

PHASE II

MC DUFFIE TERMINALS PLANT EXPANSION

ELECTRICAL DISTRIBUTION

AFE No. 1365

SPEC. No. 385

ISSUED BY

ENGINEERING DEPARTMENT
ALABAMA STATE DOCKS

FOB JAMES - GOVERNOR
ROBERT M. HOPE - DIRECTOR

INDEX

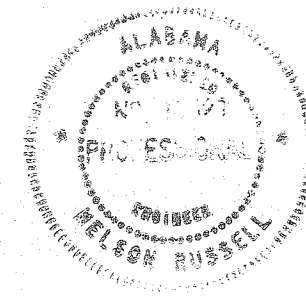
SHEET NO.

TITLE

| | |
|-----|--|
| 1. | POWER DISTRIBUTION SITE PLAN |
| 2. | DUCTBANK LAYOUT AT SOUTHWEST CONTROL BUILDING |
| 3. | DUCTBANK LAYOUT AT SOUTHEAST CONTROL BUILDING |
| 4. | DUCTBANK AND LIGHTING DETAILS |
| 5. | FEEDER CABLE ROUTING - OFFICE BUILDING |
| 6. | MOTOR CONTROL BUILDING - FLOOR PLAN AND ELEVATIONS (OMITTED) |
| 7. | MOTOR CONTROL BUILDING - FOUNDATION PLAN AND SECTION (OMITTED) |
| 8. | MOTOR CONTROL BUILDING - WALL SECTIONS AND DETAILS (OMITTED) |
| 9. | MOTOR CONTROL BUILDING - ROOF-PLAN AND SECTIONS, GROUNDING DETAILS |
| 10. | MOTOR CONTROL BUILDING - MECHANICAL - SHEET NO. 1 |
| 11. | MOTOR CONTROL BUILDING - MECHANICAL - SHEET NO. 2 |
| 12. | ELECTRICAL PLAN - CONTROL BUILDING |
| 13. | SOUTHWEST CONTROL BUILDING CONDUIT AND EQUIPMENT LAYOUT |
| 14. | SOUTHEAST CONTROL BUILDING CONDUIT AND EQUIPMENT LAYOUT |
| 15. | MAIN OFFICE REVISIONS |
| 16. | ONE LINE DIAGRAM (EXISTING) |
| 17. | ONE LINE DIAGRAM (PROPOSED) |
| 18. | POWER SYSTEM INTERFACE DIAGRAM |
| 19. | PLANT LIGHTING SYSTEM |
| 20. | BARGE UNLOADER ELECTRICAL HOUSE AIR CONDITIONING |

PREPARED AND RECOMMENDED BY
DAVID VOLKERT & ASSOCIATES
CONSULTING ENGINEERS

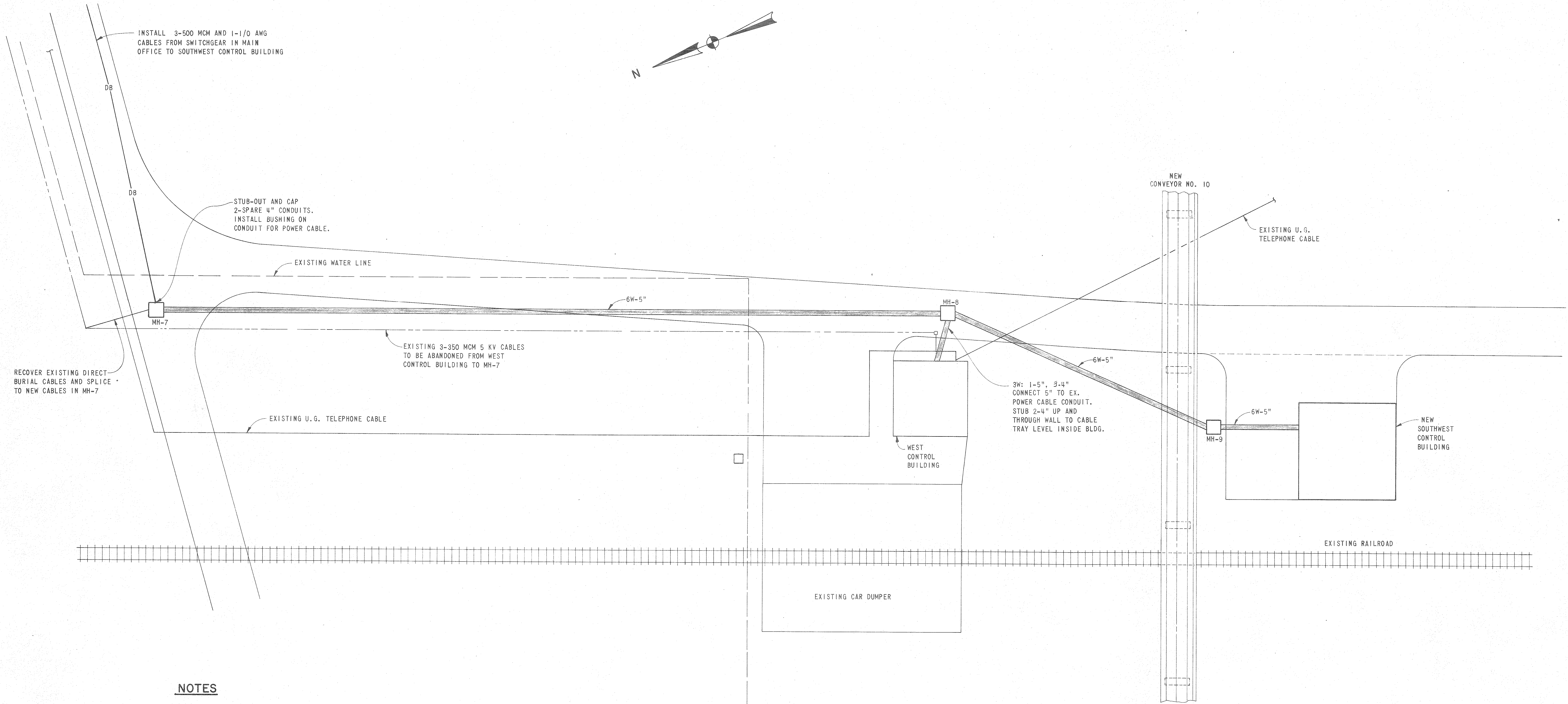
APPROVED *Delton Russell* DATE *Jan 12, 1981*



CONSULTING ENGINEERS DAVID VOLKERT
& ASSOCIATES

DV&A CONTRACT NO. 153.32 (2)

| A.F.E. NO. | SPEC. NO. | CONTRACT NO. | SHEET NO. |
|------------|-----------|--------------|-----------|
| 1365 | 385 | 153.32 | 2 |



NOTES

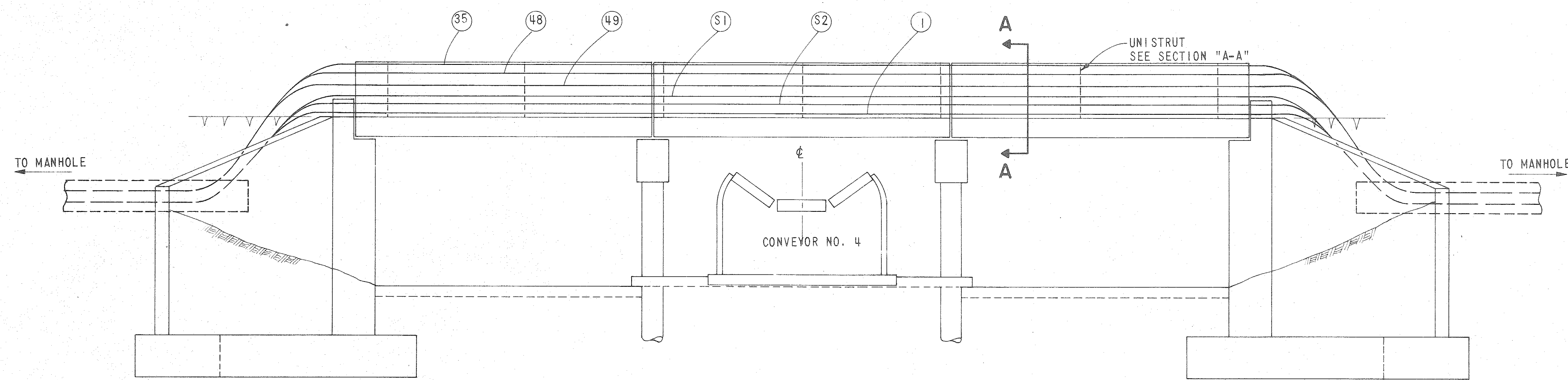
1. DUCTBANKS SHALL BE GRADED TO DRAIN TOWARD EACH MANHOLE FROM THE CENTER OF EACH DUCTBANK RUN. SLOPE SHALL BE 3" PER 100'.

PLAN VIEW
SCALE: 1"=20'

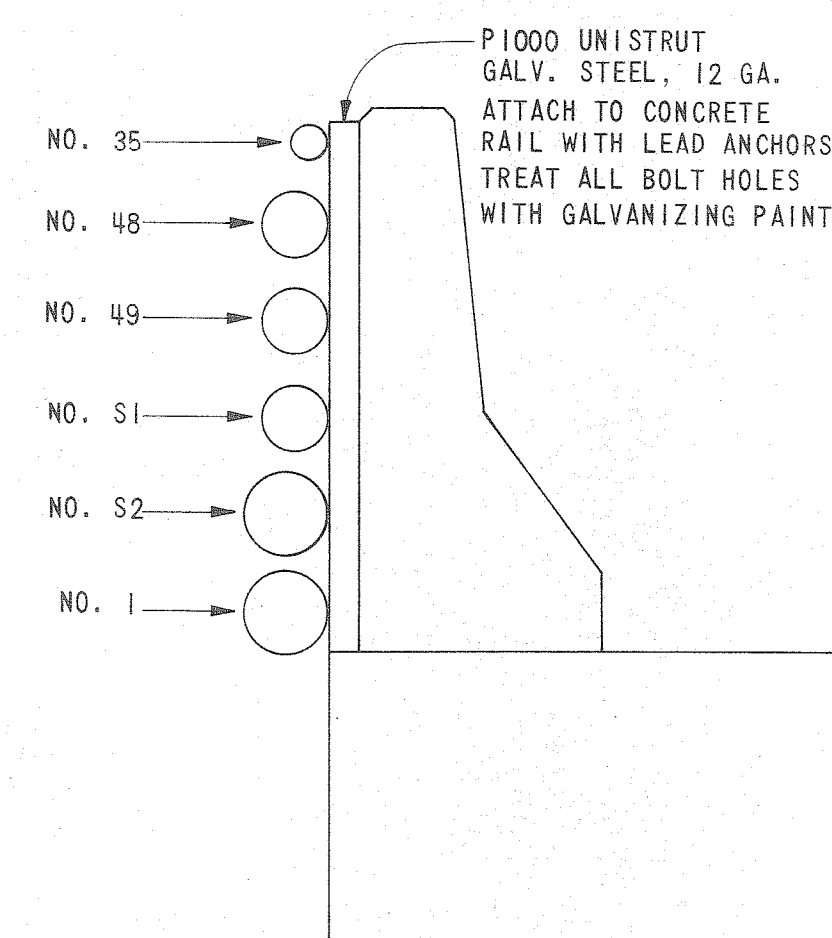
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| ALABAMA STATE DOCKS | | |
| McDUFFIE TERMINALS PLANT EXPANSION | | |
| DUCTBANK LAYOUT AT SOUTHWEST CONTROL BUILDING | | |
| DAVID VOLKERT & ASSOCIATES CONSULTING ENGINEERS | | |
| DESIGNED C.N.R. | DETAILED K.E.W. | TRACED |
| CHECKED C.N.R. | CHECKED C.N.R. | CHECKED |
| DATE | | SHEET NO. 2 |

| REVISIONS | DATE |
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| A.F.E. NO. | SPEC. NO. | CONTRACT NO. | SHEET NO. |
| 1365 | 385 | 153.32 | 3 |



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



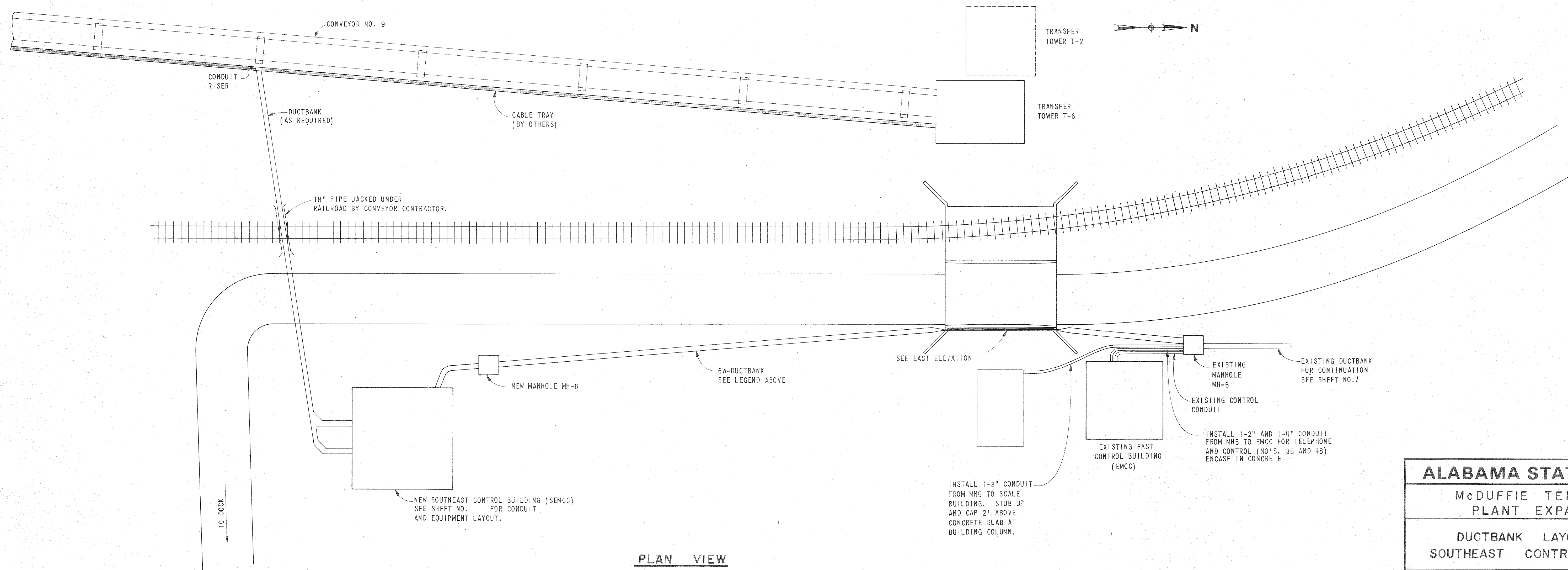
SECTION "A-A"
SCALE: 1" = 1'-0"

| CONDUIT LEGEND | | | |
|----------------|-----------|------|--------------|
| NO. | USE | SIZE | LOCATION |
| 35 | TELEPHONE | 2" | MHS TO SEMCC |
| 48 | CONTROL | 4" | MHS TO SEMCC |
| 49 | SPARE | 4" | MHS TO SEMCC |
| S1 | SPARE | 4" | MHS TO MH6 |
| S2 | SPARE | 5" | MHS TO MH6 |
| I | POWER | 5" | MHS TO SEMCC |

NUMBERS REFER TO DESIGNATION ON SHEET NO.

NOTES

1. DUCTBANK SHALL BE GRADED TO DRAIN TOWARD MANHOLES. SLOPE SHALL BE 3" PER 100'.



PLAN VIEW
SCALE: 1" = 20'

ALABAMA STATE DOCKS

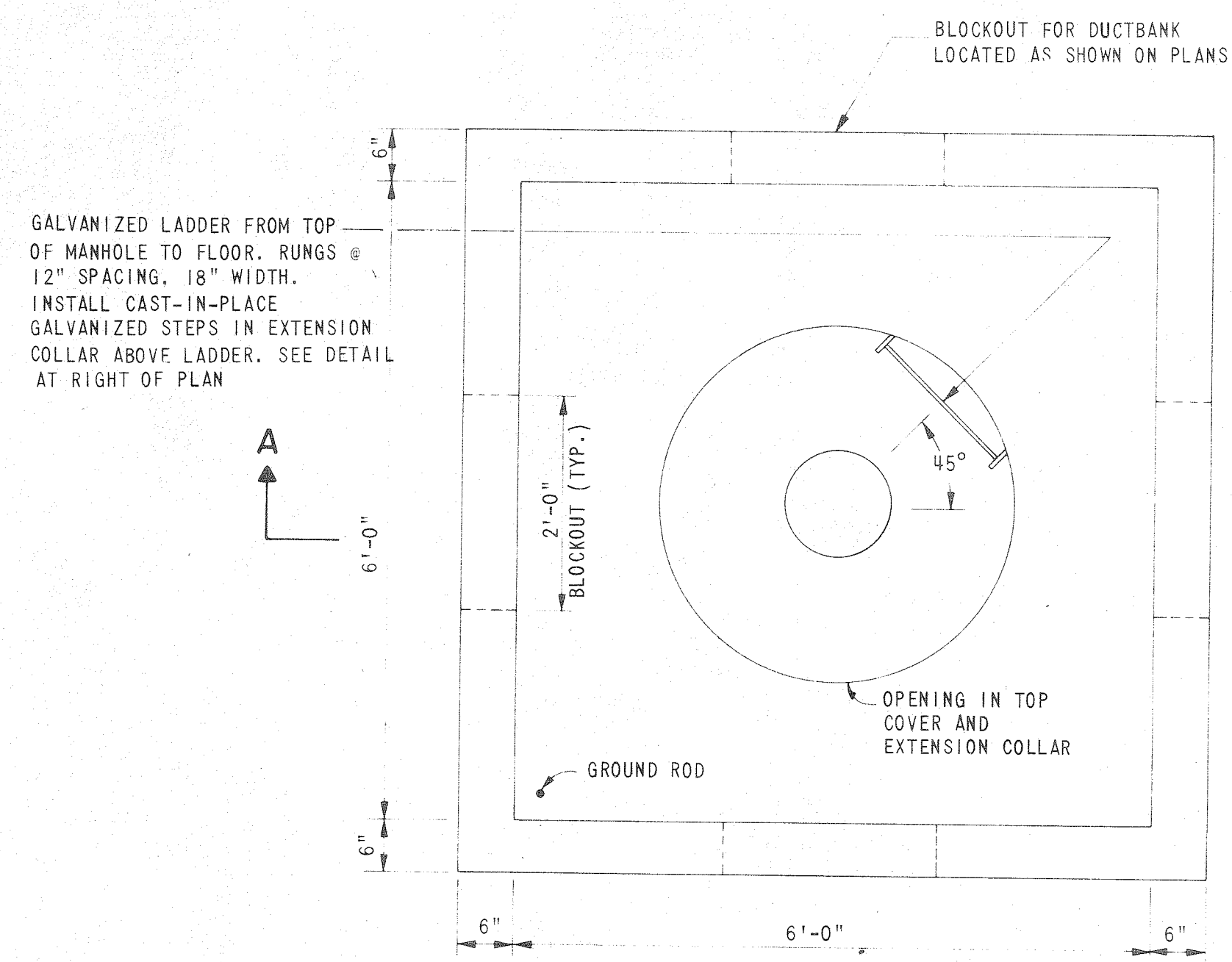
McDUFFIE TERMINALS
PLANT EXPANSION

DUCTBANK LAYOUT AT
SOUTHEAST CONTROL BUILDING

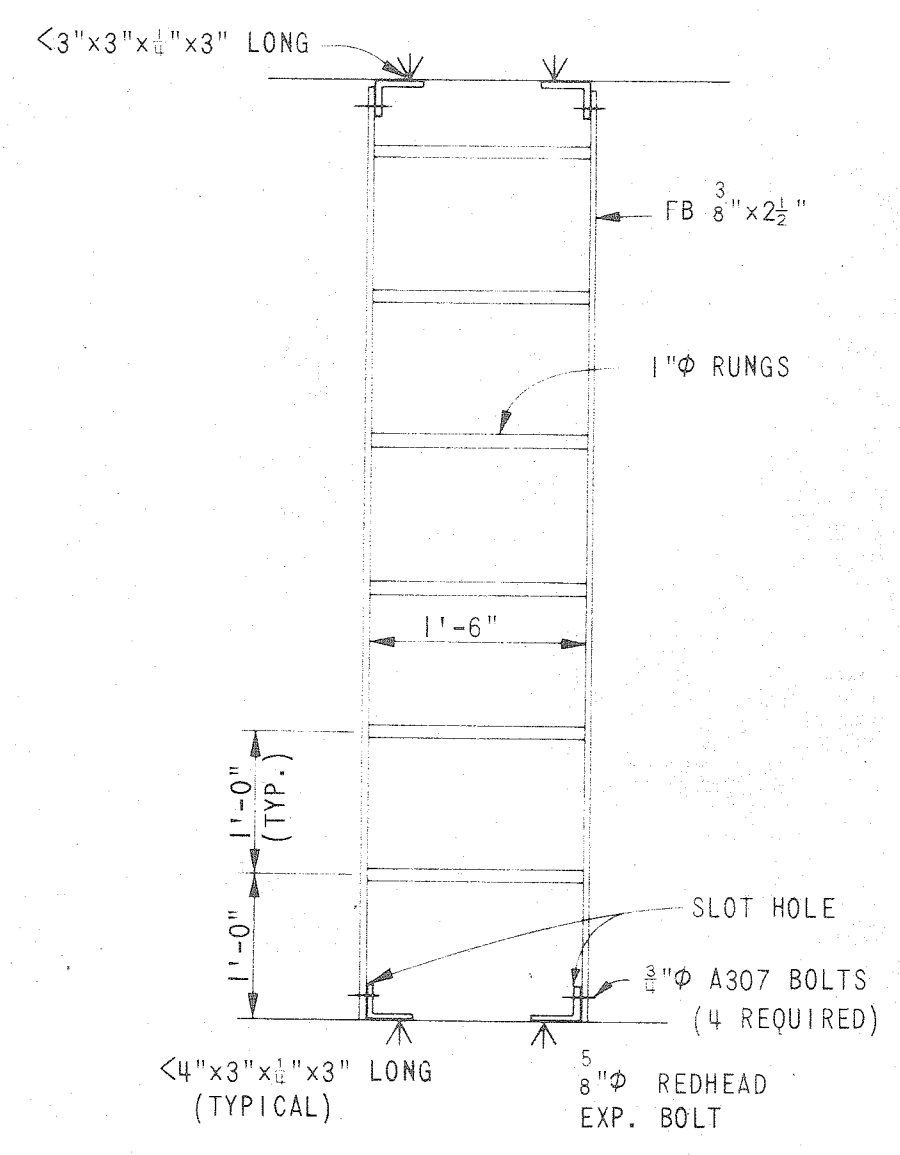
DAVID VOLKERT & ASSOCIATES
CONSULTING ENGINEERS

| | | | | |
|----------|--------|----------|--------|-------------|
| DESIGNED | C.N.R. | DETAILED | K.E.W. | TRACED |
| CHECKED | | CHECKED | C.N.R. | CHECKED |
| DATE | | DATE | | SHEET NO. 3 |

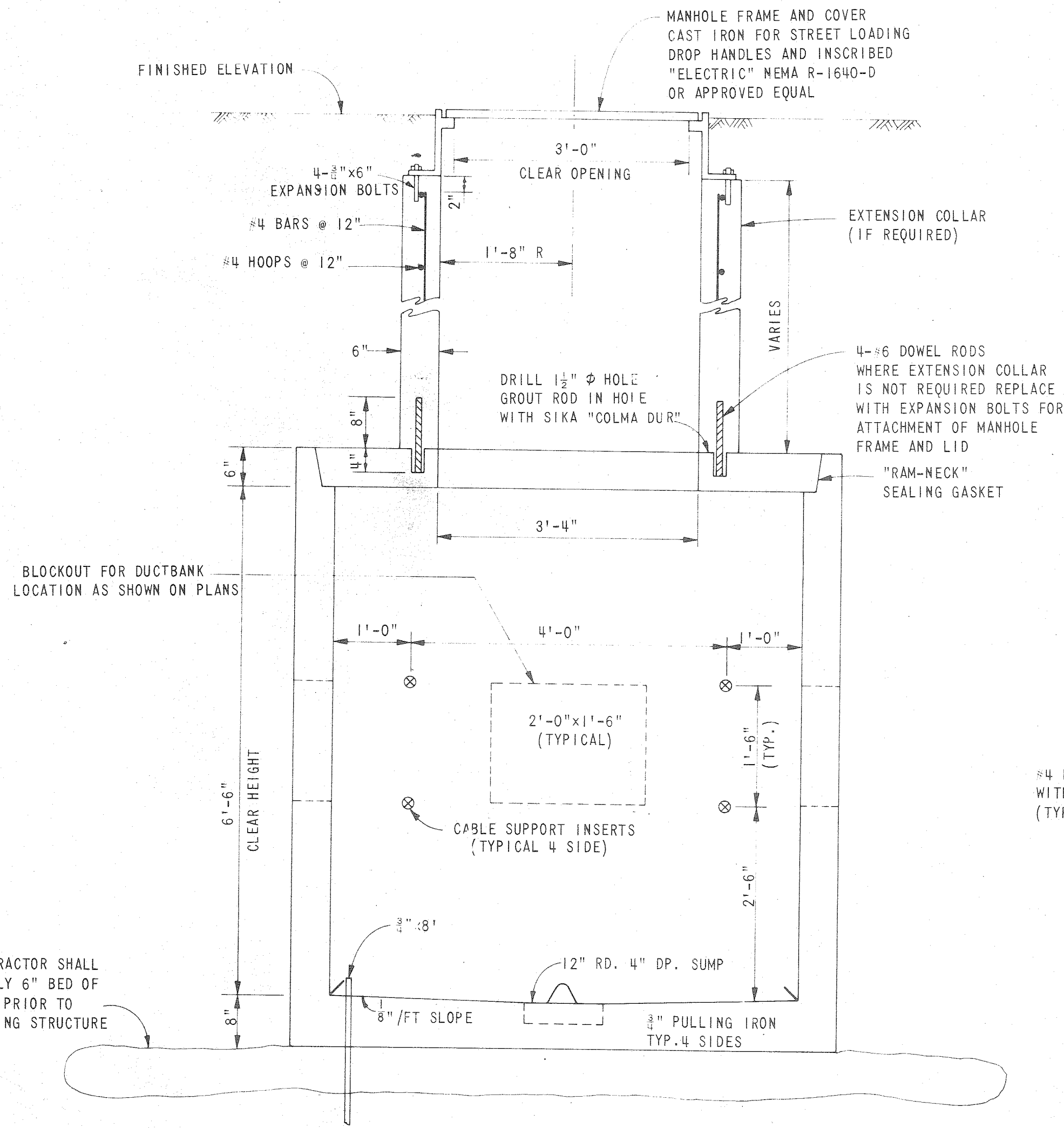
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| 1365 | 385 | 153.32 | 4 |



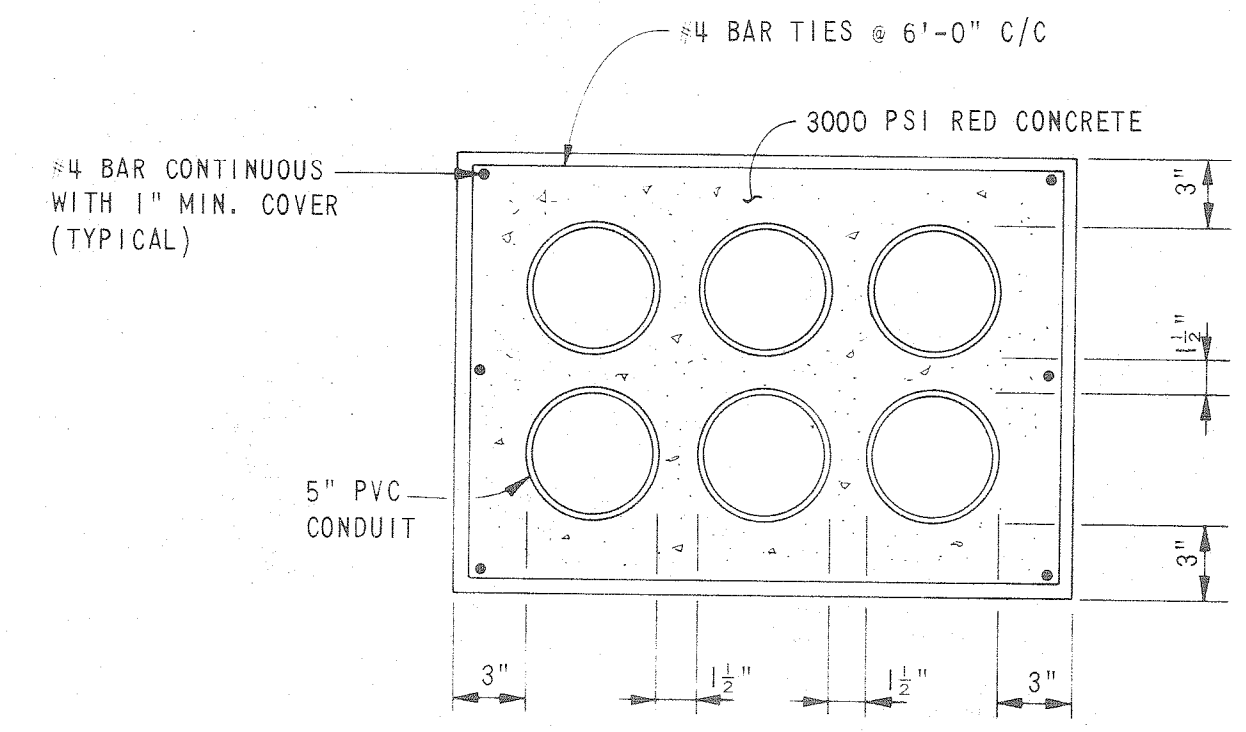
PLAN
SCALE: 3/8" = 1'-0"



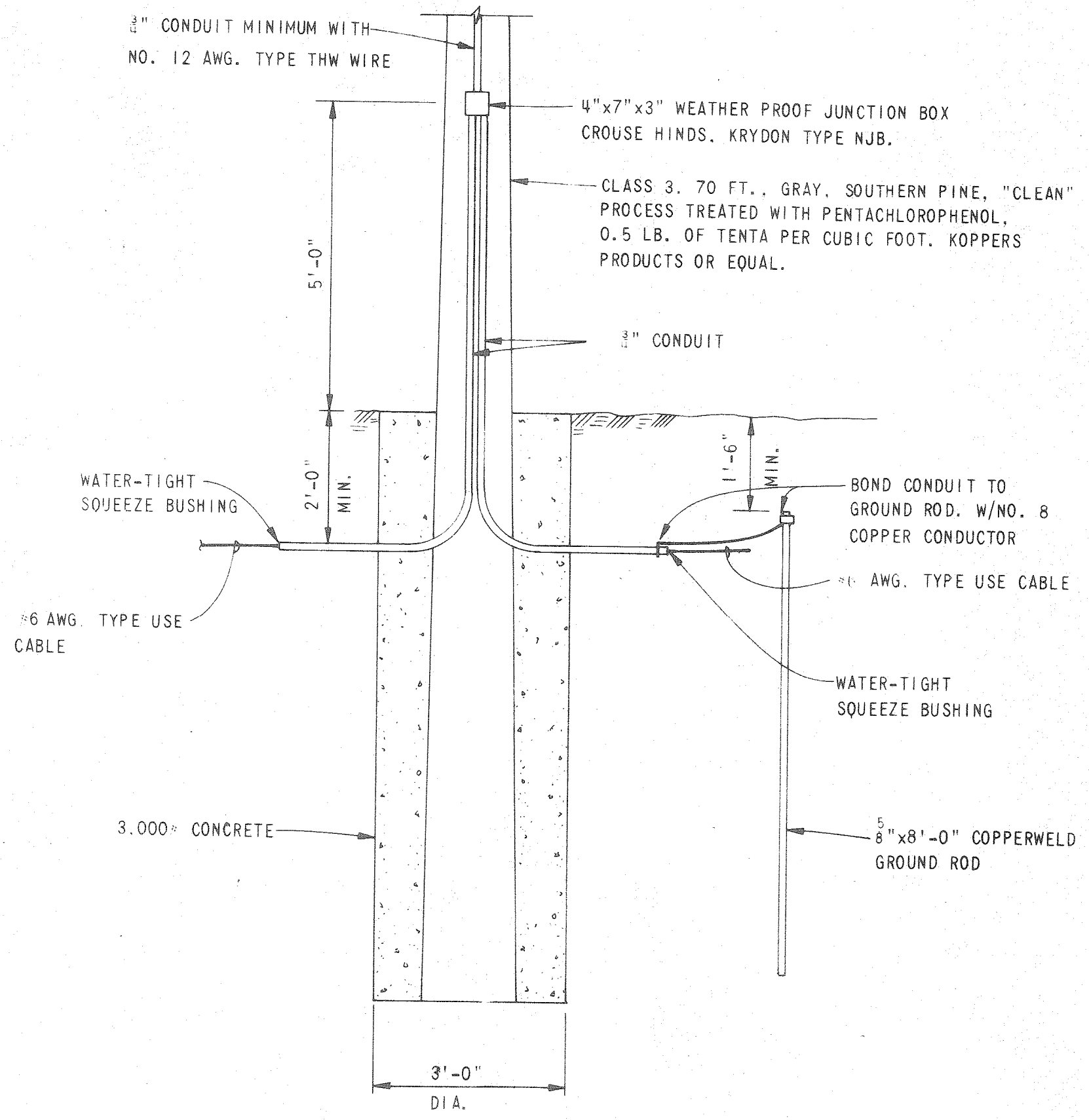
LADDER DETAIL
SCALE: 3/8" = 1'-0"



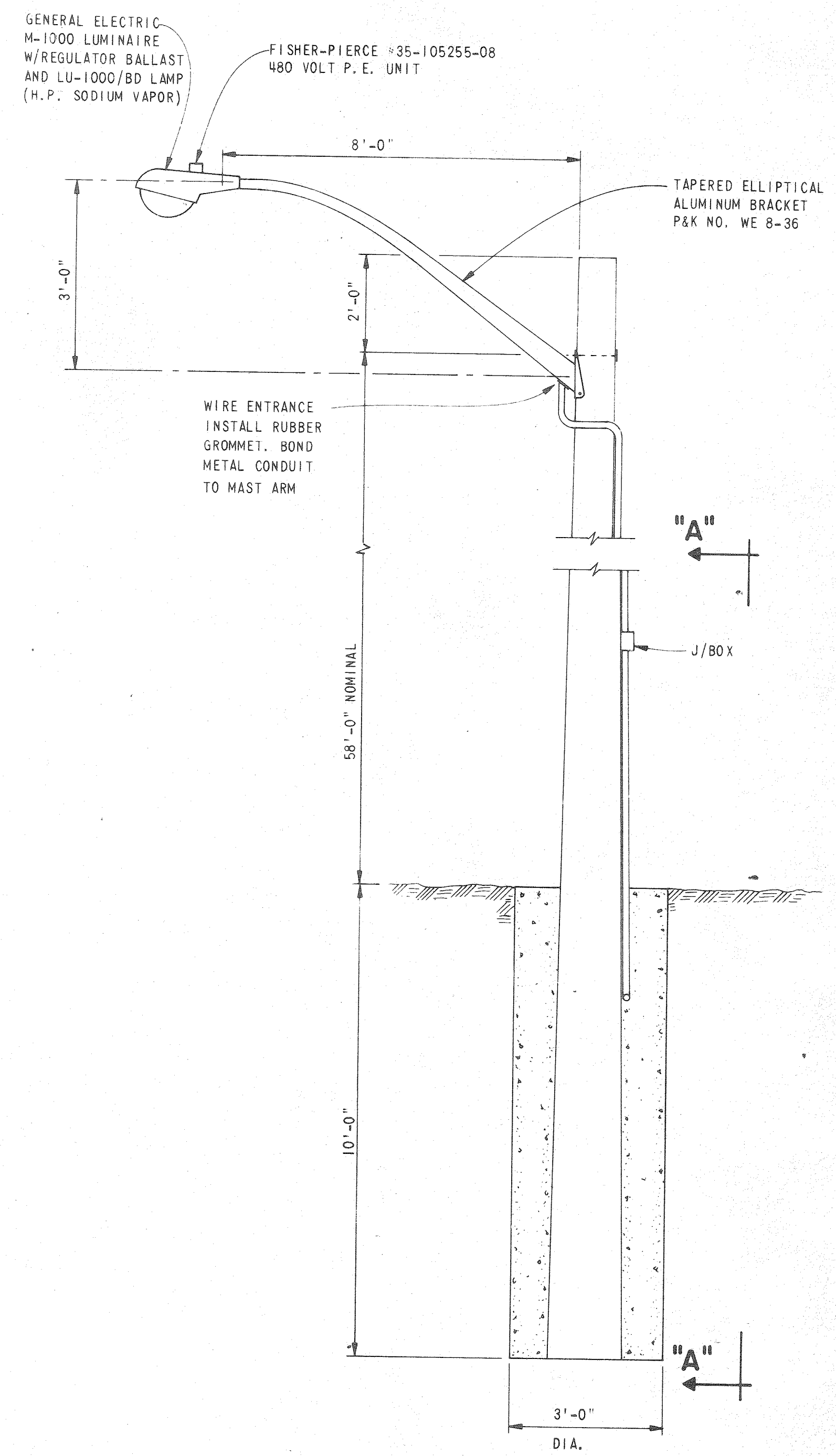
SECTION "A-A"
SCALE: 3/8" = 1'-0"



6 WAY - 5" DUCTBANK
SCALE: NONE



VIEW "A-A"
NOT TO SCALE



TYPICAL LIGHT STANDARD DETAIL
NOT TO SCALE

NOTES

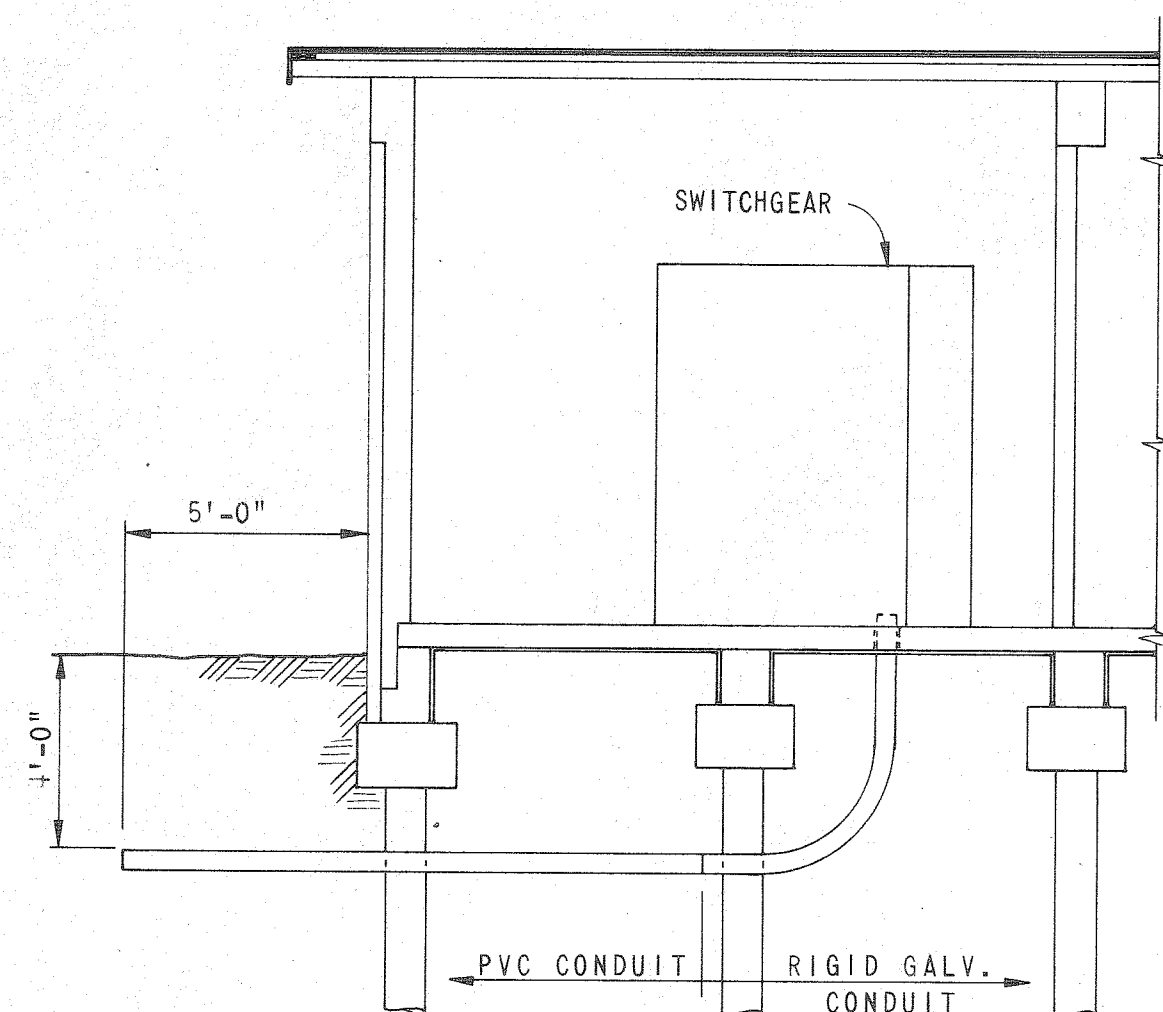
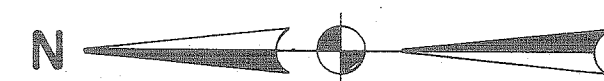
1. REINFORCING RODS IN PRECAST CONCRETE MANHOLE KNOCKOUTS ARE TO BE BENT AND TIED INTO DUCTBANK PRIOR TO POURING DUCTBANK CONCRETE.
2. STAIR STEEL TO BE A36, AND SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.
3. EACH MANHOLE AND HANDHOLE SHALL BE PROVIDED WITH A 3/8" x 8' COPPERCLAD GROUND ROD WITH 6" OF THE ROD ABOVE THE MANHOLE AND HANDHOLE FLOOR. ALL NON-CURRENT CARRYING PARTS OF THE MANHOLE OR HANDHOLE SHALL BE BONDED TO THE GROUND ROD USING #6 AWG BARE COPPER CONDUCTOR.
4. CABLE RACKS SHALL BE INSTALLED IN LOCATIONS SHOWN. CONTRACTOR SHALL ADJUST RACK VERTICALLY AS REQUIRED BY DUCTBANK ENTRANCE. RACKS SHALL BE NO. 1126, HOOKS SHALL BE NO. 1133, INSULATORS SHALL BE NO. P1120 WITH L-1100 LOCK CLIP, ALL AS MANUFACTURED BY A.B. CHANCE CO. OR EQUAL.
5. MANHOLES AND HANDHOLES SHALL BE PRECAST CONCRETE AS MANUFACTURED BY A.C. MILLER CONCRETE PRODUCTS CO. JACKSONVILLE, FLORIDA OR APPROVED EQUAL.
6. WHERE DUCTBANK PASSES UNDER PAVED AREAS, THE CONTRACTOR SHALL EXTEND THE CONCRETE LEVEL WITH THE EXISTING PAVEMENT AND PAINT WITH TWO (2) COATS OF ASPHALTUM.
7. RED DYE FOR CONCRETE SHALL BE ADDED TO THE CONCRETE IN THE MIXER DRUM.
8. DUCTBANKS SHALL HAVE MINIMUM COVER OF THREE (3) FEET.

ALABAMA STATE DOCKS
McDUFFIE TERMINALS
PLANT EXPANSION
DUCTBANK AND LIGHTING DETAILS

DAVID VOLKERT & ASSOCIATES
CONSULTING ENGINEERS

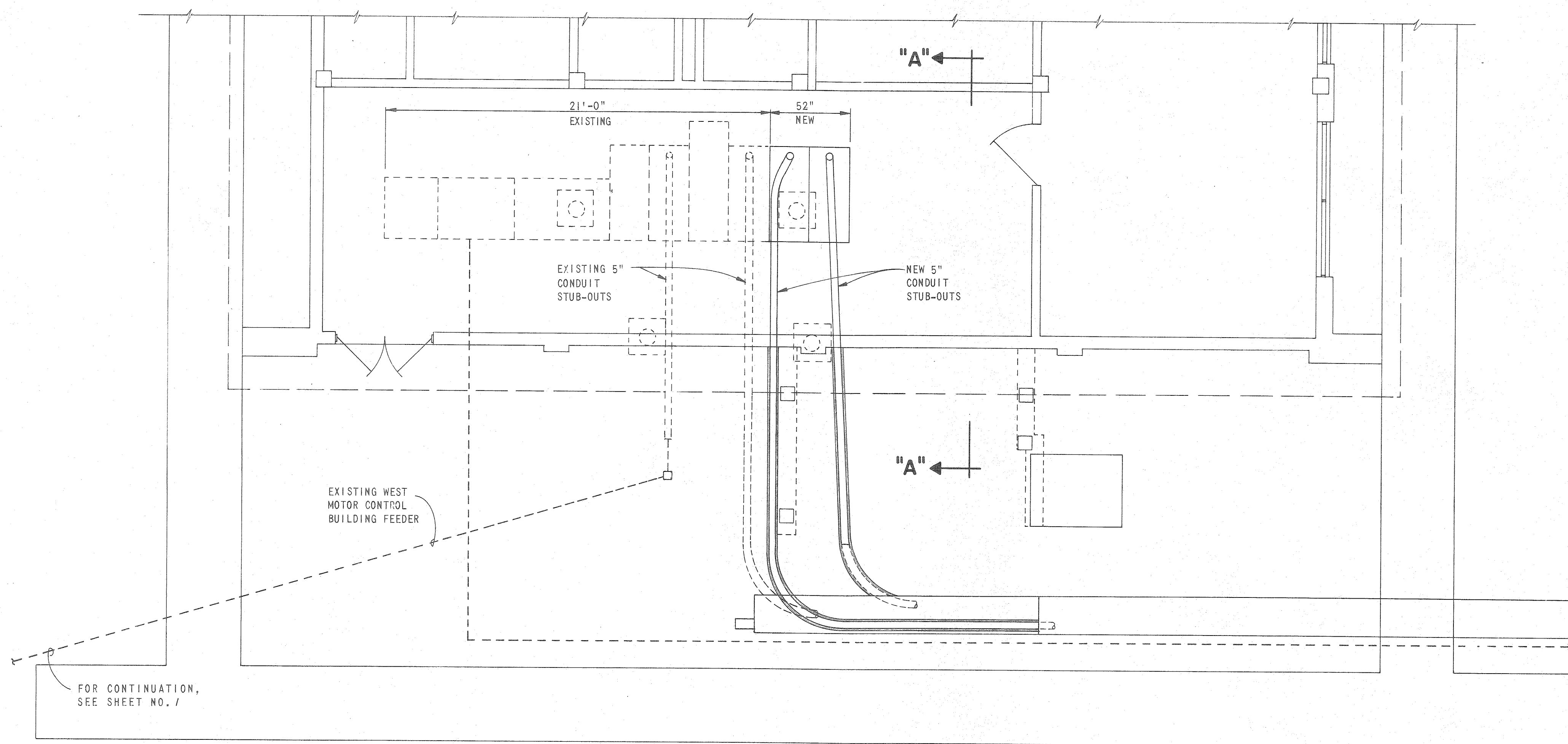
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|----------|--------|----------|--------|-------------|
| DESIGNED | C.N.R. | DETAILED | K.F.W. | TRACED |
| CHECKED | | CHECKED | C.N.R. | CHECKED |
| DATE | | DATE | | SHEET NO. 4 |

| | | | |
|------------|-----------|--------------|-----------|
| A.F.E. NO. | SPEC. NO. | CONTRACT NO. | SHEET NO. |
| 1365 | 385 | 153.32 | 5 |



SECTION "A" - "A"

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

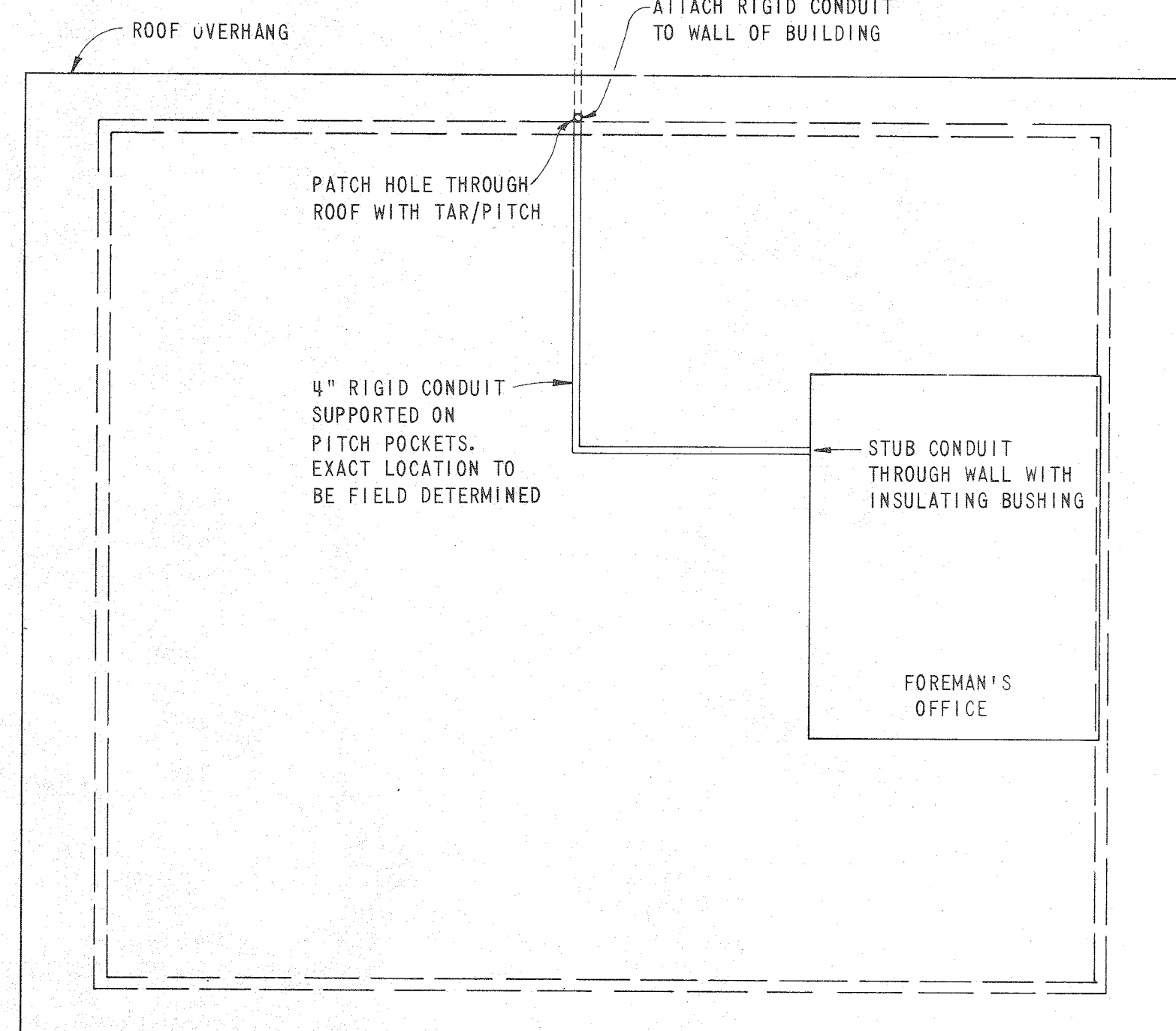
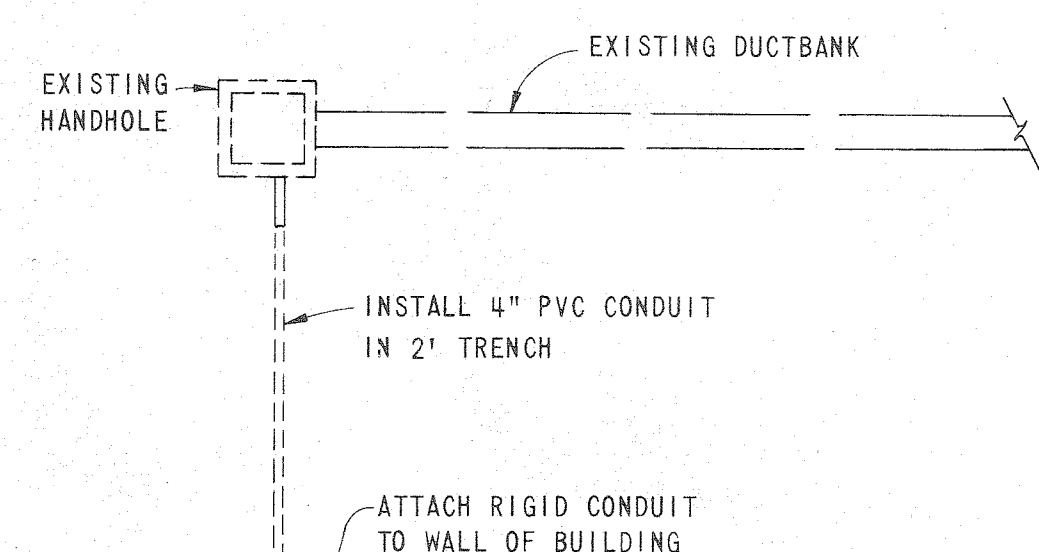


PLAN - ELECTRICAL EQUIPMENT ROOM

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

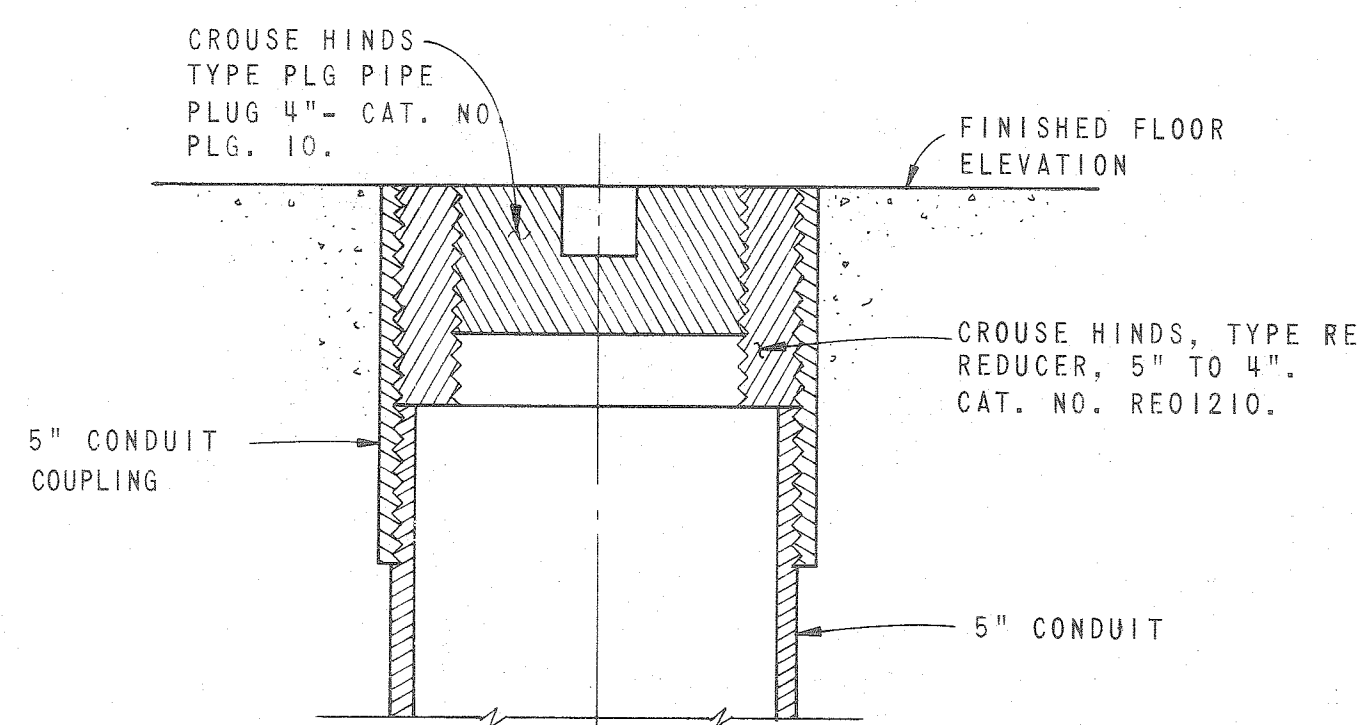
NOTES:

1. SEE SHEET NO. 15 FOR ARCHITECTURAL MODIFICATIONS.
2. CONTRACTOR SHALL INSTALL 5" CONDUIT STUBOUTS FOR CABLE INSTALLATION. CAP SPARE CONDUITS AT FLOOR LEVEL AS DETAILED.
3. EXACT LOCATION OF CONDUIT STUB-UPS SHALL BE DETERMINED BY SHOP DRAWINGS OF HIGH VOLTAGE SWITCHGEAR.
4. SEAL UNDERGROUND CABLE AND CONDUIT ENTRANCE WITH RUBBER GROMMETT TYPE BUSHING.
5. CONTRACTOR SHALL INSTALL TWO (2) OWNER FURNISHED, WESTINGHOUSE DHP 250 CIRCUIT BREAKERS AND CONNECT TO BUS OF EXISTING SWITCHGEAR.



CONTROL CONDUIT - OFFICE BUILDING

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



CONDUIT CAPPING DETAIL

SCALE: NONE

ALABAMA STATE DOCKS
McDUFFIE TERMINALS
PLANT EXPANSION
FEEDER CABLE ROUTING
OFFICE BUILDING

DAVID VOLKERT & ASSOCIATES
CONSULTING ENGINEERS

| | | | | |
|----------|--------|----------|--------|-------------|
| DESIGNED | C.N.R. | DETAILED | K.E.W. | TRACED |
| CHECKED | | CHECKED | C.N.R. | CHECKED |
| DATE | | DATE | | SHEET NO. 5 |

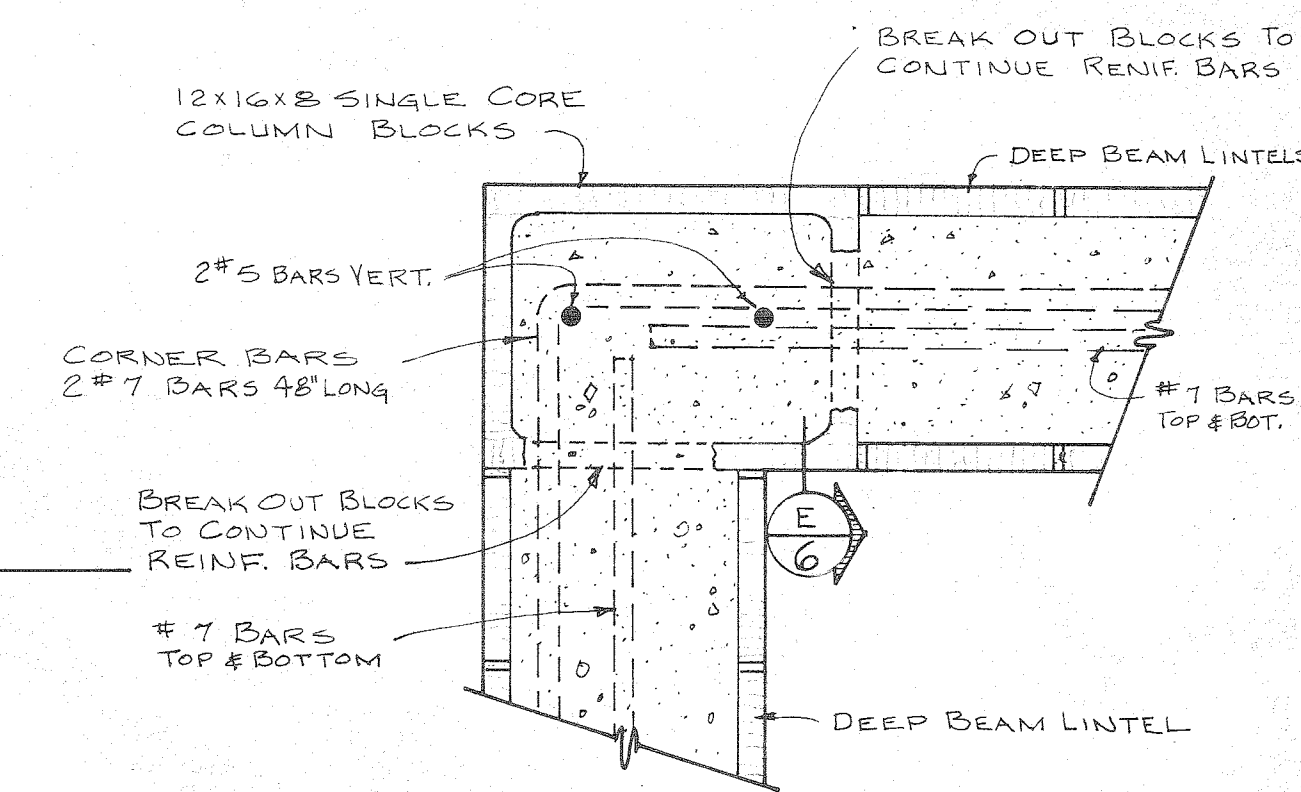
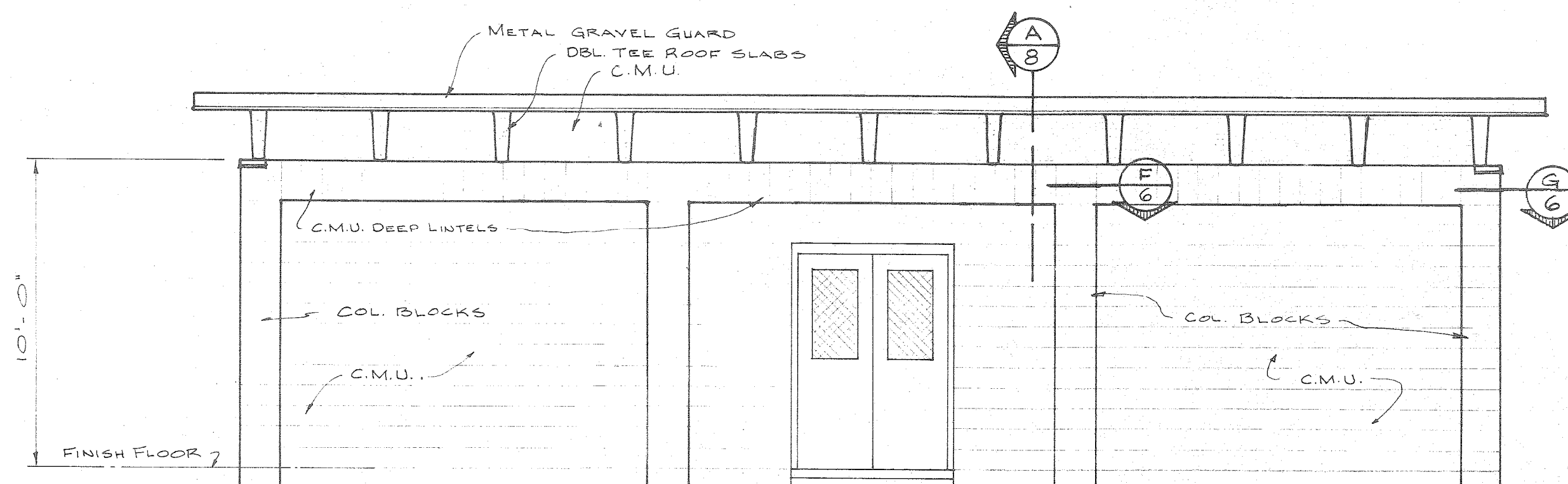
REVISIONS

| A.F.E. NO. | SPEC. NO. | CONTRACT NO. | SHEET NO. |
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| 1365 | 385 | 153.32 | 6 |

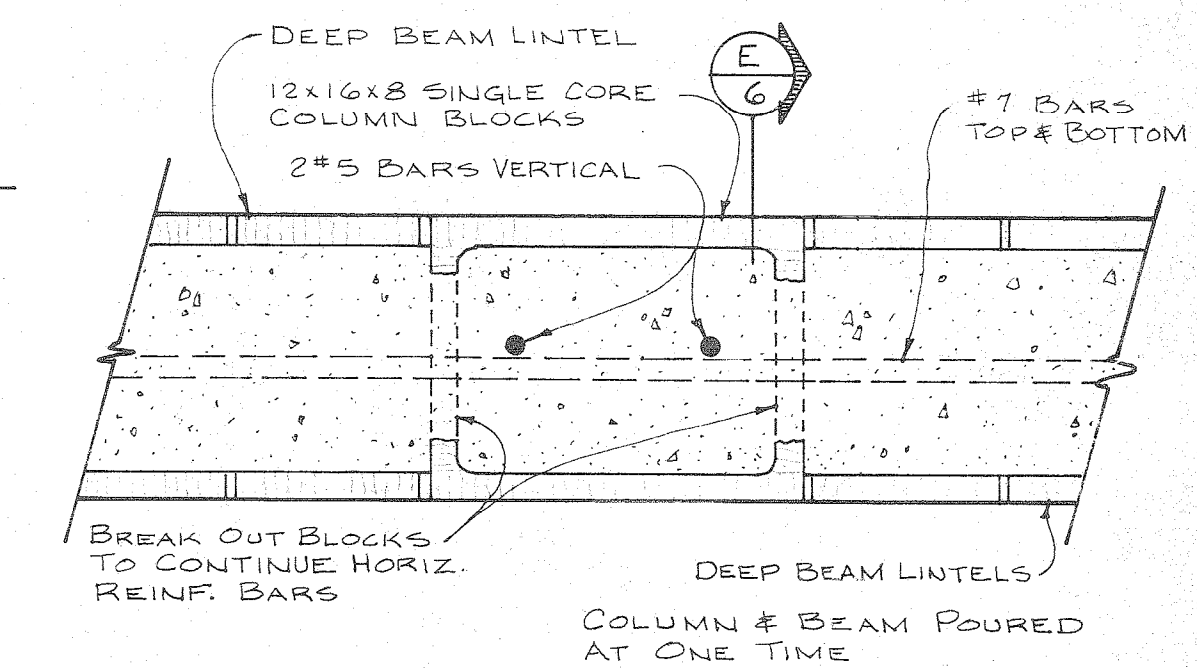
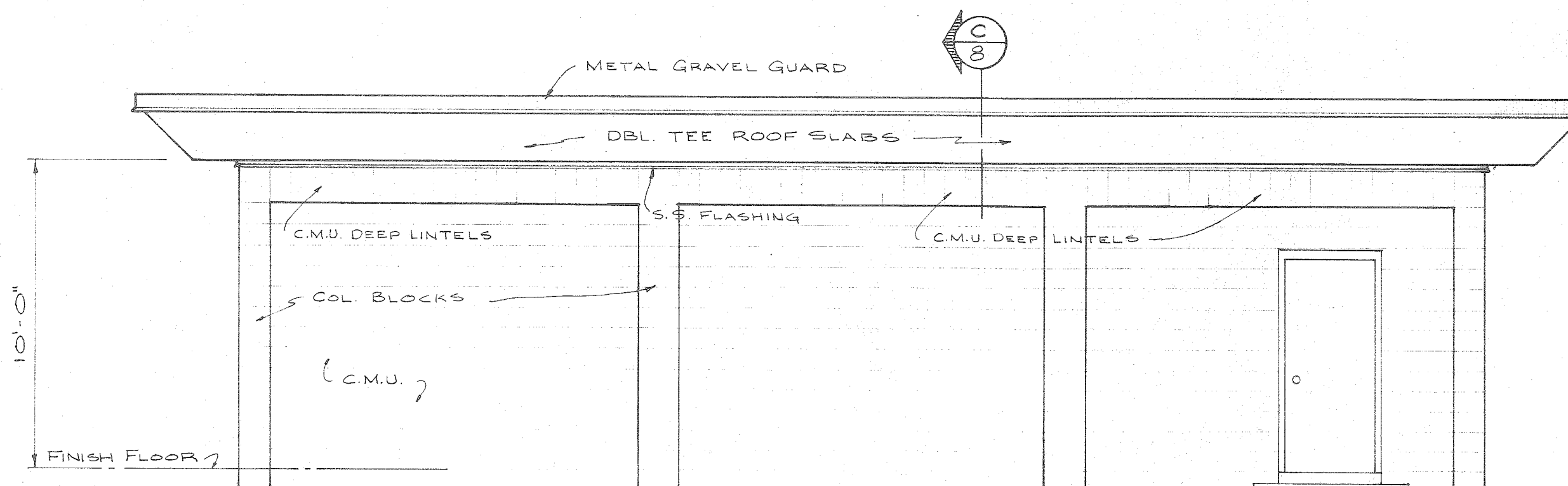
| ROOM FINISH SCHEDULE | | | | | | | | |
|----------------------|----------------------------|----------|--------------|----------|--------|----------|----------|-------------------------|
| MARK | DESCRIPTION | FLOOR | | WALL | | CEILING | | REMARKS |
| | | MATERIAL | FINISH | MATERIAL | FINISH | MATERIAL | FINISH | |
| 1 | CONTROL ROOM | CONCRETE | STEEL TROWEL | VINYL | C.M.U. | PAINT/A | EXP. T'S | PAINT/A |
| 2 | TRANSFORMER | CONCRETE | STEEL TROWEL | VINYL | C.M.U. | PAINT/A | EXP. T'S | PAINT/A |
| 3 | OFFICE OR STORAGE EXTERIOR | CONCRETE | STEEL TROWEL | VINYL | C.M.U. | PAINT/A* | EXP. T'S | PAINT/A* EXTERIOR PAINT |

| PAINT FINISH SCHEDULE | | | | |
|--|--------------|-------------|-------------|-------------|
| MARK | FIRST COAT | SECOND COAT | THIRD COAT | FOURTH COAT |
| A | BLOCK FILLER | RUBBER BASE | RUBBER BASE | |
| (SEE SPECIFICATIONS FOR COMPLETE PAINTING) | | | | |

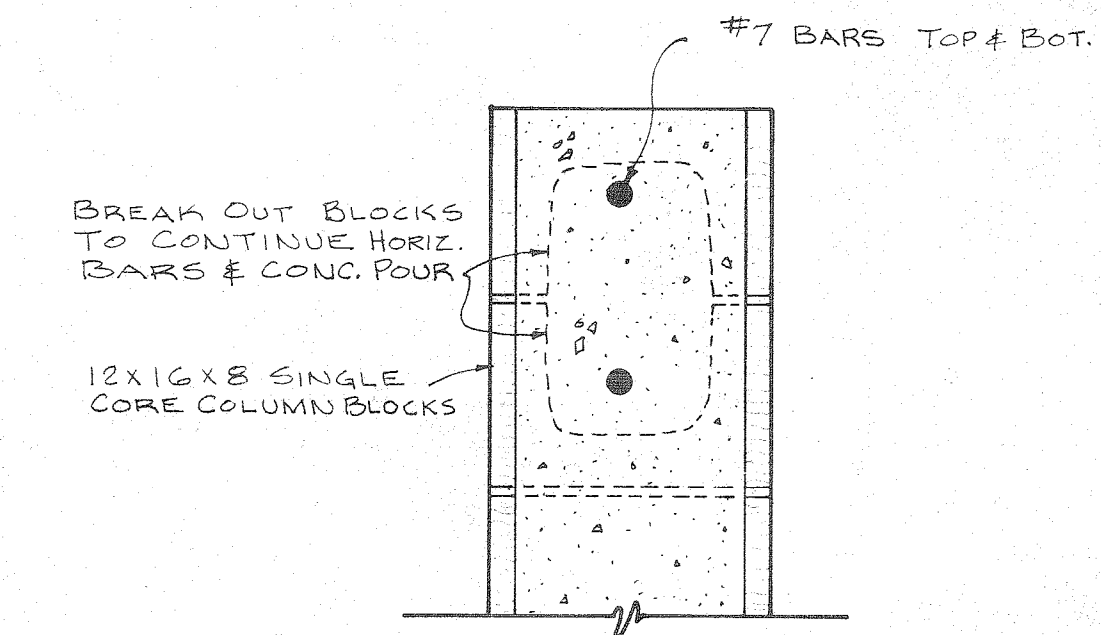
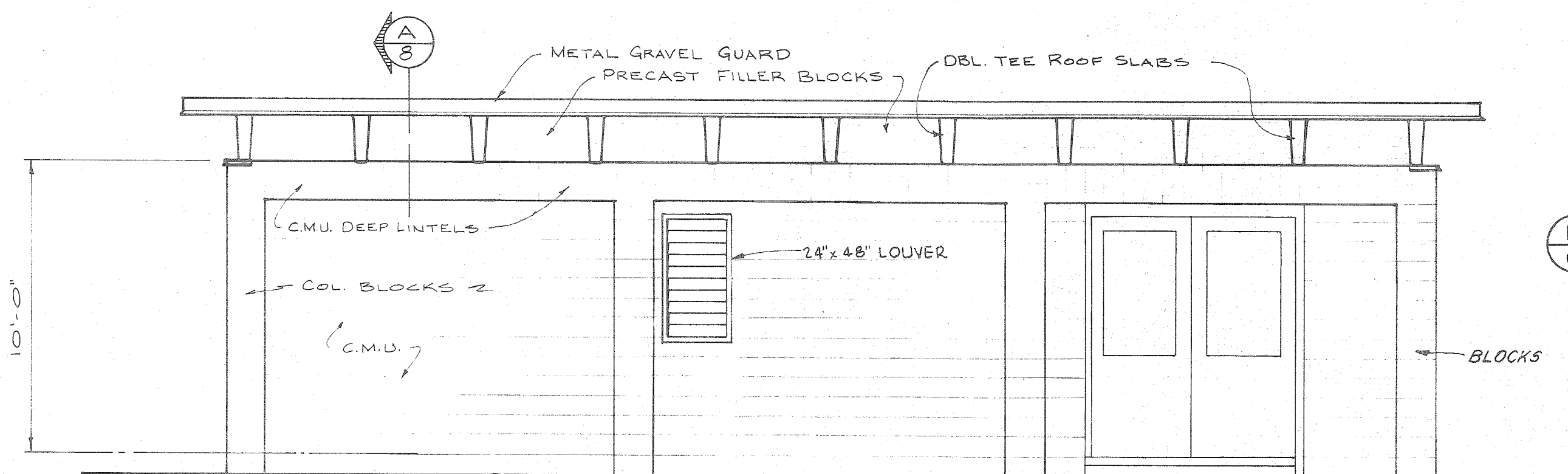
NOTE:
PAINT COLORS TO MATCH COLORS OF EXISTING MOTOR CONTROL BLDG.



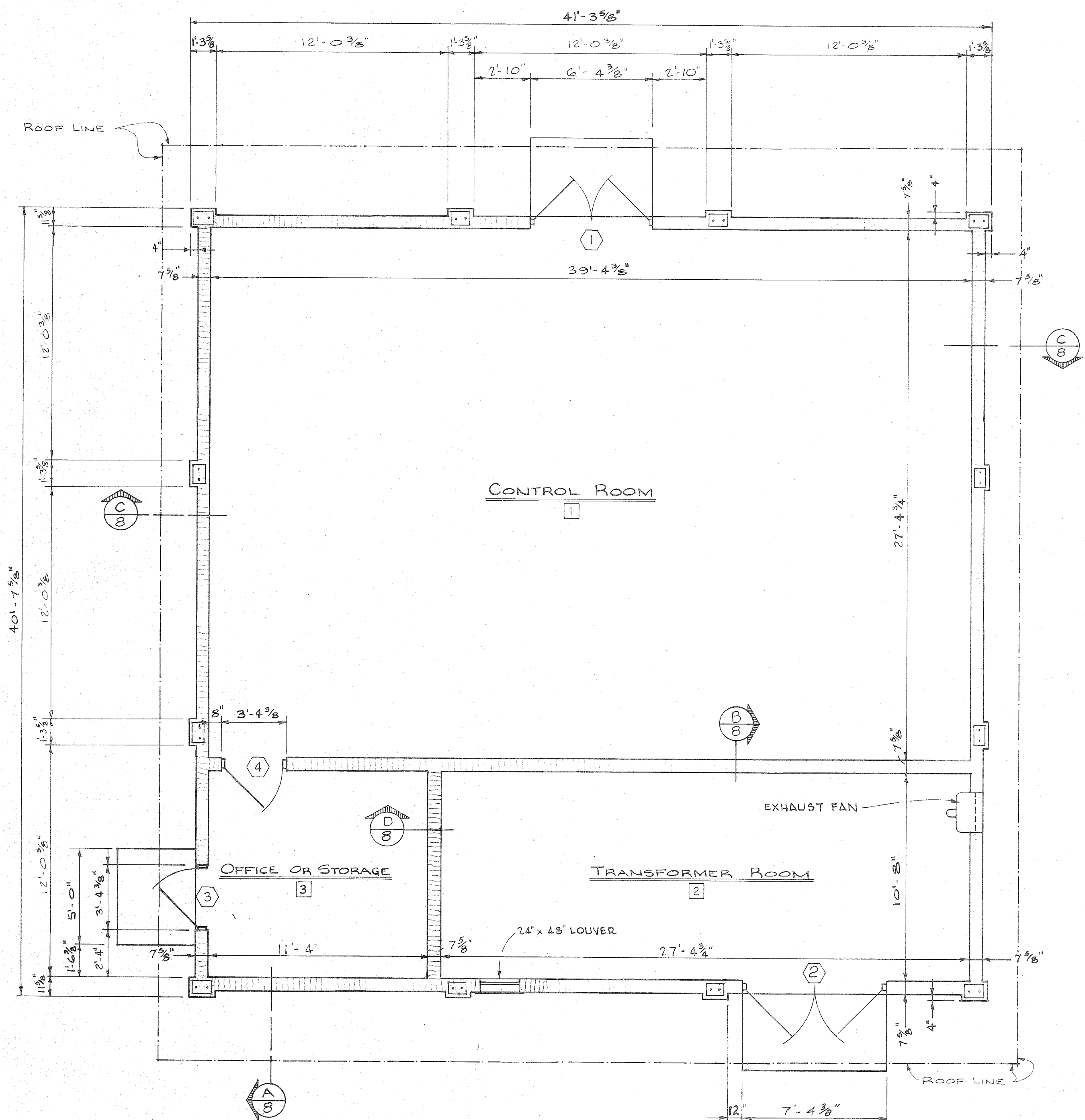
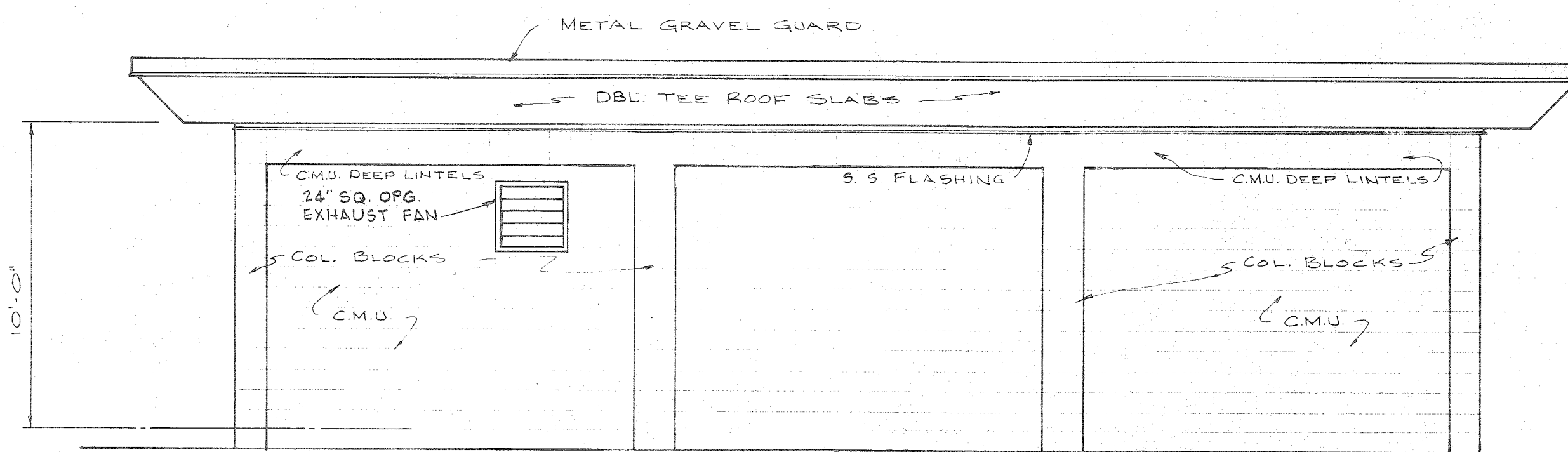
G-6 TYP. BOND BEAM CORNER
SCALE: 1/2" = 1'-0"



F-6 TYP. DETAIL BOND BEAM @ COLUMNS
SCALE: 1/2" = 1'-0"



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

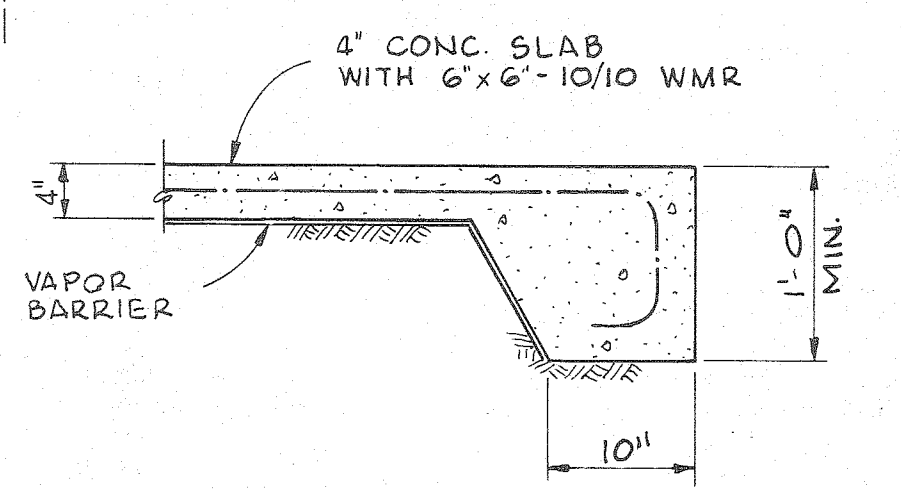
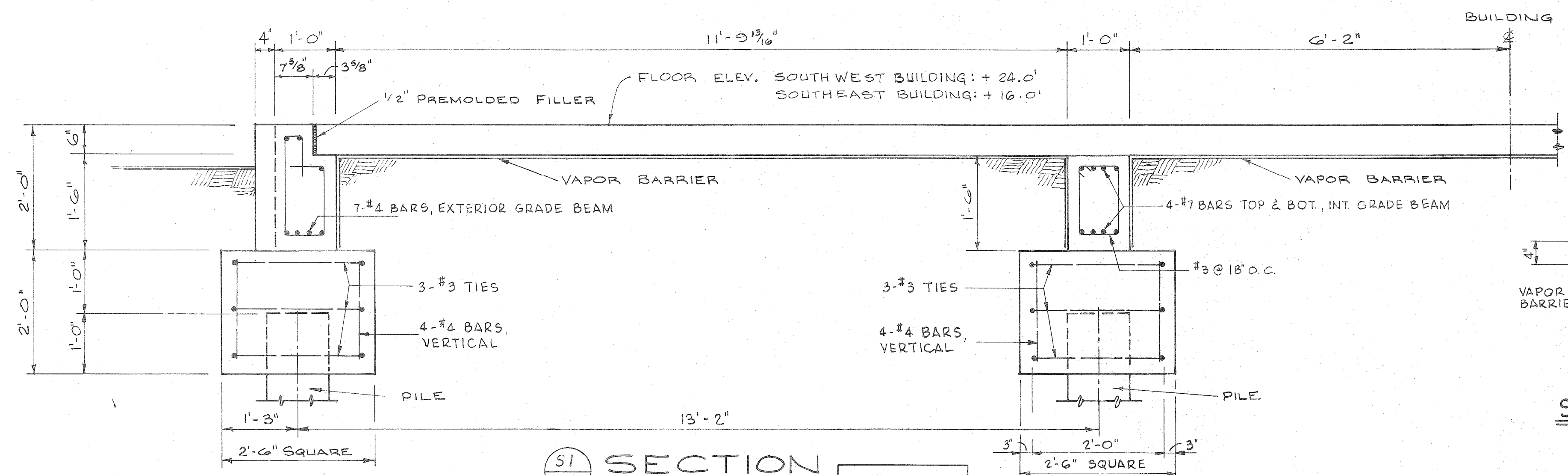


ALABAMA STATE DOCKS
McDUFFIE TERMINALS
PLANT EXPANSION
MOTOR CONTROL BUILDING
FLOOR PLAN AND ELEVATIONS

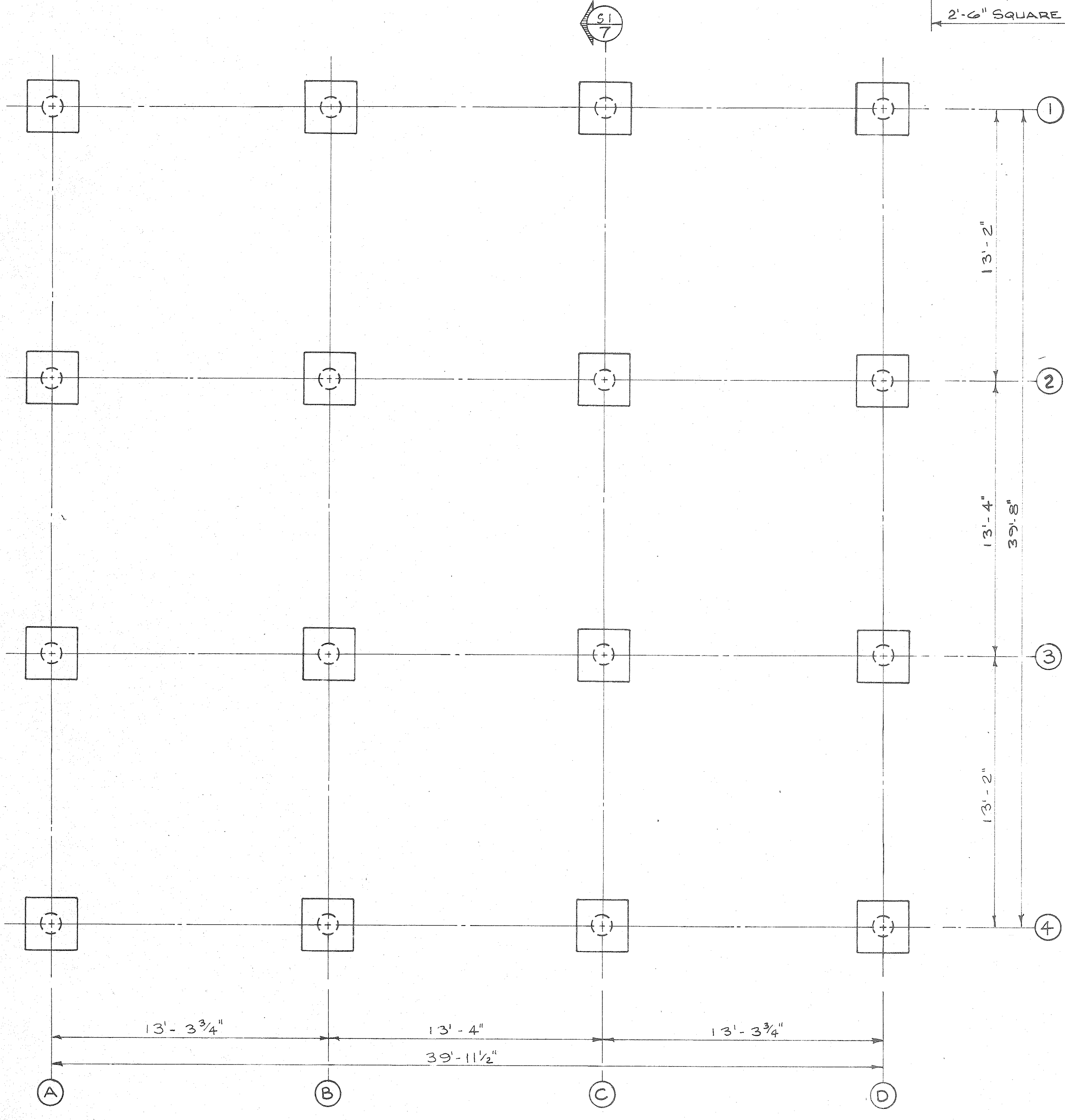
DAVID VOLKERT & ASSOCIATES
CONSULTING ENGINEERS

| | | |
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| DESIGNED S.R. | DETAILED S.R. | TRACED C.G. |
| CHECKED R.S. | CHECKED R.S. | CHECKED N.R. |
| DATE | | SHEET NO. 6 |

| | | | |
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| A.F.E. NO. | SPEC. NO. | CONTRACT NO. | SHEET NO. |
| 1365 | 385 | 153.32 | 7 |

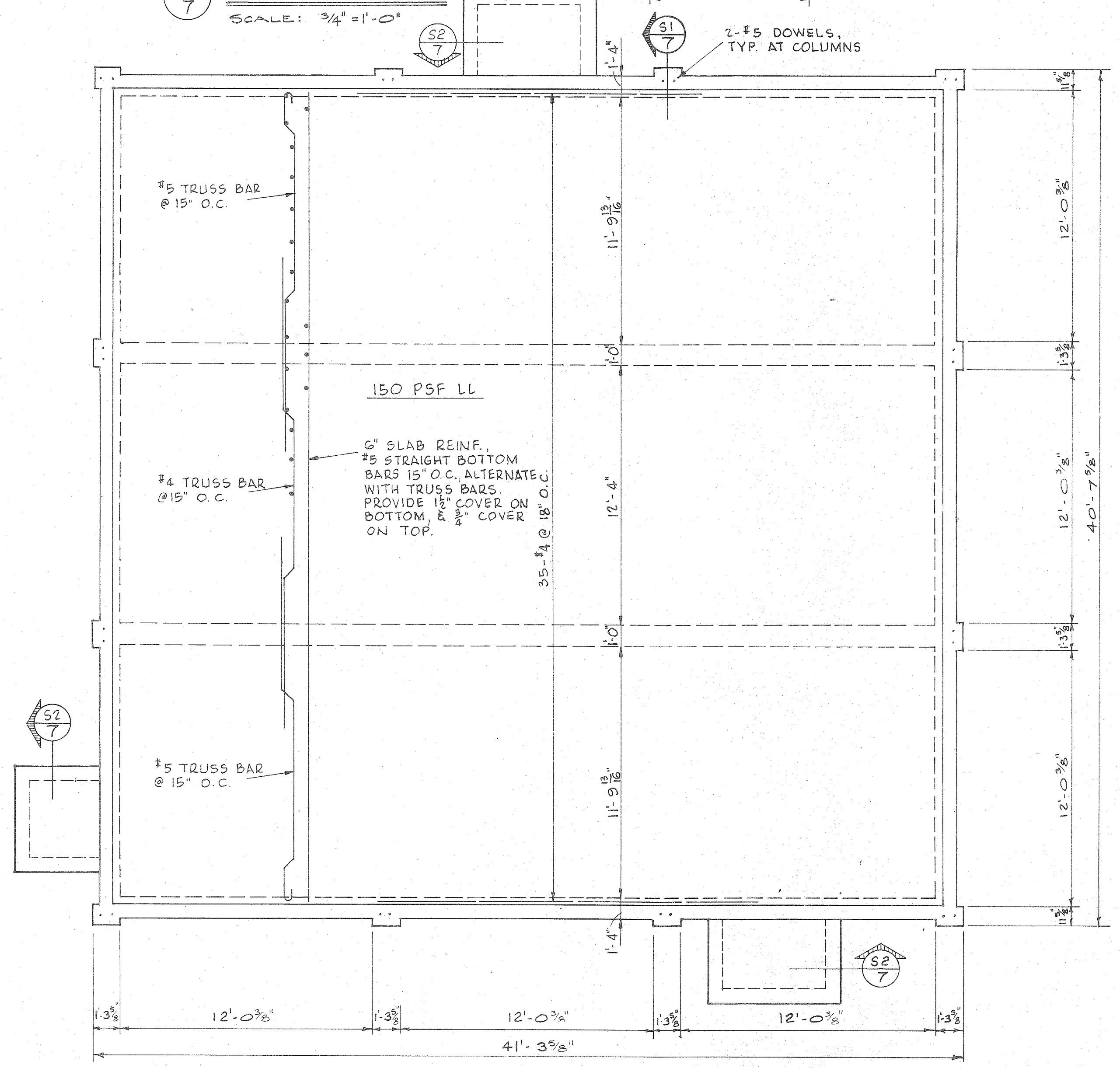


SECTION S2
SCALE: 3/4" = 1'-0"

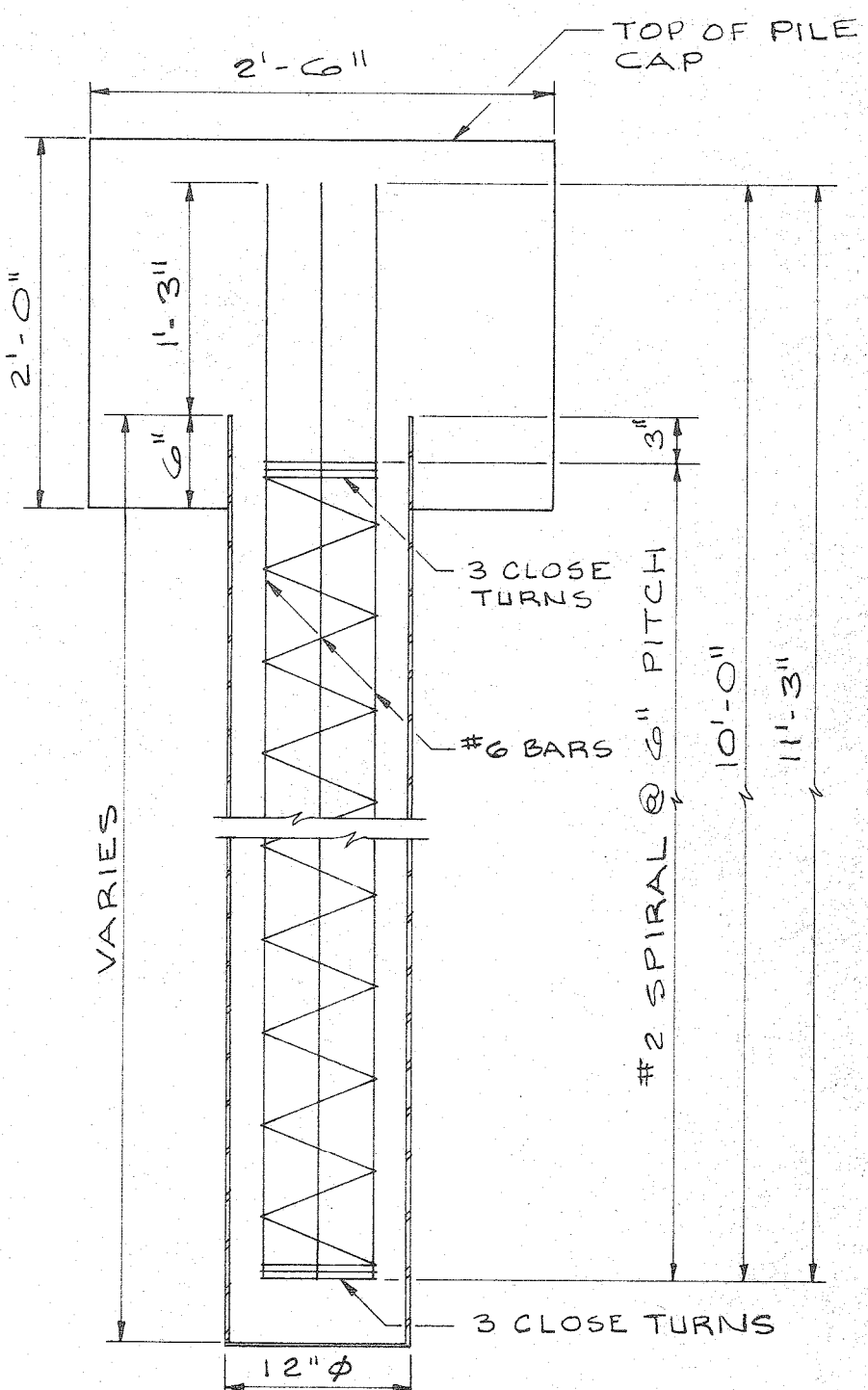


PILE CAP LAYOUT
SCALE: 1/4" = 1'-0"

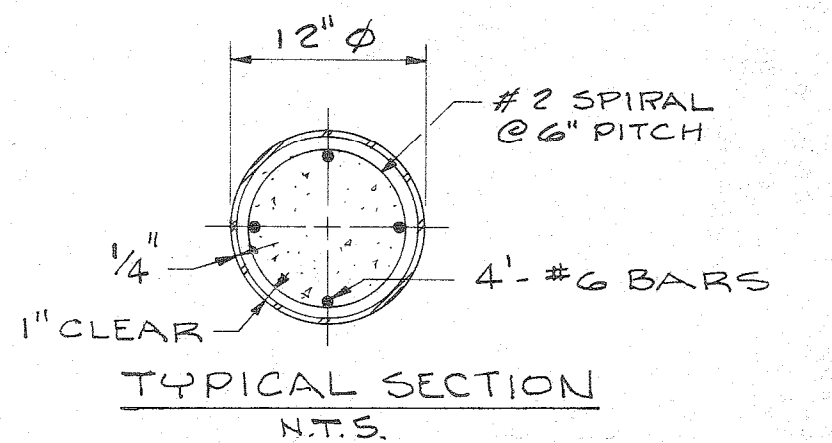
NOTE: ALL PILE TIP ELEVATIONS: (-) 35'



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



12" C.I.P. CONCRETE PIPE PILE DETAIL
N.T.S.



TYPICAL SECTION
N.T.S.

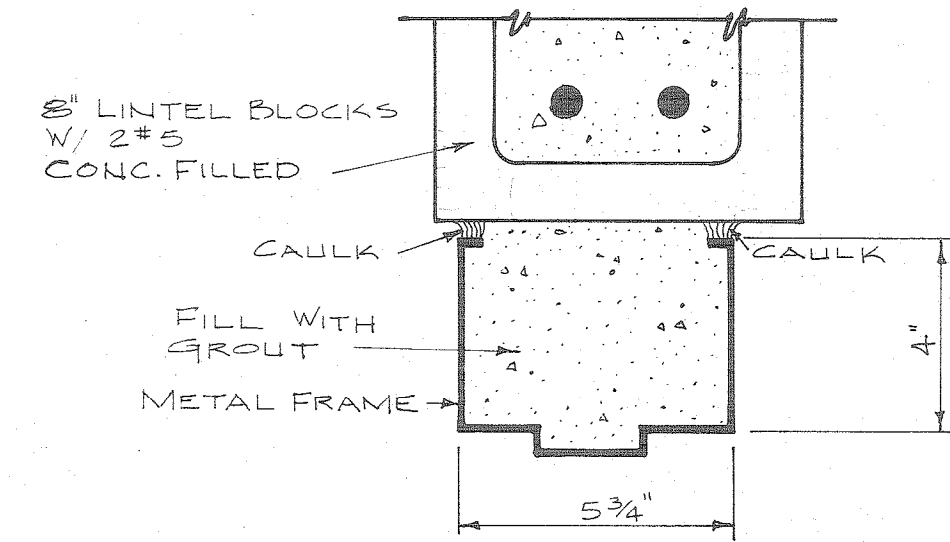
ALABAMA STATE DOCKS
McDUFFIE TERMINALS
PLANT EXPANSION
MOTOR CONTROL BUILDING
FOUNDATION PLAN
AND SECTION

DAVID VOLKERT & ASSOCIATES
CONSULTING ENGINEERS

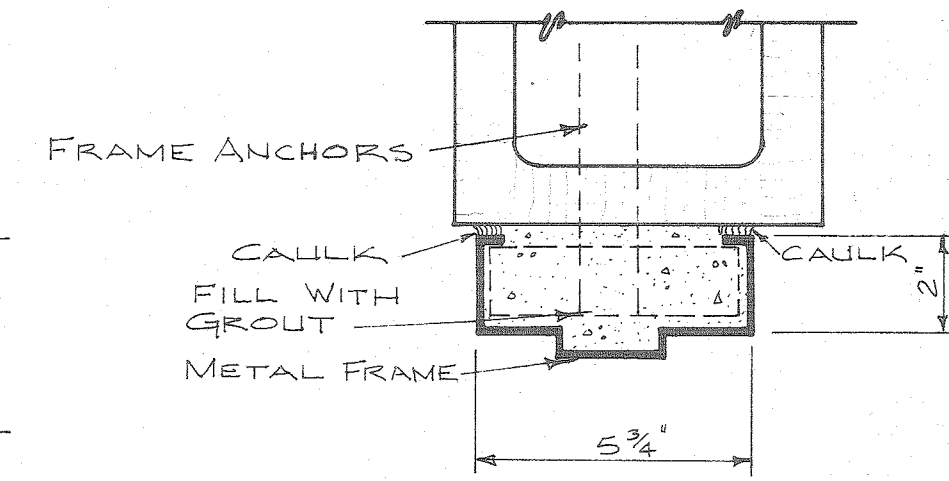
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| DESIGNED | R.S. | DETAILED | S.R. | TRACED | C.G. |
| CHECKED | R.S. | CHECKED | R.S. | CHECKED | N.R. |
| REVISIONS | | | | DATE | SHEET NO. 7 |

| DOOR SCHEDULE | | | | | | | | |
|---------------|------|-----------------------------|---------------|----------------|------------|------------|-------|---------|
| MARK | TYPE | SIZE | DOOR MATERIAL | FRAME MATERIAL | GLAZING | THRESHOLD | GRILL | REMARKS |
| ① | I | PAIR 3'-0" x 7'-0" x 1 1/2" | STEEL | STEEL | WIRE GLASS | PEMCO 179A | — | — |
| ② | I | PAIR 3'-6" x 8'-6" x 1 1/2" | STEEL | STEEL | WIRE GLASS | PEMCO 179A | — | — |
| ③ | II | 3'-0" x 7'-0" x 1 1/2" | STEEL | STEEL | — | PEMCO 179A | — | — |
| ④ | II | 3'-0" x 7'-0" x 1 1/2" | STEEL | STEEL | — | — | — | — |

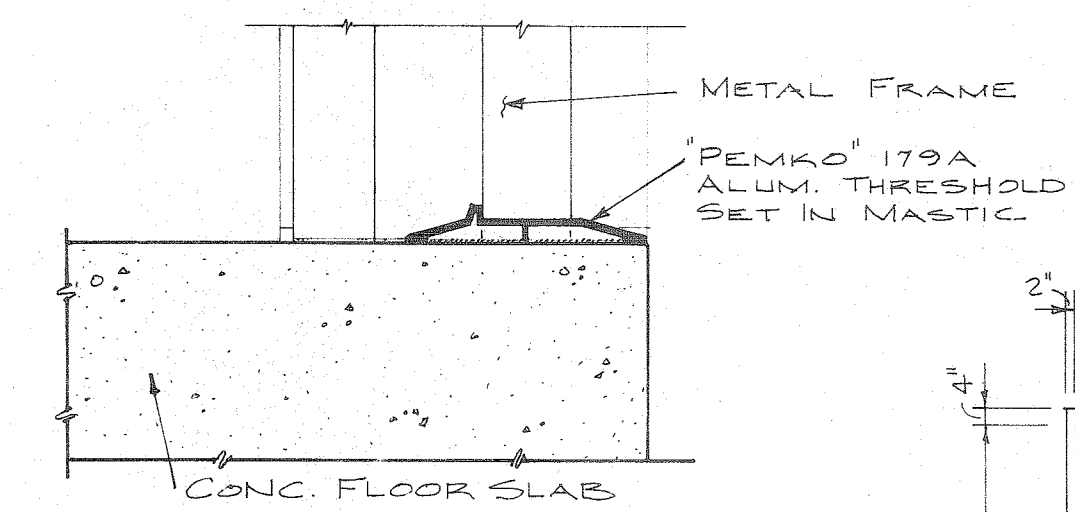
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| A.F.E. NO. | SPEC. NO. | CONTRACT NO. | SHEET NO. |
| 1365 | 385 | 153.32 | 8 |



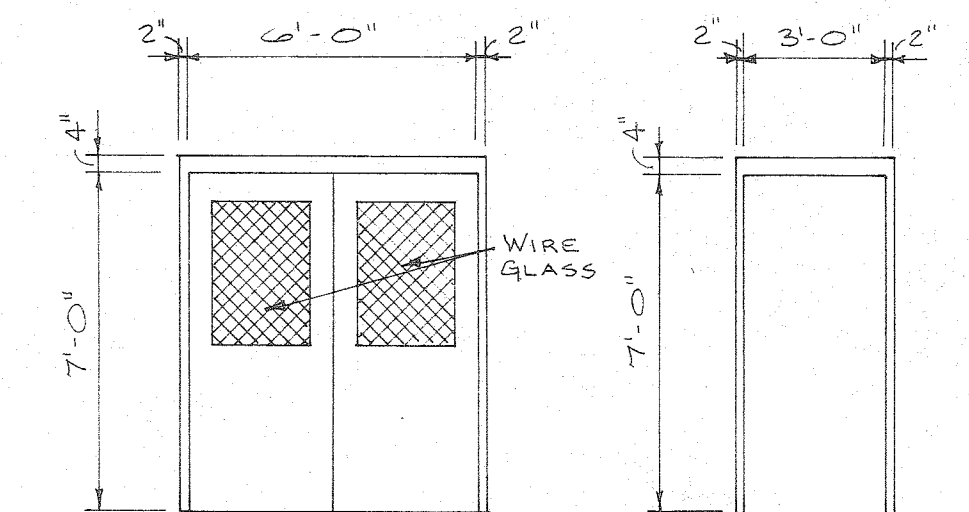
HEAD
SCALE: 3/4" = 1'-0"



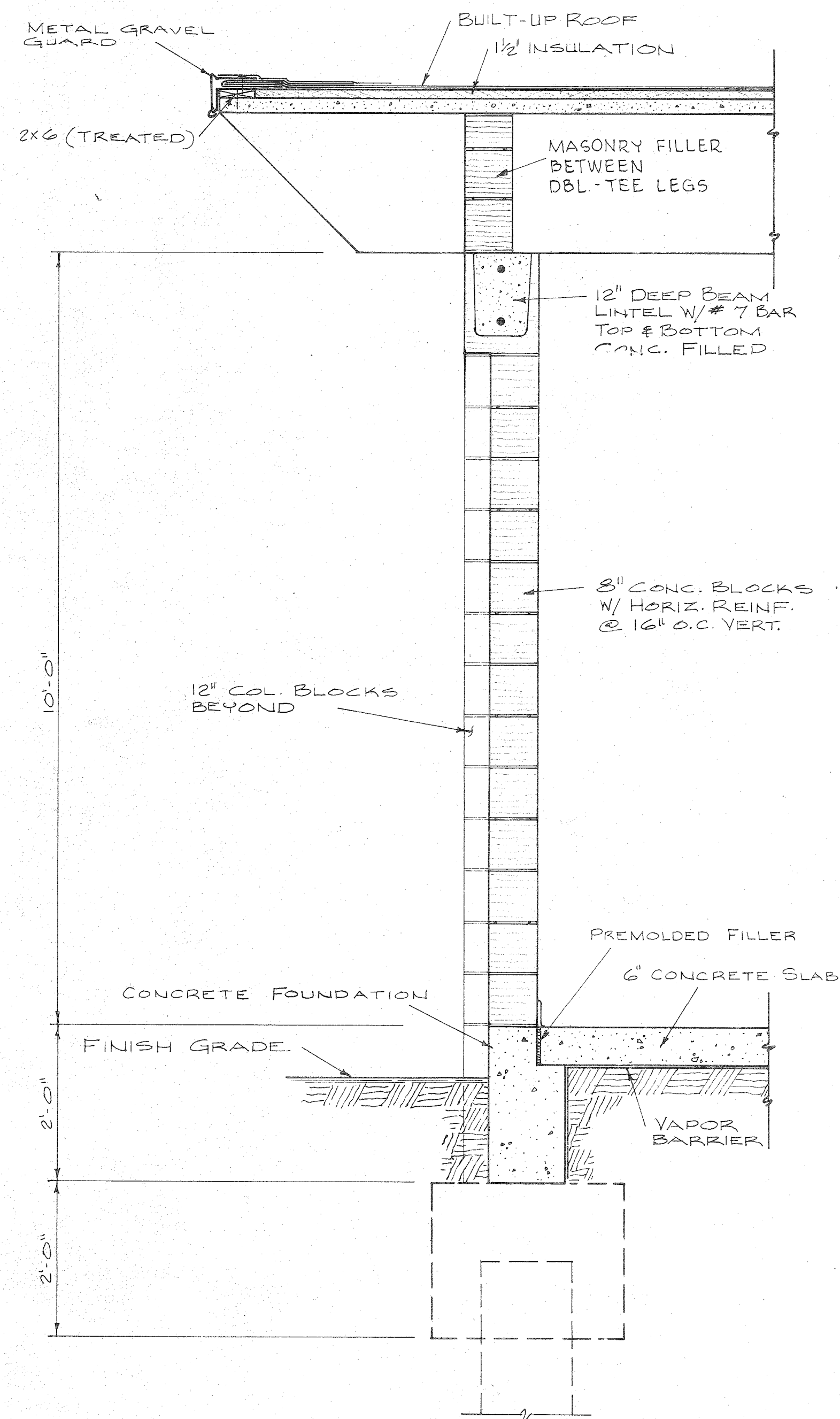
JAMB
SCALE: 3/4" = 1'-0"



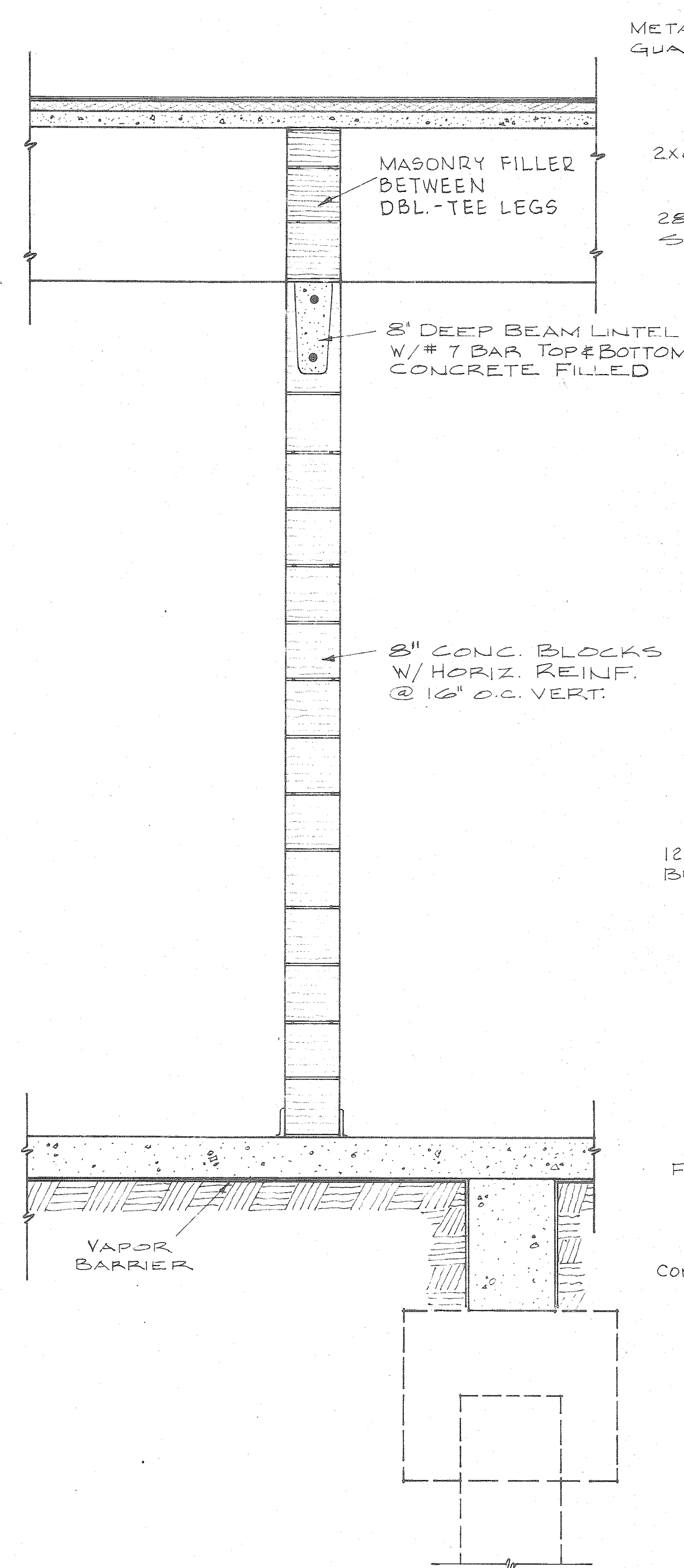
SILL
SCALE: 3/4" = 1'-0"



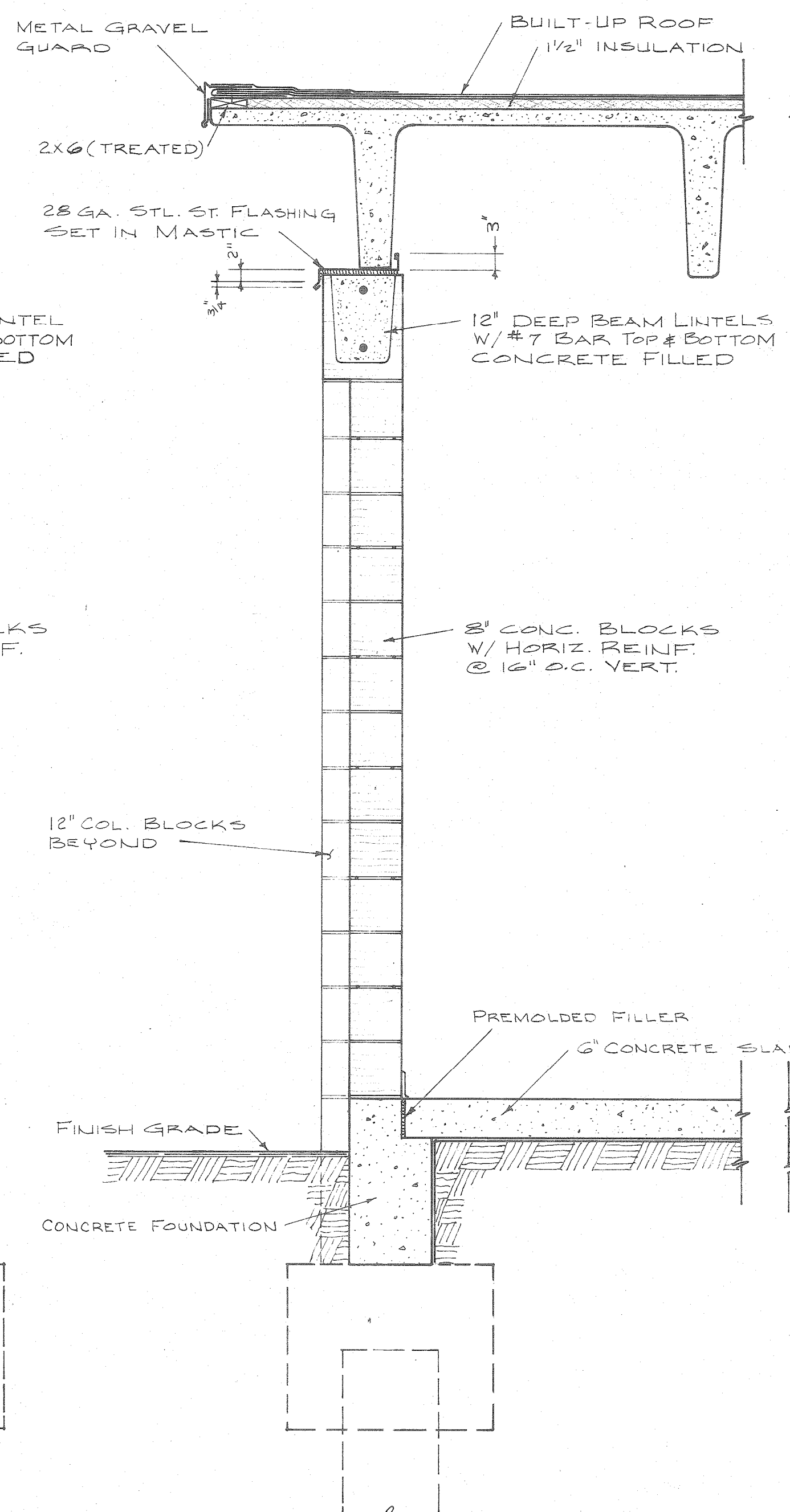
DOOR TYPES
SCALE: 1/4" = 1'-0"



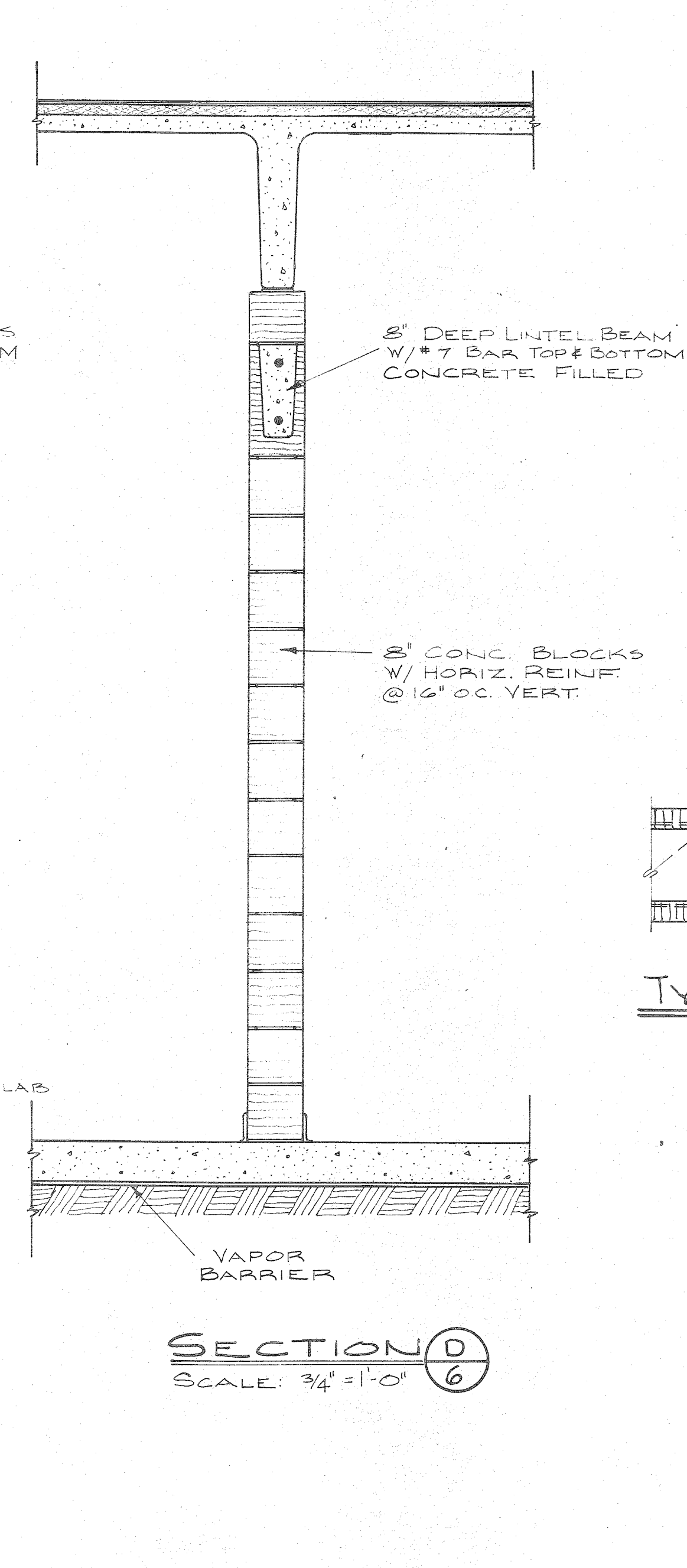
SECTION A
SCALE: 3/4" = 1'-0"



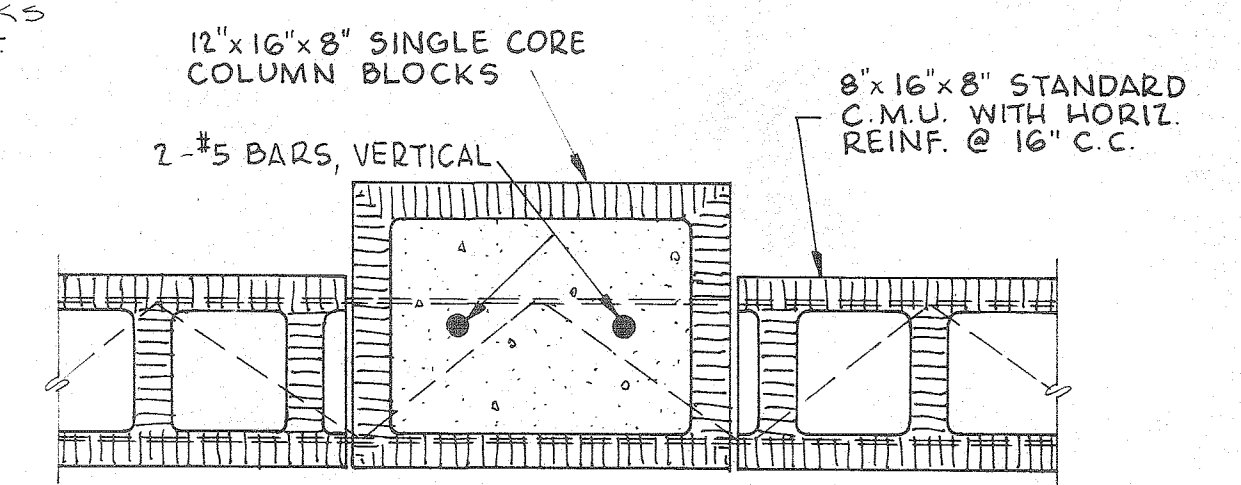
SECTION B
SCALE: 3/4" = 1'-0"



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



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



TYP. COLUMN DETAIL

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

ALABAMA STATE DOCKS

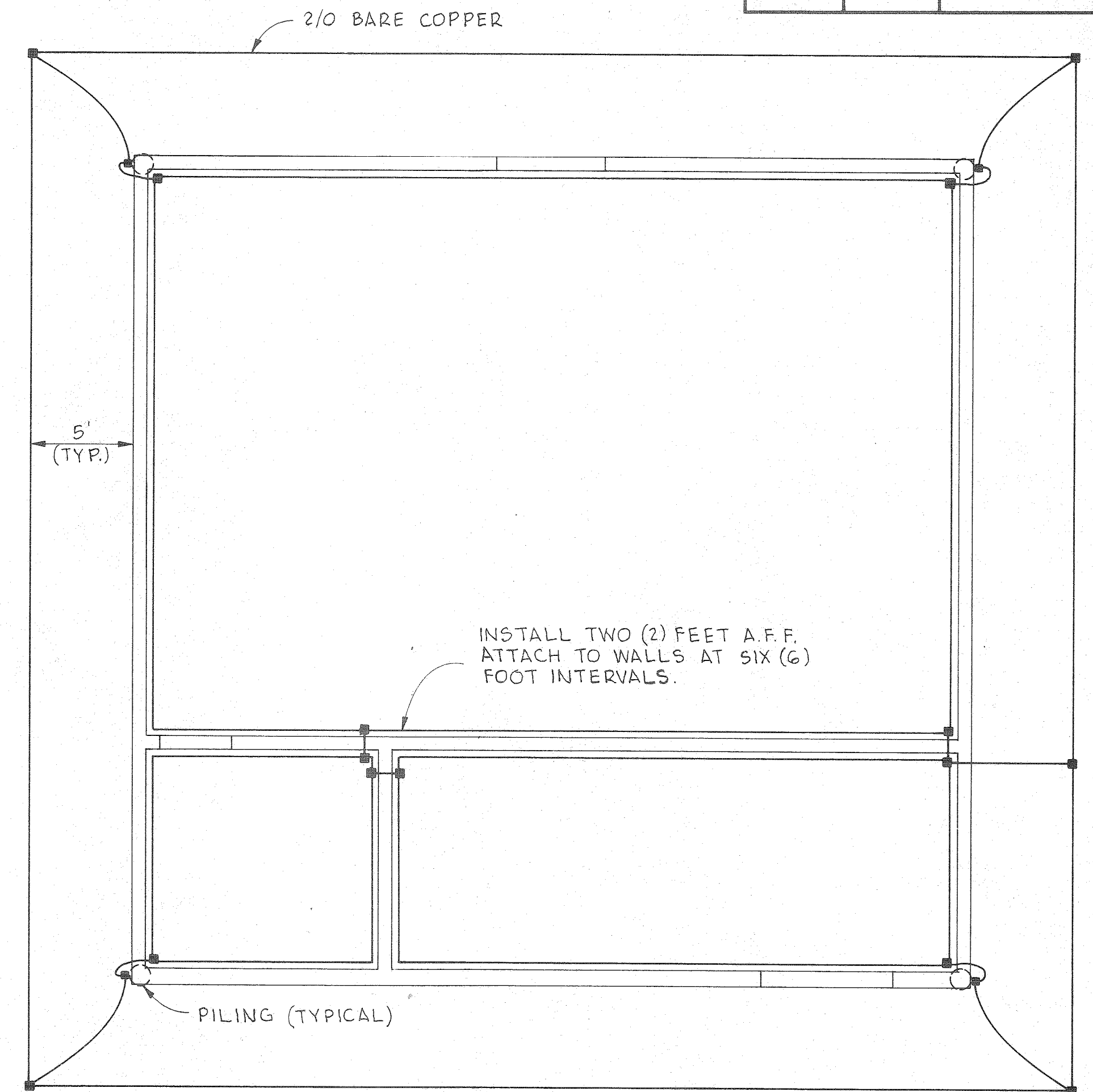
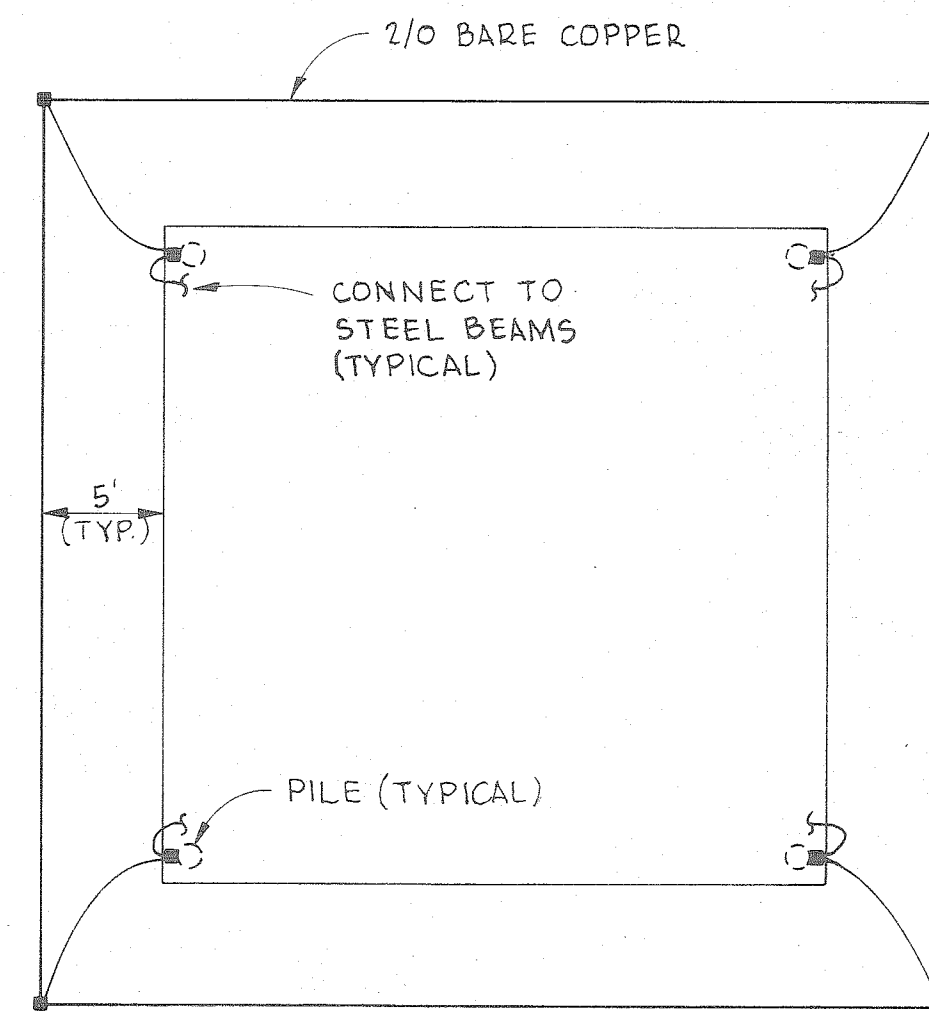
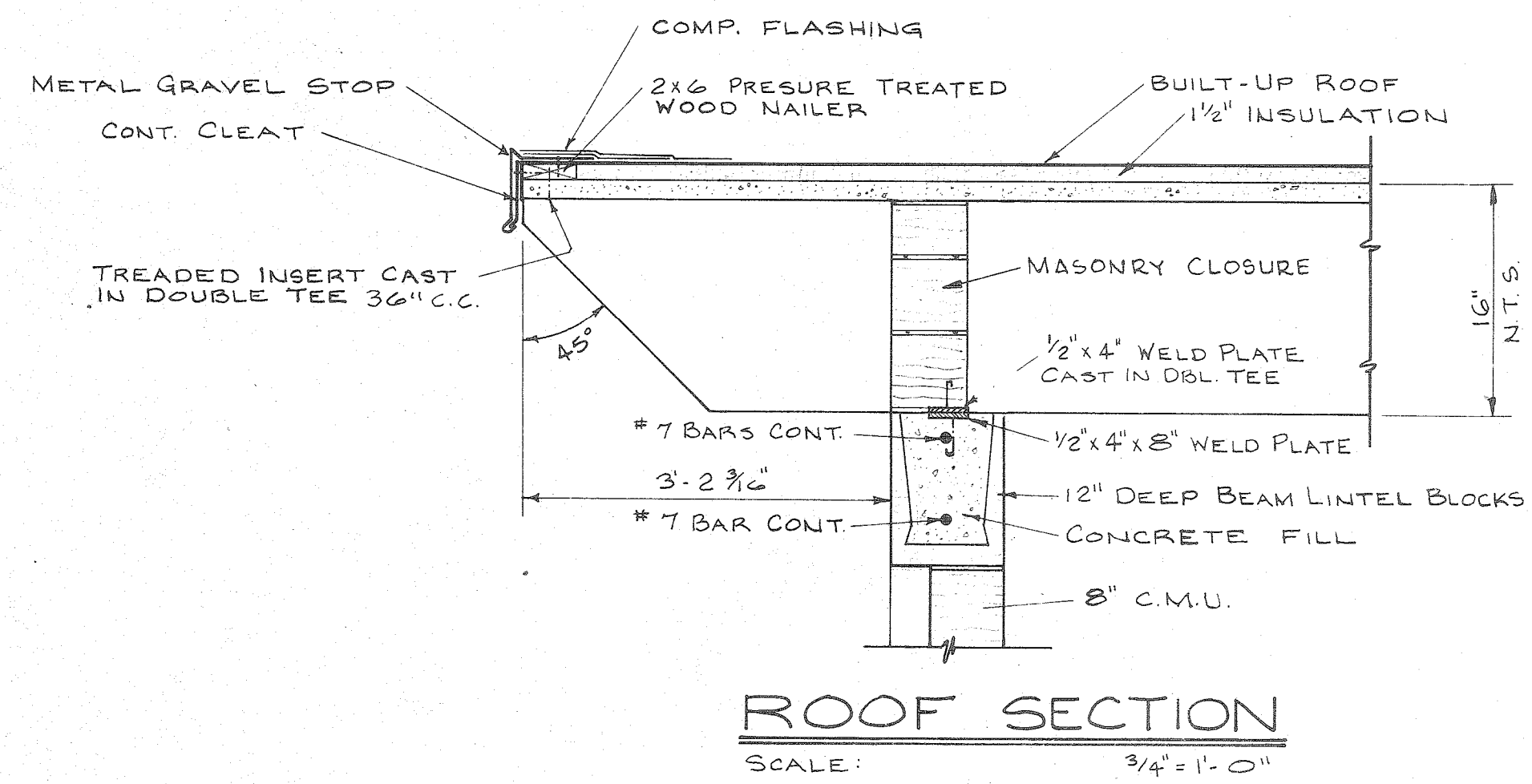
McDUFFIE TERMINALS
PLANT EXPANSION

MOTOR CONTROL BUILDING
WALL SECTIONS AND DETAILS

DAVID VOLKERT & ASSOCIATES
CONSULTING ENGINEERS

| | | |
|---------------|---------------|--------------|
| DESIGNED S.R. | DETAILED S.R. | TRACED C.G. |
| CHECKED R.S. | CHECKED R.S. | CHECKED N.R. |
| DATE | | SHEET NO. 8 |

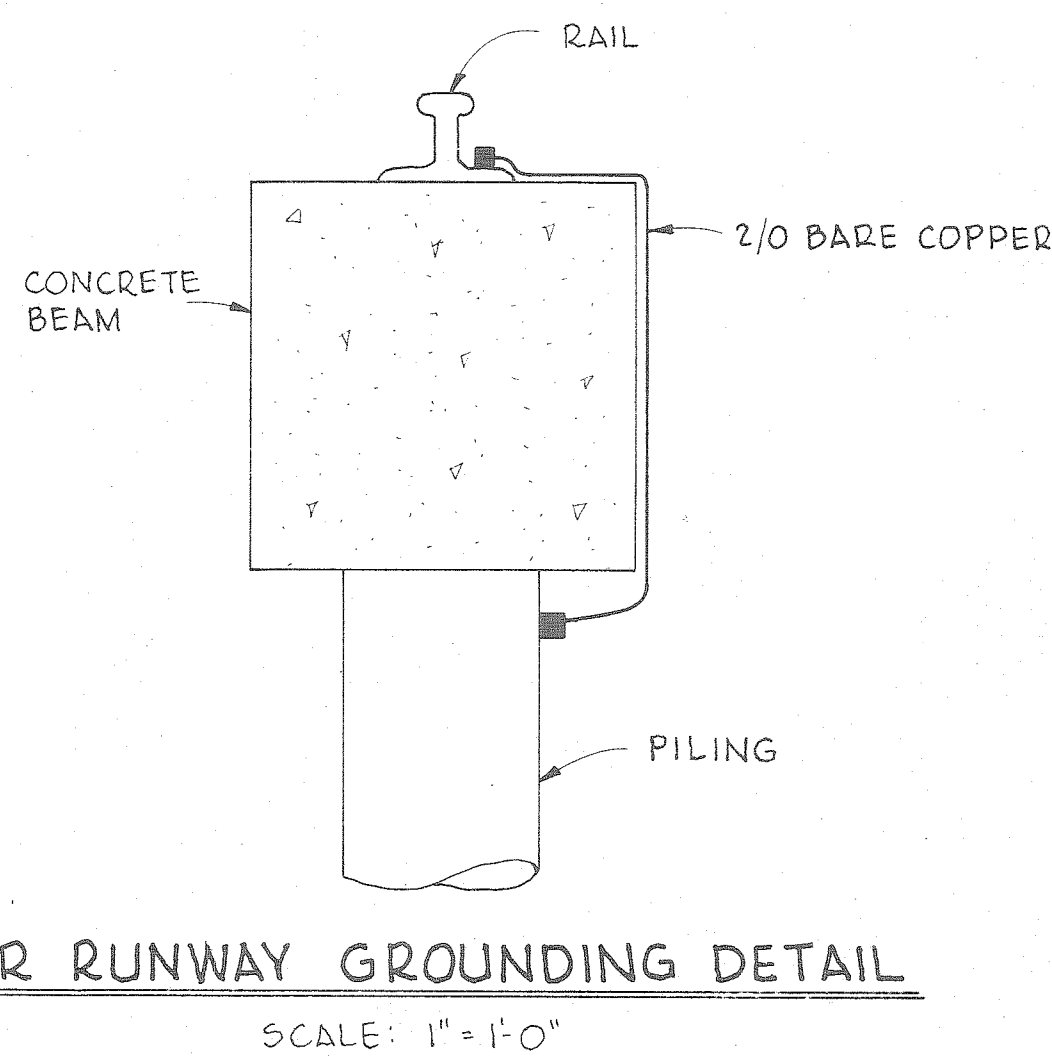
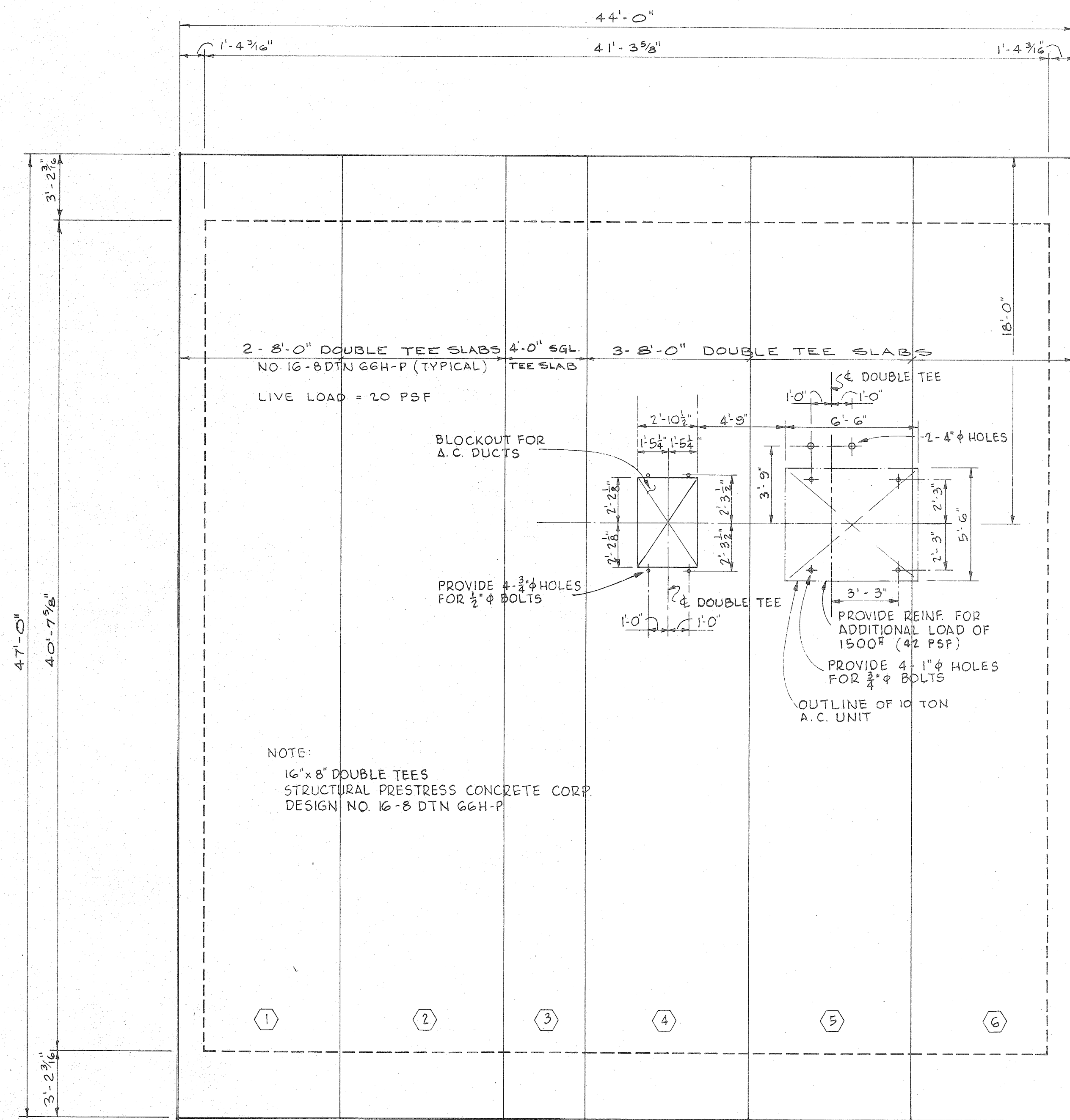
REVISIONS



GROUNDING GRID MOTOR CONTROL BUILDING
SCALE: 3/16" = 1'-0"

GROUNDING NOTES

1. USE 1" PVC CONDUIT SLEEVE WHERE GROUNDING CONDUCTOR PENETRATES WALLS OR SLABS.
2. ALL GROUNDING CONDUCTORS SHALL BE 2/0 AWG BARE STRANDED COPPER.
3. GROUND GRID SHALL BE INSTALLED IN THREE (3) FOOT TRENCH AT DISTANCE OF FIVE (5) FEET FROM BUILDING OR SLAB.
4. CONTRACTOR SHALL ATTACH ALL GROUNDING CONDUCTORS TO STEEL PILING. ALL CONNECTION POINTS SHALL BE THOROUGHLY CLEANED AND DEGREASED PRIOR TO CONNECTIONS BEING MADE.
5. ALL CONNECTIONS SHALL BE CADWELD.
6. ALL GROUNDING CONDUCTOR INSTALLED IN TRENCH SHALL BE COATED WITH ASPHALTUM PRIOR TO INSTALLATION.

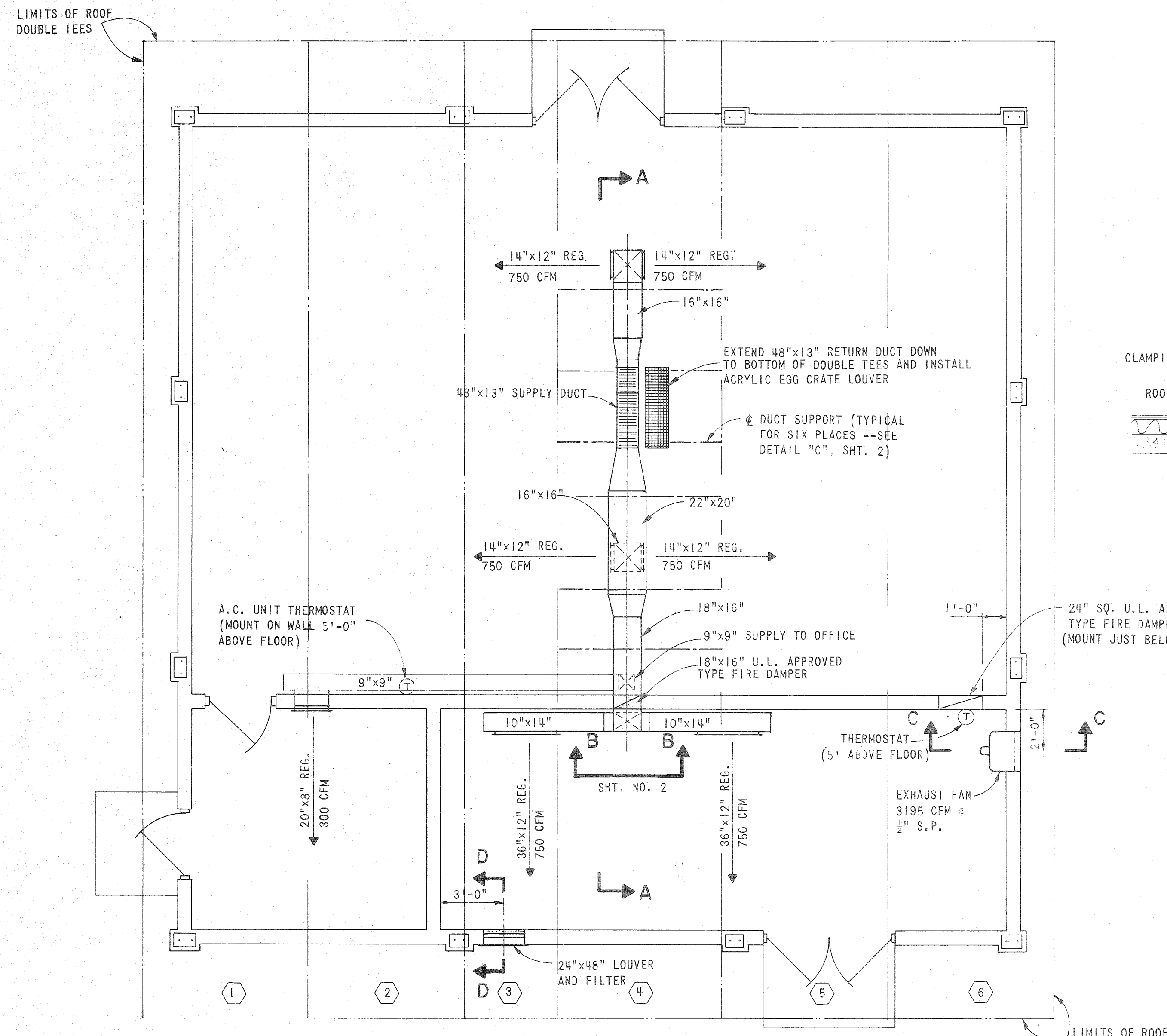


ALABAMA STATE DOCKS
McDUFFIE TERMINALS
PLANT EXPANSION
MOTOR CONTROL BUILDING
ROOF - PLAN AND SECTION
GROUNDING DETAILS

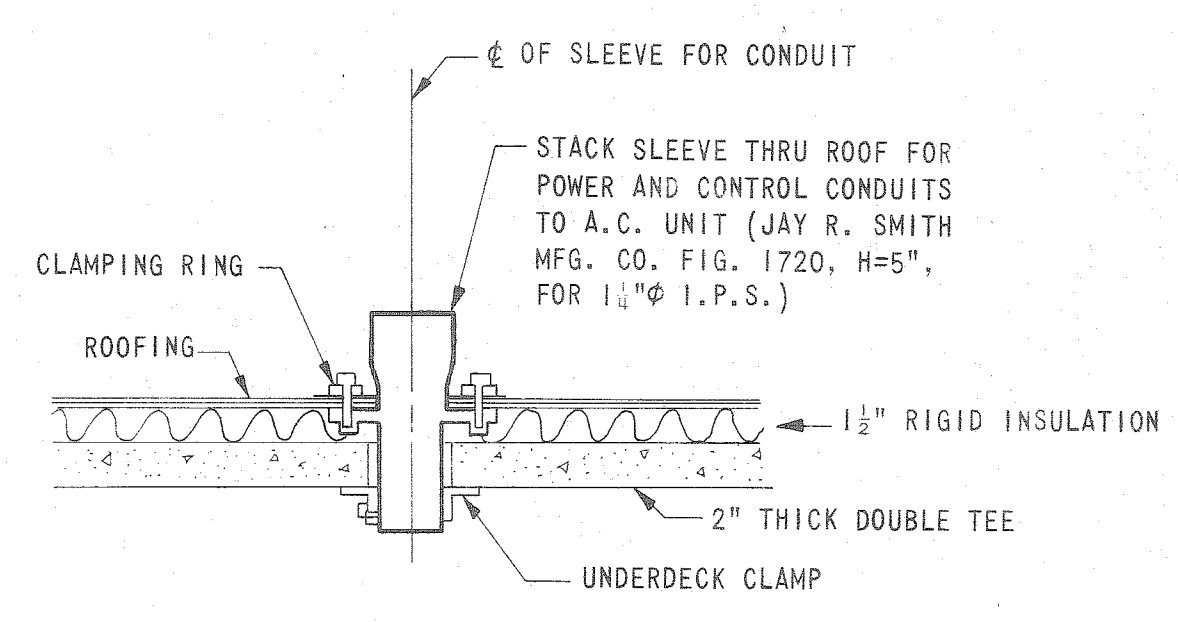
DAVID VOLKERT & ASSOCIATES
CONSULTING ENGINEERS

| | | | | | |
|-----------|--------|----------|--------|-------------|--------|
| DESIGNED | S.O.C. | DETAILED | J.H.R. | TRACED | C.A.G. |
| CHECKED | W.J.O. | CHECKED | W.J.O. | CHECKED | W.J.O. |
| REVISIONS | | DATE | | SHEET NO. 9 | |

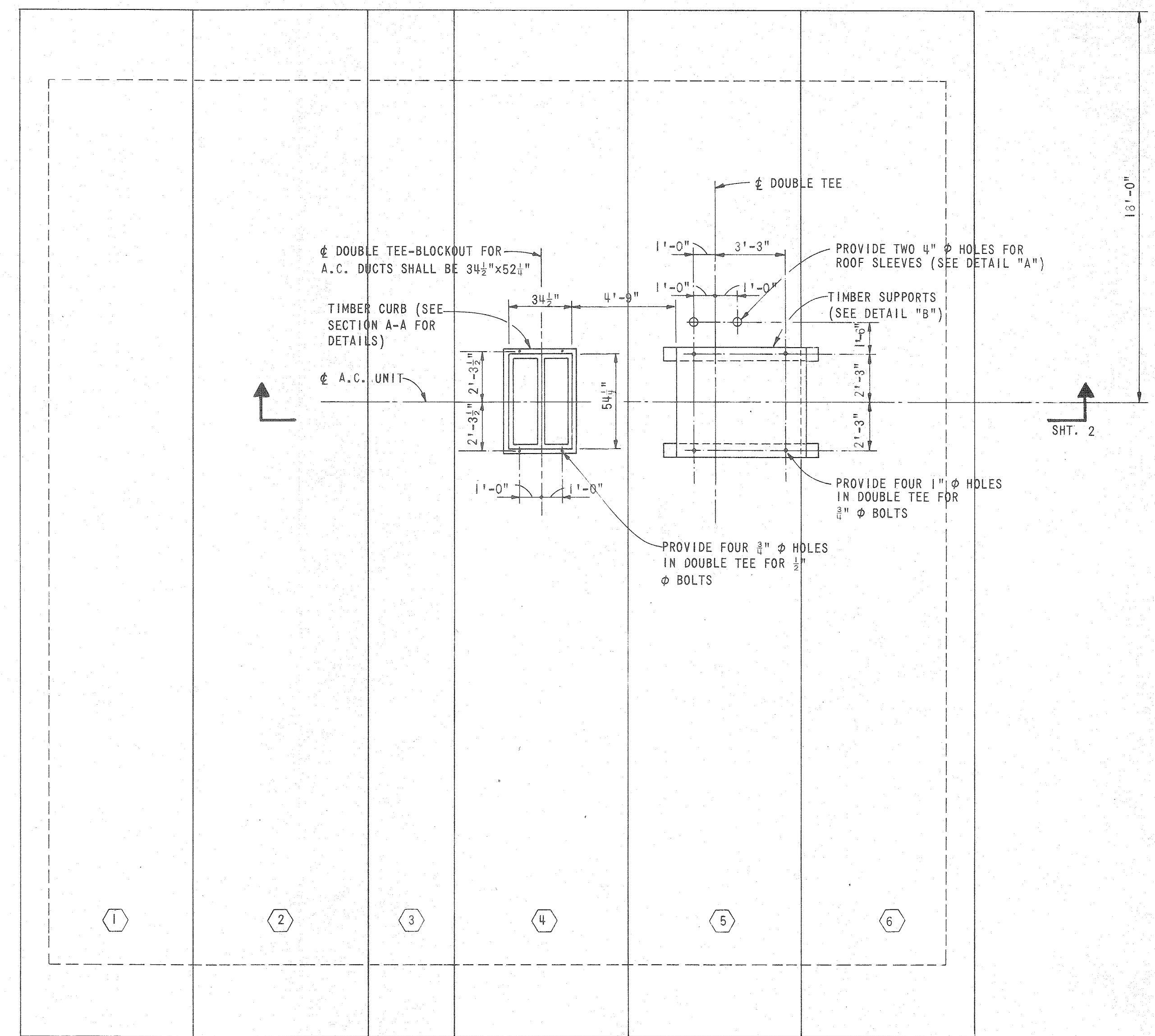
| A.F.E. NO. | SPEC. NO. | CONTRACT NO. | SHEET NO. |
|------------|-----------|--------------|-----------|
| 1365 | 385 | 153.32 | 10 |



MECHANICAL PLAN BELOW THE ROOF
SCALE: 1/4" = 1'-0"



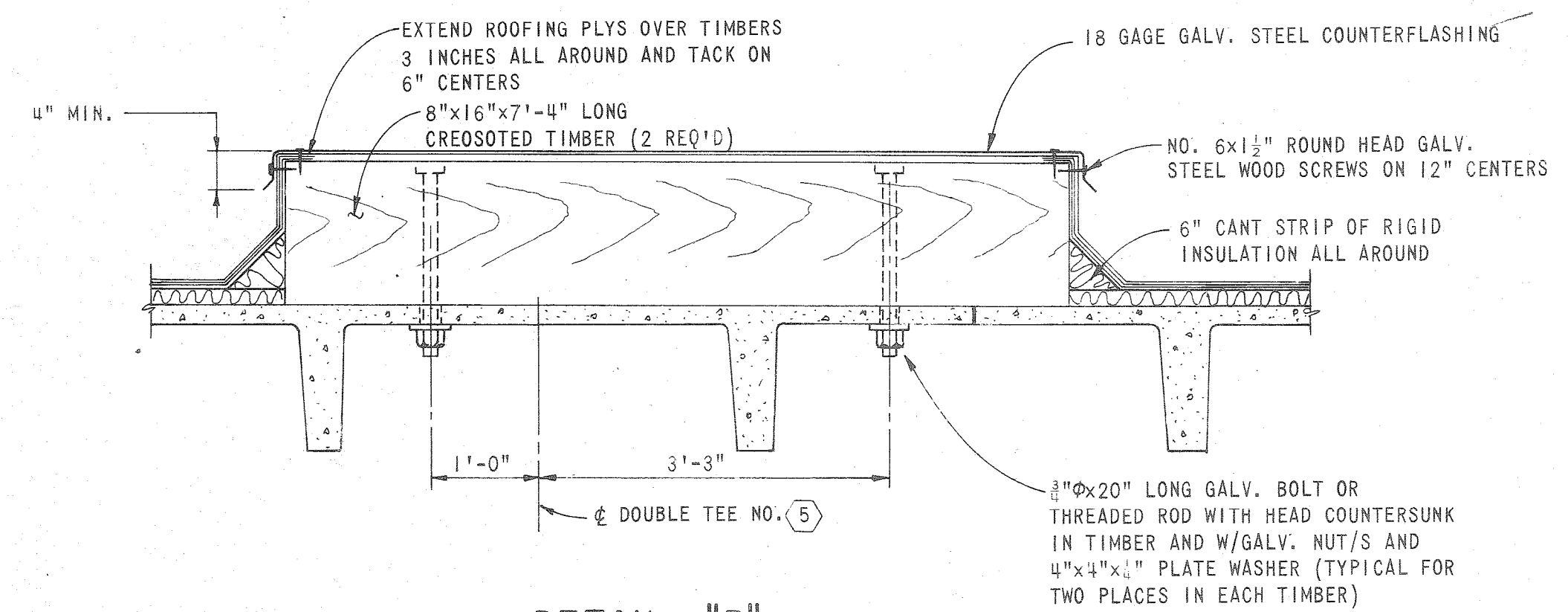
DETAIL "A"
SCALE: 1/2" = 1'-0"
(TWO REQUIRED)



ROOF PLAN (A/C UNIT NOT SHOWN)
SCALE: 1/4" = 1'-0"

SPECIFICATIONS

- ROOFTOP A.C. UNIT SHALL BE TRANE MODEL SACB - C - 104 RATED 120,000 BTUH AT ARI CONDITIONS. HEATING COIL SHALL BE 18 K.W. THE UNIT SHALL OPERATE ON 460 VOLT, 3 PHASE 60 CYCLE POWER. THE UNIT SHALL BE ARRANGED WITH A TIME DELAY RELAY, ANTI-SHORT CYCLE TIMER, LOW AMBIENT MECHANICAL COOLING TO 0° F, MANUAL 0-25 PERCENT OUTSIDE AIR, 24 VOLT THERMOSTAT FOR TWO STAGE COOLING AND FOR HEATING, FIVE YEAR WARRANTY & A MINIMUM OF TWO COMPRESSORS. THE UNIT SHALL BE BOLTED IN PLACE ON THE FLASHED TIMBERS INDICATED WITH A MINIMUM OF FOUR 1/2" Ø BY 4-INCH LONG GALVANIZED WOOD SCREWS. THE EVAPORATOR FANS SHALL DELIVER 4000 CFM AT 0.40 IN-WATER EXTERNAL STATIC PRESSURE.
- ALL DUCTWORK SHALL BE OF GALVANIZED STEEL, 20 GAGE (MINIMUM), WITH POCKET SLIP OR BAR-S SLIP CONSTRUCTION. JOINTS SHALL BE SPACED NO MORE THAN FOUR FEET APART.
- SUPPLY REGISTERS SHALL BE OF STEEL WITH DOUBLE DEFLECTION BLADES (VERTICAL FRONT BARS) AND OPPOSED BLADE DAMPER, ANEMOSTAT MODEL S 2V, OR APPROVED EQUAL.
- RETURN GRILLE SHALL BE AN ACRYLIC EGG CRATE TYPE 1/2" x 1/2" x 1/2" x 45° SHIELDING TYPE 10, AS MANUFACTURED BY AMERICAN LOUVER CO.
- DUCTWORK EXPOSED ON THE ROOF, EXCEPT THAT ACROSS THE FLEXIBLE CONNECTIONS WHICH SHALL BE FOAM RUBBER, SHALL BE INSULATED WITH 2-INCH THICK FOAMGLAS ATTACHED WITH MASTIC AND MECHANICAL FASTENERS. THE INSULATION JOINTS SHALL BE SEALED WITH MASTIC. THE INSULATION SHALL BE WEATHERPROOFED BY APPLYING A TACK COAT OF FOSTER SAFETEE MASTIC A6C-80 AT 8 GALLONS PER 100 SQ. FT., EMBEDDING IN THE WET TACK COAT MAST-A-FAB WHITE GLASS CLOTH LAPPING ALL SEAMS 2 INCHES (MINIMUM), APPLYING A FINISH COAT OF SAFETEE MASTIC AT 8 GALLON PER 100 SQ. FT., WHILE THE TACK COAT IS STILL DAMP.
- STEEL ANGLES SUPPORTING DUCT AND DUCT SHALL BE GIVEN TWO COATS OF LIGHT GREEN RUSTOLEUM PAINT.
- 1 1/2" WIDE x 12 GAGE GALVANIZED STEEL STRAP HANGERS MAY BE SUBSTITUTED FOR THE HANGERS INDICATED.
- THE DUCT HANGERS MUST BE PLACED PRIOR TO ROOFING.
- TRANSFORMER ROOM EXHAUST FAN SHALL BE 1LG SIZE 183 PROPELLER TYPE PV, OR APPROVED EQUAL RATED 3195 CFM @ 1/2" S.P., 3H.P. @ 1725 RPM, 115V, 3Ø, 60 HZ. THE FAN SHALL BE ARRANGED WITH A MOTOR OPERATED SHUTTER AS INDICATED, 1LG NO. 06811, 115 VOLT, OR APPROVED EQUAL, AND A WALL MOUNTED THERMOSTAT WITH A RANGE OF 80°F TO 120°F. NOTE: THIS VENTILATION SYSTEM IS FOR EMERGENCY USE ONLY AND THE THERMOSTAT SHALL BE SET AT A TEMPERATURE HIGH ENOUGH TO SENSE THAT THE AIR CONDITIONER HAS MALFUNCTIONED.
- THE WEATHERPROOF WALL LOUVER SHALL BE OF STEEL WITH FLANGED FACE, MODEL L-40F AS MANUFACTURED BY CARNES, OR APPROVED EQUAL.
- THE LOUVER AND ALL FRAMING ANGLES SHALL BE PAINTED TWO COATS OF RUSTOLEUM, MACHINERY GRAY.
- THE TRANSFORMER VAULT AIR FILTERS SHALL BE AMERICAN AIR FILTER TYPE HV-2 DESIGN "B" CELL AND FRAME FOR 2-24" SQ. FILTERS, OR APPROVED EQUAL.



DETAIL "B"
TIMBER SUPPORTS FOR A.C. UNIT (2 REQ'D.)
SCALE: 3/8" = 1'-0"

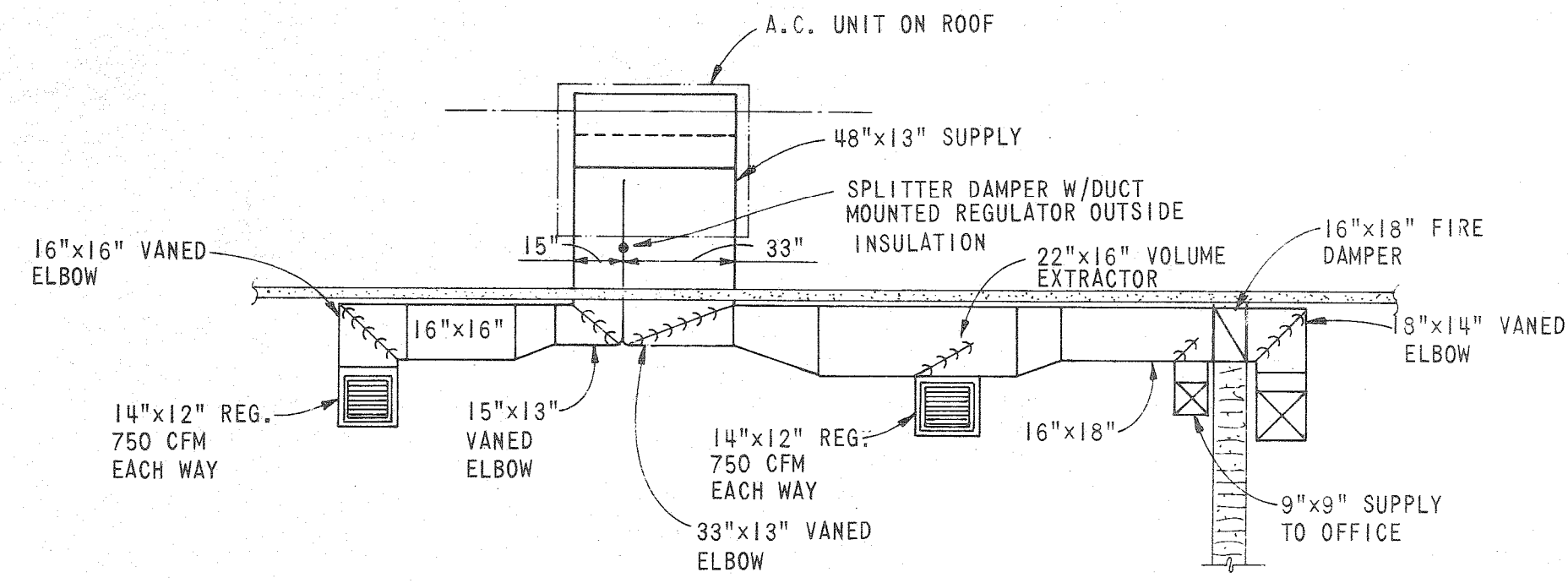
ALABAMA STATE DOCKS
McDUFFIE TERMINALS
PLANT EXPANSION
MOTOR CONTROL BUILDING
MECHANICAL - SHEET NO. I

DAVID VOLKERT & ASSOCIATES
CONSULTING ENGINEERS

| | | |
|-----------------|-----------------|----------------|
| DESIGNED D.J.H. | DETAILED D.J.H. | TRACED C.A.G. |
| CHECKED P.K.J. | CHECKED P.K.J. | CHECKED D.J.H. |
| DATE | | SHEET NO. 10 |

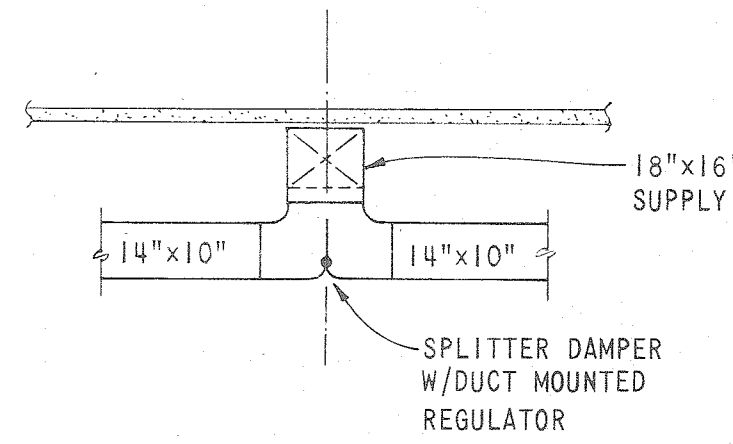
| REVISIONS | DATE |
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| A.F.E. NO. | SPEC. NO. | CONTRACT NO. | SHEET NO. |
|------------|-----------|--------------|-----------|
| 1365 | 385 | 153.32 | 11 |



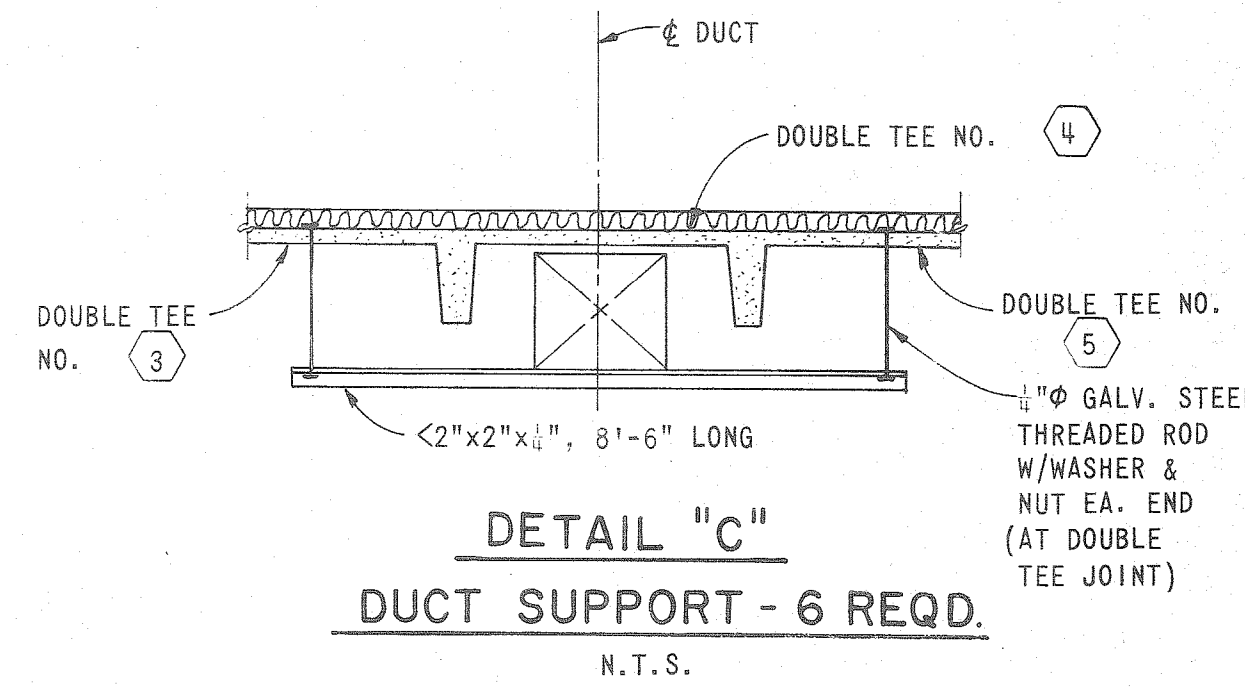
SECTION A-A

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



VIEW B-B

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



DETAIL "C"
DUCT SUPPORT - 6 REQ.

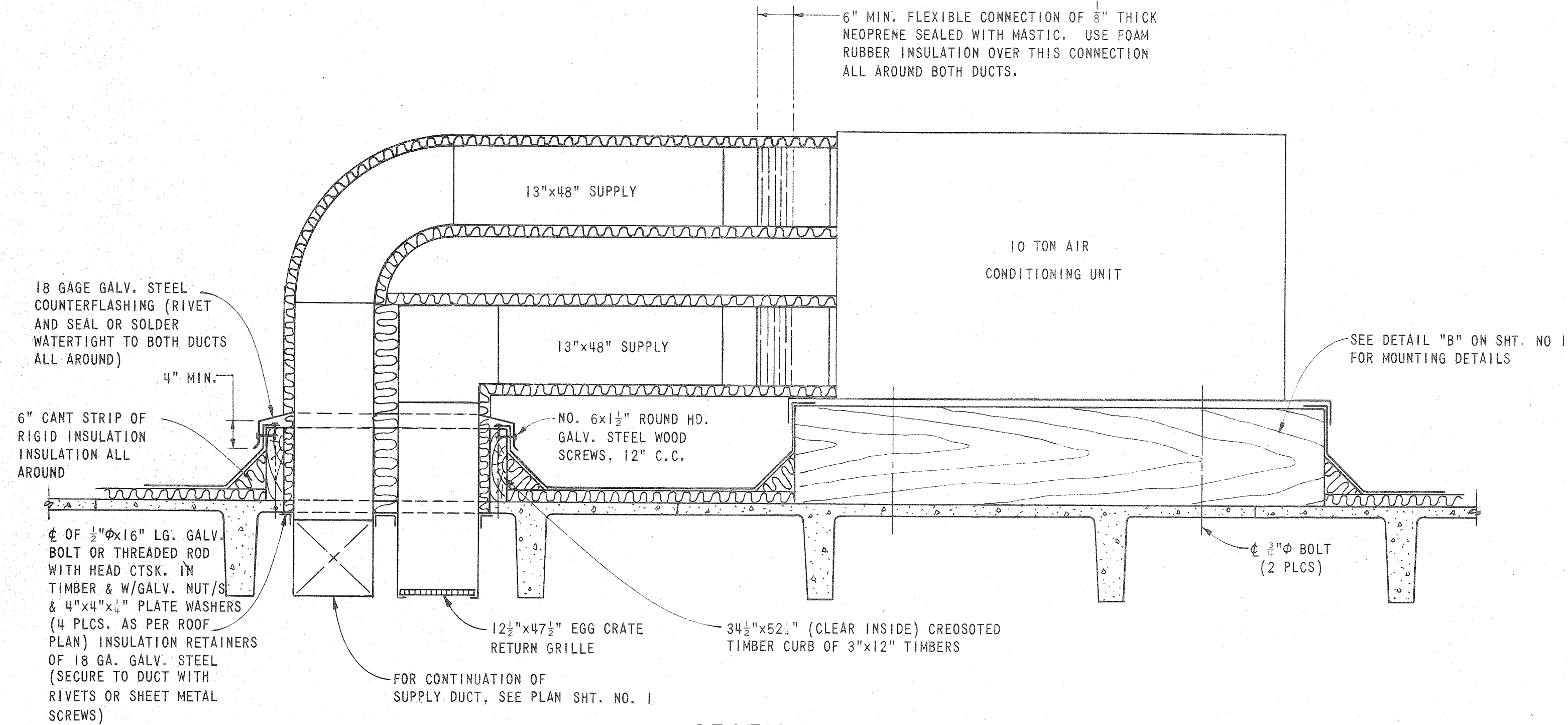
N.T.S.

NOTE:

AT SUPPORTS WHERE BOTTOM OF DUCT DOES NOT REACH BOTTOM OF TEE LEGS, USE 2" WIDE BY DUCT WIDTH SHIMS EPOXY GLUED TO THE ANGLE SUPPORT.

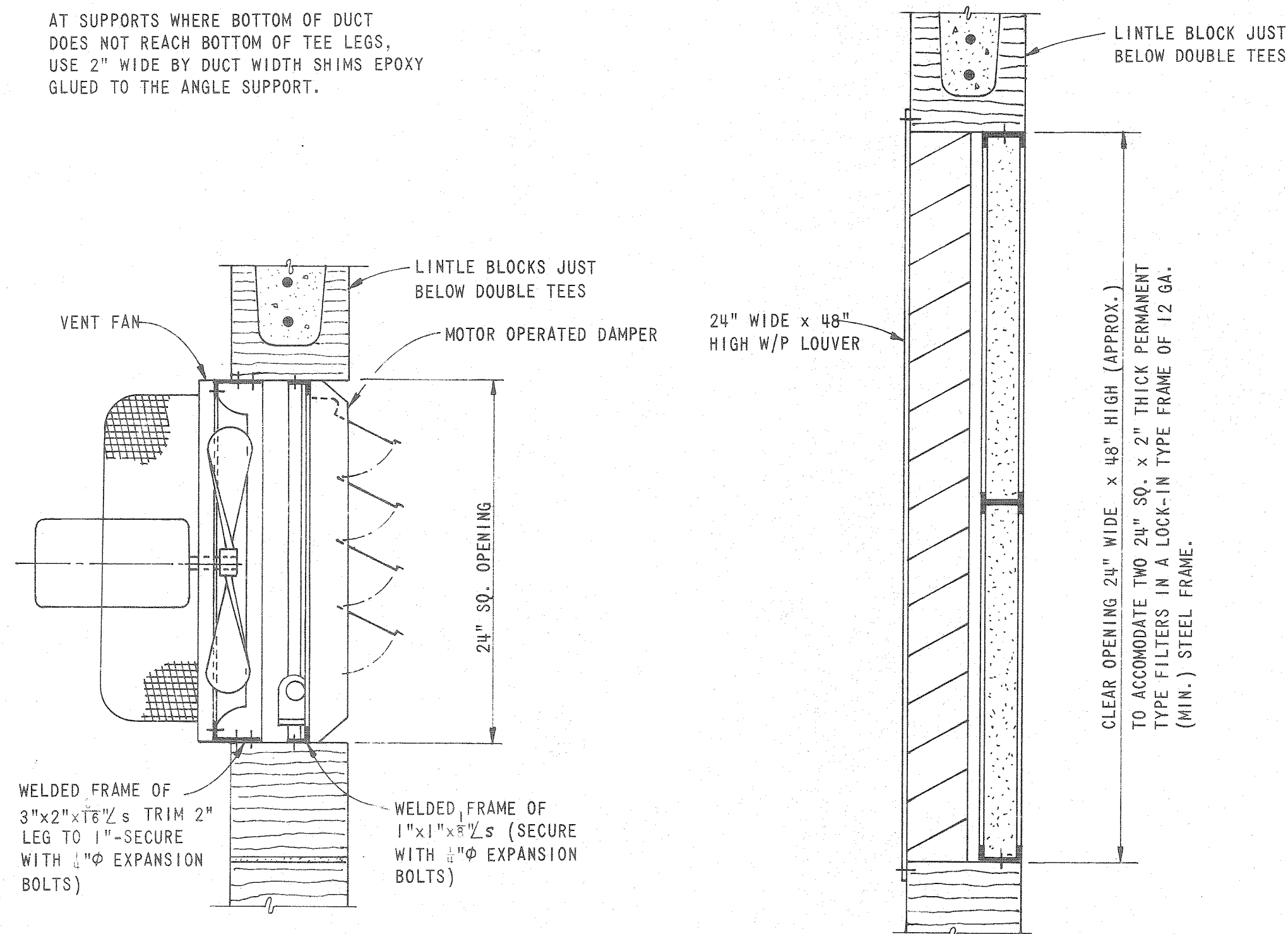
NOTE:

RUN TOP OF SUPPLY AND RETURN DUCTS AS CLOSE TO UNDERSIDE OF DOUBLE TEES AS POSSIBLE.



SECTION A-A

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



SECTION C-C

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

SECTION D-D

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

ALABAMA STATE DOCKS

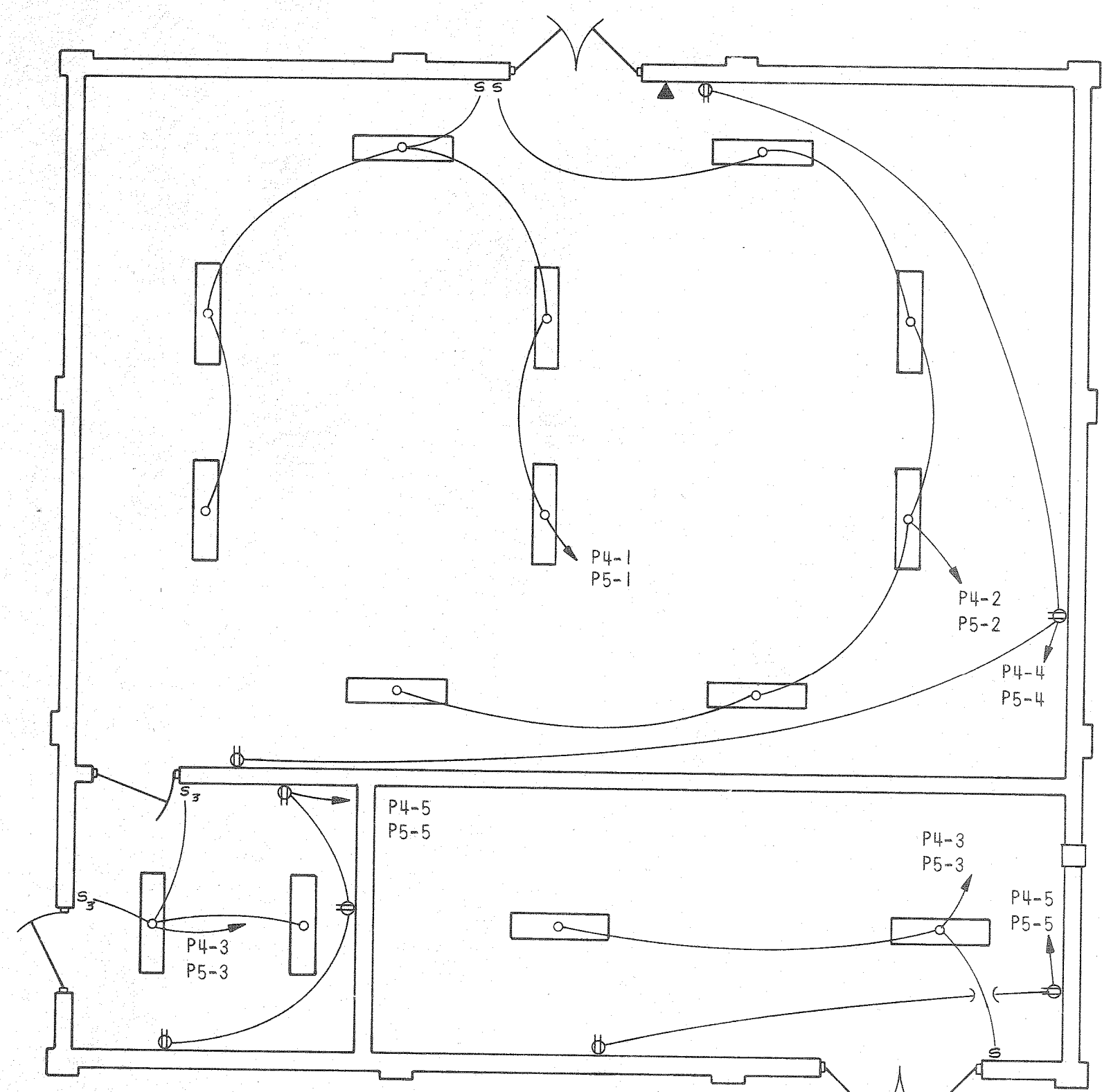
McDUFFIE TERMINALS
PLANT EXPANSION

MOTOR CONTROL BUILDING
MECHANICAL - SHEET NO. 2

DAVID VOLKERT & ASSOCIATES
CONSULTING ENGINEERS

| | | | | | |
|----------|--------|----------|--------|---------|--------------|
| DESIGNED | D.J.H. | DETAILED | D.J.H. | TRACED | C.A.G. |
| CHECKED | P.K.J. | CHECKED | P.K.J. | CHECKED | D.J.H. |
| DATE | | | | | SHEET NO. 11 |

REVISIONS



LIGHTING & POWER PLAN
TYPICAL SOUTHWEST & SOUTHEAST CONTROL BLDG.
SCALE: 1/8" = 1'-0"

| SCHEDULE - LOAD CENTER "M4" | | | | | | |
|-----------------------------|-------------------------------------|---------------------|-----------|---------------------|-----------|-------------|
| MFR.: GENERAL ELECTRIC | | SERVICE | | FEEDER: 9 - 350 MCM | | |
| TYPE: AV LINE | | 277/480V, 3Ø, 4W | | 3 - 470 | | |
| CLASS I OR II | | MAIN: 800 AMP, TKMR | | | | |
| CKT. NO. | DESCRIPTION | WIRE SIZE | NO. POLES | GE TYPE | TRIP AMPS | LOADS WATTS |
| 1 | PANEL "P4" | 6 | 3 | TED | 40 | 17,200 |
| 2 | CONV. 7 & TOWER T4 LIGHTING | 8 | 2 | | 20 | 3,120 |
| 3 | CONV. 10 & SURGE BIN LIGHTING | 8 | 2 | | 20 | 3,315 |
| 4 | CONV. 11, TOWERS T1A & T7A LIGHTING | 8 | 2 | | 20 | 2,535 |
| 5 | A/C & HEATING UNIT | 6 | 3 | | 40 | 25,000 |
| 6 | MISC. MCC | 6-350 | 3 | TJK6 | 600 | 482,000 |
| 7 | SURGE BIN VIBRATORY FEEDERS | 1/0 | 3 | TFJ | 125 | 90,000 |
| 8 | ROADWAY LIGHTING | 6 | 2 | TED | 40 | 10,600 |
| 9 | WIRE ROPE HOIST | 8 | 3 | | 30 | 10,000 |
| 10 | SPARE | | 3 | | 40 | 25,000 |
| 11 | SPARE | | 3 | | 15 | 5,000 |
| 12-14 | SPARES | | 3 | | 20 | 15,000 |
| I = 688.770 | | = 921 AMPS | | 688,770 WATTS | | |

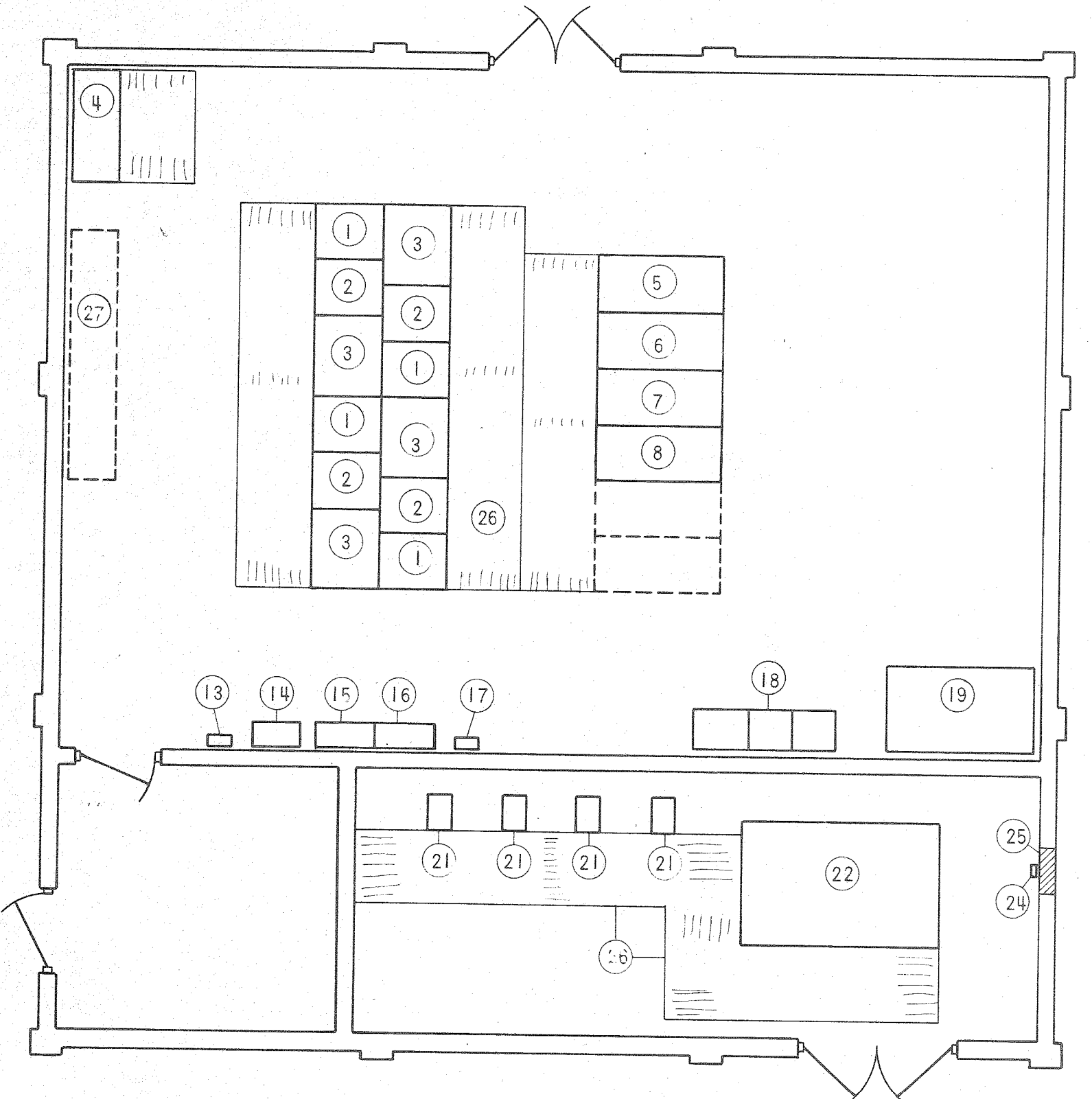
| SCHEDULE - PANEL "P4" | | | | | | |
|------------------------|----------------------------------|-----------------------|-----------|-----------------------|-----------|------------|
| MFR.: GENERAL ELECTRIC | | SERVICE | | FEEDER: 4 #6 | | |
| TYPE: AV LINE | | 120/208V, 3Ø, 4W | | MAIN: 100 AMP, M.L.O. | | |
| CLASS I OR II | | MAIN: 100 AMP, M.L.O. | | | | |
| CKT. NO. | DESCRIPTION | WIRE SIZE | NO. POLES | GE TYPE | TRIP AMPS | LOAD WATTS |
| 1 | BUILDING LIGHTING (EQUIP. ROOM) | 12 | 1 | | 20 | 1,000 |
| 2 | BUILDING LIGHTING (EQUIP. ROOM) | 12 | 1 | | 20 | 1,000 |
| 3 | BUILDING LIGHTING (OFFICE/TRANS) | 12 | 1 | | 20 | 800 |
| 4 | RECEPTACLES (EQUIP. ROOM) | 12 | 1 | | 20 | 600 |
| 5 | RECEPTACLES (OFFICE/TRANS) | 12 | 1 | | 20 | 800 |
| 6 | VENTILATION FAN (TRANS. ROOM) | 12 | 1 | | 20 | 1,000 |
| 7 | BIN SWITCHES | 12 | 1 | | 20 | 1,000 |
| 8 | ANNUNCIATOR PANEL | 12 | 1 | | 20 | 1,000 |
| 9 | SPARE | | 1 | | 20 | 1,000 |
| 10 | SPARE | | 2 | | 20 | 2,000 |
| 11 | SPARE | | 2 | | 20 | 2,000 |
| 12-16 | SPARES | | 1 | | 20 | 5,000 |
| I = 17,200 | | = 53 AMPS | | 17,200 WATTS | | |

| SCHEDULE - LOAD CENTER "M5" | | | | | | |
|-----------------------------|----------------------------------|---------------------|-----------|---------------------|-----------|------------|
| MFR.: GENERAL ELECTRIC | | SERVICE | | FEEDER: 6 - 350 MCM | | |
| TYPE: AV LINE | | 277/480V, 3Ø, 4W | | 2 - 1/0 | | |
| CLASS I OR II | | MAIN: 300 AMP - TJJ | | | | |
| CKT. NO. | DESCRIPTION | WIRE SIZE | NO. POLES | GE TYPE | TRIP AMPS | LOAD WATTS |
| 1 | PANEL "P5" | 6 | 3 | TED | 40 | 17,200 |
| 2 | CONV. 8 LIGHTING | 6 | 3 | | 20 | 3,828 |
| 3 | CONV. 9, TOWERS T5 & T6 LIGHTING | 8 | 2 | | 20 | 4,095 |
| 4 | A/C & HEATING UNIT | 6 | 3 | | 40 | 25,000 |
| 5 | AUX. POWER - STACKER/RECLAIMER | 4 | 3 | | 70 | 58,000 |
| 6 | ROADWAY LIGHTING | 6 | 2 | | 40 | 10,600 |
| 7 | MISC. MCC | 1/0 | 3 | TFJ | 125 | 75,000 |
| 8 | SPARE | | 3 | TED | 60 | 30,000 |
| 9 | SPARE | | 3 | | 20 | 5,000 |
| 10-12 | SPARES | | 3 | | 20 | 15,000 |
| I = 243,723 | | = 326 AMPS | | 243,723 WATTS | | |

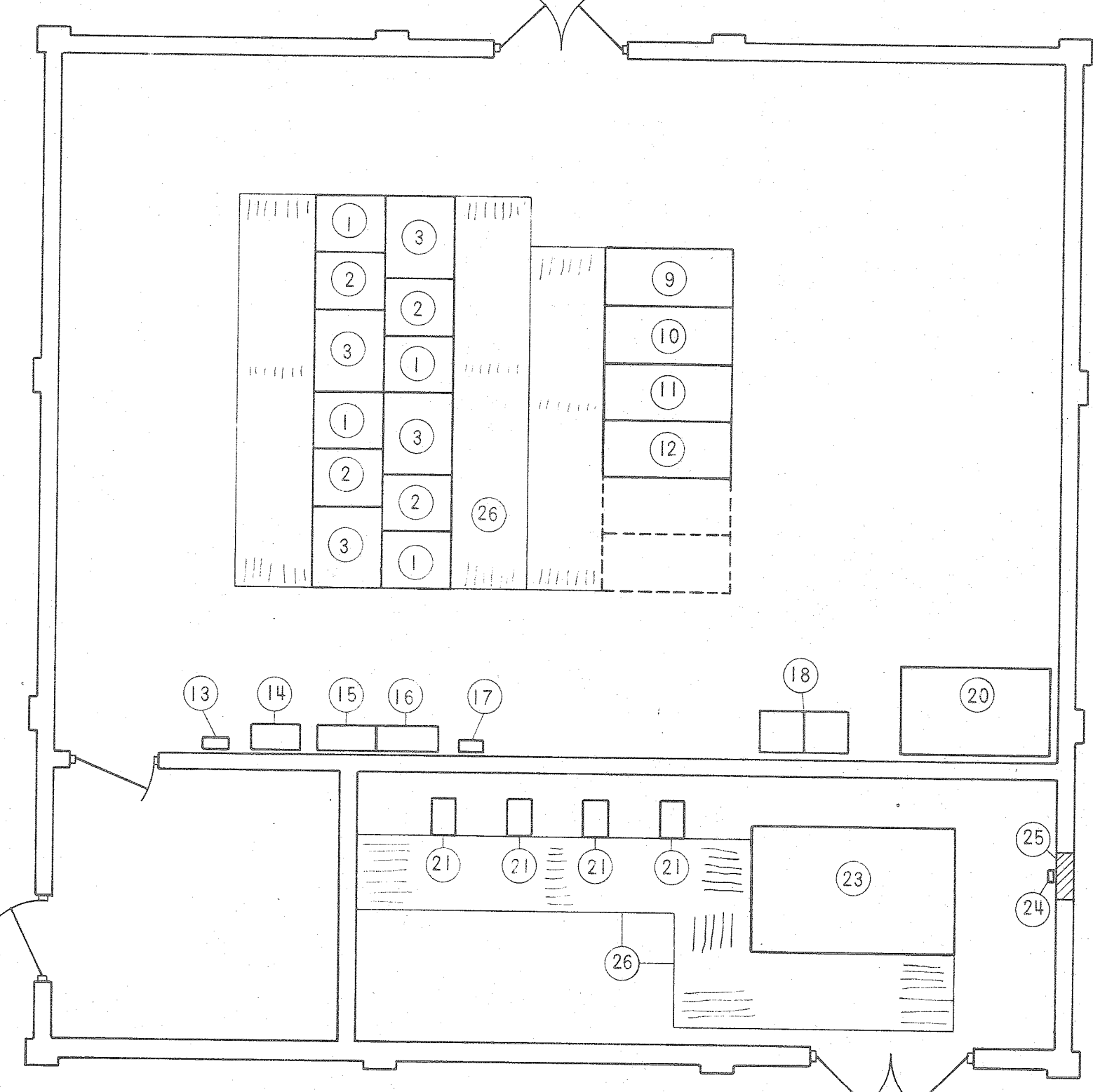
| SCHEDULE - PANEL "P5" | | | | | | |
|------------------------|----------------------------------|-----------------------|-----------|-----------------------|-----------|------------|
| MFR.: GENERAL ELECTRIC | | SERVICE | | FEEDER: 4 #6 | | |
| TYPE: AV LINE | | 120/208V, 3Ø, 4W | | MAIN: 100 AMP, M.L.O. | | |
| CLASS I OR II | | MAIN: 100 AMP, M.L.O. | | | | |
| CKT. NO. | DESCRIPTION | WIRE SIZE | NO. POLES | GE TYPE | TRIP AMPS | LOAD WATTS |
| 1 | BUILDING LIGHTING (EQUIP. ROOM) | 12 | 1 | TQB | 20 | 1,000 |
| 2 | BUILDING LIGHTING (EQUIP. ROOM) | 12 | 1 | | 20 | 1,000 |
| 3 | BUILDING LIGHTING (OFFICE/TRANS) | 12 | 1 | | 20 | 800 |
| 4 | RECEPTACLES (EQUIP. ROOM) | 12 | 1 | | 20 | 600 |
| 5 | RECEPTACLES (OFFICE/TRANS) | 12 | 1 | | 20 | 800 |
| 6 | VENTILATION FAN (TRANS. ROOM) | 12 | 1 | | 20 | 1,000 |
| 7 | ANNUNCIATOR PANEL | 12 | 1 | | 20 | 1,000 |
| 8 | SPARE | | 2 | | 20 | 2,000 |
| 9 | SPARE | | 2 | | 20 | 2,000 |
| 10-16 | SPARES | | 1 | | 20 | 7,000 |
| I = 17,200 | | = 53 AMPS | | 17,200 WATTS | | |

| A.F.E. NO. | SPEC. NO. | CONTRACT NO. | SHEET NO. |
|------------|-----------|--------------|-----------|
| 1365 | 385 | 153.32 | 12 |

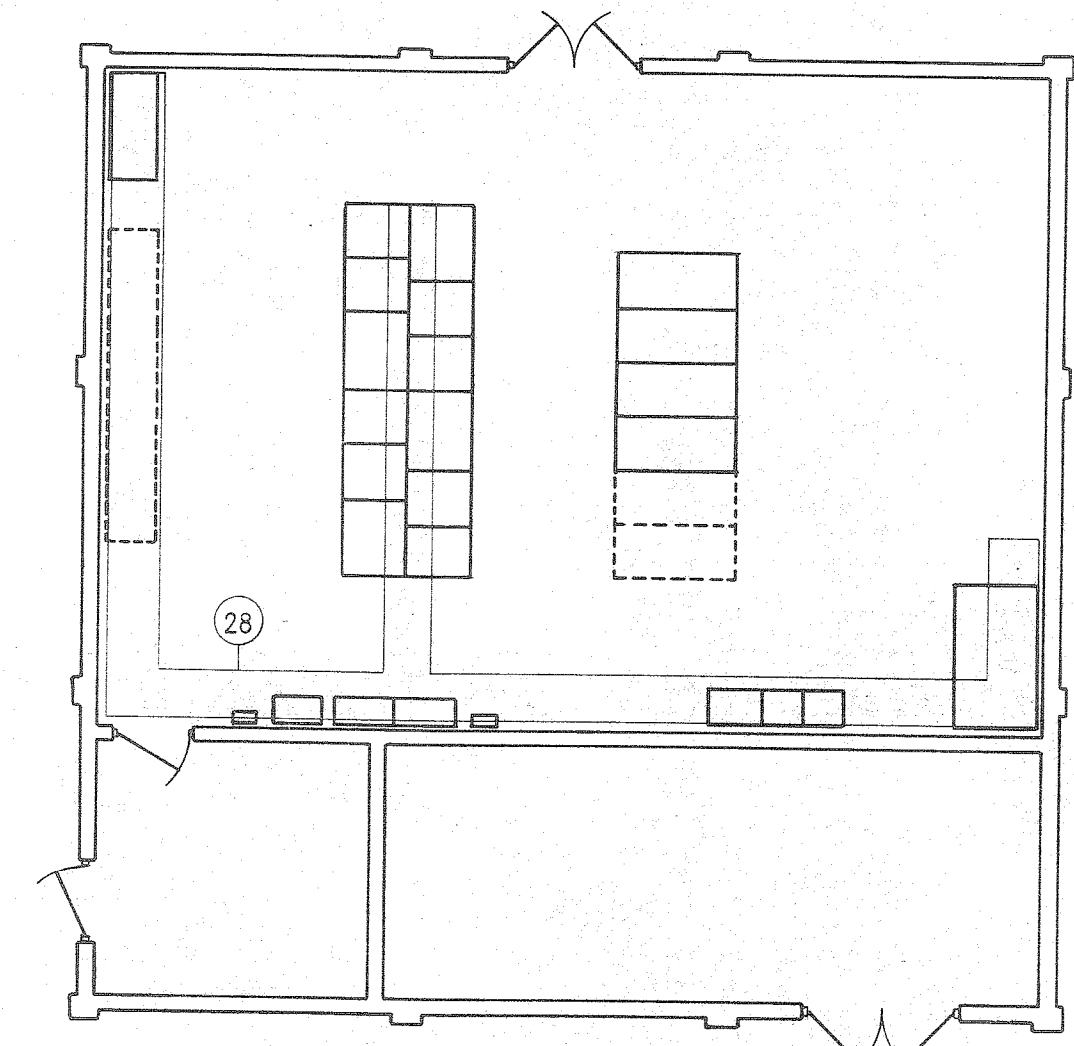
| EQUIPMENT SCHEDULE | | |
|--------------------|--|-----------------------|
| NUMBER | DESCRIPTION | CONTRACTOR TO FURNISH |
| 1 | CONV. DRIVE CONTROLLER (PRI. SECTION) | CONVEYOR |
| 2 | CONV. DRIVE CONTROLLER (SEC. SECTION) | CONVEYOR |
| 3 | CONV. DRIVE CONTROLLER (L.R. SECTION) | CONVEYOR |
| 4 | VIBRATORY FEEDER CONTROLLER | CONVEYOR |
| 5 | INCOMING LINE SECTION, 4160V | FACILITIES |
| 6 | M.C.C. CIRCUIT BREAKER | FACILITIES |
| 7 | BARGE UNLOADER CIRCUIT BREAKER | FACILITIES |
| 8 | TRANSFORMER CIRCUIT BREAKER | FACILITIES |
| 9 | INCOMING LINE SECTION, 1160V | FACILITIES |
| 10 | M.C.C. CIRCUIT BREAKER | FACILITIES |
| 11 | STACKER/RECLAIMER CIRCUIT BREAKER | FACILITIES |
| 12 | TRANSFORMER CIRCUIT BREAKER | FACILITIES |
| 13 | TELEPHONE TERMINAL BOX | TELEPHONE |
| 14 | CONTROL TERMINAL BOX | CONVEYOR |
| 15 | RELAY PANEL | CONVEYOR |
| 16 | ANNUNCIATOR PANEL | CONVEYOR |
| 17 | BIN SWITCH CONTROLS | CONVEYOR |
| 18 | MISCELLANEOUS M.C.C. | CONVEYOR |
| 19 | LOAD CENTER M4, WITH 25 KVA, 3Ø, 480-120/208 DRY TYPE TRANS. | FACILITIES |
| 20 | LOAD CENTER M5, WITH 25 KVA, 3Ø, 480-120/208 DRY TYPE TRANS. | FACILITIES |
| 21 | POWER FACTOR CORRECTING CAPACITORS | FACILITIES |
| 22 | 750 KVA, 4160 - 480 VOLT, 3Ø, 4W DELTA - WYE TRANSFORMER | FACILITIES |
| 23 | 300 KVA, 4160 - 480 VOLT, 3Ø, 4W DELTA - WYE TRANSFORMER | FACILITIES |
| 24 | VENTILATION FAN CONTROLLER | FACILITIES |
| 25 | VENTILATION FAN | FACILITIES |
| 26 | SWITCHBOARD MATTING | FACILITIES |
| 27 | TRAIN POSITIONER (FUTURE) | |
| 28 | CABLE TRAY (24" DIVIDED) | CONVEYOR |



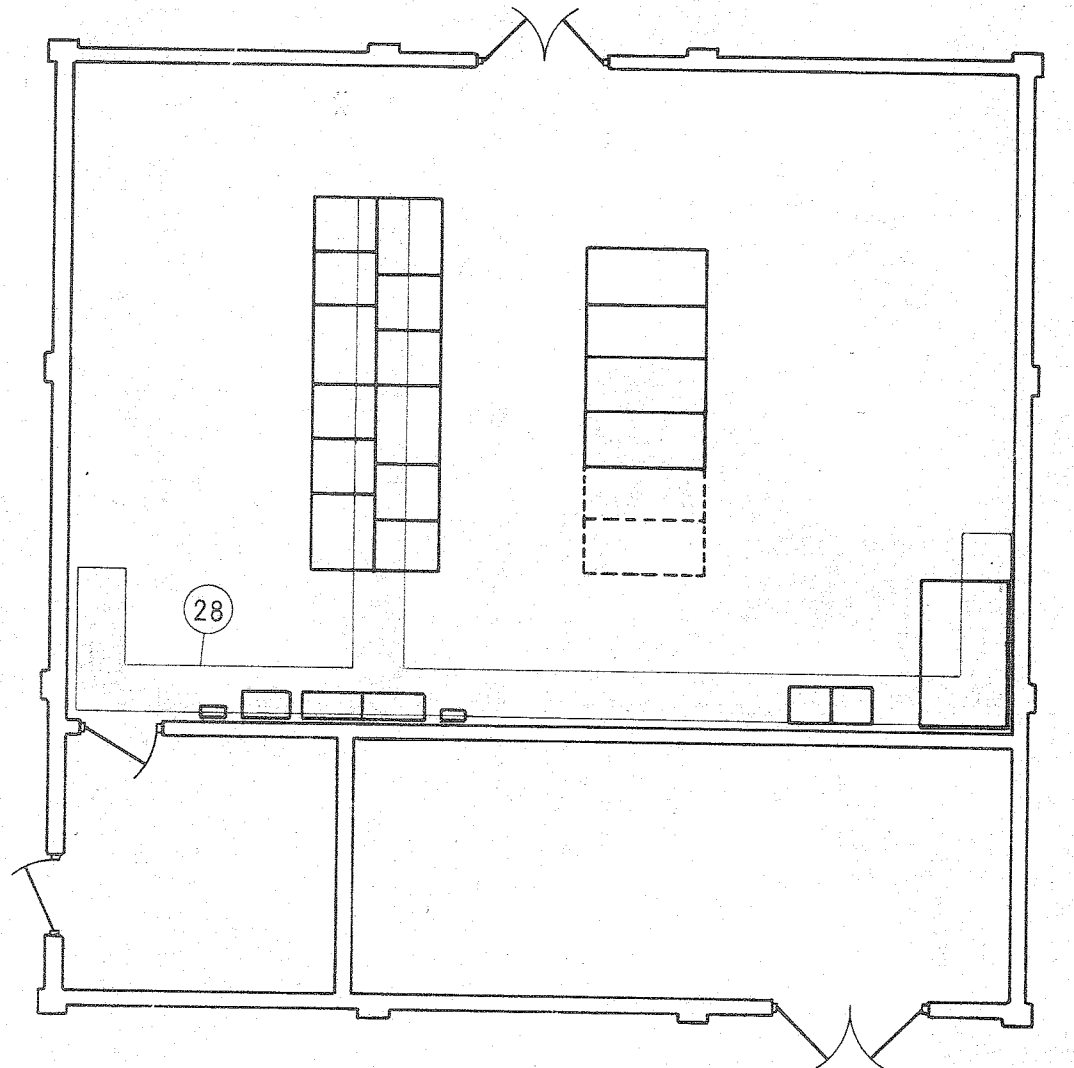
EQUIPMENT LAYOUT
SOUTHWEST CONTROL BLDG.
SCALE: 1/8" = 1'-0"



EQUIPMENT LAYOUT
SOUTHEAST CONTROL BLDG.
SCALE: 1/8" = 1'-0"



CABLE TRAY
SOUTHWEST CONTROL BLDG.
SCALE: 1/8" = 1'-0"



CABLE TRAY
SOUTHEAST CONTROL BLDG.
SCALE: 1/8" = 1'-0"

NOTE: SEE SHEET NO. 9 FOR GROUNDING GRID.

ALABAMA STATE DOCKS
McDUFFIE TERMINALS
PLANT EXPANSION
ELECTRICAL PLAN
CONTROL BUILDING

DAVID VOLKERT & ASSOCIATES
CONSULTING ENGINEERS

| DESIGNED | DETAILED | TRACED |
|----------|----------|--------------|
| C.N.R. | K.E.W. | |
| CHECKED | CHECKED | CHECKED |
| | C.N.R. | |
| DATE | | SHEET NO. 12 |

| A.F.E. NO. | SPEC. NO. | CONTRACT NUMBER | SHEET NO. |
|------------|-----------|-----------------|-----------|
| 1365 | 385 | 153.32 | 13 |

CABLE AND CONDUIT SCHEDULE

| MARK | CONDUIT SIZE | CONDUCTOR SIZE | FROM | TO | CONTRACTOR |
|------|--------------|-----------------|-----------------------------|--------------------------------|------------|
| 1 | 5" | 3C-500MCM | MAIN OFFICE BUILDING | INCOMING LINE UNIT | FACILITIES |
| 2 | 3" | 3C-#1/0 | BARGE UNLOADER C.B. | BARGE UNLOADER | FACILITIES |
| 3 | 3" | 3C-#1/0 | TRANSFORMER C.B. | TRANSFORMER PRIMARY | FACILITIES |
| 4 | 3" | --- | FUTURE SWITCHGEAR | SPARE | FACILITIES |
| 5 | 3" | --- | FUTURE SWITCHGEAR | SPARE | FACILITIES |
| 6 | 3" | 3C-#2/0 | M.C.C. CIRCUIT BREAKER | CONV. #7B CONTROLLER | CONVEYOR |
| 7 | 3" | 3C-#2/0 | M.C.C. CIRCUIT BREAKER | CONV. #10A CONTROLLER | CONVEYOR |
| 8 | 3" | 3C-#2/0 | CONV. #7B CONTROLLER | CONV. #7A CONTROLLER | CONVEYOR |
| 9 | 3" | 3C-#2/0 | CONV. #10A CONTROLLER | CONV. #10B CONTROLLER | CONVEYOR |
| 10 | 1" | ⊕ | CONV. #7B CONTROLLER | P.F. CORRECTIVE CAPACITOR | CONVEYOR |
| 11 | 1" | ⊕ | CONV. #7A CONTROLLER | P.F. CORRECTIVE CAPACITOR | CONVEYOR |
| 12 | 1" | ⊕ | CONV. #10B CONTROLLER | P.F. CORRECTIVE CAPACITOR | CONVEYOR |
| 13 | 1" | ⊕ | CONV. #10A CONTROLLER | P.F. CORRECTIVE CAPACITOR | CONVEYOR |
| 14 | 2" | 3C-#6 | CONV. #10A CONTROLLER (PRI) | CONV. #10A MOTOR (PRI) | CONVEYOR |
| 15 | 3" | ⊕ | CONV. #10A CONTROLLER (SEC) | CONV. #10A MOTOR (SEC) | CONVEYOR |
| 16 | 2" | 3C-#6 | CONV. #7B CONTROLLER (PRI) | CONV. #7B MOTOR (PRI) | CONVEYOR |
| 17 | 3" | ⊕ | CONV. #7B CONTROLLER (SEC) | CONV. #7B MOTOR (SEC) | CONVEYOR |
| 18 | 2" | 3C-#6 | CONV. #10B CONTROLLER (PRI) | CONV. #10B MOTOR (PRI) | CONVEYOR |
| 19 | 3" | ⊕ | CONV. #10B CONTROLLER (SEC) | CONV. #10B MOTOR (SEC) | CONVEYOR |
| 20 | 2" | 3C-#6 | CONV. #7A CONTROLLER (PRI) | CONV. #7A MOTOR (PRI) | CONVEYOR |
| 21 | 3" | ⊕ | CONV. #7A CONTROLLER (SEC) | CONV. #7A MOTOR (SEC) | CONVEYOR |
| 22 | 1" | 1C-#3/0 | SWITCHGEAR GROUND | GROUND GRID | FACILITIES |
| 23 | 1" | 1C-#3/0 | GROUND, TRANS. ROOM | GROUND GRID | FACILITIES |
| 24 | 1" | 1C-#3/0 | GROUND, TRANS. PRIMARY | GROUND, TRANS. ROOM | FACILITIES |
| 25 | 1" | 1C-#3/0 | GROUND, TRANS. SECONDARY | GROUND, TRANS. ROOM | FACILITIES |
| 26 | 1 1/2" | ⊕ | VIBRATORY FEEDER CONTROLLER | VIBRATORY FEEDER MOTOR #1 | CONVEYOR |
| 27 | 1 1/2" | ⊕ | VIBRATORY FEEDER CONTROLLER | VIBRATORY FEEDER MOTOR #2 | CONVEYOR |
| 28 | 1 1/2" | ⊕ | VIBRATORY FEEDER CONTROLLER | VIBRATORY FEEDER MOTOR #3 | CONVEYOR |
| 29 | 1 1/2" | ⊕ | VIBRATORY FEEDER CONTROLLER | VIBRATORY FEEDER MOTOR #4 | CONVEYOR |
| 30 | 1 1/2" | ⊕ | VIBRATORY FEEDER CONTROLLER | VIBRATORY FEEDER MOTOR #5 | CONVEYOR |
| 31 | 1 1/2" | ⊕ | VIBRATORY FEEDER CONTROLLER | VIBRATORY FEEDER MOTOR #6 | CONVEYOR |
| 32 | 1 1/2" | ⊕ | VIBRATORY FEEDER CONTROLLER | SPARE | CONVEYOR |
| 33 | 1 1/2" | ⊕ | VIBRATORY FEEDER CONTROLLER | SPARE | CONVEYOR |
| 34 | 3" | ⊕ | CONV. #11 CONTROLLER (PRI) | CONV. #11 MOTOR (PRI) | CONVEYOR |
| 35 | 3" | ⊕ | CONV. #11 CONTROLLER (SEC) | CONV. #11 MOTOR (SEC) | CONVEYOR |
| 36 | 2" | 3-3C#8 | CABLE TRAY DROP | CONV. & TRANS. TOWER LTG. CKT. | CONVEYOR |
| 37 | 2" | ⊕ | CABLE TRAY DROP | MAGNETIC SEPR. @ SURGE BIN | CONVEYOR |
| 38 | 1" | ⊕ | CABLE TRAY DROP | FLOP GATE HYDRAULIC UNIT | CONVEYOR |
| 39 | 2" | ⊕ | CABLE TRAY DROP | CONV. #7,10,11 CONTROL CKTS. | CONVEYOR |
| 40 | 3" | ⊕ | CONTROL TERMINAL BOX | SOUTHEAST M.C.C./SOUTH S/R | CONVEYOR |
| 41 | 3" | ⊕ | CONTROL TERMINAL BOX | SOUTH BARGE UNLOADER-TB 10 | CONVEYOR |
| 42 | 3" | ⊕ | CONTROL TERMINAL BOX | WEST CONTROL BUILDING | CONVEYOR |
| 43 | 2" | --- | FUTURE | SPARE | --- |
| 44 | 3" | --- | FUTURE | SPARE | --- |
| 45 | 3" | --- | FUTURE | SPARE | --- |
| 46 | 2" | --- | FUTURE | SPARE | --- |
| 47 | 3" | 3C#350MCM,1#4/0 | TRANSFORMER SECONDARY | LOAD CENTER "MH" | FACILITIES |
| 48 | 3" | 3C#350MCM,1#4/0 | TRANSFORMER SECONDARY | LOAD CENTER "MH" | FACILITIES |
| 49 | 3" | 3C#350MCM,1#4/0 | TRANSFORMER SECONDARY | LOAD CENTER "MH" | FACILITIES |
| 50 | 1" | 3C-#12 | PANEL "PB" | VENTILATION FAN, TRANS. ROOM | FACILITIES |
| 51 | 1" | 3C-#6 | LOAD CENTER "MH" | ROADWAY LIGHTING | FACILITIES |
| 52 | 1" | --- | LOAD CENTER "MH" | SPARE | --- |
| 53 | 1" | --- | LOAD CENTER "MH" | SPARE | --- |
| 54 | 2" | --- | LOAD CENTER "MH" | SPARE | --- |
| 55 | 2" | --- | LOAD CENTER "MH" | SPARE | --- |
| 56 | 2" | --- | CABLE TRAY DROP | SPARE | --- |
| 57 | 2" | --- | CABLE TRAY DROP | SPARE | --- |
| 58 | 1" | --- | CABLE TRAY DROP | SPARE | --- |
| 59 | 1" | --- | CABLE TRAY DROP | SPARE | --- |
| 60 | 3" | --- | FUTURE | SPARE | --- |
| 61 | 3" | --- | FUTURE | SPARE | --- |
| 62 | 1 1/2" | ⊕ | TELEPHONE TERMINAL BOX | PLANT PBX (MAIN OFF. BLDG.) | TELEPHONE |
| 63 | 1 1/2" | 3C-#8 | CABLE TRAY DROP | WIRE ROPE HOISTS, SURGE BIN | CONVEYOR |
| 64 | 1 1/2" | ⊕ | CABLE TRAY DROP | FEEDER GATES - SURGE BIN | CONVEYOR |
| 65 | 1 1/2" | --- | CABLE TRAY DROP | SPARE | --- |

⊕ PENDING SHOP DRAWINGS

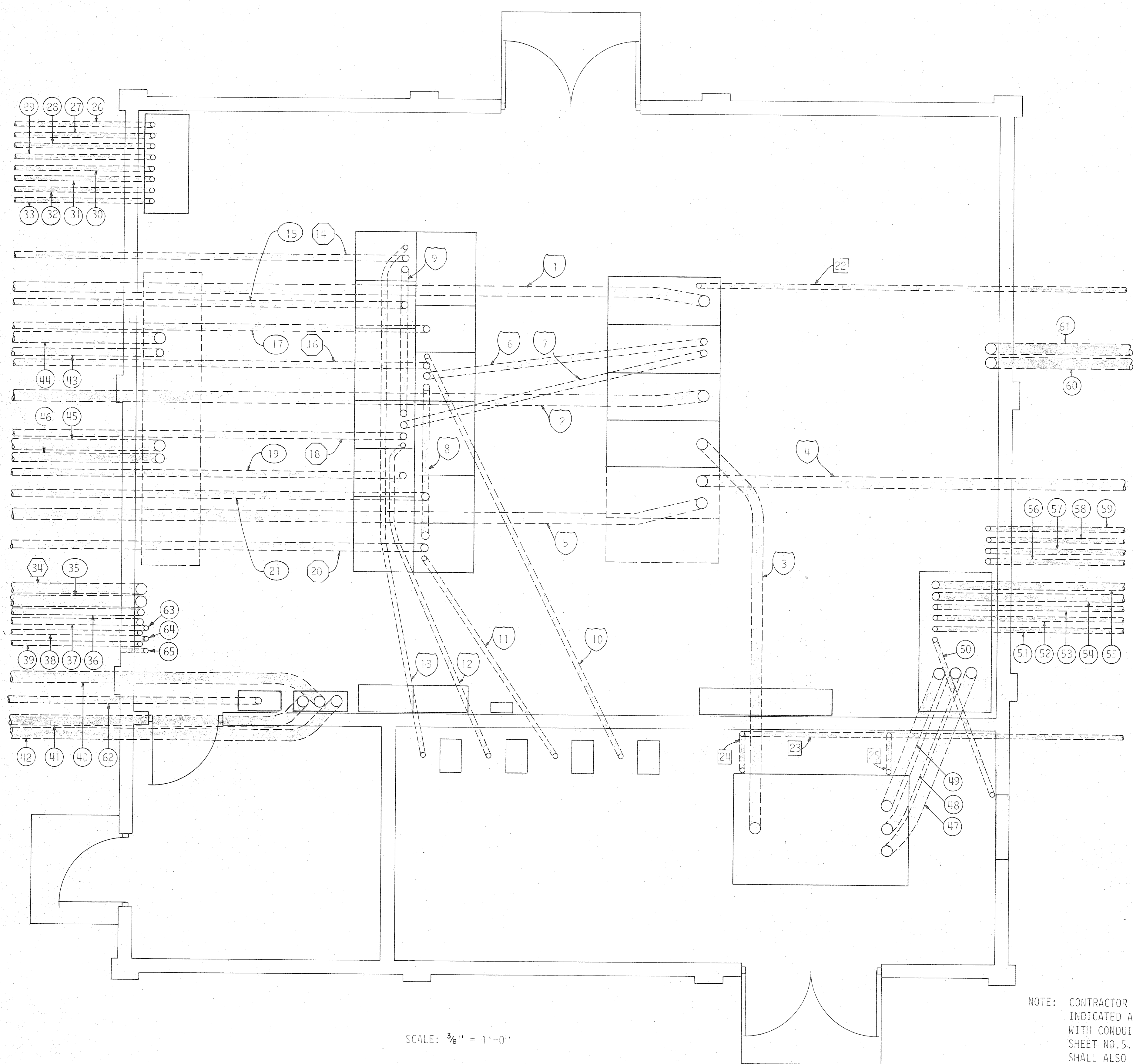
NOTE: ALL CONDUIT SHALL BE INSTALLED BY FACILITIES CONTRACTOR.
 "THE FACILITIES CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUITS AND STUB-UPS TO A POINT FIVE (5) FEET OUTSIDE THE CONTROL CENTERS. THE CONVEYOR CONTRACTOR SHALL THEN INSTALL ALL CONDUITS, DUCTBANKS, AND RISERS TO THE LOCATIONS SHOWN ON THE PLANS."

- ⊕ 4160 VOLT FEEDER CIRCUITS
- ⊕ MOTOR CIRCUITS (PRI.)
- ⊕ MOTOR CIRCUITS (SEC.)
- ⊕ LOW VOLTAGE CIRCUITS
- ⊕ GROUNDING CIRCUITS

ALABAMA STATE DOCKS
McDUFFIE TERMINALS
PLANT EXPANSION
SOUTHWEST CONTROL BUILDING
CONDUIT AND EQUIPMENT LAYOUT

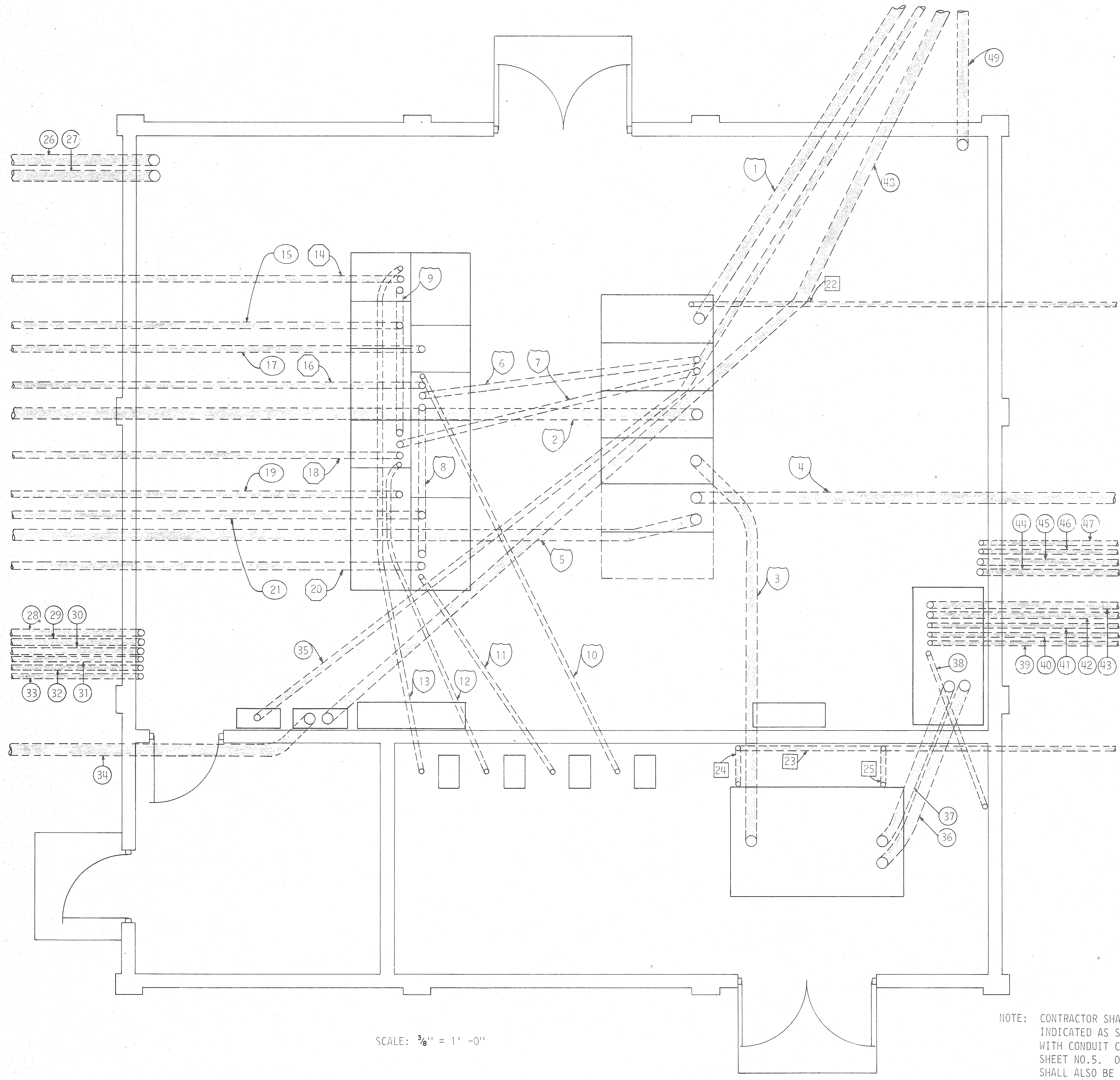
DAVID VOLKERT & ASSOCIATES
 CONSULTING ENGINEERS

| | | | | |
|----------|--------|----------|--------|--------------|
| DESIGNED | C.N.R. | DETAILED | V.M.B. | TRACED |
| CHECKED | C.N.R. | CHECKED | C.N.R. | CHECKED |
| DATE | | DATE | | SHEET NO. 13 |



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

NOTE: CONTRACTOR SHALL CAP ALL CONDUITS INDICATED AS SPARE IN ACCORDANCE WITH CONDUIT CAPPING DETAIL ON SHEET NO.5. OTHER END OF CONDUIT SHALL ALSO BE PLUGGED.



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

NOTE: CONTRACTOR SHALL CAP ALL CONDUITS INDICATED AS SPARE IN ACCORDANCE WITH CONDUIT CAPPING DETAIL ON SHEET NO. 5. OTHER END OF CONDUIT SHALL ALSO BE PLUGGED.

CABLE AND CONDUIT SCHEDULE

| MARK | CONDUIT SIZE | CONDUCTOR SIZE | FROM | TO | CONTRACTOR |
|------|--------------|-----------------|---------------------------|-------------------------------|------------|
| 1 | 5" | 3C-500MCM | MAIN OFFICE BUILDING | INCOMING LINE UNIT | FACILITIES |
| 2 | 3" | 3C-#1/0 | STACKER/RECLAIMER C.B. | STACKER/RECLAIMER | FACILITIES |
| 3 | 3" | 3C-#1/0 | TRANSFORMER C.B. | TRANSFORMER PRIMARY | FACILITIES |
| 4 | 3" | --- | FUTURE SWITCHGEAR | SPARE | FACILITIES |
| 5 | 3" | --- | FUTURE SWITCHGEAR | SPARE | FACILITIES |
| 6 | 3" | 3C-#2/0 | M.C.C. CIRCUIT BREAKER | CONV.#8B CONTROLLER | CONVEYOR |
| 7 | 3" | 3C-#2/0 | M.C.C. CIRCUIT BREAKER | CONV.#9A CONTROLLER | CONVEYOR |
| 8 | 3" | 3C-#2/0 | CONV.#8B CONTROLLER | CONV.#8A CONTROLLER | CONVEYOR |
| 9 | 3" | 3C-#2/0 | CONV.#9A CONTROLLER | CONV.#9B CONTROLLER | CONVEYOR |
| 10 | 1" | 5 | CONV.#8B CONTROLLER | P.F. CORRECTING CAPACITOR | CONVEYOR |
| 11 | 1" | 5 | CONV.#8A CONTROLLER | P.F. CORRECTING CAPACITOR | CONVEYOR |
| 12 | 1" | 5 | CONV.#9B CONTROLLER | P.F. CORRECTING CAPACITOR | CONVEYOR |
| 13 | 1" | 5 | CONV.#9A CONTROLLER | P.F. CORRECTING CAPACITOR | CONVEYOR |
| 14 | 2" | 3C-#6 | CONV.#9A CONTROLLER (PRI) | CONV.#9A MOTOR (PRI) | CONVEYOR |
| 15 | 3" | 5 | CONV.#9A CONTROLLER (SEC) | CONV.#9A MOTOR (SEC) | CONVEYOR |
| 16 | 2" | 3C-#6 | CONV.#8B CONTROLLER (PRI) | CONV.#8B MOTOR (PRI) | CONVEYOR |
| 17 | 3" | 5 | CONV.#8B CONTROLLER (SEC) | CONV.#8B MOTOR (SEC) | CONVEYOR |
| 18 | 2" | 3C-#6 | CONV.#9B CONTROLLER (PRI) | CONV.#9B MOTOR (PRI) | CONVEYOR |
| 19 | 3" | 5 | CONV.#9B CONTROLLER (SEC) | CONV.#9B MOTOR (SEC) | CONVEYOR |
| 20 | 2" | 3C-#6 | CONV.#8A CONTROLLER (PRI) | CONV.#8A MOTOR (PRI) | CONVEYOR |
| 21 | 3" | 5 | CONV.#8A CONTROLLER (SEC) | CONV.#8A MOTOR (SEC) | CONVEYOR |
| 22 | 1" | 1C-#3/0 | SWITCHGEAR GROUND | GROUND GRID | FACILITIES |
| 23 | 1" | 1C-#3/0 | GROUND, TRANS. ROOM | GROUND GRID | FACILITIES |
| 24 | 1" | 1C-#3/0 | GROUND, TRANS. PRIMARY | GROUND, TRANS. ROOM | FACILITIES |
| 25 | 1" | 1C-#3/0 | GROUND, TRANS. SECONDARY | GROUND, TRANS. ROOM | FACILITIES |
| 26 | 3" | --- | FUTURE | SPARE | --- |
| 27 | 3" | --- | FUTURE | SPARE | --- |
| 28 | 2" | 3C-#6, 3C-#8 | CABLE TRAY DROP | CONV. & TRANS. TOWER LTG. GKT | CONVEYOR |
| 29 | 2" | 4C-#4 | CABLE TRAY DROP | AUX. POWER-STACKER/RECLAIMER | CONVEYOR |
| 30 | 2" | --- | CABLE TRAY DROP | SPARE | --- |
| 31 | 1" | 3C-#6 | CABLE TRAY DROP | ROADWAY LIGHTING | FACILITIES |
| 32 | 1" | 3C-#8 | CABLE TRAY DROP | CONV. #9 BELT CLEANER | CONVEYOR |
| 33 | 1" | --- | CABLE TRAY DROP | SPARE | --- |
| 34 | 3" | --- | CONTROL TERMINAL BOX | SOUTHWEST M.C.C./SOUTH S/R | CONVEYOR |
| 35 | 2" | 5 | TELEPHONE TERMINAL BOX | EAST M.C.C. | TELEPHONE |
| 36 | 3" | 3C-350MCM, #4/0 | TRANSFORMER SECONDARY | LOAD CENTER "M5" | FACILITIES |
| 37 | 3" | 3C-350MCM, #4/0 | TRANSFORMER SECONDARY | LOAD CENTER "M5" | FACILITIES |
| 38 | 1" | 3C-#12 | POWER PANEL "P5" | VENTILATION FAN, TRANS. ROOM | FACILITIES |
| 39 | 1" | --- | POWER PANEL "P5" | SPARE | --- |
| 40 | 1" | --- | POWER PANEL "P5" | SPARE | --- |
| 41 | 1" | --- | POWER PANEL "P5" | SPARE | --- |
| 42 | 2" | --- | POWER PANEL "P5" | SPARE | --- |
| 43 | 2" | --- | POWER PANEL "P5" | SPARE | --- |
| 44 | 2" | --- | CABLE TRAY DROP | SPARE | --- |
| 45 | 2" | --- | CABLE TRAY DROP | SPARE | --- |
| 46 | 1" | --- | CABLE TRAY DROP | SPARE | --- |
| 47 | 1" | --- | CABLE TRAY DROP | SPARE | --- |
| 48 | 4" | --- | CONTROL TERMINAL BOX | EAST MCC, MAIN OFFICE BLDG. | CONVEYOR |
| 49 | 4" | --- | FUTURE | SPARE | --- |

⊛ PENDING SHOP DRAWINGS

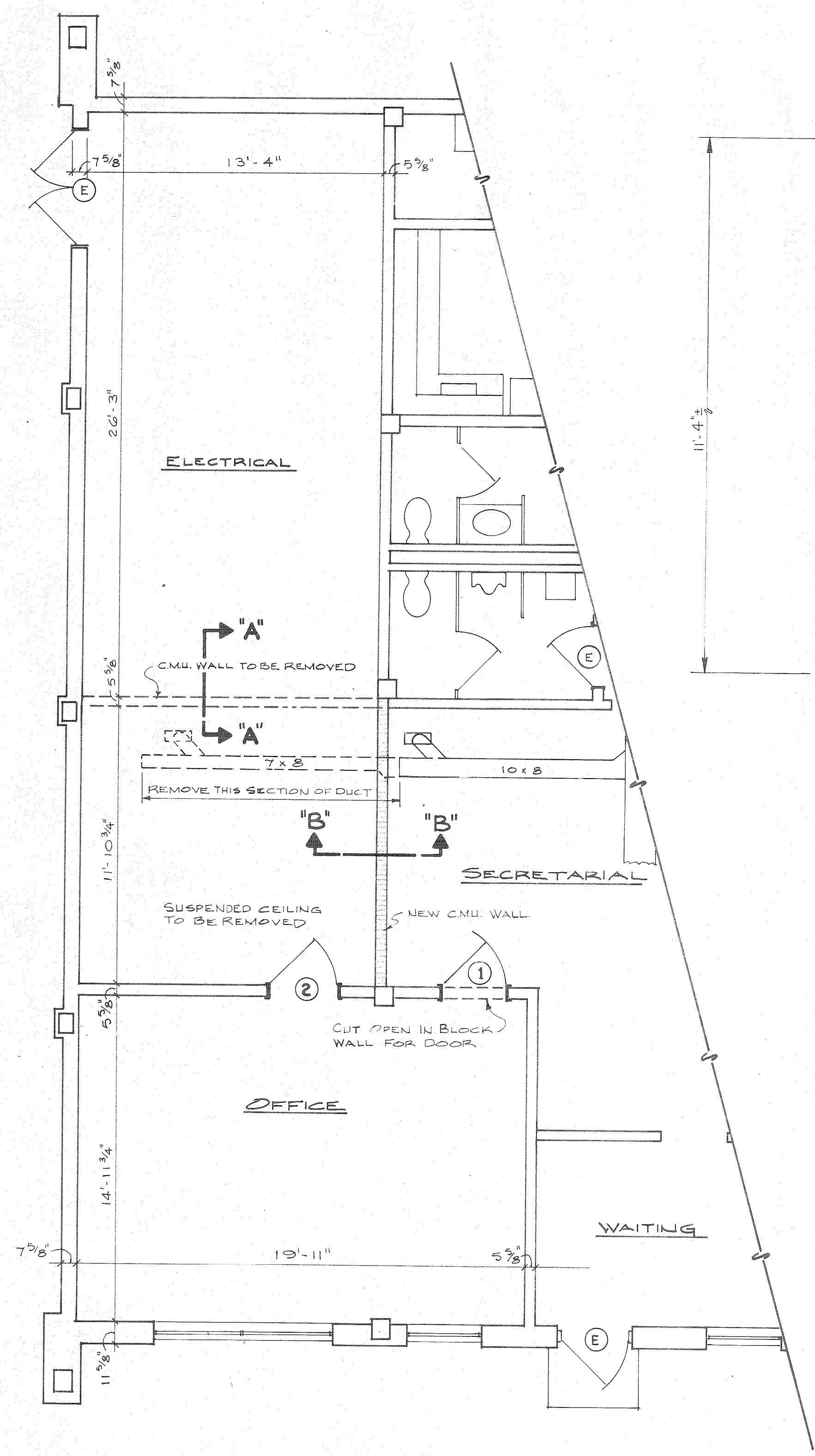
NOTE: ALL CONDUIT SHALL BE INSTALLED BY FACILITIES CONTRACTOR.
 "THE FACILITIES CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUITS AND STUB-UPS TO A POINT FIVE (5) FEET OUTSIDE THE CONTROL CENTERS. THE CONVEYOR CONTRACTOR SHALL THEN INSTALL ALL CONDUITS, DUCTBANKS, AND RISERS TO THE LOCATIONS SHOWN ON THE PLANS."

- ⬡ 4160 VOLT FEEDER CIRCUITS
- ⊙ MOTOR CIRCUITS (PRI)
- ⊖ MOTOR CIRCUITS (SEC)
- ⊕ LOW VOLTAGE CIRCUITS
- ⊠ GROUNDING CIRCUITS

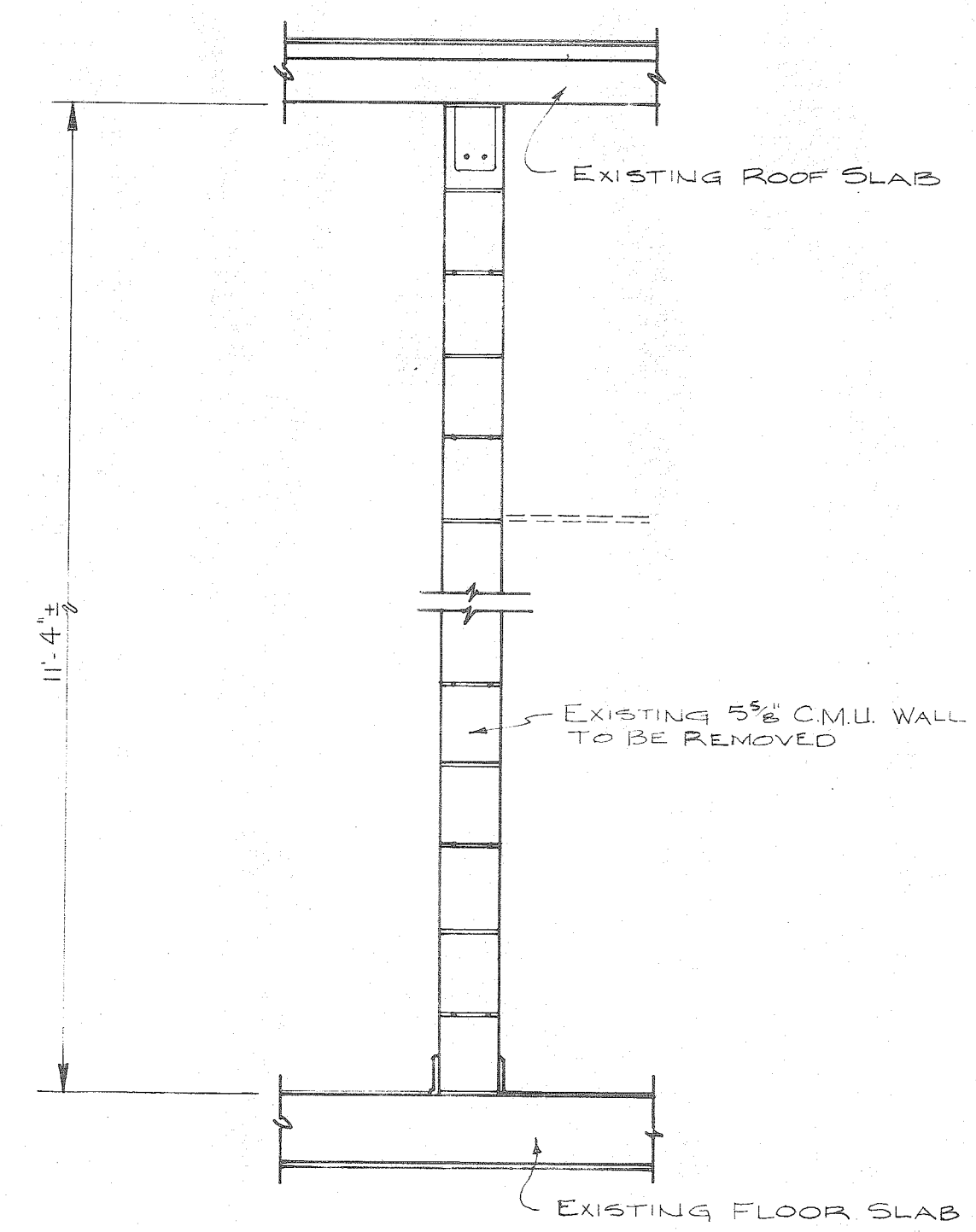
ALABAMA STATE DOCKS
Mc DUFFIE TERMINALS
PLANT EXPANSION
SOUTHEAST CONTROL BUILDING
CONDUIT AND EQUIPMENT LAYOUT

DAVID VOLKERT & ASSOCIATES
 CONSULTING ENGINEERS

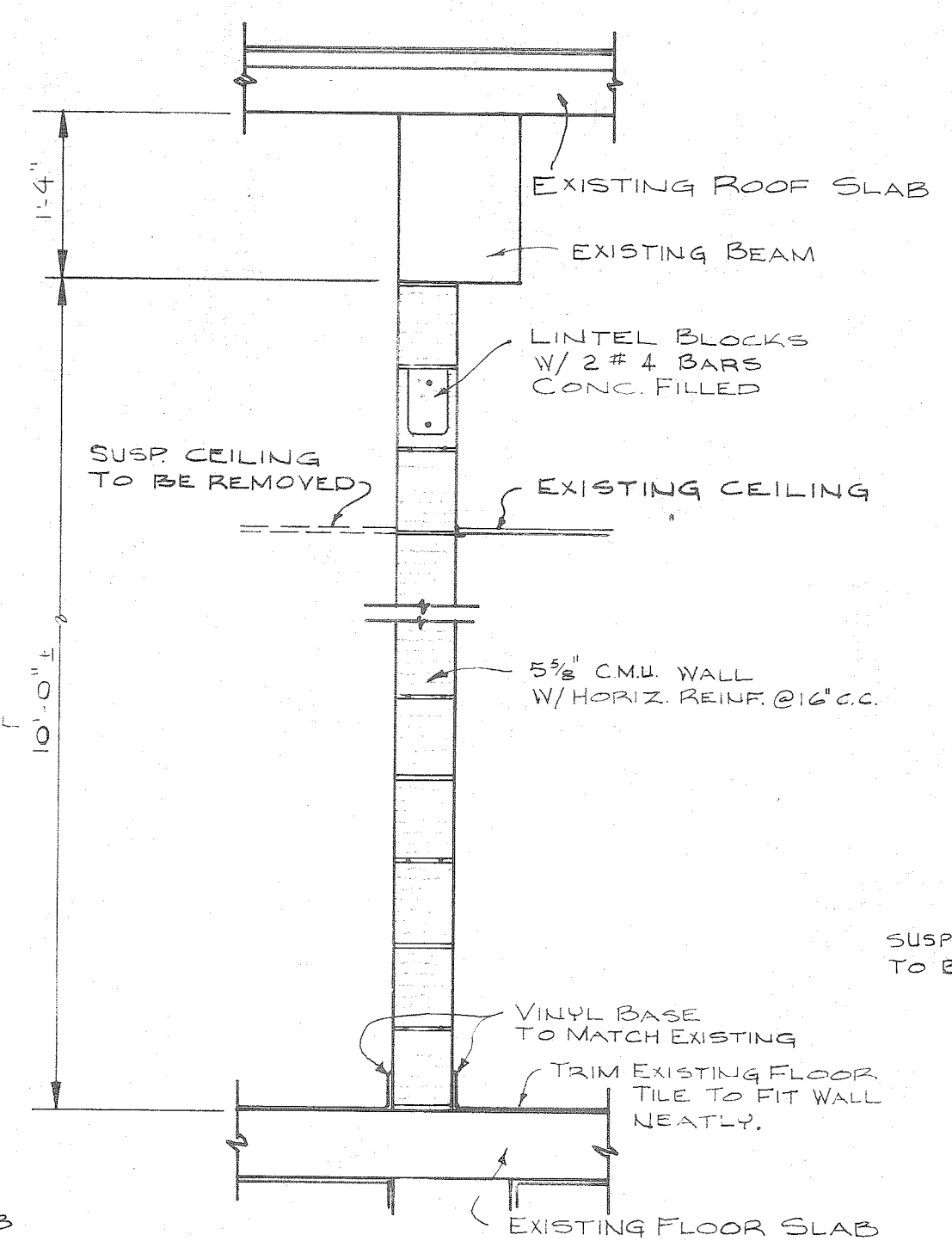
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|----------|--------|----------|--------|--------------|
| DESIGNED | C.N.R. | DETAILED | V.M.B. | TRACED |
| CHECKED | | CHECKED | C.N.R. | CHECKED |
| DATE | | | | SHEET NO. 14 |



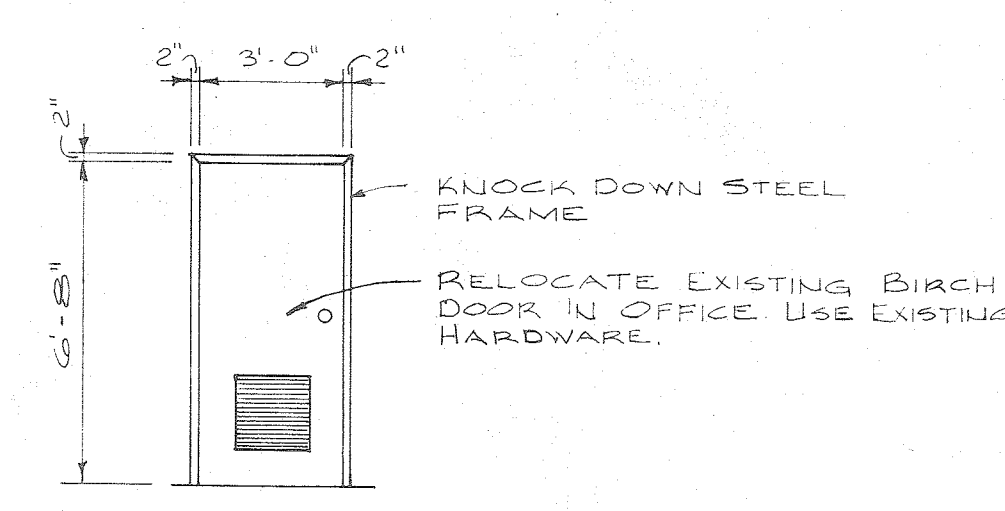
MAIN OFFICE FLOOR PLAN
SCALE: 1/8" = 1'-0"



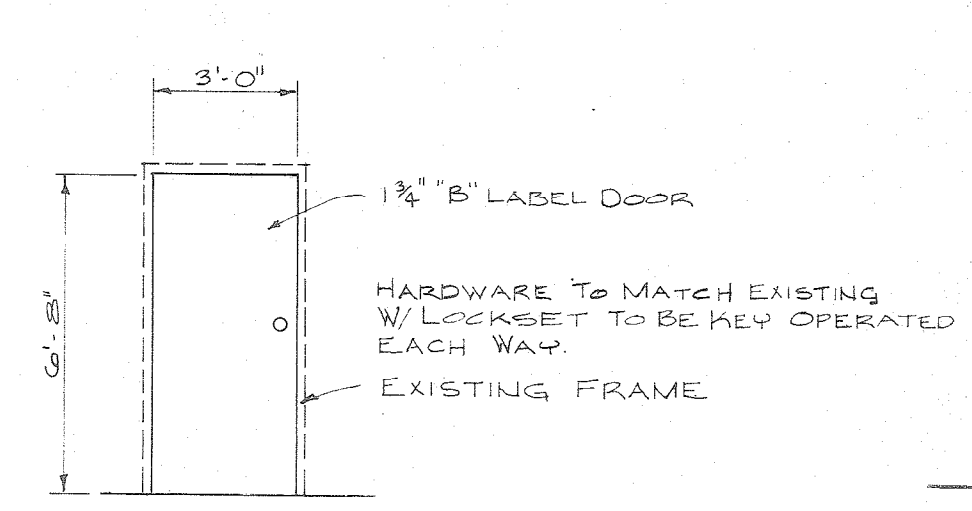
SECTION "A-A"
SCALE: 3/4" = 1'-0"



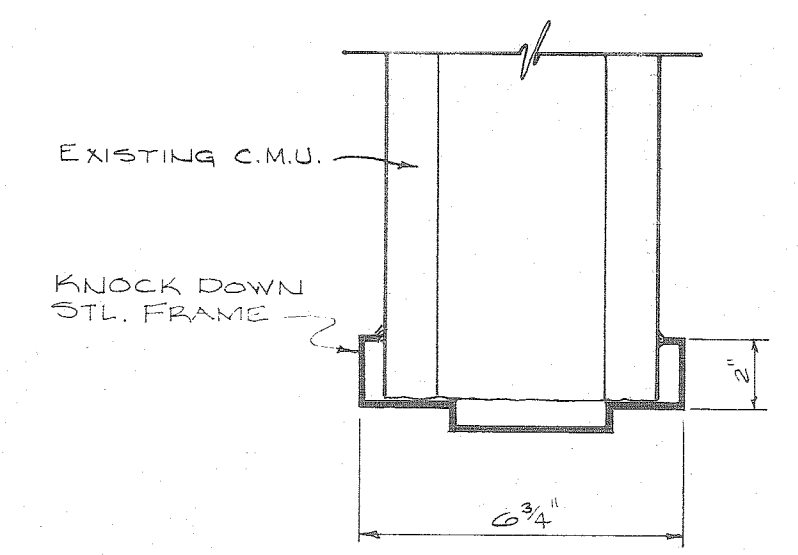
SECTION "B-B"
SCALE: 3/4" = 1'-0"



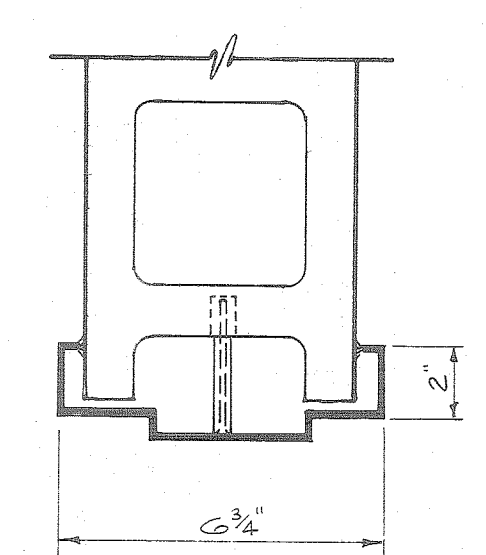
DOOR # 1
SCALE: 1/4" = 1'-0"



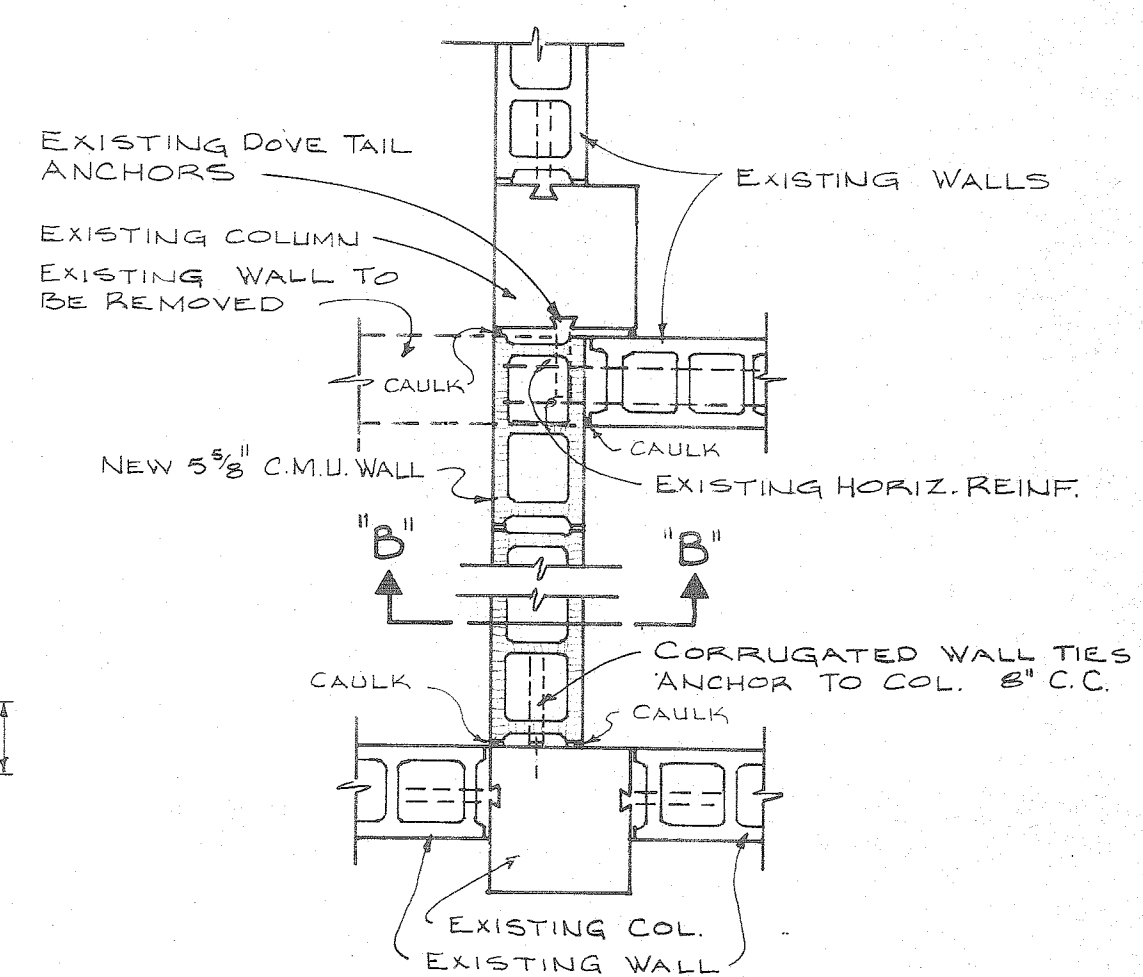
DOOR # 2
SCALE: 1/4" = 1'-0"



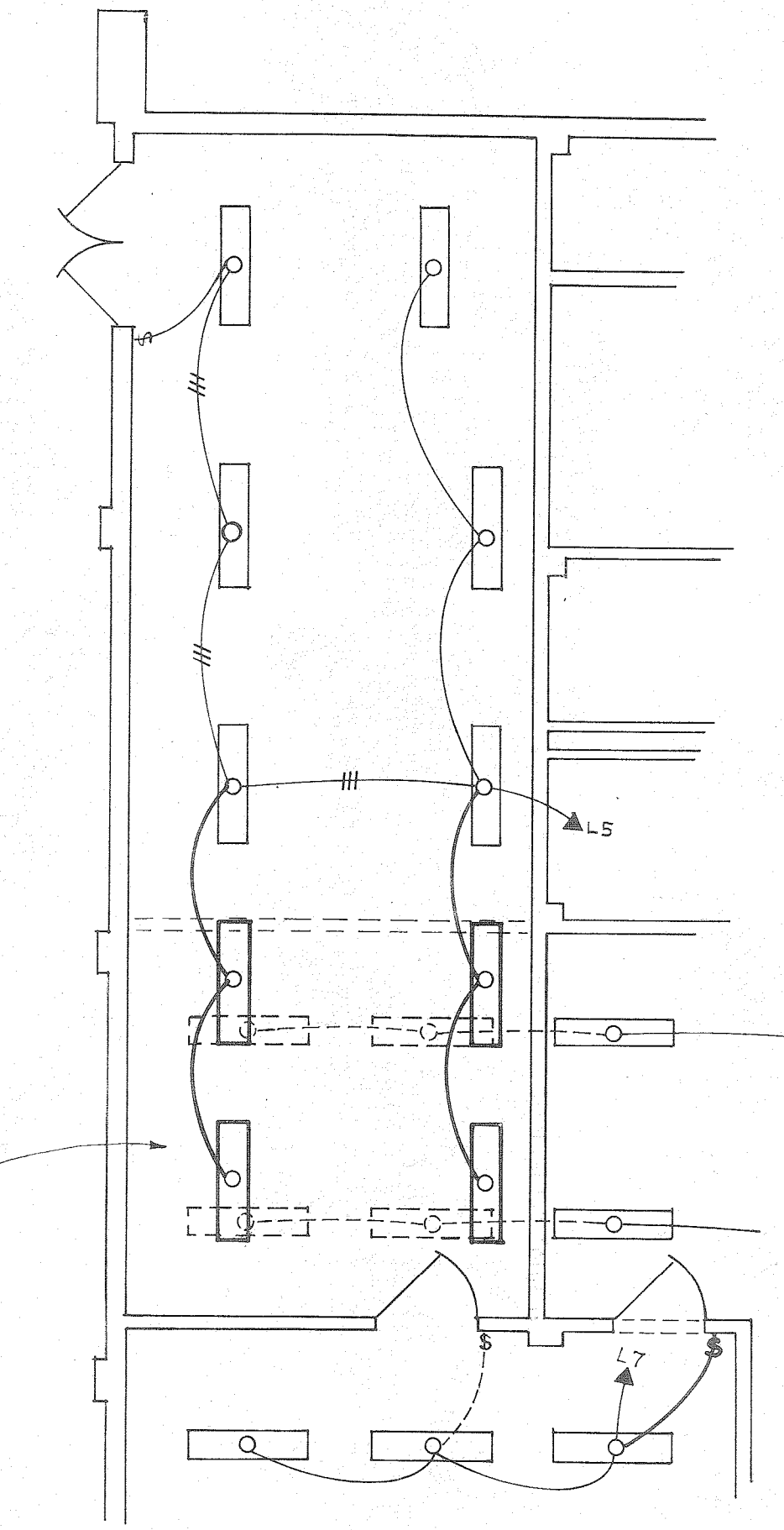
HEAD
Sc. 3/4" = 1'-0"



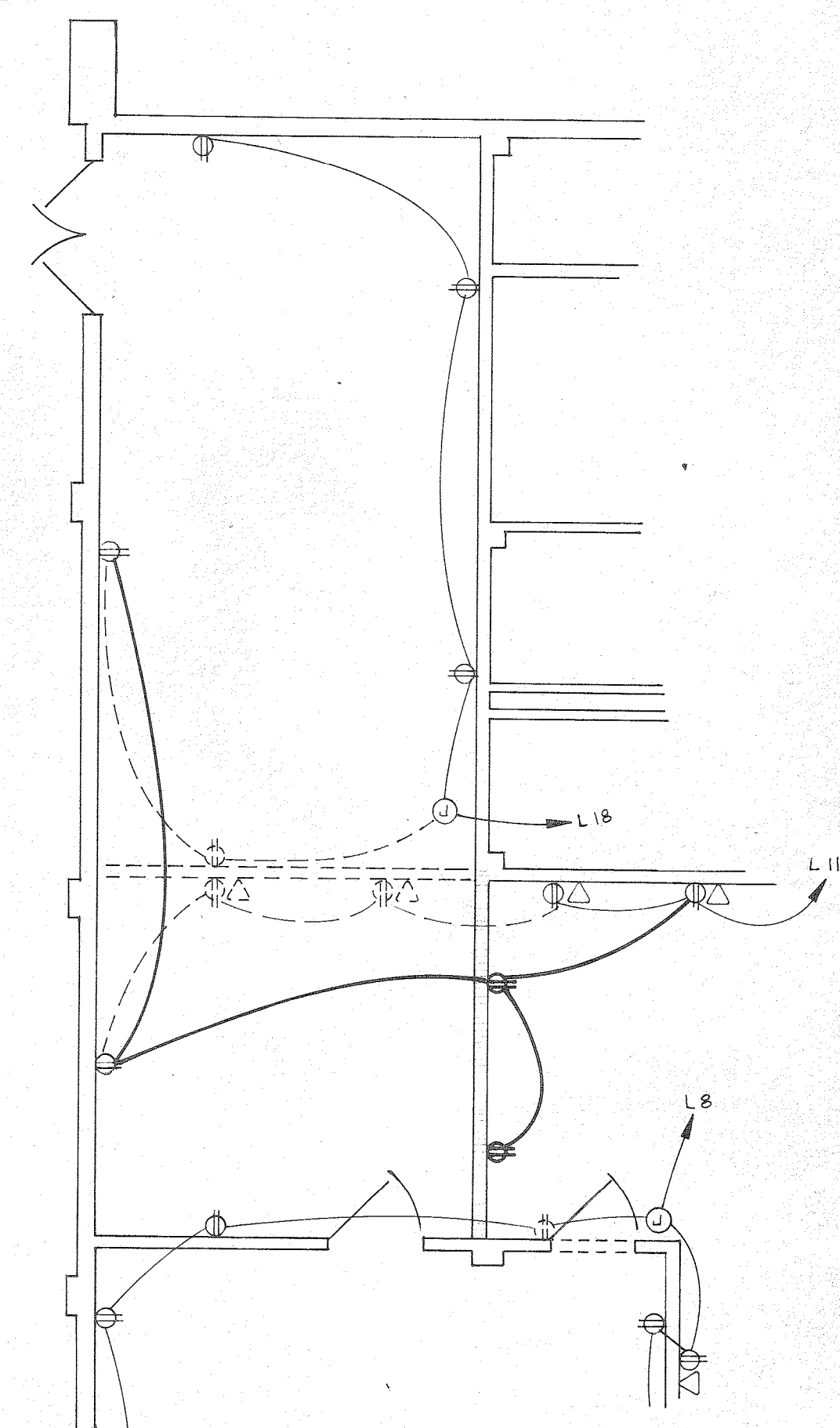
JAMB
Sc. 3/4" = 1'-0"



COL. CONNECTION DETAILS
SCALE: 3/4" = 1'-0"



LIGHTING PLAN
SCALE: 3/16" = 1'-0"



POWER PLAN
SCALE: 3/16" = 1'-0"

ALABAMA STATE DOCKS
Mc DUFFIE TERMINALS
PLANT EXPANSION

MAIN OFFICE REVISIONS

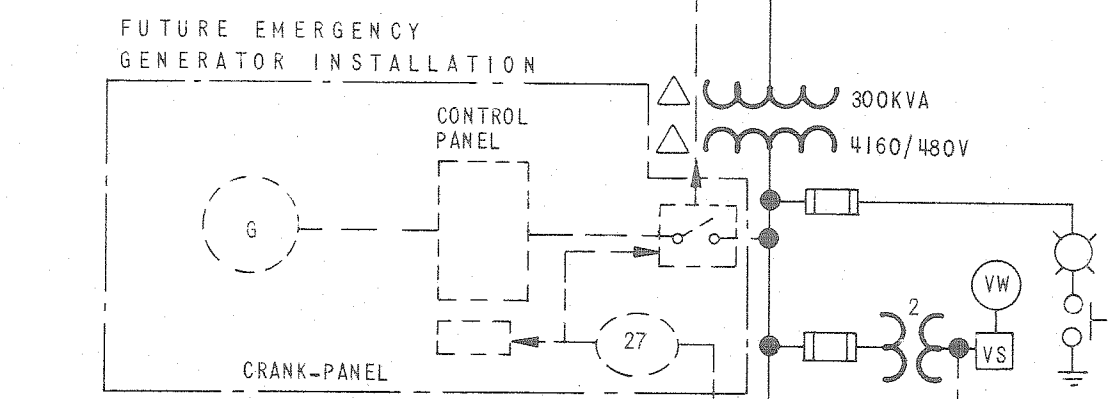
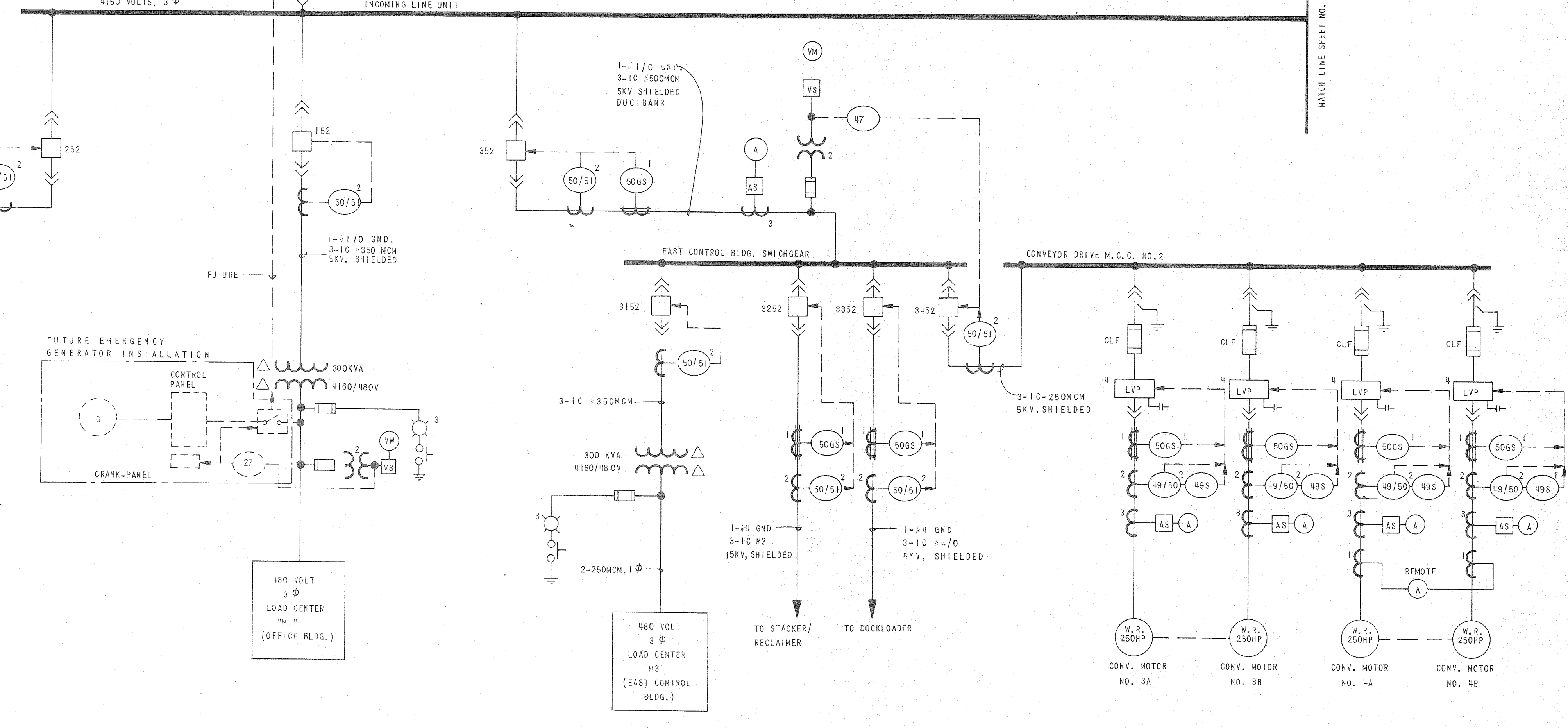
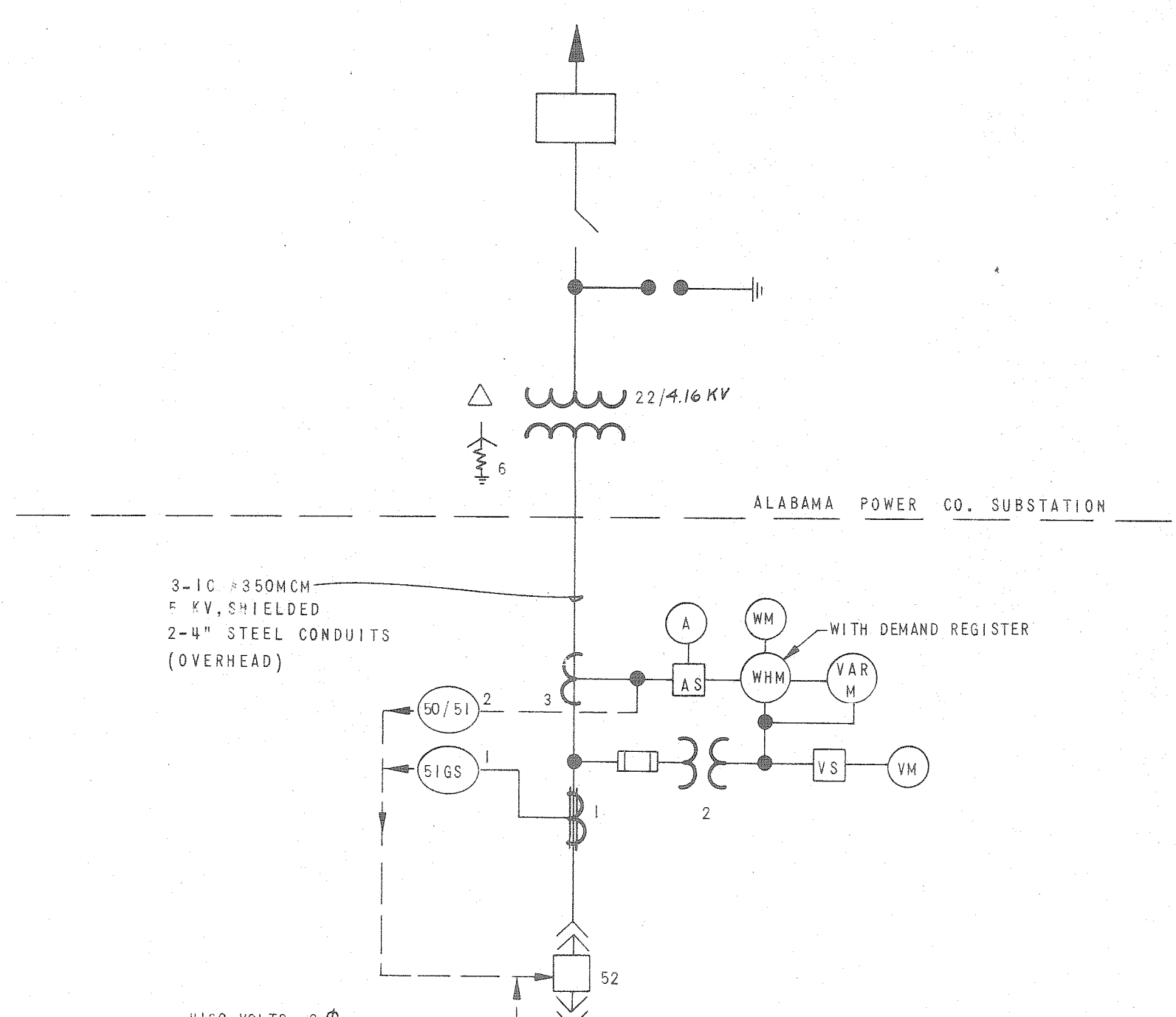
DAVID VOLKERT & ASSOCIATES
CONSULTING ENGINEERS

| | | |
|---------------|---------------|--------------|
| DESIGNED S.R. | DETAILED S.R. | TRACED S.R. |
| CHECKED R.S. | CHECKED R.S. | CHECKED R.S. |
| DATE | SHEET NO. 15 | |

| | |
|-----------|--|
| REVISIONS | |
|-----------|--|

SWITCHGEAR RELAY TYPES

- (50/51) WESTINGHOUSE TYPE CO-9 - INSTANTANEOUS AND OVERCURRENT
- (51GS) WESTINGHOUSE TYPE CO-9 - GROUND SENSOR
- (50GS) WESTINGHOUSE TYPE 1TH - GROUND SENSOR
- (47) WESTINGHOUSE TYPE CVQ - PHASE SEQUENCE



ALABAMA STATE DOCKS

McDUFFIE TERMINALS

PLANT EXPANSION

ONE LINE DIAGRAM

(EXISTING)

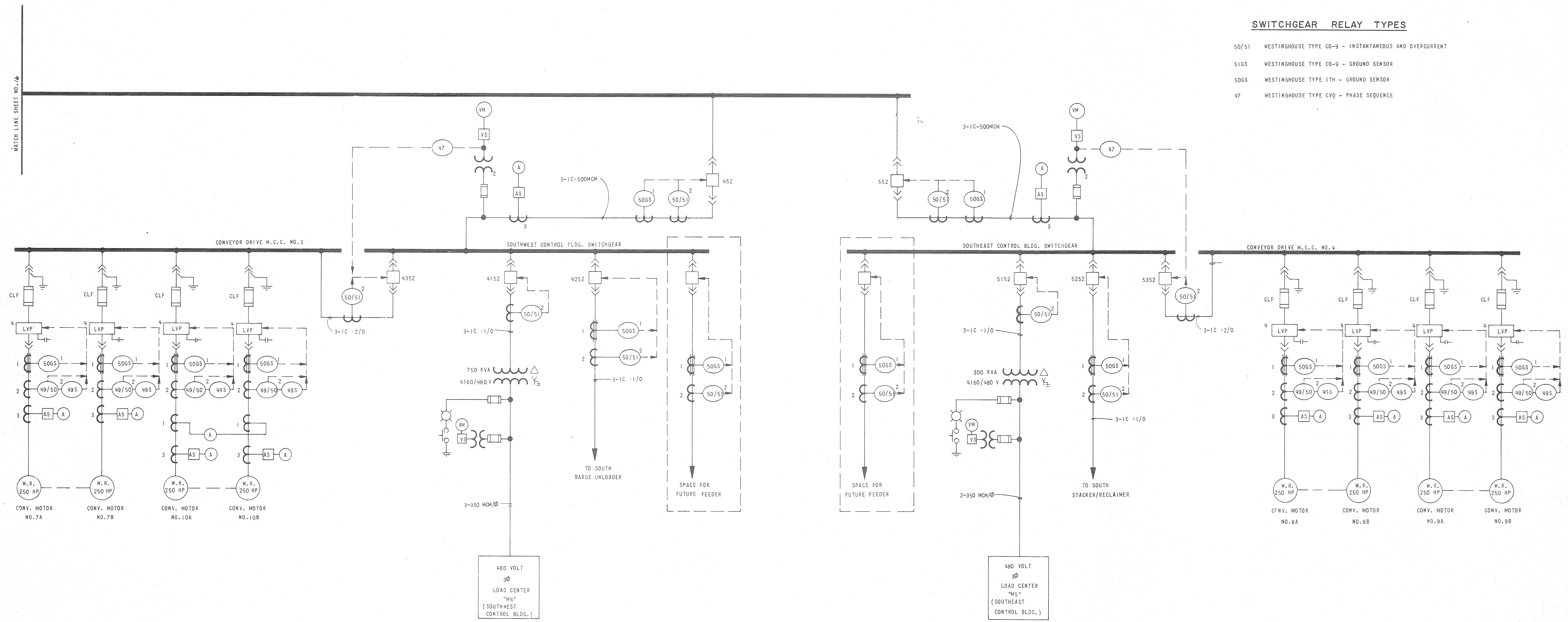
DAVID VOLKERT & ASSOCIATES
CONSULTING ENGINEERS

| | | |
|-----------------|-----------------|--------------|
| DESIGNED C.N.R. | DETAILED R.M.B. | TRACED |
| CHECKED C.N.R. | CHECKED C.N.R. | CHECKED |
| DATE | | SHEET NO. 16 |

POLYTRAGE 044

SWITCHGEAR RELAY TYPES

- 50/51 WESTINGHOUSE TYPE CO-9 - INSTANTANEOUS AND OVERCURRENT
- 51GS WESTINGHOUSE TYPE CO-9 - GROUND SENSOR
- 50GS WESTINGHOUSE TYPE 1TH - GROUND SENSOR
- 47 WESTINGHOUSE TYPE CVQ - PHASE SEQUENCE

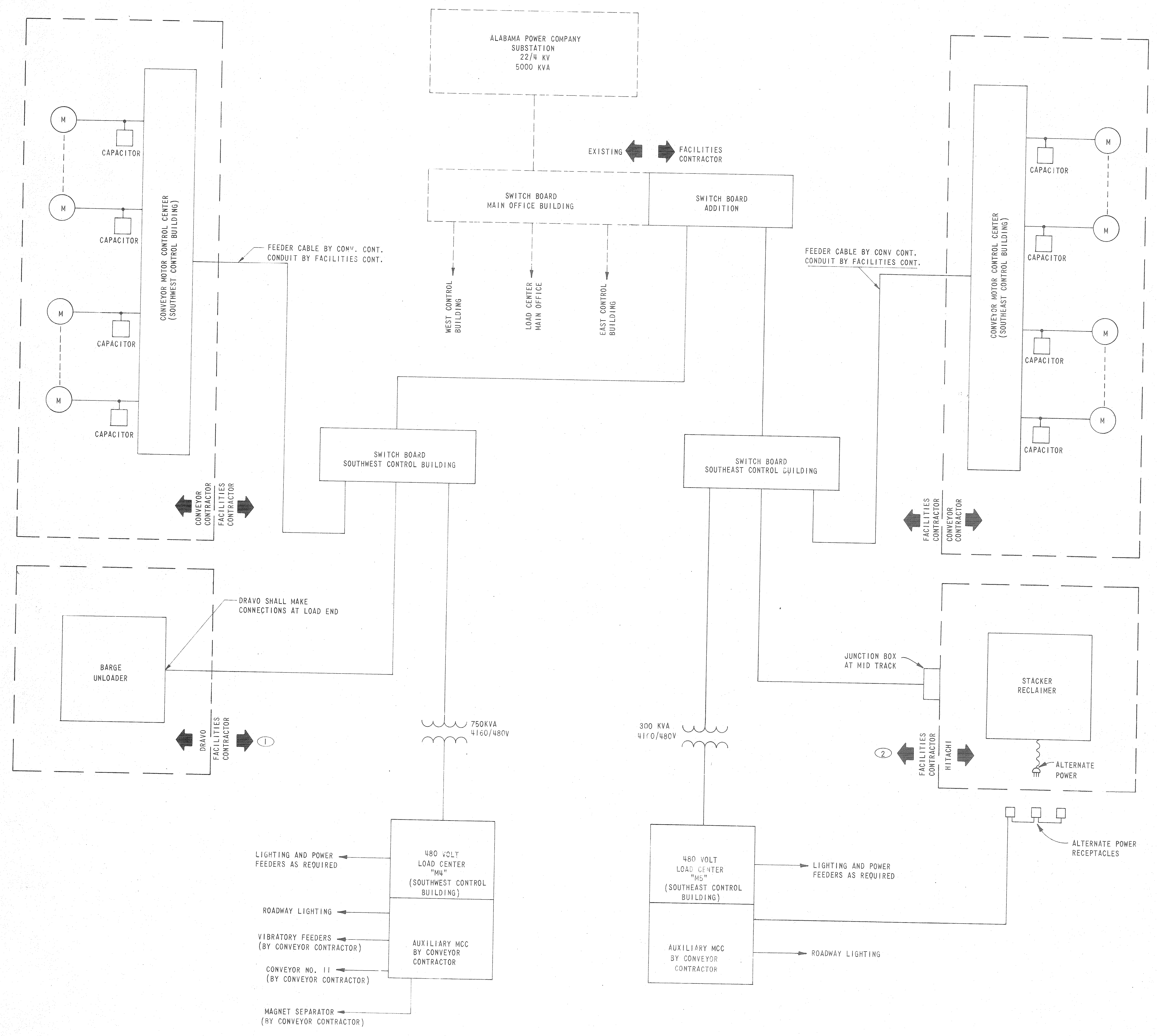


ALABAMA STATE DOCKS
McDUFFIE TERMINALS
PLANT EXPANSION
ONE LINE DIAGRAM
(PROPOSED)
DAVID VOLKERT & ASSOCIATES
CONSULTING ENGINEERS

| | | | | |
|----------|--------|----------|--------|--------------|
| DESIGNED | C.N.R. | DETAILED | E.N.R. | TRACED |
| CHECKED | | CHECKED | C.N.R. | CHECKED |
| DATE | | DATE | | SHEET NO. 17 |

POLYTRACE 044

| A.F.E. NO. | SPEC. NO. | CONTRACT NO. | SHEET NO. |
|------------|-----------|--------------|-----------|
| 1365 | 385 | 153.32 | 18 |



NOTES

- HEAVY DASHED LINES ON THIS DRAWING SHOW INTERFACES BETWEEN CONTRACTORS EXCEPT AS OTHERWISE SPECIFIED IN THE SPECIFICATIONS, INTERFACE SUMMARY, OR THESE NOTES.
- EACH CONTRACTOR SHALL COORDINATE HIS WORK, EQUIPMENT AND DEVICES SIZES, LOCATIONS, QUANTITIES, ETC., WITH OTHER CONTRACTORS INVOLVED WITH THE CONCURRENCE AND APPROVAL OF THE ENGINEER.
- SOUTHWEST AND SOUTHWEST CONTROL BUILDINGS SHALL BE CONSTRUCTED BY FACILITIES CONTRACTOR.
- UNLESS OTHERWISE SPECIFIED, WHERE FEEDERS ARE SPECIFIED, THE FEEDER SUPPLIER SHALL BE RESPONSIBLE FOR CONNECTING TO TERMINALS AT EQUIPMENT ON BOTH SOURCE AND LOAD END.
- LUGS SHALL BE FURNISHED WITH EQUIPMENT FOR CONDUCTORS LARGER THAN #8 AWG AND WITH FEEDER CABLES FOR CONDUCTORS #8 AWG AND SMALLER.

INTERFACE SUMMARY

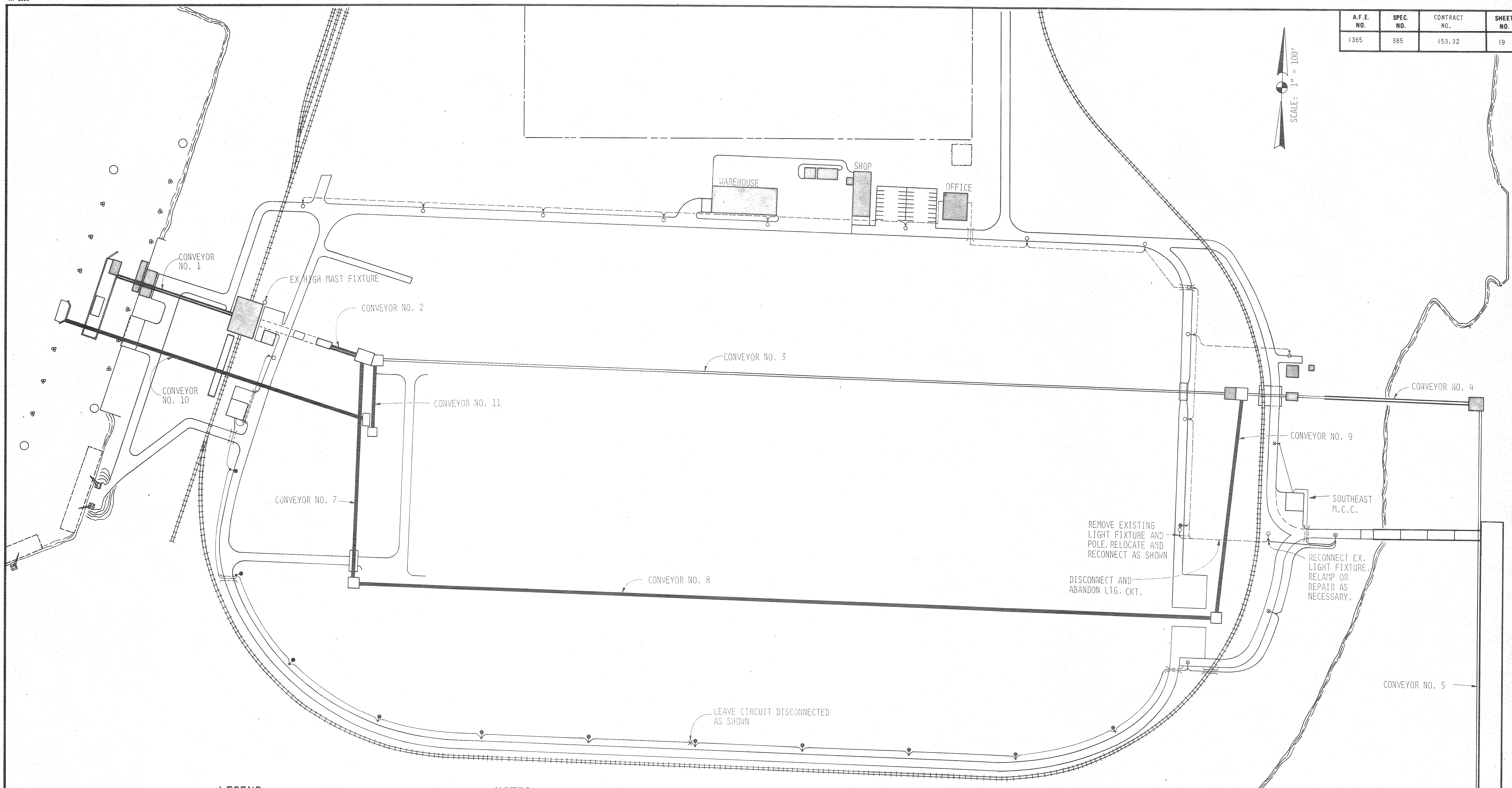
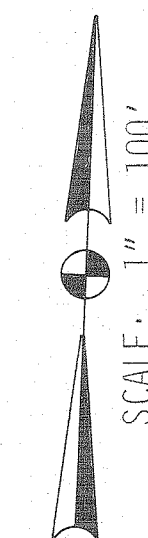
- FACILITIES CONTRACTOR SHALL PROVIDE FEEDER CABLE TO BARGE UNLOADER SWITCHGEAR. FINAL CONNECTIONS TO SWITCHGEAR SHALL BE MADE BY DRAVO.
- FACILITIES CONTRACTOR SHALL SUPPLY CABLES AND GROUNDING DEVICES. HITACHI SHALL SUPPLY RADIUSING APPARATUS, WIRE MESH GRIPS OR OTHER DEVICES AS REQUIRED. FACILITIES CONTRACTOR SHALL DISCONNECT TEMPORARY CABLES TO S/R AND MAKE NEW CONNECTIONS WITH STRESS CONES ETC. AS REQUIRED. THE FACILITIES CONTRACTOR SHALL PROVIDE ALTERNATE POWER RECEPTACLES ALONG CONVEYOR NO. 8. HITACHI SHALL FURNISH THE PORTABLE CABLE WITH MATCHING PLUG.
- CONVEYOR CONTRACTOR SHALL PROVIDE CABLE TRAYS ALONG CONVEYORS 7-8-9-10 AND 11. SPACE SHALL BE PROVIDED FOR INSTALLATION OF FEEDER CIRCUITS BY FACILITIES CONTRACTOR

**ALABAMA STATE DOCKS
Mc DUFFIE TERMINALS
PLANT EXPANSION
POWER SYSTEM
INTERFACE DIAGRAM**

| | | | |
|--|-----------------|----------------|--------------|
| DAVID VOLKERT & ASSOCIATES CONSULTING ENGINEERS | | | |
| DESIGNED C.N.R. | DETAILED C.N.R. | TRACED J.B.F. | |
| CHECKED | CHECKED | CHECKED C.N.R. | |
| DATE | | | SHEET NO. 18 |

| REVISIONS | DATE |
|-----------|------|
| | |
| | |

| A.F.E. NO. | SPEC. NO. | CONTRACT NO. | SHEET NO. |
|------------|-----------|--------------|-----------|
| 1365 | 385 | 153.32 | 19 |



LEGEND

- 400 WATT HPS FIXTURE ON 50' POLE
- 1000 WATT HPS FIXTURE ON 70' POLE
- EXISTING 400 WATT HPS FIXTURE ON 50' POLE
- DIRECT BURIAL CABLE, 3 #6
- EXISTING LIGHTING CIRCUIT
- 2" PVC CONDUIT UNDER ROADWAY
- 6" STEEL PIPE SLEEVE JACKED UNDER RAILROAD WITH 2" PVC CONDUIT

NOTES

1. SEE SHEET NO. 4 FOR LIGHTING DETAILS.

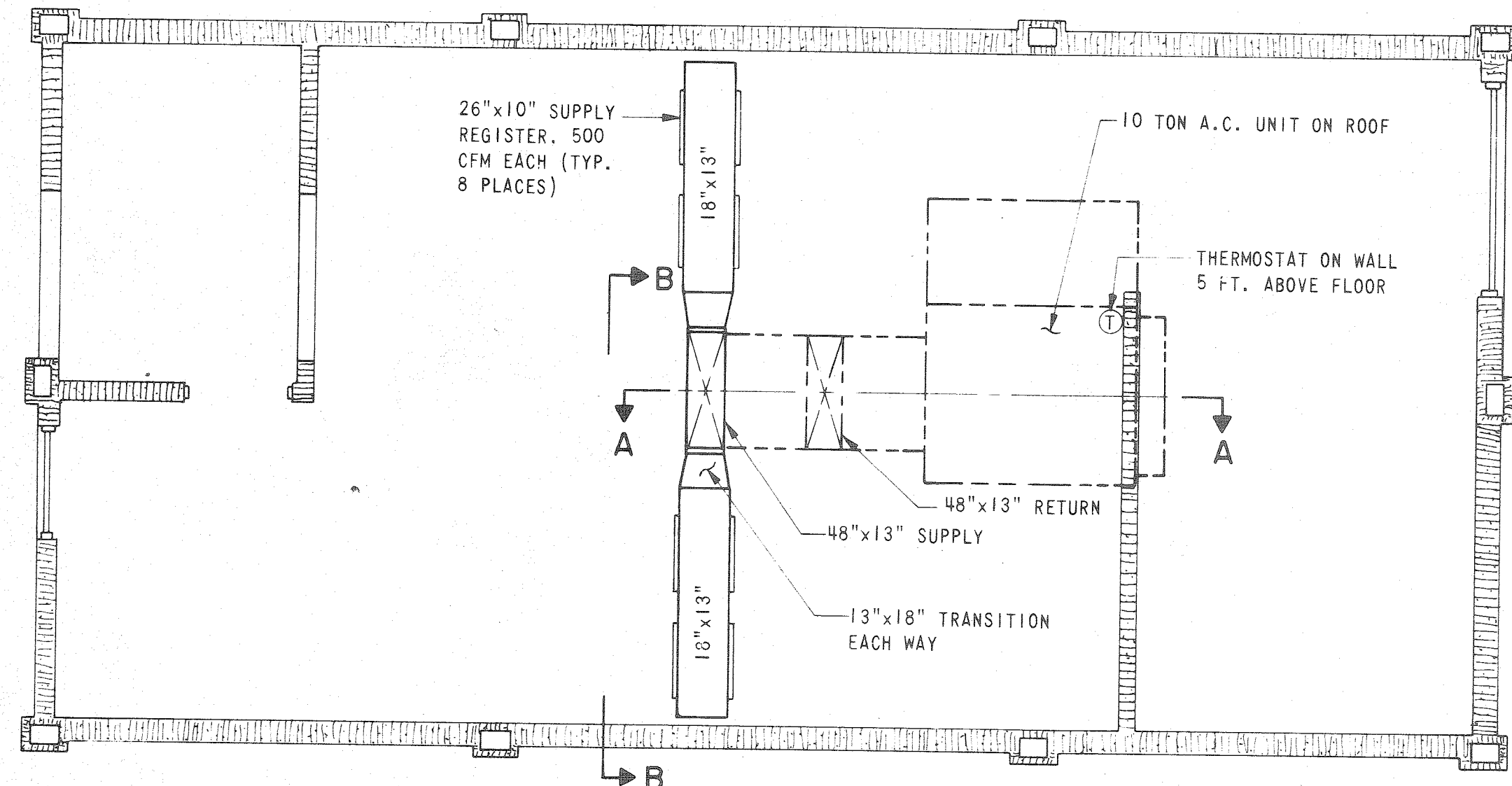
ALABAMA STATE DOCKS
McDUFFIE TERMINALS
PLANT EXPANSION

PLANT LIGHTING LAYOUT

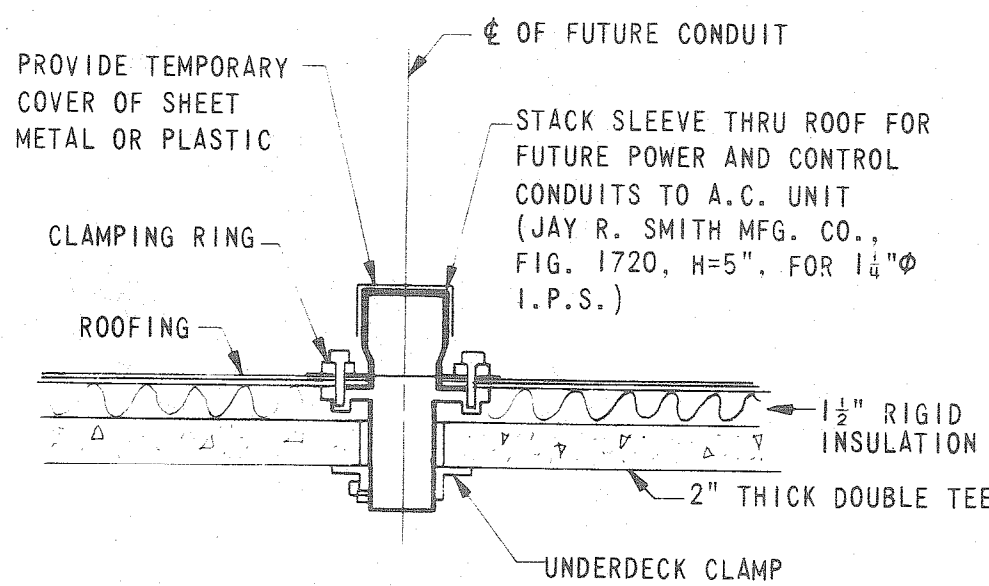
DAVID VOLKERT & ASSOCIATES
CONSULTING ENGINEERS

| | | |
|-----------------|-----------------|--------------|
| DESIGNED C.N.R. | DETAILED K.E.W. | TRACED |
| CHECKED | CHECKED C.N.R. | CHECKED |
| DATE | | SHEET NO. 19 |

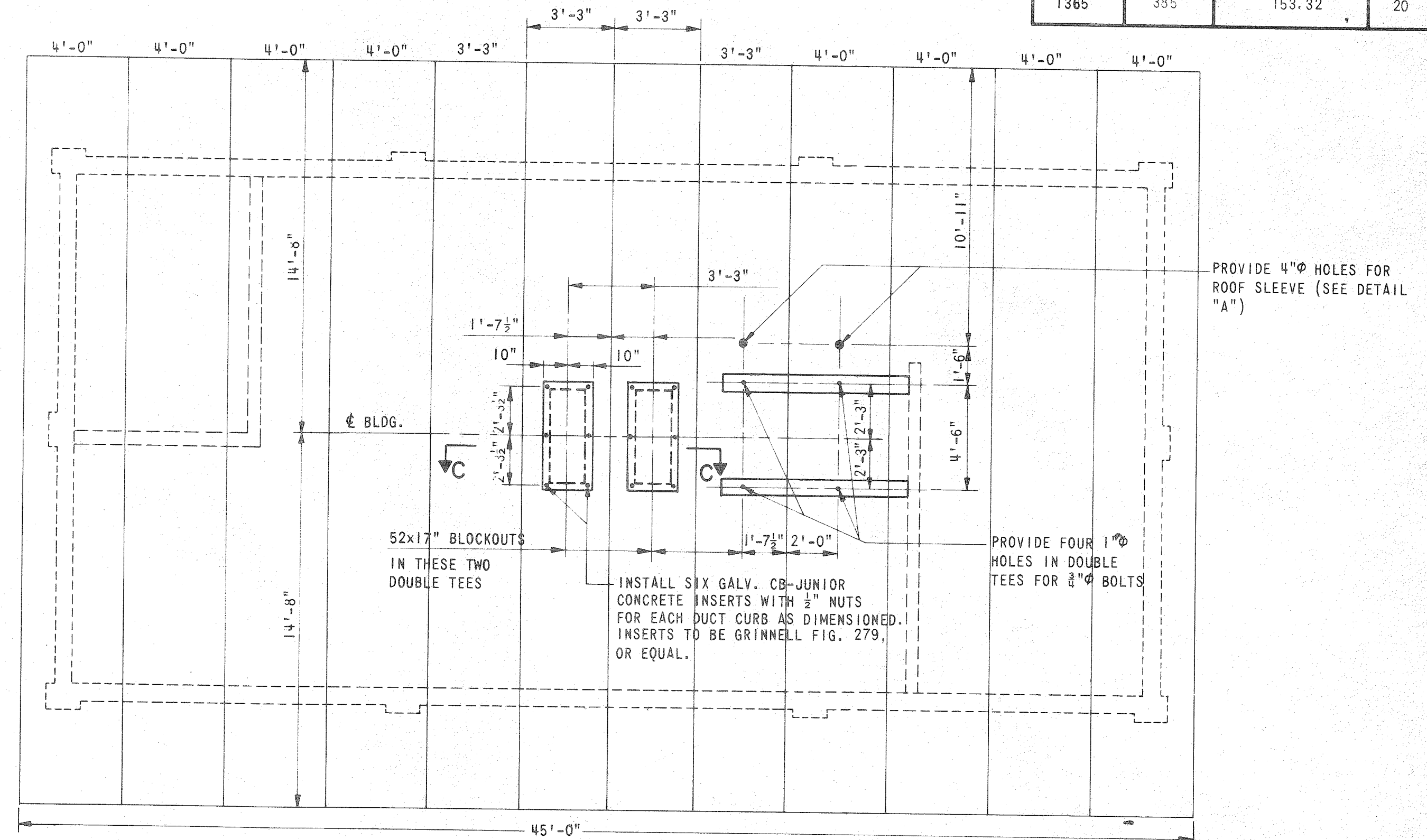
| | | | |
|------------|-----------|--------------|-----------|
| A.F.E. NO. | SPEC. NO. | CONTRACT NO. | SHEET NO. |
| 1365 | 385 | 153.32 | 20 |



AIR CONDITIONING PLAN
SCALE: 1/4" = 1'-0"

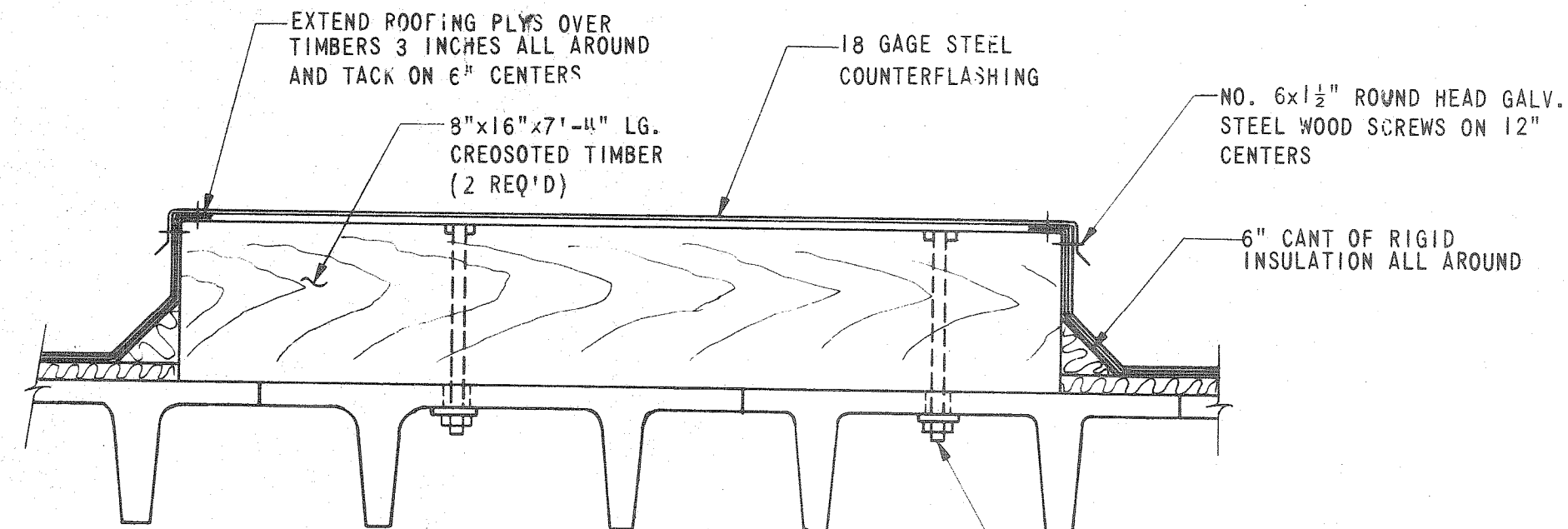


DETAIL "A"
SCALE: 1/2" = 1'-0"
TWO REQUIRED

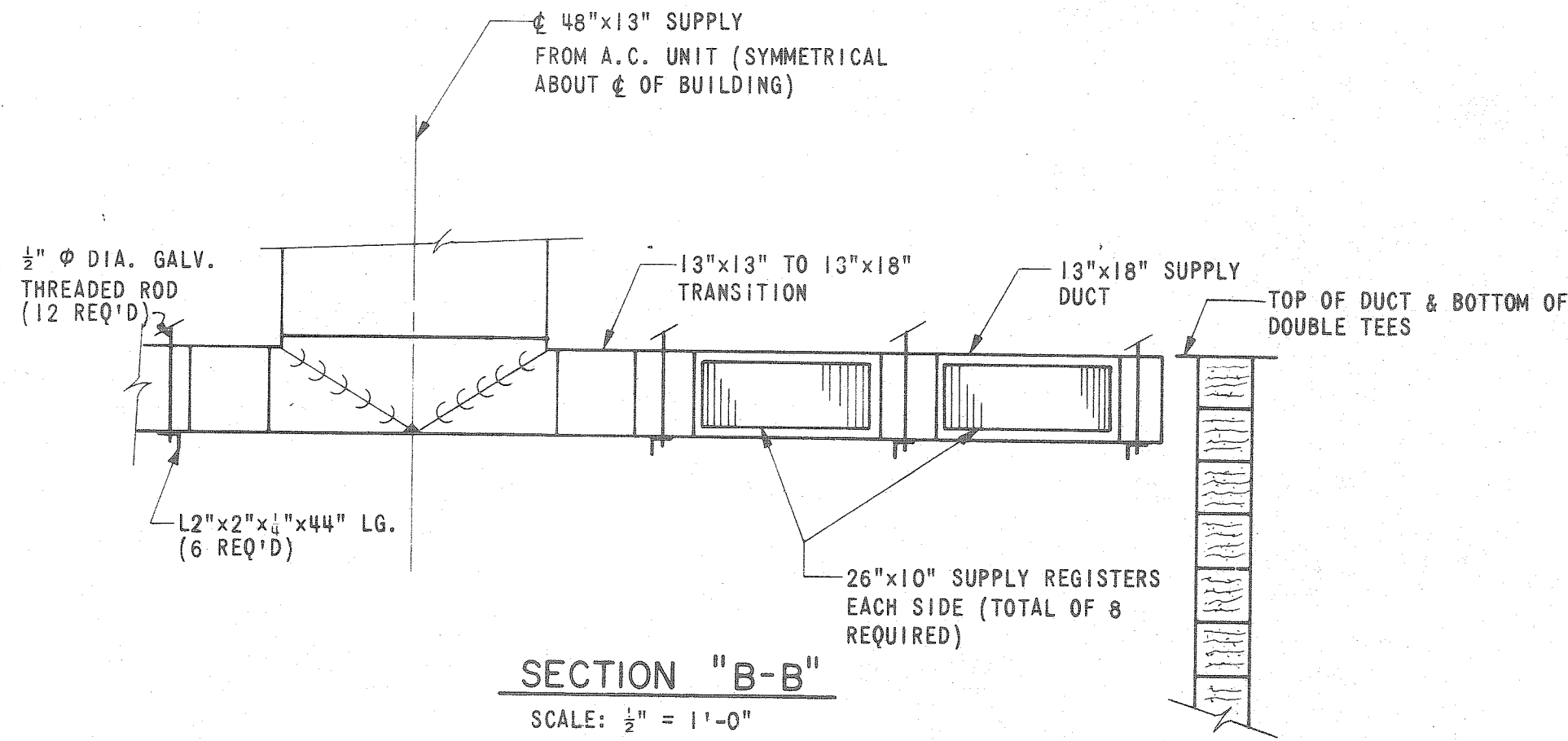


ROOF PLAN (A/C UNIT NOT SHOWN)
SCALE: 1/4" = 1'-0"

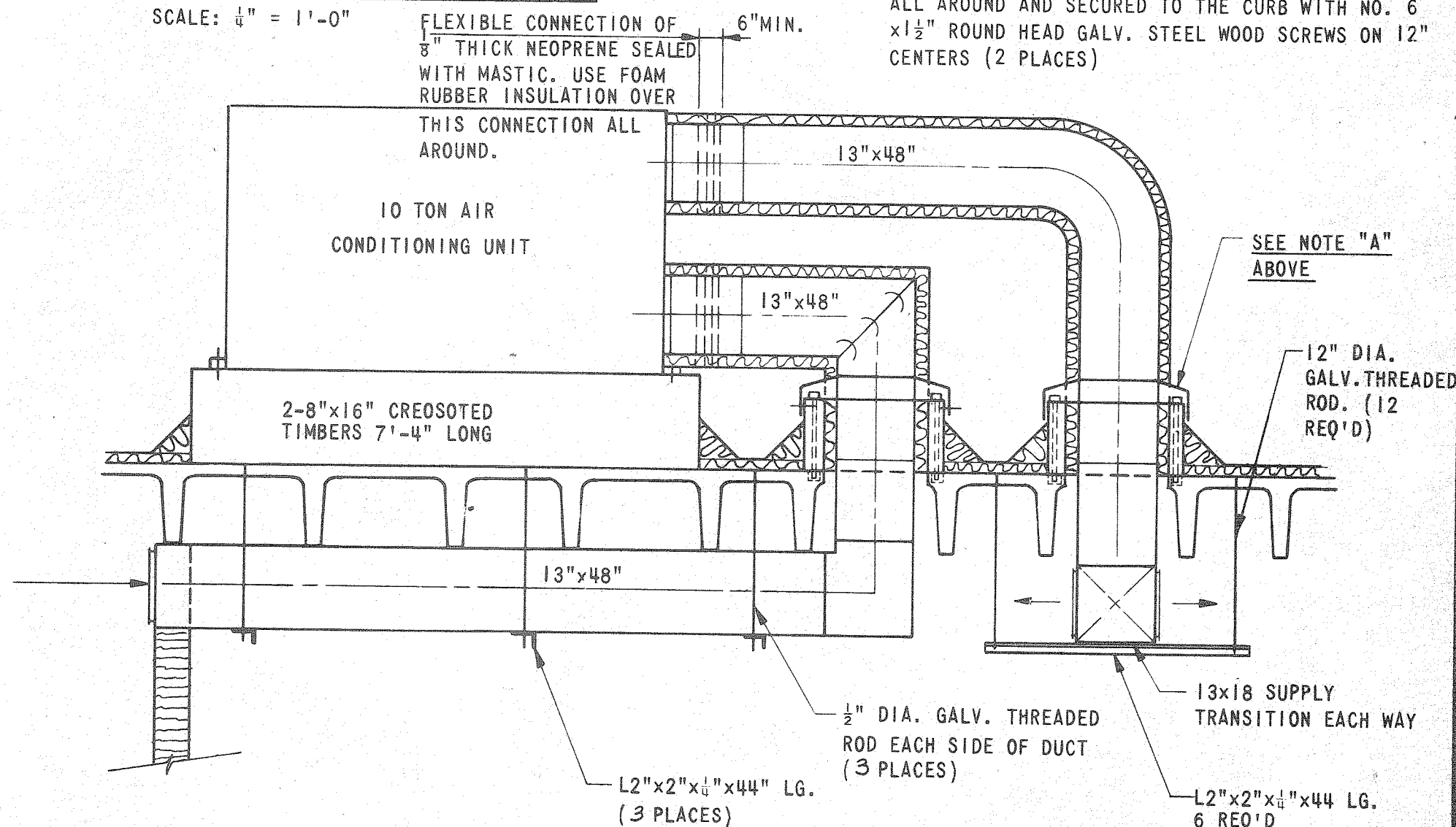
NOTE "A":
WHEN THE DUCTWORK IS INSTALLED THIS FLASHING COLLAR SHALL BE SOLDERED TO THE DUCT WATERTIGHT ALL AROUND AND SECURED TO THE CURB WITH NO. 6 x 1 1/2" ROUND HEAD GALV. STEEL WOOD SCREWS ON 12" CENTERS (2 PLACES)



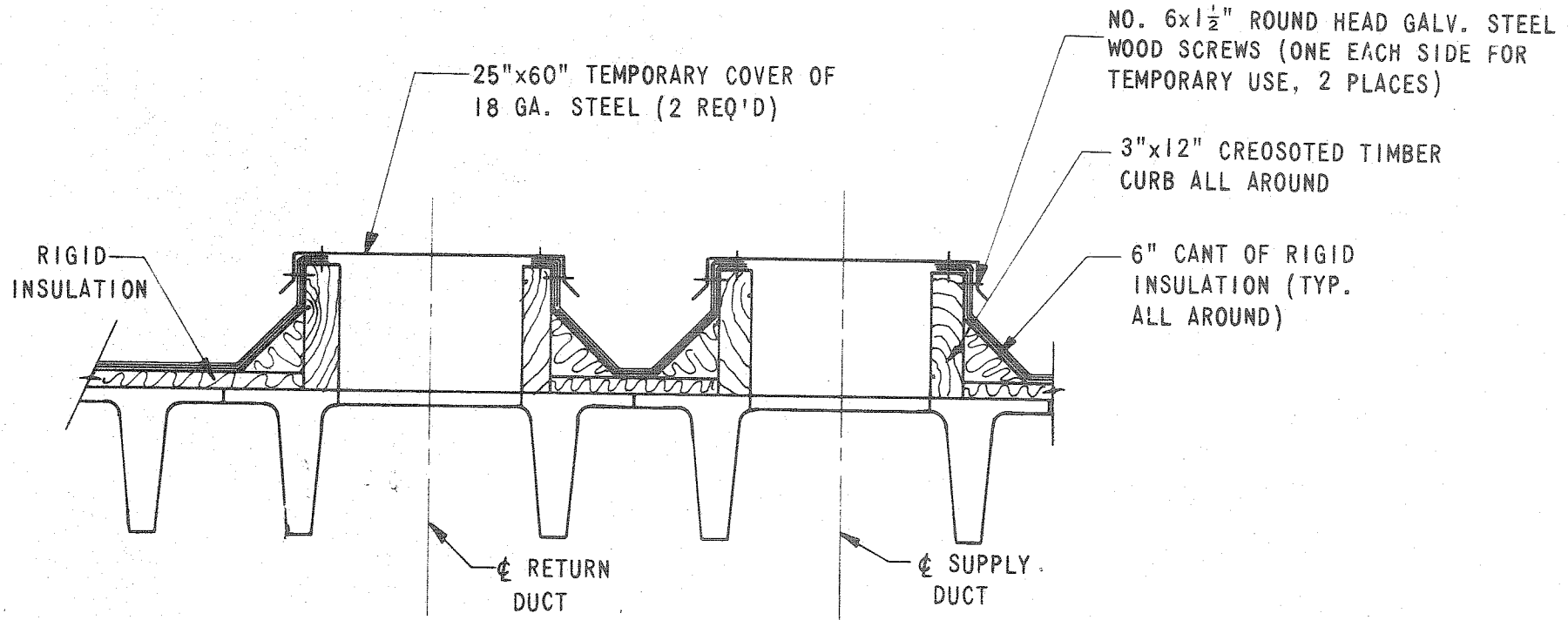
DETAIL "B"
SCALE: 3/8" = 1'-0"



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



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



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

SPECIFICATIONS

1. THE ROOF TOP A.C. UNIT, DUCTWORK, DUCTWORK SUPPORT ANGLES, REGISTERS, RETURN GRILLE AND DUCT INSULATION ARE A PART OF THIS CONTRACT. THE TREATED TIMBERS SUPPORTING THE A.C. UNIT SHALL BE INSTALLED BY OTHERS ON 4'-6" CENTERS. THE TIMBER ROOF CURB FOR THE SUPPLY AND RETURN DUCTS SHALL BE INSTALLED AS INDICATED AND SHALL BE ARRANGED WITH 18 GAGE GALVANIZED STEEL COUNTERFLASHING COVERS AS SHOWN IN SECTION C-C. ALL BOLT HOLES AND CONCRETE INSERTS SHALL BE PROVIDED.
2. ROOFTOP A.C. UNIT SHALL BE TRANE MODEL SACB - C-104, RATED 120,000 BTUH AT ARI CONDITIONS. HEATING COIL IS NOT REQUIRED. THE UNIT SHALL OPERATE ON 460 VOLT, 3 PHASE, 60 CYCLE POWER. THE UNIT SHALL BE ARRANGED WITH A TIME DELAY RELAY, ANTI-SHORT CYCLE TIMER, LOW AMBIENT MECHANICAL COOLING TO 0° F, MANUAL 0-25 PERCENT OUTSIDE AIR, 24 VOLT THERMOSTAT FOR TWO STAGE COOLING ONLY, FIVE YEAR WARRANTY & A MINIMUM OF TWO COMPRESSORS. THE UNIT SHALL BE BOLTED IN PLACE ON THE FLASHED TIMBER INDICATED WITH A MINIMUM OF FOUR 1/2" Ø BY 4-INCH LONG GALVANIZED WOOD SCREWS. THE EVAPORATOR FANS SHALL DELIVER 4000 CFM AT 0.40 IN-WATER EXTERNAL STATIC PRESSURE.
3. THE TREATED TIMBER CURBS FOR THE SUPPLY AND RETURN DUCTS SHALL BE SECURED IN PLACE TO THE DOUBLE TEES, USING THRU-BOLTS SCREWED INTO THE IMBEDDED CONCRETE INSERTS.
4. ALL DUCTWORK SHALL BE OF GALVANIZED STEEL, 20 GAGE (MINIMUM), WITH POCKET SLIP OR BAR-S SLIP CONSTRUCTION. JOINTS SHALL BE SPACED NOT MORE THAN FOUR FEET APART.
5. SUPPLY REGISTERS SHALL BE OF STEEL WITH DOUBLE DEFLECTION BLADES (VERTICAL FRONT BARS) AND OPPOSED BLADE DAMPER, ANEMOSTAT MODEL S 2V, OR APPROVED EQUAL.
6. RETURN GRILLE SHALL BE OF STEEL FOR SURFACE MOUNTING, ANEMOSTAT MODEL SNSB, OR APPROVED EQUAL.
7. DUCTWORK EXPOSED ON THE ROOF SHALL BE INSULATED WITH 2-INCH THICK FOAMGLAS ATTACHED WITH MASTIC AND MECHANICAL FASTENERS. THE INSULATION JOINTS SHALL BE SEALED WITH MASTIC. THE INSULATION SHALL BE WEATHERPROOFED BY APPLYING A TACK COAT OF FOSTER SAFETEE MASTIC A60-80 AT 8 GALLONS PER 100 SQ. FT., EMBEDDING IN THE WET TACK COAT, MAST-A-FAB WHITE GLASS CLOTH LAPPING ALL SEAMS 2 INCHES (MINIMUM), APPLYING A FINISH COAT OF SAFETEE MASTIC AT 8 GALLON PER 100 SQ. FT., WHILE THE TACK COAT IS STILL DAMP.
8. STEEL ANGLES SUPPORTING DUCT AND DUCT SHALL BE GIVEN TWO COATS OF LIGHT GREEN RUSTOLEUM PAINT.
9. 1 1/2" WIDE x 12 GAGE GALVANIZED STEEL STRAP HANGERS MAY BE SUBSTITUTED FOR THE HANGERS INDICATED.
10. THE DUCT HANGERS MUST BE PLACED IN THIS CONTRACT PRIOR TO ROOFING.

ALABAMA STATE DOCKS
McDUFFIE TERMINALS
PLANT EXPANSION
BARGE UNLOADER
ELECTRICAL HOUSE
AIR CONDITIONING
DAVID VOLKERT & ASSOCIATES
CONSULTING ENGINEERS

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|----------|--------|----------|--------|---------|--------------|
| DESIGNED | D.J.H. | DETAILED | K.E.W. | TRACED | K.E.W. |
| CHECKED | C.N.R. | CHECKED | D.J.H. | CHECKED | C.N.R. |
| DATE | | | | | SHEET NO. 20 |