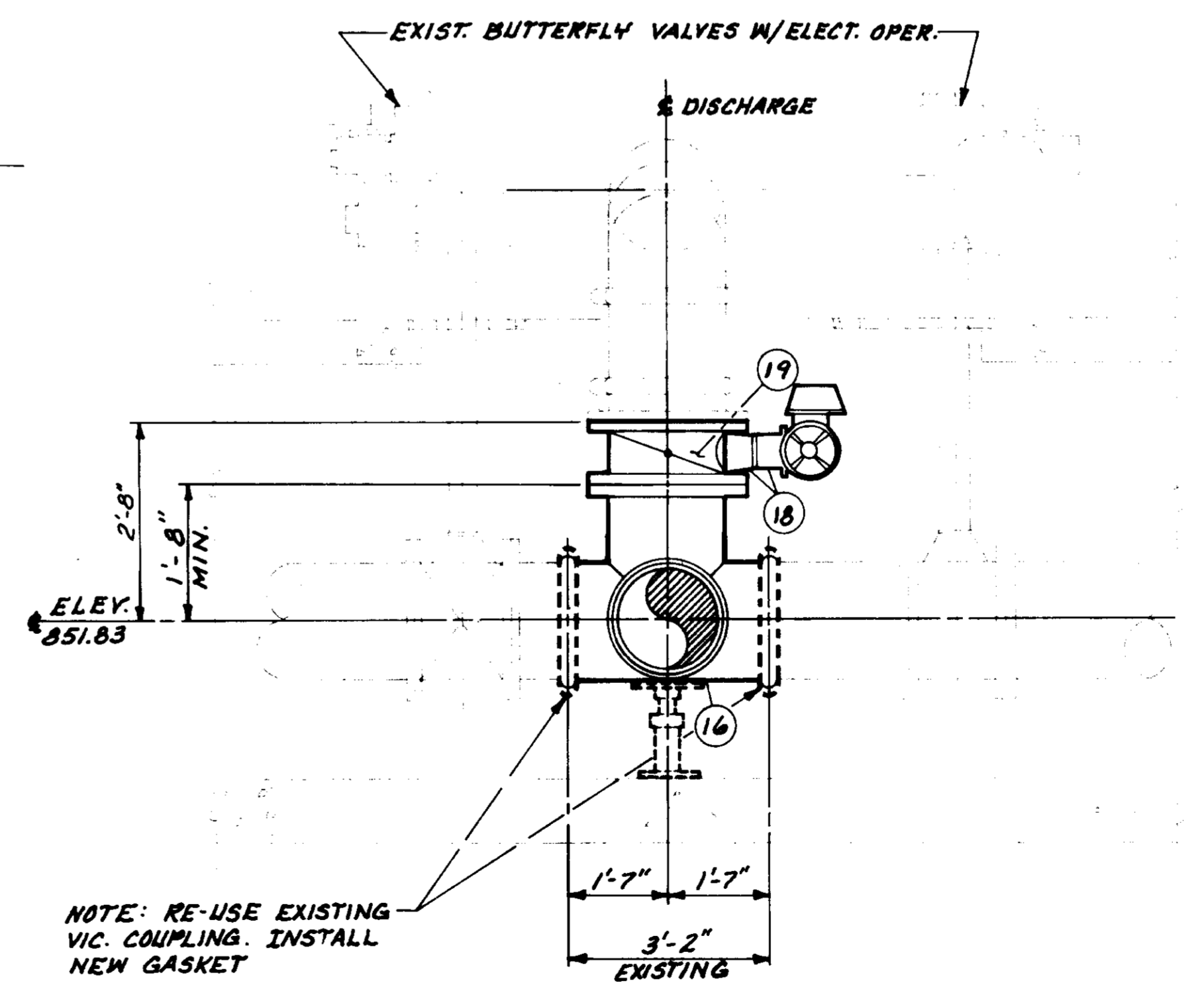
LAS VIRGENES
MUNICIPAL WATER DISTRICT

CORNELL PUMP STATION EXPANSION

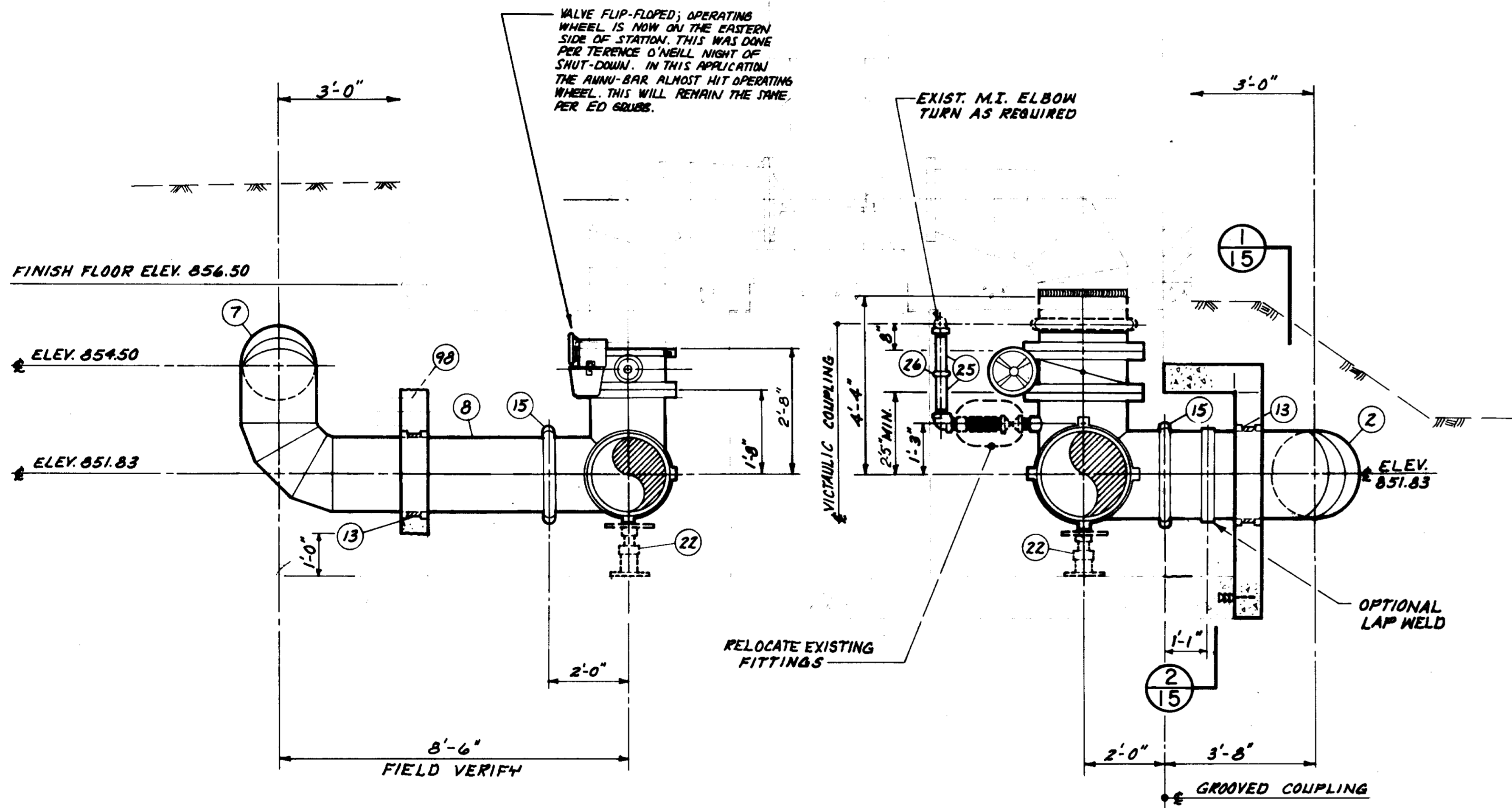
PIPING
SECTIONS A-A, B-B, & C-C



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




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



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

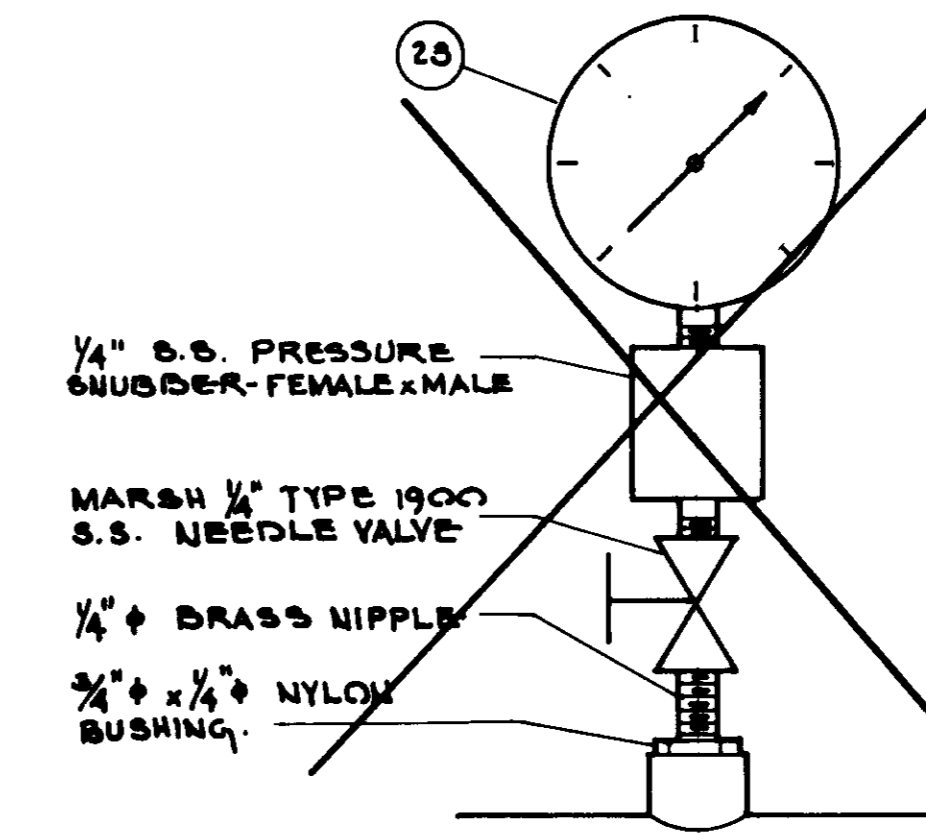
PLAN OF RECORD
DATE: _____ BY: _____

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|----------|--------|--------------------|--------|
| REVISION | DATE | DESCRIPTION | APP. |
| 1 | 7/4/01 | ISSUED FOR BIDDING | J.R.G. |
| 2 | | | |
| 3 | | | |

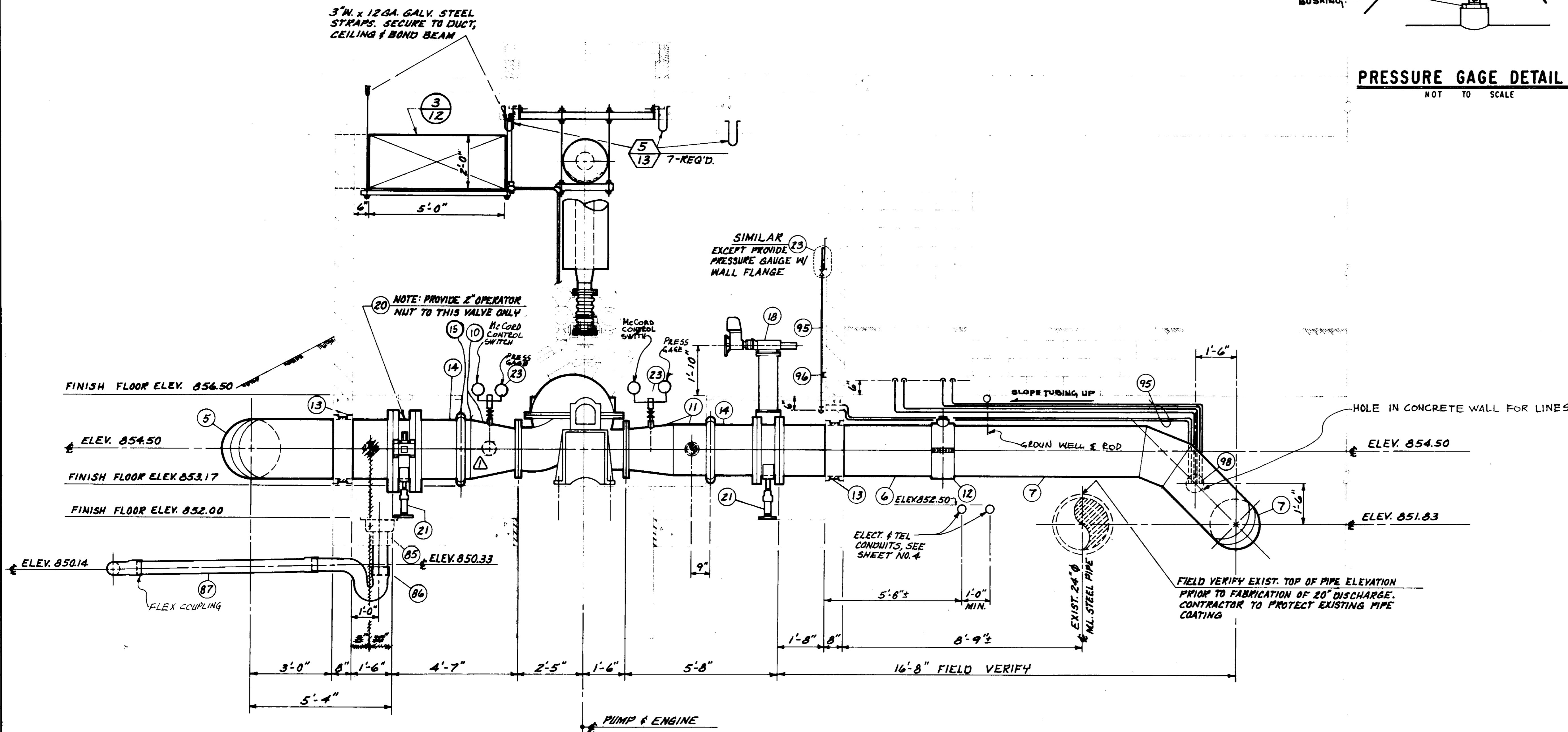

Bous Engineering Corporation
 CONSULTING ENGINEERS / ARCHITECTS
 VENTURA, CA.
 DRAWN BY: J.R.G.
 CHECKED BY: R.A.F.
 DATE: 7/1/01
 SHEET NO. 6
 OF 27 SHEETS
 VT-LOG-114-08
 5-078

COOLING WATER & HOUSE WATER PIPING:

- 25. 3" Ø GALV. STEEL PIPE AND FITTINGS.
- 26. VICTAULIC GALV. STEEL COUPLING.
- 27. 3" Ø - 90° VICTAULIC ELBOW, NO. 10.
- 28. 2" Ø - 90° VICTAULIC ADAPTER ELBOW, THREADED x GROOVED ENDS, NO. 18.
- 29. 3/2" Ø - 90° VICTAULIC ADAPTER ELBOW, THREADED x GROOVED ENDS, NO. 18.
- 30. 3" Ø x 2" Ø VICTAULIC REDUCER, GROOVED x THREADED SMALL END, NO. 52
- 31. 3" Ø x 2" Ø VICTAULIC REDUCER, GROOVED x GROOVED ENDS, NO. 50.
- 32. 3" Ø VICTAULIC TEE, NO. 20.
- 33. 5" Ø VICTAULIC BUTTERFLY VALVE, SERIES 700, WITH MANUAL HANDLE.
- 34. 3" Ø S.S. FLEXIBLE BRAIDED CONNECTOR - 13" LONG.
- 35. 3" Ø GALV. STEEL PIPE, GROOVED x THREADED ENDS.
- 36. 3" Ø GALV. STEEL PIPE, GROOVED x GROOVED ENDS.
- 37. 3" Ø M.I. UNION.
- 38. 3" GATE VALVE, CLASS 250, N.R.S. (SCREWED END)
- 39. 3" CHECK VALVE, SCREWED.
- 40. STEEL WALL BRACKET, NO. 0, GRINNEL FIG. 195, OR APPROVED EQUAL WITH 3/8" CONC. ANCHOR BOLTS, RED HEAD OR EQUAL. COORDINATE WITH HEAT EXCHANGER BEFORE INSTALLATION.
- 41. 3" EXTENDED OFFSET PIPE CLAMP, MITCH FIG. 267 OR APPROVED EQUAL.
- 42. 3/4" WALL PIPE CLAMP.
- 43. 3/4" Ø GALV. STEEL PIPE & FITTINGS.
- 44. 3/4" HOSE VALVE, CL. 250, SCREWED & HOSE CONNECTION VACUUM BREAKER.
- 45. 3/4" GATE VALVE, CL. 250, SCREWED.
- 46. 6" Ø P.V.C. CASING, SCH. 80, 9- FEET LONG - DR4 PACK WITH WEAK GROUT A MINIMUM OF 4" AT EACH END.
- 47. HEAT EXCHANGER PER SPEC'S.
- 48. 3/2" Ø GALV. STEEL PIPE & FITTING.
- 49. 3/2" Ø S.S. FLEXIBLE BRAIDED CONNECTOR - 13" LONG.



PRESSURE GAGE DETAIL
NOT TO SCALE



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

PLAN OF RECORD
DATE: _____ BY: _____

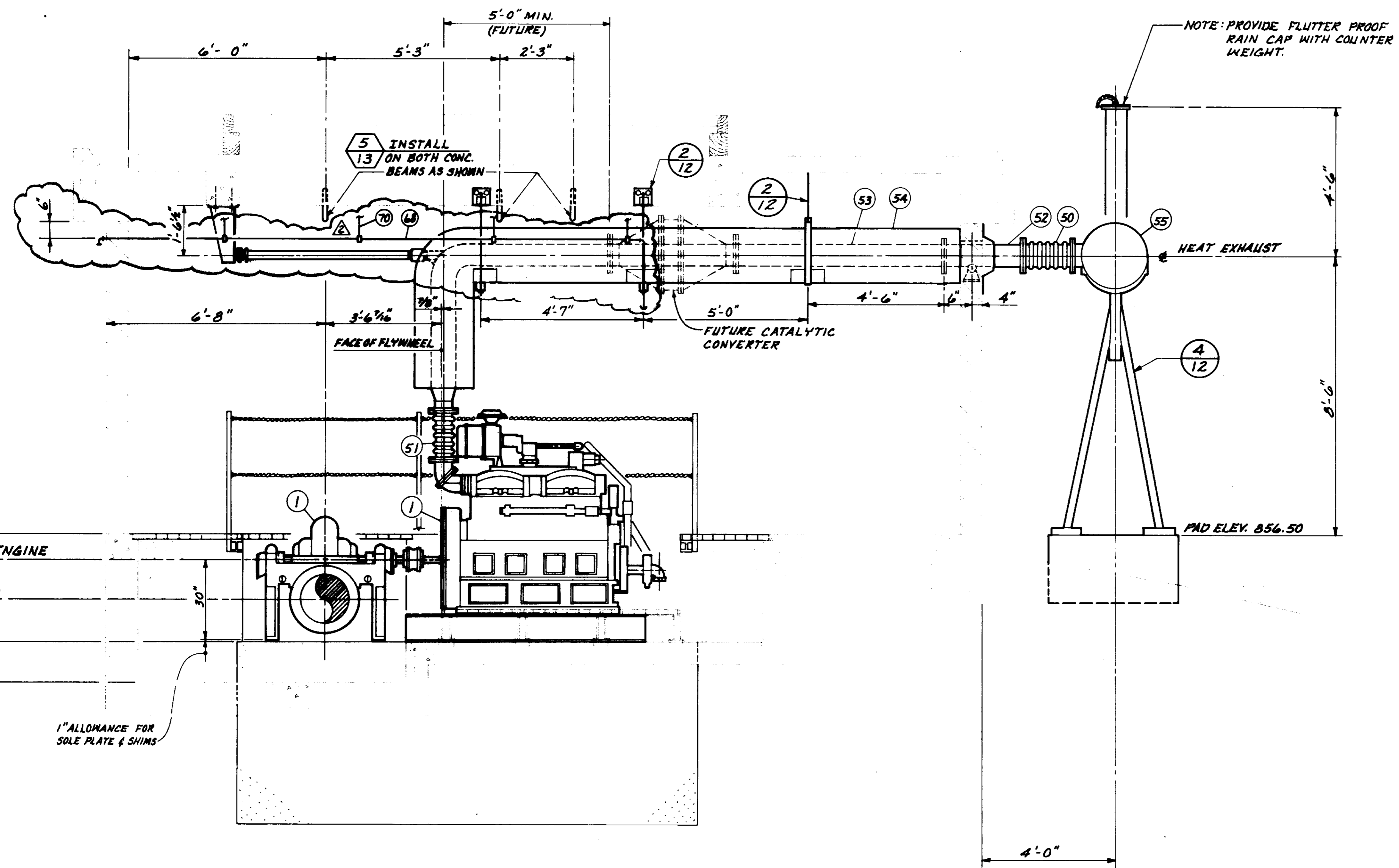
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| DESIGN | A.S.P. | DATE | 7/12/01 | DESCRIPTION | ISSUED FOR BIDDING | APP. | J.R.G. | DATE | 6/27/01 | PROJECT | CORNELL PUMP STATION EXPANSION | SHEET NO. | 7 |
| DRAWN | J.R.G. | DATE | 7/12/01 | DESCRIPTION | ISSUED FOR BIDDING | APP. | J.R.G. | DATE | 6/27/01 | PROJECT | CORNELL PUMP STATION EXPANSION | SHEET NO. | 7 |
| CREATED | R.V. | DATE | 6/27/01 | DESCRIPTION | ISSUED FOR BIDDING | APP. | R.V. | DATE | 6/27/01 | PROJECT | CORNELL PUMP STATION EXPANSION | SHEET NO. | 7 |

05953

LAS VIRGENES
MUNICIPAL WATER DISTRICT

CORNELL PUMP STATION EXPANSION

PIPING
SECTION D-D



EXHAUST SYSTEM:

- 50. 8" Ø FREE FLEXING EXPANSION JOINT WITH FLANGES.
- 51. 6" Ø S.S. FLEXIBLE CONNECTOR.
- 52. 8" STD. WALL STEEL PIPE FLANGE x FLANGE.
- 53. 8" STD. WALL STEEL PIPE FLANGE x PLAIN END.
- 54. INSTALL 6" INSULATION PER SPECIFICATIONS.
- 55. PROVIDE HOSPITAL TYPE MUFFLER. SEE SPECIFICATIONS.

NATURAL GAS LINE:

- 60. 2 1/2" Ø STD. WALL BLACK STEEL PIPE AND MALLEABLE IRON FITTINGS.
- 61. 2" RIGHT & LEFT UNION COUPLINGS.
- 62. 2" IRON GAS LINE COCK - SCREWED.
- 63. 2 1/4" M.I. STAINER - SCREWED.
- 64. 2 1/4" S.S. FLEXIBLE HOSE
- 65. 2 1/4" EXTENDED OFFSET PIPE CLAMP, WITCH FIG. 267, OR APPROVED EQUAL.
- 66. 3" Ø GALV. IRON PIPE WITH U-BOLT AND NUTS WITH THREADED FLOOR FLANGE ANCHORED WITH PHILLIPS RED HEAD CONCRETE ANCHORS.
- 67. 2" x 2 1/2" M.I. REDUCER.
- 68. 1/2" Ø STD. WALL BLACK STEEL PIPE AND MALLEABLE IRON FITTING.
- 69. 1/2" Ø S.S. FLEXIBLE HOSE
- 70. 1/2" WITCH FIG. 1A PIPE HANGER, 3/8" Ø GALV. ROD. ATTACH TO CEILING WITH EXPANDING ANCHOR BOLT SLEEVES. ATTACH TO STEEL TUBE WITH NUTS & LOCKWASHERS.

L.P. GAS LINE:

- 70. 1/2" SCH. 80 STEEL PIPE WITH 2000 P.S.I. BARGED STEEL FITTINGS.
- 71. 1/2" BRONZE NEEDLE VALVE RATED AT 400 P.S.I. W.O.G.
- 72. U.L. APPROVED SOLENOID VALVE RATED AT 400 P.S.I. W.O.G.
- 73. L.P. GAS TANK
- 74. PIPE SUPPORT - 1" CHANNEL WITH RIGID CONDUIT CLAMP, SERIES 702 SUPERSTRUT, OR APPROVED EQUAL.
- 75. L.P. PIPE HANGER - WITCH FIG. 185 HANGER FLANGE, 3/8" Ø STL. THREADED ROD AND FIG. 1A STEEL BAND. SUPPORT FROM CONCRETE WITH PHILLIPS REDHEAD FASTENERS.
- 76. 1/2" BRONZE HIGH PRESSURE FLEXIBLE BRAIDED TUBING - WORKING PRESSURE 7000 P.S.I.

SEE SHEET 10

SECTION E - E

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

05954

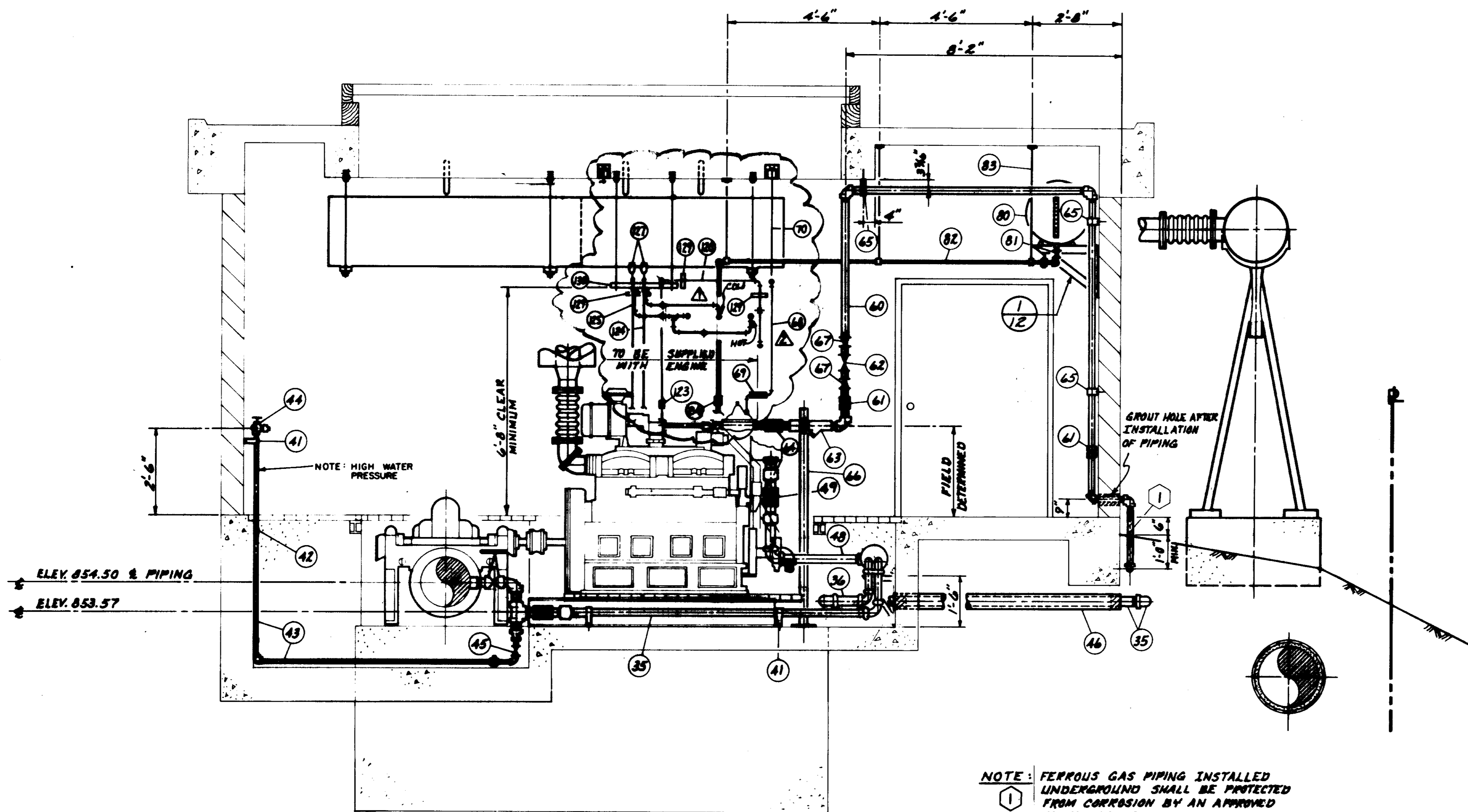
PLAN OF RECORD
DATE: SEPTEMBER 18, 1984 BY: *MC*

LAS VIRGENES MUNICIPAL WATER DISTRICT

CORNELL PUMP STATION EXPANSION

EXHAUST PIPING SECTION E - E

| | | | | |
|------|---------|------------------------------|------------|------|
| REV. | DATE | DESCRIPTION | APP. | DATE |
| 1 | 5-22-83 | ADDED NATURAL GAS VENT PIPE. | <i>JRM</i> | |
| 2 | 5-22-83 | REVISION OF L.P.G. SYSTEM. | <i>JRM</i> | |
| 3 | 7/14/84 | ISSUED FOR BIDDING | <i>JRM</i> | |



SECTION F-F

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

NOTE: FERROUS GAS PIPING INSTALLED UNDERGROUND SHALL BE PROTECTED FROM CORROSION BY AN APPROVED POLYVINYL TAPE.

①

② ALL PIPING SHALL BE PAINTED IN ACCORDANCE WITH STANDARD SPECIFICATION FOR PAINTING AND IDENTIFIED PER "SCHEME FOR THE IDENTIFICATION OF PIPING SYSTEMS" ANSI A13.1, LATEST REVISION. LABELS SHALL BE SETMARK AS MANUFACTURED BY SETON NAME PLATE CORPORATION.

②

△

③ BURIED L.P.G. PIPING SHALL BE COATED PER MATERIALS LIST.

△

④ BURIED L.P.G. PIPING SHALL BE TESTED PRIOR TO BACKFILL. CAL/OSHA INSPECTOR SHALL BE PRESENT FOR L.P.G. SYSTEM PRESSURE TESTS.

L.P.G. SYSTEM:

- 110. L.P.G. TANK, BOLTED TO CONCRETE SLAB WITH 4 - 1/2" S.S. EXPANDING ANCHOR BOLTS, W/SS NUTS & LOCK WASHERS.
- 111. 3/4" L.P. GAS (LIQUID) METALLIC HOSE WITH 1/2" DIA. SUBSTANT COVER.
- 112. 1/2" SCH. 80 BLACK STEEL PIPE, ASTM A-53 GRADE B, WITH 2000 P.S.I. FORGED STEEL FITTINGS. BURIED PIPE SHALL BE COATED WITH SCOTCHBOND 202 AS APPLIED BY FLETCHER COATINGS. BURIED FIELD JOINTS SHALL BE WRAPPED WITH 2 LAYERS OF 30 MIL PVC TAPE, JOINTS TO BE COATED TO AT LEAST 6" ABOVE GROUND SURFACE.
- 113. 1/2" BALL VALVE, RATED AT 400 P.S.I., APPROVED FOR LIQUID PROPANE.
- 114. HYDROSTATIC RELIEF VALVE, 2 REQUIRED.
- 115. 1/4" SCH. 80 BLACK STEEL PIPE, ASTM A-53 GRADE B, WITH 2000 P.S.I. FORGED STEEL FITTINGS.
- 116. 1/4" FILTERLOCK, RATED AT 400 P.S.I. FOR LIQUID PROPANE, DEENERGIZED-CLOSED EXPLOSION PROOF ENCLOSURE, 24 VDC, UL APPROVED, 250 P.S.I. OPERATING PRESSURE, FLOW RATE SUFFICIENT TO OPERATE ENGINE AT FULL CAPACITY. ELECTRICAL CONDUIT TO CONNECT TO FILTERLOCK.
- 117. 1/4" UNION RATED AT 2000 P.S.I., 4 REQ'D.
- 118. 1/4" BALL VALVE, RATED AT 400 P.S.I., APPROVED FOR LIQUID PROPANE.
- 119. PROPANE VAPORIZER, 2 REQUIRED.
- 120. 2 1/2" SCH. 40 BLACK STEEL PIPE, ASTM A-53 GRADE B WITH CLASS 150 MALLEABLE IRON FITTINGS. USE REDUCING FITTINGS AS REQUIRED AT VAPORIZERS.
- 121. 2 1/2" UNION, RATED AT 150 P.S.I., 2 REQ'D.
- 122. 2 1/2" CLASS 150 MALLEABLE IRON TEE WITH ONE MALLEABLE IRON PLUG.
- 123. 2 1/2" L.P. GAS (VAPOR) METALLIC HOSE.
- 124. HOT WATER SUPPLY: 1" STD. WALL GALV. STEEL PIPE WITH CLASS 150 GALV. MALLEABLE IRON FITTINGS. RUBBER HOSE CONNECTIONS ARE ACCEPTABLE ON TWO SIDES OF TEE AS SHOWN IN SECTION (A), SHEET II. USE REDUCING FITTINGS AS REQUIRED AT VAPORIZERS. PIPE LOCATED INSIDE BUILDING SHALL BE INSULATED WITH 1" THICK JOHNS-MANVILLE MICRO-LOK 650 WITH TYPE AP JACKET & ZESTON PVC INSULATED FITTING COVERS.
- 125. HOT WATER RETURN LINE: 1" STD. WALL GALV. STEEL PIPE WITH CLASS 150 GALV. MALLEABLE IRON FITTINGS. USE REDUCING FITTINGS AS REQUIRED AT VAPORIZERS. PIPE LOCATED INSIDE BUILDING SHALL BE INSULATED WITH 1" THICK JOHNS-MANVILLE MICRO-LOK 650 WITH TYPE AP JACKET & ZESTON PVC INSULATED FITTING COVERS.
- 126. 1" CLASS 150 GALV. MALLEABLE IRON CROSS WITH ONE BRANCH PLUGGED. 2 REQUIRED.
- 127. 1/2" AIR RELEASE VALVE, APCO NO. 55, FOR LOW PRESSURE (UNDER 10 P.S.I.) AND HIGH TEMPERATURE (UP TO 175°F).
- 128. STEEL ENCLOSURE FOR VAPORIZER ASSEMBLY, 14 GA., GALV. BOTTOM TO BE OPEN. EXACT DIMENSIONS TO BE DETERMINED BY ENGINE MANUFACTURER.

05956

PLAN OF RECORD

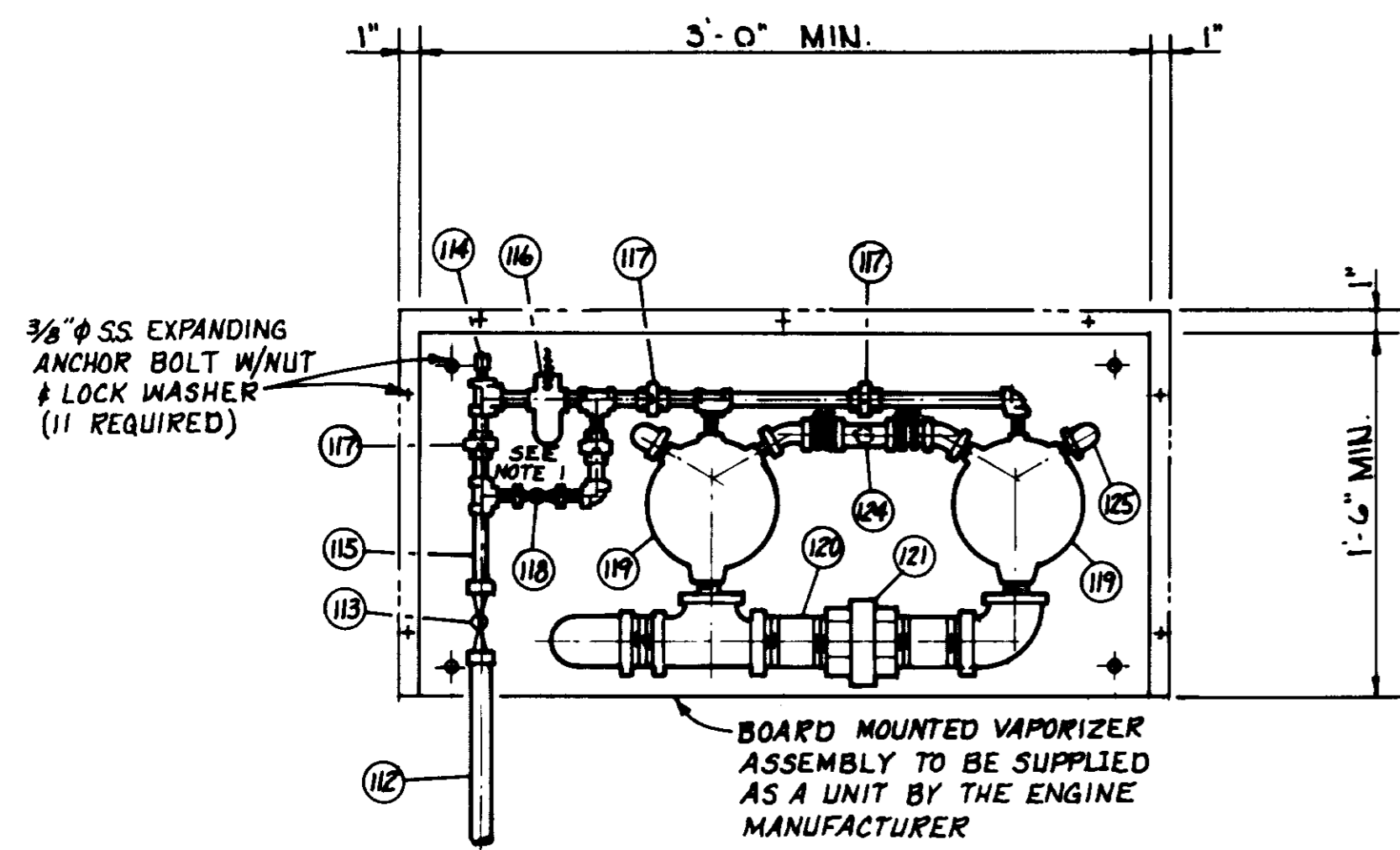
DATE: _____ BY: _____

LAS VIRGENES MUNICIPAL WATER DISTRICT

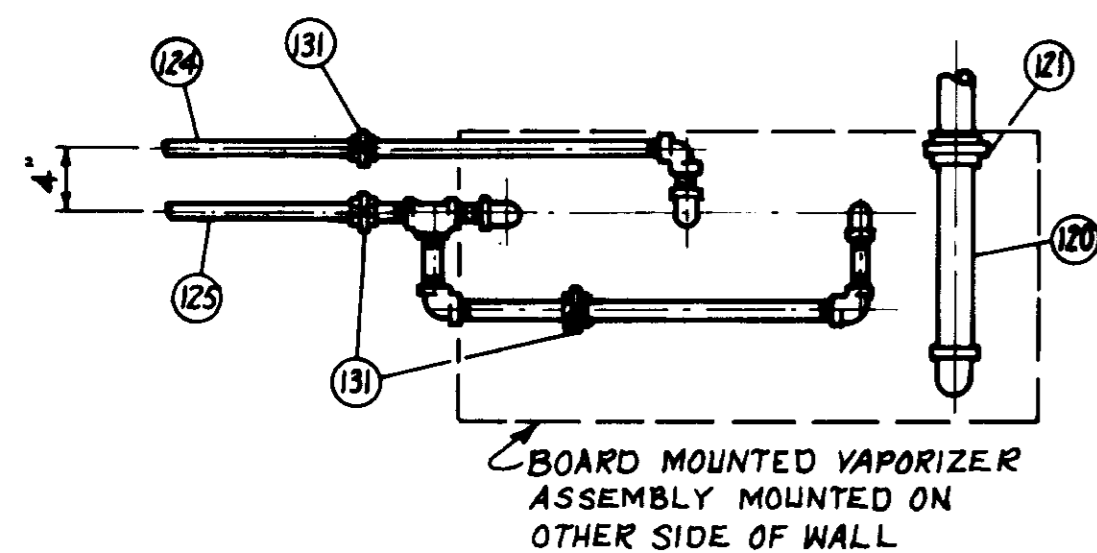
CORNELL PUMP STATION EXPANSION

MISCELLANEOUS PIPING SECTION F-F

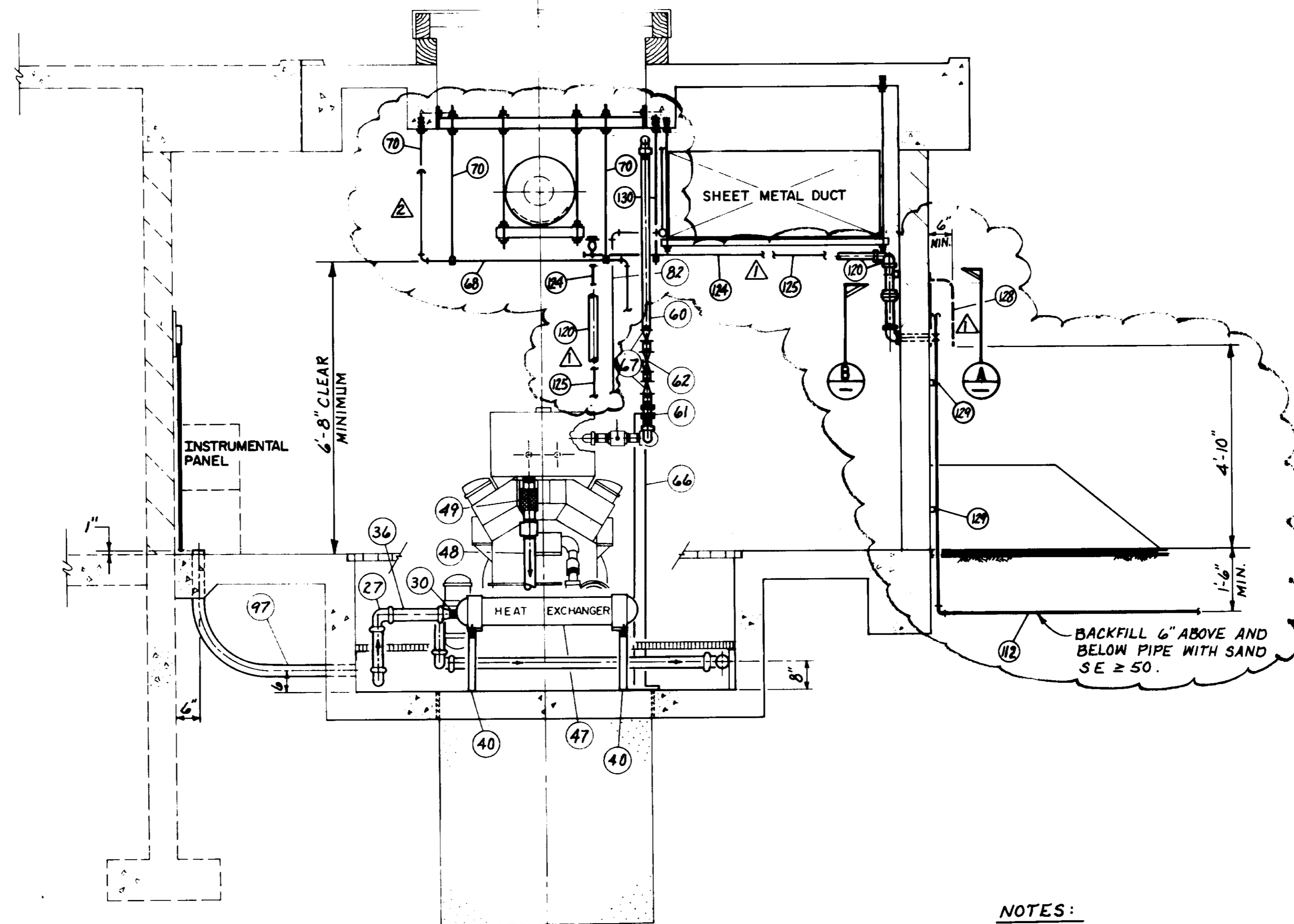
| | | | |
|---------|-----------------------------|--------|----|
| 3-22-03 | ADDED NATURAL GAS VENT PIPE | J.R.G. | 10 |
| 3-22-03 | REVISION OF L.P.G. SYSTEM. | J.R.G. | 10 |
| | ISSUED FOR BIDDING | J.R.G. | 10 |



SECTION A
NOT TO SCALE



SECTION B
NOT TO SCALE



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

NOTES:

- 1. SEPARATE FILTER AND SOLENOID VALVE (WITH BYPASS VALVE) WILL BE CONSIDERED AN ACCEPTABLE ALTERNATE CONFIGURATION.

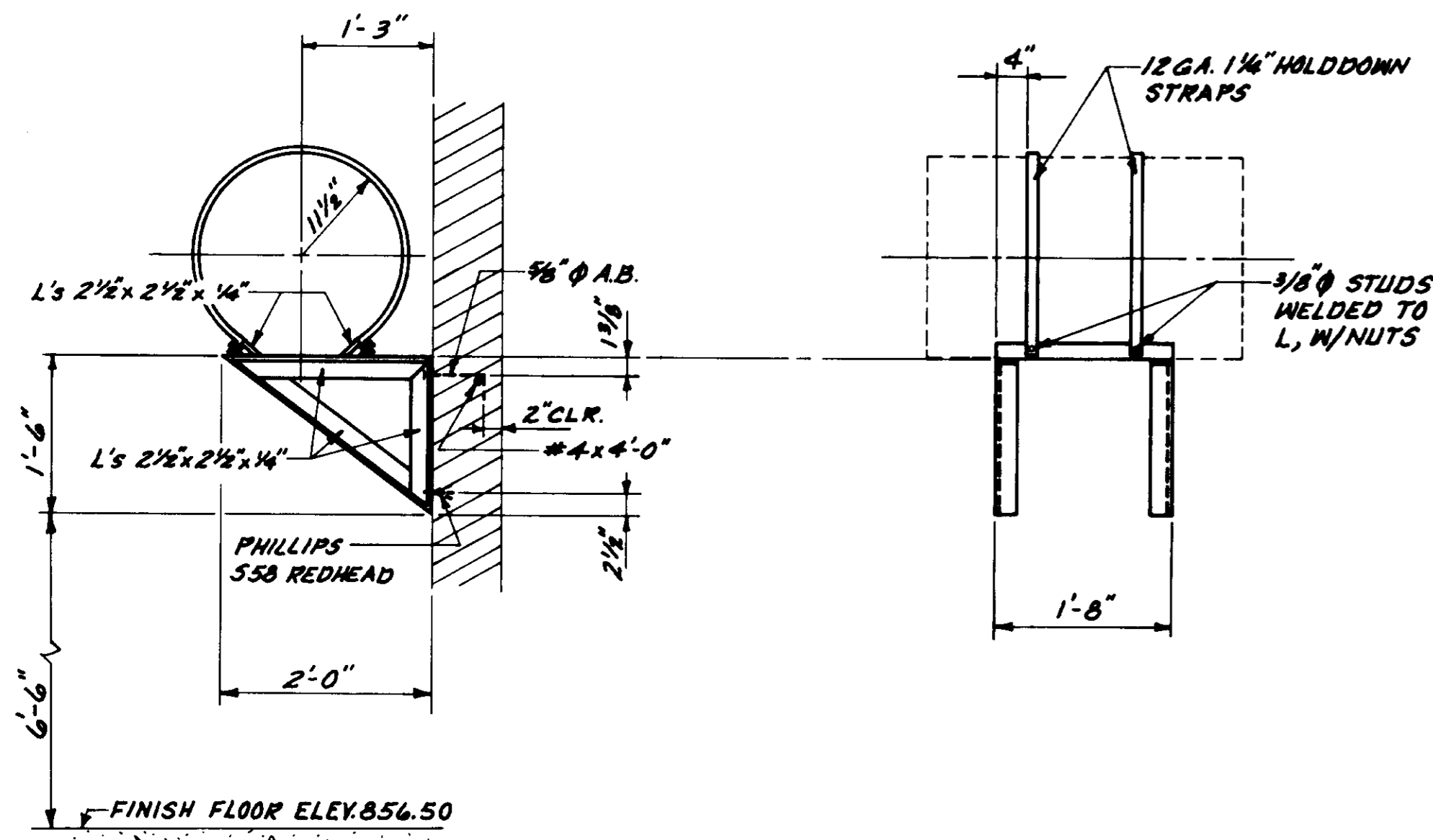
L.P.G. SYSTEM: (CONTINUED)

- 129. 1 5/8" x 1 5/8" PUNCHED STEEL CHANNEL, SUPERSTRUT SERIES A-1200-P WITH SUPERSTRUT SERIES 702 PIPE CLAMPS, STD. ELECTRO CHROMATE FINISH, LENGTH AS REQUIRED. ATTACH TO WALL WITH A MINIMUM OF 2-3/8" EXPANDING ANCHOR BOLTS.
- 130. 1 5/8" x 1 5/8" PUNCHED STEEL CHANNEL, SUPERSTRUT SERIES A-1200-P WITH SUPERSTRUT SERIES 702 PIPE CLAMPS, STD. ELECTRO CHROMATE FINISH, LENGTH AS REQUIRED. HANG FROM CEILING WITH 2-1/2" GALV. THREADED STEEL RODS. ATTACH RODS TO CEILING WITH EXPANDING ANCHOR BOLT INSERTS.
- 131. 1" UNION, RATED AT 150 PSI., 3 REQUIRED.

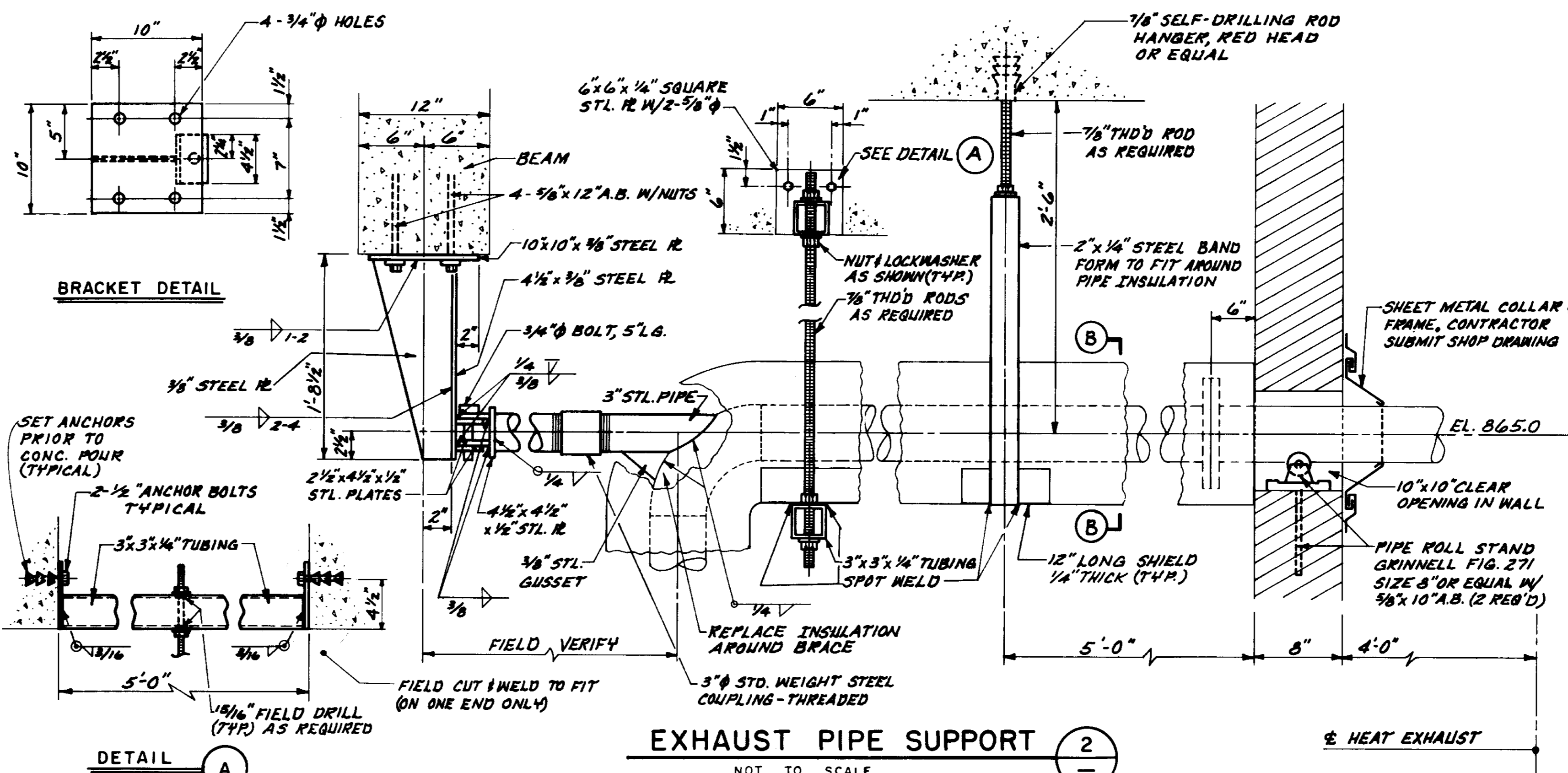
PLAN OF RECORD
DATE: _____ BY: _____

| | | | | | |
|--------------------|---------|-----------------------------|---------|------|---------|
| DESIGN | 3-22-83 | ADDED NATURAL GAS VENT PIPE | ASB/JRG | DATE | 3-22-83 |
| REVISION | 3-22-83 | REVISION OF L.P.G. SYSTEM | ASB/JRG | DATE | 3-22-83 |
| ISSUED FOR BIDDING | 7/2/86 | | ASB/JRG | DATE | 7-2-86 |
| REV. | DATE | DESCRIPTION | APP. | DATE | |

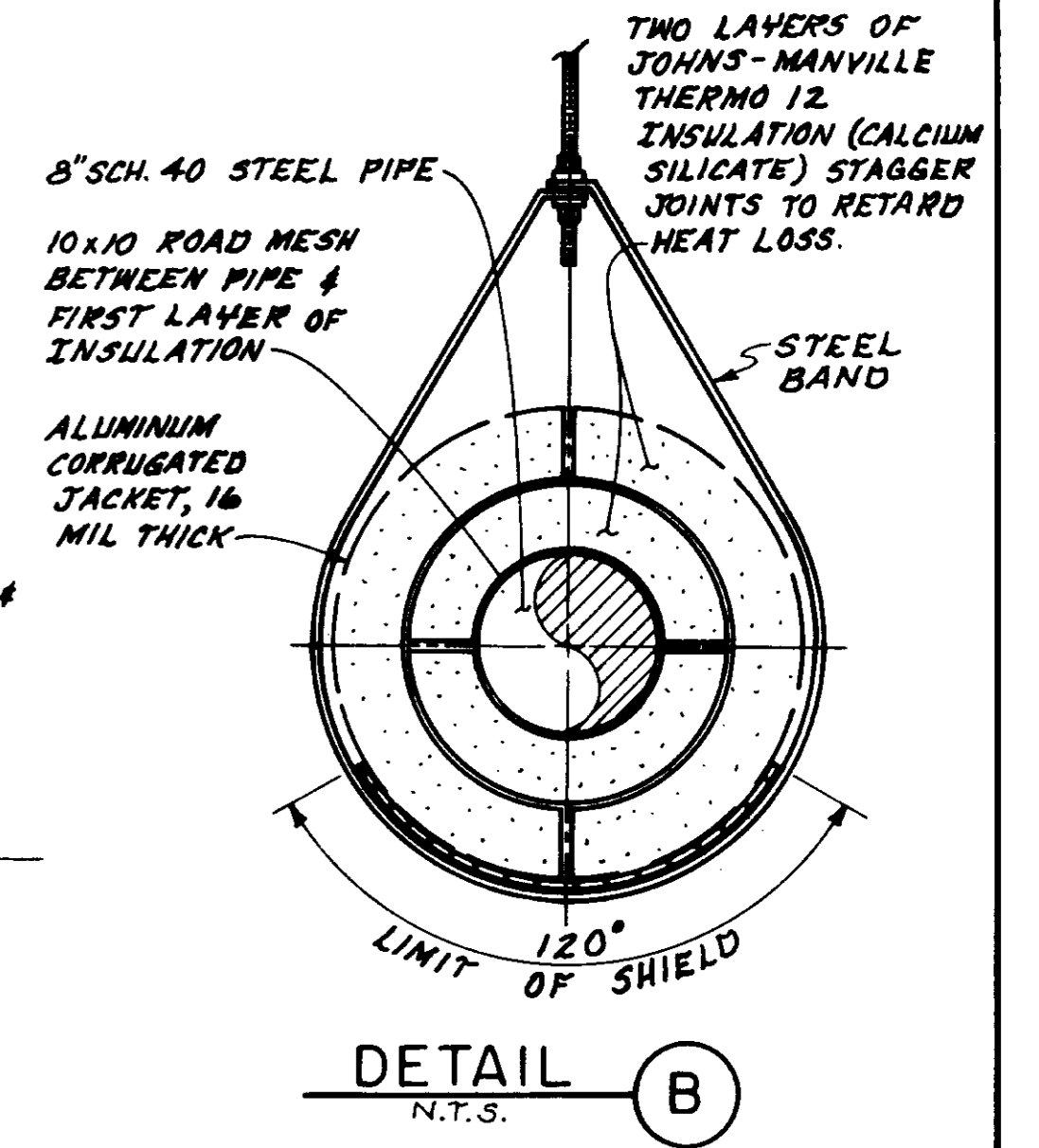
05957
LAS VIRGENES
MUNICIPAL WATER DISTRICT
CORNELL PUMP STATION EXPANSION
MISCELLANEOUS PIPING
SECTION G-G



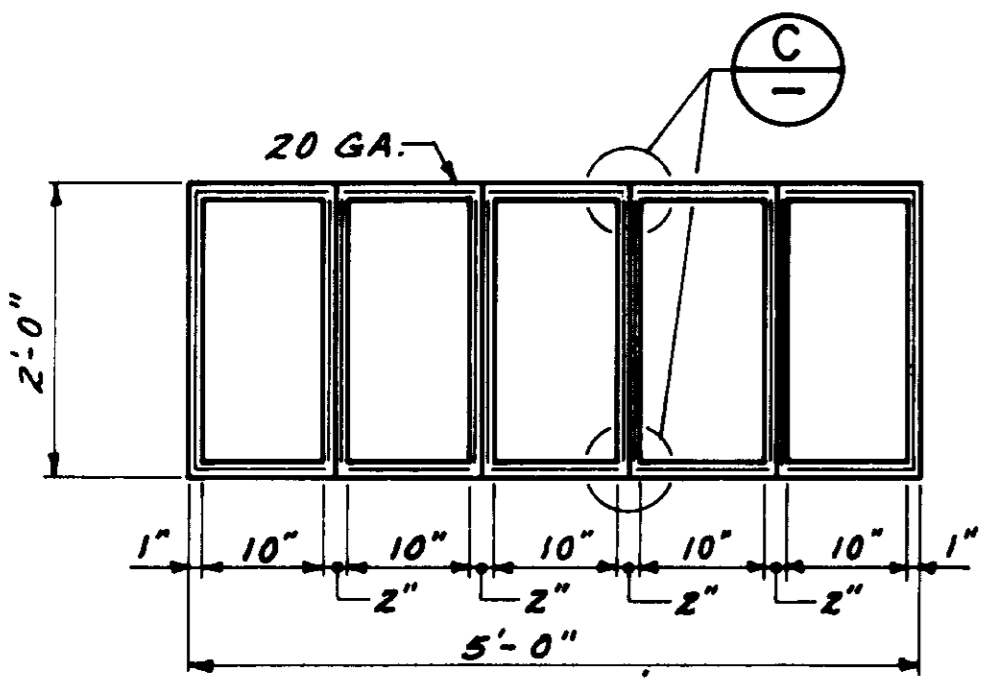
OIL TANK SUPPORT
SCALE: 3/4" = 1'-0"



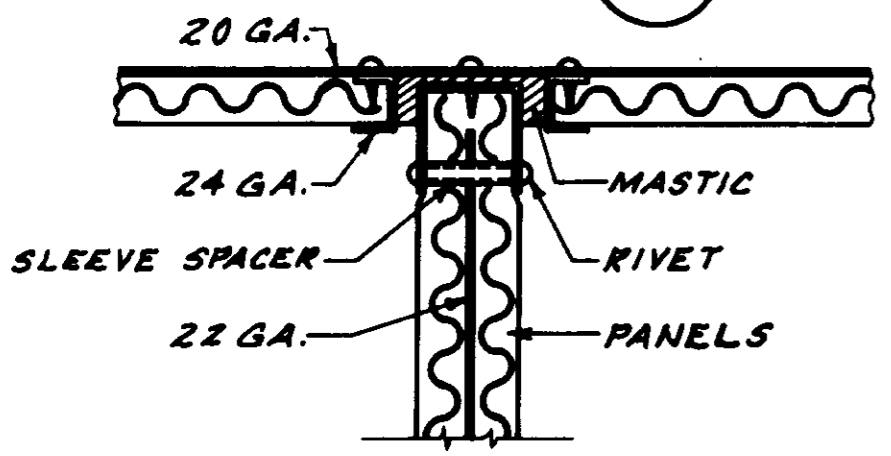
EXHAUST PIPE SUPPORT
NOT TO SCALE



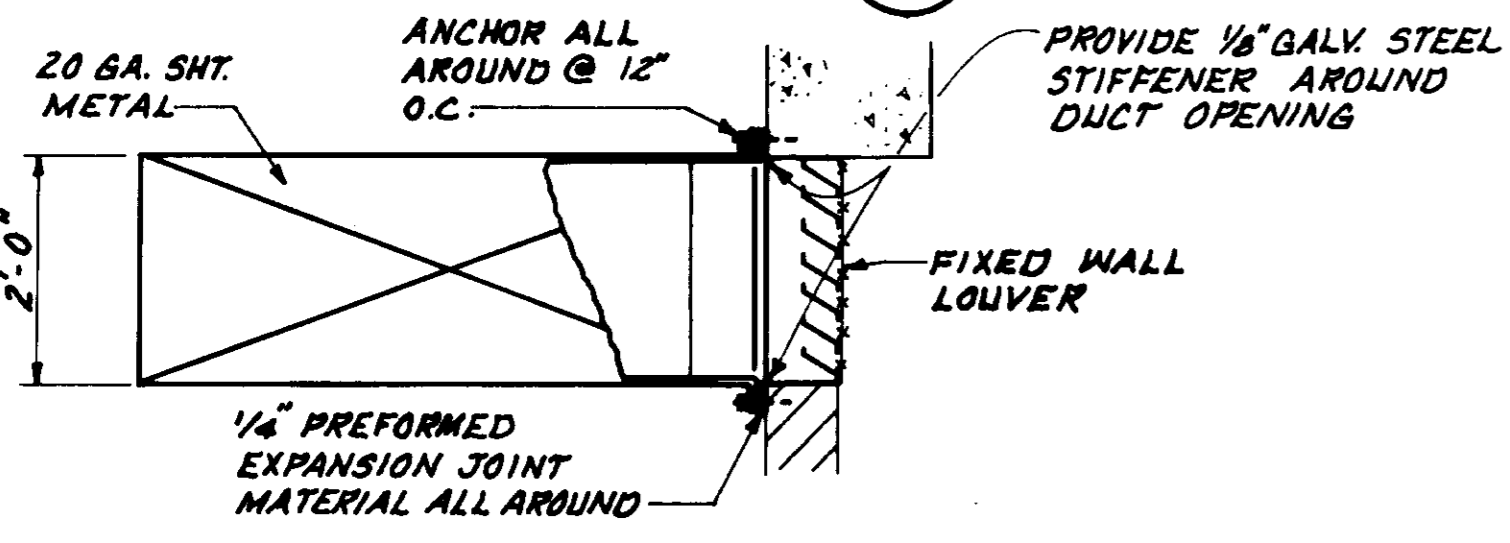
DETAIL B
N.T.S.



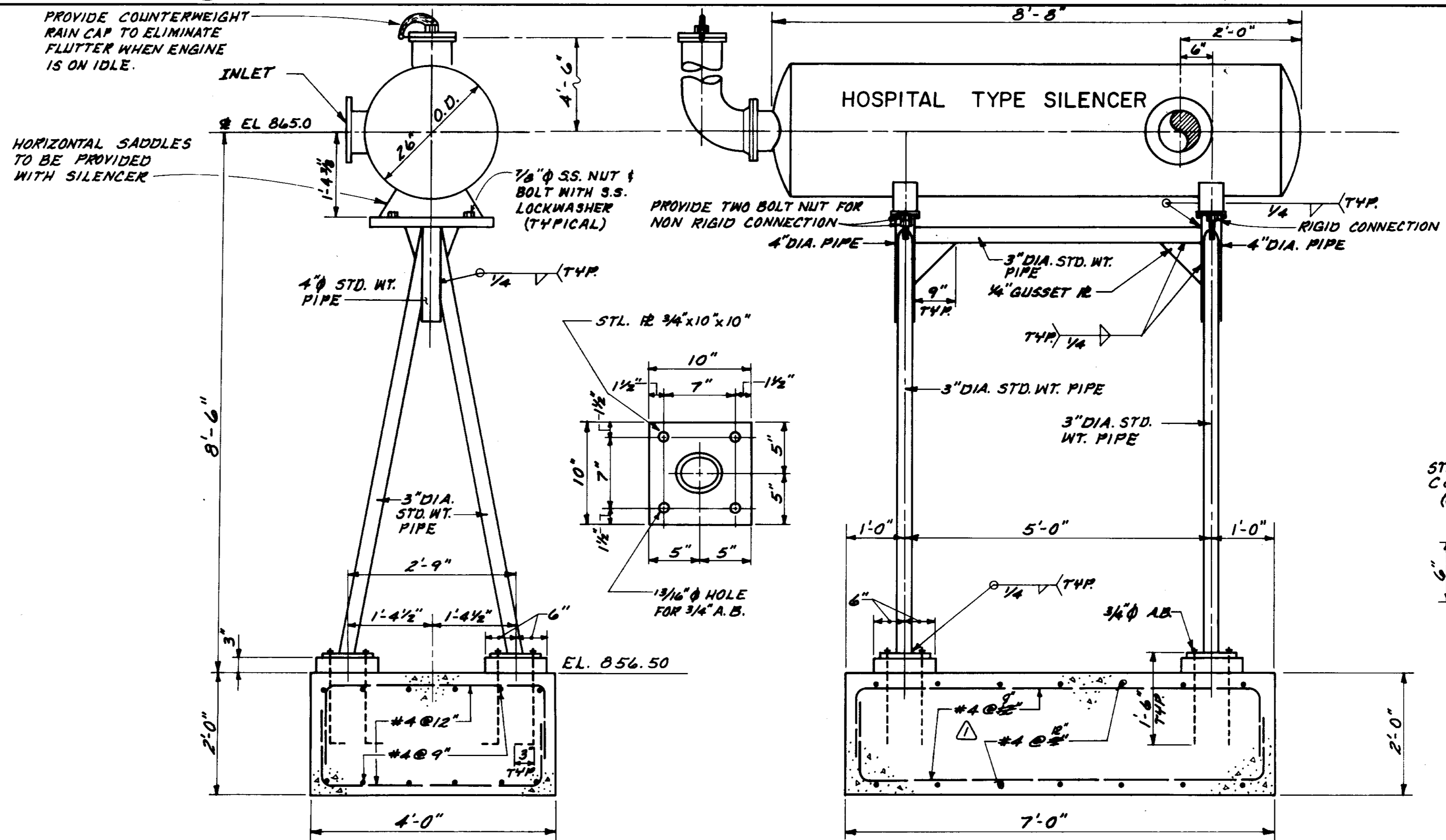
SECTION A
N.T.S.



ACOUSTICAL DUCT DETAIL
N.T.S.

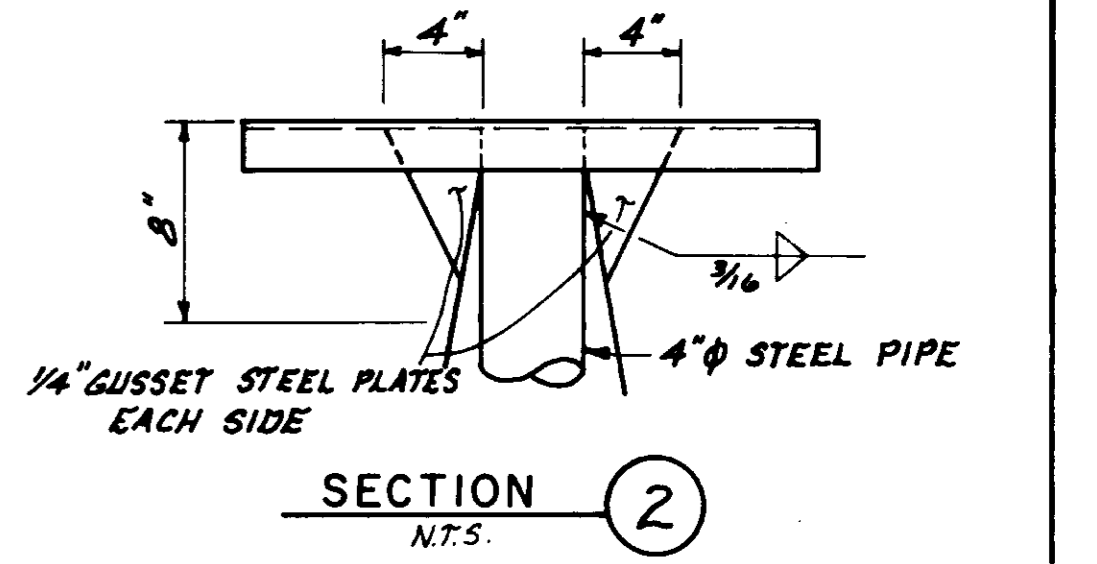


DETAIL C
N.T.S.

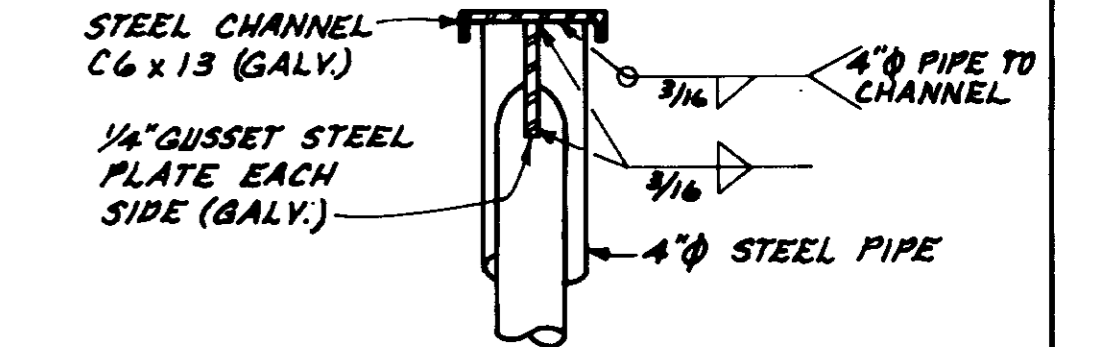


PLAN OF RECORD
DATE: _____ BY: _____

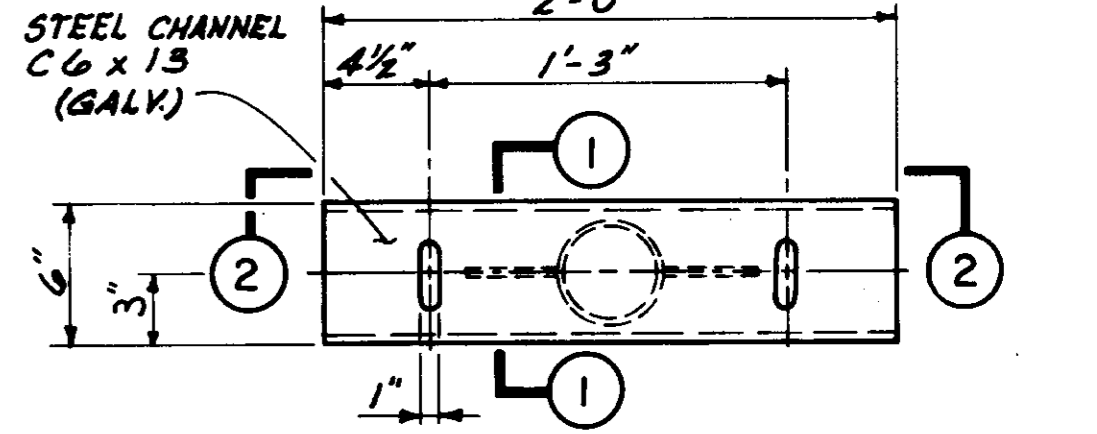
SILENCER SUPPORT
SCALE: 3/4" = 1'-0"



SECTION 2
N.T.S.



SECTION 1
N.T.S.



DETAIL D
N.T.S.

LAS VIRGENES MUNICIPAL WATER DISTRICT
CORNELL PUMP STATION EXPANSION

MISCELLANEOUS DETAILS

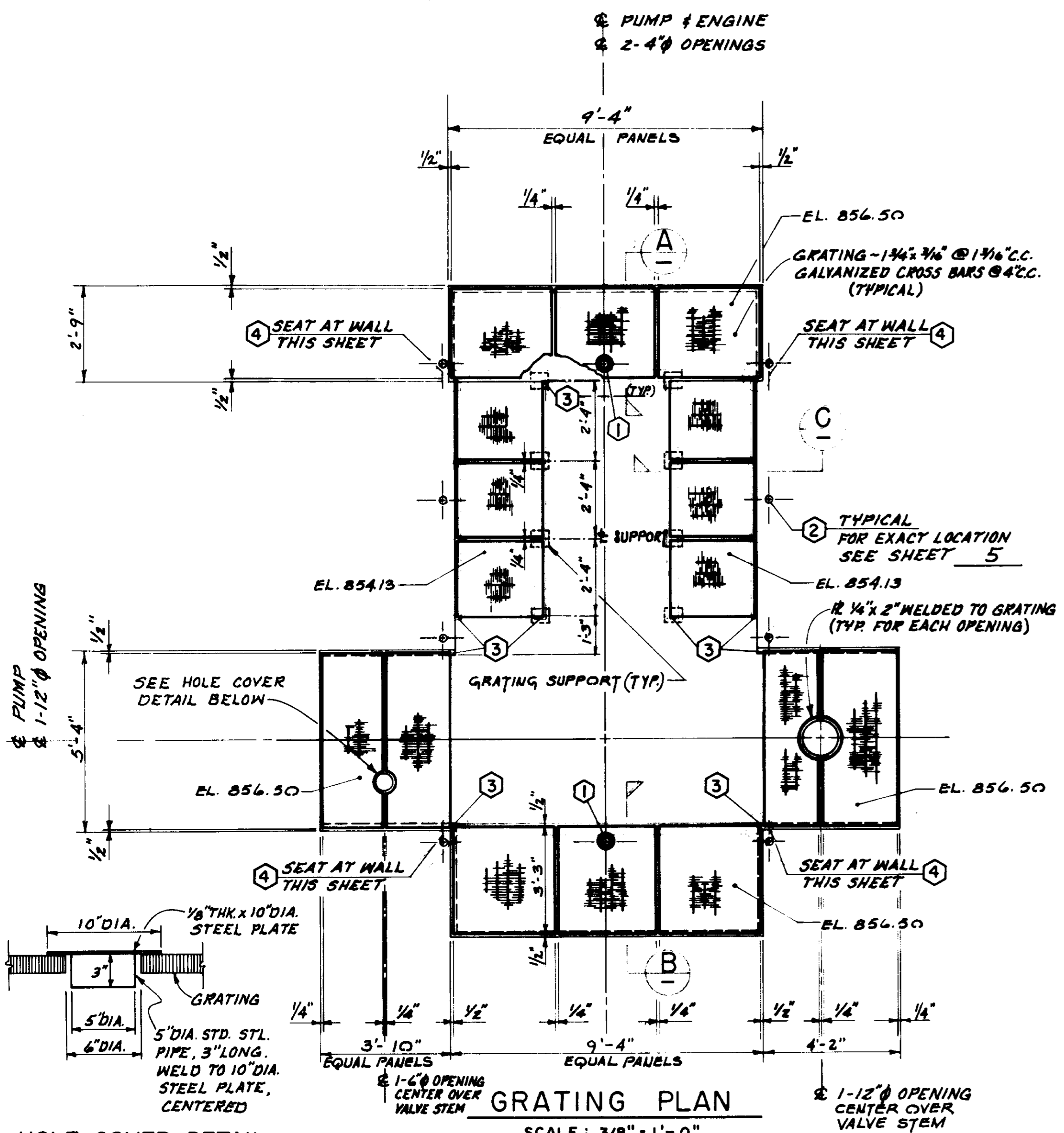
05958

| | | | | |
|----------|---------|-----------------------|-----|------|
| REVISION | DATE | DESCRIPTION | BY | APP. |
| 1 | 11/2/82 | CORRECTED REBAR LABEL | SKM | |
| 2 | 1/2/83 | ISSUED FOR BIDDING | DM | |
| 3 | 6/25/82 | | RV | |

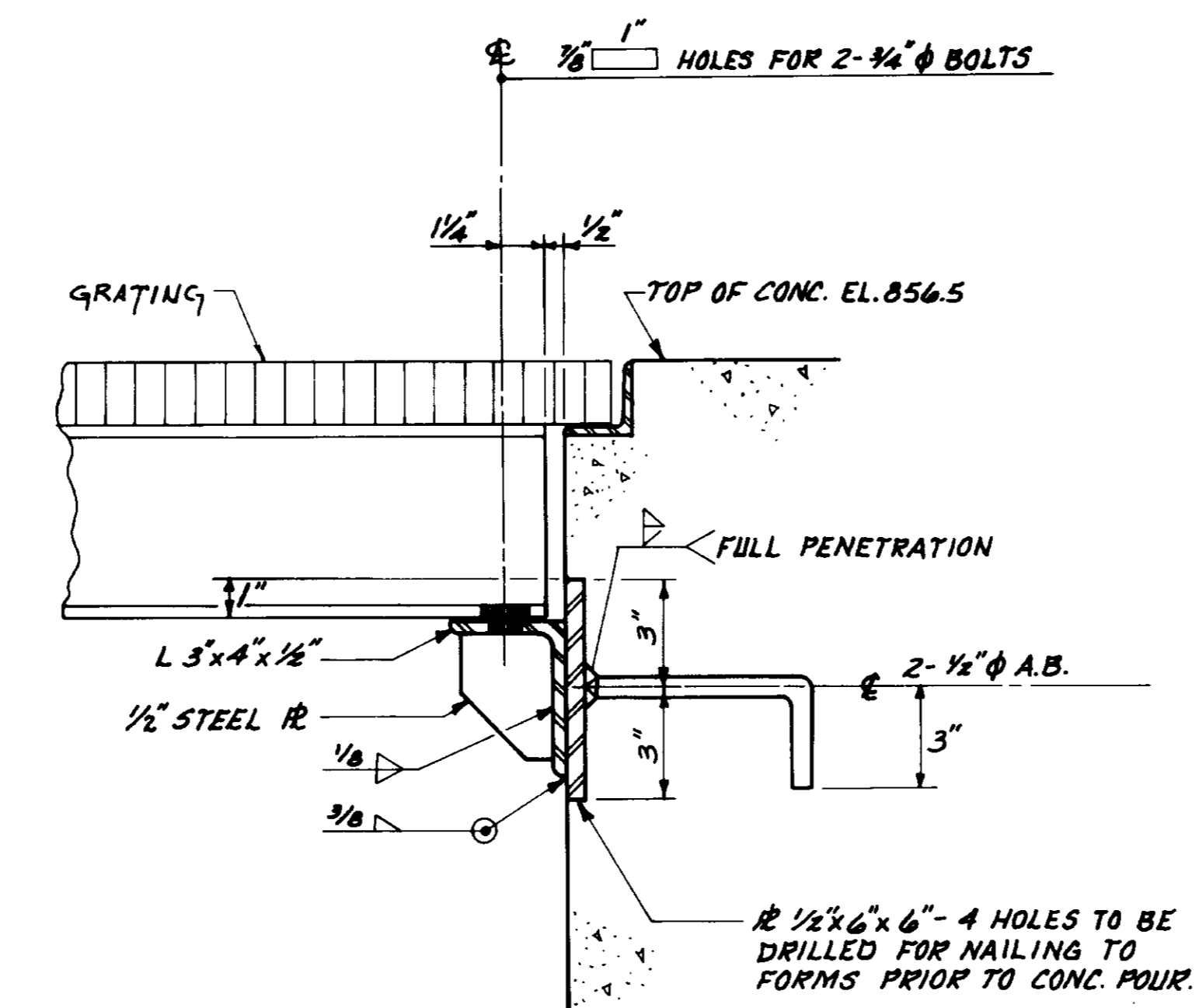
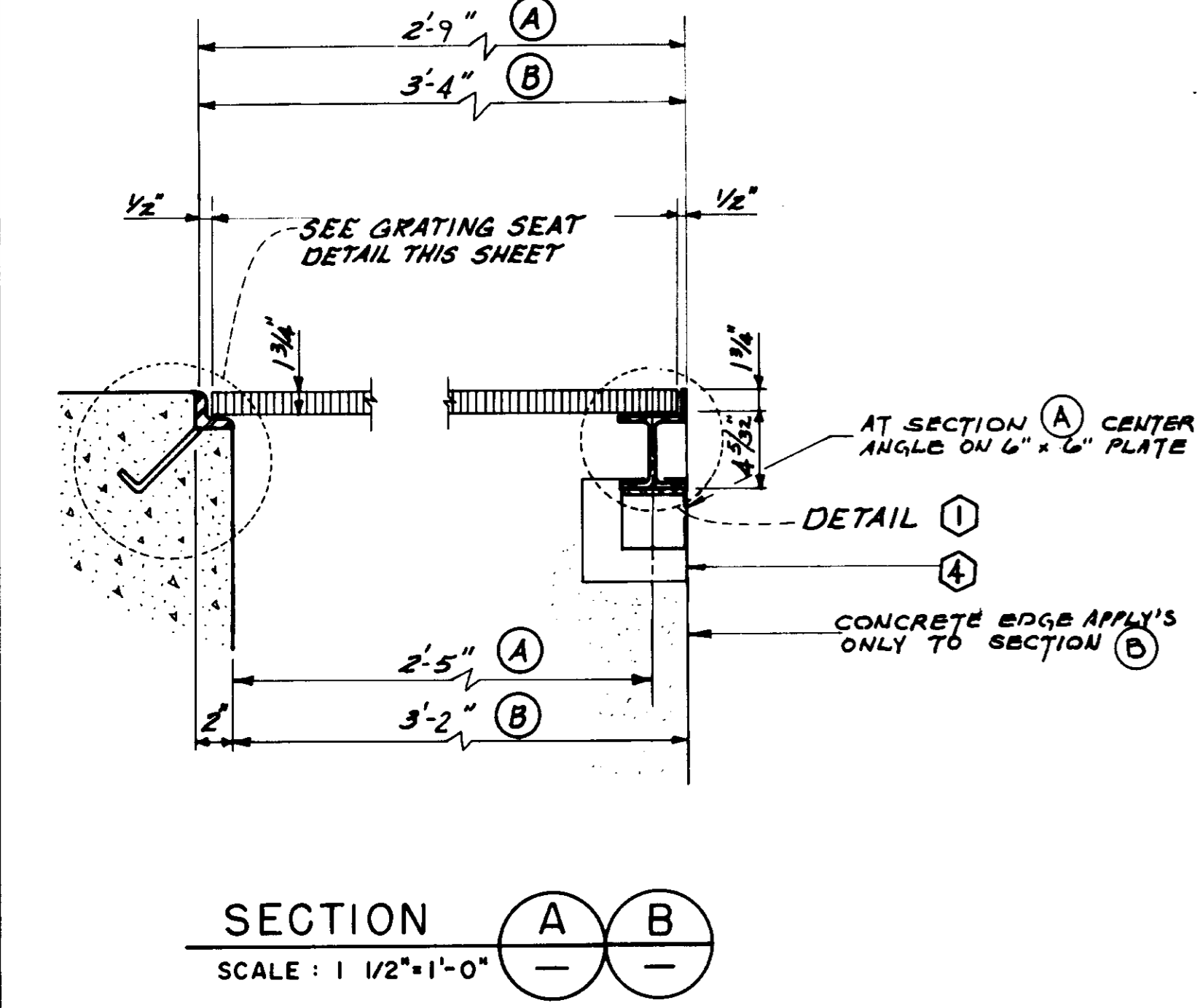
SOLE ENGINEERING CORPORATION
CONSULTING ENGINEERS / ARCHITECTS
VENTURA, CA.

Robert Williamson
DATE: 6/25/82
SCALE: 1/8" = 1'-0"

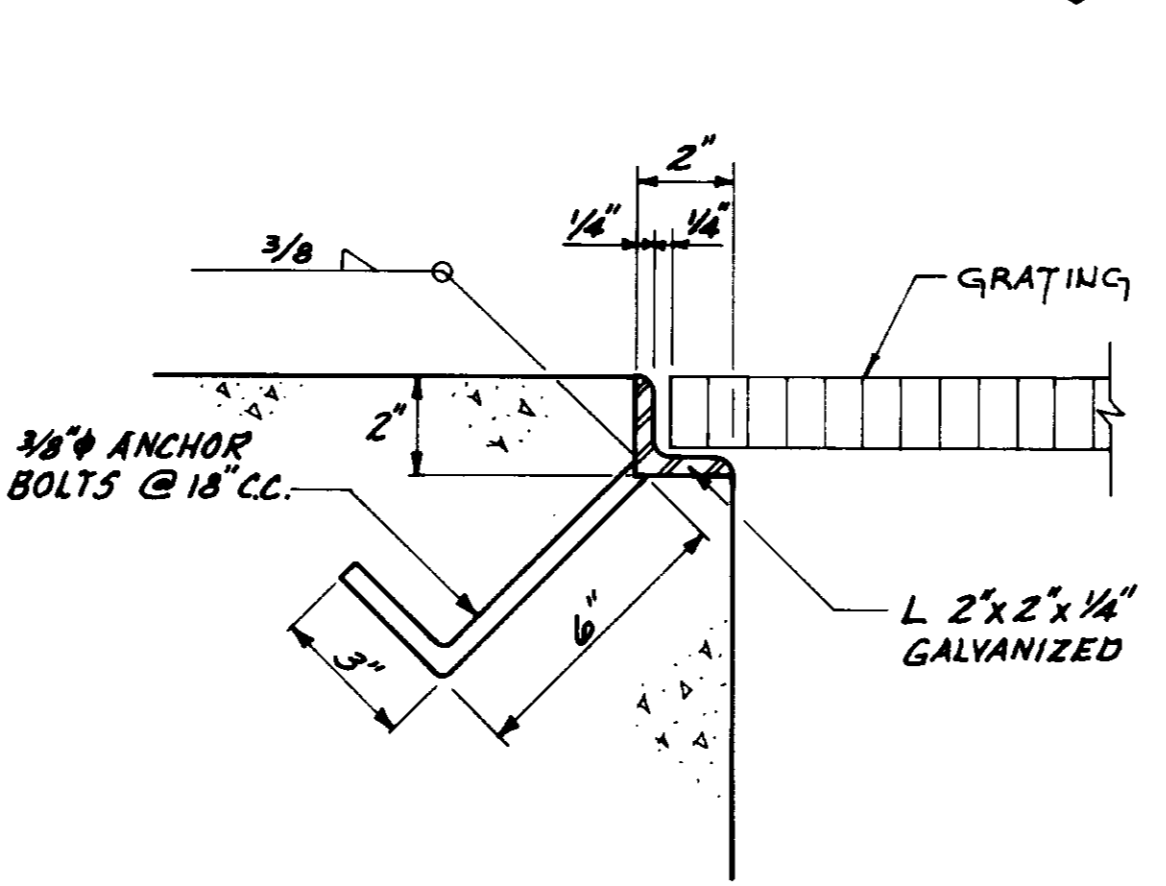
SHEET NO. 12
OF 27 SHEETS
VT-102-114-06
5-078



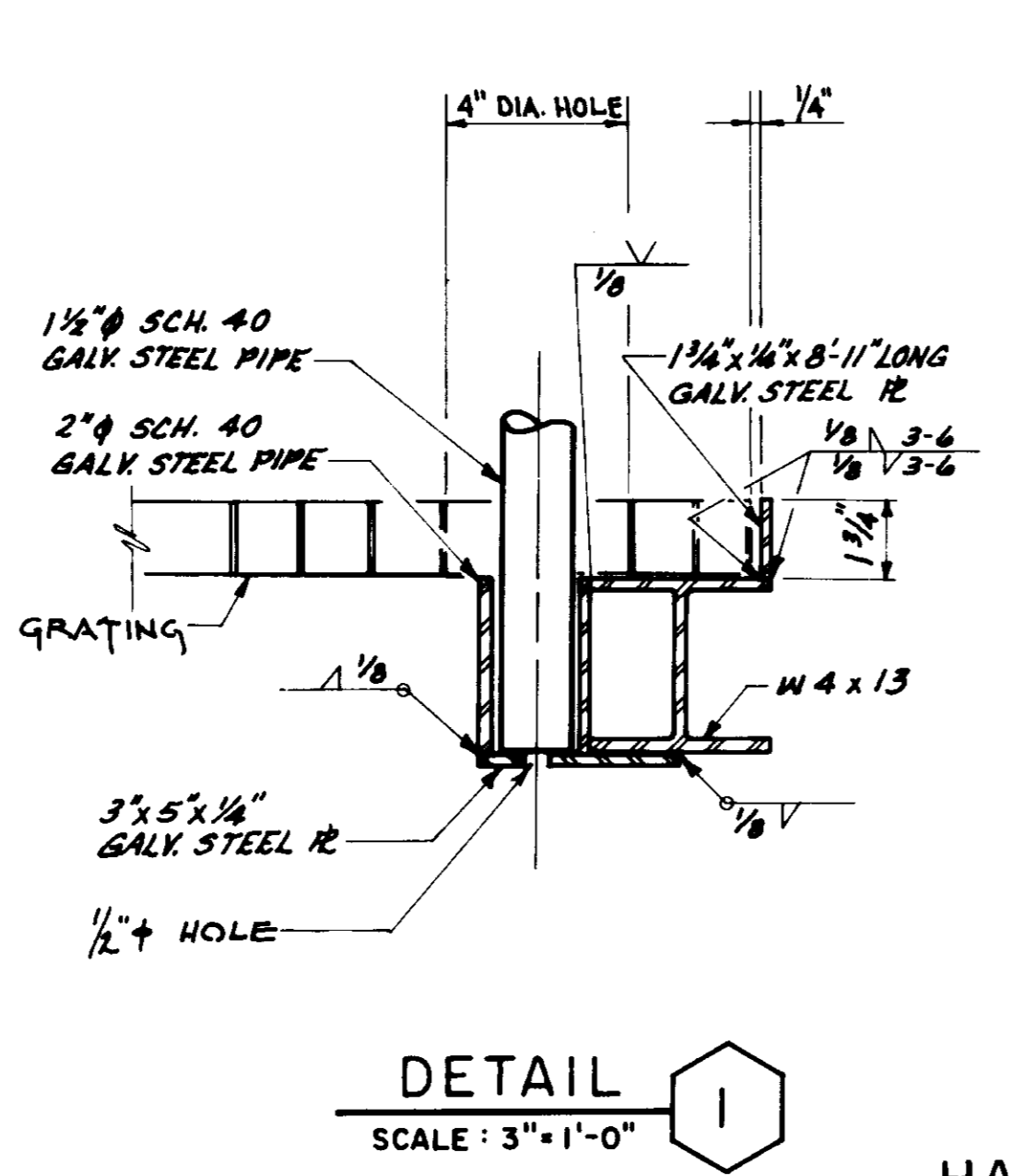
HOLE COVER DETAIL
N.T.S.



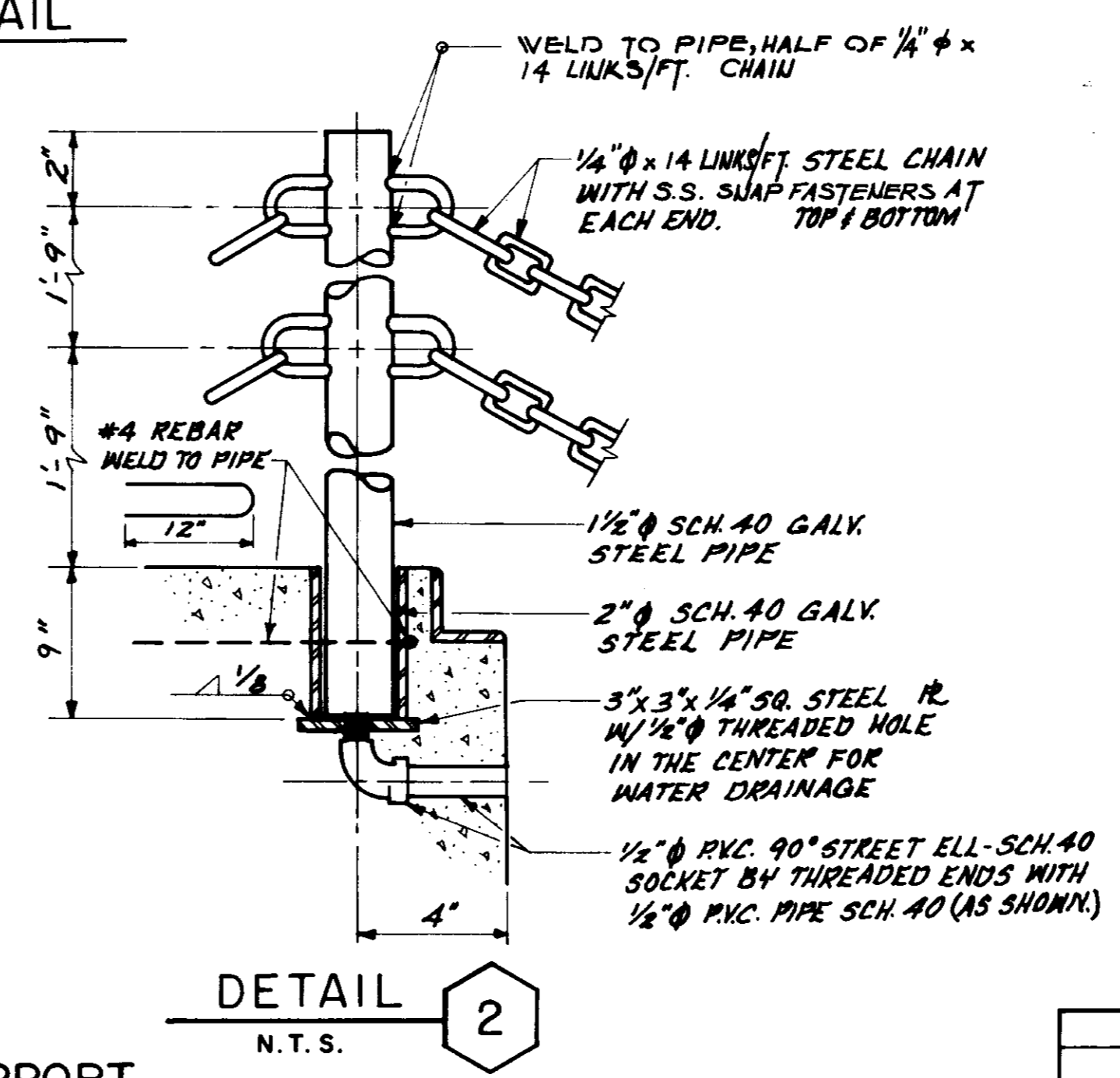
W4 x 13 SEAT AT WALL 4
SCALE: 3" = 1'-0"



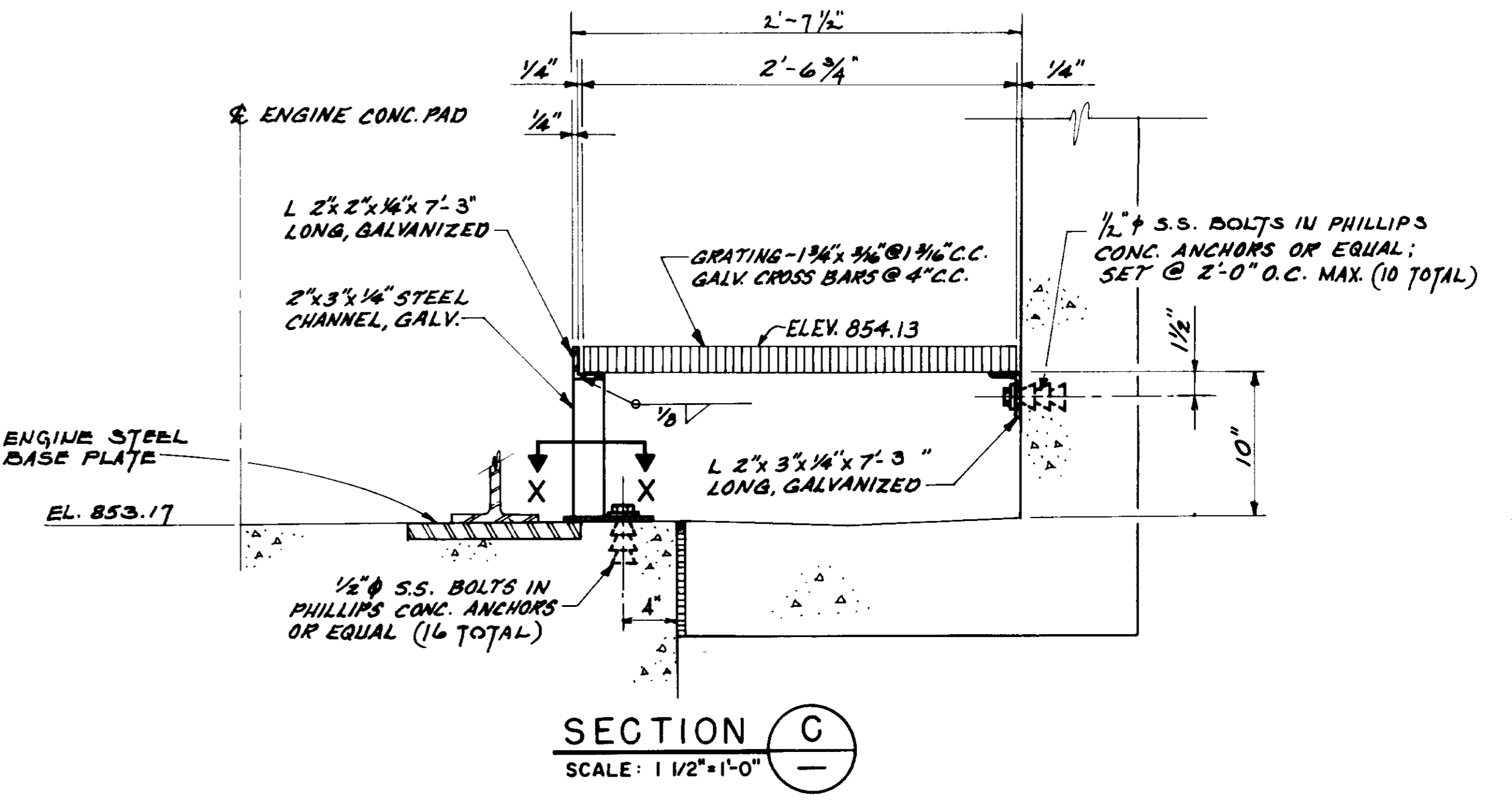
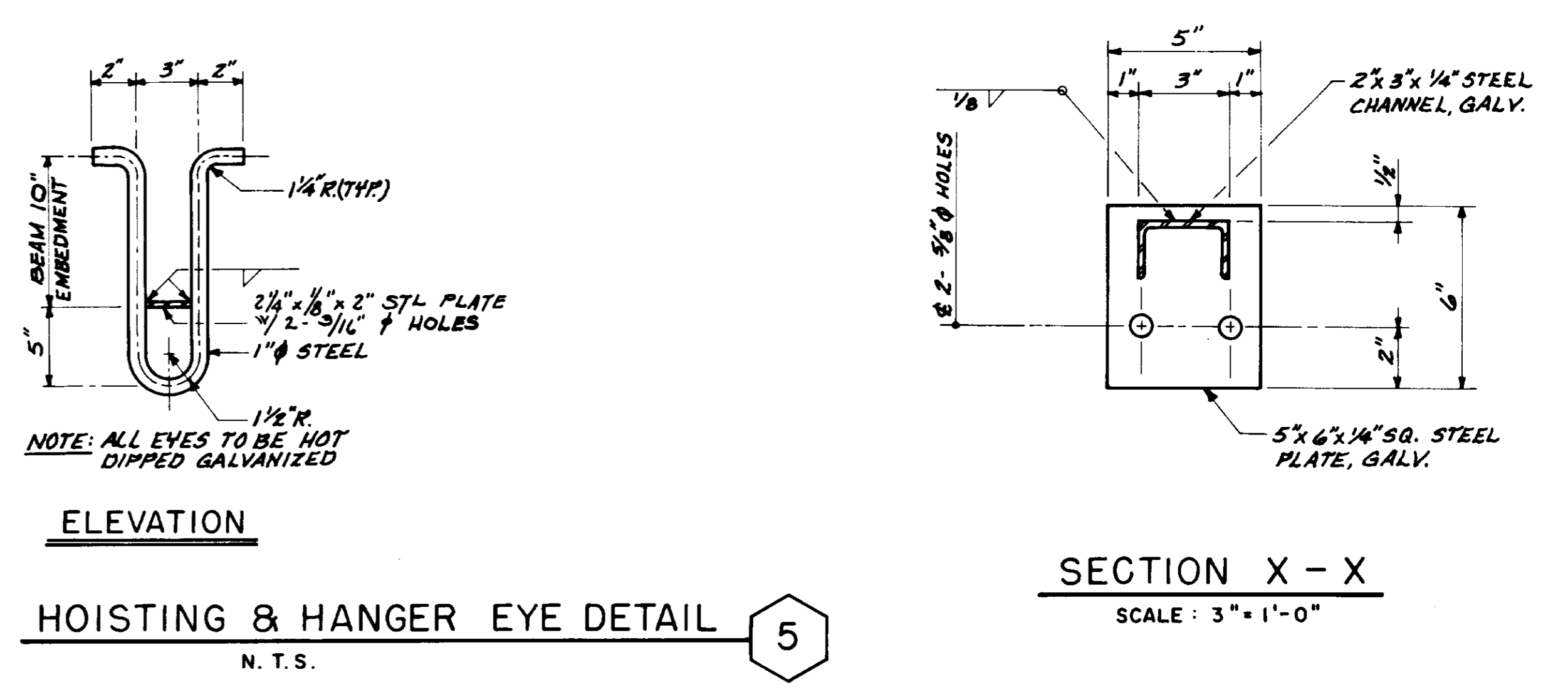
GRATING SEAT DETAIL
SCALE: 3" = 1'-0"



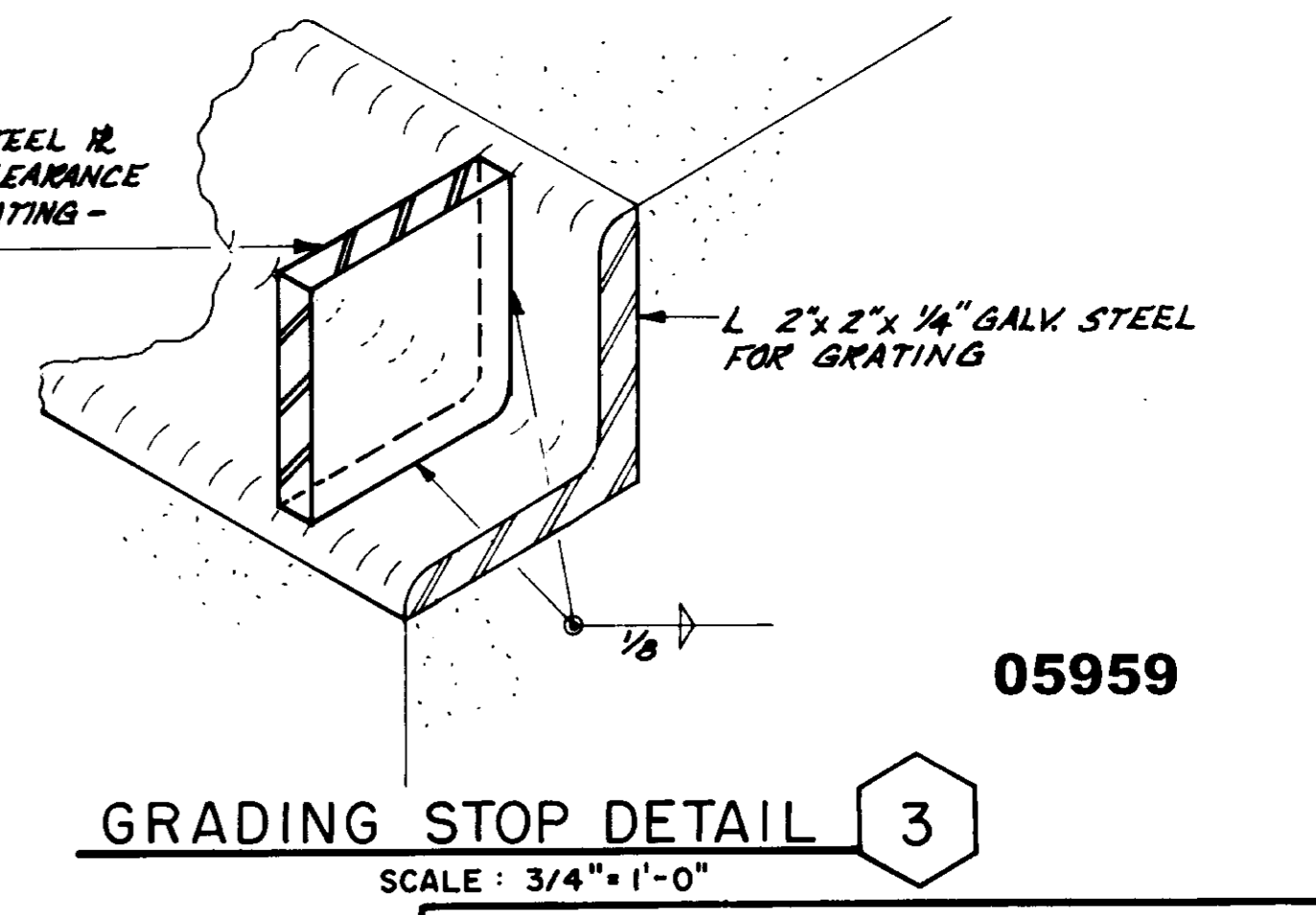
HANDRAIL SUPPORT (FOR VERTICAL PIPE)



DETAIL 2
N.T.S.



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



GRADING STOP DETAIL 3
SCALE: 3/4" = 1'-0"

PLAN OF RECORD
DATE: SEPTEMBER 18, 1964 BY: ME

LAS VIRGENES MUNICIPAL WATER DISTRICT
CORNELL PUMP STATION EXPANSION
MISCELLANEOUS METAL

| | | | |
|----------|---------|--------------------|--------|
| REVISION | DATE | DESCRIPTION | APP. |
| 1 | 7/14/64 | ISSUED FOR BIDDING | J.R.G. |
| 2 | 6/25/62 | | R.V. |

05959

Las Virgenes Engineering Corporation
consulting engineers / architects
VENTURA, CA.

DATE: 6/25/62

BY: Robert Villanueva

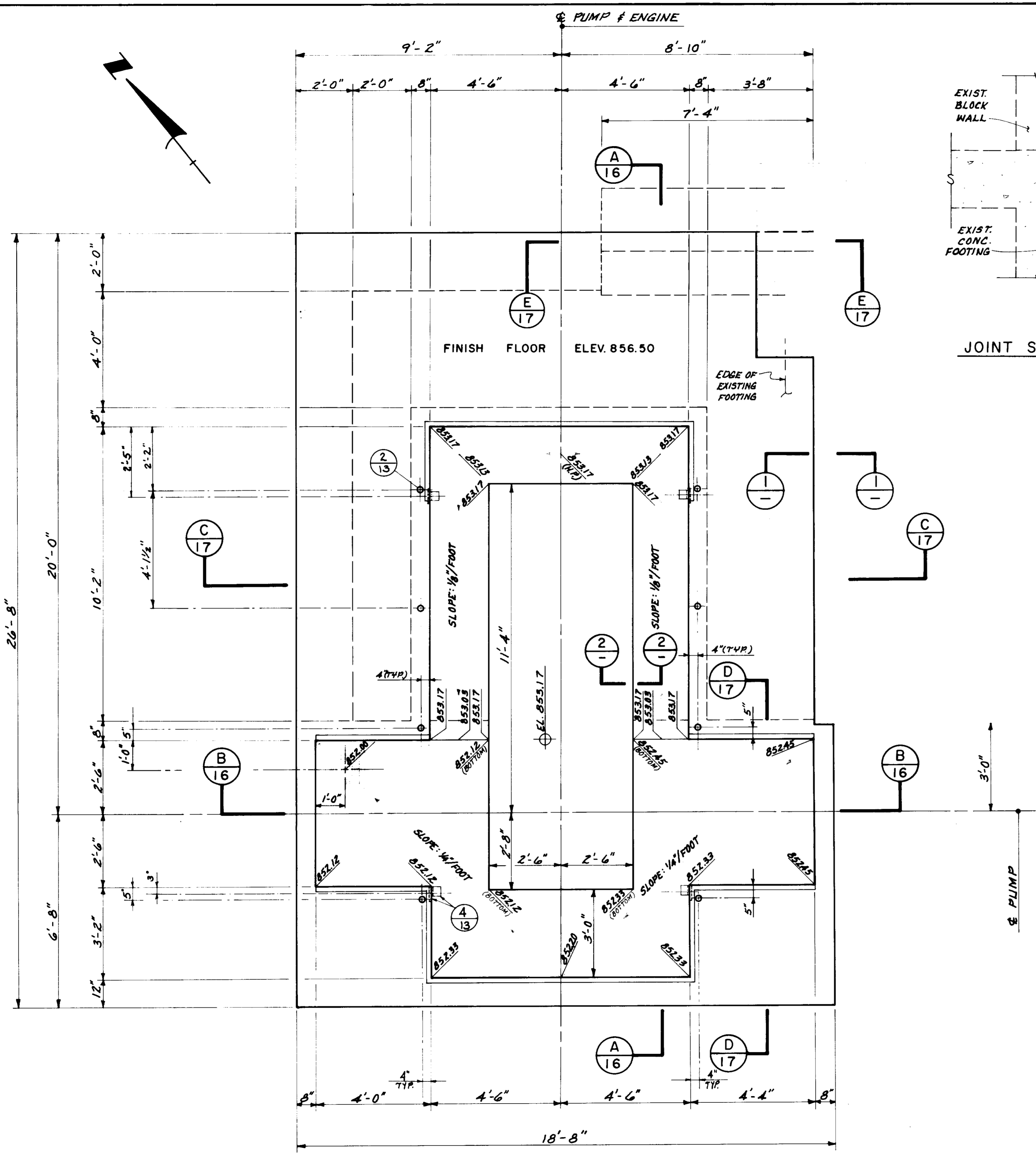
SCALE: 1/2" = 1'-0"

27 SHEETS

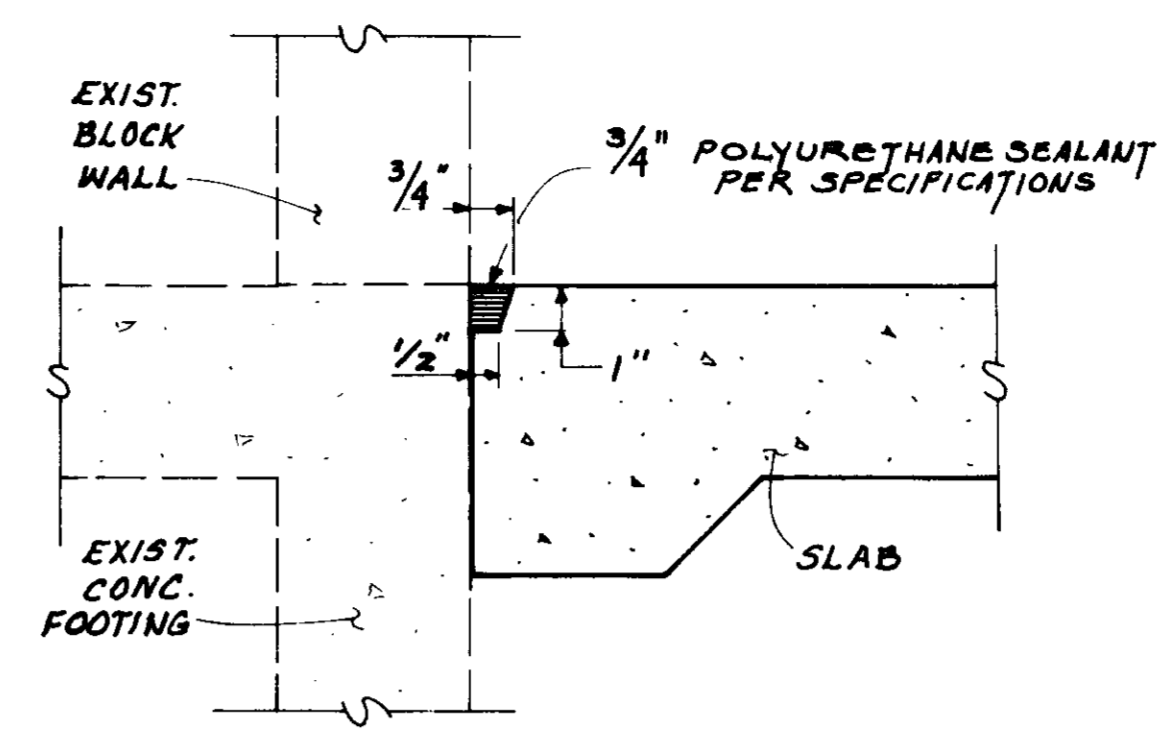
13

VT-L02-114-06

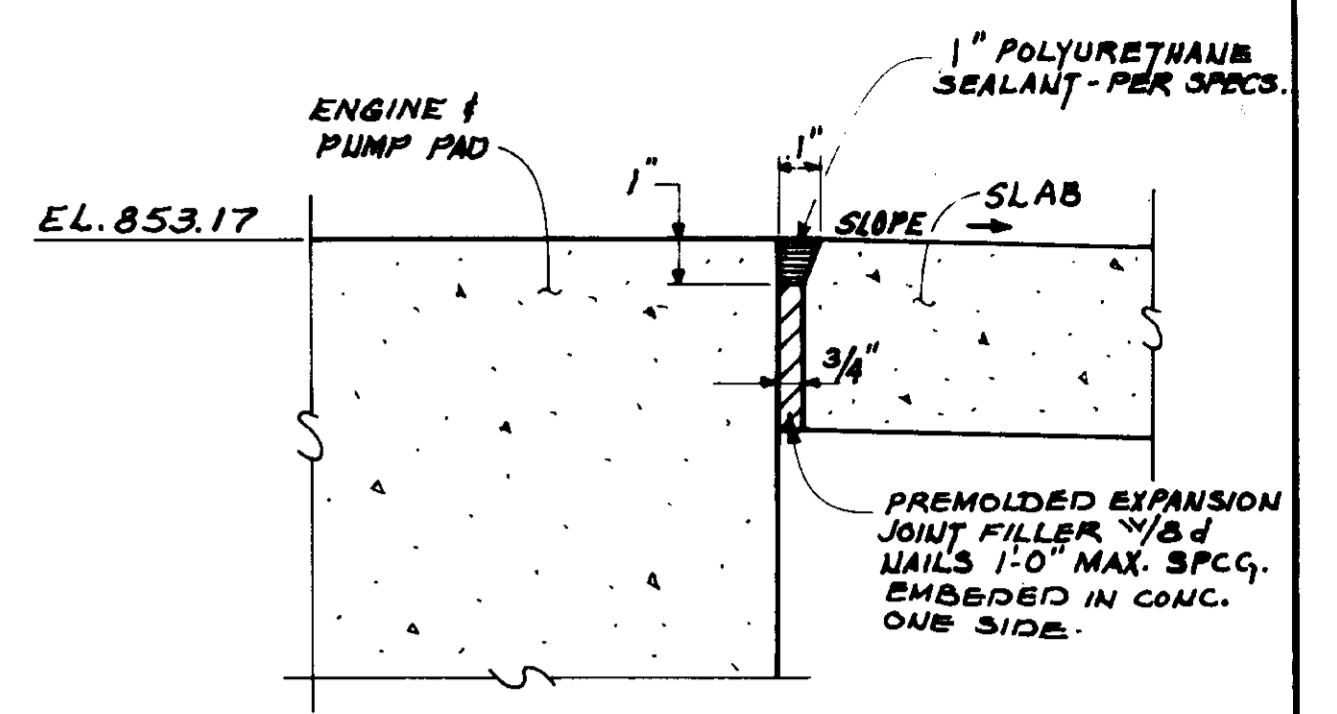
5-078



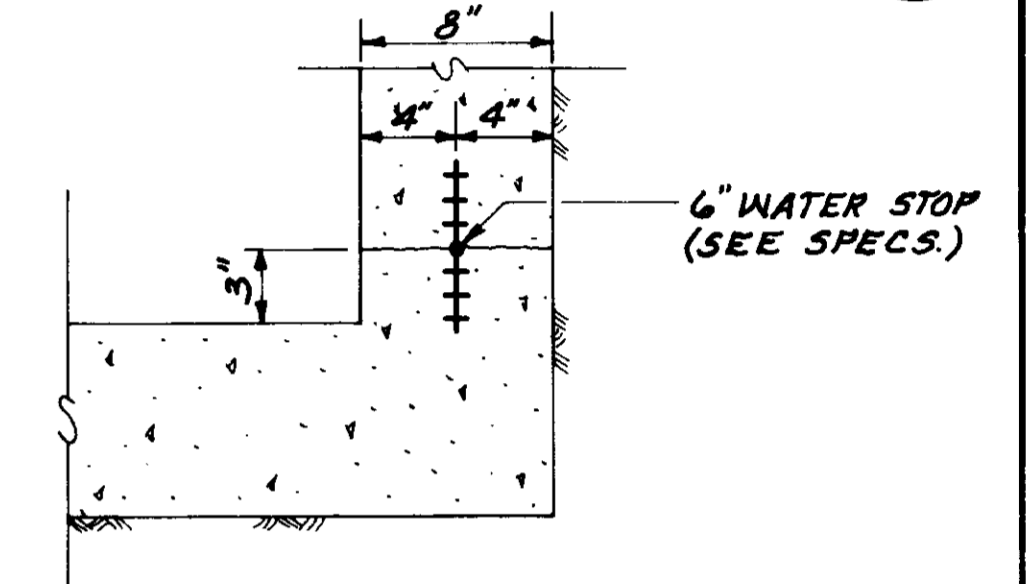
PLAN
SCALE: 1/2" = 1'-0"



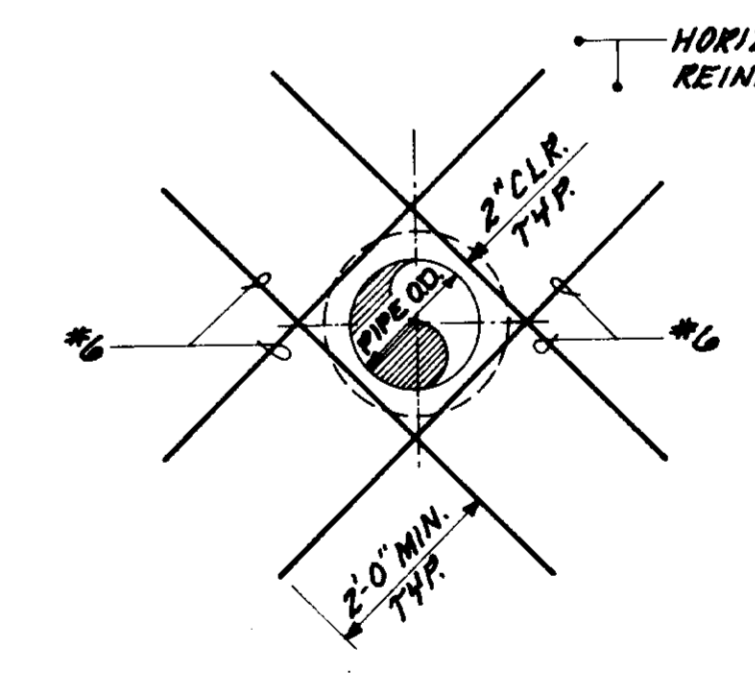
JOINT SEALER DETAIL ①
N.T.S.



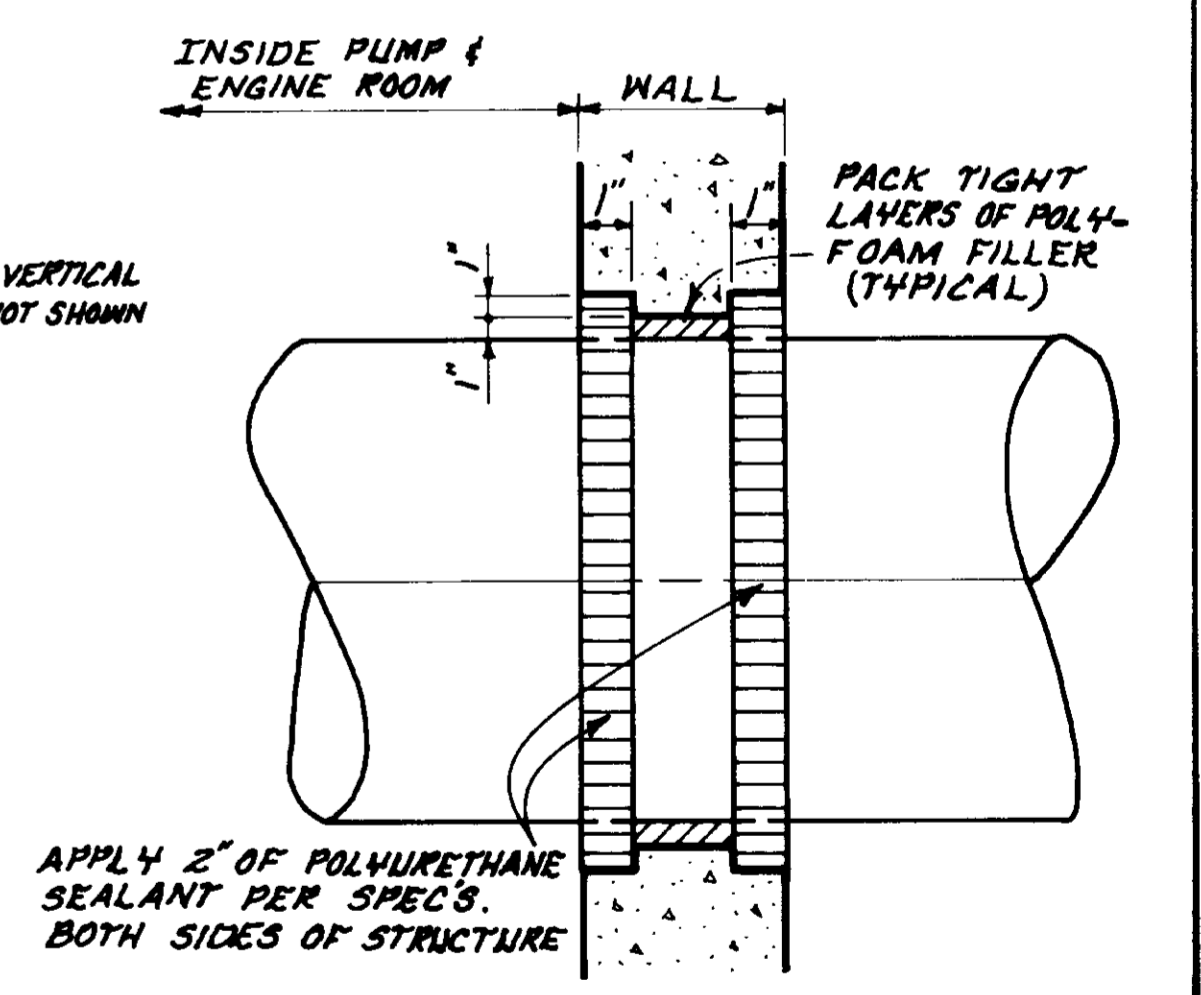
EXPANSION JOINT SEALER DETAIL ②
N.T.S.



WATER STOP DETAIL ③
N.T.S.



ADDITIONAL REINF. AT OPENINGS
N.T.S.



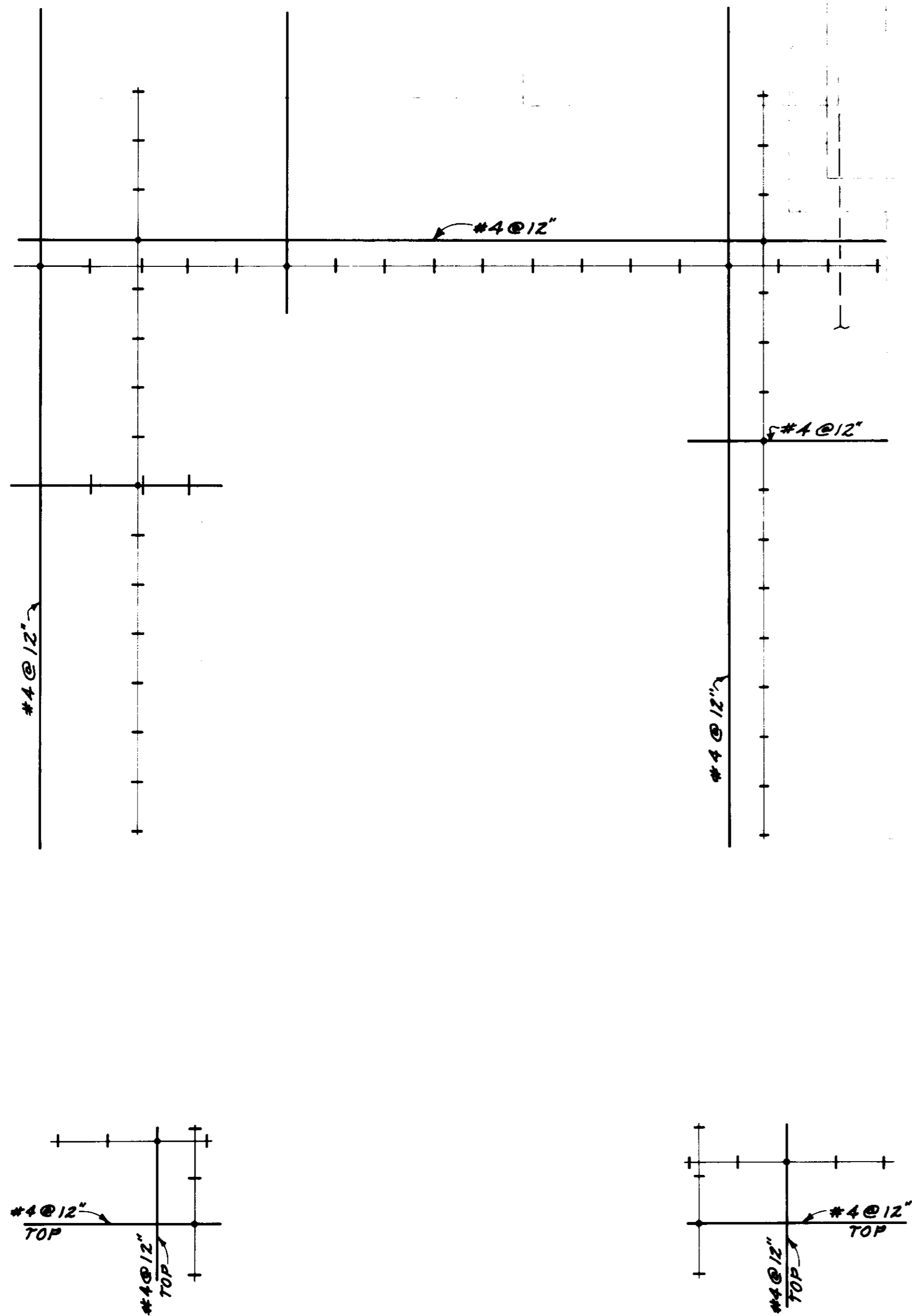
WALL PENETRATION DETAIL ④
N.T.S.

05960

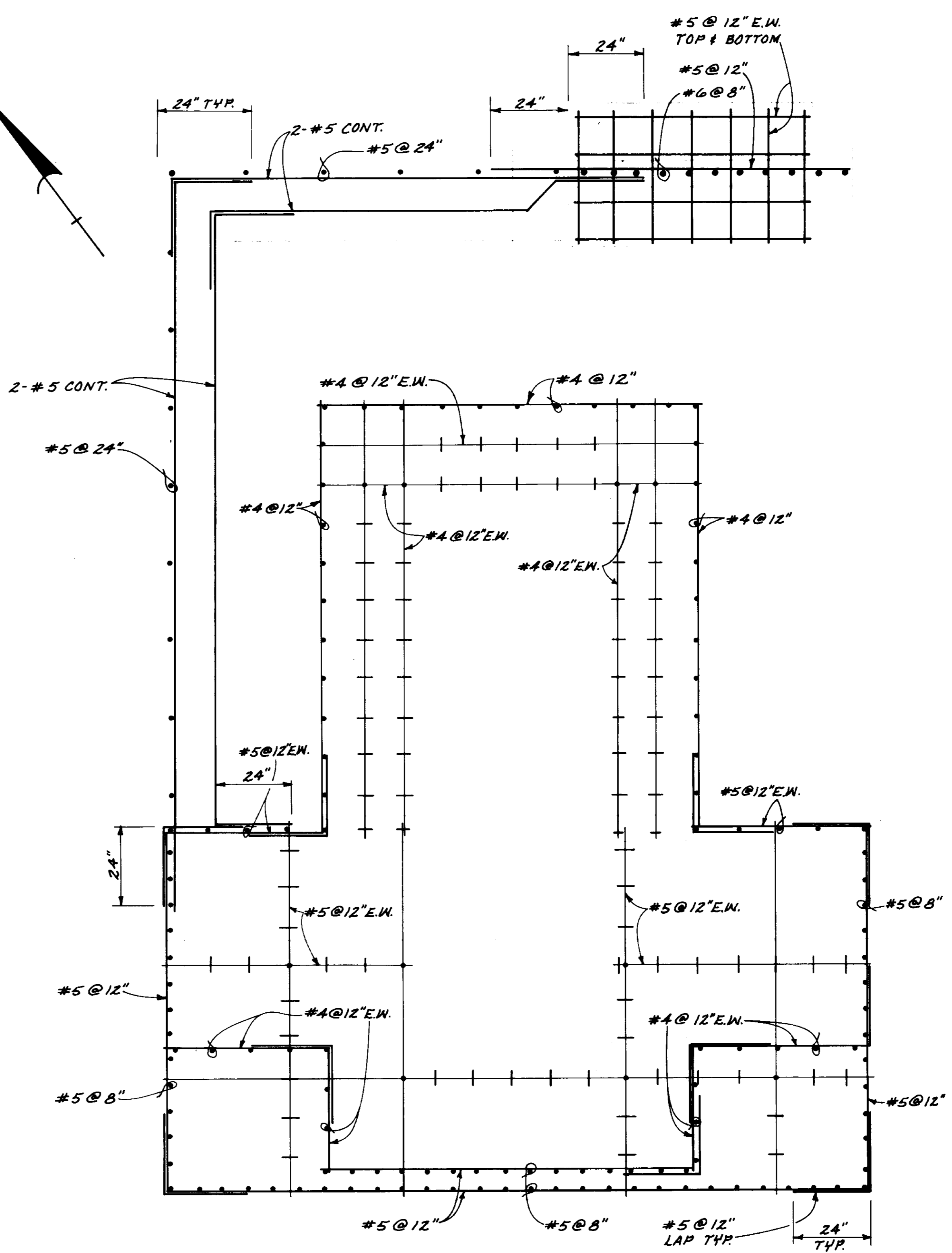
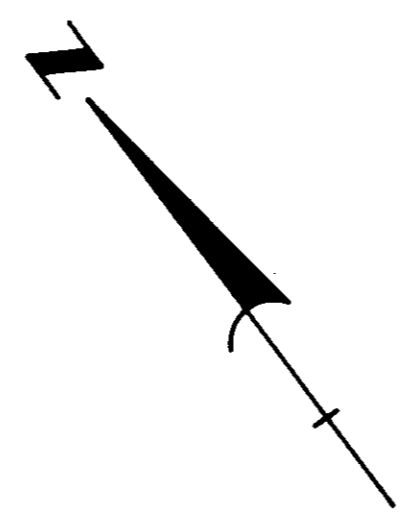
PLAN OF RECORD
DATE: SEPTEMBER 18, 1984 BY: *NO.*

LAS VIRGENES
MUNICIPAL WATER DISTRICT
CORNELL PUMP STATION EXPANSION
FOUNDATION PLAN

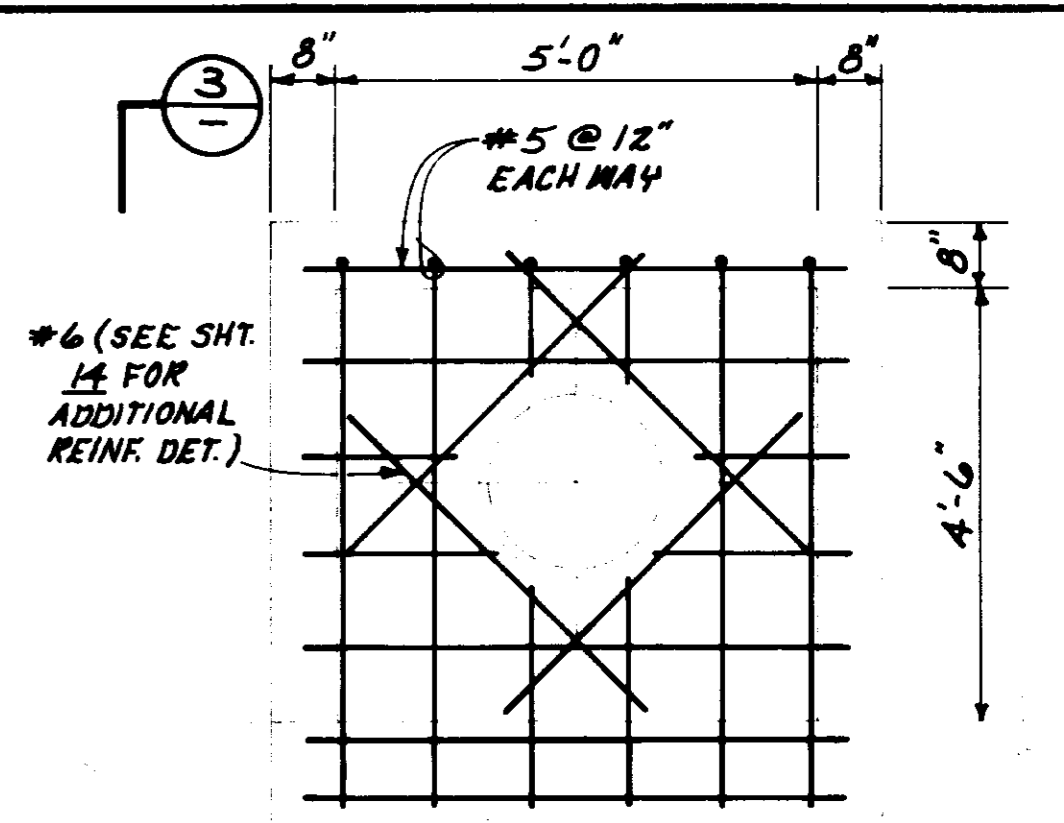
| | | | | | | | | | | |
|---------|--------|------|---------|--------------------|----|--------|------|---------|----|-----------------|
| DESIGN | P.B.S. | DATE | 7/12/82 | ISSUED FOR BIDDING | BY | J.R.G. | DATE | 6/25/82 | BY | Robert Williams |
| DRAWN | J.R.G. | DATE | | | BY | | DATE | | BY | |
| CHECKED | | DATE | | | BY | | DATE | | BY | |
| APP. | R.V. | DATE | | | BY | | DATE | | BY | |



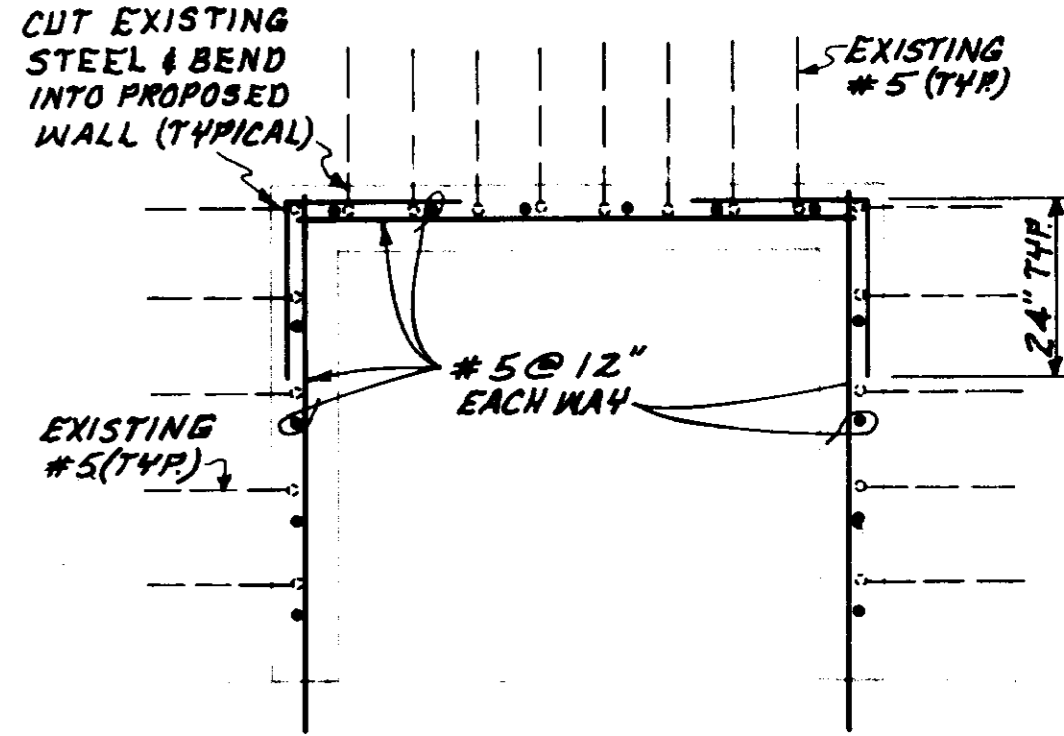
F. F. ELEV. 856.50
PLAN
 SCALE: 1/2" = 1'-0"



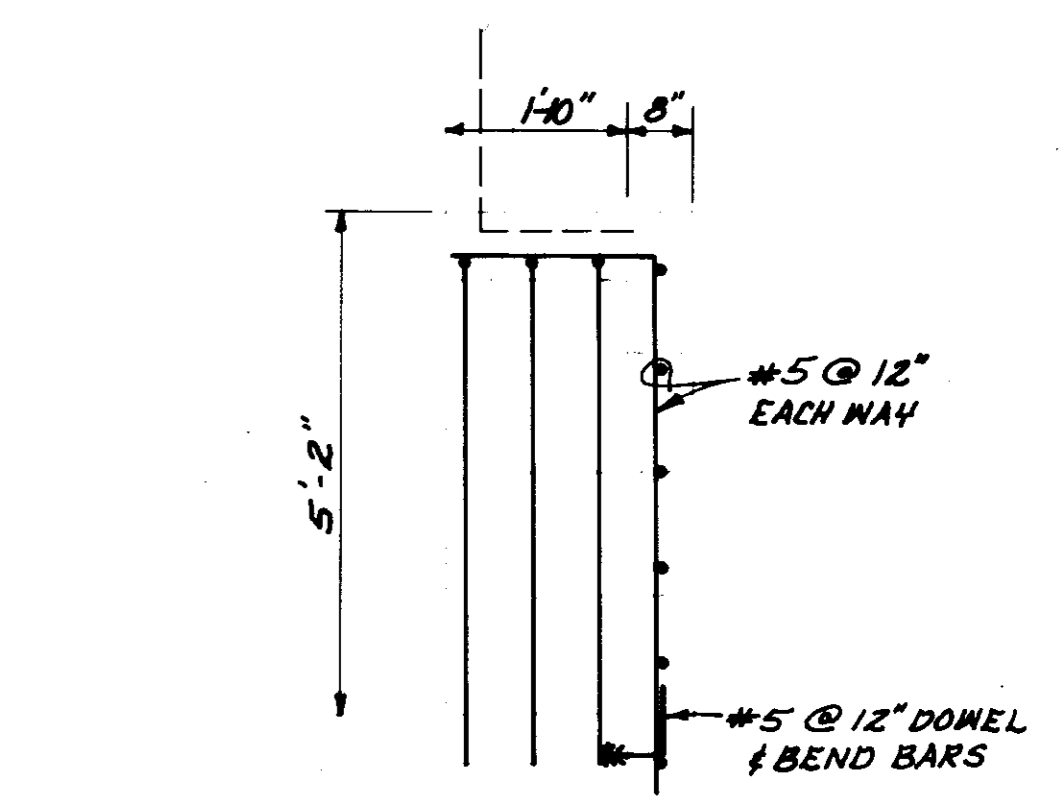
SECTION PLAN
 SCALE: 1/2" = 1'-0"



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



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



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

05961

PLAN OF RECORD
 DATE: SEPTEMBER 18, 1994 BY: MC

LAS VIRGENES
 MUNICIPAL WATER DISTRICT

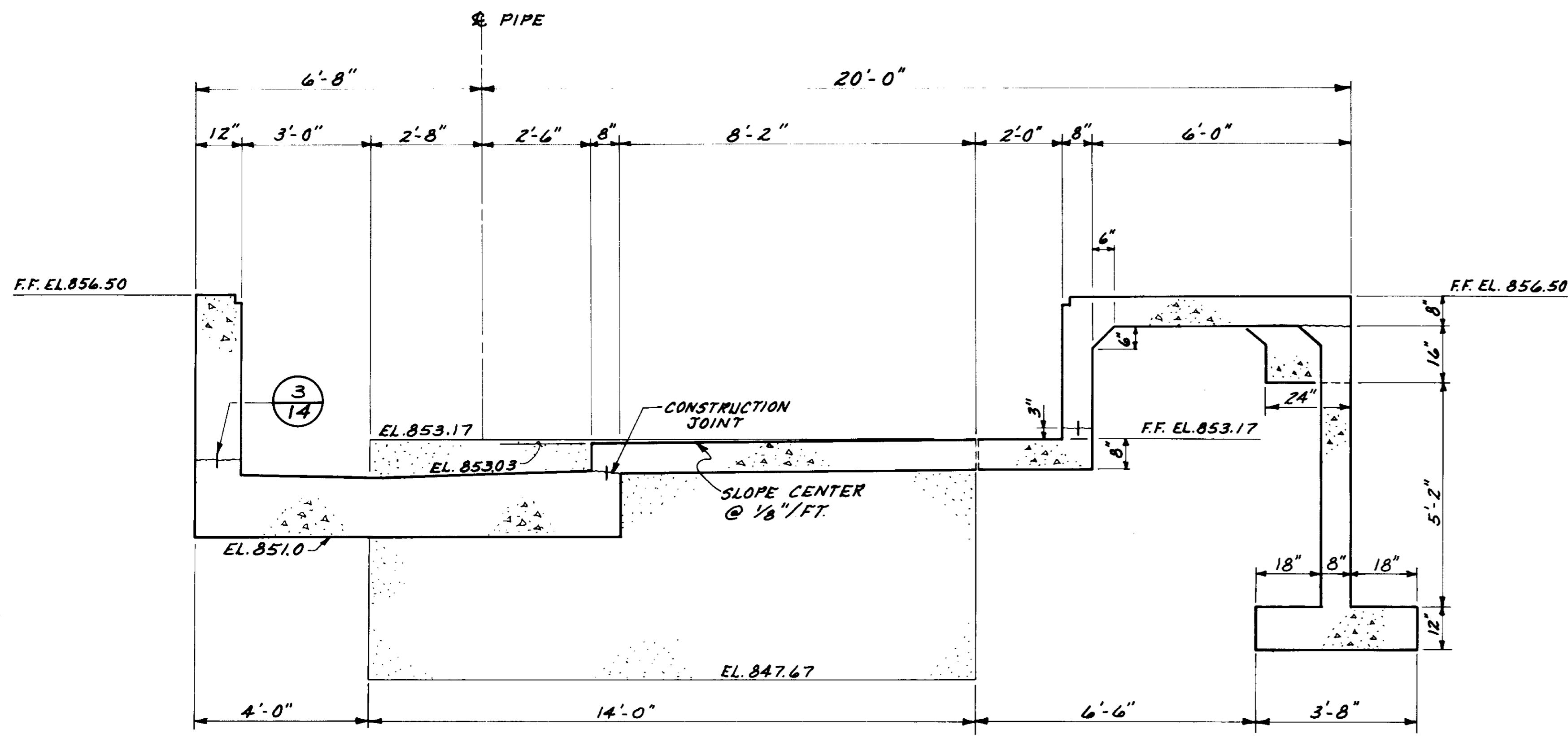
CORNELL PUMP STATION EXPANSION

REINFORCING PLAN

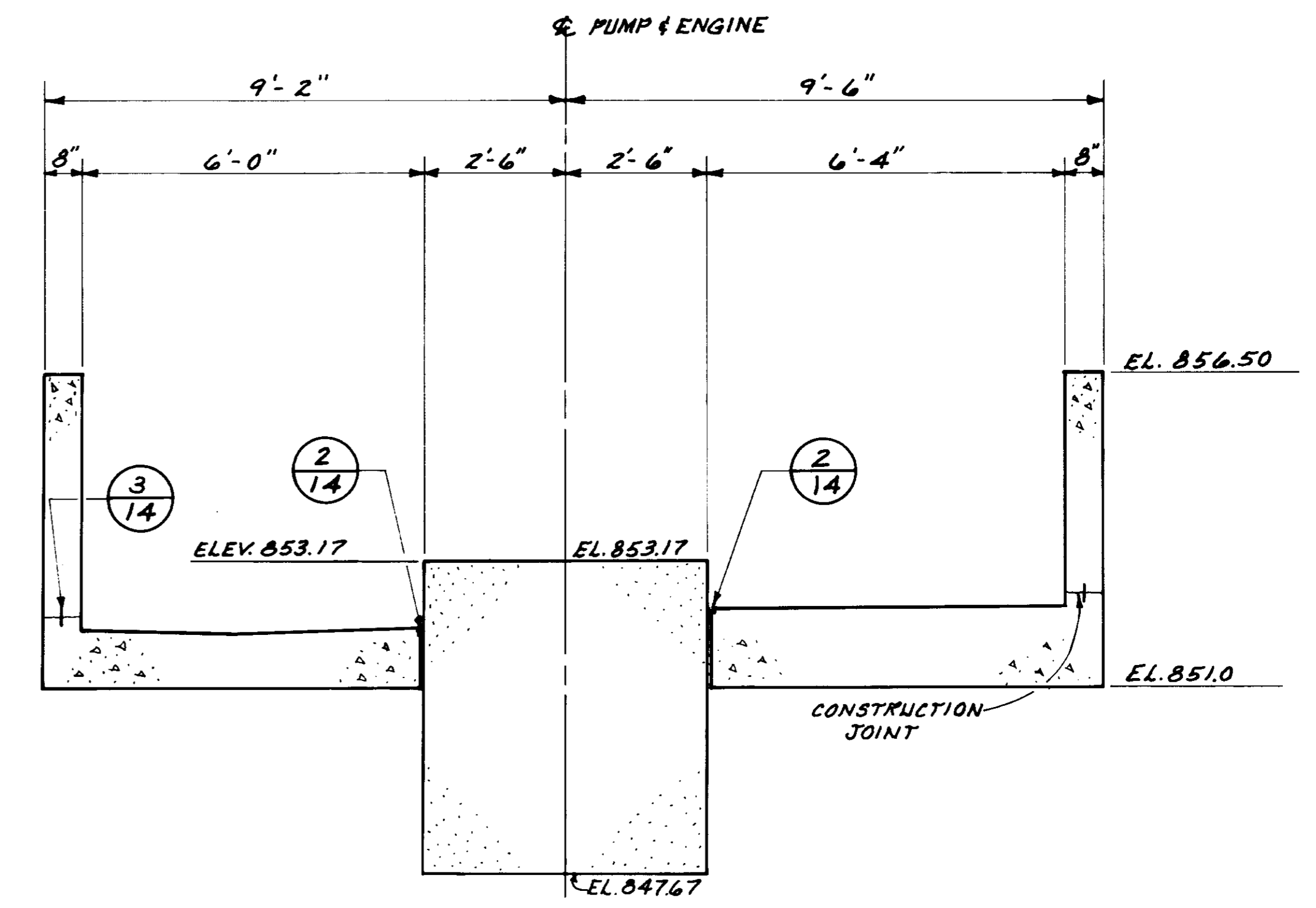
| | | | | | | |
|---------|--------|------|--------|--------------------|----|----|
| DESIGN | P.B.S. | DATE | 1/2/94 | ISSUED FOR BIDDING | BY | MC |
| DRAWN | J.R.G. | DATE | | | | |
| CHECKED | KU | DATE | | | | |
| APP. | | DATE | | | | |

Boyle Engineering Corporation
 CONSULTING ENGINEERS / ARCHITECTS
 VENTURA, CA
 Robert Villanueva
 R.G.E. 27357

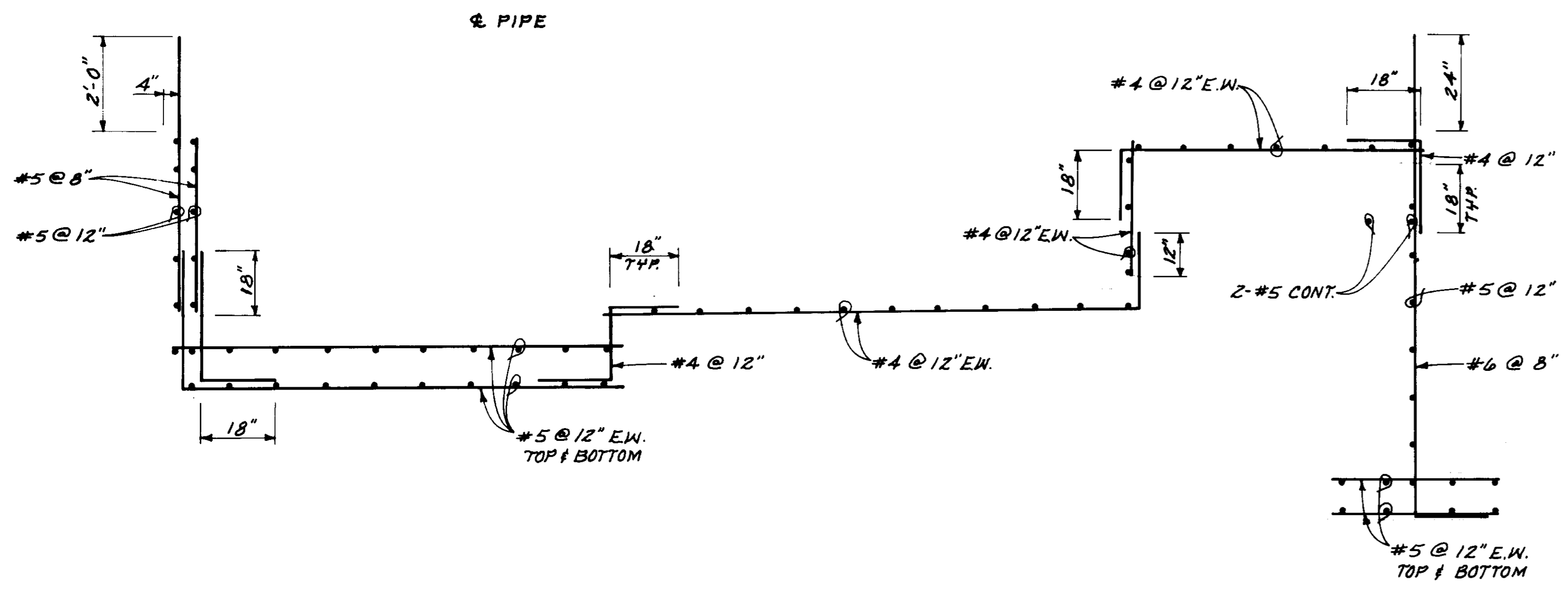
SHEET NO. 15
 OF 27 SHEETS
 VT-L02-114-06
 5-078



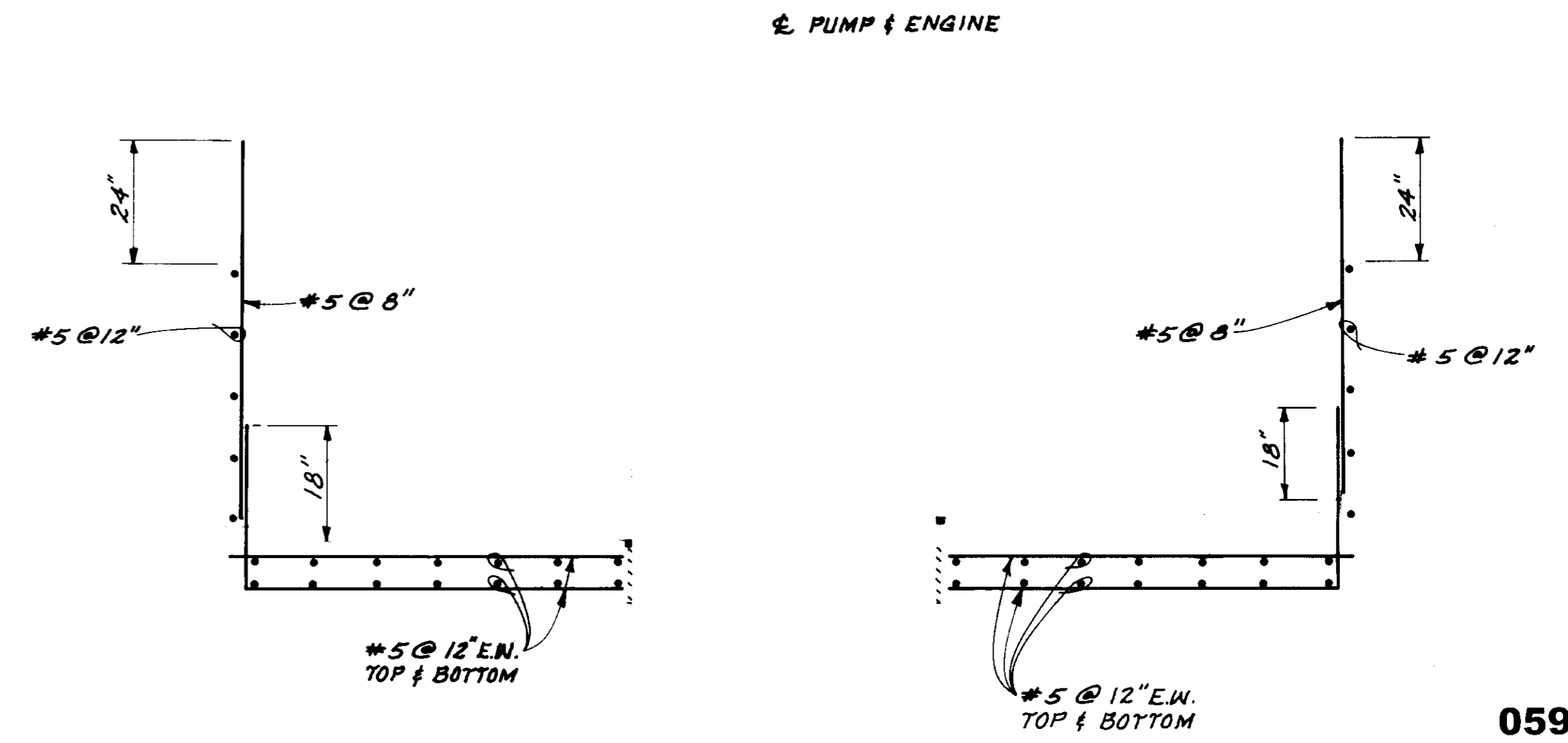
SECTION A-A
SCALE: 1/2"=1'-0"



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



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



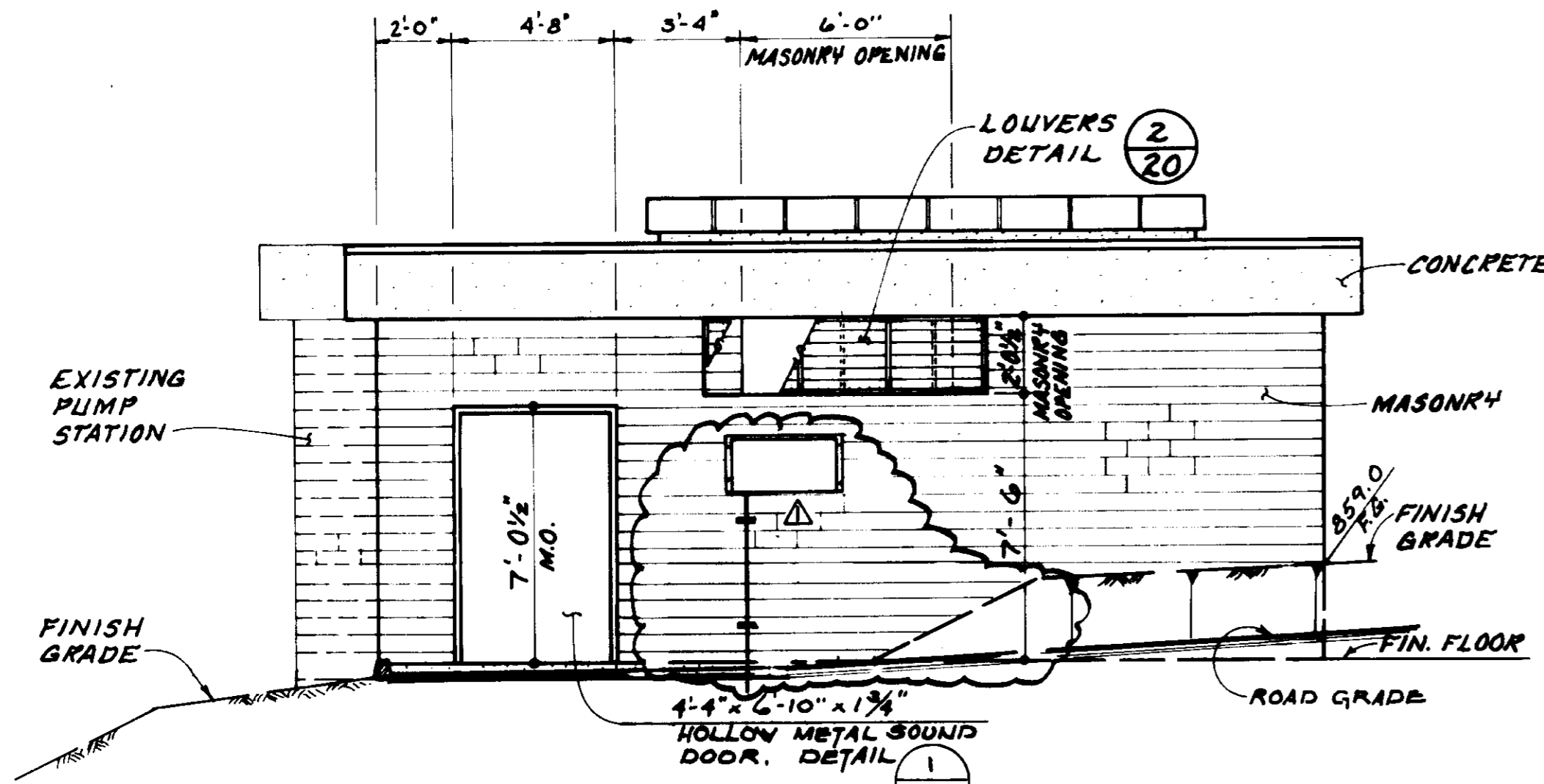
SECTION B-B
SCALE: 1/2"=1'-0"

PLAN OF RECORD
DATE: SEPTEMBER 18, 1984 BY: *ME*

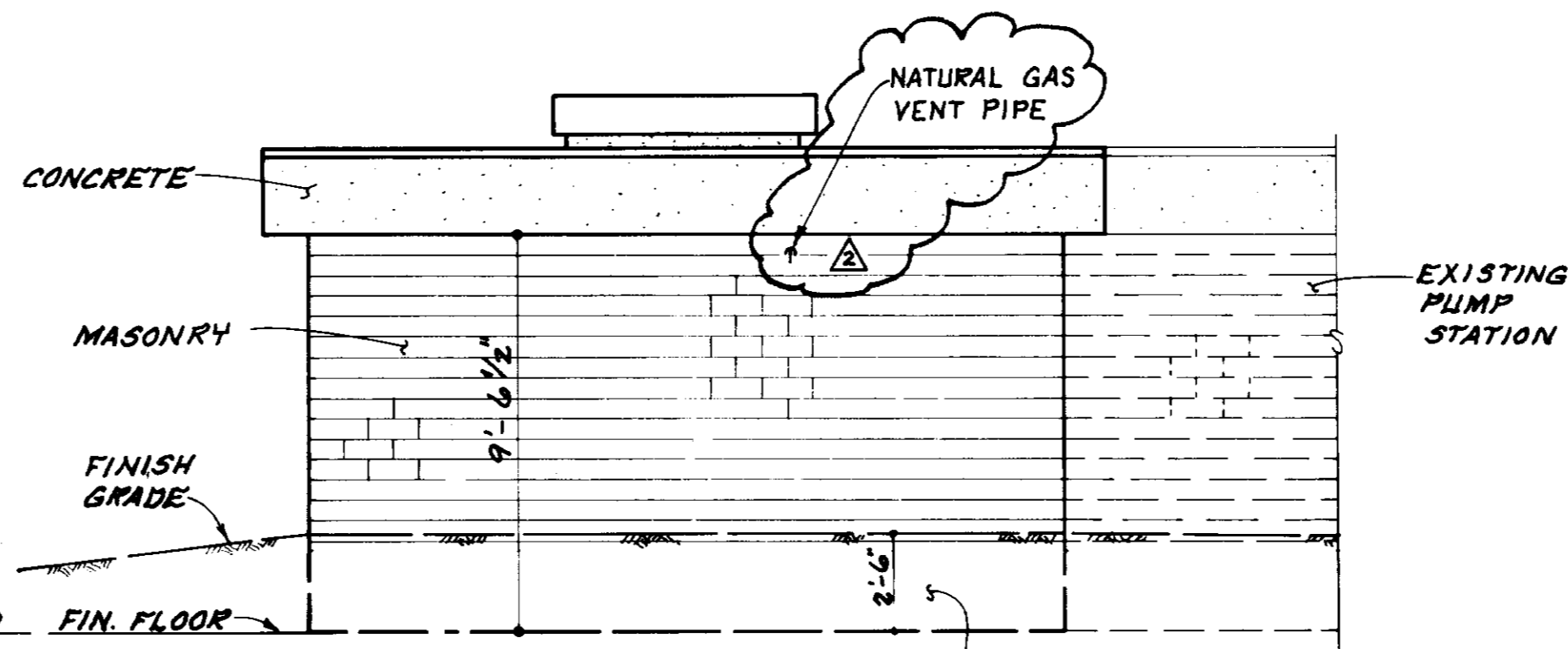
| REV. | DATE | DESCRIPTION | APP. |
|------|--------|--------------------|---------------|
| - | 7/1/82 | ISSUED FOR BIDDING | <i>J.R.G.</i> |

05962

| | |
|---|--|
| LAS VIRGENES MUNICIPAL WATER DISTRICT | |
| CORNELL PUMP STATION EXPANSION | |
| REINFORCING SECTIONS A-A & B-B | |
| REGION P.B.S. DRAWN J.R.G. CHECKED <i>Robert Williams</i> 6/25/82 DATE 6/25/82 S.C.E. 27357 | SHEET NO. 16 OF 27 SHEETS VT-LO2-H4-06 |

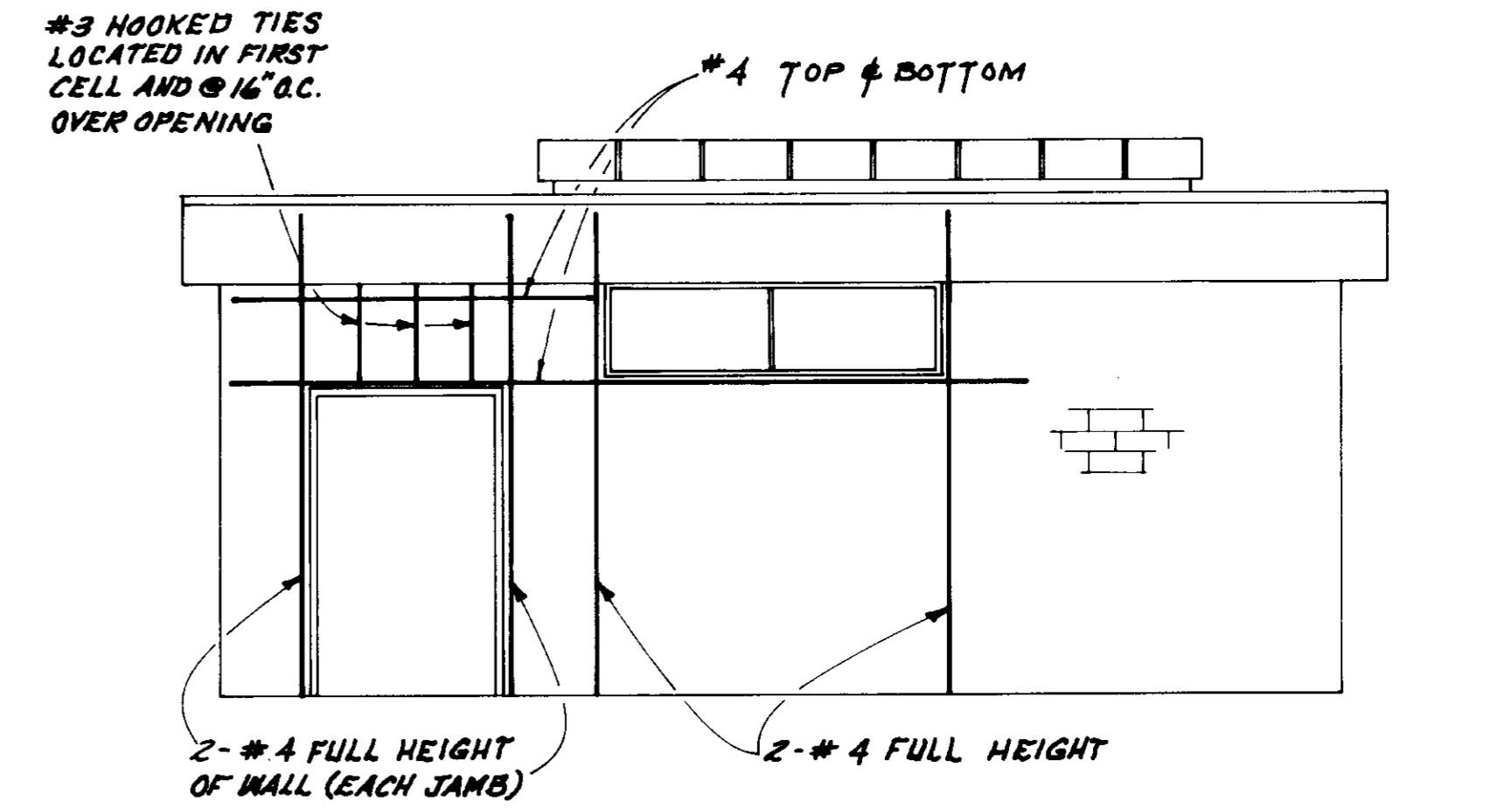


WEST ELEVATION



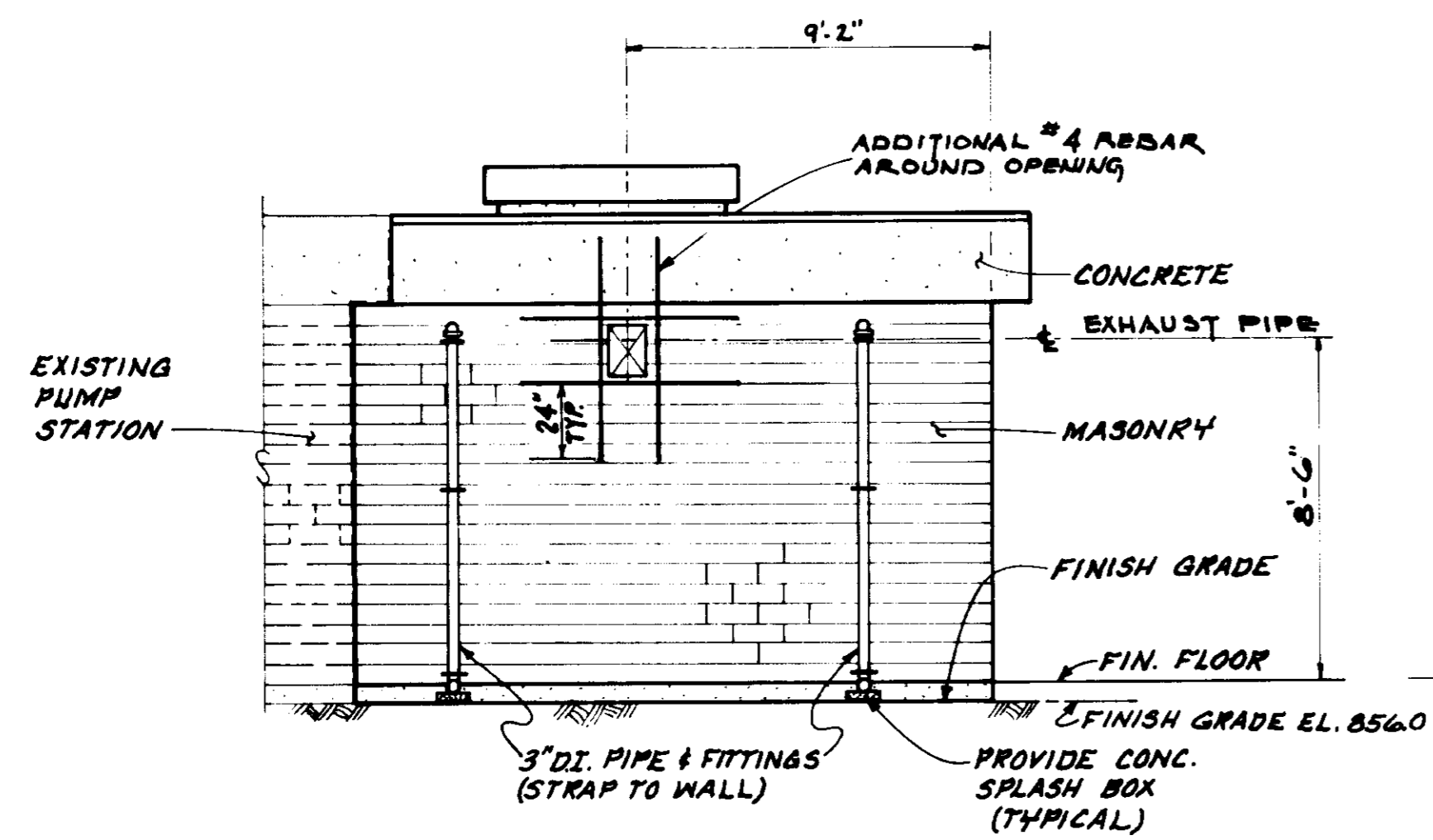
SOUTH ELEVATION

SMOOTH FACE CONC. BLOCK AND WATERPROOFING BELOW FINISH GRADE PER SPECIFICATIONS (TYPICAL)
(NO SMOOTH FACE BLOCK AVAILABLE.)
DESIGN DIS - CONTINUED.
SEE PAGE 35 C-1.

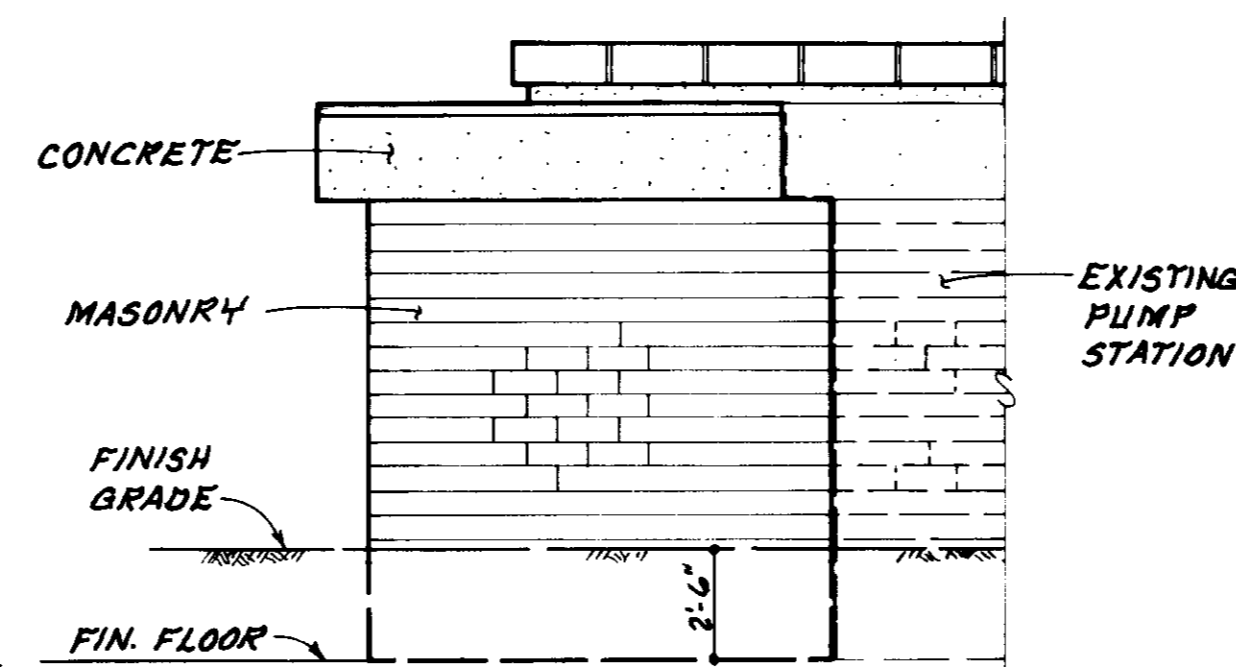


**WEST ELEVATION
ADDITIONAL RE-BAR AT OPENINGS**

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



NORTH ELEVATION



EAST ELEVATION

SCALE OF ELEVATIONS
1/4" = 1'-0"

INTERIOR FINISH SCHEDULE

- FLOORS - SEE ENGINEERING DRAWINGS.
- BASE - 4" RUBBER TOP-BOT SMOOTH FACE CONCRETE BLOCK WALLS.
- CEILINGS - EXPOSED CONCRETE
- PAINTING - INTERIOR CONCRETE & CONCRETE BLOCK ARE NOT REQUIRED TO BE PAINTED. SEE SPECS FOR PAINTING OF OTHER MATERIALS.

NOTE:

1. ALL WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF THE UNIFORM BUILDING CODE AND THE SPECIFICATIONS.
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE.
3. ALL HOLLOW CONCRETE MASONRY UNITS SHALL BE GROUTED SOLID.
4. DAMP PROOF EXTERIOR OF MASONRY AND CONCRETE BELOW GRADE AND EXPOSED TO EARTH PER SPECIFICATIONS.
5. REINFORCING STEEL MARKED CONTINUOUS MAY BE SPLICED WITH A LAP OF 36 BAR DIAMETERS IN CONCRETE AND 50 BAR DIAMETERS IN MASONRY.

05965

LAS VIRGENES
MUNICIPAL WATER DISTRICT

CORNELL PUMP STATION EXPANSION

ARCHITECTURAL

PLAN OF RECORD

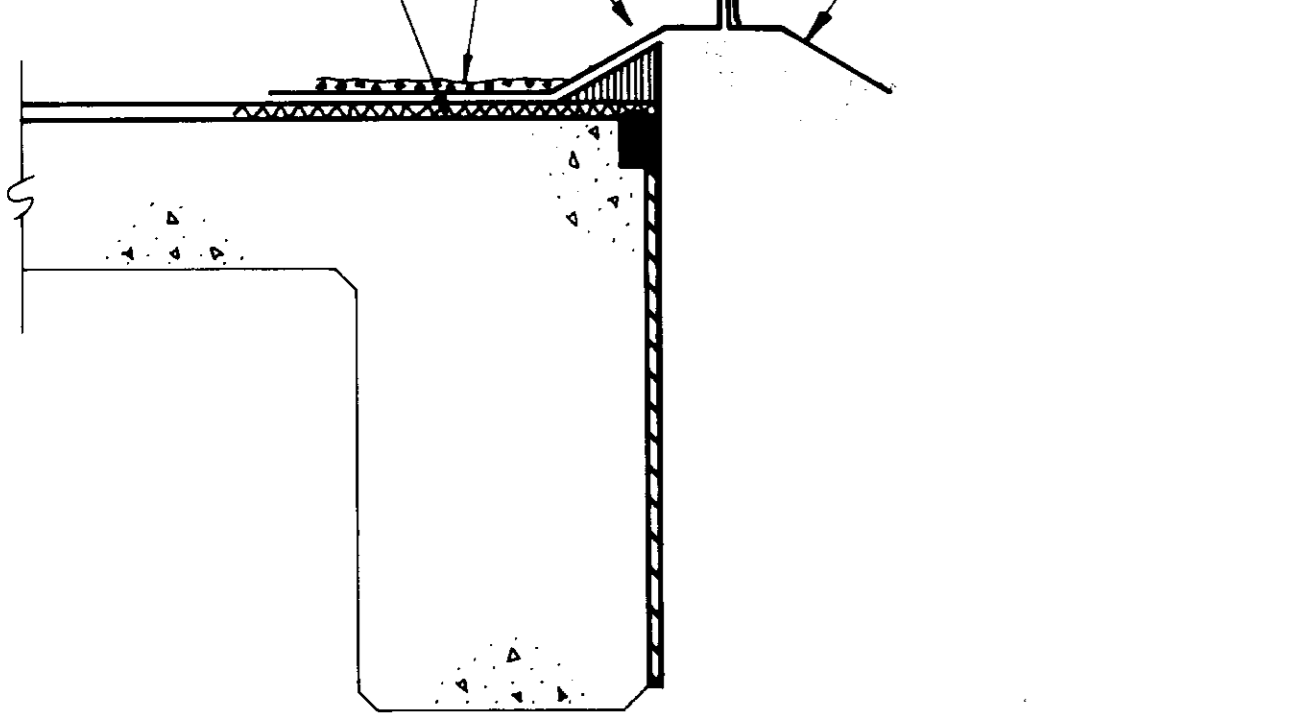
DATE: SEPTEMBER 18, 1994 BY: LUL

| | | | | | |
|--------------------|---------|-----------------------------|------|--------|----|
| DESIGN | 3-22-83 | ADDED NATURAL GAS VENT PIPE | JRM | P.B.S. | 19 |
| REVISION | 3-22-83 | REVISION OF L.P.G. SYSTEM | JRM | J.R.G. | 27 |
| ISSUED FOR BIDDING | 7/12/82 | | JRM | | 06 |
| BY | DATE | DESCRIPTION | APP. | DATE | |

Bous Engineering Corporation
consulting engineers / architects
VENTURA, CA.

Robert Williams
R.C.E. 27357

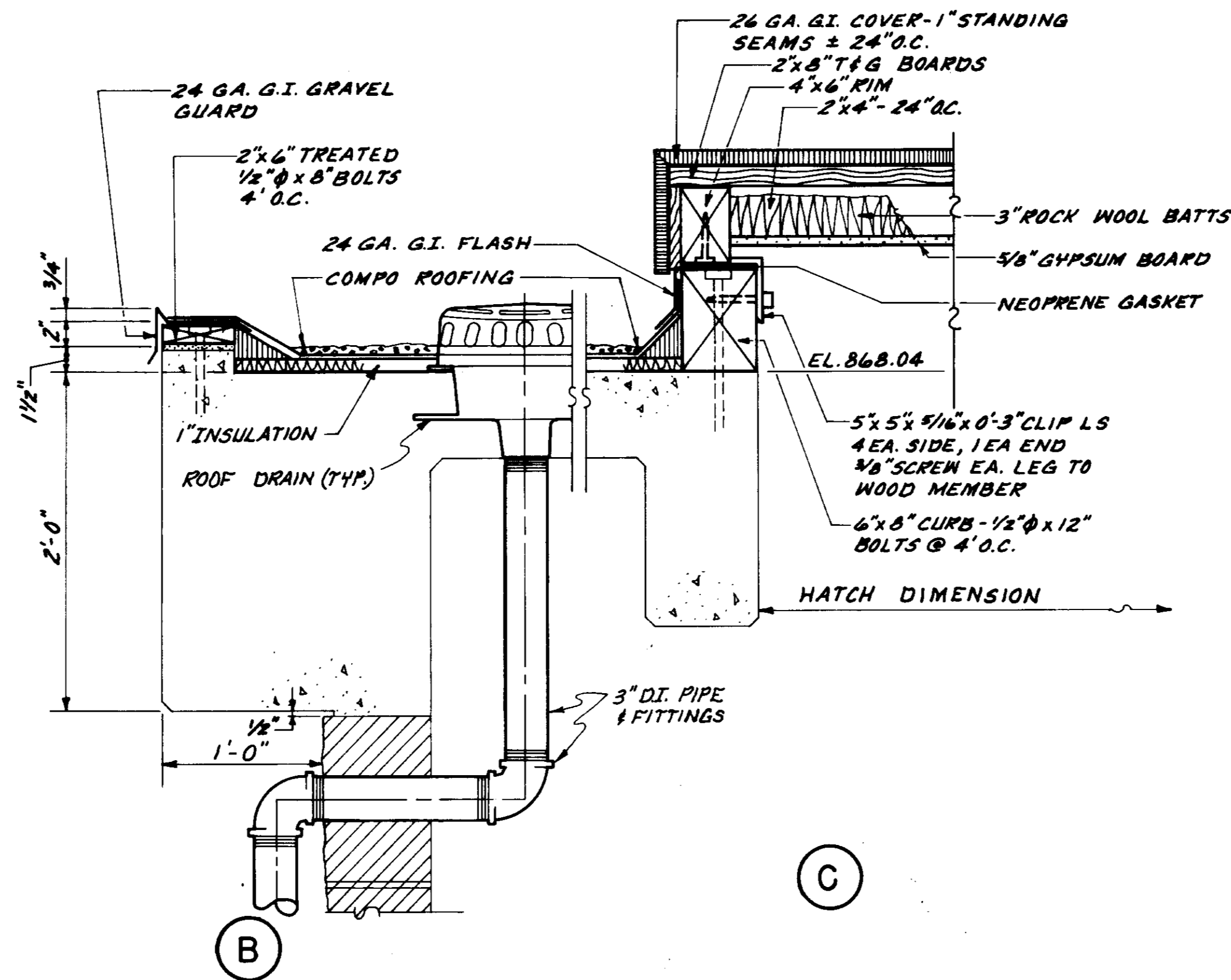
REMOVE EXISTING 24 GA. G.I. GRAVEL GUARD
COMPO ROOFING
1" INSULATION



(A)

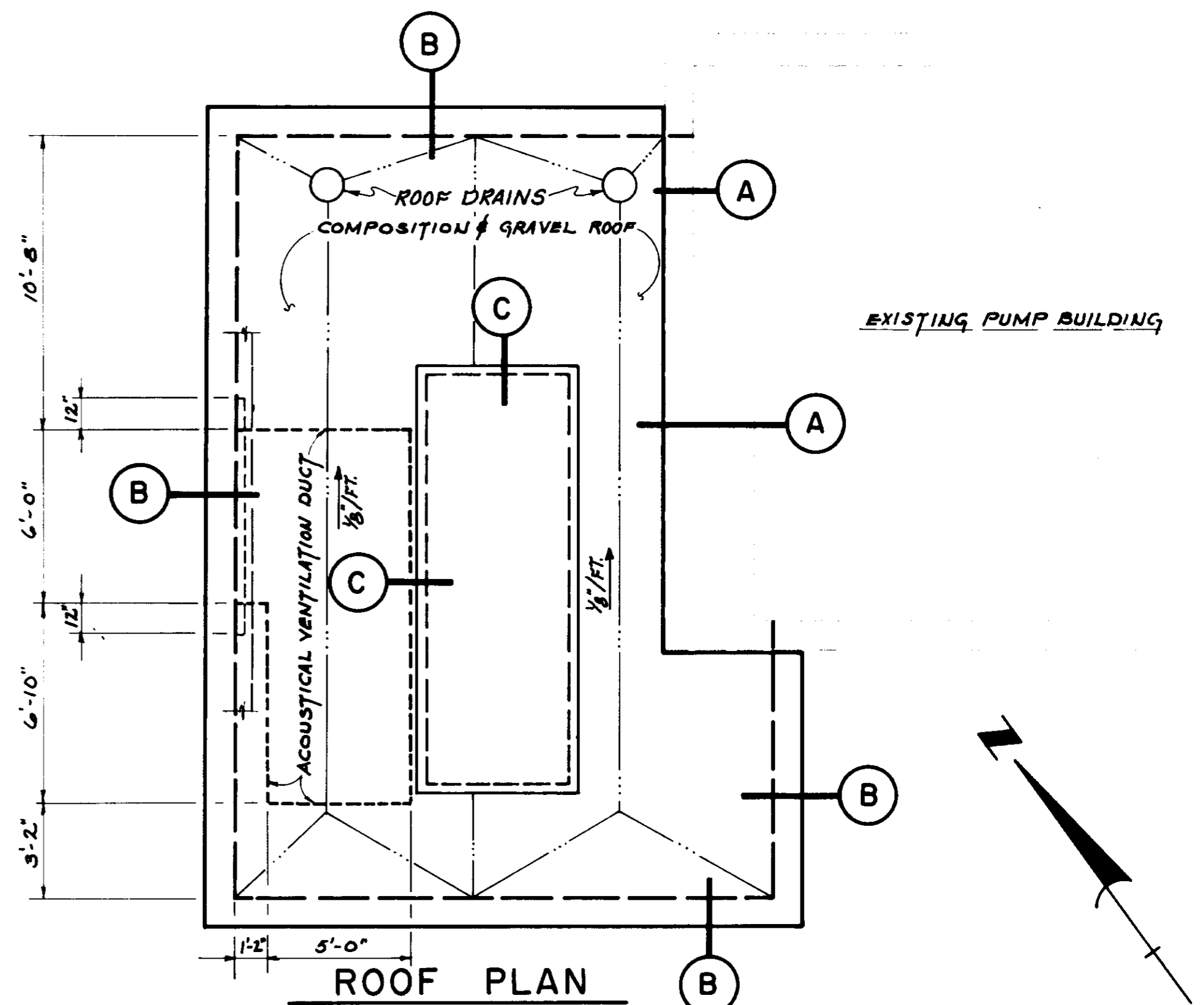
ROOF DETAILS

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



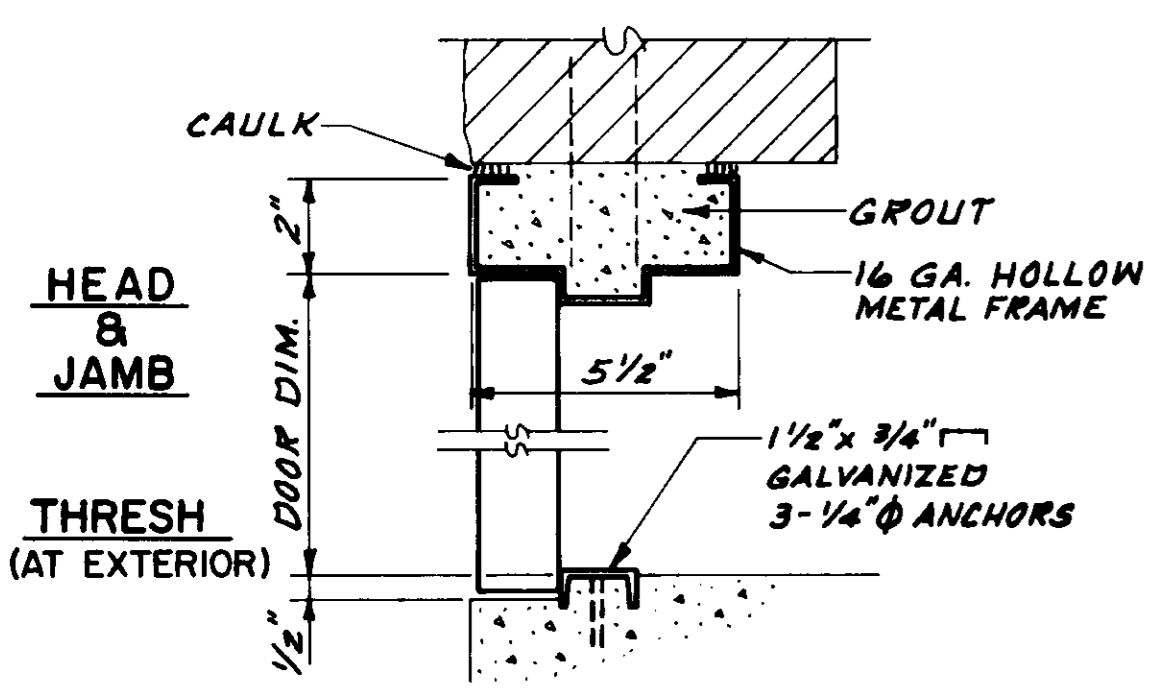
(B)

(C)



ROOF PLAN

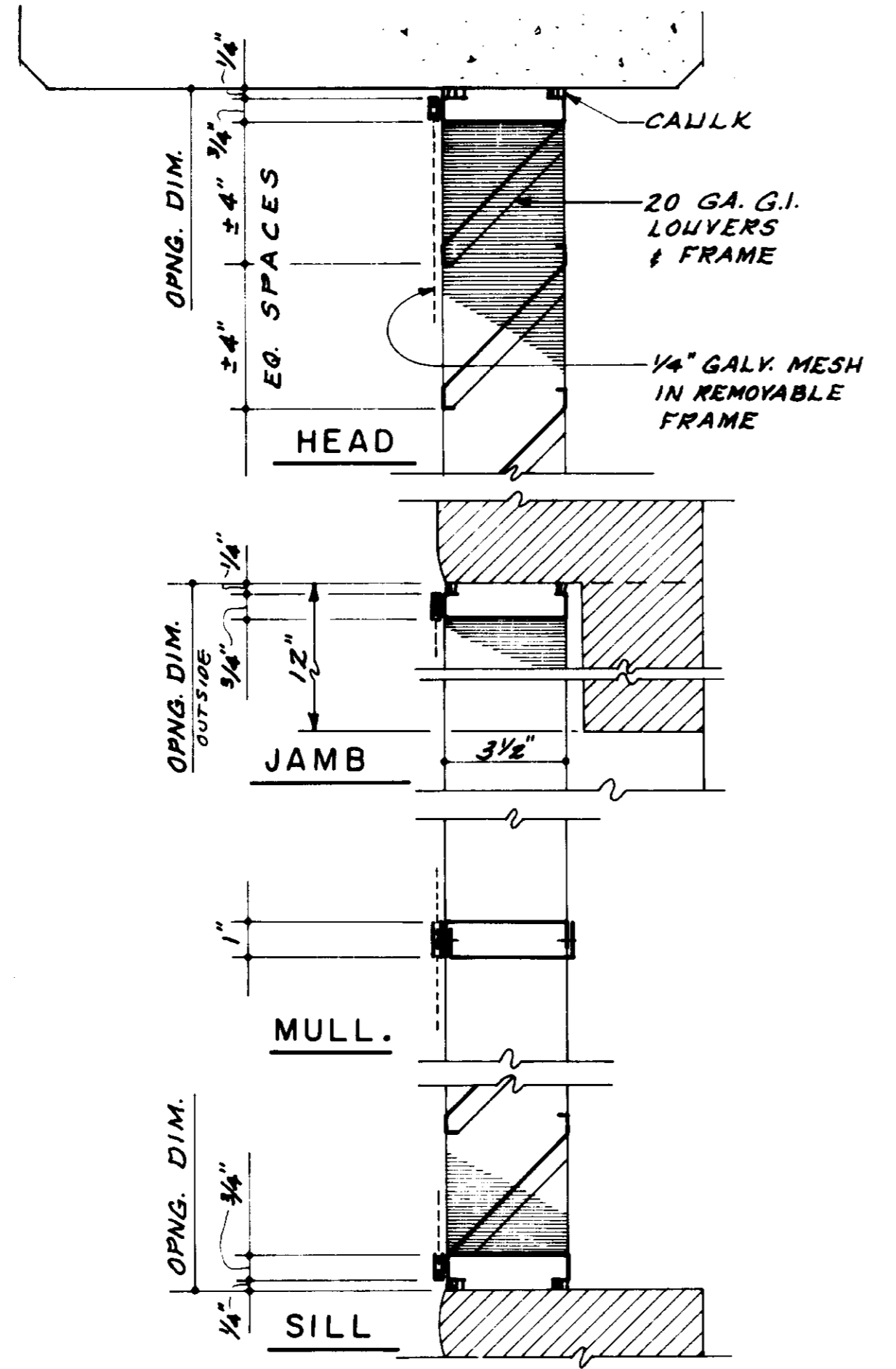
SCALE: 1/4" = 1'-0"



DOOR DETAIL

(1)

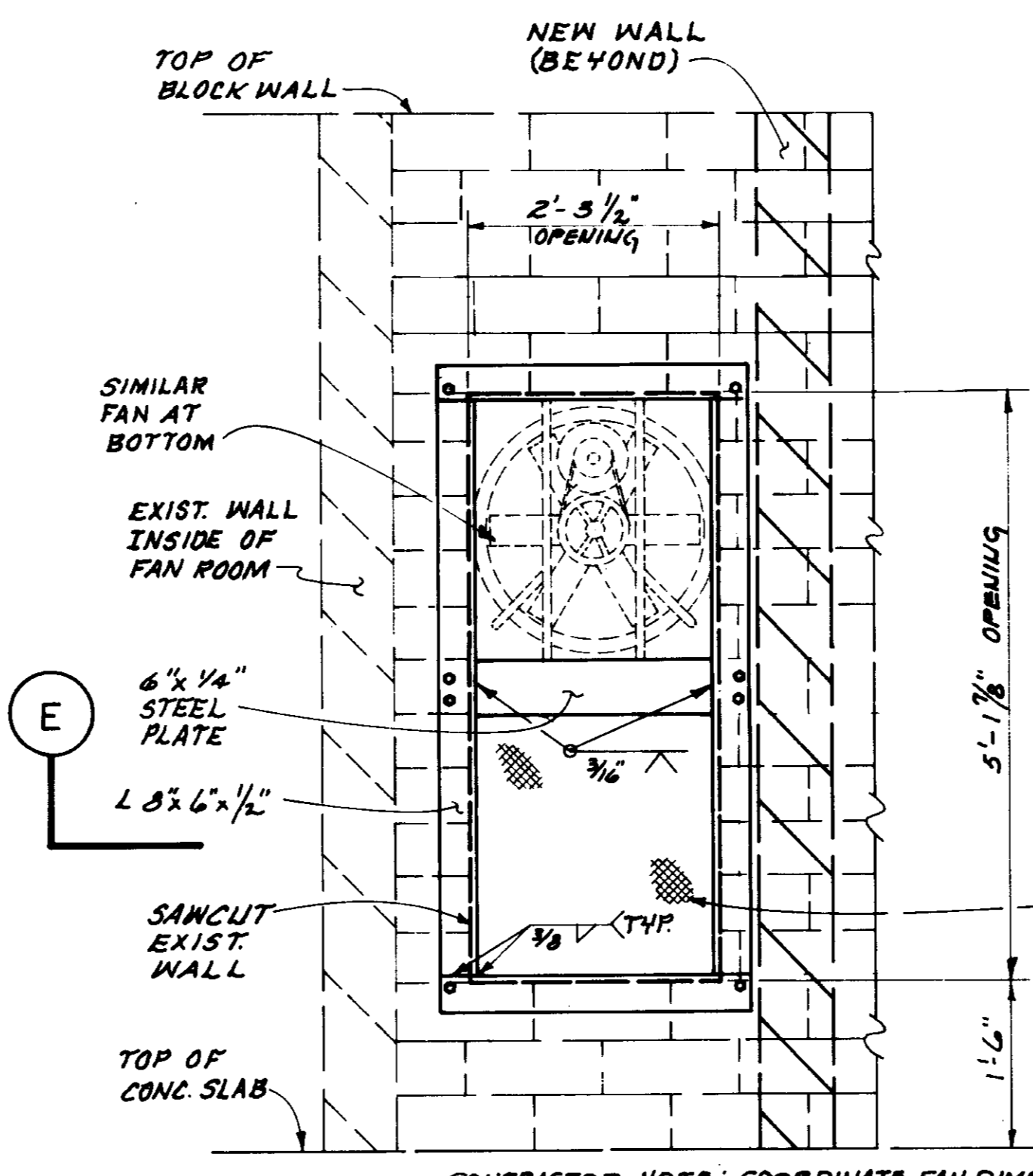
SCALE: 3" = 1'-0"



LOUVERS

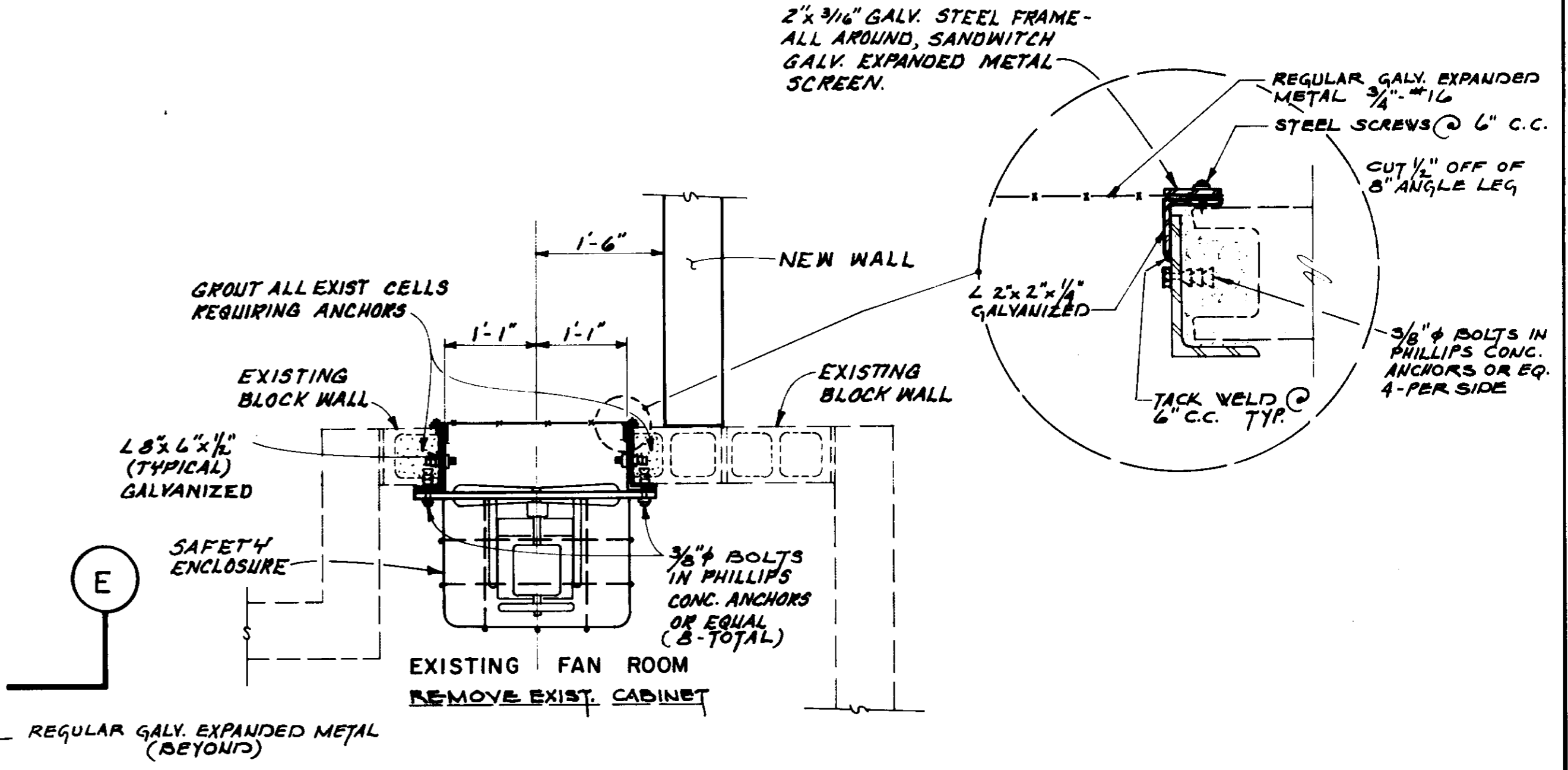
(2)

SCALE: 3" = 1'-0"



ELEVATION PLAN

CONTRACTOR NOTE: COORDINATE FAN DIMENSIONS WITH WALL OPENING; PROVIDE CERTIFIED DIMENSIONS ON FANS PRIOR TO SAWCUTTING OPENING IN WALL.



SECTION E-E

FAN OPENING DETAIL

(3)

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

PLAN OF RECORD

DATE: BY:

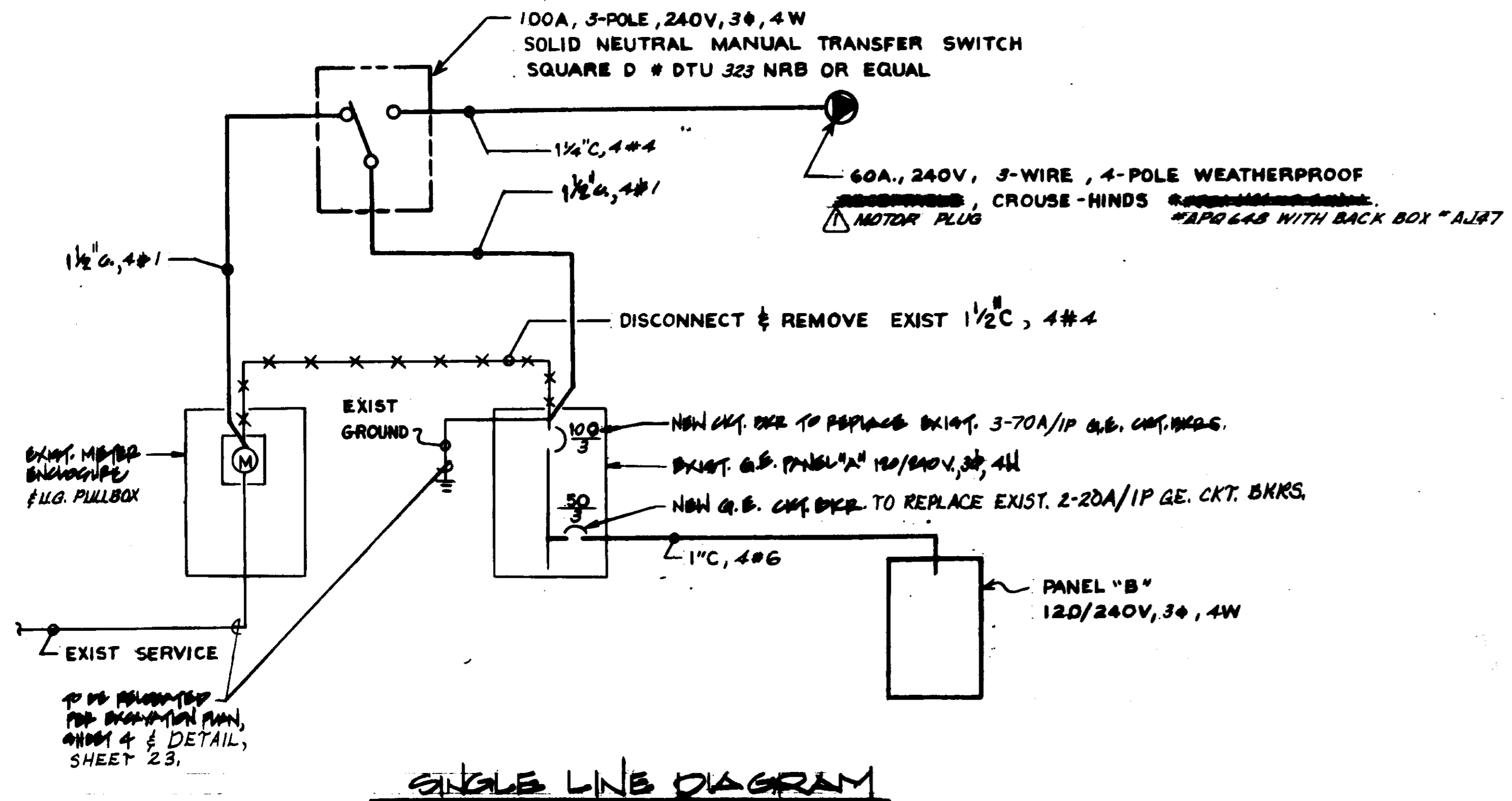
| | | | | |
|---------|--------|---|--------------|---------------|
| DESIGN | P.B.S. | Bous Engineering Corporation consulting engineers / architects VENTURA, CA. | SHEET NO. | 20 |
| DRAWN | J.R.G. | | OF 27 SHEETS | |
| CHECKED | R.V. | DATE | 6/25/82 | VT-102-114-08 |
| REV. | DATE | DESCRIPTION | APP. | |
| | | ISSUED FOR BIDDING | | |

05966

LAS VIRGENES MUNICIPAL WATER DISTRICT

CORNELL PUMP STATION EXPANSION

ARCHITECTURAL DETAILS

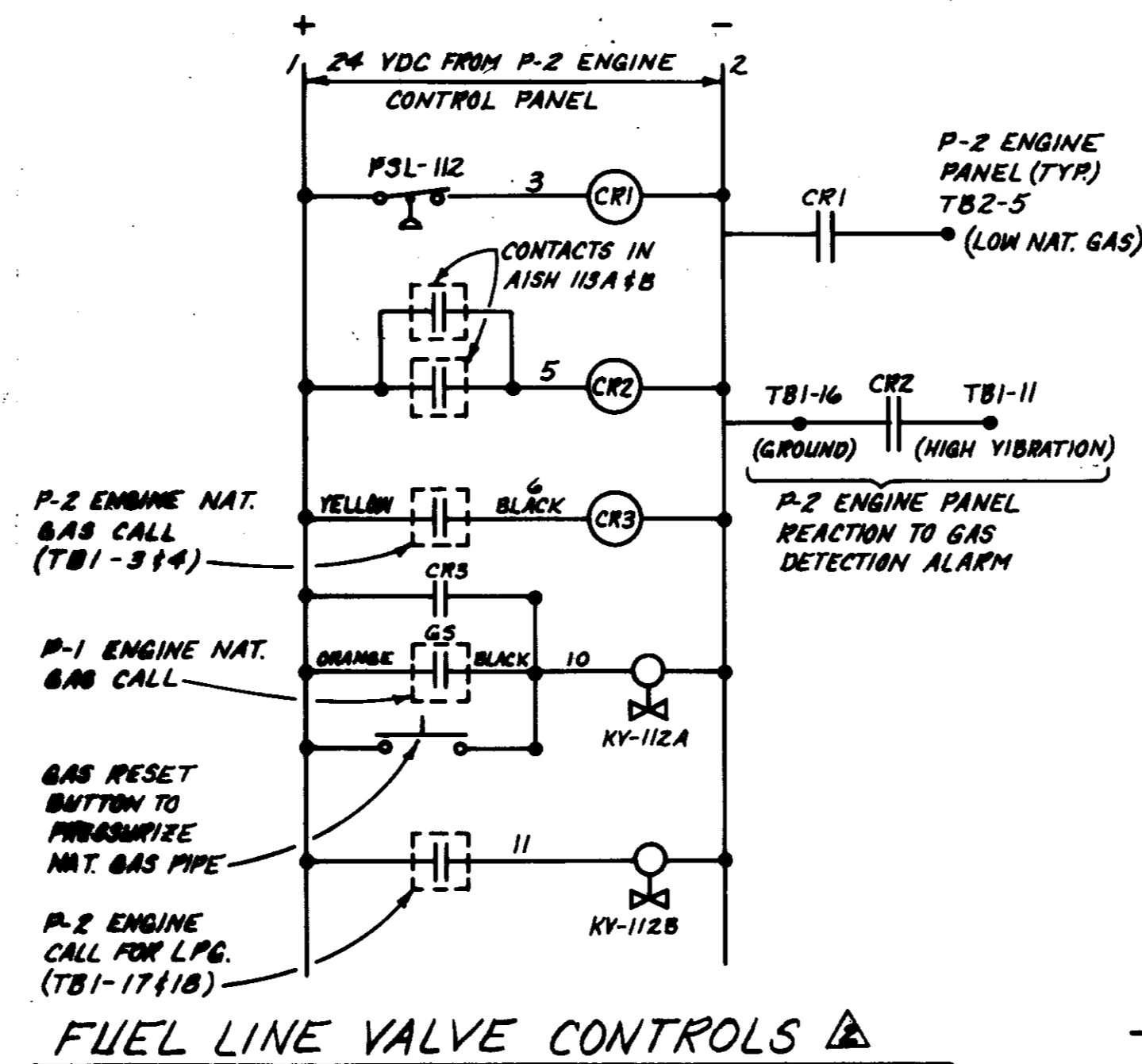


SINGLE LINE DIAGRAM

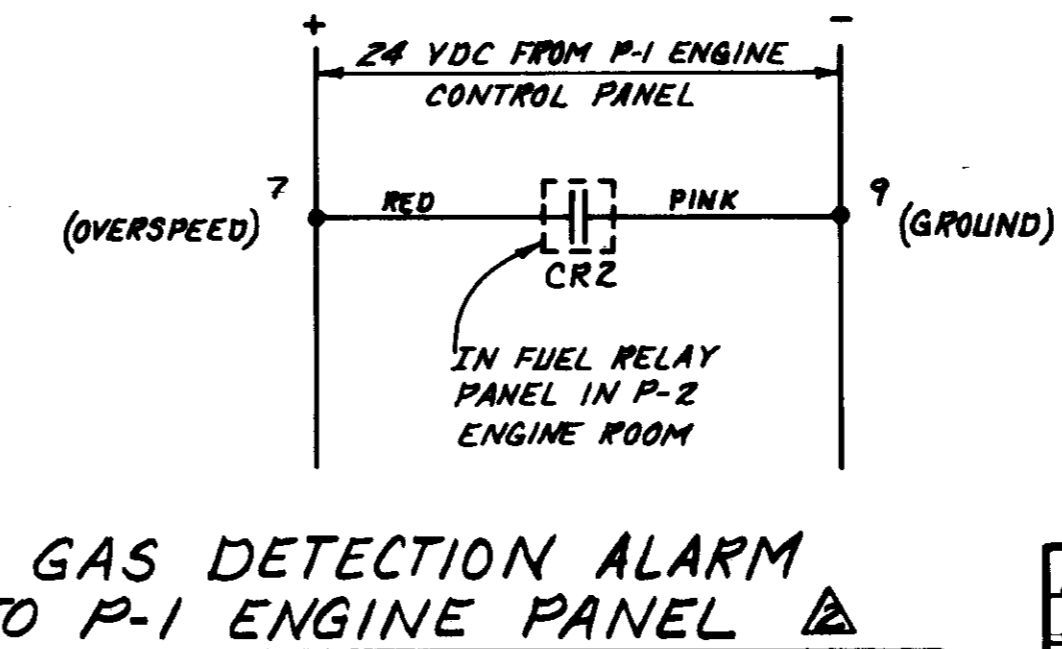
| NAMEPLATE B | | BLDG. | | LOC. CORNELL P.S. | | MTS. SURFACE | | MAIN LUGS ONLY | |
|-----------------------|--------|--------------------|--------|-------------------|--------|----------------|------|----------------|--|
| BUS: AMPS 100 | | VOLTS 20/240, 3#4W | | FEEDER | | AT | | | |
| | WAYAGE | OUTLETS | WAYAGE | OUTLETS | WAYAGE | | | | |
| MOV-5 | 700 | 1 | 700 | 1 | 700 | MOV-6 | | | |
| BKH. FAN EF-2B | 800 | 1 | 800 | 1 | 800 | BKH. FAN EF-2A | | | |
| SPARE | | | 800 | | 800 | SPARE | | | |
| LIGHTS (NEW ADDITION) | 800 | 8 | | | 1000 | | | | |
| REC. (NEW ADDITION) | 600 | 3 | | | 1000 | | | | |
| SPARE | | | 800 | | 800 | SPARE | | | |
| GAS LEAK DETECTORS | 200 | 2 | | | 500 | | | | |
| SPARE | | | | | | SPARE | | | |
| TOTAL LOAD | 2500 | 2500 | 1700 | | 3000 | 2500 | 1700 | | |
| 4.0 KW + LCL | | 1.0 KW = | | 15.0 KW AT | | 240 VOLTS | | 35.1 AMPS | |

| NAMEPLATE A | | BLDG. | | LOC. | | MTS. EXISTING | | MAIN 100A, 3P C/B (NEW) | |
|------------------|--------|--------------------|--------|------------|--------|------------------------|-----|-------------------------|--|
| BUS: AMPS 225 | | VOLTS 20/240, 3#4W | | FEEDER | | AT | | | |
| | WAYAGE | OUTLETS | WAYAGE | OUTLETS | WAYAGE | | | | |
| UPPER FLOOR LTS. | 1100 | 11 | | | 800 | UPPER FLOOR REC. | | | |
| LOWER FLOOR LTS. | 400 | 2 | | | 500 | LOWER FLOOR LTS. | | | |
| SPACE | | | | | 925 | GRS VENT FAN EF-1 | | | |
| LOWER FLOOR REC. | 600 | 3 | | | 1000 | ENGINE BATTERY CHARGER | | | |
| TIRE SWITCH | 200 | 1 | | | 3000 | SPACE | | | |
| SPACE | | | | | 2000 | PANEL "B" (NEW) | | | |
| TIRE CABINET | 500 | 1 | | | 2000 | | | | |
| SPACE | | | | | 2000 | | | | |
| MOV-1 | 400 | 1 | | | 400 | MOV-2 | | | |
| | 400 | | | | 400 | | | | |
| | 400 | | | | 400 | | | | |
| MOV-3 | 400 | 1 | | | 400 | MOV-4 | | | |
| | 400 | | | | 400 | | | | |
| TOTAL LOAD | 3520 | 1900 | 200 | | 4325 | 3520 | 200 | | |
| 24.0 KW + LCL | | 0.9 KW = | | 24.9 KW AT | | 240 VOLTS | | 32.2 AMPS | |

| TYPE | DESCRIPTION | MOUNT. | WATTS | NOTES |
|------|---|--------------------|-------|------------|
| A | FLUORESCENT: 4 40W-HOLDED PLASTIC HOUSING WITH ADJUSTABLE-PRISMATIC DIFFUSER (EXCLUDED & GASKETED) LITRONITE-100. BY 240A | SURFACE OR PENDANT | 100 | A-740 CU |
| B | NOT USED | | | |
| C | MERCURY VAPOR: CAST ALUM. HOUSING WITH HOODED PRISMATIC DIFFUSER 6.380V INTERNAL BALLAST (GRADE NO. 8305) | WALL | 175 | H50 EXIST |
| D | INCANDESCENT WALL MOUNT WITH GLASS GLOBE AND GUARD. KEENE NO. PS11816 | WALL | 100 | A-21 (RED) |



FUEL LINE VALVE CONTROLS



GAS DETECTION ALARM TO P-1 ENGINE PANEL

| ELECTRICAL SYMBOLS - PLAN | |
|---------------------------|--|
| SYMBOL | DESCRIPTION |
| [Symbol] | SINGLE POLE SWITCH - 5/8" TYPICAL |
| [Symbol] | THREE WAY SWITCH |
| [Symbol] | "O" DENOTES OUTLET CONTROLLED |
| [Symbol] | MANUAL MOTOR STARTER |
| [Symbol] | FUSED SWITCH, SIZE AS SHOWN |
| [Symbol] | NON-FUSED SWITCH, SIZE AS SHOWN |
| [Symbol] | PUSH BUTTON STATION |
| [Symbol] | MOTOR OUTLET, HORSEPOWER INDICATED |
| [Symbol] | POWER DISTRIBUTION SWITCHBOARD OR MOTOR CONTROL CENTER |
| [Symbol] | PANELBOARD |
| [Symbol] | TRANSFORMER |
| [Symbol] | CONDUIT EXPOSED |
| [Symbol] | CONDUIT IN SLAB OR UNDERGROUND |
| [Symbol] | QUANTITY #12 WIRE - SEE CONDUIT FILL TABLE |
| [Symbol] | WIRE SIZE OTHER THAN #12 - SEE CONDUIT FILL TABLE |
| [Symbol] | CONDUIT BENDS TOWARD OBSERVER |
| [Symbol] | CONDUIT BENDS AWAY FROM OBSERVER |
| [Symbol] | CONDUIT STUBBED OUT AND CAPPED |
| [Symbol] | INCANDESCENT, MERCURY OR HPS FIXTURE OUTLET |
| [Symbol] | FLUOR FIXTURE OUTLET |
| [Symbol] | FIXTURE CONNECTED TO CKT. #1, SWITCH "W" |
| [Symbol] | DUPLEX RECEPTACLE, 3/16 WIRE, NEMA 5-20R |
| [Symbol] | SINGLE RECEPTACLE, 240V |
| [Symbol] | THERMOSTAT OUTLET - 46" UBC |
| [Symbol] | JUNCTION BOX |
| [Symbol] | GROUND CONNECTION |
| [Symbol] | GROUND ROD, 3/4"x10'-0" COPPERCLAD |
| [Symbol] | ENCLOSED COMBINATION STARTER |
| [Symbol] | RELAY IN NEMA 1 ENCLOSURE |

| ELECTRICAL SYMBOLS - PLAN CONT. | |
|---------------------------------|--|
| [Symbol] | FIXTURE TYPE A, 200 WATTS, 3 FIXTURES OF SAME TYPE ON PLAN |
| [Symbol] | WEATHERPROOF |
| [Symbol] | FULL BOX |
| [Symbol] | CONDUIT ONLY |
| [Symbol] | MOUNTING HEIGHT |
| [Symbol] | PANEL |
| [Symbol] | VALVED VALVE |
| [Symbol] | MOTOR OPERATED VALVE |

| ELECTRICAL SYMBOLS - SINGLE LINE DIAGRAM | |
|--|--|
| [Symbol] | UTILITY METERING |
| [Symbol] | CURRENT TRANSFORMER |
| [Symbol] | POTENTIAL TRANSFORMER |
| [Symbol] | POWER TRANSFORMER |
| [Symbol] | CIRCUIT BREAKER, 3 POLE UNLESS OTHERWISE INDICATED. HEP INDICATES MOTOR CIRCUIT PROTECTOR |
| [Symbol] | DISCONNECT SWITCH, 3 POLE UNLESS OTHERWISE INDICATED |
| [Symbol] | MOTOR, 10 HORSEPOWER |
| [Symbol] | GROUND |
| [Symbol] | MAGNETIC MOTOR STARTER, NEMA SIZE INDICATED. RV = REDUCED VOLTAGE STARTING 2S, 2V = 2 SPEED, 2 WINDING |

| CONDUIT FILL TABLE | | | |
|--|-----------------------------|-----|----|
| MAXIMUM NUMBER OF CONDUCTORS IN TRADE SIZES OF CONDUIT OR TUBING | | | |
| CONDUCTOR SIZE (AWG) | CONDUIT TRADE SIZE (INCHES) | | |
| | 1/2 | 3/4 | 1 |
| 14 | 6 | 10 | 16 |
| 12 | 4 | 8 | 13 |
| 10 | 4 | 6 | 11 |

PLAN OF RECORD
DATE: BY:

05968 E-1

LAS VIRGENES MUNICIPAL WATER DISTRICT
CORNELL PUMP STATION EXPANSION

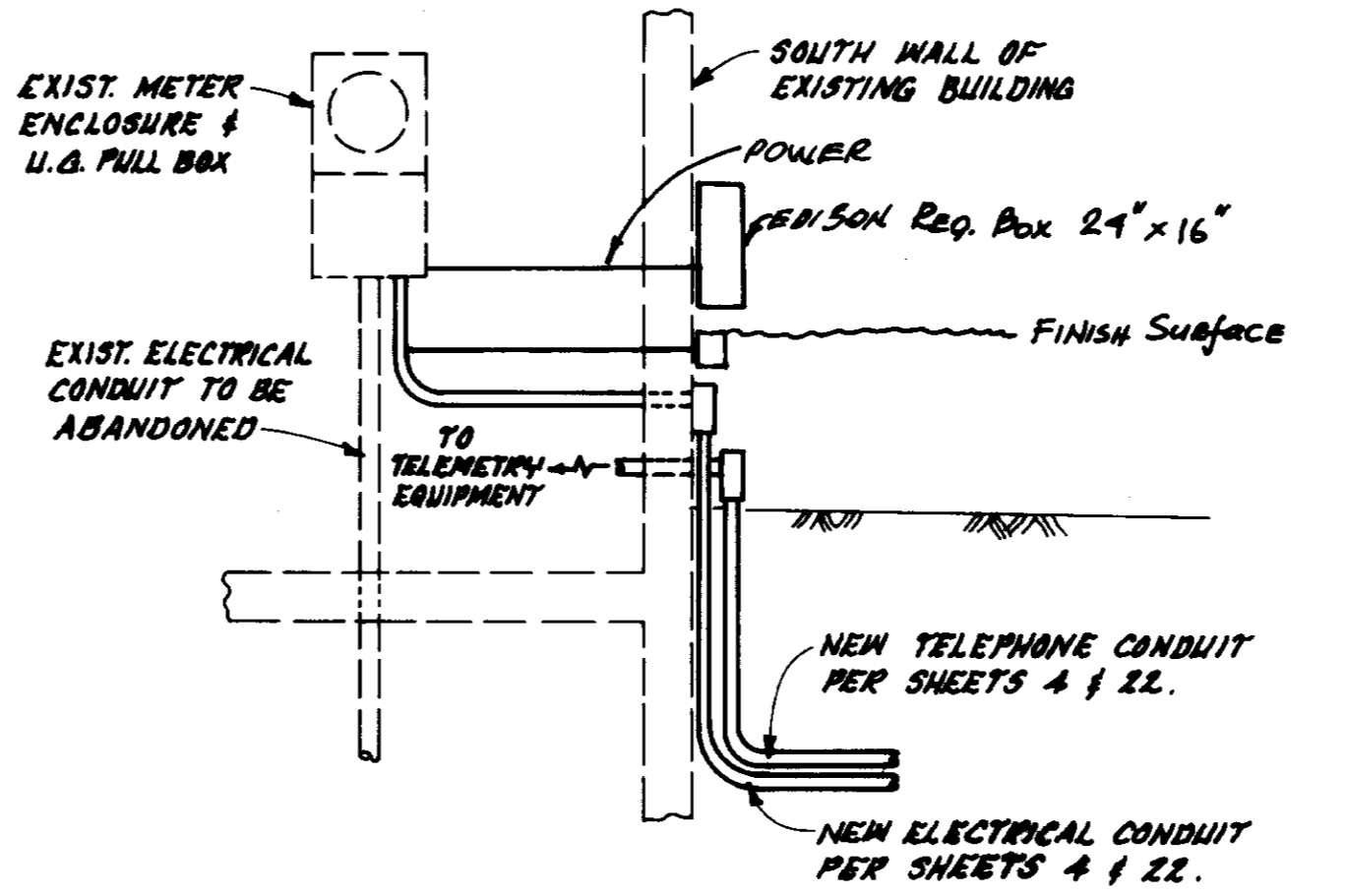
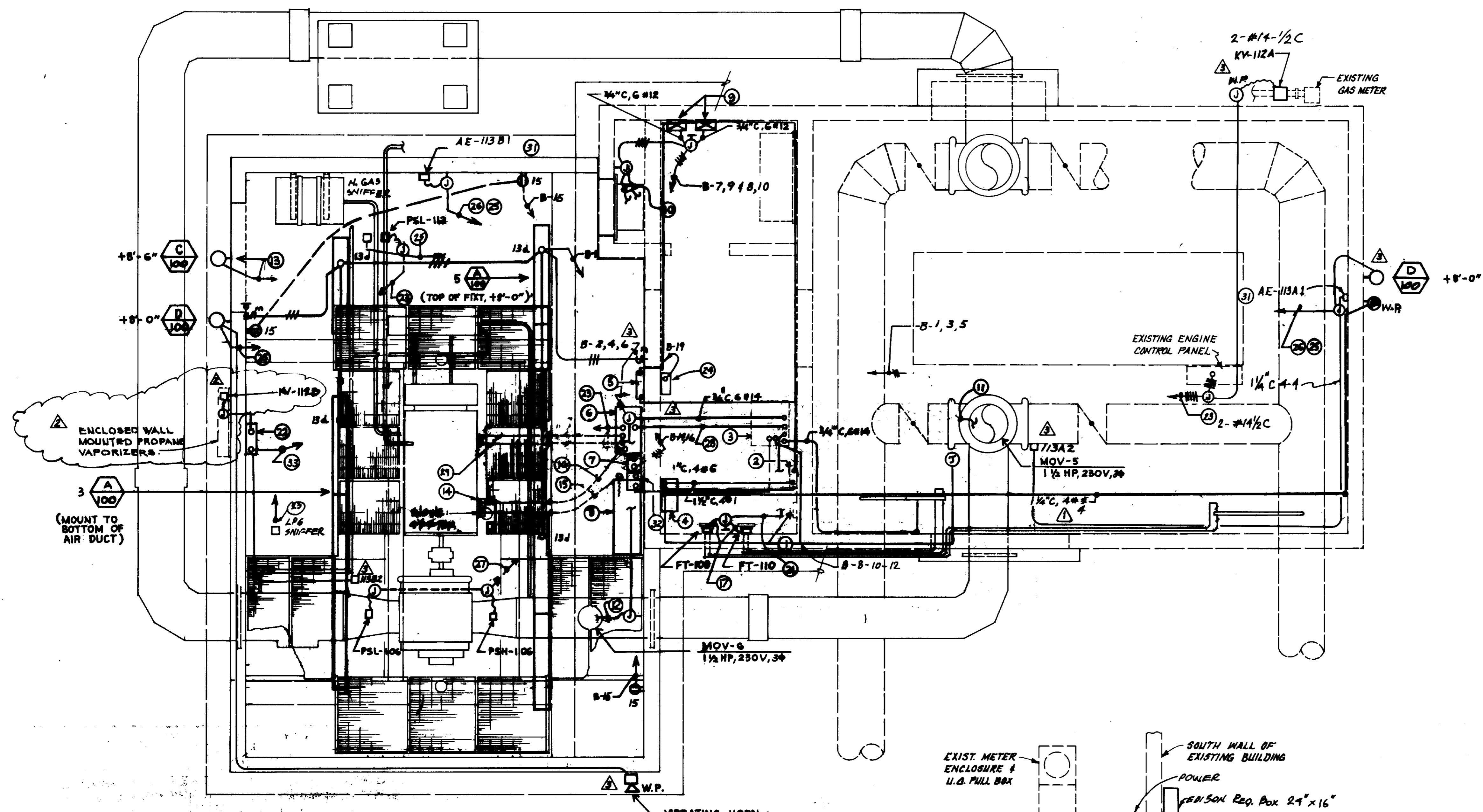
SINGLE LINE DIAGRAM, SYMBOL LIST, LIGHTING FIXTURE AND PANEL SCHEDULES

| | | | |
|--------------------------|------|--------|--------------------|
| DESIGN | R.J. | DATE | 1/1/82 |
| RECORD DRAWING REVISIONS | REV. | DATE | DESCRIPTION |
| 1/1/82 | REV. | 1/1/82 | ISSUED FOR BIDDING |

SOLE ENGINEERING CORPORATION
CONSULTING ENGINEERS / ARCHITECTS

NOTES

1. EXISTING METER ENCLOSURE ■ U.G. PULLBOX.
2. EXISTING PANEL "A", PROVIDE 30A-2P C/B AND 50A-2P C/B PER REVISED PANEL SCHEDULE 'A' ON SHEET E-1.
3. EXISTING TELEMETRY CABINET.
4. MANUAL TRANSFER SWITCH. MOUNT ON WALL AT 6'-0" TO TOP OF ENCLOSURE.
5. PANEL B. MOUNT ON WALL AT 6'-0" TO TOP OF ENCLOSURE.
6. LOCAL ENGINE CONTROL PANEL.
7. ENGINE BATTERY CHARGER.
8. BATTERIES AND BATTERY RACK.
9. COMBINATION MOTOR STARTER WITH CIRCUIT BREAKER & H-0-A SWITCH.
10. CONNECT TO EXH. FANS EF-2A AND EF-2B.
11. 1" C, 3/12 & 6#14. CONNECT TO NEW MOTOR OPERATOR MOV-5.
12. 1" C, 3/12 & 6#14. CONNECT TO MOV-6.
13. RELOCATED EXISTING EXTERIOR FIXTURE. CONNECT TO EXISTING TIME SWITCHED CONTROL CIRCUIT A-3.
14. ENGINE MOUNTED J-BOX. VERIFY LOCATION IN FIELD.
15. 3" C.O. INSTALL & CONNECT CABLE FURNISHED WITH BATTERIES.
16. 1 1/2" C, 26#14 (INCLUDING SPARES).
17. 3/4" C, 2#14 & 1#16 TWISTED, SHIELDED PAIR.
18. -----
19. -----
20. -----
21. 1" C, 4#14 & 2#16 TH, SH. PAIRS.
22. PROVIDE RELAY PANEL PER FUEL LINE VALVE CONTROLS SCHEMATIC, SHEET E-1. MOUNT PANEL ON WALL AT 6'-0" TO TOP OF ENCLOSURE.
23. TO RELAY PANEL FOR FUEL LINE VALVE CONTROL.
24. GAS LEAK DETECTORS AISH-113A1, AISH-113A2, AISH-113B1 AND AISH-113B2.
25. 10 GAS LEAK DETECTOR AISH-113.
26. 5/8" C, 1-3/8" SHIELDED CABLE.
27. TO EXISTING TELEMETRY CABINET.
28. 3/4" C, 10#14 (INCLUDING SPARES).
29. 2-2" C.O. FOR SUPPLYING 2000 PSI AIR TEMP. & JACKET WATER TEMP. QUANTITY 4500 CONDUITS UP TO AND CAP.
30. REFER TO EXISTING PLAN, SHEET E-1 FOR RELOCATION OF EXISTING BLEED & TELEMETRY HOSELINE AND AIR LINE.
31. CONTRACTOR SHALL LOCATE FUEL GAS SENSORS (AE-113A1, AE-113A2, AE-113B1, AND AE-113B2) IN STAGNATE AREAS. CONTRACTOR SHALL UTILIZE A SMOKE TEST OR OTHER SUITABLE MEANS UNDER VARIOUS OPERATING CONDITIONS TO DETERMINE SUITABLE LOCATIONS.
32. TELEMETRY EQUIP. BATTERY CHARGER FURNISHED W/ ENGINE-PUMP. CONNECT 1/2" C-2#12 TO TELEMETRY EQUIP. BATTERIES IN RACK BELOW.
33. 1/2" C, 2#12 TO NEW ENGINE CONTROL PANEL.



LIGHTING AND POWER PLAN
SCALE: 3/8" = 1'-0"

PLAN OF RECORD
DATE: _____ BY: _____

05969 E-2

| | |
|--|--|
| LAS VIRGENES MUNICIPAL WATER DISTRICT | |
| CORNELL PUMP STATION EXPANSION | |
| LIGHTING AND POWER PLAN | |

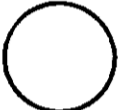

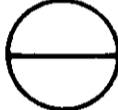

| | | | |
|----------|------|----------------------------|--------|
| REV. | DATE | DESCRIPTION | BY |
| 2-26-85 | | RECORD DRAWING REVISIONS | R.J. |
| 3-22-85 | | REVISION OF L.P.G. SYSTEM. | R.J. |
| 11-17-85 | | CORRECTED WIRE SIZE | J.P.M. |
| 1-14-86 | | ISSUED FOR BIDDING | H.H. |
| | | | A.R. |

SHEET NO. 23 OF 27 SHEETS
DATE: _____


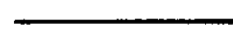
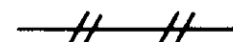
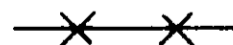





INSTRUMENT SOCIETY OF AMERICA TABLE

| LETTER | FIRST LETTER(S) | | SUCCEEDING LETTERS | | |
|--------|--------------------------------|--------------|--|------------------|------------------|
| | PROCESS OR INITIATING VARIABLE | MODIFIER | READOUT OR PASSIVE FUNCTION | OUTPUT FUNCTION | MODIFIER |
| A | ANALYSIS (a) | | ALARM | | |
| B | BURNER FLAME | | | | |
| C | CONDUCTIVITY | | | CONTROL | |
| D | DENSITY (S.G.) | DIFFERENTIAL | | | |
| E | VOLTAGE | | PRIMARY ELEMENT | | |
| F | FLOW RATE | RATIO | | | |
| G | GAUGE | | GLASS | GATE | |
| H | HAND (MANUAL) | | | | HIGH |
| I | CURRENT | | INDICATE | | |
| J | POWER | SCAN | | | |
| K | TIME OR SCHEDULE | | | CONTROL STATION | |
| L | LEVEL | | LIGHT (PILOT) | | LOW |
| M | MOTION | | | | MIDDLE |
| N | | | | | NORMAL |
| O | | | ORIFICE | | |
| P | PRESSURE (OR VACUUM) | | POINT (TEST CONNECTION) | | |
| Q | QUANTITY OR EVENT | | INTEGRATE | | |
| R | | | RECORD OR PRINT | | |
| S | SPEED OR FREQUENCY | SAFETY | | SWITCH | |
| T | TEMPERATURE | | | TRANSMIT | |
| U | MULTIVARIABLE (a) | | MULTIFUNCTION (a) | | |
| V | VISCOSITY | | | VALVE | |
| W | WEIGHT OR FORCE | | WELL | | |
| X | UNCLASSIFIED (a) | | UNCLASSIFIED (a) | UNCLASSIFIED (a) | UNCLASSIFIED (a) |
| Y | | | RELAY OR COMPUTE (a) | | |
| Z | POSITION | | DRIVE, ACTUATE OR UNCLASSIFIED FINAL CONTROL ELEMENT | | |









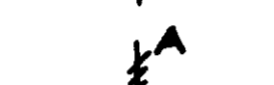

(a) WHEN USED, EXPLANATION IS SHOWN ADJACENT TO INSTRUMENT SYMBOL

-  FIELD MOUNTED INSTRUMENT
-  REAR OF PANEL MOUNTED INSTRUMENT
-  FRONT OF PANEL MOUNTED INSTRUMENT
-  FUNCTION IDENTIFICATION (PER ISA TABLE) LOOP IDENTIFICATION




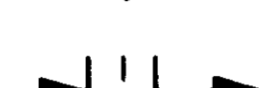
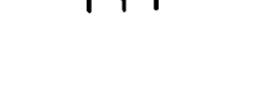
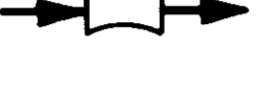

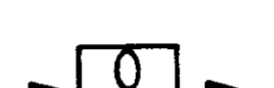
INSTRUMENT LINE SYMBOLS

-  PRIMARY PROCESS FLOW
-  SECONDARY PROCESS FLOW, CONNECTION TO PROCESS FLOW, MECHANICAL LINK OR INSTRUMENT SUPPLY
-  PNEUMATIC SIGNAL OR UNDEFINED SIGNAL FOR PROCESS FLOW DIAGRAMS
-  CAPILLARY TUBING (FILLED SYSTEM)
-  ELECTRIC SIGNAL (DISCRETE)
-  ELECTRIC SIGNAL (ANALOG)
-  OUTSIDE VENT
-  INTERLOCK
-  REDUCER OR INCREASER

VALVES & GATES

-  BUTTERFLY
-  GATE
-  SWING CHECK
-  BALL
-  DIAPHRAGM
-  PLUG
-  ECCENTRIC PLUG
-  PRESSURE RELIEF
-  AIR RELEASE
-  DIAPHRAGM ACTUATED










PRIMARY ELEMENTS

-  OBSTRUCTIONLESS METER
-  WEIR
-  ORIFICE PLATE
-  FLOW TUBE
-  PITOT-STATIC
-  PROPELLER METER
-  ROTAMETER
-  POSITIVE DISPLACEMENT METER

ABBREVIATIONS & LETTER SYMBOLS

- P & ID PROCESS AND INSTRUMENTATION DIAGRAM
- DC DIRECT CURRENT
- AC ALTERNATING CURRENT
- PS DC POWER SUPPLY
- LR LOCAL - REMOTE
- SS START - STOP
- OO ON - OFF
- MCC-X MOTOR CONTROL CENTER NO. X
- LOS LOCK OUT STOP
- HOA HAND OFF AUTO
- OOA ON - OFF - AUTO
- EO ENERGIZED OPEN
- EC ENERGIZED CLOSED
- MPF MOTOR POWER FAILURE
- TD TIME DELAY
- COD CHEMICAL OXYGEN DEMAND
- pH HYDROGEN ION CONCENTRATION
- TOD TOTAL OXYGEN DEMAND
- CL₂ CHLORINE
- Δ DIFFERENCE
- Σ SUM
- ÷ DIVIDE
- x MULTIPLY
- f(x) CHARACTERIZED
- √ SQUARE ROOT
- xⁿ RAISE TO THE Nth POWER
- AVG AVERAGE
- |:| REPEAT OR BOOST
- > SELECT HIGHEST SIGNAL
- < SELECT LOWEST SIGNAL
- TURB TURBIDITY
- ORO OFF - RESET - ON
- LOR LOCAL - OFF - REMOTE
- AM AUTOMATIC - MANUAL
- ◇ GENERALIZED - FOR UNDEFINED OR COMPLEX INTERLOCK LOGIC
- OOR ON - OFF - REMOTE
- O OPEN
- C CLOSE
- OCA OPEN - CLOSE - AUTO

ACTUATOR OR OPERATORS

-  PNEUMATIC W/ POSITIONER
-  PNEUMATIC W/ PILOT SOLENOID
-  ELECTRIC (MOTOR)
-  HYDRAULIC W/ POSITIONER
-  HYDRAULIC W/ PILOT SOLENOID
-  MANUAL
-  SOLENOID
-  3-WAY SOLENOID
-  DIAPHRAGM

05970

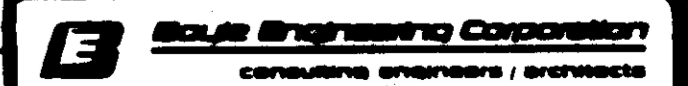
PLAN OF RECORD

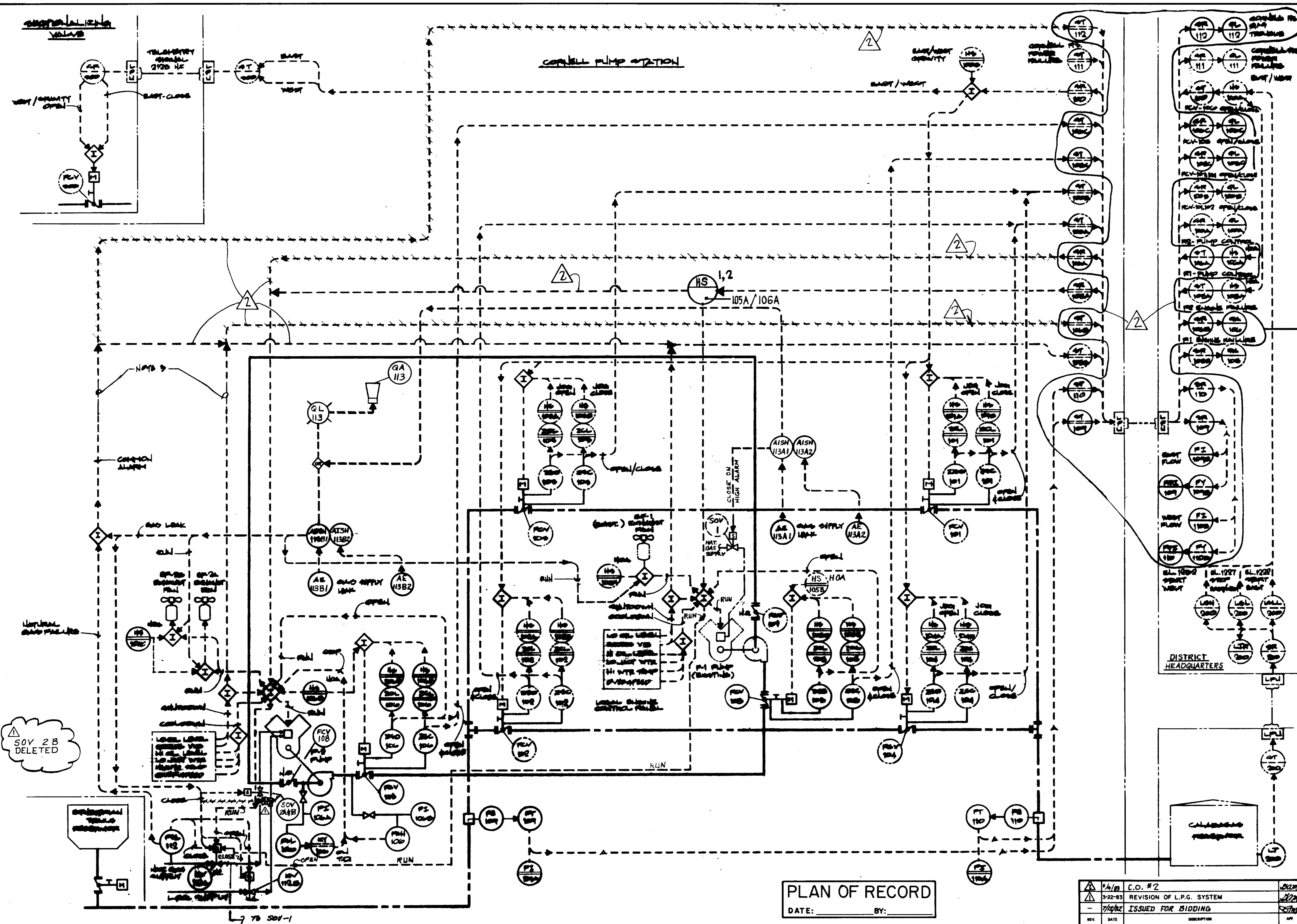
DATE: _____ BY: _____

LAS VIRGENES MUNICIPAL WATER DISTRICT

CORNELL PUMP STATION EXPANSION

LEGEND & ABBREVIATIONS

| | | | | | |
|---|--------|--------------------|---------------------------|---------|------|
| REV | DATE | DESCRIPTION | APP | CHECKED | DATE |
| - | 7/2/82 | ISSUED FOR BIDDING | | | |
| A.U.  Boyle Engineering Corporation | | | SHEET NO. 24 OF 27 SHEETS | | |
| R.C.S. CS00-418 | | | DATE | | |



- NOTES:
1. CORNELL PUMP STATION... (text partially obscured)
 2. FLOW CONTROL VALVES... (text partially obscured)
 3. FLOW CONTROL... (text partially obscured)
 4. DENOTES EXISTING LINE
 5. (text partially obscured)

- DELETE**
1. DELETE HARDWARE.
 2. ADD HANDSWITCH HS-105A/106A TO EXIST. TELEMETRY PANEL.
 3. PARALLEL (COMMON) THE NEW PUMP FAIL, GAS LEAK, LOW NAT. GAS SUPPLY WITH THE EXIST. COMMON PUMP FAIL ALARM.
 4. EXTEND ALL PUMP RUN VALVE POSITION FEED BACK ET CETERA TO TERMINAL BLOCKS TO BE USED AT A FUTURE DATE.

05971

**LAS VIRGENES
MUNICIPAL WATER DISTRICT**

**CORNELL PUMP STATION-EXPANSION
PROCESS & INSTRUMENTATION
DIAGRAM**

| | | | | |
|---------|------|---------------------------|-------|---------|
| REV. | DATE | DESCRIPTION | DRAWN | CHECKED |
| 1/4/83 | | C.O. #2 | SM | |
| 3/22/83 | | REVISION OF L.P.G. SYSTEM | SM | |
| 7/12/82 | | ISSUED FOR BIDDING | SM | |

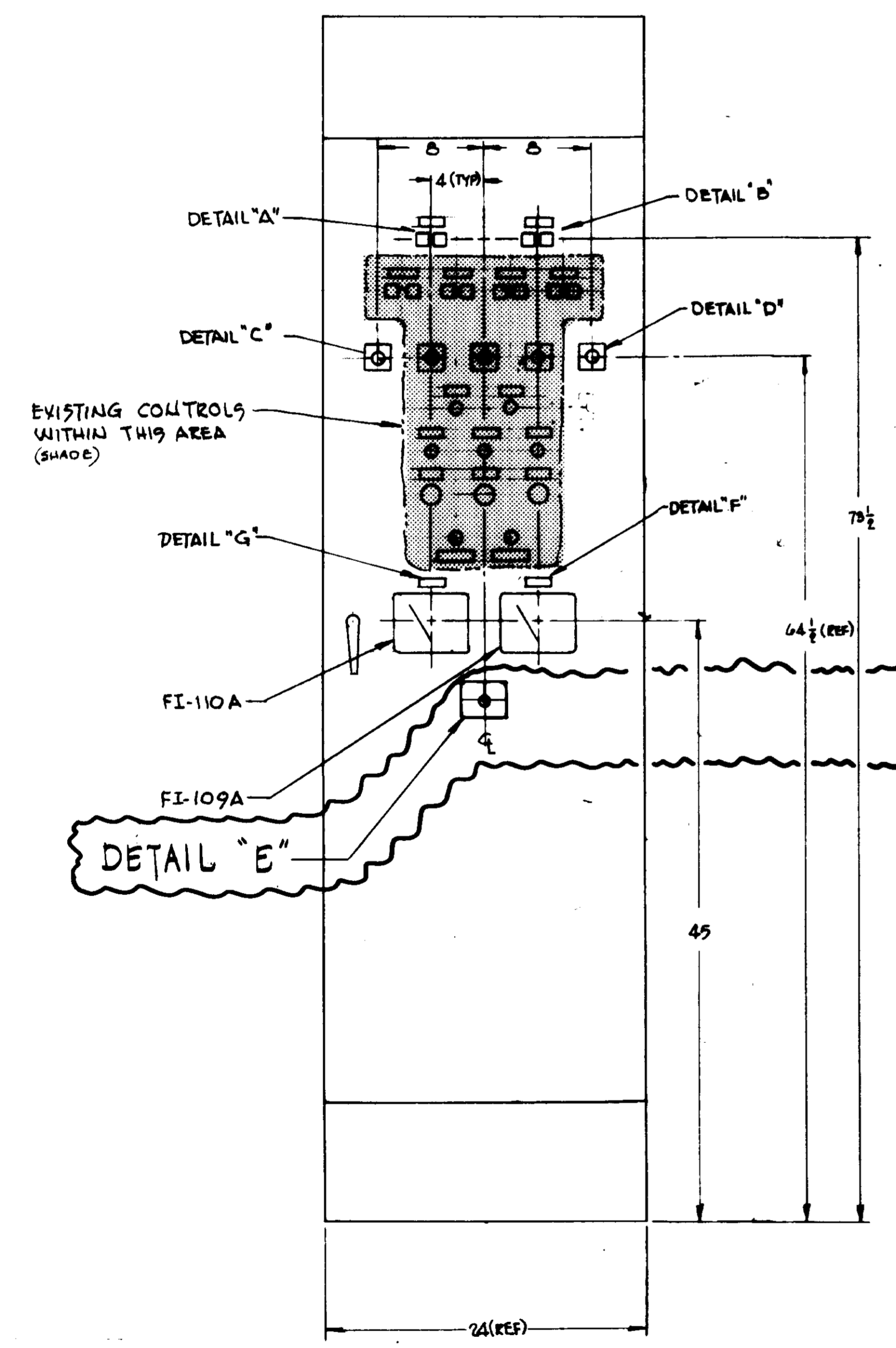
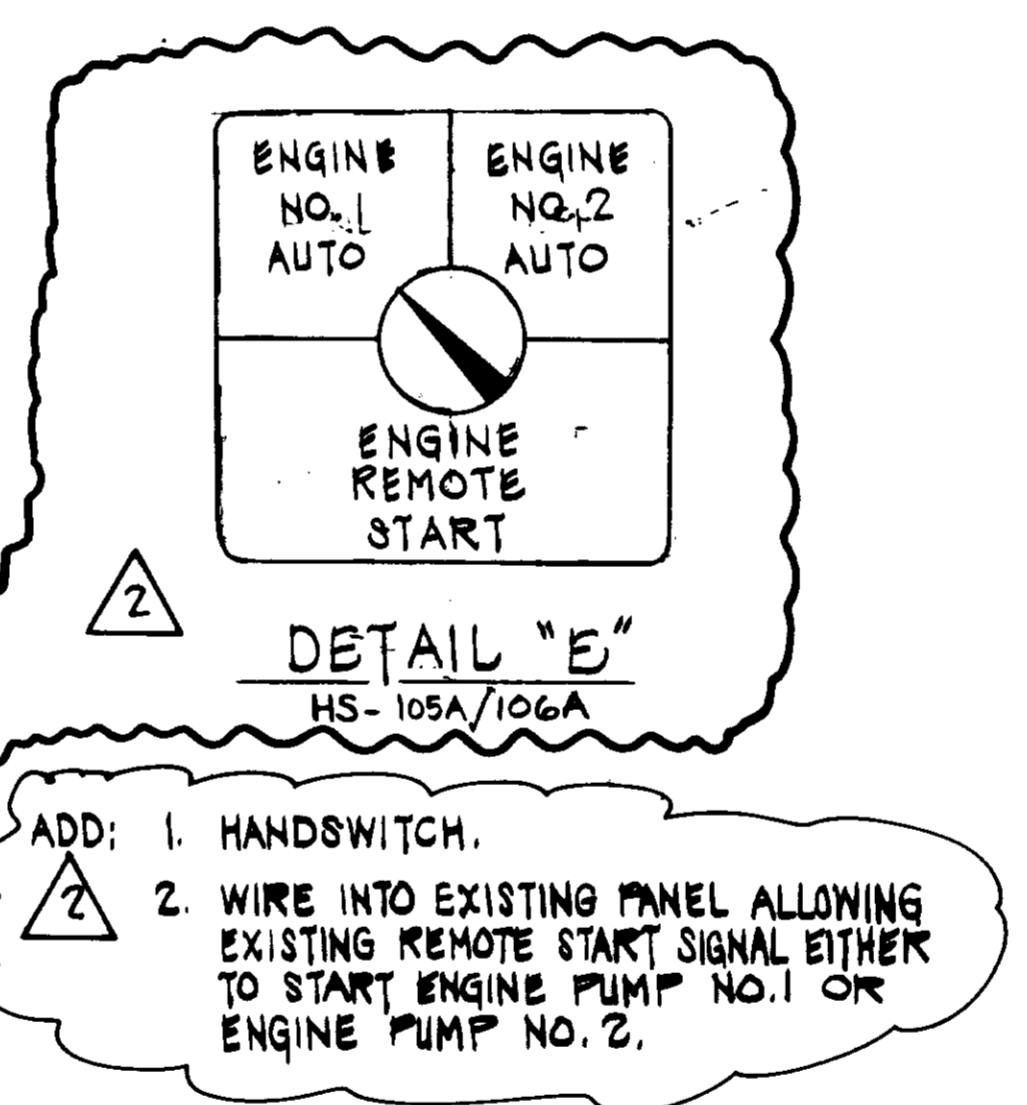
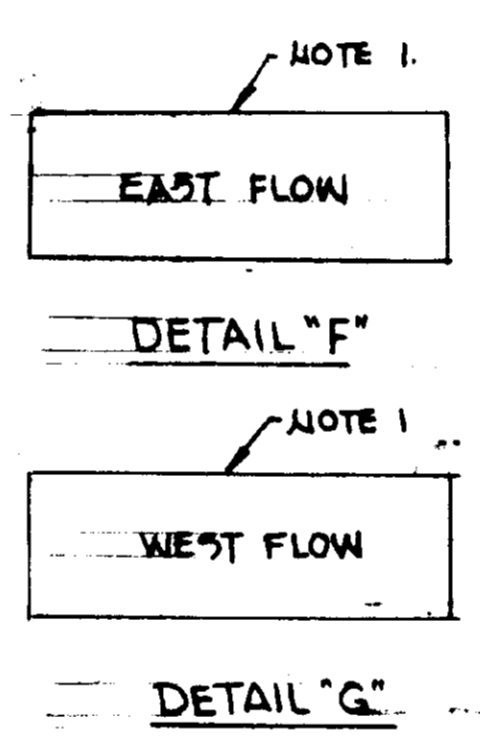
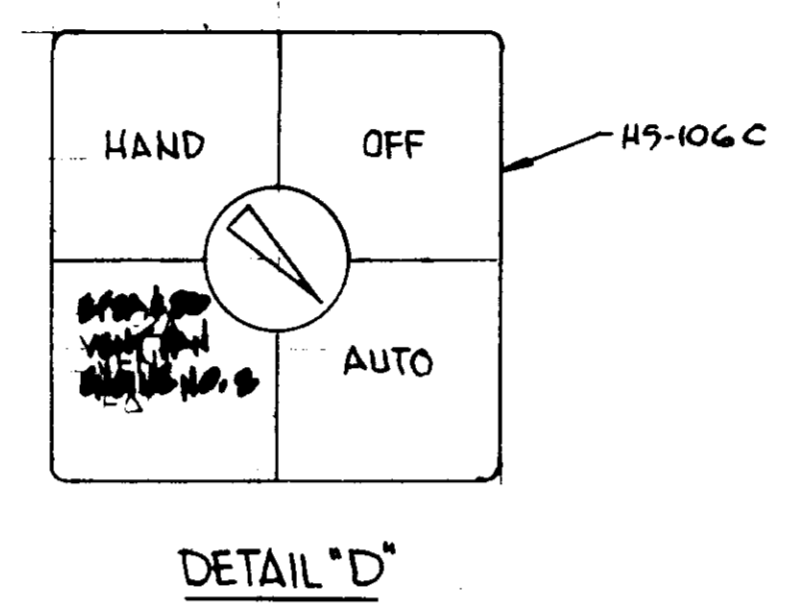
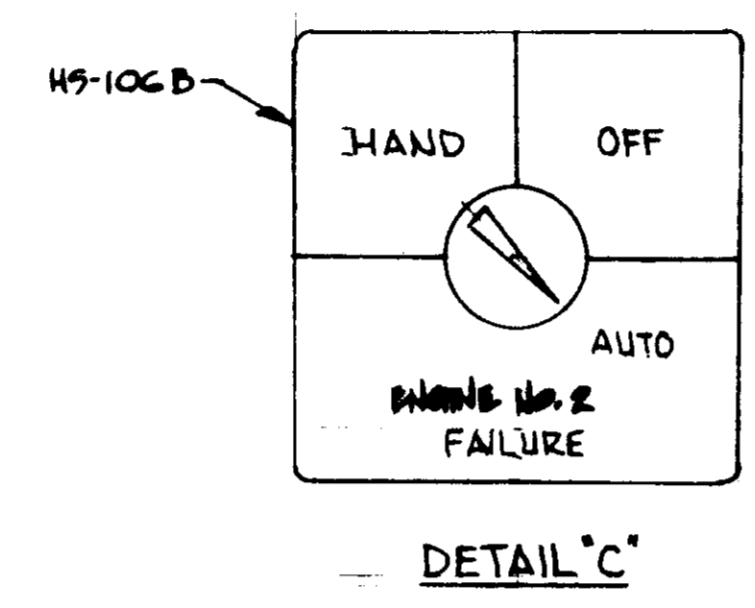
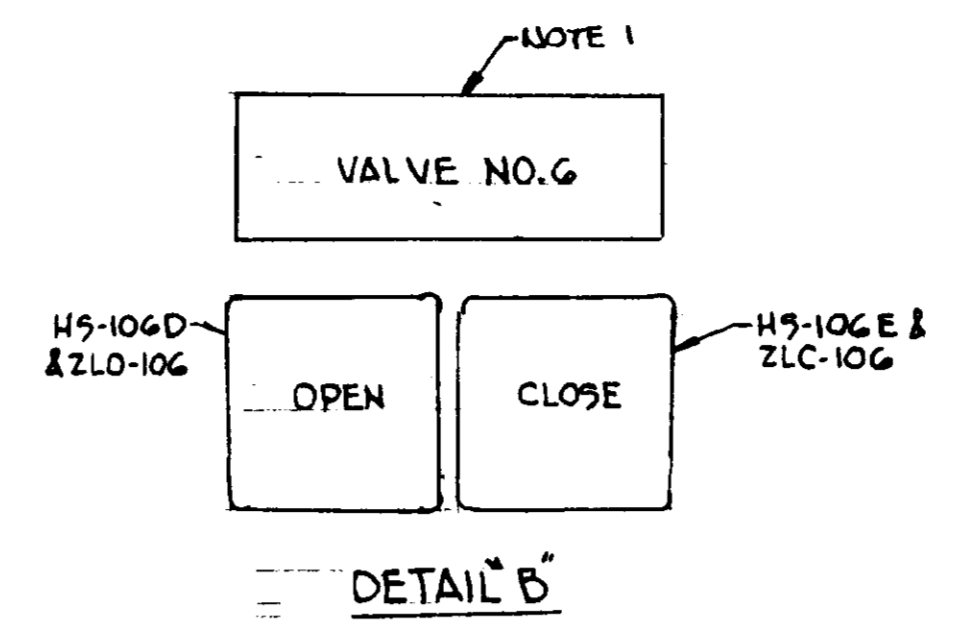
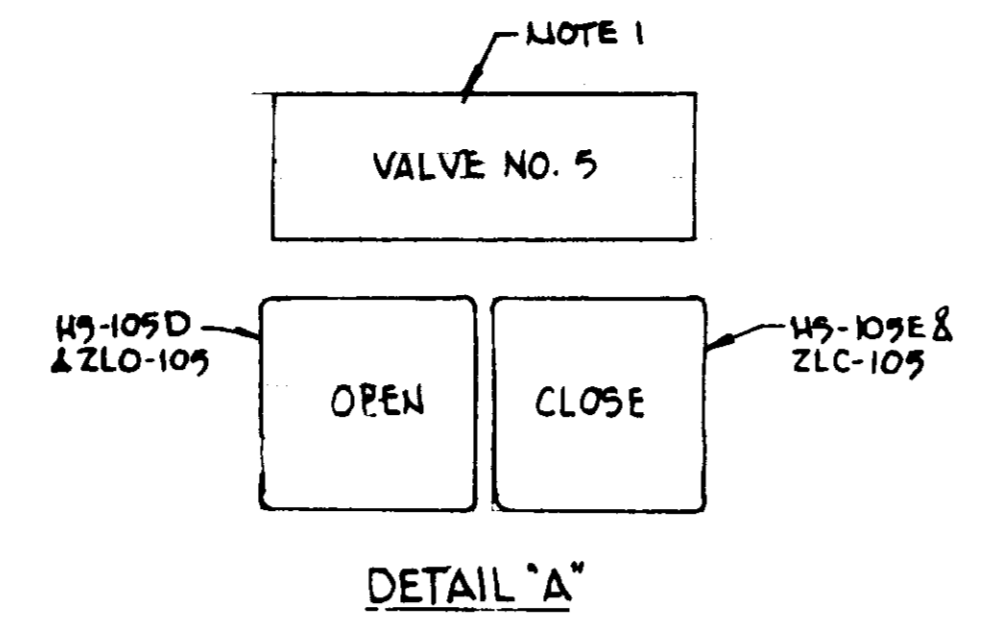
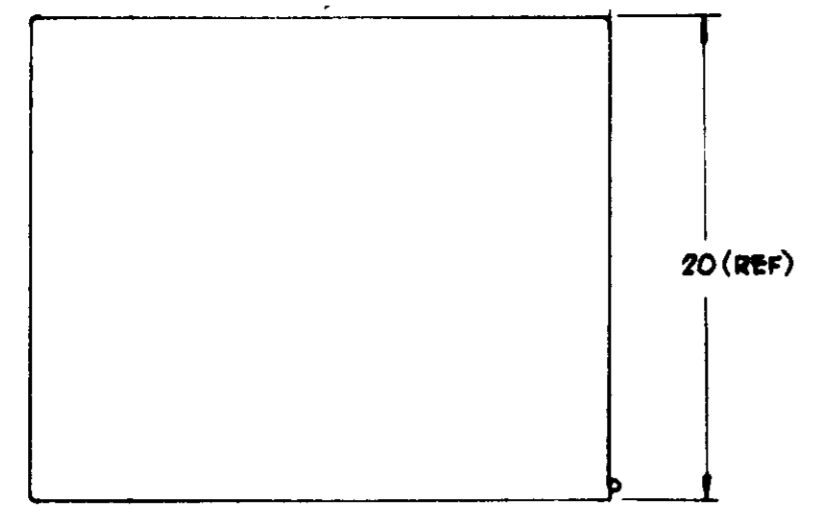
SHEET NO. 25 OF 27 SHEETS
VI-10244-08
5-078

PLAN OF RECORD

DATE: _____ BY: _____

SOV 2B DELETED

L-78 SOV-1



A
DT
WF
PB

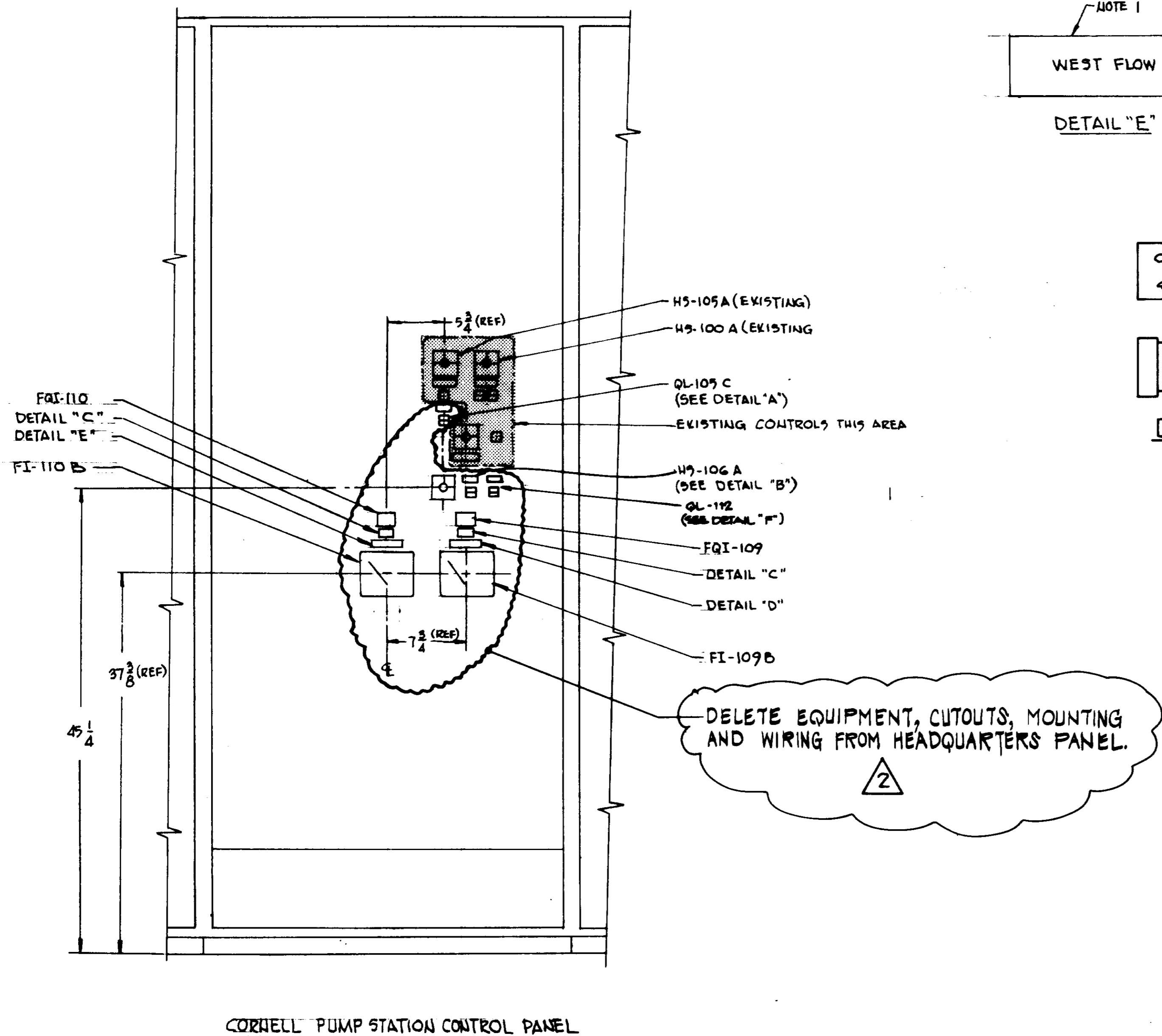
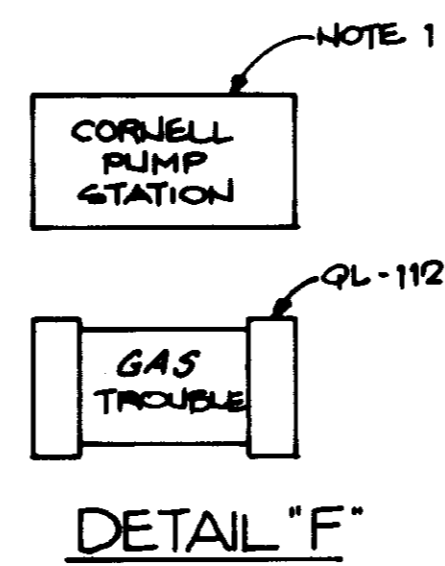
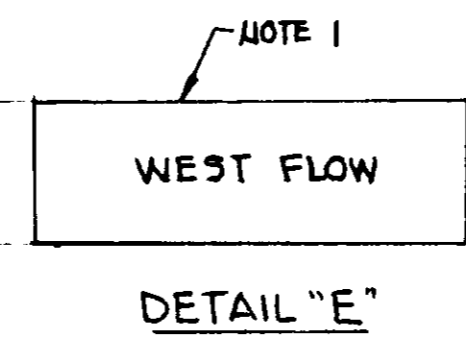
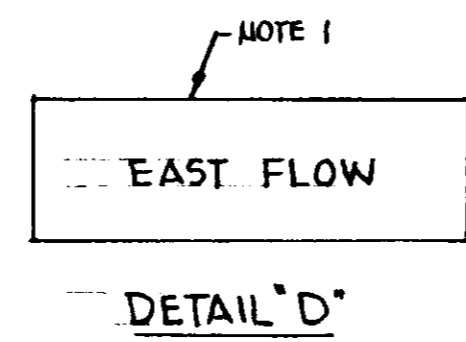
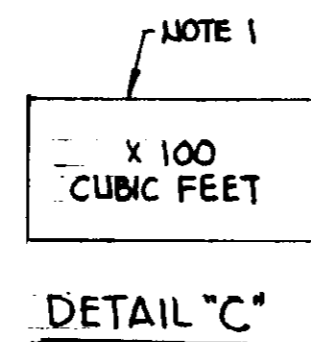
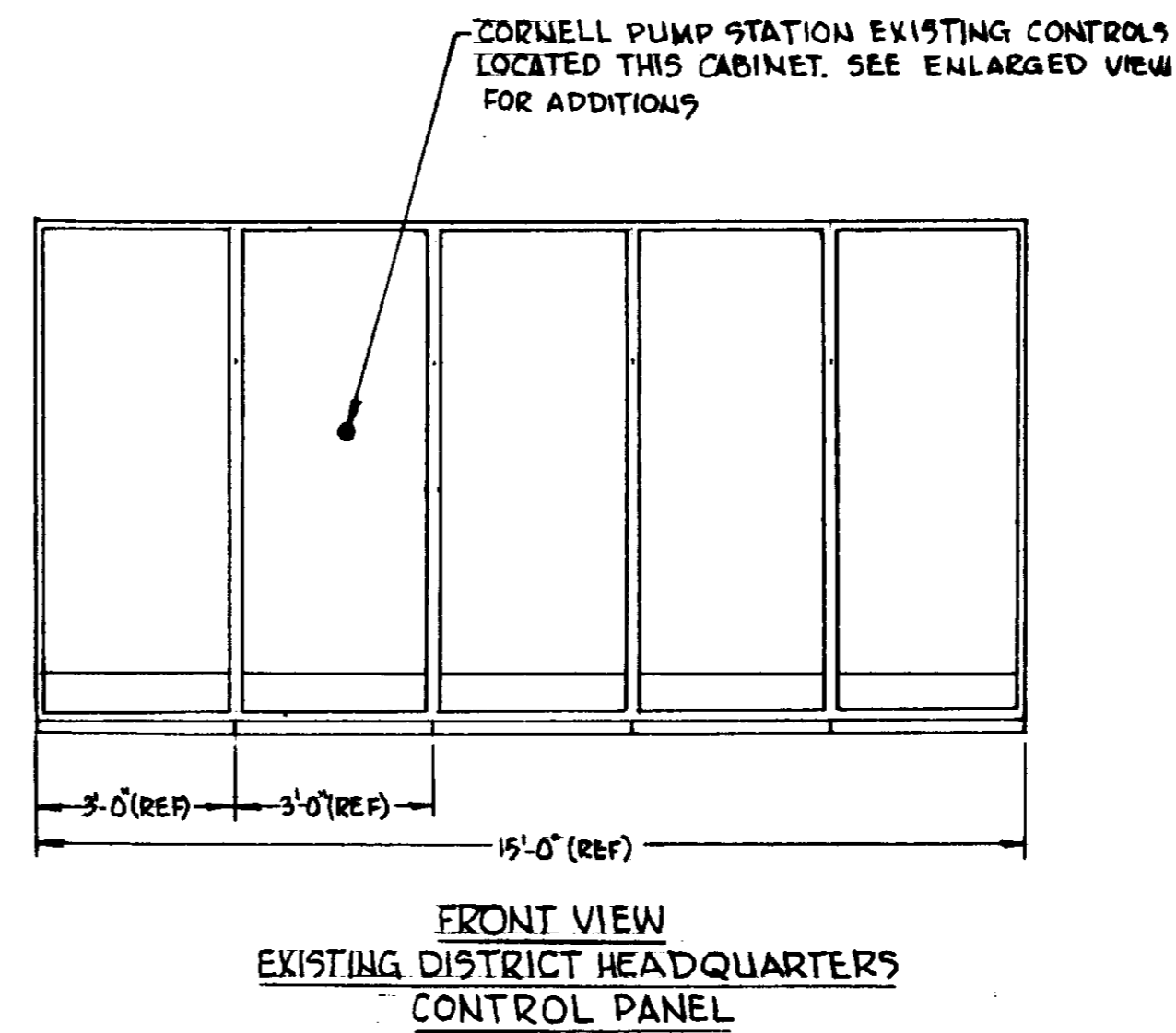
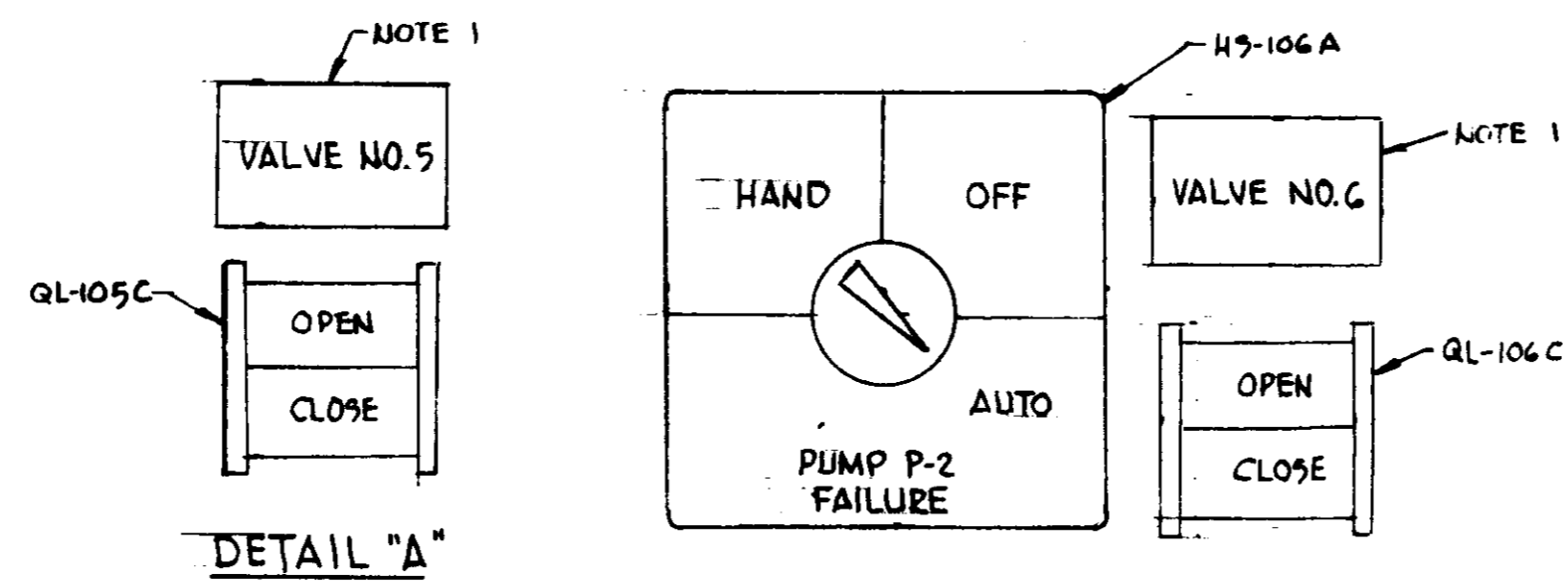
- Notes:
1. PROVIDE NAMEPLATES, BLACK BACKGROUND WITH WHITE LETTERS. NAMEPLATES AND LETTERS ARE TO MATCH EXISTING NAMEPLATES.
 2. PROVIDE ILLUSTRATED POSITIONALS AND OPERATING POSITIONS FOR ALL OPERATING FUNCTIONS AND SELECTOR SWITCHES.

05972

LAS VIRGENES
MUNICIPAL WATER DISTRICT
CORNELL PUMP STATION EXPANSION
CORNELL PUMP STATION
TELEMETRY CABINET MODIFICATIONS

PLAN OF RECORD
DATE: _____ BY: _____

| | | | | | | | | |
|---------|------|------|---------|-------------|--------------------|----------|------|---------|
| DESIGN | A.U. | DATE | 1/4/88 | DESCRIPTION | C.O. #2 | APPROVED | DATE | 1/21/88 |
| DRAWN | A.U. | DATE | 1/21/88 | DESCRIPTION | ISSUED FOR BIDDING | CHECKED | DATE | 1/21/88 |
| CHECKED | | DATE | | DESCRIPTION | | DATE | | |



Notes:

1. PROVIDE INDICATORS AND ILLUMINATED SELECTOR SWITCHES FOR ALL OPERATING FUNCTIONS. ALL INDICATORS AND SELECTOR SWITCHES TO BE PROVIDED WITH ILLUMINATED LENS.
2. PROVIDE INDICATORS AND ILLUMINATED SELECTOR SWITCHES FOR ALL OPERATING FUNCTIONS. ALL INDICATORS AND SELECTOR SWITCHES TO BE PROVIDED WITH ILLUMINATED LENS.

05973

LAS VIRGENES
MUNICIPAL WATER DISTRICT

CORNELL PUMP STATION EXPANSION
DISTRICT HEADQUARTERS
CONTROL PANEL MODIFICATIONS

PLAN OF RECORD
DATE: _____ BY: _____

| | | | | | |
|------|--------|--------------------|-------------|-------------|------|
| REV. | DATE | DESCRIPTION | APP. | CHECKED | DATE |
| 1 | 4/1/10 | ISSUED FOR BIDDING | [Signature] | [Signature] | |