

4000 ARAPAHO EST

Addison!

TOWN OF ADDISON, TEXAS SURVEYOR 1.5 MG ELEVATED STORAGE TANK

DAVE'S Office
Araraho
EST

PW #2008-02

MAYOR
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BLAKE W. CLEMENS, DEPUTY MAYOR PRO TEMPORE
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NEIL RESNIK

CITY MANAGER
RON WHITEHEAD

DIRECTOR OF PUBLIC WORKS
NANCY S. CLINE, P.E.

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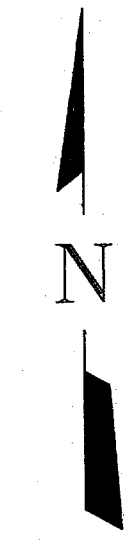
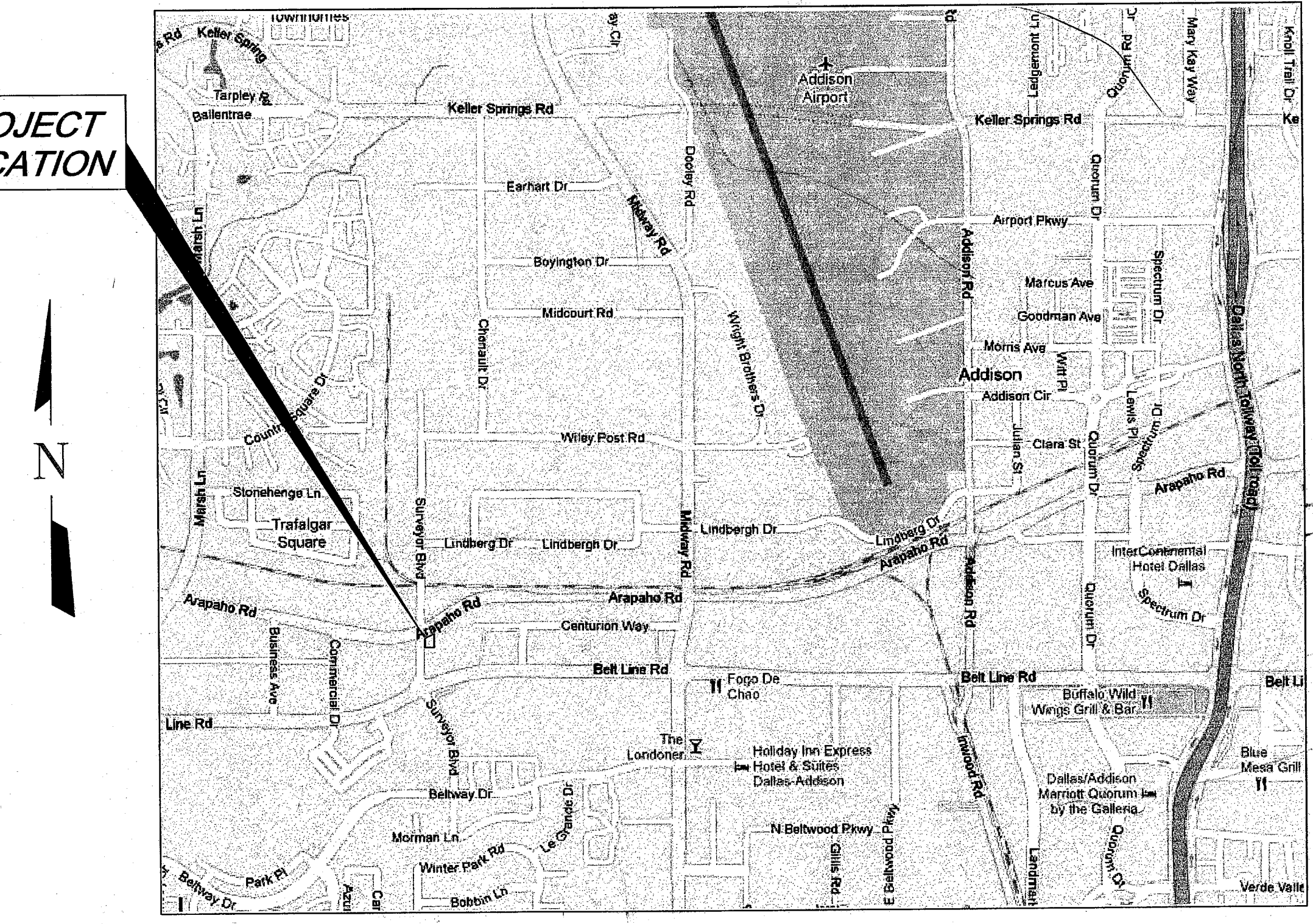
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PROJECT LOCATION



VICINITY MAP
N.T.S.

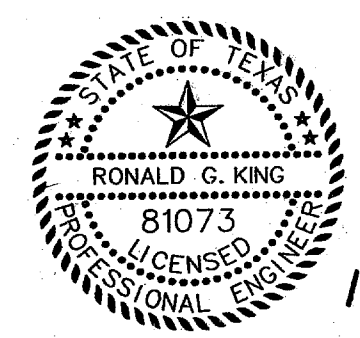
All responsibility for the adequacy of these plans remains with the Engineer who prepared them. In approving these plans, the Town of Addison makes no representation of adequacy of the work of the Design Engineer.

FREESE & NICHOLS
2220 San Jacinto Blvd., Suite 350
Denton, Tx. 76205
Phone - (940) 387-4600
Fax - (940) 387-4677
Web - www.freese.com

APPROVED FOR CONSTRUCTION
Town of Addison
Public Works Department
APPROVED BY: [Signature]
DATE: 2-1-2011

ADD08459
JANUARY 2011

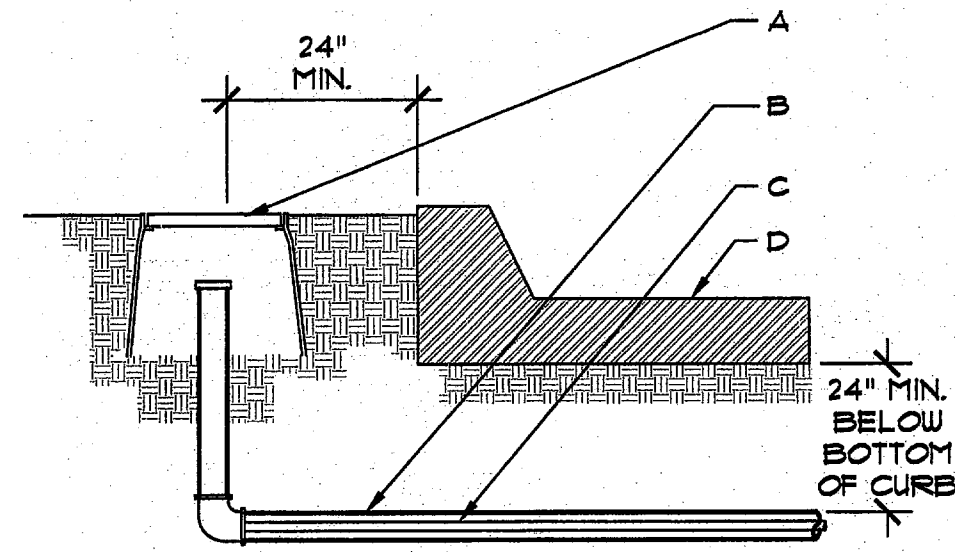
FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING
FIRM F-2144



1-19-11

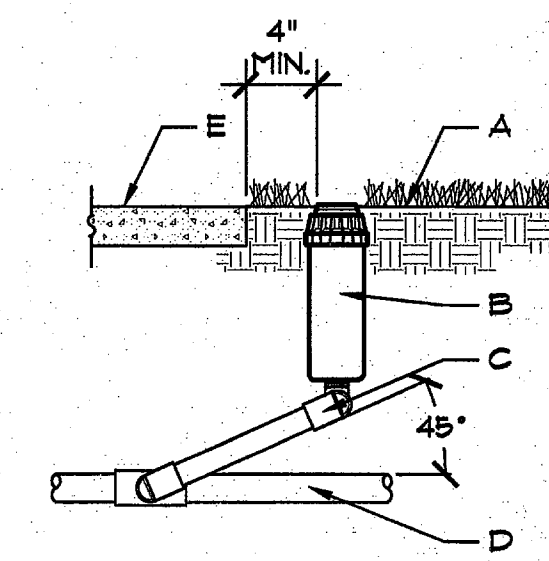
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34border.dgn
MicroStation V8
User: amr
Office: Denton
Plotter: HP DesignJet 5000
Date: 01/20/2011 08:38:07 AM
Project: Freese and Nichols, Inc.



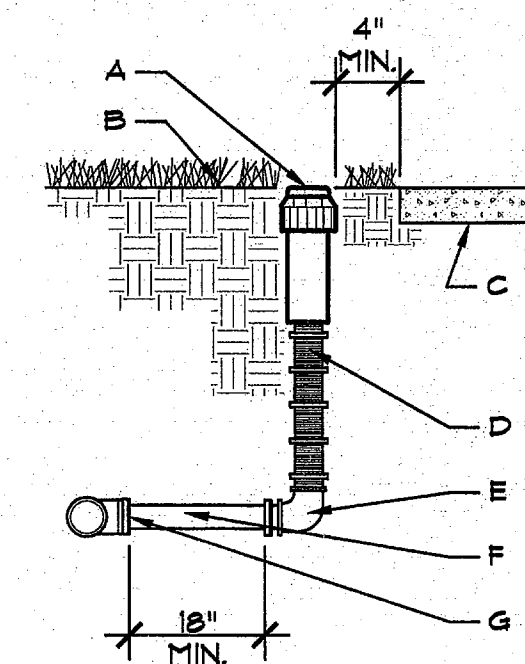
- GENERAL NOTES:**
- NO DIRECT CONNECTION TO SLEEVE SHALL BE ALLOWED. SLEEVE SIZE SHALL BE TWO (2) SIZES LARGER THAN THE PIPE TO BE SLEEVED.
 - MARK HARDSCAPE WITH SYMBOL "S" TO INDICATE THAT A SLEEVE IS BELOW.
 - INSTALL WIRING IN SEPARATE SLEEVE FROM LATERAL AND MAINLINE PIPING.
- CONSTRUCTION NOTES:**
- CONCRETE VALVE BOX. STUB UP SCH. 40 PVC SLEEVES AND CAP. PAINT TOP OF VALVE BOX "DAY GLOW ORANGE" FOR FUTURE REFERENCE.
 - SCH. 40 PVC IRRIGATION SLEEVE - SEE PLAN.
 - PVC MAINLINE, LATERAL OR WIRING - SEE PLAN.
 - PAVING.

1 IRRIGATION SLEEVES
NOT TO SCALE



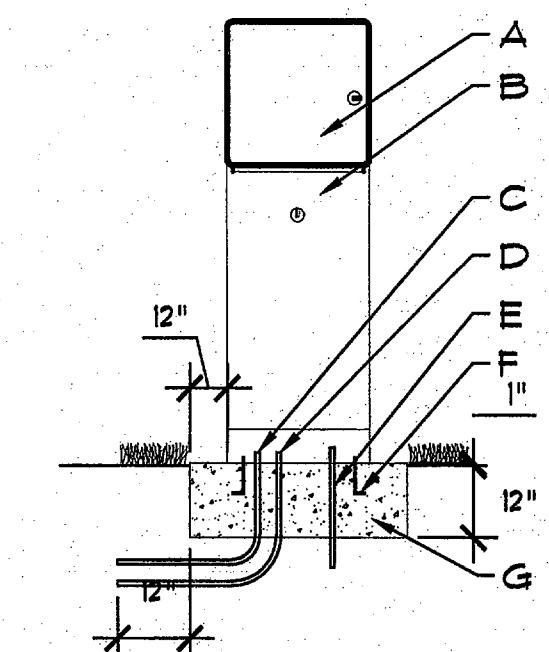
- GENERAL NOTES:**
- SET TOP OF HEAD FLUSH WITH FINISH GRADE.
 - FLUSH PIPING PRIOR TO INSTALLING NOZZLE.
 - SET HEAD OFFSET OF LATERAL AND MAINLINE PIPING.
- CONSTRUCTION NOTES:**
- FINISH GRADE
 - ROTARY SPRAY HEAD
 - 3/4"x6" POLY NIPPLE
 - LATERAL PIPING
 - PAVING

6 ROTARY SPRAY HEAD
NOT TO SCALE



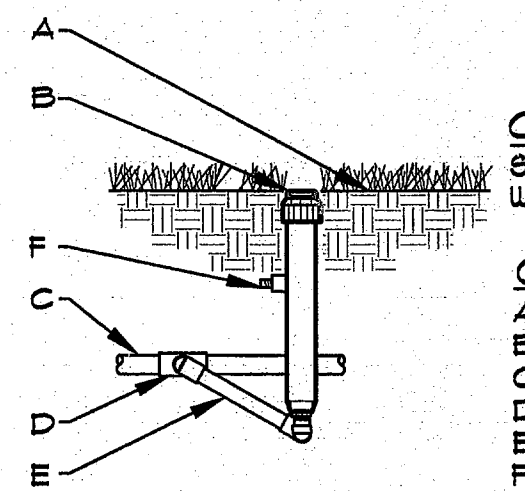
- GENERAL NOTES:**
- SET TOP OF HEAD FLUSH WITH FINISH GRADE.
- CONSTRUCTION NOTES:**
- SPRINKLER HEAD (SEE PLAN)
 - FINISH GRADE
 - PAVING
 - CUT OFF RISER
 - SCH. 40 PVC THREADED ELL. (9x7)
 - LATERAL PIPE
 - SCH. 40 PVC TEE.

9 LAWN SPRAY HEAD
NOT TO SCALE



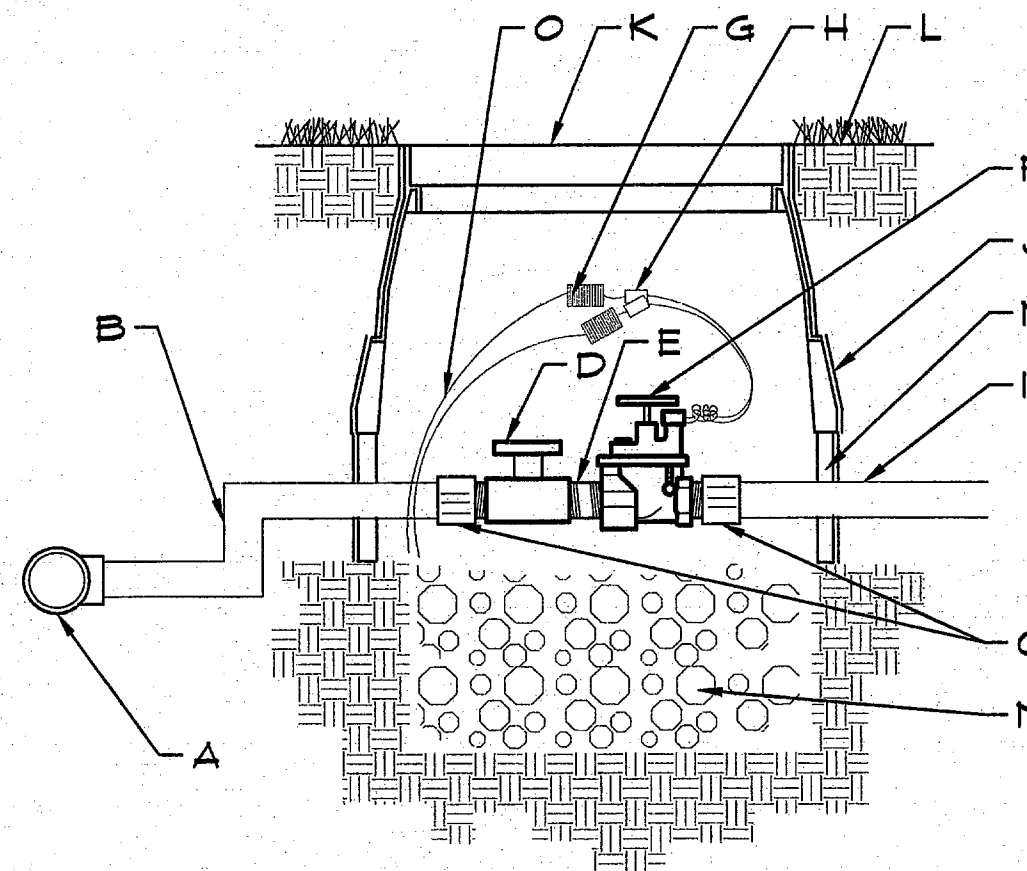
- GENERAL NOTES:**
- INSTALL ELECTRICAL WIRING PER LOCAL CODES.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ELECTRICAL WORK.
 - PROVIDE DRAINAGE AWAY FROM BASE OF PEDESTAL.
 - GROUND IRRIGATION BOXES WITH GROUNDING ROD PER N.E.C.
 - INSTALL WEATHER STATION TO NORTH SIDE OF CONTROLLER PEDESTAL W/ STAINLESS STEEL SCREWS.
- CONSTRUCTION NOTES:**
- CONTROLLER
 - PEDESTAL
 - ELECTRICAL SERVICE 4 PHONE LINE CONDUIT
 - REMOTE CONTROL VALVE WIRING CONDUIT
 - GROUNDING ROD(S) PER MANUFACTURER'S REQUIREMENTS
 - ANCHOR BOLTS
 - CONCRETE BASE, 3,000 PSI

7 PEDESTAL MOUNTED CONTROLLER
NOT TO SCALE



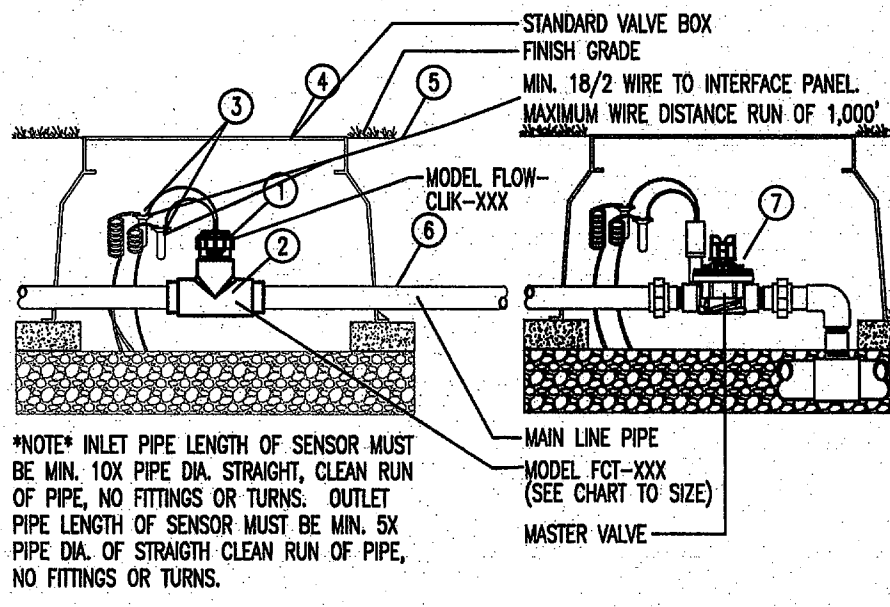
- GENERAL NOTES:**
- SET TOP OF HEAD FLUSH WITH FINISH GRADE.
- CONSTRUCTION NOTES:**
- FINISH GRADE
 - SPRINKLER HEAD (SEE PLAN)
 - LATERAL PIPE
 - SCH. 40 PVC TEE
 - FUNNY PIPE IS APPLICABLE
 - PLUG

10 LAWN SPRAY HEAD
NOT TO SCALE



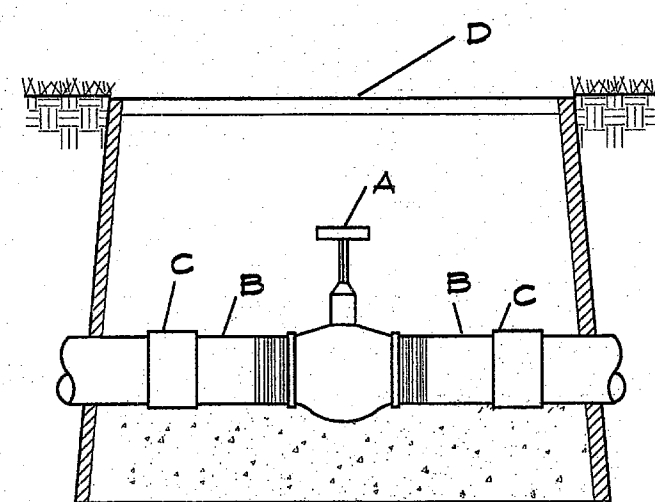
- GENERAL NOTES:**
- INSTALL FEA GRAVEL FLUSH WITH BOTTOM OF PIPE AND VALVE.
 - MAINLINE SHALL HAVE A MINIMUM OF 18" COVER AND LATERAL LINE SHALL HAVE A MINIMUM OF 12" COVER.
 - PROVIDE A 24" WIRE EXPANSION COIL AT EACH DRY SPlice WIRE CONNECTION.
 - CENTER VALVE ASSEMBLY IN VALVE BOX.
- CONSTRUCTION NOTES:**
- PVC SERVICE TEE
 - SCH. 40 90° BEND
 - SCH. 40 MALE ADAPTER
 - SCH. 40 BALL VALVE
 - GRAY SCH. 80 SHORT NIPPLE (TBE)
 - AUTOMATIC VALVE
 - WIRE COIL
 - WATERPROOF WIRE CONNECTORS
 - LATERAL PIPE
 - 10 ML BLACK PLASTIC ARMOR STANDARD RECTANGLE VALVE BOX WITH COVER AND PENTAGON LOCK. ROUT AND PAINT VALVE NUMBER ON TOP OF LID. SET 1/4" ABOVE FINISH GRADE.
 - FINISH GRADE
 - WASHED FEA GRAVEL - 6" DEPTH MIN
 - 6" VALVE BOX EXTENSIONS AS REQUIRED
 - VALVE WIRING

2 ELECTRIC VALVE
NOT TO SCALE



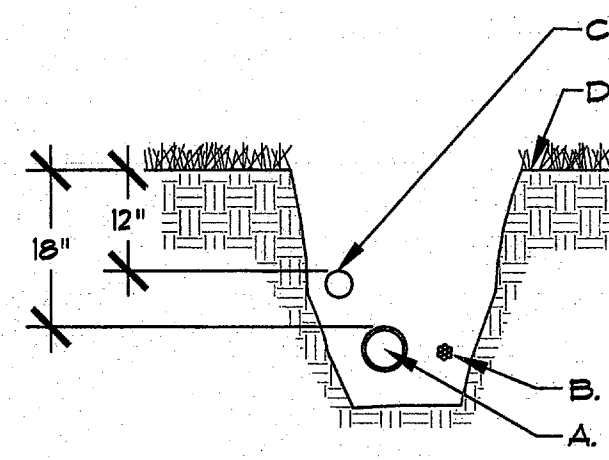
- GENERAL NOTES:**
- MODEL FLOW-CLIK-XXX
 - MODEL FCT-XXX (SEE CHART TO SIZE)
 - MIN. 18/2 WIRE TO INTERFACE PANEL. MAXIMUM WIRE DISTANCE RUN OF 1,000'
 - STANDARD VALVE BOX
 - FINISH GRADE
 - MAIN LINE PIPE
 - MASTER VALVE
- FCT FITTING SELECTION**
- | FCT | 1 INCH | SCH. 40 |
|--------|----------|---------|
| FCT100 | 1.5 INCH | SCH. 40 |
| FCT150 | 2 INCH | SCH. 40 |
| FCT200 | 2.5 INCH | SCH. 80 |
| FCT250 | 3 INCH | SCH. 80 |
| FCT300 | 3 INCH | SCH. 40 |
| FCT350 | 3 INCH | SCH. 80 |
| FCT400 | 4 INCH | SCH. 40 |
- *NOTE: MLET PIPE LENGTH OF SENSOR MUST BE MIN. 10X PIPE DIA. STRAIGHT, CLEAN RUN OF PIPE, NO FITTINGS OR TURNS. OUTLET PIPE LENGTH OF SENSOR MUST BE MIN. 5X PIPE DIA. OF STRAIGHT CLEAN RUN OF PIPE, NO FITTINGS OR TURNS.

8 FLOW METER
NOT TO SCALE



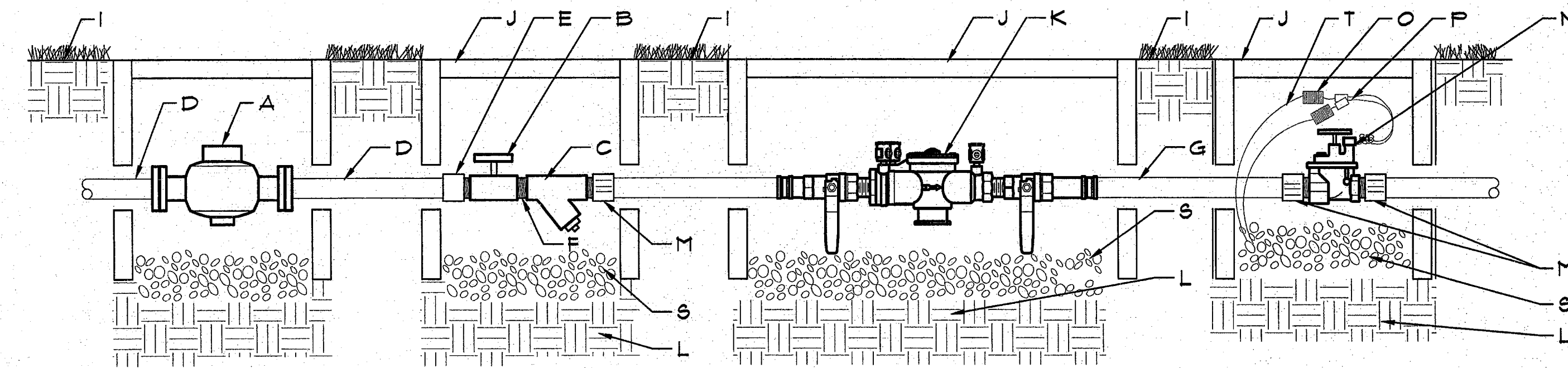
- CONSTRUCTION NOTES:**
- BALL VALVE
 - SCH. 80 TOE NIPPLE
 - COUPLING
 - 1/2" VALVE BOX

3 BALL VALVE
NOT TO SCALE



- GENERAL NOTES:**
- REST PIPE FIRMLY ON TRENCH BOTTOM.
 - SNAKE PIPE FROM SIDE TO SIDE.
 - DO NOT STACK PIPE IN TRENCH. PROVIDE HORIZONTAL SEPARATION.
 - MAINTAIN 2" MINIMUM SEPARATION BETWEEN MAINLINE AND LATERAL LINE PIPING.
 - BUNDLE WIRE(S) AT 20 FT. INTERVALS.
- CONSTRUCTION NOTES:**
- MAINLINE PIPING - 18" MINIMUM COVER
 - WIRE BUNDLE - TAPE PER SPECIFICATIONS
 - LATERAL LINE PIPING - 12" MINIMUM COVER
 - FINISH GRADE

4 IRRIGATION TRENCH
NOT TO SCALE



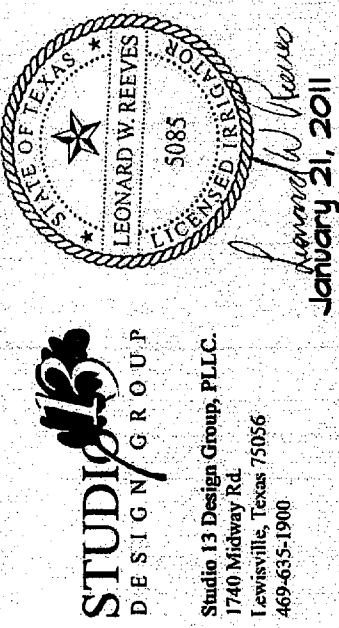
5 BACKFLOW PREVENTER CONNECTION
NOT TO SCALE

- GENERAL NOTES:**
- INSTALL WASHED FEA GRAVEL BELOW DCA TO ALLOW ACCESS TO TEST COOKS AND OPERATION OF BALL VALVES.
 - INSTALL FEA GRAVEL FLUSH WITH ELECTRIC VALVE.
 - PROVIDE A 24" WIRE EXPANSION COIL AT EACH DRY SPlice WIRE CONNECTION.
 - CENTER VALVE ASSEMBLY IN VALVE BOX.

- CONSTRUCTION NOTES:**
- WATER METER (SIZE PER PLAN)
 - BALL VALVE (SIZE PER LINE)
 - WYE STRAINER (SIZE PER LINE)
 - TYPE "K" COPPER PIPE
 - COPPER 6xT COUPLING
 - TBE NIPPLE
 - PIPE PER CITY CODE
 - COUPLING
 - FINISH GRADE
 - 12"x17" VALVE BOX. SET 1/4" ABOVE FINISH GRADE
 - DOUBLE CHECK VALVE ASSEMBLY COMPACTED SUBGRADE
 - MALE ADAPTER
 - MASTER ELECTRIC VALVE
 - WIRE COIL
 - WATERPROOF WIRE CONNECTORS
 - NOT SHOWN ON DETAIL
 - STANDARD RECTANGLE VALVE BOX. SET 1/4" ABOVE FINISH GRADE.
 - WASHED FEA GRAVEL - 6" DEPTH MIN
 - VALVE WIRING

IRRIGATION NOTES:

- Provide a complete, functioning automatic irrigation system including labor, materials, fees, taxes, equipment, and other costs incidental to accomplishing work.
- Acquire written approval from Landscapes Architect or Licensed Irrigator for material substitutes prior to commencing the installation.
- Locate existing underground utilities or obstacles prior to commencing installation. Repair damage to utilities or finishes resulting from work at no additional expense to Owner.
- Piping is diagrammatic and shown for clarity only. Adjust as required for existing utilities, obstructions, tree root balls, etc.
- Install work in accordance with applicable local codes and ordinances.
- Coordinate sleeve and conduit requirements with General Contractor.
- Locate each end of irrigation sleeves dimensionally on the Record "As Built" Drawings.
- Irrigation Contractor shall be responsible for damage to plant material due to system failure from inferior workmanship during the installation of plants and maintenance period.
- Extend one extra control wire to farthest valve, routed parallel to common ground wire with installation of lead and common wires.
- Control wires shall be direct burial, 600 volt, single conductor, solid copper, plastic insulated cable, rated for direct burial applications, UF, UL, approved, 14 gauge minimum lead and common ground return wires unless notes otherwise. Color of insulation as follows:
 - Lead Wires: any color (same color), except white or orange
 - Common Ground Wires: white (color)
 - Extra Control Wires: orange (color)
- All P.V.C. pressure main line and lateral lines shall receive as follows:
 - 18" minimum cover for main lines
 - 12" minimum cover for lateral lines
- Makes final electrical connection of controller per local electrical code. Provide all necessary fuse boxes, conduit, fittings, connectors or other electrical devices to make connection. Owner shall provide electrical service within 10 linear feet of controller location unless noted otherwise on drawings.
- Connect remote sensors to controller with ground wire in series prior to connecting to remote control valves.
- Owner or Landscapes Architect shall determine final controller location.
- All PVC pipe and fittings are to be primed with purple PVC primer solvent before applying PVC cement in accordance with the Uniform Plumbing Code.



STUDIO 13 DESIGN GROUP
2220 Sun. Meadows Blvd., Suite 330
The Woodlands, Texas 77380
Phone - (840) 357-4600
Fax - (840) 357-4677

TOWN OF ADDISON, TEXAS
SURVEYOR 1.5 MG EST.
IRRIGATION DETAILS

NO.	ISSUE	DATE	BY	DATE	DESIGNED	DRAWN	REVISION	CHECKED	FILE NAME
1	REVISED PER TOWN OF ADDISON COMMENTS	1-10-11	CJ	01/21/11					Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

NO. 1 ADD008459
DATE 01/21/11
DESIGNED LWR
DRAWN LWR
REVISION LWR
CHECKED LWR
FILE NAME FN1002-IR.dwg
SHEET IR-3

Town of Addison Irrigation Specifications

Revised 04/29/10

These revised specifications supersede any and all others. However, any discrepancies between the approved construction plans and those of the Town **MUST** be brought to the attention of the Town's designated representative for a final determination. The contractor will present the Town's representative an as-built plan at the final walk-through, along with three Buckner V075 quick coupling keys with hose-end swivels.

1. All work is to be accomplished by or directly supervised at all times by an on-site Irrigator licensed by the State of Texas.
2. The contractor shall verify the water pressure before the installation begins. If the static pressure is different than that of the design pressure, contact the designer and Town's representative immediately so changes can be made. Send a fax to the Parks dept. at 972-450-2834 with the current dated and timed static pressure reading. Design head to head with no single head coverage. Use appropriate size nozzles for a given landscape area so as not to spray onto or over paved surfaces or structures. Do not exceed manufacturer's recommendations.
3. The irrigation installer is responsible for resetting head and/or box height due to settling and after turf, groundcover, shrubs, trees, and mulch is added to the landscape areas. The irrigation contractor must supply a workmanship warranty for (1) year from date of acceptance.
4. Plans are diagrammatic and field adjustments are often necessary. For this reason, prior to trenching, valve locations and head layout with flags needs to be done and approved by the Town's irrigation inspector. Not doing so may result in the relocation of heads and/or valves at the irrigation contractor's expense.
5. **Water Taps:** Water taps will be 2" in size. **Note:** This does not imply that a 2" meter will be used; see Water Meters below. All parts must conform to the Town of Addison Water Department specifications and are the responsibility of the irrigation contractor to provide. Inspection of taps by the Water Department Representative must occur. Excavation and tap permits are required. Contact the Town of Addison Water Department at (972) 450-2871.

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6. Water Meters: Only meter types approved by the Town of Addison Water Department with an electronic encoder register and touch pad reader and two (2) brass flanges are acceptable. Meter lay lengths must be in accordance with the Town of Addison Water Department's specifications, housed in appropriate size (to be determined by the Town's Irrigation Inspector) concrete box with lid. New stainless steel bolts and nuts must be used in the installation along with new neoprene gaskets. The box should be level with the final grade using concrete pavers to support and prevent sinking. Backfill inside the box, 3" below meter base with at least 6" of fine (1/2") pea gravel. Connection to main must be approved and inspected by the Town's Water Department Inspector and all tap materials are to be purchased at the expense of the contractor and must comply with the Town of Addison's specifications. **Note:** Meter size shall not exceed 1 1/2" in size unless written approval is given by the Town of Addison Parks Department. All portions of this installation must adhere to the Town of Addison Water Department specifications as well.

7. Backflow Devices: Only Watts 007 M series inline check valve assemblies with the stainless steel ball valve handles and nuts are to be used. Irrigation contractor shall provide and install plugs for the test cocks in accordance to the Town of Addison Water Department specifications. Connect the device to the water meter via a separate brass flange, neoprene gasket and stainless steel nuts and bolts. Install to the flange a Teflon taped copper nipple and soldered copper pipe of sufficient length to center the DCA within its housing. The device will be housed in an appropriate size, (to be determined by the Town's Irrigation Inspector) rectangular concrete box with lid using concrete pavers for proper stability and height adjustment. The irrigation contractor shall be responsible for the DCA testing in accordance with State of Texas law, using a Licensed Backflow Assembly Tester registered with the Town of Addison Water Department. Copies of the results must be given to both the Town of Addison Parks and Water Departments. **Note:** All portions of this installation must adhere to the Town of Addison Water Department specifications as well.

8. Sleeves: All paving must have Town approved sleeve sizes and quantities present. It is the responsibility of the irrigation contractor to notify the Town's Irrigation Inspector of any area where sleeves should be present but are not and provide such materials at his cost. Any paving installed without sleeves will necessitate a bore and subsequent

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materials at the irrigation contractor's expense. All sleeves 2" and smaller will be Schedule 40 PVC with size and location noted on the plan. Larger sizes will be Class 200. All piping underneath paving, including sidewalks, must be sleeved. All sleeves are to be belled end PVC pipe. A minimum length of 12 inches of sleeve material must extend beyond the pavement.

9. Glue and Primer: Use Turfite brand glue on laterals and IPS Grey Heavy Body on main lines and a good quality purple primer on all. Avoid excessive use and wipe excess glue off of all joints and fittings with a clean rag.

10. Pipe: All main line pipe 2 inches and smaller is to be Schedule 40 belled PVC; larger sizes are to be Class 200 belled PVC with a minimum depth of 14" and a maximum depth of 16". Put not more than two (2) pipes in any one trench and separate the main line from the lateral line with at least two (2) inch of cover. Class 200 belled PVC lateral piping is to be used with a minimum depth of 12" and a maximum depth of 14".

11. Fittings: No crosses are permitted. Separate tees, 45's, elbows and other fittings by at least 12 inches. Reduction tees are preferred over use of single reducer bushings. Multiple reducer bushings will not be accepted. Only Spears and/or Lasco fittings are permitted. Allow 18 inches outside of sleeve before the first fitting. No 45 degree elbows on 1 inch and larger pipe are allowed.

12. Valves:
A. Master Valves: Every point of connection to the water supply system shall have an Irritrol 200 B series valve as the Master Valve, housed in a standard (large) Armor rectangular plastic valve box with 4 to 6 inches of small (1/2") pea gravel placed underneath the valve in such a manner as to prevent soil infiltration into the box. Use concrete pavers or bricks placed under edges of valve box for stability. Note: Valve box must not rest on pipe. Blue wire shall be used as the station wire for the Master Valve.

B. Station Valves: Only Irritrol 200 B series valves are permitted. A Ball Valve will be installed before every station or zone valve. They are to be located within a standard (large) Armor rectangular plastic valve boxes with 4 to 6 inches of (1/2") pea gravel placed underneath the valve in such a manner as to prevent soil infiltration into the box. The pea gravel should

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controller after the concrete pad is completely cured (two days). Use only appropriately sized stainless steel bolts, washers and nuts to secure the controller to the concrete pad. All wiring is to enter the pedestal via appropriately sized PVC sweep elbows extending at least 1" thru and 6" out from under the pad. Control/master valve wiring, flow meter wiring and 120-V service wiring are to be separated with each having its own access elbow. An additional spare 3/4" sweep elbow for phone service is to be installed as well. All national and local codes must be followed during the installation.

A. A/C controller - Only Irritrol MC Plus controllers will be acceptable. Both Mini-click rain and freeze sensors will be installed and placed where they can operate properly. All non-Rain Master controllers must be permanently wired for quick attachment to a Rain Master remote control unit.

B. Battery and/or Solar Operated Controllers - Only LEIT controllers will be acceptable. Install rain or freeze sensors on these controllers with SKIT8821-4 installation kit. Install on galvanized thick wall poles and set controller panel to height above finished grade to be determined by Town's representative.

C. Rain Master: Only an approved size stainless steel Rain Master Evolution DX-2 controller with a Stainless Steel Pedestal and Heavy Duty Lightning/Surge Protection is permitted. The controller must include all necessary hardware to ensure reliable communication and operation with the Town's central control located at 16801 Westgrove. Installation must include the following Rain Master hardware, purchased only from a certified Rain Master supplier: DX-FLOW sensor board, DX-PH phone communication option, Data Industrial flow meter (same size as the mainline), and shielded EV-CAB-SEN flow meter cable. It is the irrigation contractor's responsibility to entail the cost of and work in conjunction with South Western Bell Telephone to establish a dedicated phone service and install an interface within the pedestal at each controller location via direct burial cable within 1" PVC conduit. The entire installation must conform to Rain Master specifications and be approved by the Town's irrigation inspector prior to and be inspected during installation. Such specifications will include grounding and pad configurations and distances of separation from water meter to DCA to master valve to flow meter and the first fitting. A functional Mini-click freeze and rain sensor with a Hunter bypass switch must be installed in an approved location and by an approved method.

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be 2 inches from the bottom of the valve body. A minimum of 3" of valve box must extend below bottom of valve. If necessary, use valve box extensions.

C. Ball Valves: Female threaded plastic Spears or Lasco ball valves with positive T-handle cut off must be installed on every 200 feet of mainline for isolation purposes. A ball valve is also required to be installed before every station valves. Use 10" Armor valve box with a minimum of 3" extending below bottom of valve and fill to bottom of valve with 1/2" pea gravel. Use bricks or concrete box.

D. Quick Coupler Valves: Use only Buckner V075 single lug 3/4" quick coupling valves with a metal top. They are to be connected to a threaded fitting. Teflon tape and appropriate length of gray schedule 80 nipples and schedule 40 fittings are to be used for the swing joint. Secure to 18 inch by 1/2 inch steel rebar with a stainless steel worm screw clamp. House QCV in a 10 inch round plastic Armor valve box. Install Spears ball valve prior to each QCV. Bricks or pavers need to be installed under edges of valve boxes for stability. Backfill bottom of box with 1/2" pea gravel half way up body of valve.

E. Flowmeters: Purchase from a Rain Master supplier and install appropriately sized Data Industrial flowmeter. Follow all installation instructions as approved by Rain Master. House in a standard (large) Armor rectangular plastic valve box with 4 to 6 inches of small (1/2") pea gravel placed underneath the valve in such a manner as to prevent soil infiltration into the box. Use concrete pavers or bricks placed under edges of valve box for stability. Note: Valve box must not rest on pipe. The irrigation contractor must also purchase from Rain Master and install shielded Rain Master EV-Cab-Sen flow meter cable and install within continuous 3/4" or larger gray PVC conduit with 6 inch or larger J-boxes placed every 200 feet or where 360 degrees of fittings are installed; only sweep fittings are permitted. Only a continuous run of cable is allowed; no splices will be allowed except at the point of connection to the flow meter. Connections at the flow meter must first be soldered and then water proofed within a 3-M DBY connector. Note: Certain Rain Master requirements must also be met regarding installation order and distances of separation between DCA, flow meter, master valve and the first fitting. It is the responsibility of the irrigation contractor to adhere to these requirements. At final walk

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through, proper operation of the flow meter at the Rain Master controller must be demonstrated by the irrigation contractor.

13. Heads: All heads will be installed using polyethylene green nipples (3/4"x6" for rotors and 1/2"x6" for pop-ups) screwed into threaded fittings unless noted otherwise. No swing joints on 4" pop-ups or rotors will be allowed.

A. Pop-ups - Only Rainbird 1800 series are permitted. Install 3/4 inch above the finished grade.

a. 4 inch pop-ups: turf, tree bubblers within turf areas (use Hunter PCN 10 bubbler nozzles on spray heads).

b. 6 inch pop-ups with no side inlet: very low ground cover (less than 6 inches at mature height).

c. 12 inch pop-ups with side inlet: Ground cover and low growing shrubs. The ground cover and shrubs should not be more than 12" at maturity. The Town Inspector reserves the right to determine if and when side inlets installed using funny pipe verses the bottom inlet will be allowed. When authorized, use Hardie Blue Line Pipe with Toro barb fittings.

B. Bubblers - Use 1/2" Schedule 80 risers with shrub adapter and Hunter PCN 10, 1 gpm, bubbler nozzles for all tree wells with tree grates. Risers shall be a minimum of 2" below bottom of tree grates with nozzle 2" above mulch. Use (2) bubblers 180-degree opposed.

C. Rotors - Only Hunter I-20 Series are permitted, unless noted otherwise. Install 3/4" above finished grade.

14. Drip: Use Netafim products only. Use 0.9 gph pressure compensated self flushing dripper tubing with 12" emitter spacing. Install appropriate pressure reducer and filter in one standard rectangular plastic valve box and a ball valve (see Section 12 C) and station valve (see Section 12 B) in another standard rectangular plastic valve box. Use 17 mm Netafim barbed fittings. Secure tubing to the ground every 3' or less with heavy duty jute netting pins. Use air relief valves housed in 10" round valve boxes. Use Netafim indicator flags. Adhere to all Netafim design and installation specifications.

Page 5 of 7

15. Risers: Use Sch 80 PVC with Weathermatic LXS Series shrub head adapters with a 1/2"x6" green poly cut-off nipple screwed into the threaded fitting in the ground. The irrigation inspector reserves the right to determine placement of risers versus pop-ups.

16. Wiring: All wires will be 14 gauge UF. Station wires will be red. Common wires will be white. Master valve wire will be blue. Anytime the wiring changes direction, such as at an elbow or a tee, allow a loop of at least 12 inches alongside the fitting at that location. Only continuous wire runs are permissible. Wire should follow the main line where possible and lay along a single side not crossing over lateral lines. Wire is to be placed under mainline with 2" of dirt between wire and pipe.

17. Wire Connectors: Use only DBY connectors for all field wire splices other than at the valves themselves. Allow at least 36 inches of pigtailed wire at each splice. Use King One Step tan colored connectors for all valve splices. All valve box splices are to be housed in standard (large) Armor rectangular plastic valve boxes. All field splices are to be in 10 inch round Ametek plastic valve boxes or standard, large rectangular Ametek plastic valve boxes at the discretion of the Town's representative.

18. Backfilling: Prior to any backfilling of trenches, an inspection by the Town's irrigation representative must take place and any necessary changes implemented; otherwise manual excavation to enable proper inspection will be necessary. Use clean and approved topsoil to backfill all pipe to a depth. All heads and boxes are to be backfilled to grade with clean topsoil. No rocks greater than 1 inch are allowed. Compact trenches to alleviate settling. Minimal depth of coverage is 12 inches.

19. Valve sequencing must be performed by the contractor and in an order approved by the Town Irrigation Inspector. At least 12 inches of extra station wiring within the bottom of the pedestal is necessary for each zone and must be of neat and orderly appearance.

20. Any deficiencies in coverage noted by the Town's irrigation inspector will be rectified at the cost of the contractor.

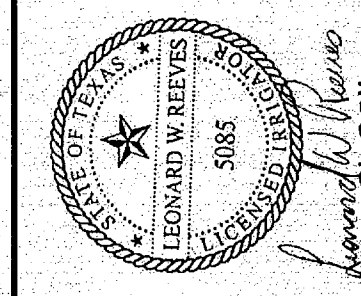
21. Controller: A Town Irrigation representative will determine the type of controller to be used. All controllers shall have a concrete pad of 36"x36"x6". Pad will be set at 3" above final grade. Install the

Page 6 of 7

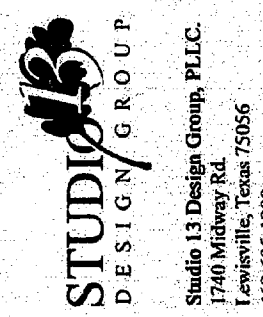
For part numbers and pricing of any Rain Master equipment, contact Ray Schramm of John Deere Landscapes at (214) 347-3628. For technical questions, call John DuBose of RainMaster at (214) 632-2289.

22. Communication is the key. **If you are unsure, CALL** Ron Lee, the Operations Manager of the Addison Parks Department: Office (972) 450-2863/Cell (972) 672-1817.


Page 8 of 7



January 21, 2011



Studio 18 Design Group, P.L.L.C.
1740 Wilshire Rd.
Lawrenceville, Texas 75066
409-651-1900



2220 Sam Jacobs Blvd, Suite 330
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TOWN OF ADDISON, TEXAS

SURVEYOR 1.5 MG EST.

IRRIGATION SPECIFICATIONS

NO.	ISSUE	REVISED PER TOWN OF ADDISON COMMENTS	BY	DATE	FARN JOB NO.	DESIGNED	DRAWN	REVISED	CHECKED	FILE NAME
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Bar is one inch on original print or this sheet, adjust scale.

IR-2

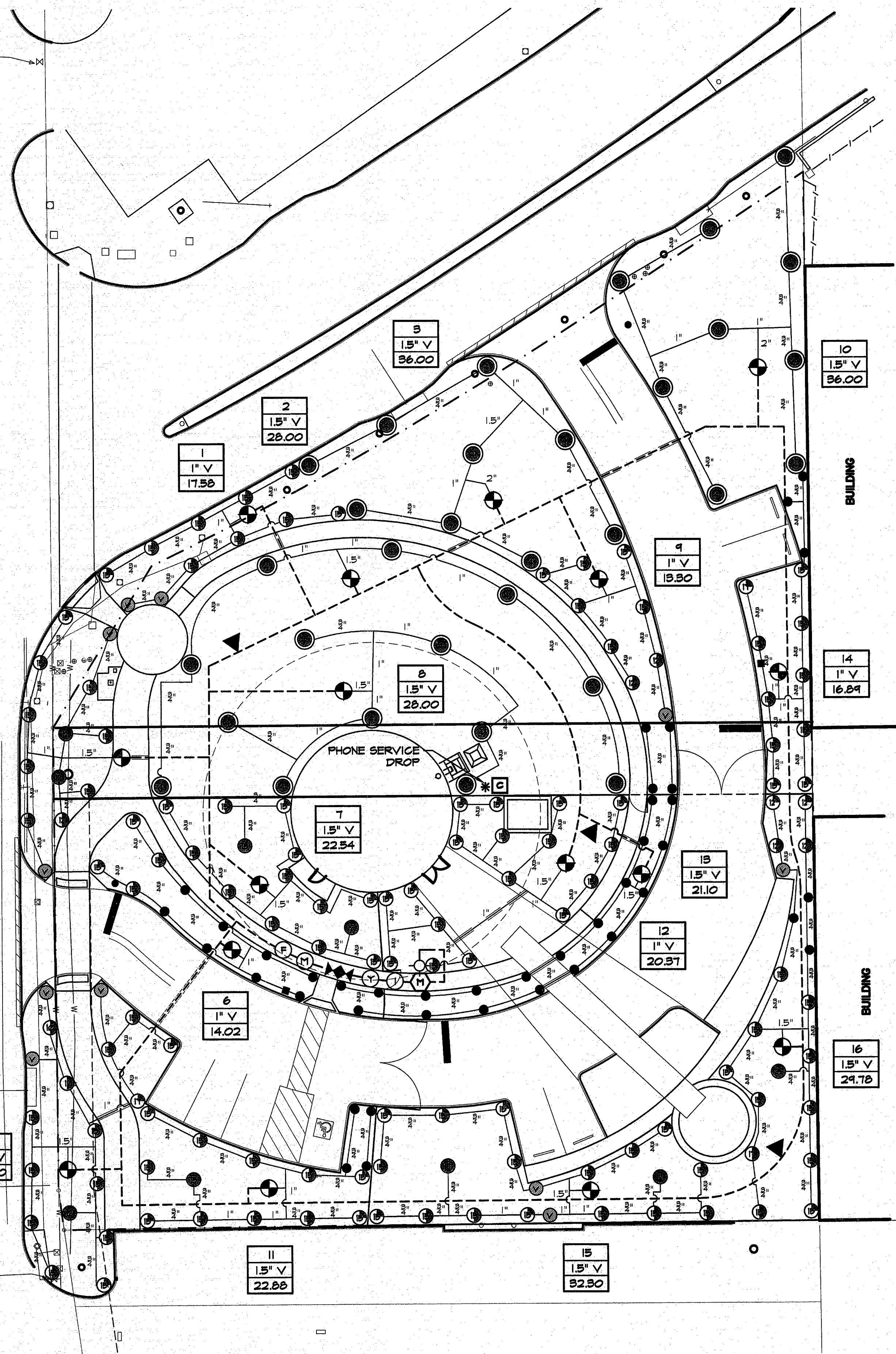
WATER VALVE
RIM=595.58
T/N=593.95

SURVEYOR BOULEVARD

ARAPAHO ROAD

SURVEYOR BOULEVARD

WATER VALVE
RIM=595.78
T/N=591.34



NOTES:

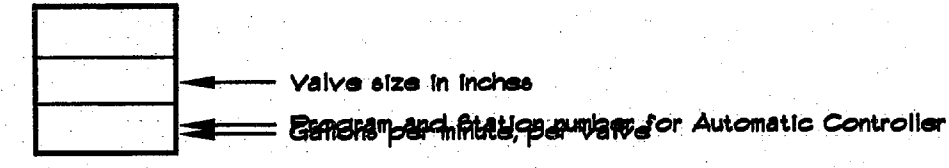
- 001 VALVES & PIPING SHOWN IN PAVING FOR CLARITY ONLY. INSTALL IN ADJACENT LANDSCAPE AREA.
- 002 ALL LATERAL LINES ARE 3/4" CLASS 200 PVC UNLESS OTHERWISE NOTED ON PLAN.
- 003 SLEEVES INTENDED FOR THE 2" MAIN LINE ARE TO BE TWO-FOUR INCH SLEEVES SIDE BY SIDE, AND ARE TO BE NO MORE THAN A DEPTH OF TWO FEET BELOW GRADE.

NOTES CONT'D:

- 004 SLEEVE INTENDED FOR LATERAL LINES ARE TO BE ONE FOUR INCH SLEEVE AND ARE TO BE NO MORE THAN A DEPTH OF TWO FEET BELOW GRADE.
- 005 THE GENERAL CONTRACTOR TO BE LIABLE FOR IRRIGATION SLEEVES.
- * 48 HOURS BEFORE IRRIGATION CONSTRUCTION BEGINS, INSTALLERS MUST CALL (800) DIG-TESS.

IRRIGATION LEGEND AND SCHEDULE

SYM	DESCRIPTION	MANUFACTURER	MODEL	SIZE / NOZZLE	NOTES
C	AUTOMATIC CONTROLLER	IRRITROL	RAINMASTER	N/A	PEDESTAL MOUNT, STAINLESS STEEL. INSTALL PER MANUFACTURER'S STANDARDS. IN ADDITION, INSTALL WIRELESS RAIN FREEZE SENSOR AND FLOW SENSOR.
R	REMOTE CONTROL VALVE	IRRITROL	200 B SERIES	Refer to Plan for Size	INSTALL PER DETAIL IN 10" ROUND BOX w/ 1/2" GRAVEL FILL.
B, B1, B2, B3	LAWN SPRAY HEAD	RAINBIRD	MFR NOZZLES 1004 BODIES	AS SHOWN ON PLAN	INSTALL PER DETAIL w/ 30 PSI AT BASE OF HEAD
V	LAWN SPRAY HEAD (VAN)	RAINBIRD	MFR NOZZLES (VAN) 1004 BODIES	VARIES	INSTALL PER DETAIL w/ 30 PSI AT BASE OF HEAD
CS	4" POP UP CORNER STRIP	RAINBIRD	15' STRIP SERIES	15'-RCS 15'-LCS	INSTALL PER DETAIL w/ 30 PSI AT BASE OF HEAD
CS	4" POP UP SIDE STRIP	RAINBIRD	15' STRIP SERIES	15'-SS1	INSTALL PER DETAIL w/ 30 PSI AT BASE OF HEAD
RH	ROTARY SPRAY HEAD	HUNTER	I-20 ULTRA	4" NOZZLE	INSTALL PER DETAIL w/ 40 PSI AT BASE OF HEAD.
M	WATER METER	----	PER CITY	1.5"	INSTALLED BY GENERAL CONTRACTOR
DCV	DOUBLE CHECK VALVE	Fabco	850-BV Series	1.5"	FURNISH AND INSTALL PER LOCAL CODE BY LICENSED IRRIGATION CONTRACTOR
I	ISOLATION VALVE	LASCO/SPEARS	1-T-113	1.5"	INSTALL PER DETAIL IN STANDARD RECTANGLE BOX w/ 1/2" GRAVEL FILL.
YS	WYE STRAINER	Fabco	1650	1.5"	INSTALL PER DETAIL IN STANDARD RECTANGLE BOX w/ 1/2" GRAVEL FILL.
M	MASTER VALVE	IRRITROL	200 B SERIES	1.5"	INSTALL PER DETAIL IN STANDARD RECTANGLE BOX w/ 1/2" GRAVEL FILL.
F	FLOW METER	HUNTER	FLOW-CLICK-200	2"	INSTALL PER DETAIL IN STANDARD RECTANGLE BOX w/ 1/2" GRAVEL FILL.
S	IRRIGATION SLEEVE	----	8CH. 40 w/ 1/2 GA. FULL WIRE IN SLEEVE	Refer to Plan for Size	DRIVEWAY SLEEVES INSTALLED BY GENERAL CONTRACTOR. SIDEWALK SLEEVES INSTALLED BY IRRIGATION CONTRACTOR.
ML	IRRIGATION MAIN LINE	----	8CH. 40 PVC	2"	16" INSTALLATION DEPTH
LL	IRRIGATION LATERAL LINE	----	CLASS 200	Refer to Plan for Size	12" INSTALLATION DEPTH
QCV	QUICK-COUPLER VALVE	CHAMPION	QVC-100VL	1"	INSTALL PER DETAIL IN 10 INCH DIAMETER VALVE BOX. ROUT AND PAINT "QVC" ON LID.
QCK	QUICK-COUPLER KEY	CHAMPION	CK-100	1"	FURNISH THREE (3) TO OWNER
H	HOSE SUIVEL	CHAMPION	QC8-2	1"	FURNISH THREE (3) TO OWNER

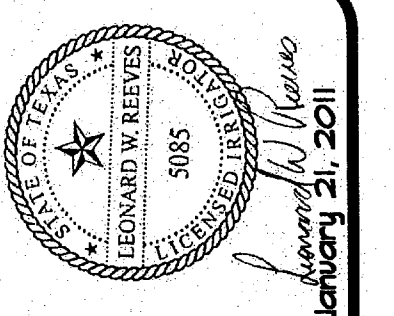
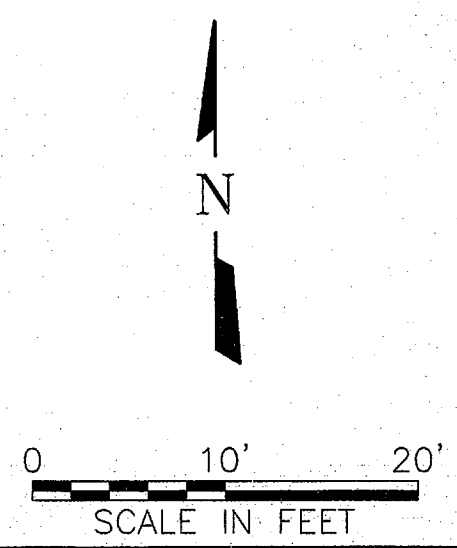


HYDRAULIC CALCULATION NOTES:

Ten days prior to commencing work, verify static pressure. If static pressure is less than 60 psi do not start work until notified in writing to proceed by Owner. If Contractor proceeds with work without authorization from Owner, the Contractor shall be financially responsible to correct, modify or repair any items or materials that may be required to provide a fully functioning and operational irrigation system in compliance with the plans and specifications. Hydraulic calculations for this system are based on the static pressure as stated above. The static pressure shown is an assumed pressure, a pressure measured at the site, or an estimated pressure provided by the county of city.

HYDRAULIC CALCULATIONS FROM ZONE #10

ITEM	SIZE	PSI	NOTES
MAXIMUM GPM ESTIMATED			3150 GPM
SERVICE	2"	0.34	TYPE 'K' COPPER 20 LN. FT. (36.00 GPM)
WATER METER	1.5"	2.10	(36.00 GPM)
BALL VALVE	1.5"	1.00	(36.00 GPM)
WYE FILTER	1.5"	0.30	(36.00 GPM)
BACKFLOW PREVENTER	1.5"	4.00	(36.00 GPM)
MASTER VALVE	1.5"	1.10	(36.00 GPM)
MAIN LINE	2"	2.25	55 LN. FT. 36.00 GPM
STATION VALVE (10)	1.5"	1.10	36.00 GPM
ZONE		2.15	36.00 GPM
CRITICAL HEAD 'A'		40.00	
TOTAL LOSS		56.14	
ASSUMED STATIC PRESSURE		65.00	
PRESSURE DIFFERENTIAL		-9.86	



STUDIO 13 DESIGN GROUP
Studio 13 Design Group, P.L.L.C.
1740 Midway Rd.
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Denton, Texas 76205-7550
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Fax - (940) 387-4677

TOWN OF ADDISON, TEXAS
SURVEYOR 1.5 MG EST.

IRRIGATION PLAN

NO.	ISSUE	REVISED PER TOWN OF ADDISON COMMENTS	DATE	BY	F&N JOB NO.	DESIGNED	DRAWN	REVIEWED	CHECKED	FILE NAME
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SHEET **IR-1**

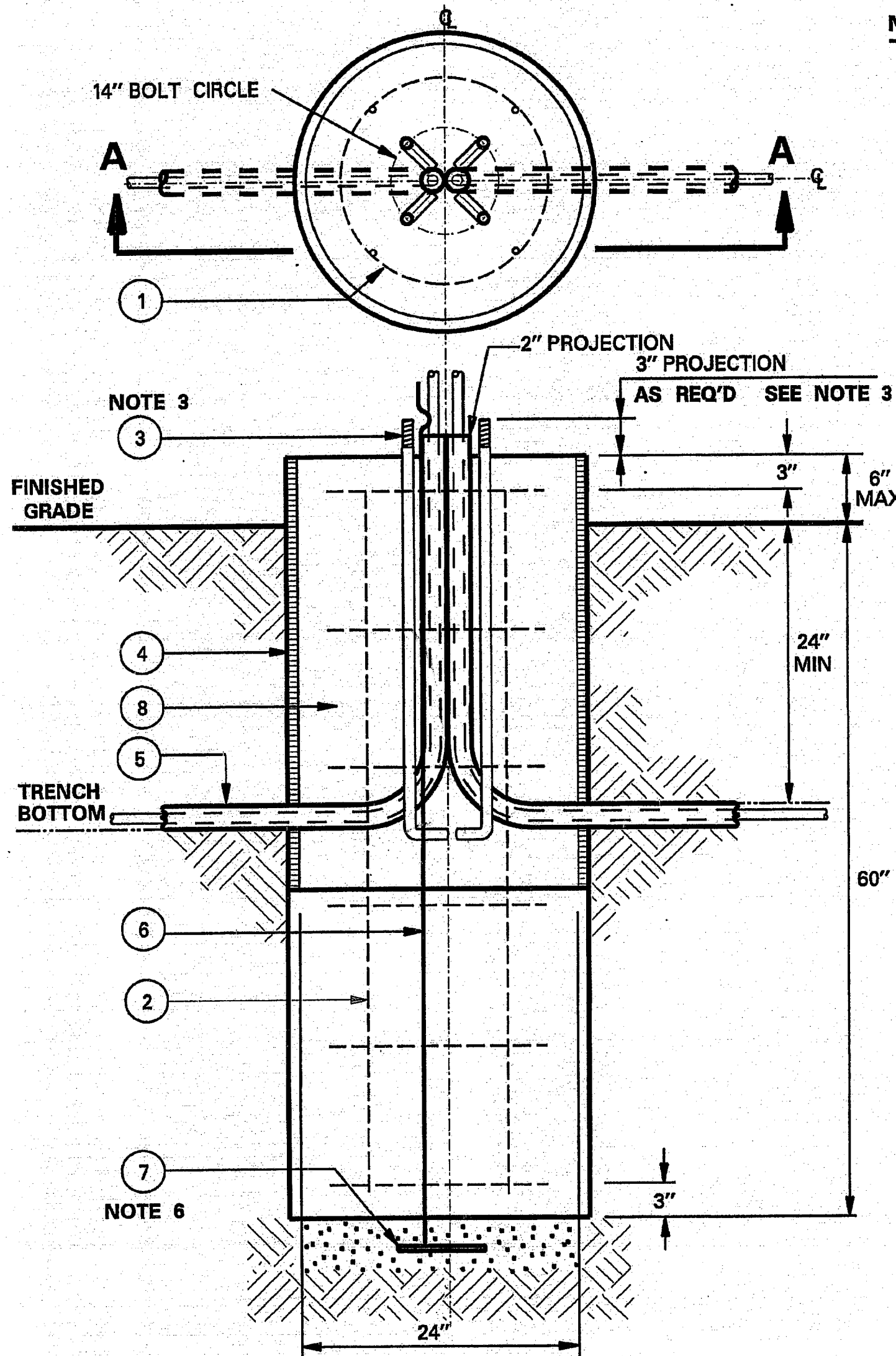
213 - 330

08 - 09

STREET LIGHT FOUNDATION
25', 30' & 40' SQUARE STEEL POLE
40' M.H. ROUND STEEL POLE

213 - 330

08 - 09



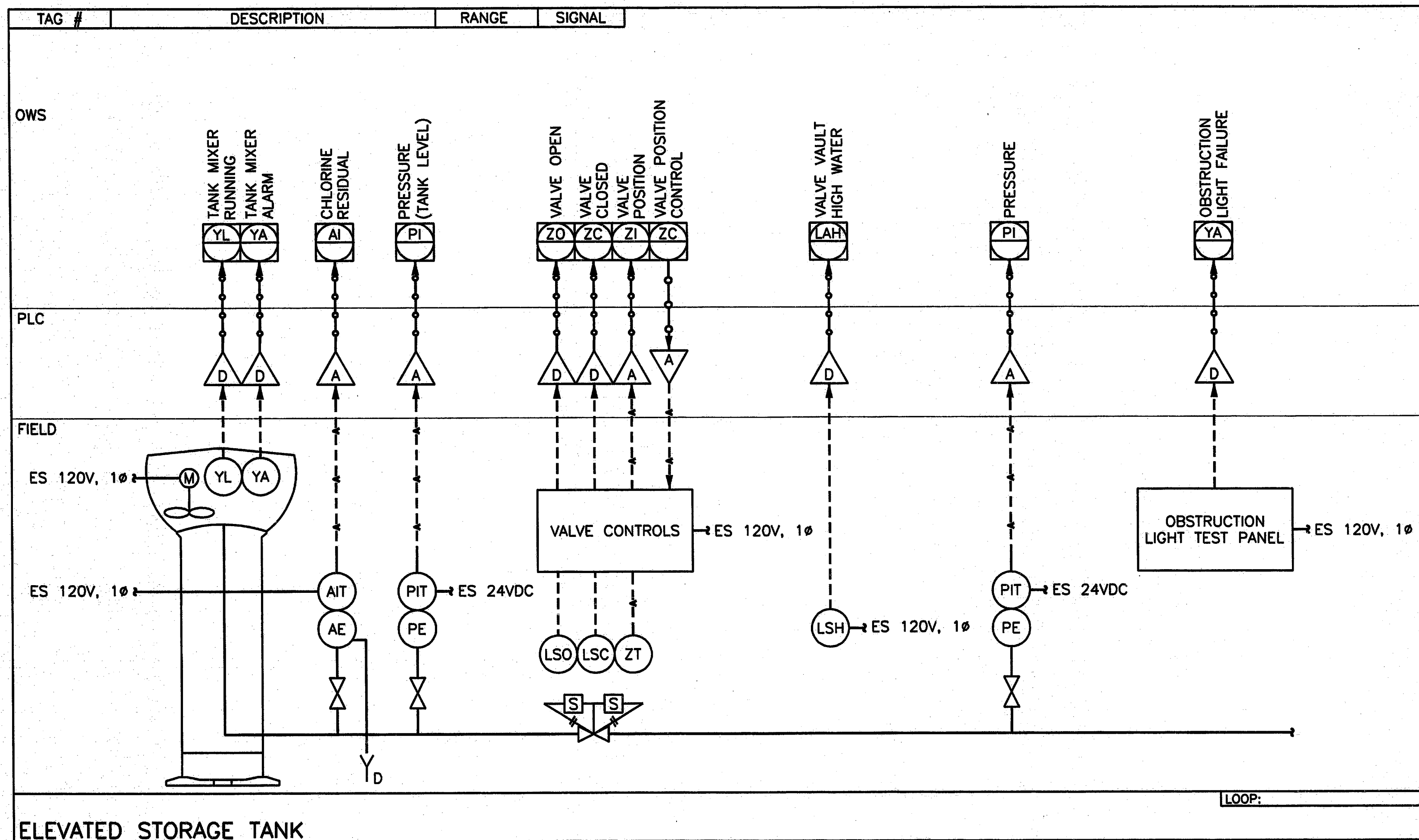
NOTES:

1. CONCRETE TO BE MINIMUM 3000 PSI AT 28 DAYS. (5 SACK) MAXIMUM AGGREGATE 3/4" TOP OF FOUNDATION TO BE TROWELED TO A FLAT AND LEVEL SURFACE. AVOID EXCESSIVE TROWELING. CONCRETE TO SET A MINIMUM OF 72 HOURS BEFORE POLE INSTALLATION.
2. REBAR HOOPS ARE TIED BEGINNING 3" BELOW TOP OF CONCRETE FORM AND ARE REPEATED AT APPROXIMATE 1' INTERVALS TO BOTTOM OF FOUNDATION.
3. 1" ANCHOR BOLTS TO BE USED WITH 25' & 30' POLE. 1 1/4" ANCHOR BOLTS TO BE USED WITH 40' POLE. USE TEMPLATE FURNISHED BY POLE MANUFACTURER FOR ALIGNING ANCHOR BOLTS. PROJECTION OF 3" ON 25' & 30' SQUARE AND 3 1/2" ON 40' SQUARE AND ROUND POLES.
4. CONCRETE FORM OF SONOTUBE TO EXTEND TO BOTTOM OF TRENCH OR AS NEEDED.
5. PROVIDE MINIMUM 24" GROUND WIRE PIGTAIL OUT OF CONCRETE FOR CONNECTION TO POLE.
6. A MINIMUM OF 12" OF BARE #6 SD CU WIRE TO BE PLACED IN BOTTOM OF HOLE AND COVERED WITH 2" OF DIRT
7. IF SOIL HAS BEEN DISTURBED, EXTEND FOUNDATION BY DEPTH OF DISTURBED SOIL.
8. FOR POLE FOUNDATIONS LARGER THAN 40' NOMINAL MOUNTING HEIGHT, CONTACT DISTRIBUTION STANDARDS.

SECTION "A - A"

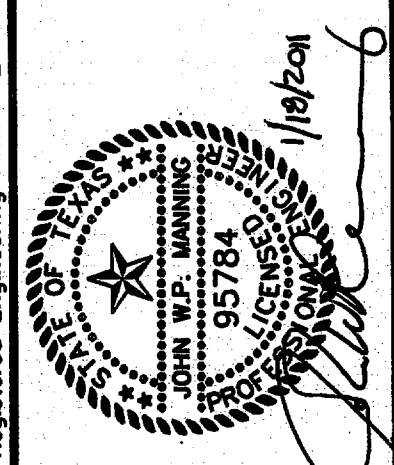
ITEM	QTY	DESCRIPTION	TSN/REF	CU	MU
1	6	#3 REBAR, 18" DIAMETER HOOP, 3" OVERLAP	314470		
2	4	#5 REBAR, STRAIGHT, 60" LONG	317821		
3	4	ANCHOR BOLT, GALV. 1" FOR 25 & 30' POLES	SEE NOTE 3	SLF25/30	
3	4	ANCHOR BOLT, 1 1/4" GALV FOR 40' POLES	SEE NOTE 3	SLF40	
4	AS REQD	CONCRETE FOUNDATION TUBE, 24" DIAMETER	313841		
5	AS REQD	CONDUIT, PVC OR PEC (NOT IN FOUNDATION AUN)			
6	.5 LB	WIRE, #6 COPPER, SOLID	303244		
7	1	GROUND, POLE BUTT WIRE COIL			
8	AS REQD	CONCRETE			
1		FND, PRECAST 25' & 30' SQR. POLE, 14" BC, 1" BOLTS	398698	SLFPSQ25/30	
1		FND, PRECAST 40' SQR, 40' RND POLE, 14" BC, 1.25" BOLTS	398700	SLFP40	

APPROVED BY



ELEVATED STORAGE TANK

Freese and Nichols, Inc.
 Texas Registered Engineering Firm F-2144



FREES & NICHOLS
 2200 San Jacinto Blvd., Suite 330
 Denton, Texas 76205-7589
 Phone - (940) 387-4600
 Fax - (940) 387-4677

TOWN OF ADDISON, TEXAS
SURVEYOR 1.5 MG EST
 ELECTRICAL
DETAIL & LOOP DIAGRAM

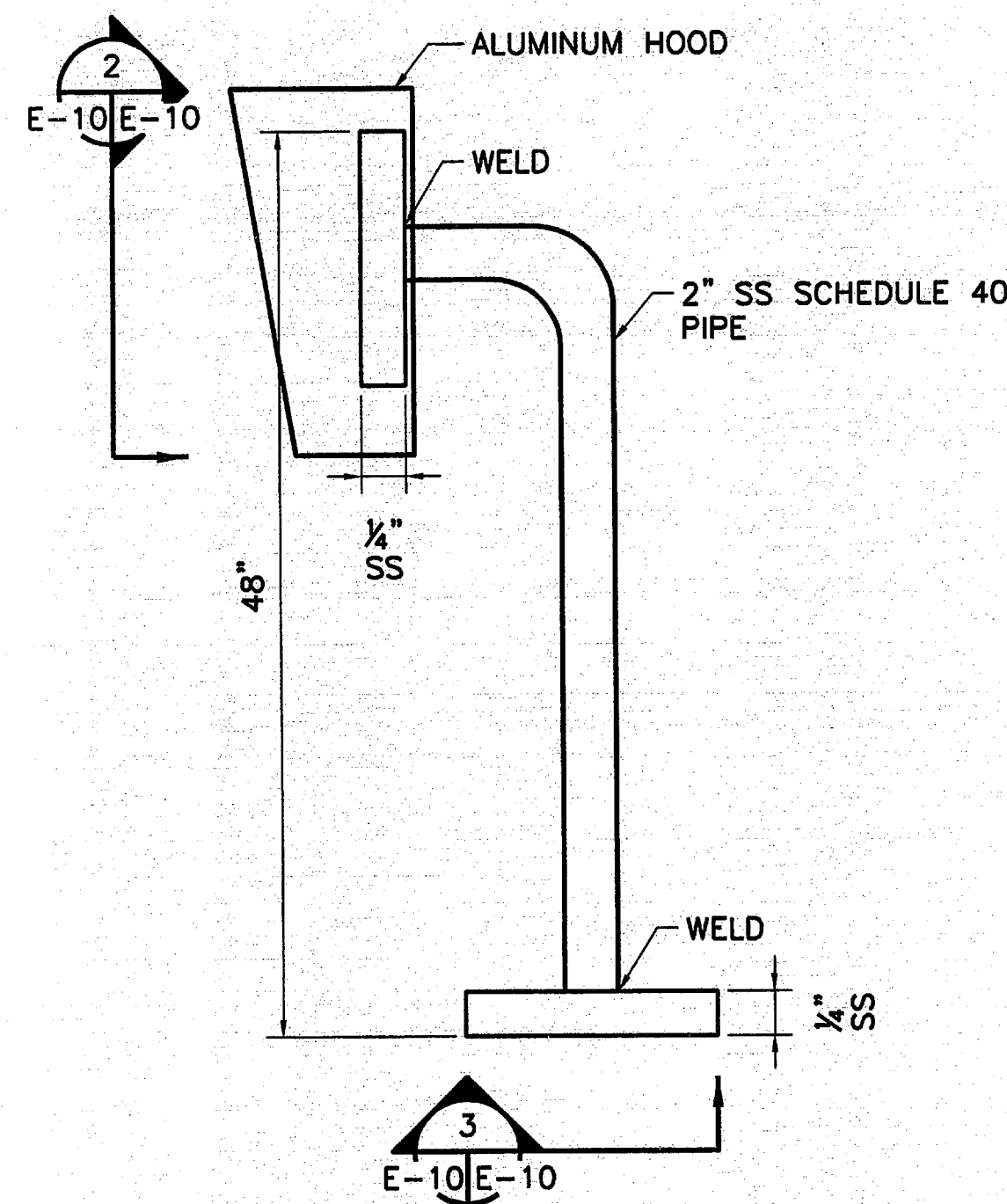
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DATE	07/18/11
DESIGNED	JMM
DRAWN	JAF
CHECKED	JMM
FILE NAME	EL-ADD-DT-MISC05.dwg

Bar is one inch on original drawing. Scale is as shown on this sheet.

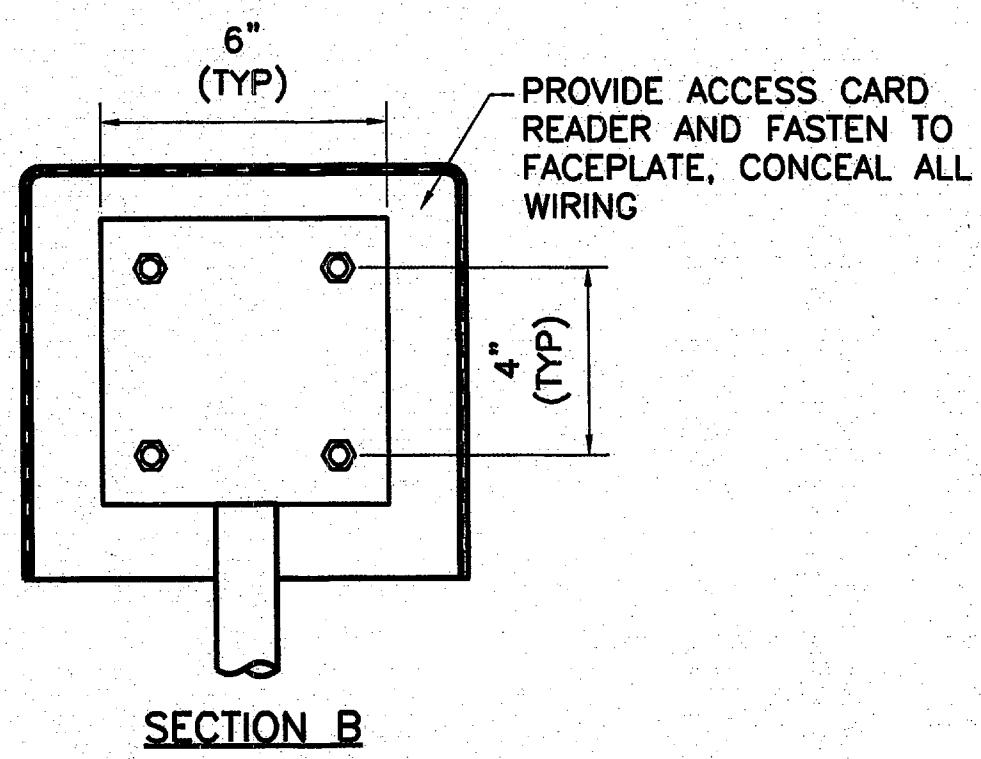
SHEET
E-11
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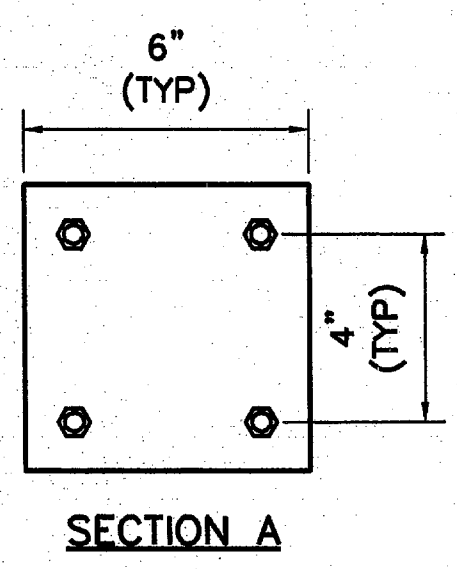
NO.1 GENERAL NOTES:
 1. MOUNTING HARDWARE AND BOLTS SHALL BE STAINLESS STEEL.

MOUNTING POST DETAIL
 NOT TO SCALE



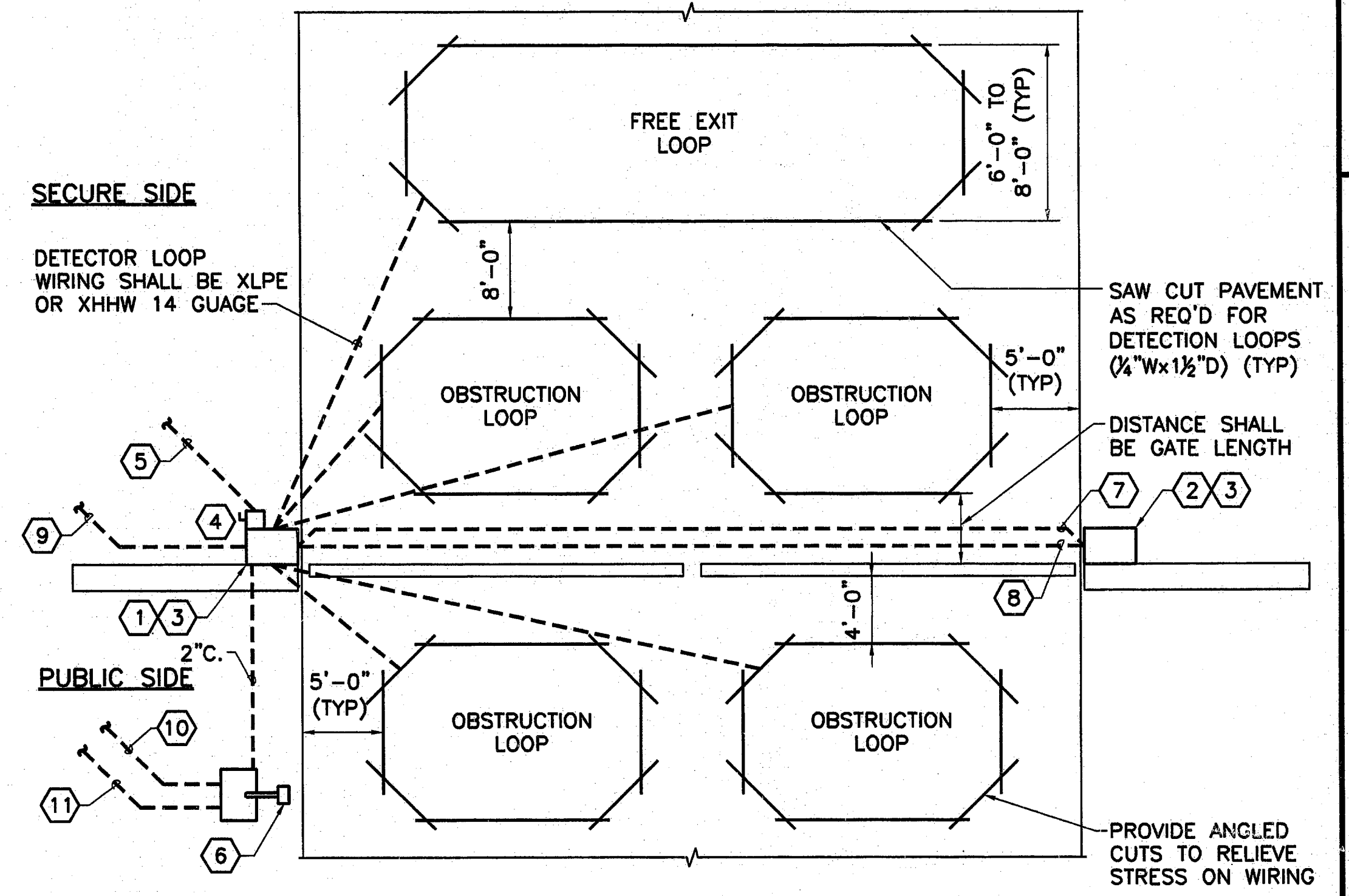
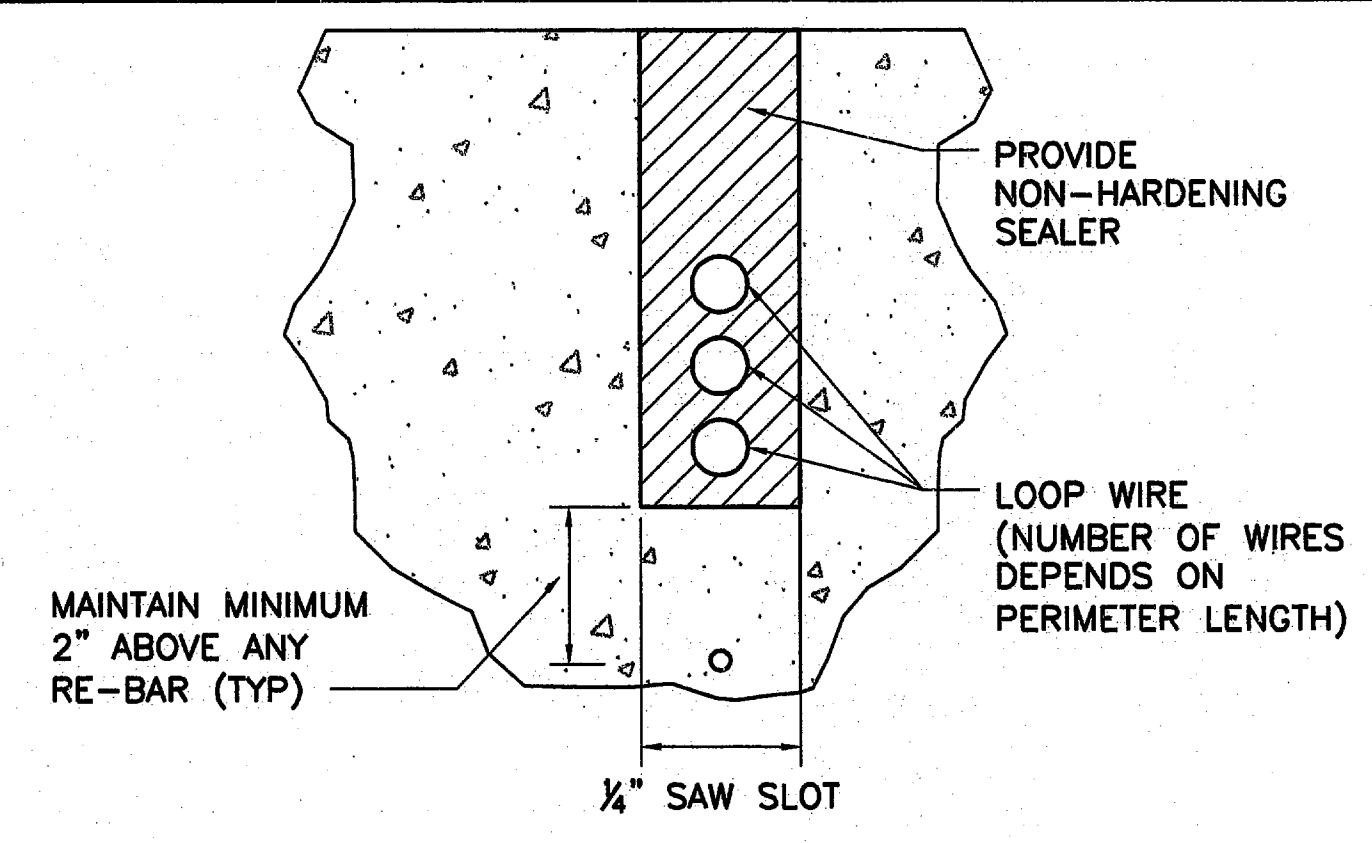
NO.2 GENERAL NOTES:
 1. MOUNTING HARDWARE AND BOLTS SHALL BE STAINLESS STEEL.

MOUNTING POST FACEPLATE DETAIL
 NOT TO SCALE



NO.3 GENERAL NOTES:
 1. MOUNTING HARDWARE AND BOLTS SHALL BE STAINLESS STEEL.

MOUNTING POST BASEPLATE DETAIL
 NOT TO SCALE

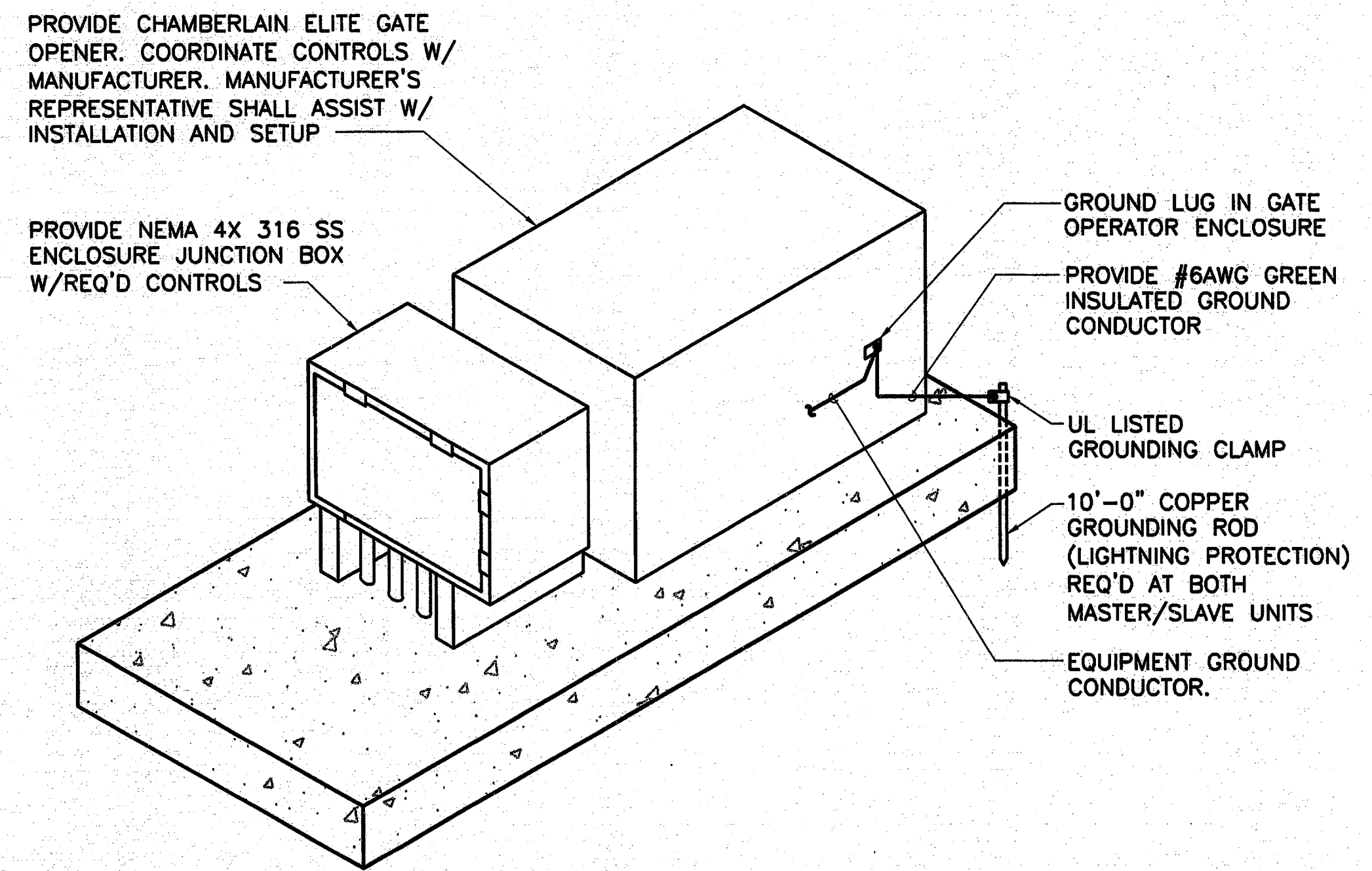


NO.5 GENERAL NOTES:

- DESIGN IS BASED ON A SWING GATE OPERATOR. THE SLAVE GATE OPERATOR OPERATES OFF ELECTRIC CONTROL EXTENDED FROM THE MASTER GATE OPERATOR AND THEREFORE THE POWER FEED (120V, 1Ø, 60HZ) IS REQUIRED ONLY AT THE MASTER GATE CONTROLLER.
- PROVIDE AND INSTALL CONTROL WIRING AND POWER AND CONTROL CONDUCTORS FROM MASTER GATE CONTROLLER TO SLAVE GATE OPERATOR IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- REFER TO CIVIL PLANS FOR SIZE/LOCATION OF GATE CONTROLLER, BOLLARDS, GATES, FENCES, ETC.
- THIS DETAIL IS SCHEMATIC IN NATURE AND IS INTENDED TO ILLUSTRATE MAJOR COMPONENTS AND WORK NECESSARY FOR SUCCESSFUL OPERATION OF THE GATE CONTROL SYSTEM. CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIALS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.
- POLARITIES MUST BE THE SAME ON THE DETECTOR LOOPS OR THE ELECTRIC FIELDS WILL INTERFERE WITH EACH OTHER.

NO.5 NOTES BY SYMBOL "⬡":

- GATE OPERATOR (MASTER).
- GATE OPERATOR (SLAVE).
- PROVIDE CONCRETE BASE FOR GATE OPERATOR. LOCATE PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- POWER FEED FOR GATE CONTROLLER. PROVIDE 30A/1P/NF DISCONNECT SWITCH IN NEMA 4X STAINLESS STEEL ENCLOSURE.
- TYPICAL POWER FEED FOR GATE CONTROLLER.
- PROVIDE ELECTRONIC GATE CONTROL CARD READER.
- PROVIDE MINIMUM 2" CONDUIT BETWEEN MASTER/SLAVE OPERATOR FOR POWER.
- PROVIDE 1" CONDUIT WITH CONTROL WIRING (3PR. #18 SHLD.) AND MAKE ALL TERMINATIONS. PROVIDE ADDITIONAL 1" SPARE CONDUIT BETWEEN OPERATORS.
- PROVIDE 1" CONDUIT FROM MASTER GATE OPERATOR TO SECURITY CONTROL PANEL.
- PROVIDE 1" CONDUIT FROM MOUNTING POST TO LOCATION IN SECURITY CONTROL PANEL AS IDENTIFIED BY OWNER. PROVIDE COMMUNICATION CABLING IN CONDUIT PER MANUFACTURER'S RECOMMENDATIONS. MAKE ALL TERMINATIONS AS REQUIRED.
- PROVIDE 120V POWER TO MOUNTING POST FOR CONTROL SYSTEM.

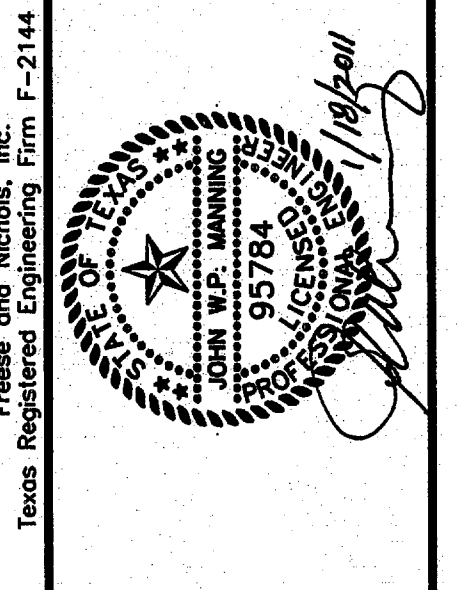


PROVIDE CHAMBERLAIN ELITE GATE OPENER. COORDINATE CONTROLS W/ MANUFACTURER. MANUFACTURER'S REPRESENTATIVE SHALL ASSIST W/ INSTALLATION AND SETUP

PROVIDE NEMA 4X 316 SS ENCLOSURE JUNCTION BOX W/REQ'D CONTROLS

SLIDE GATE OPERATOR
 NOT TO SCALE

GATE CONTROLLER DETAIL
 NOT TO SCALE



FREES & NICHOLS
 2220 San Joaquin Blvd., Suite 330
 Houston, TX 77050
 Phone - (840) 387-4600
 Fax - (840) 387-4677

TOWN OF ADDISON, TEXAS
 SURVEYOR 1.5 MG EST
 ELECTRICAL
 DETAILS

NO.	ISSUE	BY	DATE	F&N JOB NO.	ADD08459
			01/18/11	DATE	
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				DRAWN	JAF
				CHECKED	JNH
				FILE NAME	EL-ADD-DT-MISC03.dwg

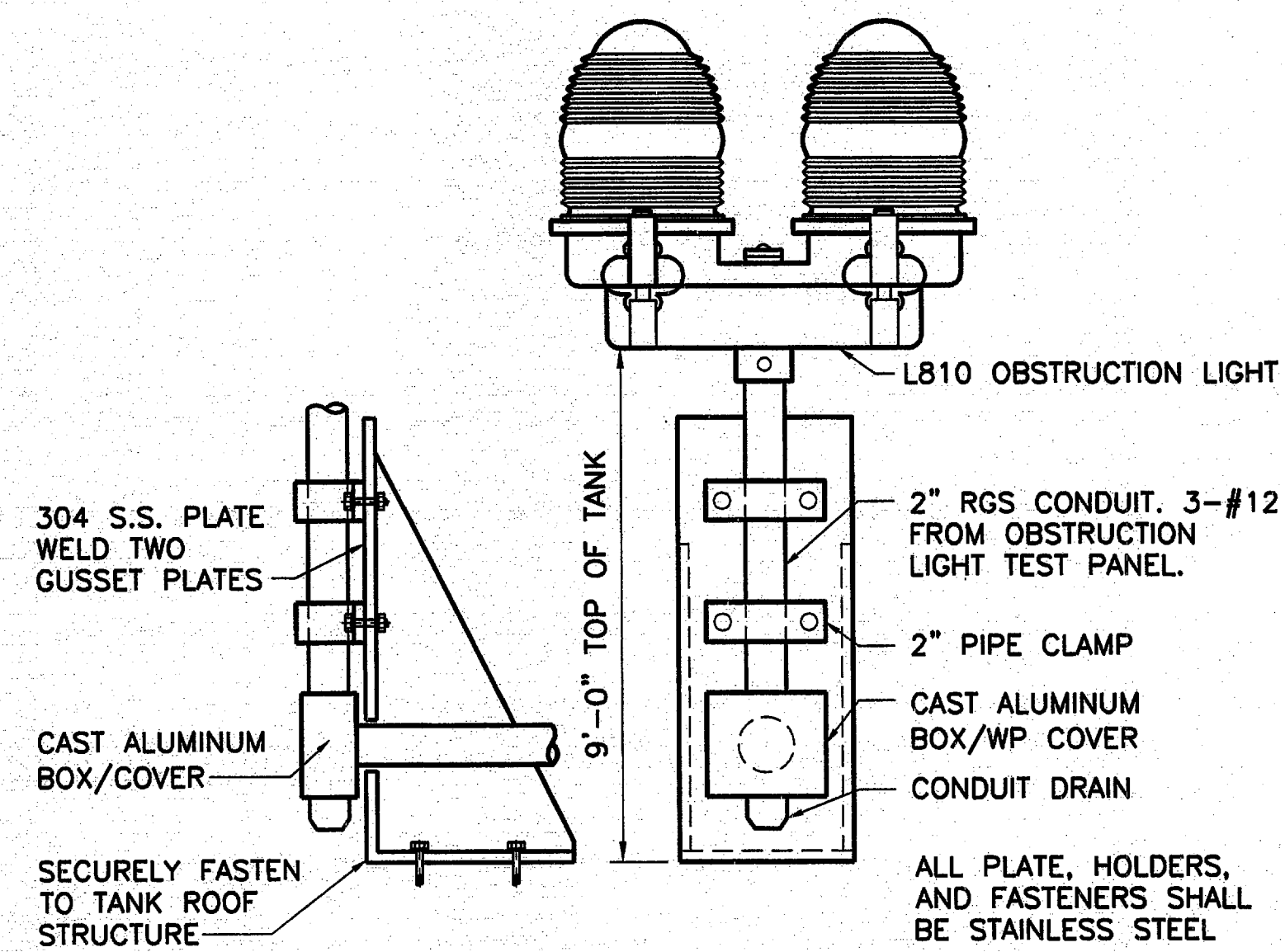
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VERIFY SCALE

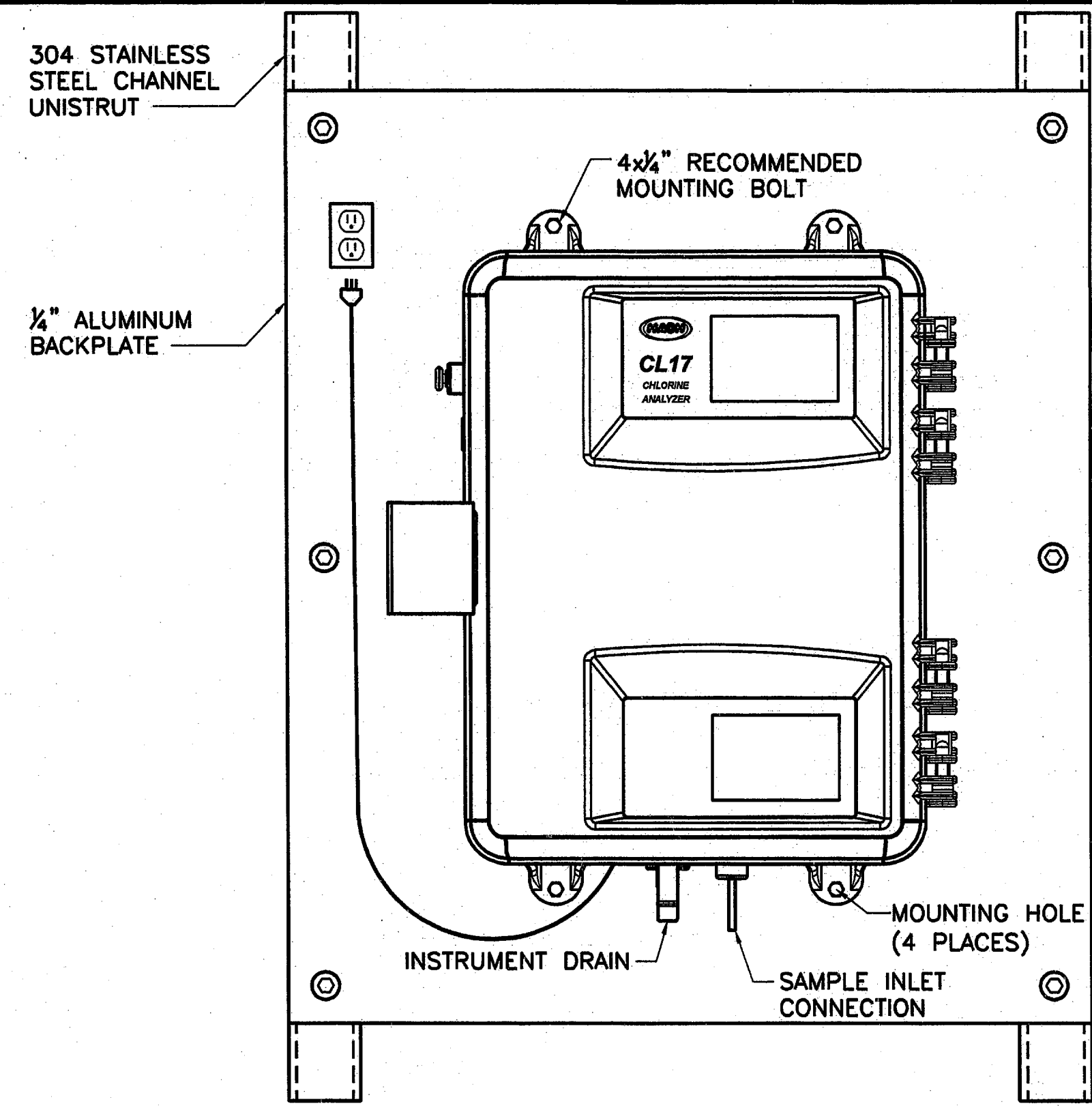
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SEQ.

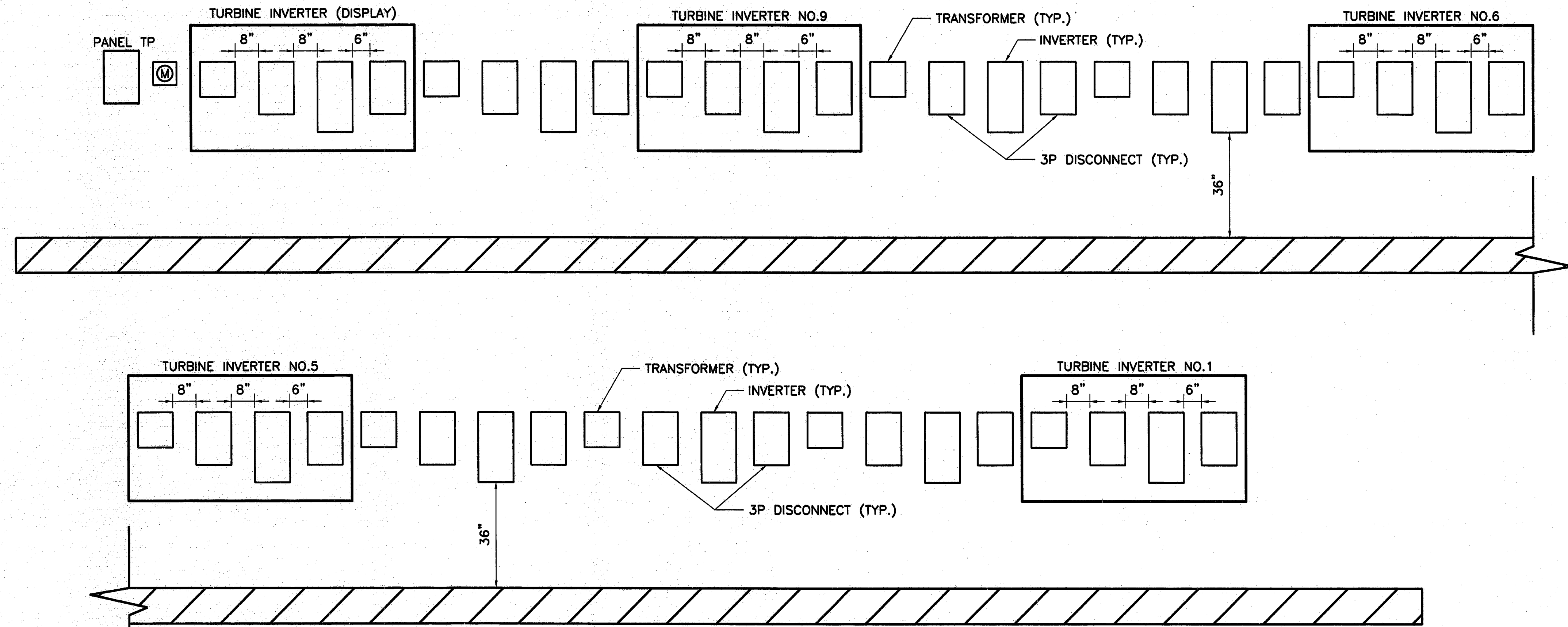
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1
OBSTRUCTION LIGHT
NOT TO SCALE



2
CHLORINE MONITOR MOUNTING DETAIL
NOT TO SCALE



3
WIND TURBINE SYSTEM WALL EQUIPMENT LAYOUT
NOT TO SCALE

Freese and Nichols, Inc.
Texas Registered Engineering Firm F-2144

9578-0
JOHN W.P. MANNING
REGISTERED PROFESSIONAL ENGINEER
NOVEMBER 1988
STATE OF TEXAS

FRESE & NICHOLS

2220 San Jacinto Blvd, Suite 330
Denham, Texas 76028-7589
Phone - (940) 387-4600
Fax - (940) 387-4677

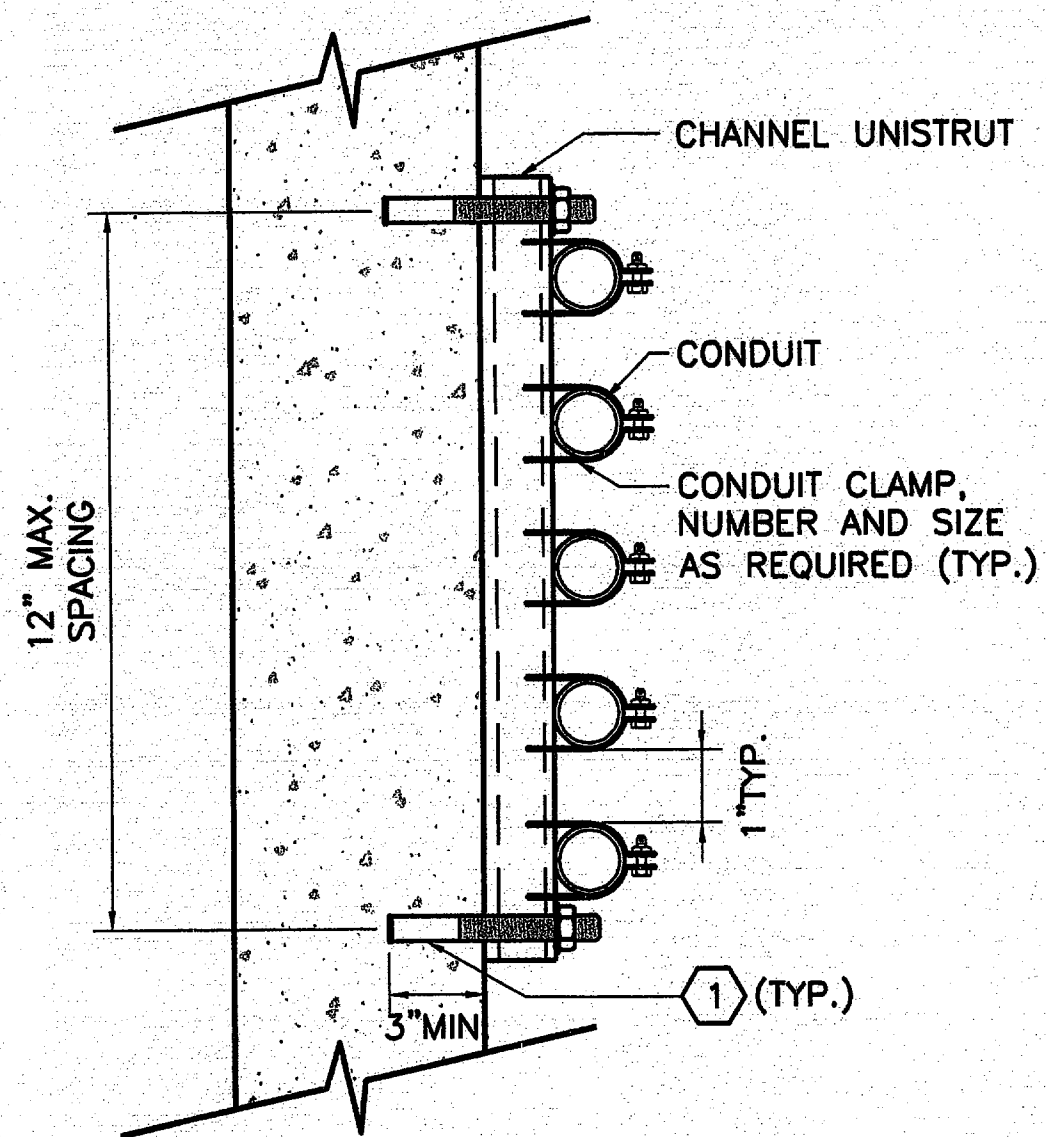
TOWN OF ADDISON, TEXAS
SURVEYOR 1.5 MG EST
ELECTRICAL
DETAILS

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			DATE	01/18/11
			DESIGNED	JWM
			DRAWN	JAF
			REVISION	
			CHECKED	JNH
			FILE NAME	EL-ADD-DT-MISCO2.dwg

VERIFY SCALE: Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

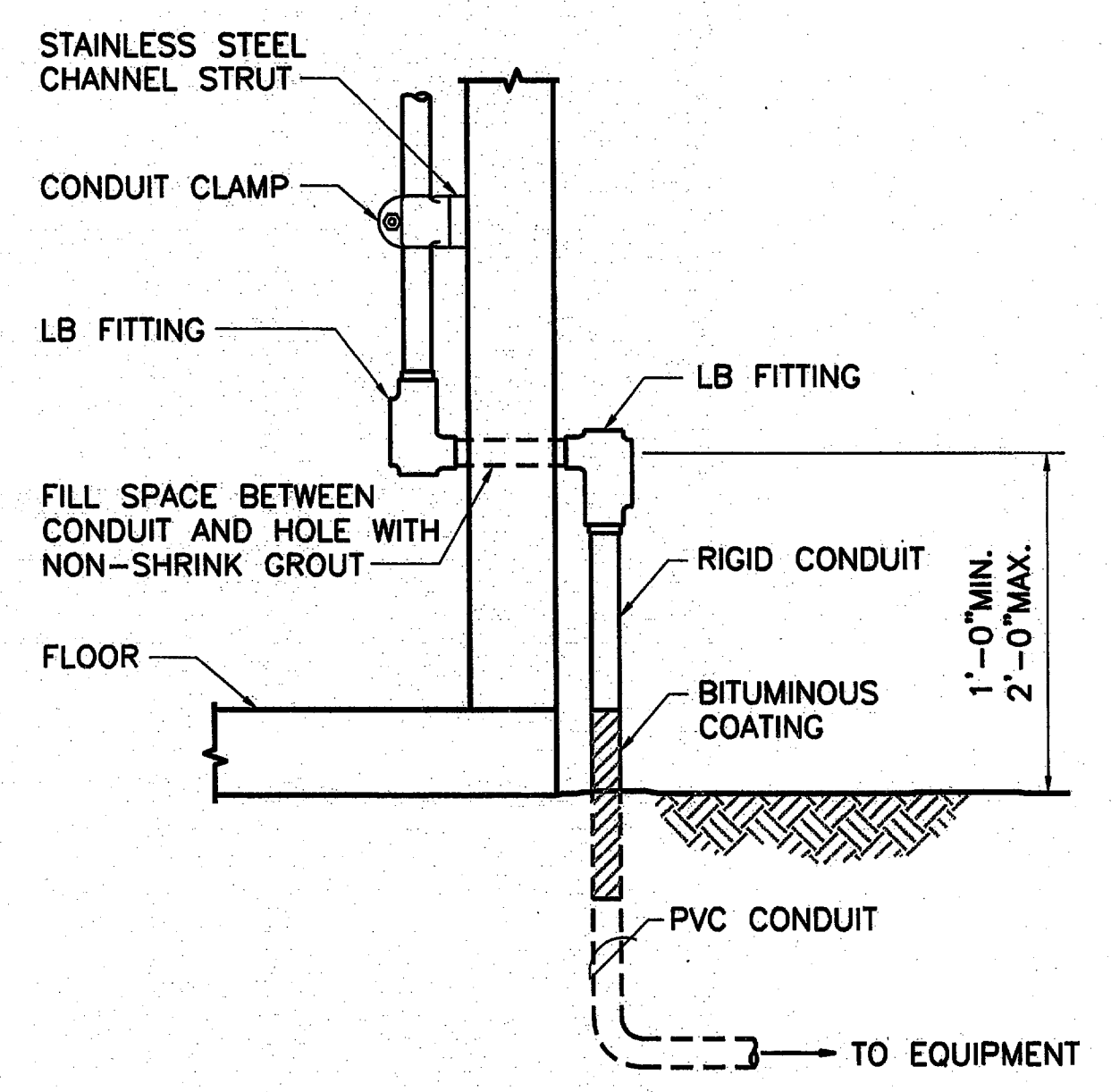
SHEET
E-9
SEQ.

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Jan 18, 2011 - 6:35pm PLOTS: 1 TWIST: CLUAL\FRESE.COM
REFERENCES: N:\elec\Boss\JWM-STAMP.dwg N:\Standard\348ORDER.DWG N:\UF\Boss\cv-uf-pl-inverter.dwg 95784.dwg

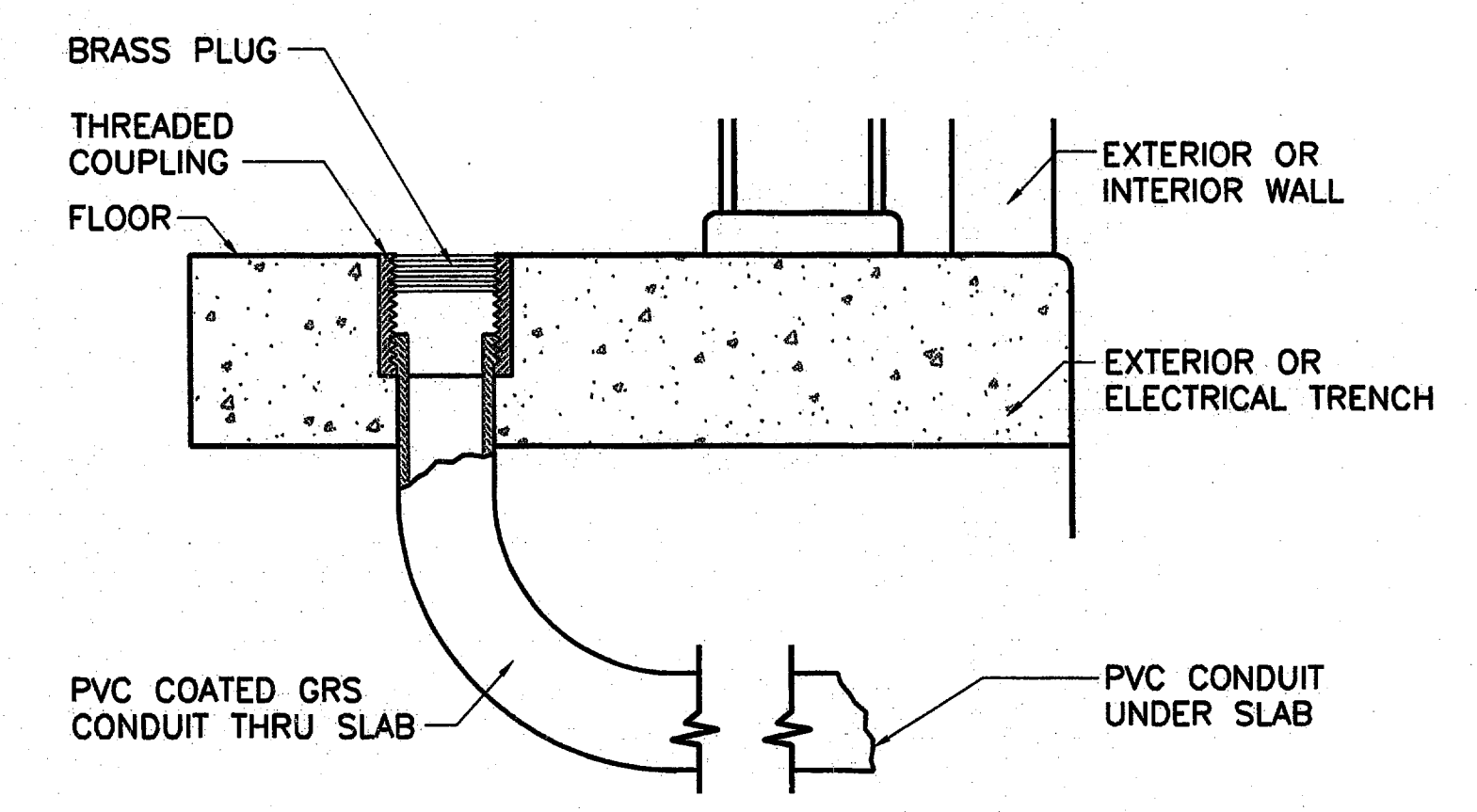


NO.1 NOTES BY SYMBOL "1"
 1. ANCHORS SHALL BE EXPANDING 316 STAINLESS STEEL.

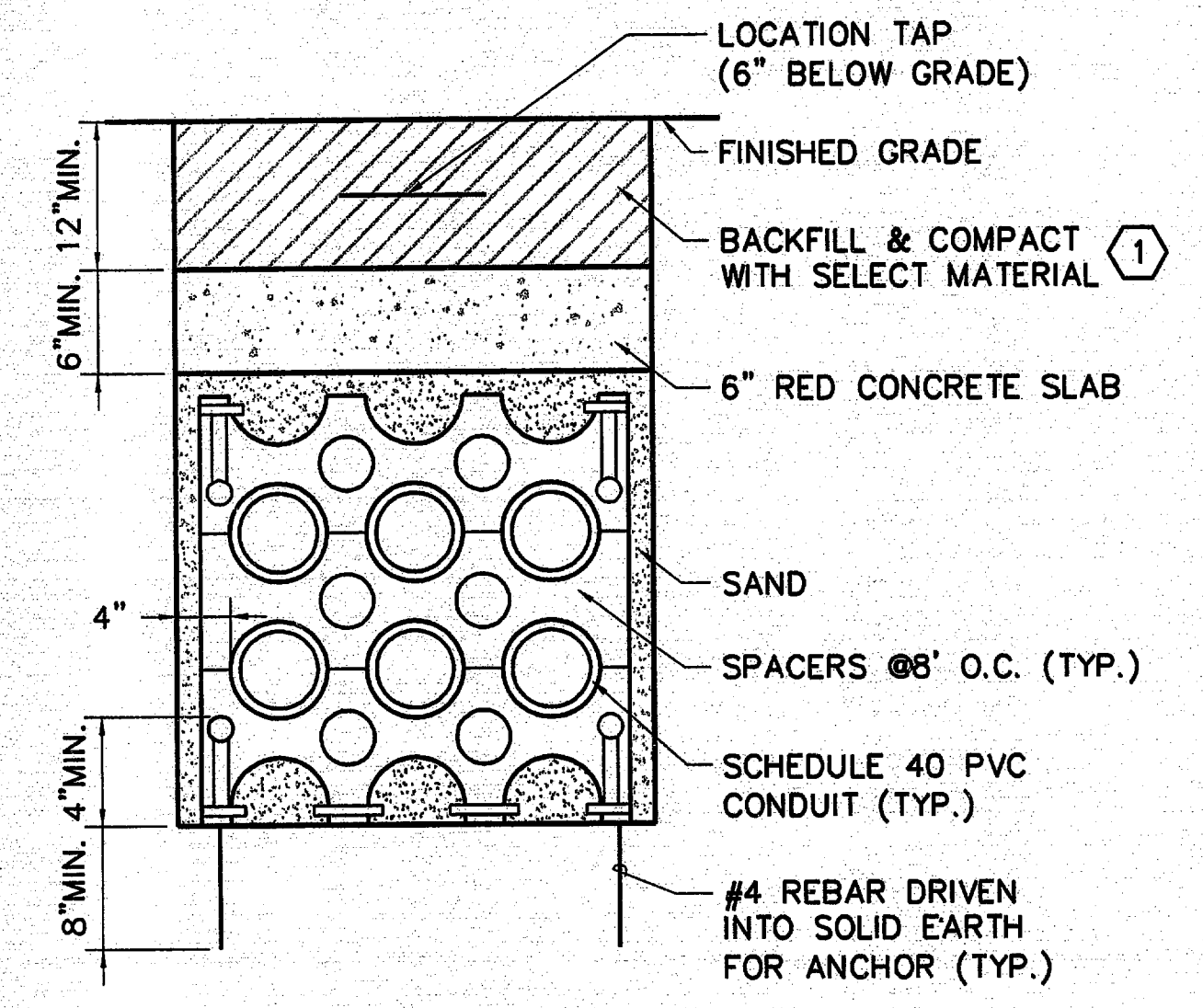
1 WALL MOUNTED CONDUIT RACK
 NOT TO SCALE



2 WALL PENETRATION
 NOT TO SCALE

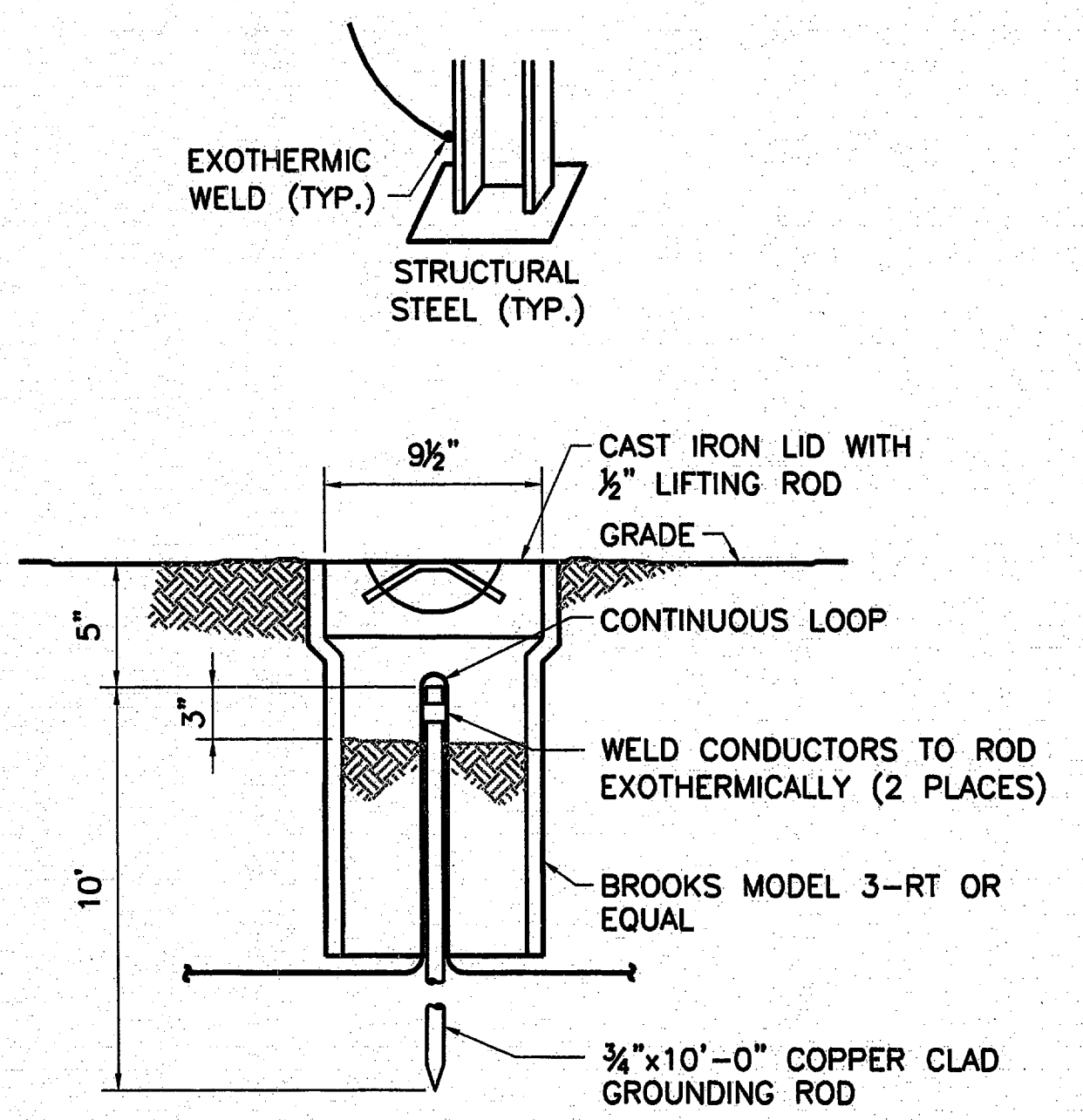


3 CONDUIT FLOOR ENTRANCE
 NOT TO SCALE

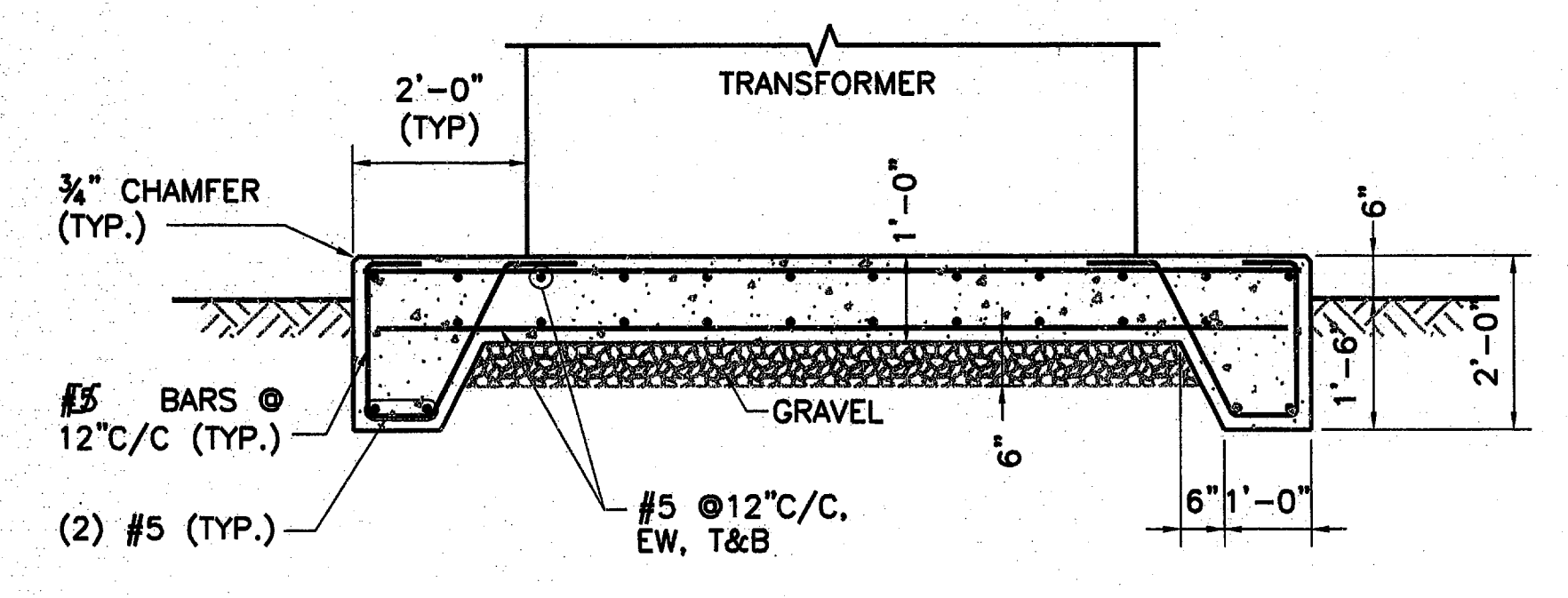


NO.4 NOTES BY SYMBOL "4"
 1. SELECT BACKFILL TO BE CLASS 4 EARTH FILL. FILL SHALL CONSIST OF MATERIALS WHICH ARE CLASSIFIED AS SP, SM, SC, CL OR DUAL CLASSIFICATIONS THEREOF, WHICH HAVE A LIQUID LIMIT LESS THAN OR EQUAL TO 35 AND A PLASTICITY INDEX OF A MINIMUM OF 4 AND A MAXIMUM OF 15, WHICH ARE FREE OF ORGANIC MATERIALS.

4 CONCRETE CAPPED DUCT BANK DETAIL
 NOT TO SCALE

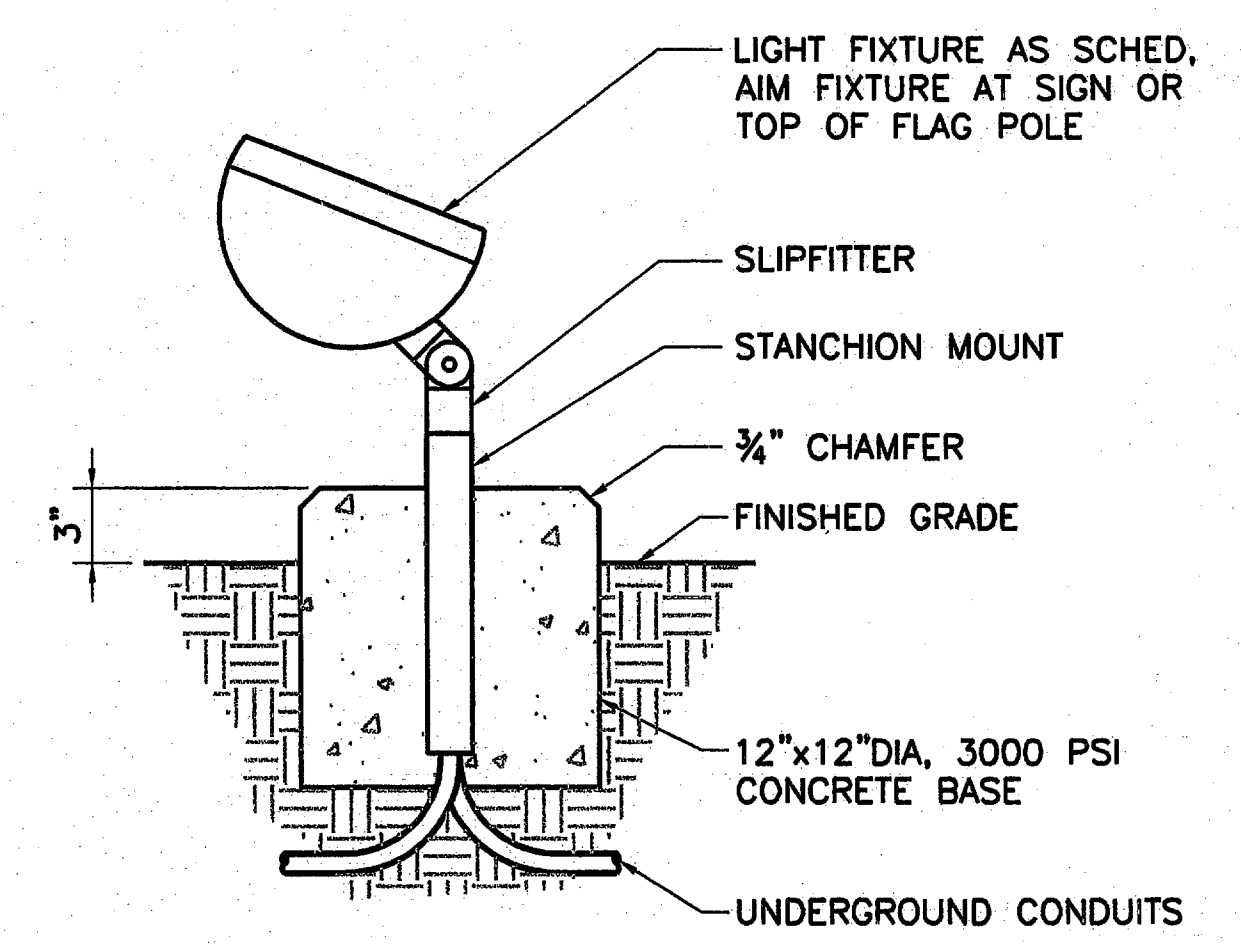


5 GROUND ROD DETAIL
 NOT TO SCALE

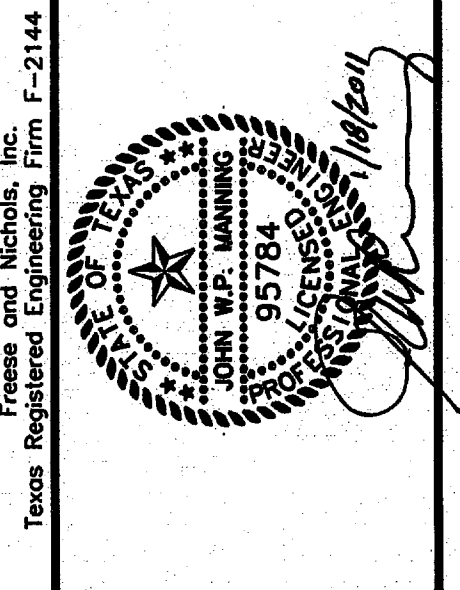


NO.7 GENERAL NOTES:
 1. CONTRACTOR SHALL VERIFY TRANSFORMER.

7 TRANSFORMER PAD
 NOT TO SCALE



8 GROUND FLOOD LIGHT
 NOT TO SCALE

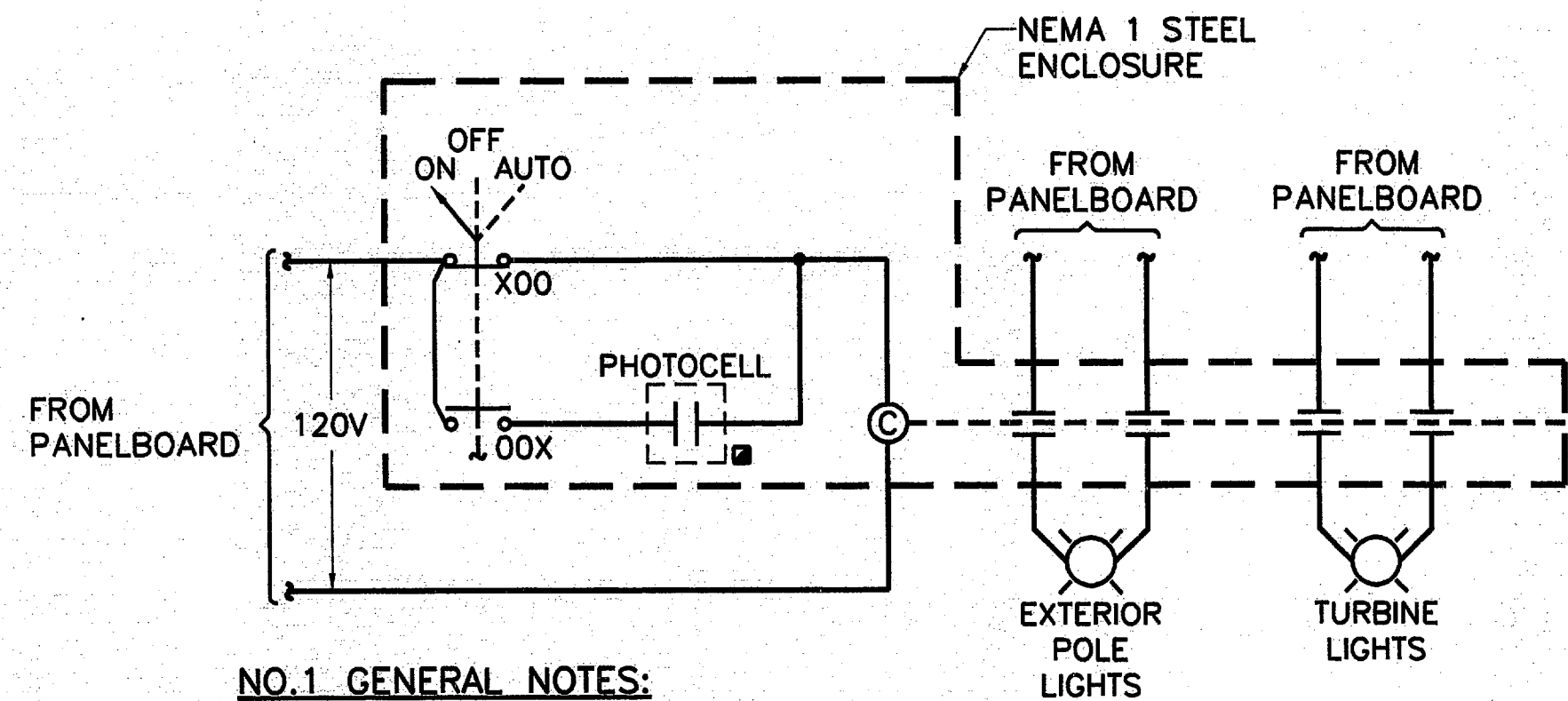


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TOWN OF ADDISON, TEXAS
 SURVEYOR 1.5 MG EST
 ELECTRICAL
 DETAILS

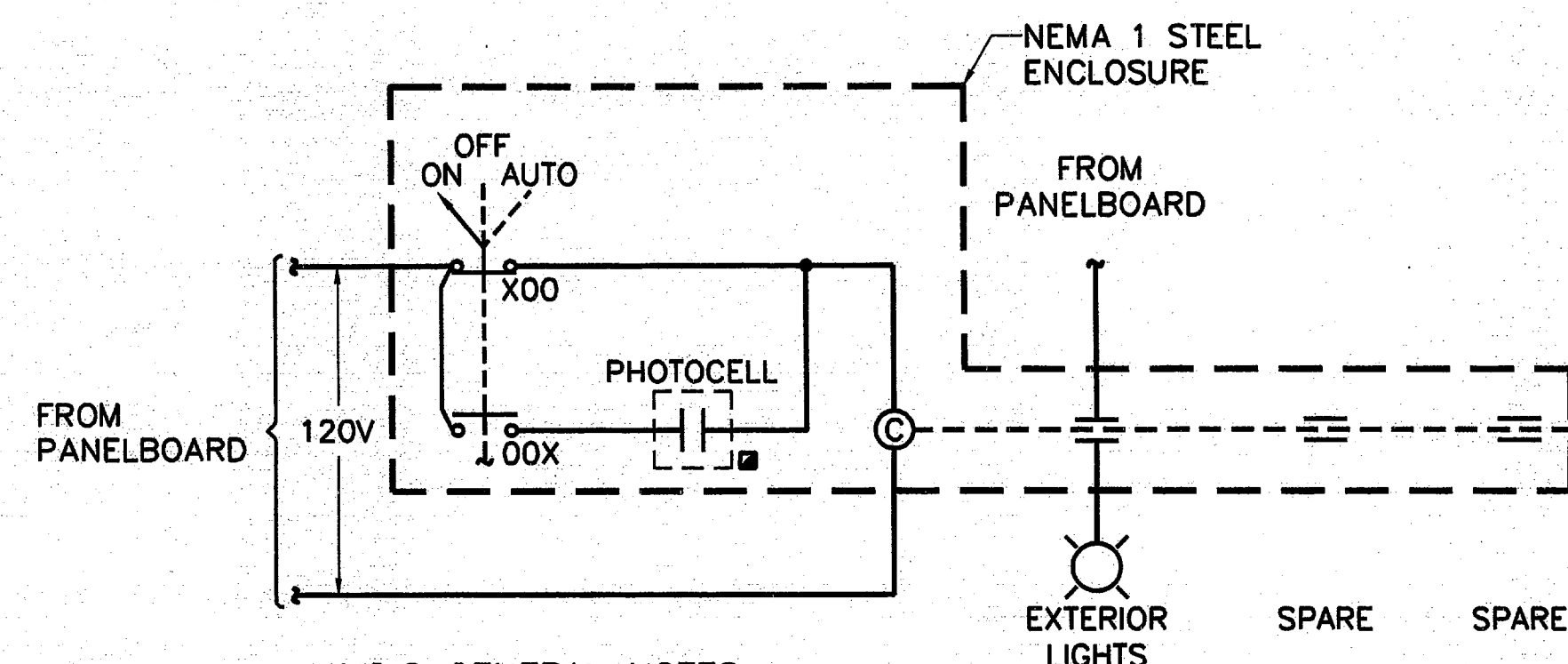
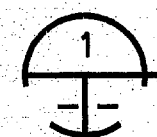
NO. ISSUE	DATE	BY	DESIGNED	DRAWN	REVISIONS	CHECKED	FILE NAME
	01/18/11		JMM	JAF		JNH	EL-ADD-DT-MISC01.dwg
VERIFY SCALE: Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.							
E-8							
SHEET SEQ.							

N:\elec\EL-ADD-DT-MISC01.dwg LAYOUT: EL-ADD-DT-MISC01.dwg
 Jan 18, 2011 2:03pm
 REFERENCES: N:\elec\Bases\WWW-STAMP.dwg, N:\Standard\34BORDER.DWG, 95784.dwg



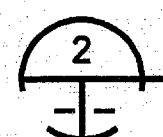
NO.1 GENERAL NOTES:
 1. CONTACTS SHALL BE RATED FOR 20 AMPS AT 240V.

BOWL LIGHTING AND TURBINE LIGHTING CONTACTOR CONTROL SCHEMATIC



NO.2 GENERAL NOTES:
 1. CONTACTS SHALL BE RATED FOR 20 AMPS AT 240V.

EXTERIOR PEDESTAL LIGHTING CONTACTOR CONTROL SCHEMATIC

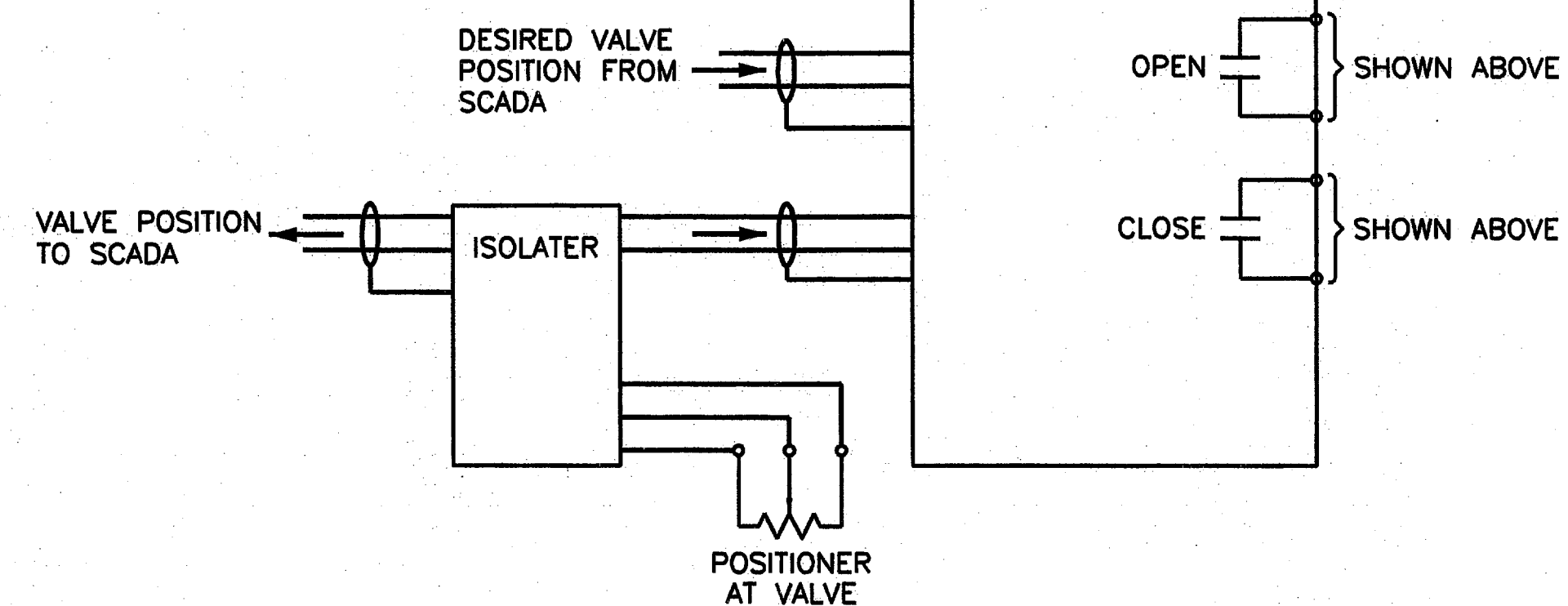
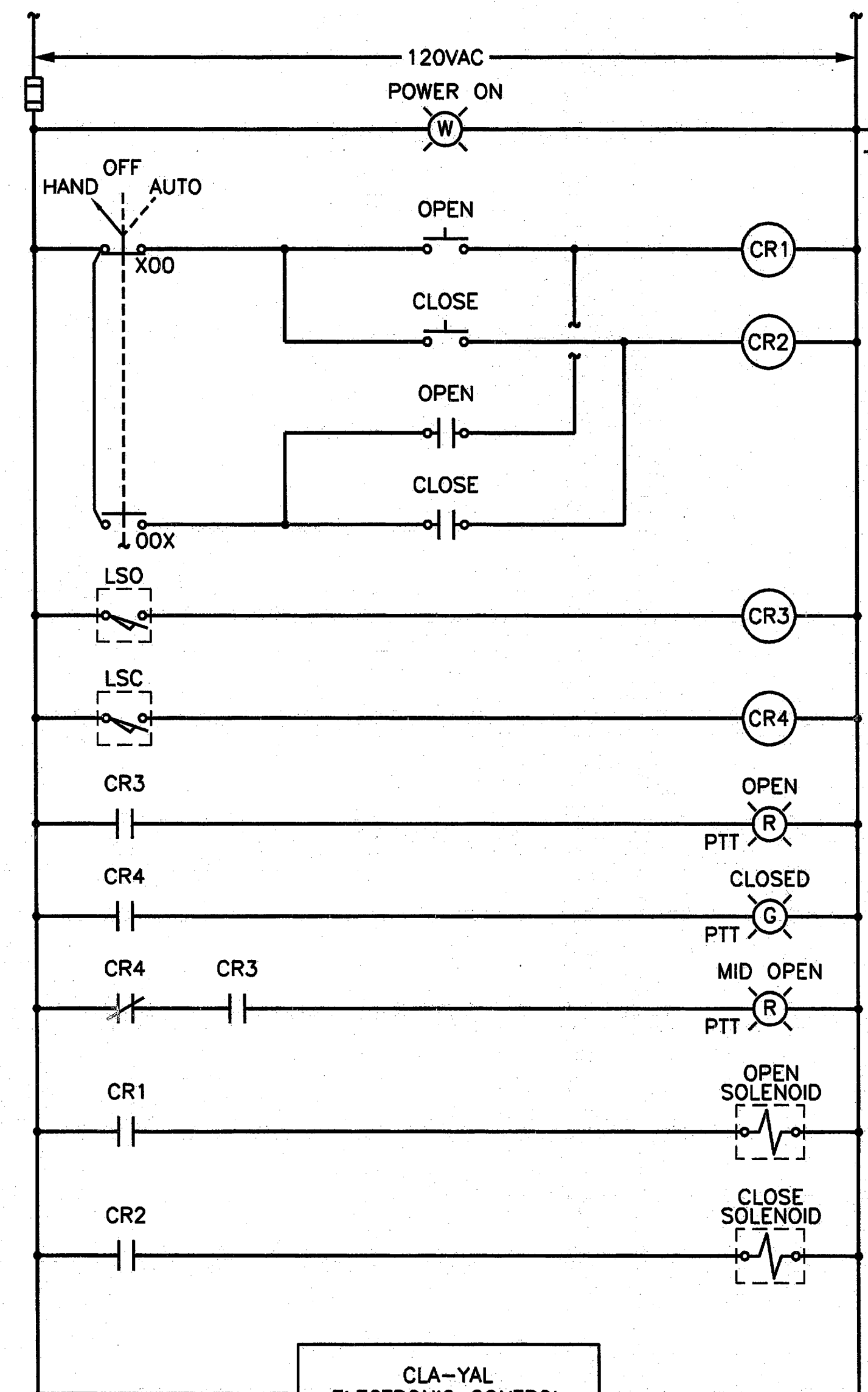


LIGHTING FIXTURE SCHEDULE

FIXTURE	TYPE	MANUFACTURER	CATALOG NO.	VOLT.	DESCRIPTION
	F	LITHONIA	FIXTURE: 55V-RMA-208-TS-LPI-SWCA-DDB POLE: STSH-25-6-4B-VD-TP-WCH-DDB	208	VERTICAL LAMP HIGH PERFORMANCE 400W PULSE START METAL HALIDE FLOOD LIGHT WITH MEDIUM DISTRIBUTION, TENON SLIP FITTING MOUNTING, AND DARK BRONZE FINISH.
	H	KIM LIGHTING	AFL12-70PMH208	208	FLOOD LIGHT
	K	CROUSE-HINDS	VF G24 P21	120	VF SERIES FIXTURE WITH TWO (2) 9W COMPACT FLUORESCENT LAMPS. CLEAR GLASS GLOBE AND WIRE GUARD. PENDANT MOUNT 3/4" CONDUIT AND WALL MOUNT AS SHOWN ON PLANS.
	L	LITHONIA	ELT50-W-MT-H1212-N-AM-VM	120	EMERGENCY FIXTURE WITH WHITE FINISH, METAL LAMP HEADS, HALOGEN LAMPS, NICKEL-CADMIUM BATTERY, AMMETER AND VOLTMETER INCLUDED.
	M	KIM LIGHTING	AFL12-70PMH208	208	FLOOD LIGHT
	N	HYDREL	700-42-TRT-120-FL-GS	120	FLOOD LIGHTING FOR PEDISTAL BASE. THIS ITEM IS PART OF ALTERNATE BID ITEM.

LIGHTING FIXTURE SCHEDULE NOTES:

- LIGHT FIXTURES PROVIDED SHALL BE APPROVED EQUAL TO THE FIXTURE INDICATED IN THE SCHEDULE ABOVE. FIXTURE MODEL NUMBERS ARE USED TO ESTABLISH MINIMUM QUALITY AND PERFORMANCE STANDARDS AND NOT TO ESTABLISH MOUNTING TYPE. MOUNTING REQUIREMENTS MAY VARY FOR THE SAME TYPE OF FIXTURE THROUGHOUT THE PROJECT. CONTRACTOR SHALL VERIFY INSTALLATION LOCATION AND PROVIDE APPROPRIATE MOUNTING HARDWARE FIXTURE TYPE DESIGN FOR EACH LOCATION.



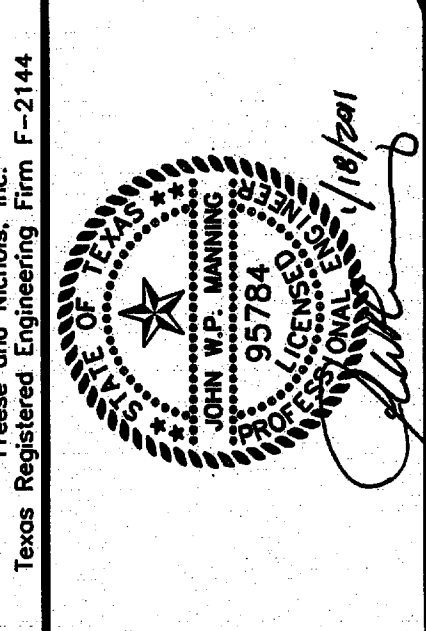
NO.3 GENERAL NOTES:

- CONTRACTOR SHALL PROGRAM PLC TO OUTPUT A 4-20mA SIGNAL OF FULL OPEN/FULL CLOSE IN NORMAL OPERATION.
- CONTRACTOR SHALL PROGRAM A SET POINT VALVE POSITION WHEN PUMPS FROM PUMP STATION ARE TURNED ON.
- POWER FAILURE SHALL LEAVE THE VALVE IN THE FULL OPEN POSITION.
- VALVE CONTROLS SHALL BE INSTALLED IN RTU. INDICATION LIGHTS, PUSH BUTTONS, AND SELECTOR SWITCHES SHALL BE MOUNTED TO RTU ENCLOSURE DOOR.



VALVE CONTROL SCHEMATIC

NOT TO SCALE



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TOWN OF ADDISON, TEXAS
SURVEYOR 1.5 MG EST
 ELECTRICAL
SCHEMATICS, DIAGRAM & SCHEDULE

NO.	ISSUE	DATE	BY	DATE	DESIGNED	DRAWN	REVISION	CHECKED	FILE NAME
					JWM	JAF		JNH	EL-ADD-SM-CTRL.dwg

Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

SHEET **E-7**

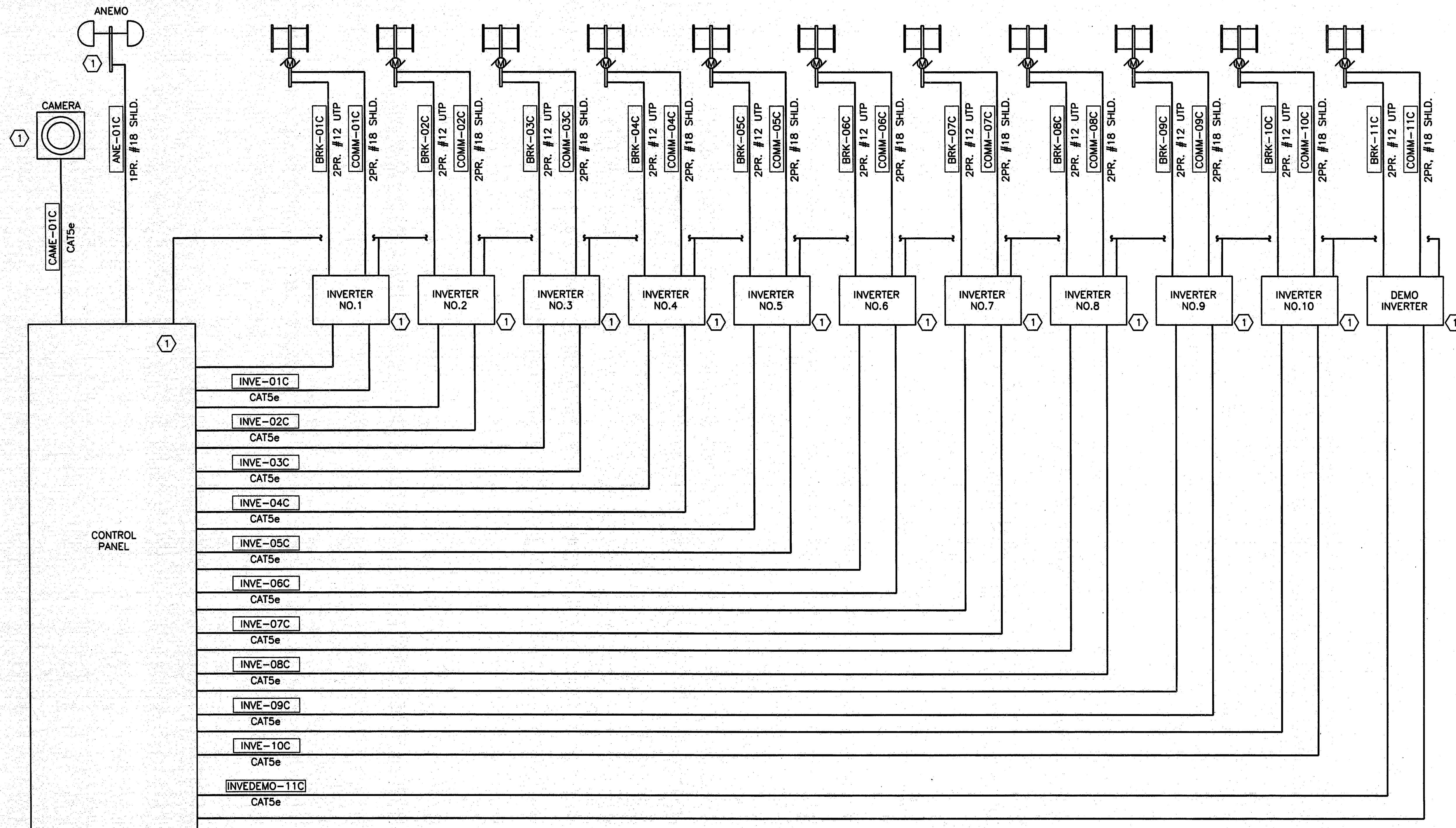
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 [ADD08459] [DINSRV2] N:\elec\EL-ADD-SM-CTRL.dwg LAYOUT: EL-ADD-SM-CTRL
 Jan 18, 2011 4:08pm L1S: 1 PLOT: C:\ALL\FRESE.COM
 REFERENCES: N:\elec\Bases\JWM-STAMP.dwg, N:\Storage\3480RDR.DWG, 95782.dwg

GENERAL NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE TO PERFORM TEST ON THE CAT5e CONDUCTORS AFTER CONNECTIONS ARE MADE. PROVIDE RJ45 CONNECTORS ON BOTH ENDS OF CAT5e CONDUCTORS.
2. EQUIPMENT SHOWN ON THIS ONE-LINE IS BASED FROM A SINGLE EQUIPMENT SUPPLIER. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL EQUIPMENT MANUFACTURERS REQUIRE, RECOMMEND, AND PROVIDE. CONTRACTOR SHALL COORDINATE ALL REQUIRED LABOR AND SCOPE WITH EQUIPMENT SUPPLIER PRIOR TO BIDS.

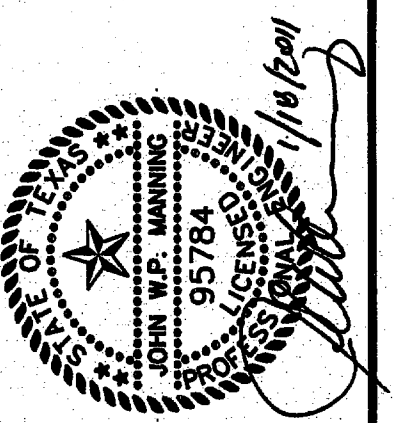
NOTES BY SYMBOL "⬡"

1. CONTRACTOR SHALL INSTALL. PROVIDE MOUNTING HARDWARE REQUIRED.



TURBINE INTERCONNECTION DIAGRAM
NOT TO SCALE

Freese and Nichols, Inc.
Texas Registered Engineering Firm F-2144



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Houston, TX 77002
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Fax: (847) 397-4677

TOWN OF ADDISON, TEXAS
SURVEYOR 1.5 MG EST

ELECTRICAL
TURBINE INTERCONNECTION DIAGRAM

NO. ISSUE	DATE	BY	DATE	F&N JOB NO.	ADD08459
			01/18/11	DESIGNED	JWM
				DRAWN	JAF/VMC
				REVISD	
				CHECKED	JNH
				FILE NAME	EL-ADD-DG-INTR.dwg

VERIFY SCALE: Bar is one inch on original drawing. This sheet, adjust scale.

SHEET **E-6**

N:\elec\EL-ADD-DG-INTR.dwg LAYOUT: EL-ADD-DG-INTR
Jan 18, 2011 - 2:03pm LTS: 1 PSLTS: 1 TWIST:
REFERENCES: N:\elec\Bosse\JWM-STAMP.dwg, N:\Standard\34BORDER.DWG, 95784.dwg

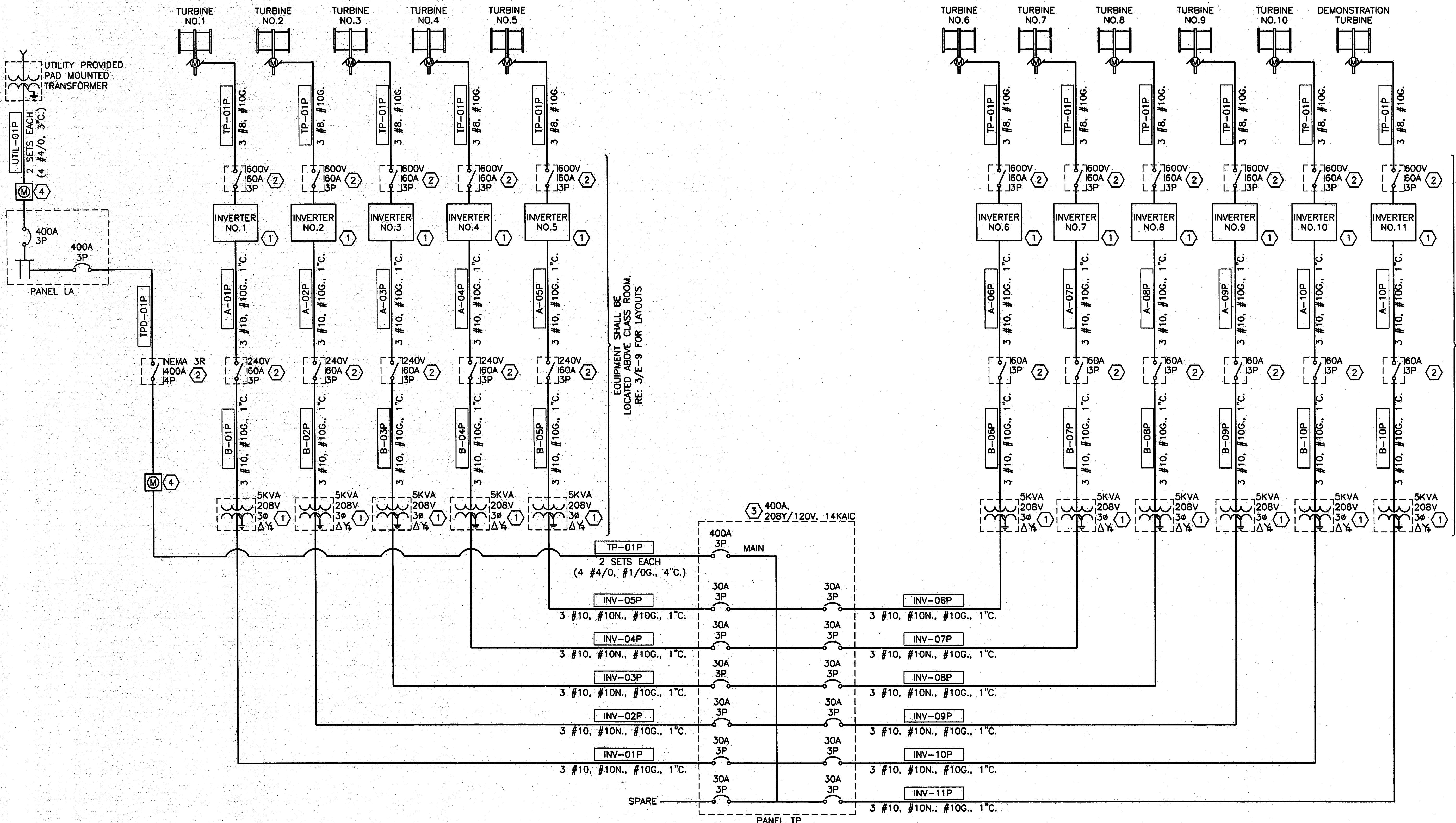
ACAD Ref: 18.0s (LWS Tech) User: jwm
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 Jan 18, 2011 - 5:33pm PLOT: 1 TWIST: C:\LUL\FRESE.COM
 REFERENCES: N:\elec\Bases\JWM-STAMP.dwg N:\Standard\348ORDER.DWG 95784.dwg

GENERAL NOTES

- EQUIPMENT SHOWN ON THIS ONE-LINE IS BASED FROM A SINGLE EQUIPMENT SUPPLIER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL EQUIPMENT MANUFACTURERS REQUIRE, RECOMMEND, AND PROVIDE. CONTRACTOR SHALL COORDINATE ALL REQUIRED LABOR AND SCOPE WITH EQUIPMENT SUPPLIER PRIOR TO BIDS.

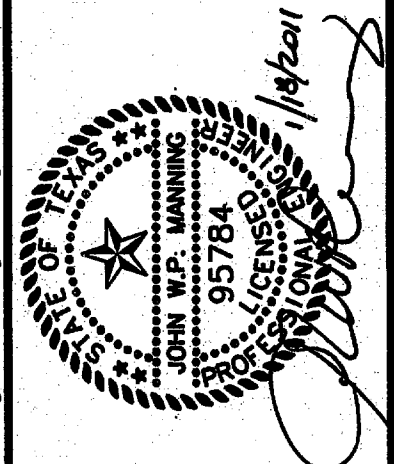
NOTES BY SYMBOL "⬡"

- CONTRACTOR SHALL PROVIDE AND INSTALL 5KVA, 240-208Y/120V, 3 PHASE TRANSFORMER. PROVIDE 316 STAINLESS STEEL MOUNTING HARDWARE REQUIRED.
- CONTRACTOR SHALL PROVIDE 400A DISCONNECT. LOCATE OUTSIDE TANK PEDESTAL AS DISCONNECTING MEANS FOR UTILITY COMPANY.
- CONTRACTOR SHALL PROVIDE 3Ø, 4W, 42 POLE, 208Y/120V, 22KAIC.
- CONTRACTOR SHALL COORDINATE REQUIRED METER BASE AND METER WITH UTILITY COMPANY.



ONE-LINE DIAGRAM
 NOT TO SCALE

Freese and Nichols, Inc.
 Texas Registered Engineering Firm E-2144



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TOWN OF ADDISON, TEXAS
SURVEYOR 1.5 MG EST
 ELECTRICAL
ONE-LINE DIAGRAM

NO.	ISSUE	BY	DATE	FOR JOB NO.	DATE	DESIGNED	DRAWN	CHECKED	FILE NAME
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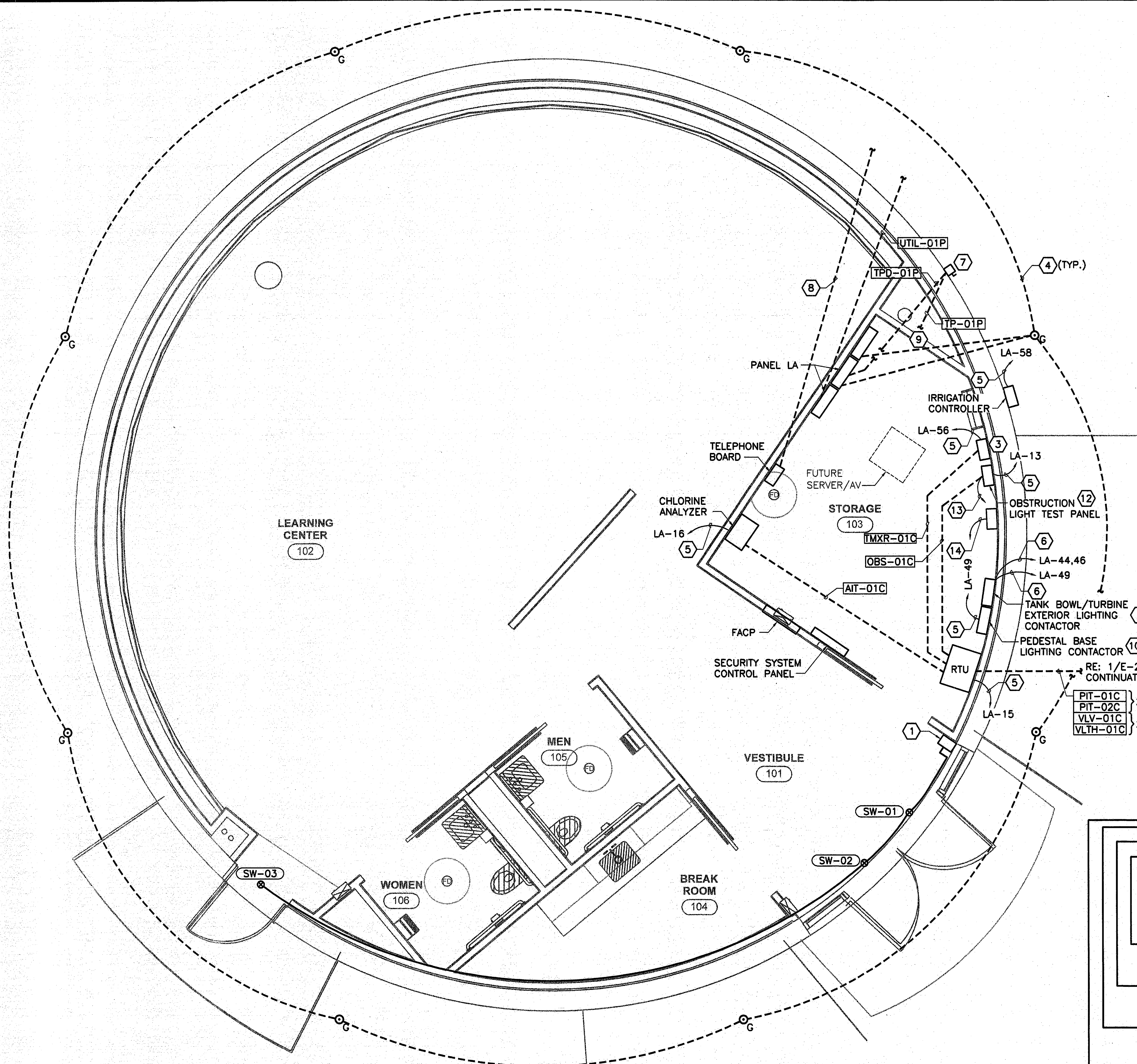
Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

VERIFY SCALE

SHEET **F-5**

SEQ.

ADD08459 | DTNSRVZ | N:\elec\EL-ADD-PL-POWR.dwg | LAYOUT: EL-ADD-PL-POWR.dwg | User: jwm | Date: Jan 18, 2011 - 6:46pm
 Jan 18, 2011 - 6:46pm | LAYOUT: EL-ADD-PL-POWR.dwg | LAYOUT: EL-ADD-PL-POWR.dwg | User: jwm | Date: Jan 18, 2011 - 6:46pm
 REFERENCES: N:\elec\Bosse\JWM-STAMP.dwg | N:\elec\Bosse\JWM-STAMP.dwg | N:\elec\Bosse\UTIL-PL-EST-ADDISON.dwg | N:\elec\Bosse\EL-ADD-PL-BASE.dwg | 95784.dwg



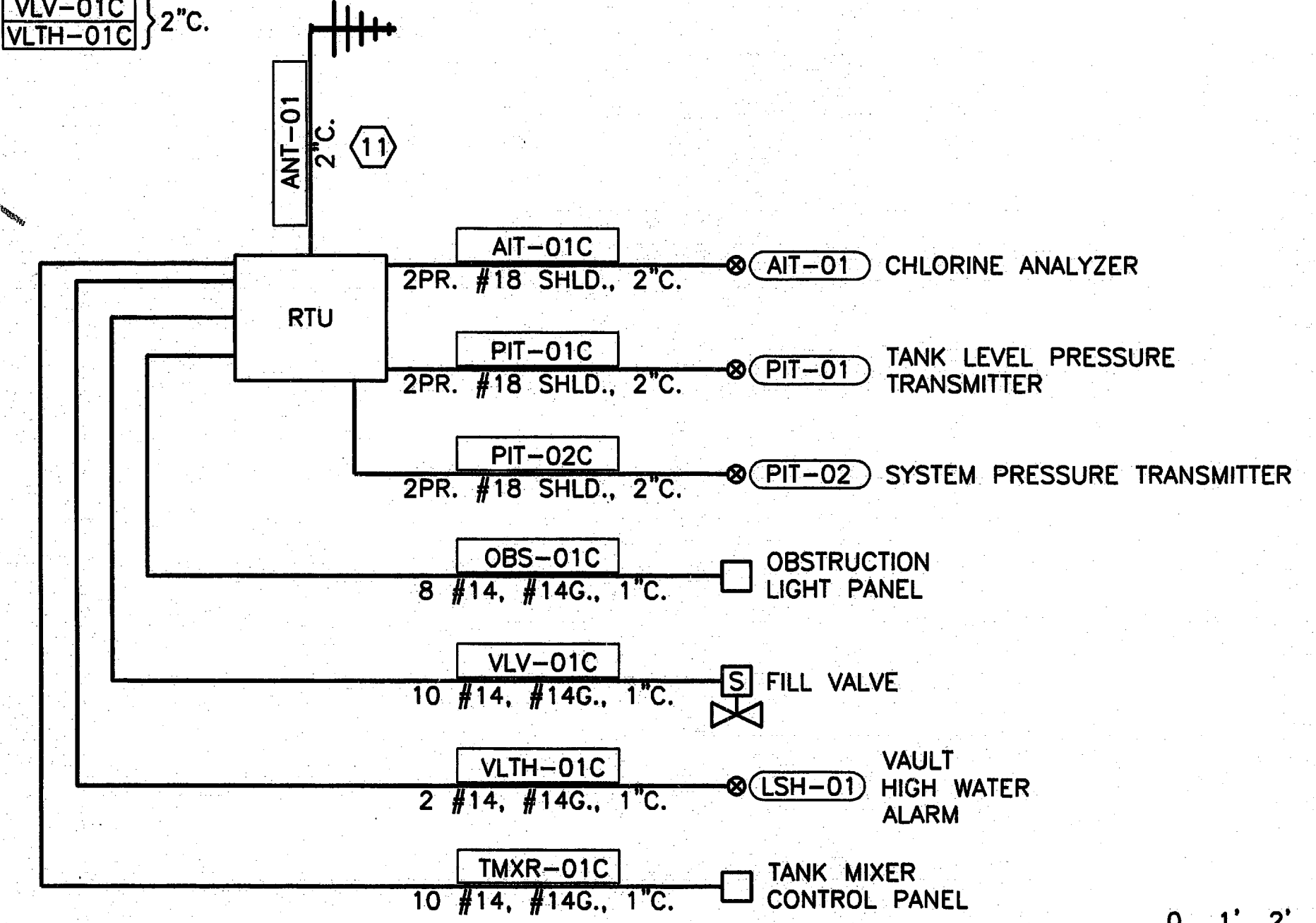
ELEVATED STORAGE TANK CLASSROOM POWER PLAN
 3/8"=1'-0"

GENERAL NOTES:

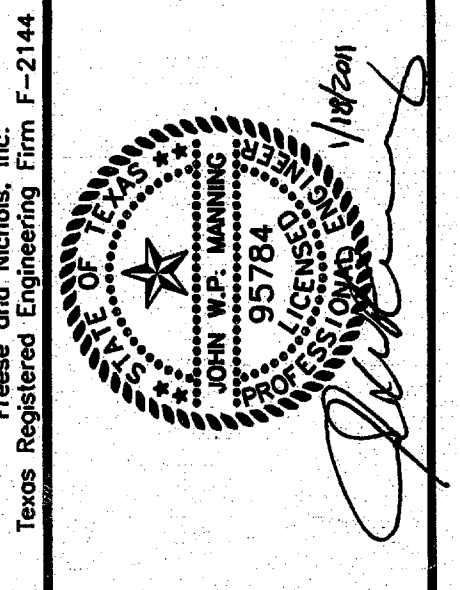
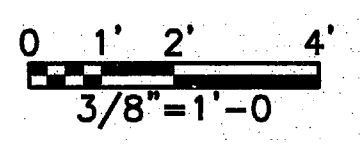
- INTERCONNECTION DIAGRAM SHOWS MINIMUM CONDUIT SIZES. CONTRACTOR SHALL ROUTE POWER, DISCRETE, ANALOG, AND COMMUNICATION IN SEPARATE CONDUITS BUT CAN COMBINE SAME TYPE SIGNAL CONDUCTORS.
- LIGHTING CIRCUITS REQUIRE PHOTOCELLS FOR OPERATION. CONTRACTOR SHALL LOCATE PHOTOCELLS ON NORTH SIDE OF PEDESTAL.
- SPARE CONDUITS ENTERING PEDESTAL BASE SHALL BE STUBBED OUT OF FLOOR 3" AND SHALL BE CAPPED. EACH CONDUIT SHALL BE IDENTIFIED WITH STAINLESS STEEL TAGS LABELING THE TERMINATION LOCATION OF THE OTHER END.

NOTES BY SYMBOL " "

- CONTRACTOR SHALL PROVIDE GEMINI P9600 SECURITY CONTROL PANEL. SECURITY SYSTEM SHALL BE INSTALLED BY BONDED AND CERTIFIED SECURITY SYSTEM COMPANY.
- PEDESTAL LIGHTING SHALL BE INCLUDED IN BID ALTERNATE ITEM NO.46.
- CONTRACTOR SHALL INSTALL TANK MIXER CONTROL PANEL. CONTRACTOR SHALL COORDINATE CONDUCTOR LENGTHS WITH MIXER SUPPLIER.
- PROVIDE BARE #2/0 GROUNDING CONDUCTOR.
- PROVIDE 2 #12, #12G., 3/4"C.
- PROVIDE 2 #10, #10G., 1"C.
- PROVIDE 240V, 3Ø, 4W, 400A, NF DISCONNECT LABELED PER ONCOR REQUIREMENTS.
- PROVIDE TWO 4" PVC CONDUITS TO PHONE PEDESTAL. COORDINATE PHONE PEDESTAL LOCATION WITH OWNER.
- CONTINUATION TO PANEL TP.
- PROVIDE LIGHTING CONTACTORS WITH LIGHTING CONTROLS PER SCHEMATICS.
- CONTRACTOR SHALL SIZE COAX BASED ON LINE LOSSES.
- PROVIDE OBSTRUCTION LIGHT TEST PANEL. PANEL SHALL BE CROUSE-HINDS OLC CATALOG NO.750005-3. PROVIDE 2 HOUR BATTERY BACK TO MAINTAIN POWER TO OBSTRUCTION LIGHT.
- PROVIDE 2 #10, #10G., 1"C. FROM CONTROL PANEL TO MIXER TERMINATION CABINET LOCATED ON TOP OF STORAGE TANK.
- PROVIDE 2" CONDUIT AND PULL STRING TO THE TOP OF THE BOWL FROM 24"W X 30"H X 12"D NEMA 12 ENCLOSURE. ENCLOSURE SHALL BE PROVIDED BY CONTRACTOR. PROVIDE 2 #12, #12G. TO DEDICATED CIRCUIT IN PANEL LA AND INSTALL RECEPTACLE INSIDE THE ENCLOSURE.



INTERCONNECTION DIAGRAM
 NOT TO SCALE

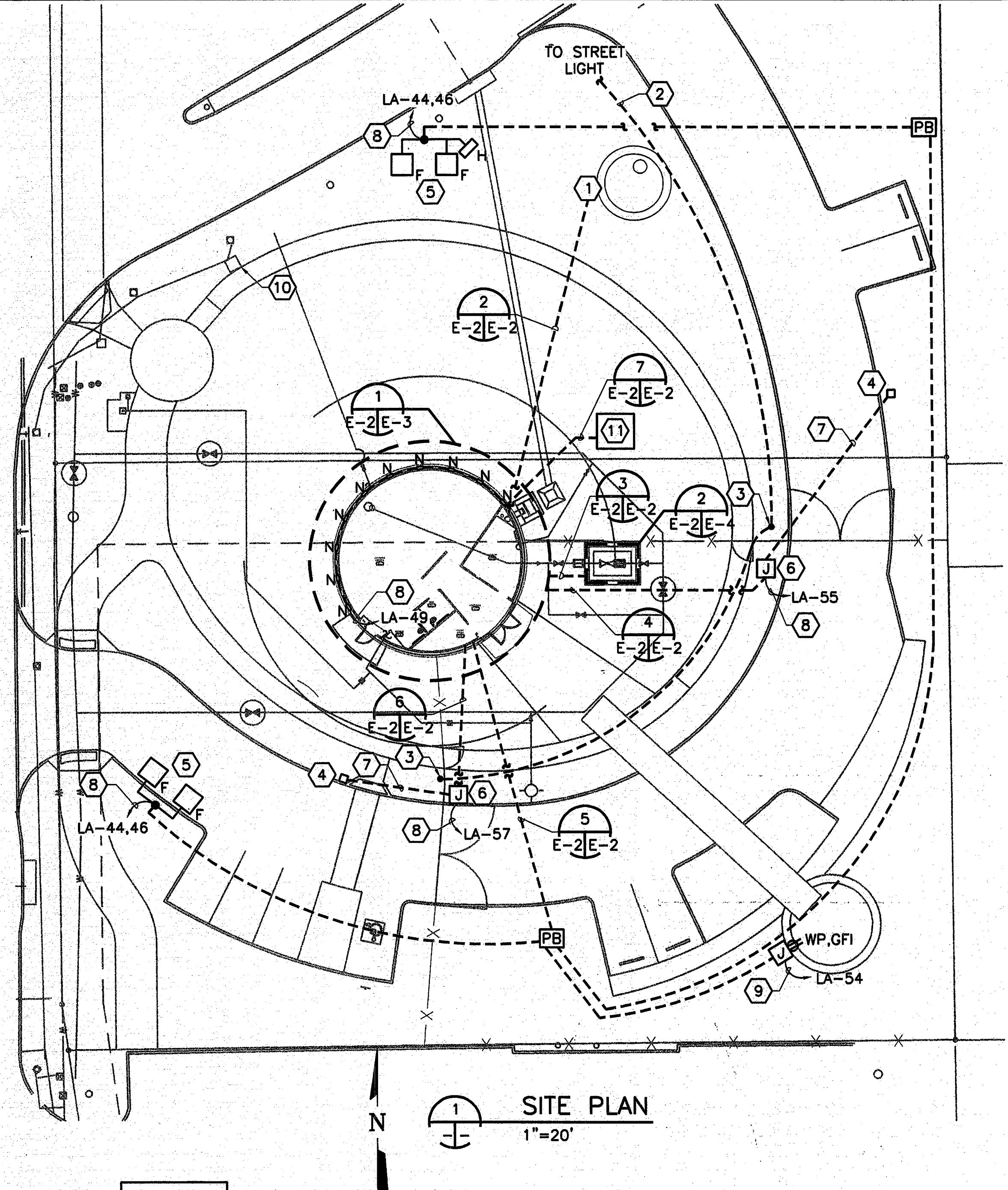


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TOWN OF ADDISON, TEXAS
SURVEYOR 1.5 MG EST
 ELECTRICAL
ELEVATED STORAGE TANK CLASSROOM POWER PLAN

NO. ISSUE	DATE	BY	DESIGNED	DRAWN	CHECKED	FILE NAME
	01/18/11	JWM	JWM	JAE		EL-ADD-PL-POWR.dwg
Bar is one inch on original drawing if not one inch on this sheet, adjust scale.						
VERIFY SCALE						
SHEET E-3						
SEQ.						

ACAD: Rel: 18.0s (LWS Tech) User: ppm File: N:\elec\EL-ADD-PL-SITE.dwg
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 DATE: 01/18/11 PLOT: 1 TWIST: CLUAL\FRESE.COM
 REFERENCES: N:\elec\Bose\MM-STAMP.dwg N:\Standards\34BORDER.DWG N:\F\Freese\CV-UTIL-PL-EST-ADDISON.dwg 95784.dwg



- GENERAL NOTES:**
- CONTRACTOR SHALL COORDINATE POWER WITH UTILITY COMPANY. ALL COORDINATION WITH THE UTILITY COMPANY SHALL BE ROUTED THROUGH THE TOWN OF ADDISON.
 - THE DEMONSTRATION TURBINE WILL HAVE TEMPORARY POWER FROM THE UTILITY COMPANY. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE PERMANENT POWER TO THE DEMONSTRATION UNIT.

- NOTES BY SYMBOL "⬡"**
- DEMONSTRATION WIND TURBINE WILL BE INSTALLED UNDER SEPARATE CONTRACT. CONTRACTOR SHALL MAKE ALL EFFORTS TO AVOID DAMAGE TO WIND TURBINE AND EQUIPMENT.
 - PROVIDE 1" PVC CONDUIT TO THE NEAREST STREET LIGHT. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY.
 - CONTRACTOR SHALL INSTALL LIGHT POLES BASES AS SHOWN ON DETAIL 213-30/E-11. CONTRACTOR SHALL INSTALL LIGHT POLE PROVIDED BY THE TOWN. CONTRACTOR SHALL PROVIDE 1" PVC CONDUIT TO CONNECT WITH STREET LIGHTS ON ARAPAHO ROAD.
 - PROVIDE ACCESS CONTROL SYSTEM CARD READER.
 - CONTRACTOR SHALL PROVIDE SHIELDS ON LIGHT FIXTURES AND ADJUST SHIELDS TO PREVENT SHOOTING LIGHT PAST THE BOWL.
 - RE: 5/E-10 FOR GATE OPERATORS AND INSTALLATION DETAILS.
 - PROVIDE 1"C. FOR ACCESS CARD READER.
 - PROVIDE 2 #10, #10G., 1"C.
 - PROVIDE 2 #12, #12G., 1"C.
 - LOCATION OF ELECTRIC VAULT THAT MIGHT POWER LIGHTS. CONTRACTOR SHALL FIELD VERIFY.
 - TRANSFORMER PAD LOCATION SHALL BE COORDINATED WITH UTILITY COMPANY. CONTRACTOR SHALL COORDINATE ALL TRENCH WORK, ELBOWS, CONDUIT, CONCRETE WORK, AND INSPECTIONS REQUIRED WITH UTILITY COMPANY.

1	BRK-011C	2"C.
2	COMM-11C	2"RGS
3	INV-11P	2"RGS
4	LA-47	2"C.

1	LA-48 LA-53 LA-51	2"C.
2	PIT-01C PIT-02C	2"RGS
3	VLV-01C VLTH-01C	2"C.
4	SPARE	2"C.
5	SPARE	2"C.
6	SPARE	2"C.

1	LA-55	2"C.
2	SPARE	2"C.
3	SPARE	2"C.
4	SPARE	2"C.

1	LA-44,46 LA-54	2"C.
2	SPARE	2"C.

1	LA-57	2"C.
2	SPARE	2"C.
3	SPARE	2"C.
4	SPARE	2"C.

1	UTIL-01P	3"C.
2	UTIL-01P	3"C.

2 DUCT BANK DETAIL NOT TO SCALE

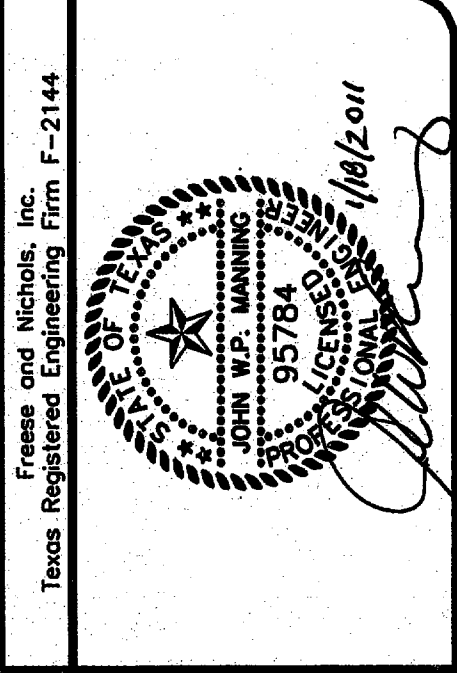
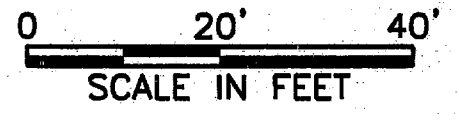
3 DUCT BANK DETAIL NOT TO SCALE

4 DUCT BANK DETAIL NOT TO SCALE

5 DUCT BANK DETAIL NOT TO SCALE

6 DUCT BANK DETAIL NOT TO SCALE

7 DUCT BANK DETAIL NOT TO SCALE



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TOWN OF ADDISON, TEXAS
SURVEYOR 1.5 MG EST
 ELECTRICAL
SITE PLAN

NO.	ISSUE	BY	DATE	F&N JOB NO.	FILE NAME
				ADD08459	EL-ADD-PL-SITE.dwg
			01/18/11	DESIGNED JWM	
				DRAWN JAF	
				CHECKED JNH	
				REVISED	

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VERIFY SCALE

SHEET **E-2**

SEQ.

A AMPERE
 AFF ABOVE FINISHED FLOOR
 AFG ABOVE FINISHED GRADE
 AIC AMPERES INTERRUPTING CAPACITY
 AL ALUMINUM
 AMPS AMPERES
 ATS AUTOMATIC TRANSFER SWITCH
 C. CONDUIT
 CB CIRCUIT BREAKER
 CKT CIRCUIT
 CONT. CONTINUATION
 CPT CONTROL POWER TRANSFORMER
 CS COMBINATION STARTER
 CT CURRENT TRANSFORMER
 C/C CENTER TO CENTER
 CU COPPER
 DP DIFFERENTIAL PRESSURE
 EUC ELECTRIC UTILITY CO.
 EXIST. EXISTING
 FO FIBER OPTIC
 FT FEET
 FVNR FULL VOLTAGE NON REVERSING
 GFI GROUND FAULT INTERRUPTER
 GFS GROUND FAULT SENSING
 GA GAUGE
 G. GROUND
 HOA HAND-OFF-AUTO SELECTOR SWITCH
 HP HORSEPOWER
 HTR HEATER
 HZ HERTZ
 ID INTERNAL DIAMETER
 IRP INTERPOSING RELAY PANEL
 JB JUNCTION BOX
 KVA KILOVOLT-AMPERE
 KW KILOWATT
 LED LIGHT EMITTING DIODE
 LTG. LIGHTING
 MBFV MOTOR OPERATED BUTTERFLY VALVE
 MCB MAIN CIRCUIT BREAKER
 MCC MOTOR CONTROL CENTER
 MCP MOTOR CIRCUIT PROTECTOR
 MFR'S MANUFACTURER'S
 MH MANHOLE
 MLO MAIN LUGS ONLY
 MPR MOTOR PROTECTION RELAY
 NF NON-FUSED
 O/C ON CENTER
 OD OUTSIDE DIAMETER
 OHE OVERHEAD ELECTRIC
 P POLE
 PB PULL BOX
 PC PHOTOCELL
 Ø OR PH PHASE
 PL. PLATE
 PLC PROGRAMMABLE LOGIC CONTROLLER
 PR. PAIR CABLE
 PVC POLYVINYLCHLORIDE CONDUIT
 RC REMOTE CONTROL
 REC. CIRCUIT RECLOSURE
 REQD. REQUIRED
 RTD RESISTANCE TEMPERATURE DETECTOR
 RTU REMOTE TERMINAL UNIT
 S/N SOLID NEUTRAL
 SHLD. SHIELD
 SHT. SHEET
 SPD SURGE PROTECTION DEVICES
 S.S. STAINLESS STEEL
 SSRVS SOLID-STATE REDUCED VOLTAGE STARTER
 STA. STATION
 STC SIGNAL TERMINATION CABINET
 SW. SWITCH
 TC TRAY CABLE OR TERMINATION CABINET
 TR. TRIAD
 (TYP.) TYPICAL
 UPS UNINTERRUPTIBLE POWER SUPPLY
 UTP UNSHIELDED TWISTED PAIR CABLE
 VAR. VARIABLE
 V VOLT
 VFD VARIABLE FREQUENCY DRIVE
 W WITH, WIRE OR WATT
 WP WEATHERPROOF
 WR WEATHER RESISTANT
 XFMR TRANSFORMER
 XMTR TRANSMITTER

(27) UNDER VOLTAGE RELAY
 (47/27) UNDER VOLTAGE AND PHASE SEQUENCE RELAY
 (49) THERMAL RELAY
 (50) INSTANTANEOUS OVERCURRENT RELAY
 (50 GS) INSTANTANEOUS GROUND OVERCURRENT RELAY
 (51) TIME OVERCURRENT RELAY
 (51 GS) TIME OVERCURRENT GROUND FAULT RELAY
 (59) OVER VOLTAGE RELAY
 (63) PRESSURE SWITCH
 (86) LOCK OUT RELAY
 (87) MOTOR CURRENT DIFFERENTIAL RELAY
 (M) MAIN CONTACTOR
 (BC) BYPASS CONTACTOR
 (ETM) ELAPSED TIME METER
 (CR) A.C. INDUSTRIAL CONTROL RELAY
 (V) VOLTMETER
 (VS) VOLTMETER SWITCH
 (A) AMMETER
 (AS) AMMETER SWITCH
 (W) WATTMETER
 (KWH) KILOWATT-HOUR METER
 (ST) SHUNT TRIP
 (TRP CAP) CAPACITOR TRIP
 (PFR) PHASE FAILURE, PHASE REVERSAL RELAY UNDERVOLTAGE, OVERVOLTAGE RELAY
 (TR) TIMING RELAY AS SPECIFIED (TOE TIMED ON ENERGIZATION TOD TIMED ON DEENERGIZATION)
 (IR) INTERPOSING RELAY
 (5) SQUIRREL CAGE INDUCTION MOTOR NUMBER DESIGNATES HORSEPOWER
 (PC) PHOTOCELL
 (PW) PREWIRED
 (PB) PULL BOX
 (MH) MANHOLE
 (M) UTILITY METER
 (M) MOTORIZED LOUVER
 ▲ LOCATED AT SCADA RTU
 ■ LOCATED REMOTE
 ■ LOCATED AT MOTOR

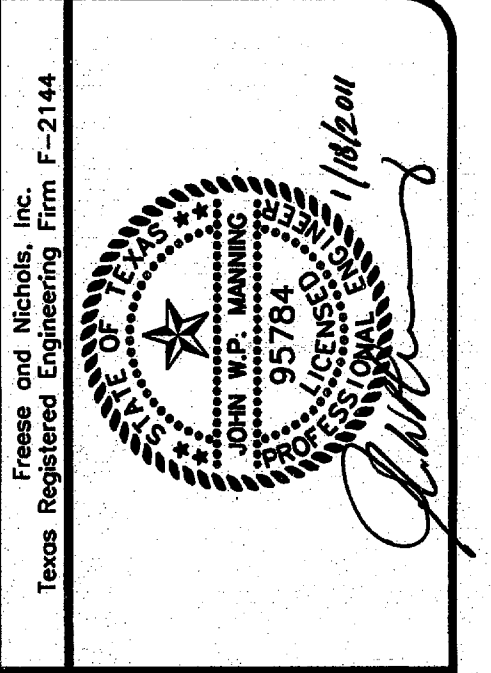
NORMALLY OPEN CONTACT
 NORMALLY CLOSED CONTACT
 OVERLOAD CONTACT
 LIMIT SWITCH, N.O.
 LIMIT SWITCH, N.O. (HELD CLOSED)
 LIMIT SWITCH, N.C.
 LIMIT SWITCH, N.C. (HELD OPEN)
 PRESSURE/VACUUM SWITCH, N.O.
 PRESSURE/VACUUM SWITCH, N.C.
 LIQUID LEVEL SWITCH, N.O.
 LIQUID LEVEL SWITCH, N.C.
 TEMP, ACTUATED SWITCH, N.O.
 TEMP, ACTUATED SWITCH, N.C.
 FLOW SWITCH, (AIR/WATER) N.O.
 FLOW SWITCH, (AIR/WATER) N.C.
 TIMED CONTACTS, N.O.T.C. (TIMED ON ENERGIZATION)
 TIMED CONTACTS, N.C.T.O. (TIMED ON ENERGIZATION)
 TIMED CONTACTS, N.O.T.C. (TIMED ON DE-ENERGIZATION)
 TIMED CONTACTS, N.C.T.O. (TIMED ON DE-ENERGIZATION)
 PUSHBUTTON, N.O.
 PUSHBUTTON, N.C.
 CIRCUIT BREAKER
 A=AMP TRIP, P=POLES
 MOTOR CIRCUIT PROTECTOR
 SURGE CAPACITOR
 SURGE ARRESTOR
 EMERGENCY STOP (LOCAL/REMOTE)
 FUSED SWITCH
 SWITCH
 MOTOR OVERLOAD
 VACUUM CONTACTOR
 SPEED POTENTIOMETER
 SELECTOR SWITCH (X / Y / Z)
 OXO

POTENTIAL TRANSFORMER
 CURRENT TRANSFORMER
 GROUND CURRENT SENSOR TRANSFORMER
 CONTROL TRANSFORMER
 TRANSFORMER
 CONTROL POWER TRANSFORMER
 REACTOR
 PANEL
 STAB
 FUSED CONTACTOR DRAWOUT TYPE
 DRAWOUT CIRCUIT BREAKER
 KIRK KEY INTERLOCK
 MECHANICAL INTERLOCK
 FUSE
 TERMINAL
 NODE
 GROUND
 INDICATING LAMP, COLOR INDICATED
 R=RED, G=GREEN, W=WHITE, A=AMBER, B=BLUE
 PTT=PUSH TO TEST
 DEVICE LOCATED IN FIELD
 INSTRUMENT W/TAG
 CABLE TAG
 4 #14, #14G, 3/4"C.
 (2 #14 SPARE)
 FLEXIBLE CONDUIT
 HEAT TRACE
 WIRING IN CONDUIT EXPOSED
 UNDERGROUND WIRING OR WIRING IN CONDUIT CONCEALED
 OVERHEAD ELECTRIC LINE
 UNDERGROUND ELECTRIC LINE
 OVERHEAD PRIMARY LINE
 UNDERGROUND PRIMARY LINE
 OVERHEAD SECONDARY LINE
 UNDERGROUND SECONDARY LINE
 OVERHEAD COMMUNICATION LINE
 UNDERGROUND COMMUNICATION LINE
 OVERHEAD FIBER OPTIC LINE
 UNDERGROUND FIBER OPTIC LINE
 CONDUIT TURNED UP
 CONDUIT TURNED DOWN
 NUMBER
 IDENTIFIER
 RE: X/X-XX SHEET NUMBER

NON-FUSED DISCONNECT SWITCH
 FUSED DISCONNECT SWITCH
 COMBINATION MOTOR STARTER SWITCH
 SINGLE POLE SWITCH
 MANUAL MOTOR STARTER
 THREE WAY SWITCH
 FOUR WAY SWITCH
 DIMMING SWITCH
 DUPLEX RECEPTACLE, GROUNDED TYPE
 WP, GFI
 DUPLEX RECEPTACLE, ABOVE COUNTER
 SIMPLEX RECEPTACLE, GROUNDED TYPE
 FLOOR MOUNTED RECEPTACLE
 THERMOSTAT
 EXIT LIGHT (DARKENED AREA REPRESENTS FACE ORIENTATION)
 CEILING MOUNTED STROBE
 WALL MOUNTED STROBE
 SMOKE DETECTOR
 HEAT DETECTOR
 HORN
 COMBINATION STROBE/HORN
 JUNCTION BOX
 JUNCTION
 DATA
 TELEPHONE
 TELEPHONE/DATA
 FLOOR MOUNTED DATA OUTLET
 FLOOR MOUNTED TELEPHONE OUTLET
 POKE-THRU DEVICE COMBINATION POWER/DATA/VOICE OUTLET
 FLOOR COMBINATION POWER/DATA/VOICE OUTLET
 CATV
 GROUND ROD
 GROUND ROD TEST WELL
 HOMERUN, PANELBOARD CIRCUIT AS INDICATED
 POWER POLE
 EMERGENCY BATTERY PACK LIGHT FIXTURE
 LIGHTING FIXTURE
 A=FIXTURE TYPE
 b=SWITCH NUMBER

NOTE:
 THIS IS A STANDARD LEGEND. THEREFORE,
 NOT ALL OF THIS INFORMATION MAY BE
 USED ON THIS PROJECT.

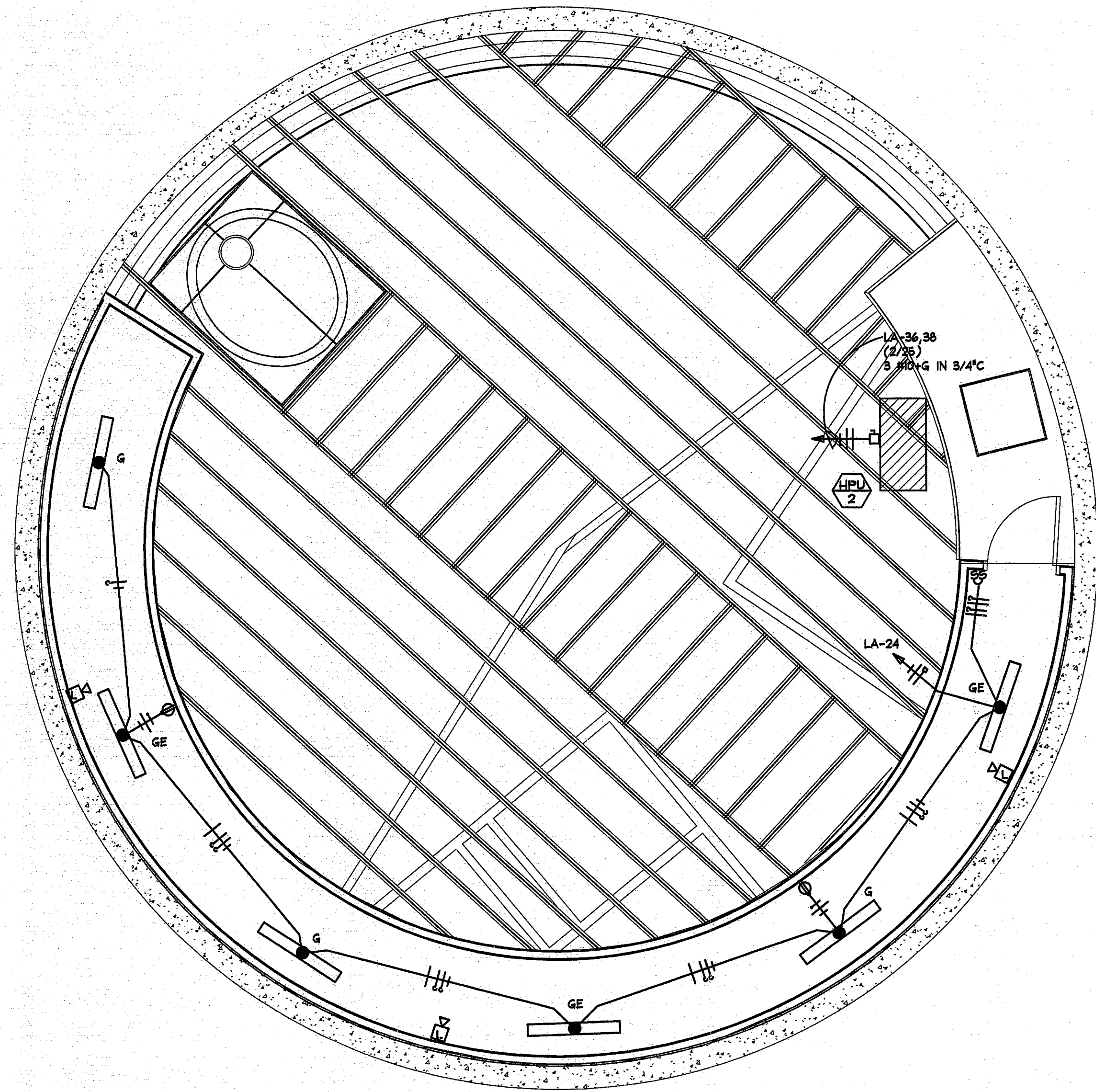
SHEET NUMBER WHERE TAKEN
 SHEET NUMBER WHERE DRAWN
 REFERENCE



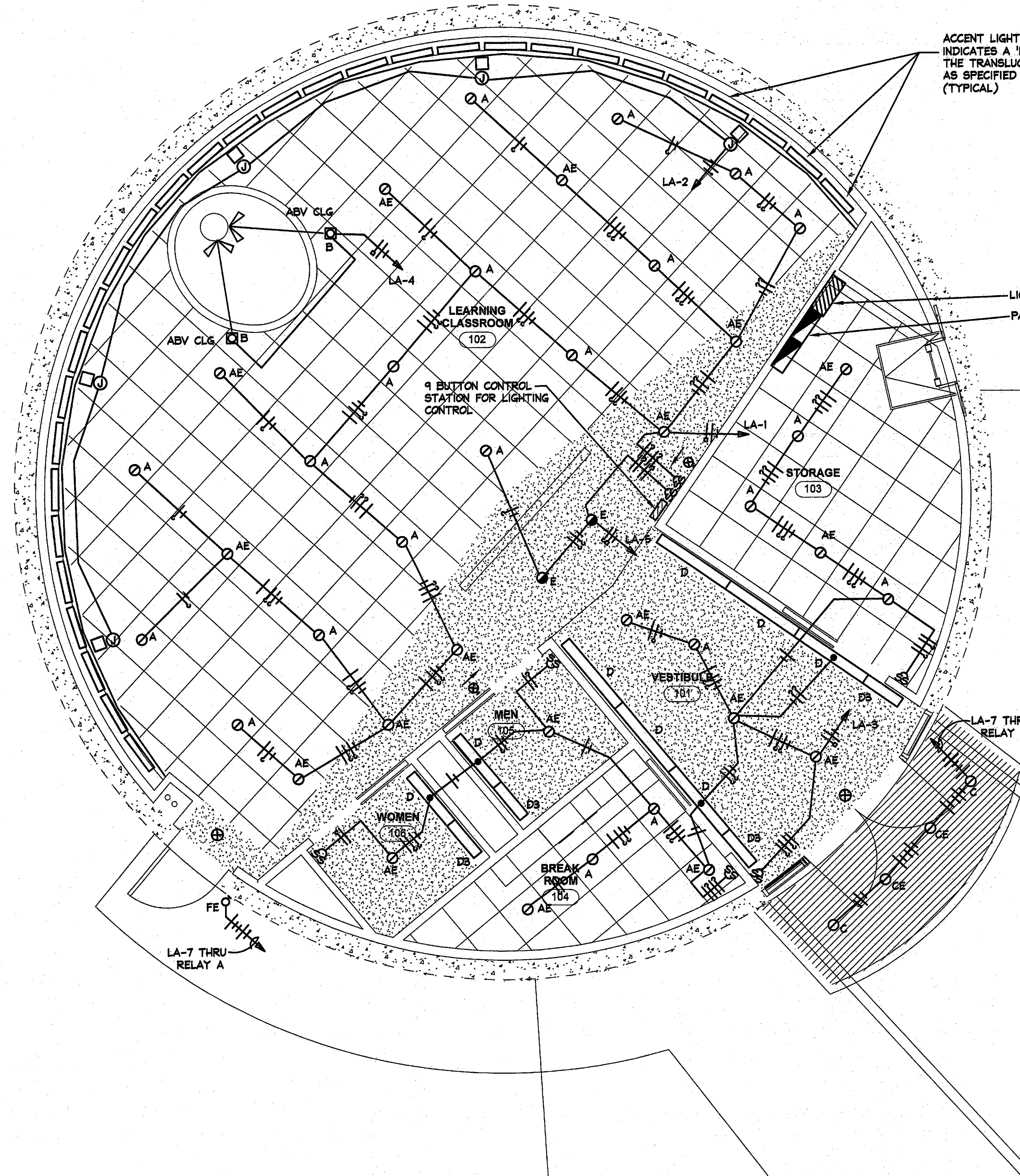
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TOWN OF ADDISON, TEXAS
SURVEYOR 1.5 MG EST
 ELECTRICAL
LEGEND

NO.	ISSUE	DATE	BY	DESIGNED	DRAWN	CHECKED	FILE NAME
		01/18/11		JWM	JAF	JNH	EL-ADD-GN-LGND.dwg
Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.							
VERIFY SCALE							
SHEET E-1							
SEQ.							

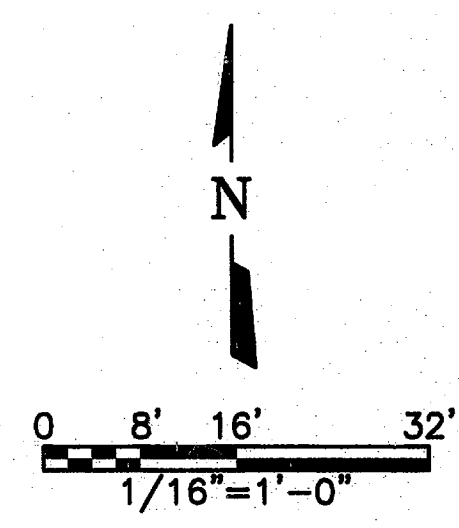


02 FLOOR PLAN - MEZZANINE ELECTRICAL
SCALE: 1/4" = 1'-0"



01 FLOOR PLAN - LIGHTING
SCALE: 1/4" = 1'-0"

- NOTES
- 1 ALL LIGHT FIXTURES SHALL BE TYPE 'A' UNLESS NOTED OTHERWISE
 - 2 ALL CONDUITS SHALL CONTAIN A SWITCH LEG, NEUTRAL, AND GROUND UNLESS INDICATED OTHERWISE
 - 3 ALL EXIT SIGNS SHALL BE CONNECTED TO CIRCUIT LA-20 UNLESS INDICATED OTHERWISE



S. Toub & Associates Inc.
Consulting Engineers, Architects / Electrical
19841 Omega Road, Dallas, Texas 75244
972/738-5699

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P.E. No. 79505
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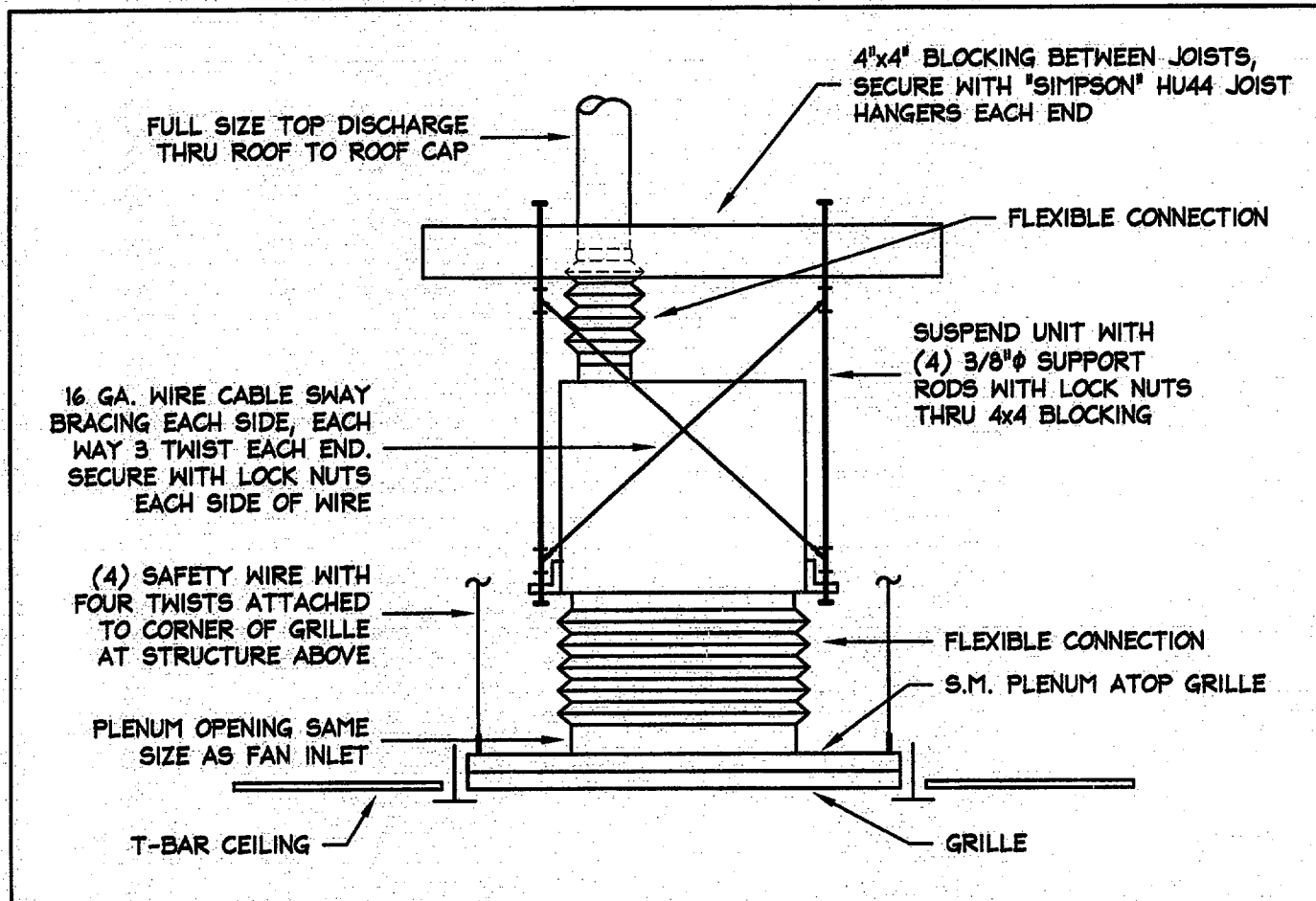
TOWN OF ADDISON, TEXAS
SURVEYOR 1.5 MG EST
M.E.P.
FLOOR PLAN - LIGHTING

NO.	ISSUE	DATE	BY	DATE	JOB NO.	FILE NAME
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					DESIGNED	GCH
					DRAWN	TRB
					REVISION	RLN
					CHECKED	RLN

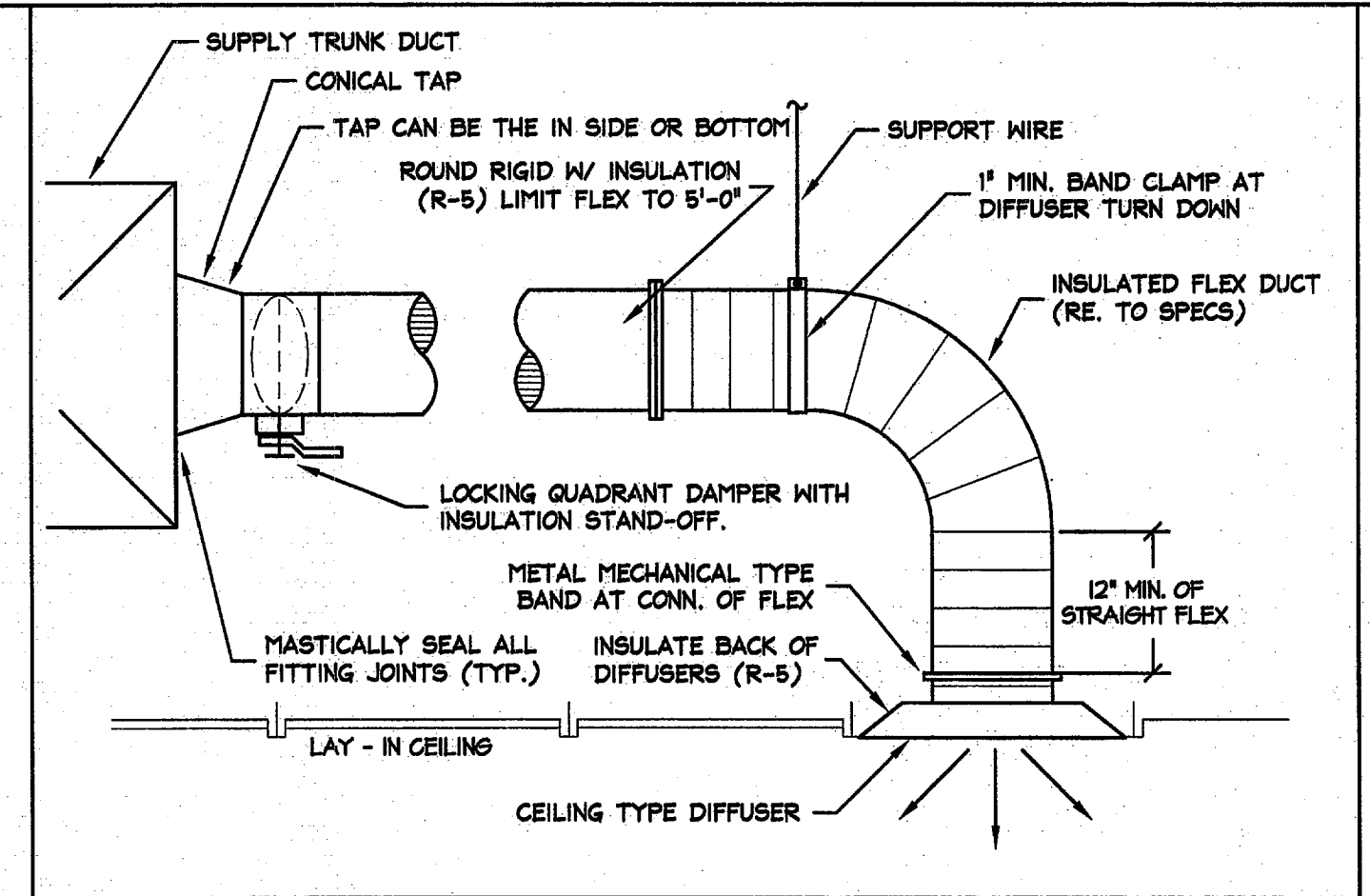
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VERIFY SCALE

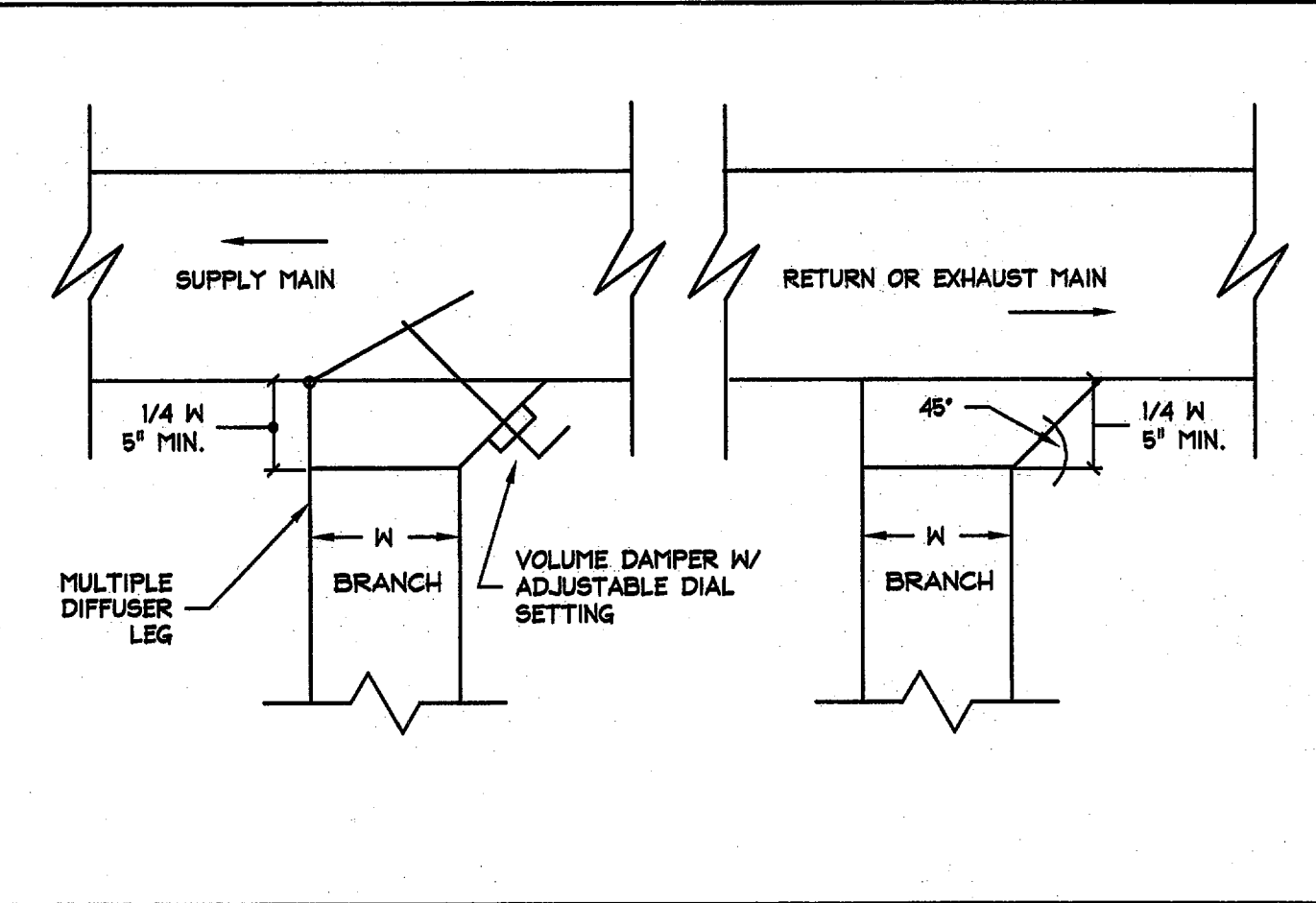
SHEET EP-1



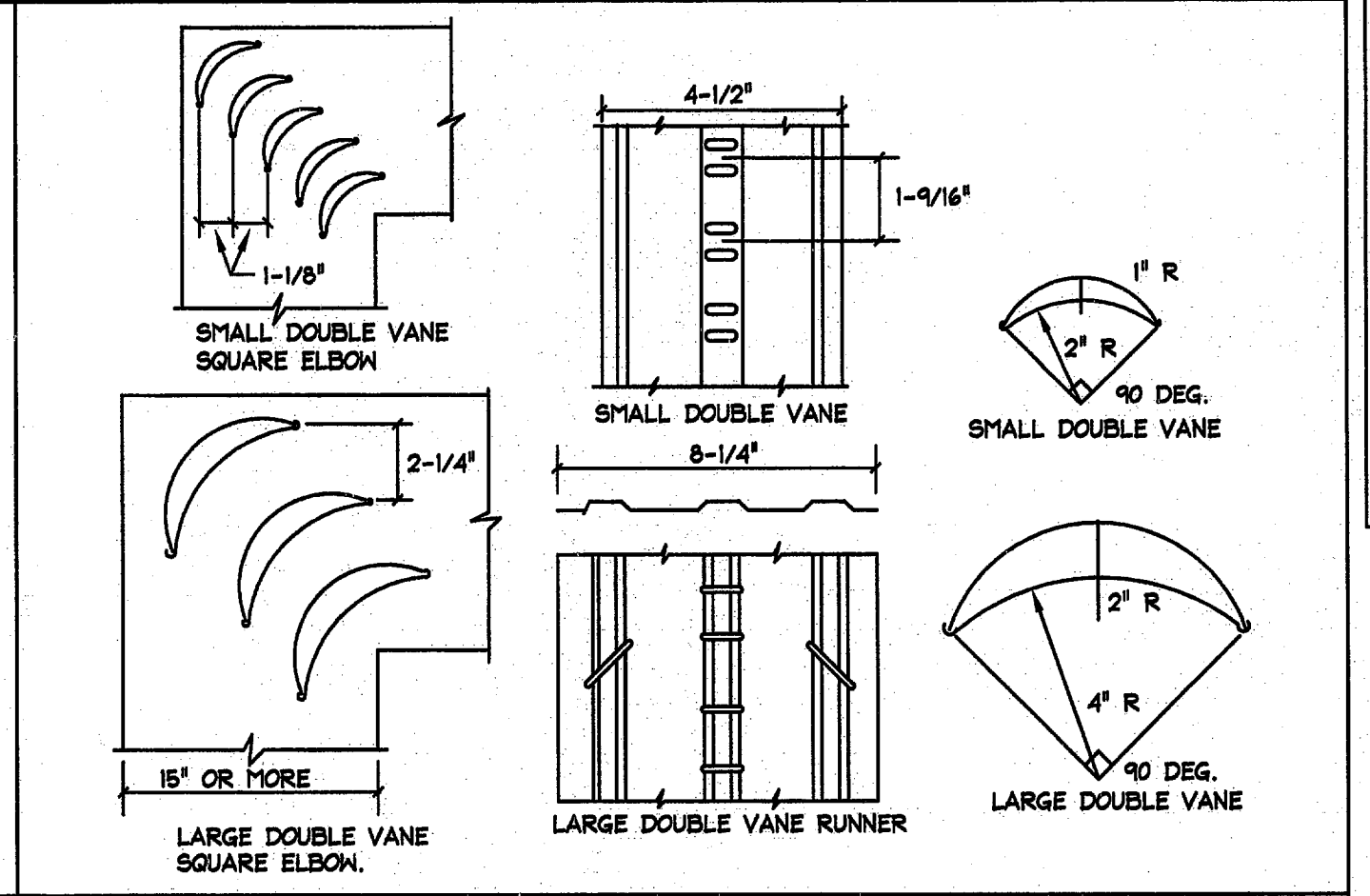
01 EXHAUST FAN - CEILING TYPE SCALE: NTS



02 TYPICAL CEILING SUPPLY DIFFUSER SCALE: NTS



03 LOW PRESSURE BRANCH TAKE OFF SCALE: NTS



04 VANED DUCT ELBOW DETAIL SCALE: NTS

AIR DEVICE SCHEDULE

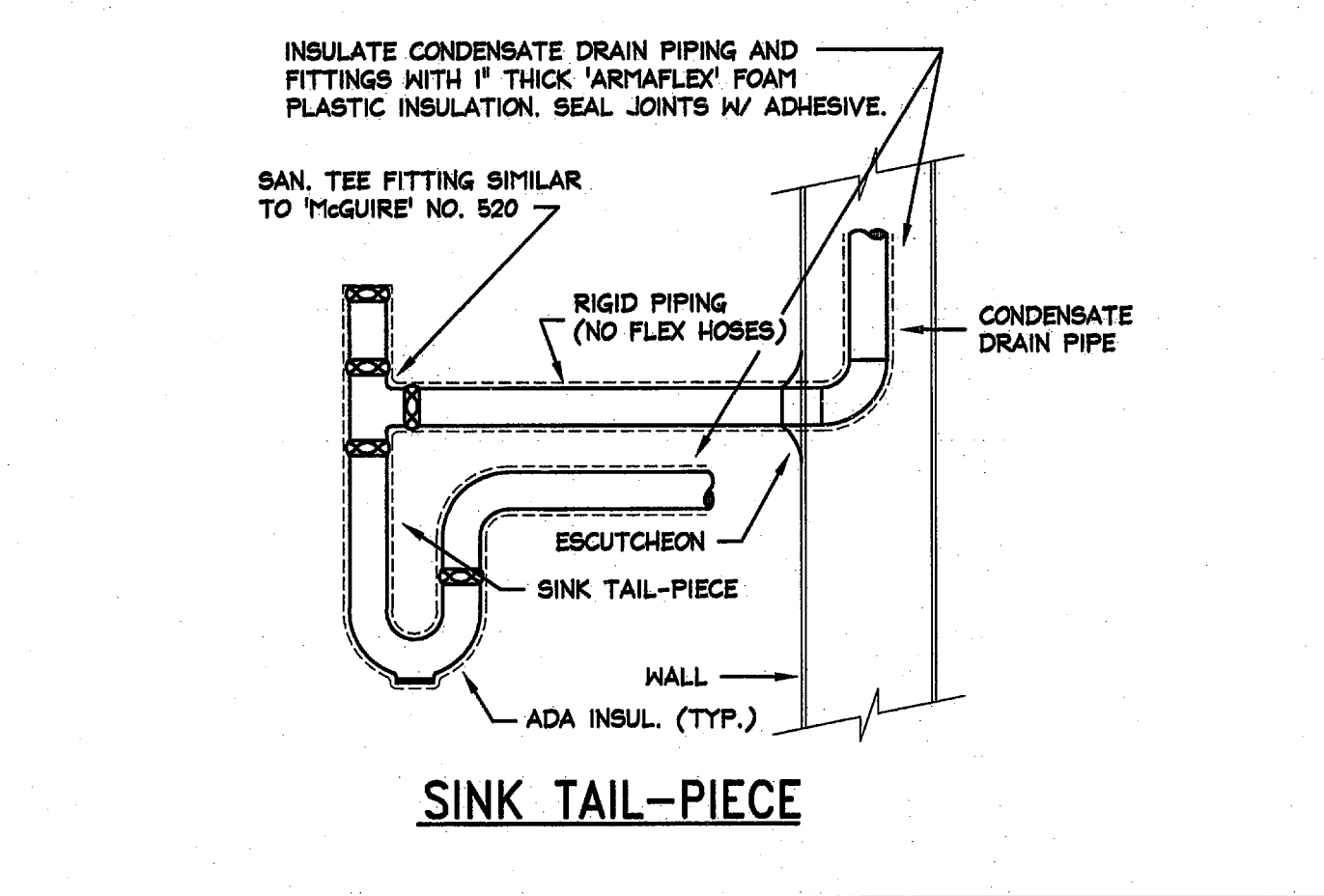
MARK	DESCRIPTION	CEILING TYPE	FACE DIMENSION	TYPE	VOLUME DAMPER	FINISH	MANUF.	MODEL NO.	REMARKS ***
A	LOUVER FACE	*	24"x24"	SUPPLY	NO	PER ARCH.	TITUS	TM6	SQUARE STEEL CONCENTRIC LOUVER FACE CEILING DIFFUSER, W/ ROUND NECK INLET.
B	LOUVER FACE	SIDE WALL	SIZE AS INDICATED	SUPPLY	O.B.D.	PER ARCH.	TITUS	300FL	DOUBLE DEFLECTION ALUMINUM REGISTER WITH ADJUSTABLE BLADES ON 3/4" BLADE SPACING WITH FRONT BLADES PARALLEL TO LONG DIMENSION.
C	LOUVER FACE	*	24"x24"	RETURN	NO	PER ARCH.	TITUS	350RL	36" FIXED DEFLECTION STEEL GRILLE WITH BLADES ON 3/4" BLADE SPACING WITH BLADES PARALLEL TO LONG DIMENSION.

NOTES:
 1. MULTIPLE DEVICES HAVE THE SAME DESIGNATION. VERIFY EXACT NUMBER OF DEVICES WITH THE FLOOR PLANS.
 2. * VERIFY FRAME STYLE REQUIREMENTS WITH ARCHITECTURAL REFLECTIVE CEILING PLANS.

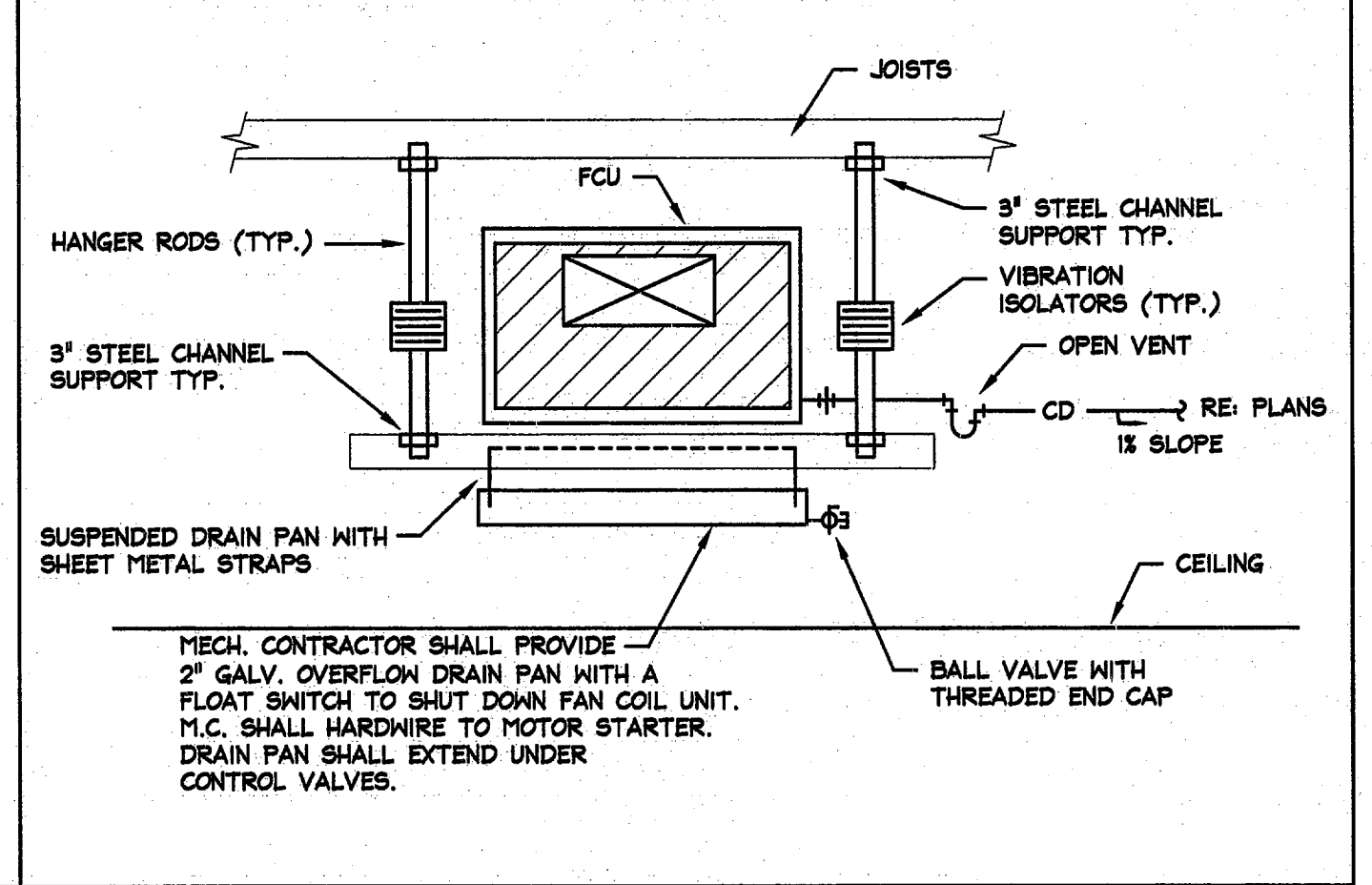
FAN SCHEDULE

MARK	LOCATION	TYPE	CFM	S.P. ("W.G.)	MAX FAN RPM	TYPE DRIVE	MOTOR DATA					MANUFACTURER	MODEL NO.	REMARKS
							H.P.	RPM	VOLTS	PHASE	STARTER			
EF-A	ABOVE CLG.	CENTRIF.	125	0.375	1100	DIRECT	98W	1750	120	1	F.H.P.	COOK	GC-144	7,8,9

MULTIPLE UNITS HAVE THE SAME DESIGNATION. VERIFY EXACT NUMBER OF UNITS WITH THE FLOOR PLANS.
 NOTES:
 (1. MINIMUM LEAKAGE GRAVITY BACKDRAFT DAMPER, (2. AUTOMATIC DAMPER WITH ACTUATOR, (3. 2-SPEED MOTOR, (4. BIRDSCREEN (5. MANUFACTURER'S ROOF CURB, (6. INLET SAFETY GUARD, (7. PREMIUM EFFICIENCY ELECTRIC MOTOR, (8. MANUFACTURER'S DISCONNECT SWITCH, (9. SPEED CONTROLLER, (10. THROW AWAY FILTERS, (11. 24" VENTED ROOF CURB, (12. EXPLOSION PROOF MOTOR AND DRIVE WITH NON SPARKING WHEEL, (13. SWITCH WITH DOOR LATCH CONTACTS.



05 CONDENSATE TERMINATION SCALE: NTS



06 FCU SUPPORT SCALE: NTS

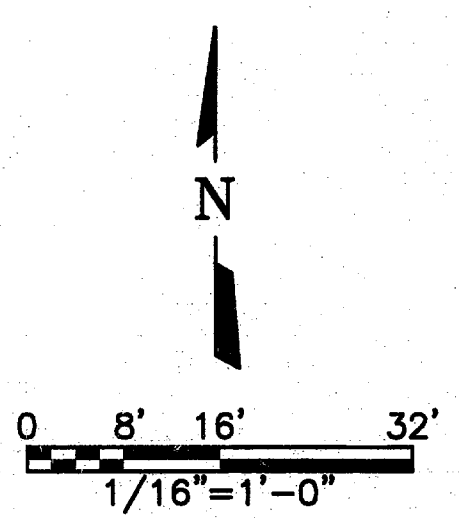
HEAT PUMP (DX) - INDOOR SECTION SCHEDULE

MARK	SUPPLY CFM	O.A. CFM	FAN E.S.P. (IN. W.G.)	FAN HP	ENT. AIR (F)		COOLING CAPACITY (MBH)		VOLTS/PHASE	AUXILIARY HEAT (KW)	MCA	MOCP	NOMINAL TONS	MANUFACTURER	MODEL NO.	REMARKS
					DB	WB	SENSIBLE	TOTAL								
HPU-1	2000	300	0.375	1	79.5	66.5	36.0	50.6	208/3	18.8	44/27	50/40	5	LENNOX	CBX32MV-060	--
HPU-2	800	---	0.375	1	75.0	65.0	12.5	20.0	208/1	3.0	23	25	2	LENNOX	CBX32MV-024	--

NOTES:
 1. MULTIPLE UNITS HAVE THE SAME DESIGNATION. VERIFY EXACT NUMBER OF UNITS WITH THE FLOOR PLANS.
 2. EXTERNAL STATIC PRESSURE (E.S.P.) IS DUCTWORK AND GRILLES ONLY. BHP SHOULD INCLUDE TWICE INITIAL FILTER LOSSES.
 3. PROVIDE RELAYS, XFMR'S, CONTROLS, ETC. FOR A SINGLE POINT ELECTRICAL CONNECTION.
 4. PROVIDE MANUFACTURER'S 7-DAY PROGRAMMABLE T-STAT WITH SUBBASE.
 5. PROVIDE ANTI SHORT CYCLE TIMER HIGH AND LOW PRESSURE SWITCH.
 6. PROVIDE VIBRATION ISOLATION PACKAGE.

HEAT PUMP (DX) - OUTDOOR SECTION SCHEDULE

MARK	SERVES	TOTAL COOLING CAPACITY AT 105F AMB. (MBH)	HEATING CAPACITY AT 17F AMB. (MBH)	MINIMUM SUCTION TEMP. (F)	ELECTRICAL DATA				MIN. EER	NOMINAL TONS	MANUFACTURER	MODEL NO.	REMARKS	OPERATING WEIGHT (>200 LBS.)
					VOLTS	PHASE	MCA	MOCP						
HCU-1	HPU-1	50.6	52.5	42	208	3	23.9	40	12	5	LENNOX	SPB060H4	--	331
HCU-2	HPU-2	20.0	12.9	42	208	1	15.7	25	12	2	LENNOX	XP19-024	--	304



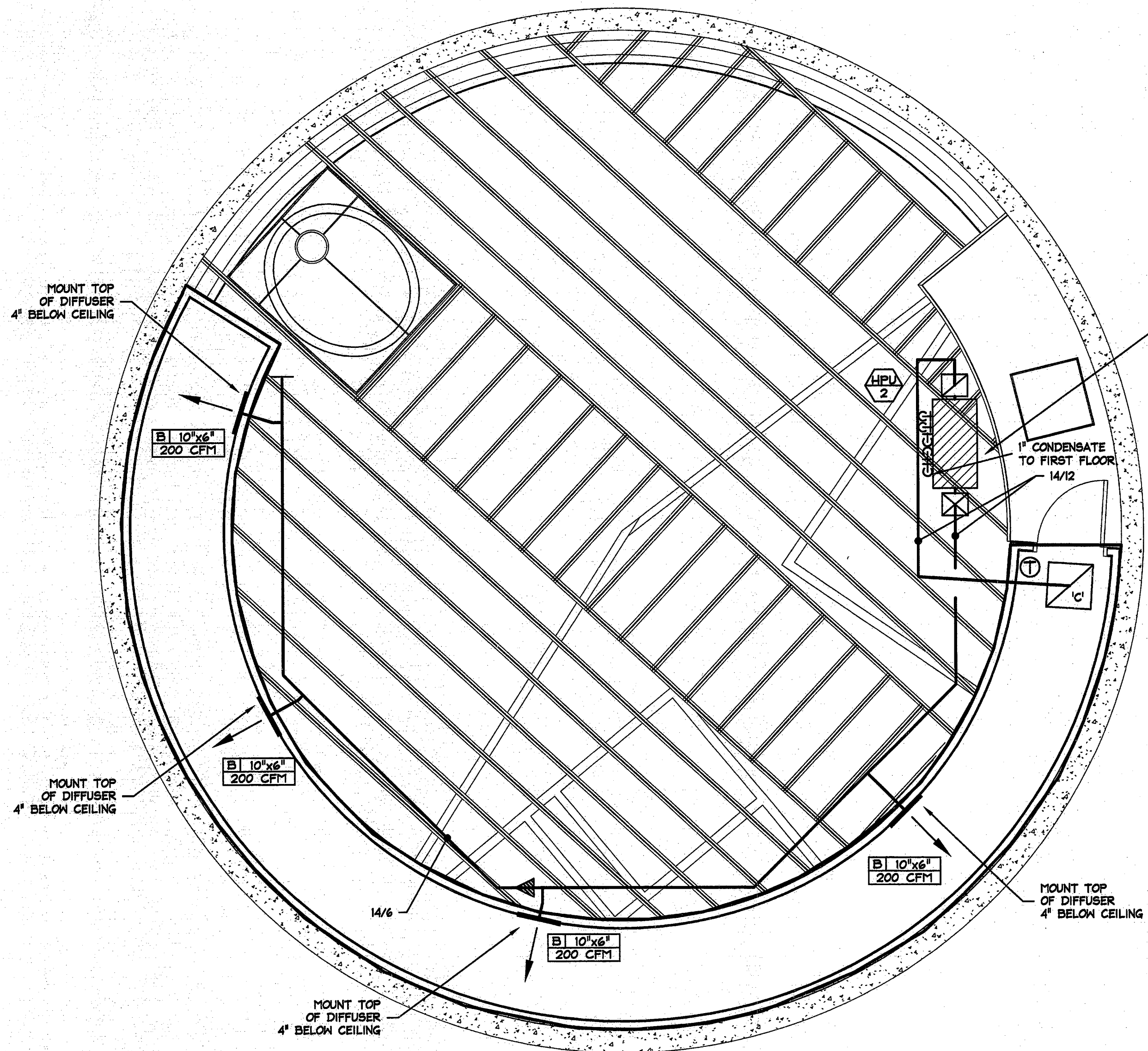
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 972-796-6629
 The seal on this document was authorized by Richard L. Norris, P.E., C-10089 on the date shown below.
 RICHARD L. NORRIS
 10089
 2011.01.13 11:48:38

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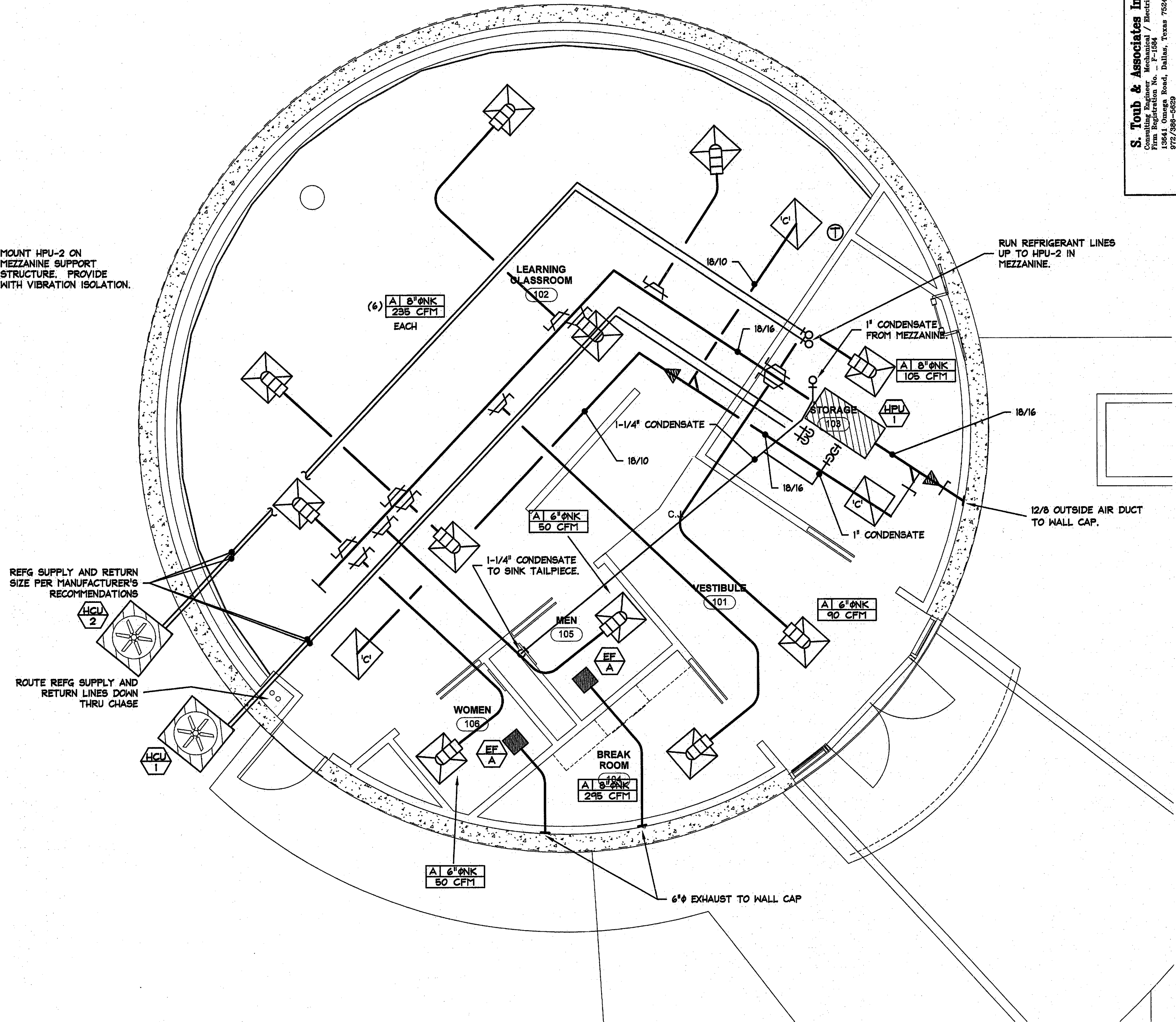
TOWN OF ADDISON, TEXAS
 SURVEYOR 1.5 MG EST
 M.E.P.
 MECHANICAL SCHEDULES

NO.	ISSUE	DATE	BY	DATE	BY	FILE NAME
ADD08459	DESIGNED	01/18/11	GCH			4049-M-2.dwg
	DRAWN		TRB			
	REVISION					
	CHECKED					
	RLN					

Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.
 VERIFY SCALE
 SHEET M-2



02 FLOOR PLAN - MEZZANINE MECHANICAL
SCALE: 1/4" = 1'-0"



01 FLOOR PLAN - MECHANICAL
SCALE: 1/4" = 1'-0"

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Mechanical / Electrical
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TOWN OF ADDISON, TEXAS
SURVEYOR 1.5 MG EST
M.E.P.
FLOOR PLAN - MECHANICAL

NO.	ISSUE	BY	DATE	FRN JOB NO.	ADD08459
				DATE	01/18/11
				DESIGNED	GCH
				DRAWN	TRB
				REVISION	
				CHECKED	RLN
				FILE NAME	4049-M-1.dwg

Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

VERIFY SCALE

0 8' 16' 32'
1/16" = 1'-0"

SHEET M-1

MEP ABBREVIATIONS	
ABV.	ABOVE
AC	ALTERNATING CURRENT
A/C	AIR CONDITIONER
AFC	ABOVE FINISHED CEILING
AFP	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AG	ABOVE GRADE AND GFI
AHAF	AS HIGH AS POSSIBLE
AHU	AIR HANDLING UNIT
ALT.	ALTERNATE
AMB.	AMBIENT TEMPERATURE (°F)
AMP.	AMPERE
APPROX.	APPROXIMATELY
ARCH.	ARCHITECTURAL
AVG.	AVERAGE
B	BELLER
B.G.	BELOW GRADE
BMS	BUILDING MANAGEMENT SYSTEM
BRD	BAROMETRIC RELIEF DAMPER
BTU	BRITISH THERMAL UNIT
CD	CONSTRUCTION DOCUMENTS
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CH	CHILLER
CHEM.	CHEMICAL
CHP	CHILLED WATER PUMP
CKT.	CIRCUIT
CLG.	CEILING
CHFR.	COMPRESSOR
CT	COOLING TOWER
CWP	CONDENSER WATER PUMP
CU	CONDENSING UNIT
DB	DRY BULB
DEFL.	DEFLECTION
DEG. F	DEGREES FAHRENHEIT
DET.	DETAIL
DD	DESIGN DEVELOPMENT
DIA.	DIAMETER
DISC.	DISCONNECT SWITCH
DIM.	DIMENSION
EA	EXHAUST AIR
EDB	ENTERING DRY BULB
EF	EXHAUST FAN
ELEC.	ELECTRICAL
ELEV.	ELEVATION
EPICS	ENERGY MGMT. CONTROL SYSTEM
E.S.P.	EXTERNAL STATIC PRESS. (IN. W.G.)
EWB	ENTERING WET BULB
EXT	EXIT
EXH.	EXHAUST
EXIST.	EXISTING
F/A	FREE AREA OPENING (SQ. FT.)
FCU	FAN COIL UNIT
FHP	FRACTIONAL HORSE POWER
FLR.	FLOOR
FFI	COIL FINS PER INCH.
FFM	FEET PER MINUTE
FFS	FEET PER SECOND
FOOT	FOOT
GFI	GROUND FAULT INTERRUPTER
GPM	GALLONS PER MINUTE
HD.	HEAD
HOA	HANDS/OFF/AUTO. MOTOR STARTER
HFP	HORSE POWER
HPU	HEAT PUMP UNIT
HR.	HOUR(S)
HT.	HEIGHT
HTG.	HEATING
HTR.	HTR.
HVAC	HEAT VENT AND AIR CONDITIONING
HWP	HOT WATER PUMP
HX	HEAT EXCHANGER
HZ.	FREQUENCY (HERTZ)
ID	INSIDE DIAMETER OR DIMENSION
IN.	INCHES
KW	KILOWATT
KWH	KILOWATT HOUR
LAT	LEAVING AIR TEMPERATURE
LWT	LEAVING WATER TEMPERATURE
MAX.	MAXIMUM
MCA	MINIMUM CURRENT AMPS.
MOPP	MAX. OVER CURRENT PROTECTION
MHU	MIN. BTU PER HOUR
MECH.	MECHANICAL
MFR.	MANUFACTURER
MIN.	MINIMUM
MVD	MANUAL VOLUME DAMPER
NA	NOT APPLICABLE
NC	NOISE CRITERIA
NIC	NOT IN CONSTRUCTION
NK	NECK DIMENSION
NO.	NUMBER
OAR	OWNERS AUTHORIZED REPRESENTATIVE
OB	OPPOSED BLADE DAMPER
OD	OUTSIDE DIAMETER
ORIG.	ORIGINAL
P.D.	PRESSURE DROP (FT)
PH.	PHASE
PMB	POWERED MIXING BOX
PLBG.	PLUMBING
PNL.	PANEL
PRESS.	PRESSURE
RA	RETURN AIR
RAG	RETURN AIR GRILLE
RD.	RADIUS
REF.	REFERENCE
RPM	REVOLUTIONS PER MINUTE
RTU	ROOF TOP UNIT
S/S	SINGLE SPEED MOTOR
S/S/S	START/STOP/STATUS
S	SUPPLY AIR
SAG	SUPPLY AIR GRILLE
SDC	STAND ALONE DIGITAL CONTROLLER
SEER	SEASON ENERGY EFFICIENCY RATIO
SENS.	SENSIBLE
SP	STATIC PRESSURE
SQ.	SQUARE
STR.	MOTOR STARTER
TEMP.	TEMPERATURE
T.S.P.	TOTAL STATIC PRESSURE (IN. W.G.)
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
V	VOLT
VAV	VARIABLE AIR VALVE
VEL.	VELOCITY
W	WATT
W	WITH
W/O	WITHOUT
W.G.	WATER GAUGE
WB	WET BULB
WP	WEATHERPROOF
WPD	WATER PRESSURE DROP
WPG	WEATHERPROOF GFI
XFR.	TRANSFORMER

ELECTRICAL SYMBOLS	
	RECESSED OR SURFACE, TYPE 'A' DOWNLIGHT FIXTURE ON CIRCUIT #3.
	RECESSED OR SURFACE, TYPE 'A' LIGHTING TROFFER FIXTURE ON CIRCUIT #3.
	WALL MOUNTED OR BRACKET MOUNTED LIGHTING FIXTURE.
	RECESSED OR SURFACE, TYPE 'A' WALL WASHER FIXTURE ON CIRCUIT #3.
	HATCHED FIXTURE INDICATING A NIGHT LIGHT OR AN EMERGENCY LIGHTING FIXTURE.
	CEILING MOUNTED EXIT SIGN AND WALL MOUNTED EXIT SIGN.
	UNITARY EMERGENCY LIGHTING FIXTURE
	JUNCTION BOX, SIZED BY E.C. PER NEC.
	GRID SYSTEM JUNCTION BOXES, SIZED BY E.C. PER NEC.
	DUPLEX RECEPTACLE, 20A, 125V, GROUNDED.
	DUPLEX RECEPTACLE, 20A, 125V, ISOLATED GROUND.
	DUPLEX RECEPTACLE, 20A, 125V, GROUND, HALF SWITCHED.
	SIMPLEX RECEPTACLE, 20A (U.N.O.), 125V, GROUNDED.
	POWER RECEPTACLE, 2 POLE, 250V SINGLE PHASE. AMPS GREATER THAN 20A TO BE NOTED.
	QUADPLEX RECEPTACLE, 20A, 125V, GROUNDED.
	3 PHASE RECEPTACLE, AMPS GREATER THAN 20A TO BE NOTED.
	TELEPHONE OUTLET, DATA OUTLET, COMBINATION TELEPHONE/DATA OUTLET.
	TELEVISION OUTLET.
	CEILING MOUNTED SPEAKER, WALL MOUNTED SPEAKER.
	MICROPHONE OUTLETS.
	FLOOR BOX WITH DUPLEX RECEPTACLE.
	FLOOR BOX WITH TELEPHONE OUTLET, FLOOR BOX WITH DATA.
	MULTI-USE FLOOR BOXES.
	MULTI-OUTLET STRIP.
	BUZZER, BELL.
	SINGLE FACE CLOCK, DOUBLE FACE CLOCK.
	FIRE ALARM HORN, FIRE ALARM HORN AND STROBE ASSEMBLY, FIRE ALARM STROBE.
	FIRE ALARM HORN AND STROBE ASSEMBLY WITH MANUAL PULL STATION, MANUAL PULL STATION.
	FIRE ALARM WATER FLOW SWITCH, TAMPER SWITCH.
	FIRE ALARM CEILING MOUNTED SMOKE DETECTOR, DUCT MOUNTED SMOKE DETECTOR.
	FIRE ALARM HEAT DETECTOR.
	SINGLE POLE SWITCH.
	THREE WAY SWITCH.
	FOUR WAY SWITCH.
	DIMMER SWITCH.
	KEY OPERATED SWITCH.
	KEY OPERATED THREE WAY SWITCH.
	MOMENTARY CONTACT SWITCH.
	PUSH BUTTON SWITCH.
	START - STOP PUSH BUTTON SWITCH
	H.O.A. PUSH BUTTON SWITCH.
	SINGLE THROW THERMAL SWITCH.
	PUSH BUTTON START / STOP SWITCH.
	MAGNETIC MOTOR STARTER.
	FUSED SWITCH.
	DISCONNECT SWITCH.
	FUSED DISCONNECT SWITCH.
	MOTOR.
	WIRING SYMBOLS: NEUTRAL, HOT, SWITCH, GROUND.
	CONDUIT CONCEALED IN OR BELOW FLOOR.
	PANELBOARD (250 VOLT OR BELOW).
	PANELBOARD (480 VOLT OR 600 VOLT).
	DRY TYPE TRANSFORMER.
	GROUNDING BUS BAR
	TELEPHONE CABINET OR BACKBOARD
	ABOVE COUNTER, GFCI RECEPTACLE, ABOVE COUNTER GFCI RECEPTACLE.

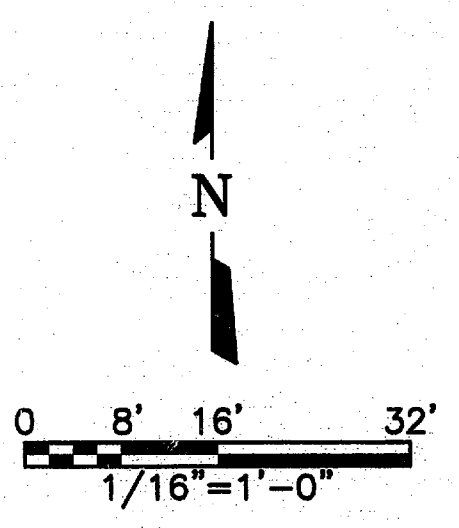
NOTE: NOT ALL SYMBOLS SHOWN ARE NECESSARILY USED.

HVAC LEGEND		
SINGLE LINE	DESCRIPTION	DOUBLE LINE
	90° ELBOW DOWN	
	90° ELBOW UP	
	OFFSET TO CHANGE ELEVATION (AT 30° WHEN POSSIBLE ARROW SLOPES DN.)	
	ROUND RADIUS ELBOW	
	45° ELBOW	
	90° STRAIGHT TEE	
	90° CONICAL TEE	
	45° BRANCH	
	45° CONICAL TEE	
	SIZE TRANSITION	
	SHAPE TRANSITION	
	ROUND FLEXIBLE DUCT	
	90° ELBOW DOWN W/ TURNING VANES (U.N.O.)	
	90° ELBOW UP W/ TURNING VANES (U.N.O.)	
	TEE WITH SPLITTER & TURNING VANES IN VERTICAL	
	OFFSET TO CHANGE ELEVATION (AT 30° WHEN POSSIBLE ARROW SLOPES DN.)	
	RECTANGULAR RADIUS ELBOW	
	RECTANGULAR ELBOW WITH TURNING VANES	
	SPLIT BRANCH TAKE-OFF WITH SQUARE ELBOW AND SPLITTER DAMPER.	
	SPLIT BRANCH TAKE-OFF WITH RADIUS ELBOW AND SPLITTER DAMPER.	
	BRANCH TAKE-OFF WITHOUT AIR BALANCING DAMPER.	
	BRANCH TAKE-OFF WITH AIR BALANCING DAMPER. (SCOOP DAMPER)	
	TEE WITH SPLITTER DAMPER	
	SPIN-IN TAP WITH DAMPER	
	SQUARE NECK C.L.G. DIFFUSER 4-WAY DIRECTIONAL THROW UNLESS INDICATED OTHERWISE.	
	SQUARE NECK C.L.G. DIFFUSER 4-WAY DIRECTIONAL THROW UNLESS INDICATED OTHERWISE.	
	SIDEWALL SUPPLY GRILLE OR REGISTER WITH O.B.D.	
	SUPPLY DUCT RISER	
	RETURN, EXHAUST OR OUTSIDE AIR DUCT RISER.	
	CEILING RETURN AIR GRILLE OR REGISTER	
	DOOR GRILLE	
	VOLUME DAMPER	
	FIRE DAMPER	
	MOTORIZED DAMPER	
	GRAVITY BACKDRAFT DAMPER	
	AUTO SMOKE DAMPER	
	DUCT MOUNTED SMOKE DETECTOR	
	SMOKE/FIRE DAMPERS (CLASS II MIN.)	
	THERMOSTAT OR TEMPERATURE SENSOR	
	ROOM HUMIDISTAT / CARBON DIOXIDE SENSORS	

NOTE: NOT ALL SYMBOLS SHOWN ARE NECESSARILY USED.

PLUMBING SYMBOL LEGEND	
	SANITARY SEWER (SS)
	SANITARY VENT (V)
	STORM DRAIN (SD)
	STORM OVERFLOW DRAIN (OD)
	GREASE WASTE (GW)
	ACID WASTE (AW)
	ACID VENT (AV)
	DOMESTIC COLD WATER (CW)
	DOMESTIC HOT WATER (110°F HW)
	DOMESTIC HOT WATER (140°F HW)
	DOMESTIC HOT WATER RETURN (RECIRC)
	DOMESTIC HOT WATER RETURN (140°F RECIRC)
	FIRE LINE (F)
	NATURAL GAS (G)
	COMPRESSED AIR (A)
	OXYGEN
	VACUUM
	NITROGEN (N)
	NITROUS OXIDE (NO)
	RISER DOWN (ELBOW)
	RISER UP (ELBOW)
	BRANCH-BOTTOM CONNECTION
	BRANCH-TOP CONNECTION
	TEE CONNECTION
	90° ELBOW
	CAP ON END OF PIPE UNION
	FLOOR CLEANOUT
	CLEANOUT PLUG
	BALL VALVE
	PRESSURE REDUCING VALVE
	CHECK VALVE
	FLOW CONTROL VALVE
	GAS COCK
	TEMPERATURE-PRESSURE RELIEF VALVE
	THERMOMETER
	PRESSURE GAUGE WITH GAUGE COCK
	DIRECTION OF SLOPE
	DIRECTION OF FLOW
	OUTLET (SPECIFY TYPE)
	COMPRESSED AIR OUTLET
	NON-FREEZE WALL HYDRANT
	HOSE BIBB
	FLOOR SINK
	FLOOR DRAIN
	HUB DRAIN
	ROOF DRAIN
	OVERFLOW DRAIN
	EXISTING PIPING TO BE REMOVED
	NEW CONNECTION TO EXISTING

NOTE: NOT ALL SYMBOLS SHOWN ARE NECESSARILY USED.



The seal on this document was prepared by the Surveyor on the date shown below.

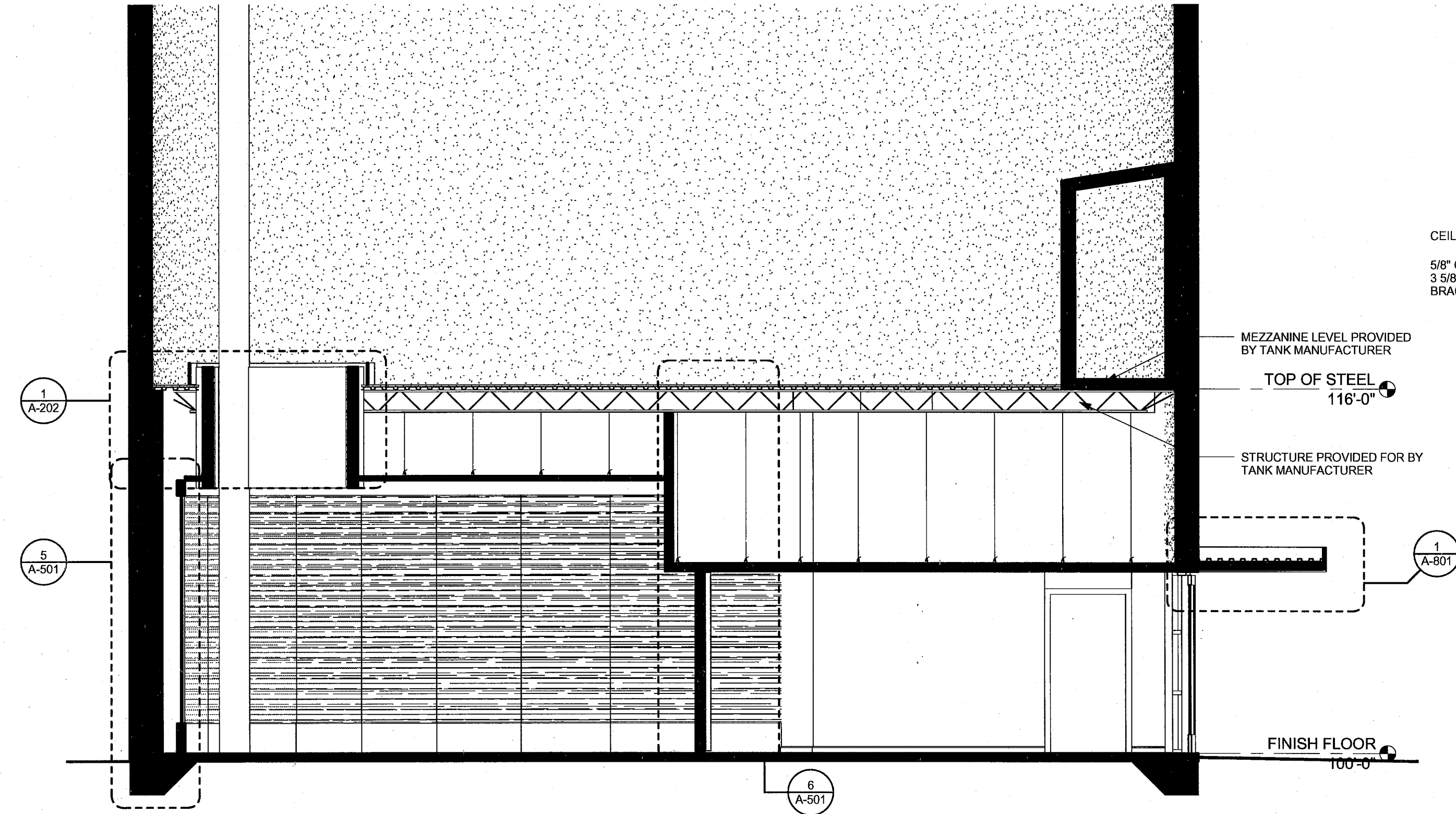
S. Tomb & Associates Inc.
 Firm Registration No. - 1-1884 / Licensed
 18941 Omega Road, Dallas, Texas 75244
 972-388-6828

Richard L. Morris
 P.E. No. 57048
 Associates Inc. No. 1001019
 email: rlmorris@tomb.com
 2011.01.18 11:46:24
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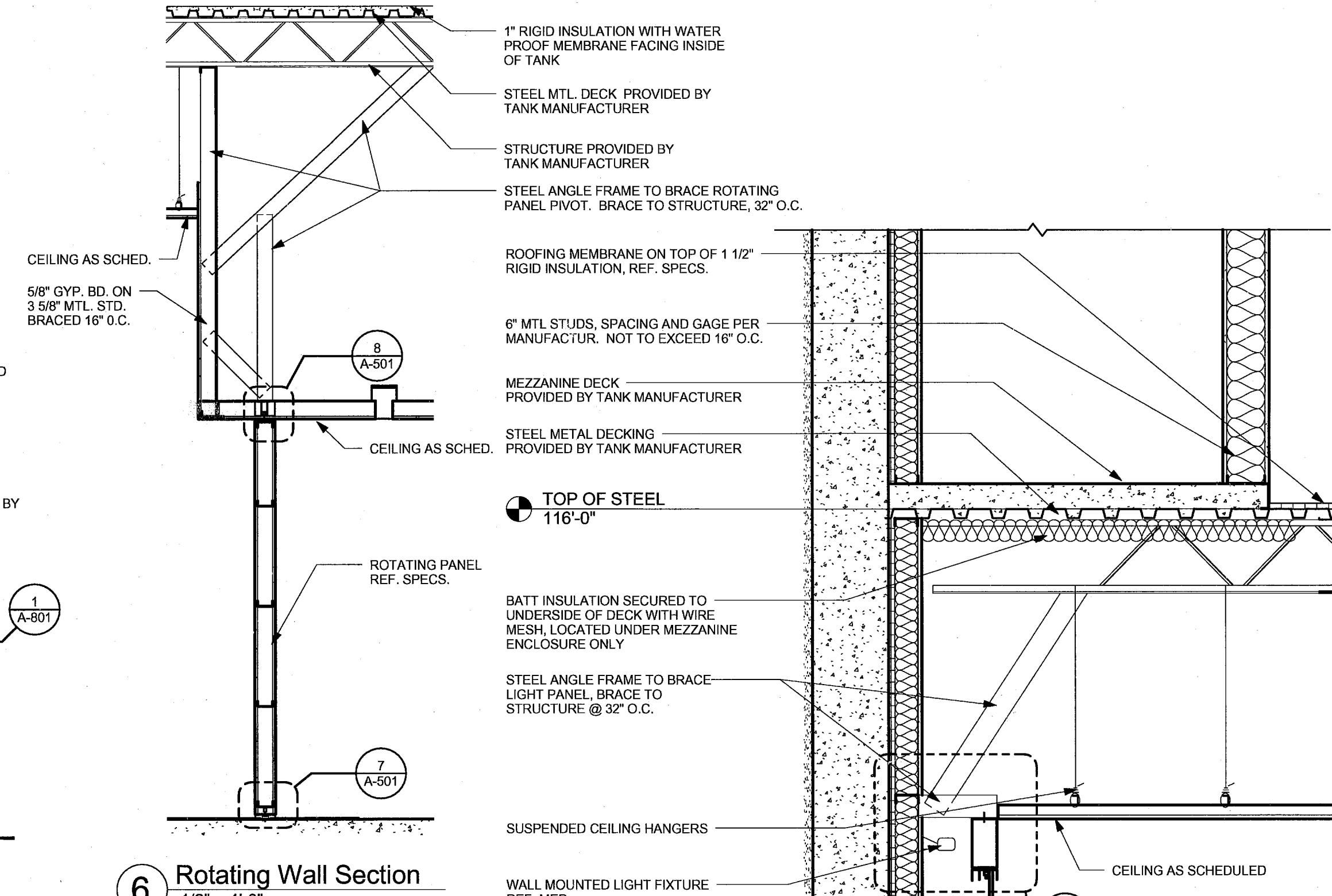
FREESE & NICHOLS
 2220 San Joaquin, Suite 330
 Houston, Texas 77005-4650
 Phone - (940) 387-4600
 Fax - (940) 387-4677

TOWN OF ADDISON, TEXAS
 SURVEYOR 1.5 MG EST
 M.E.P.
 SYMBOLS & ABBREVIATIONS

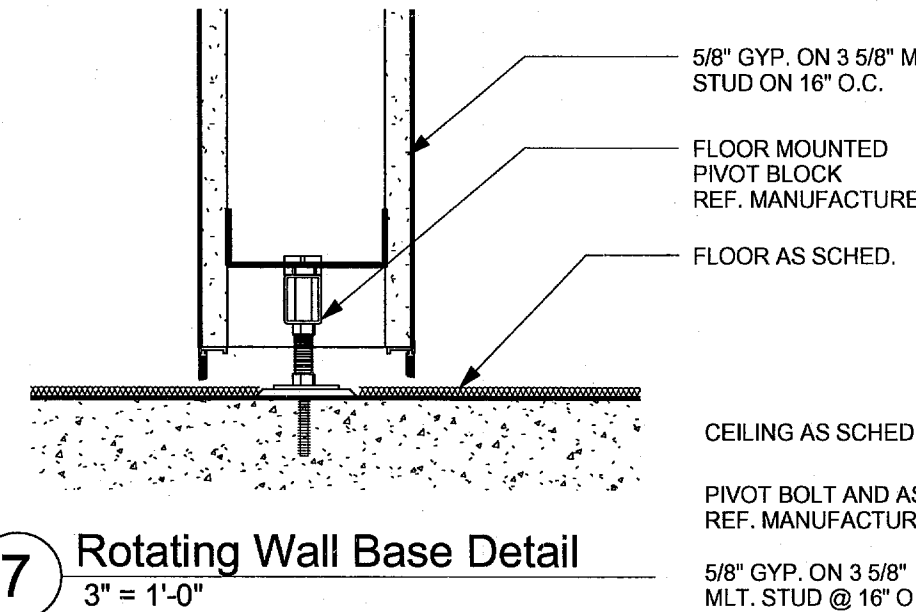
NO.	ISSUE	DATE	BY	DATE	DESIGNED	DRAWN	REVISION	CHECKED	FILE NAME
ADD08459		01/18/11			GCH	TRB			4049-MEP-1.dwg
Bar is one inch on original drawing, if not one inch on this sheet, adjust scale. VERIFY SCALE									
SHEET MEP-1									



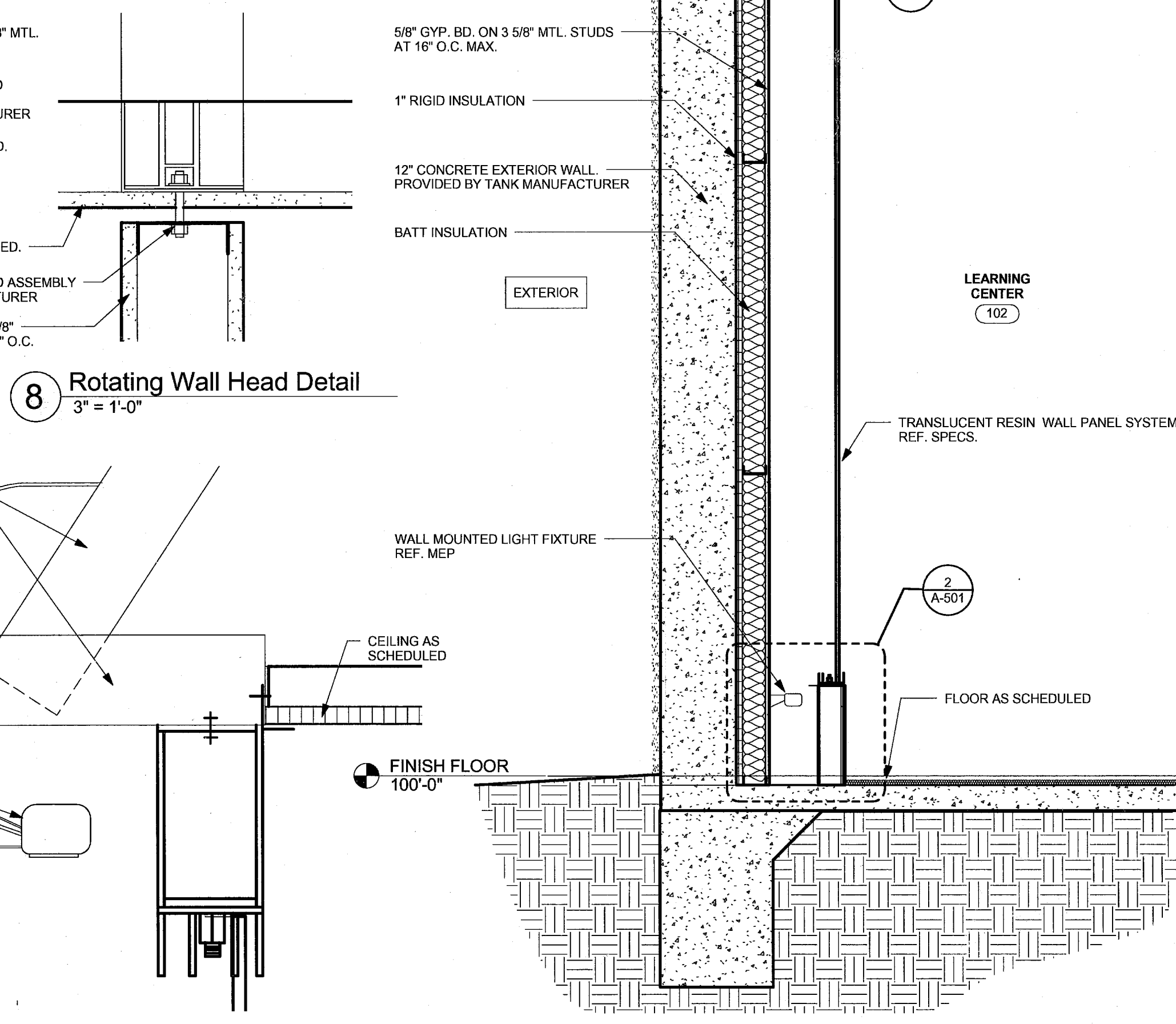
1 Building Section
1/4" = 1'-0"



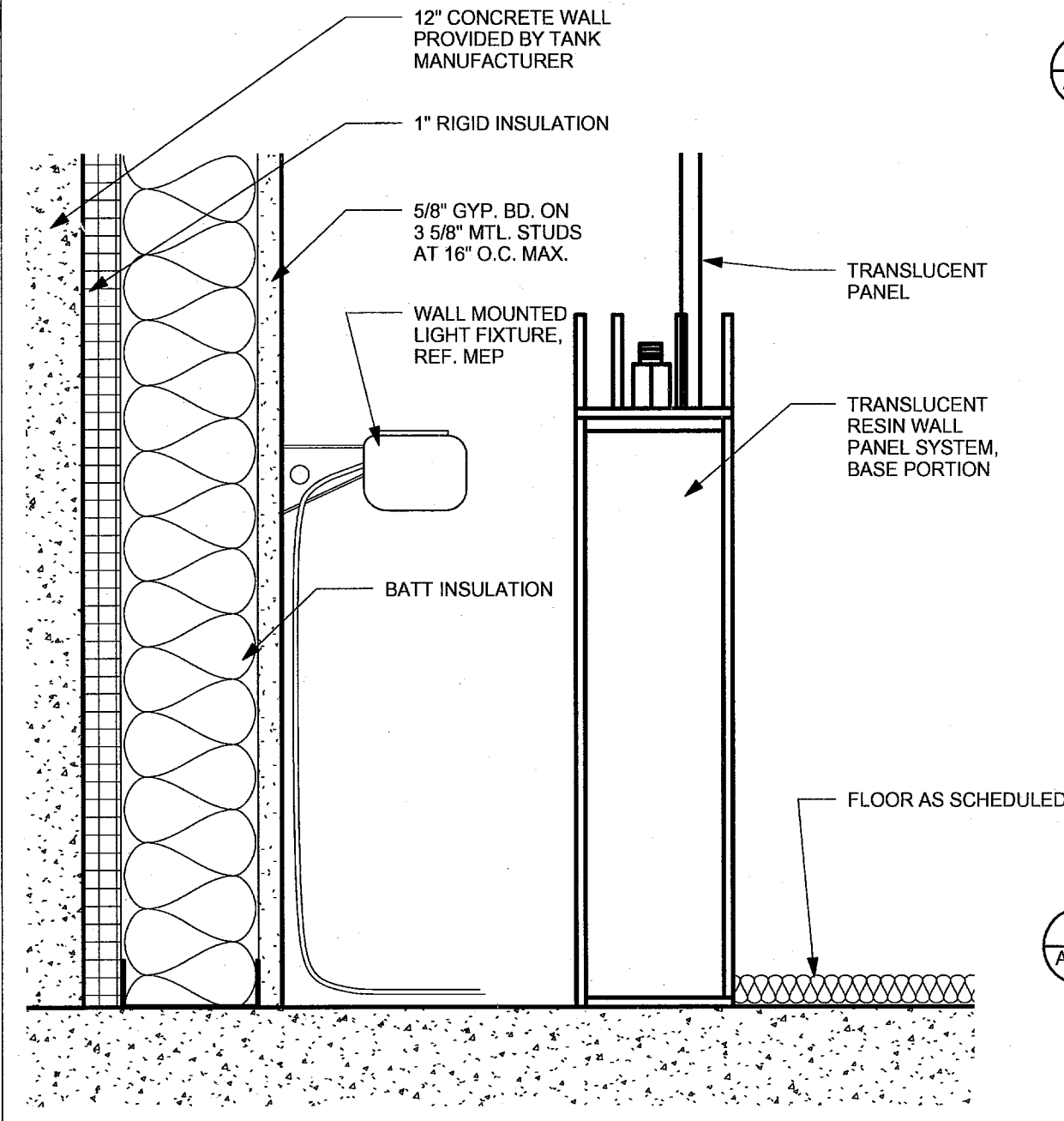
6 Rotating Wall Section
1/2" = 1'-0"



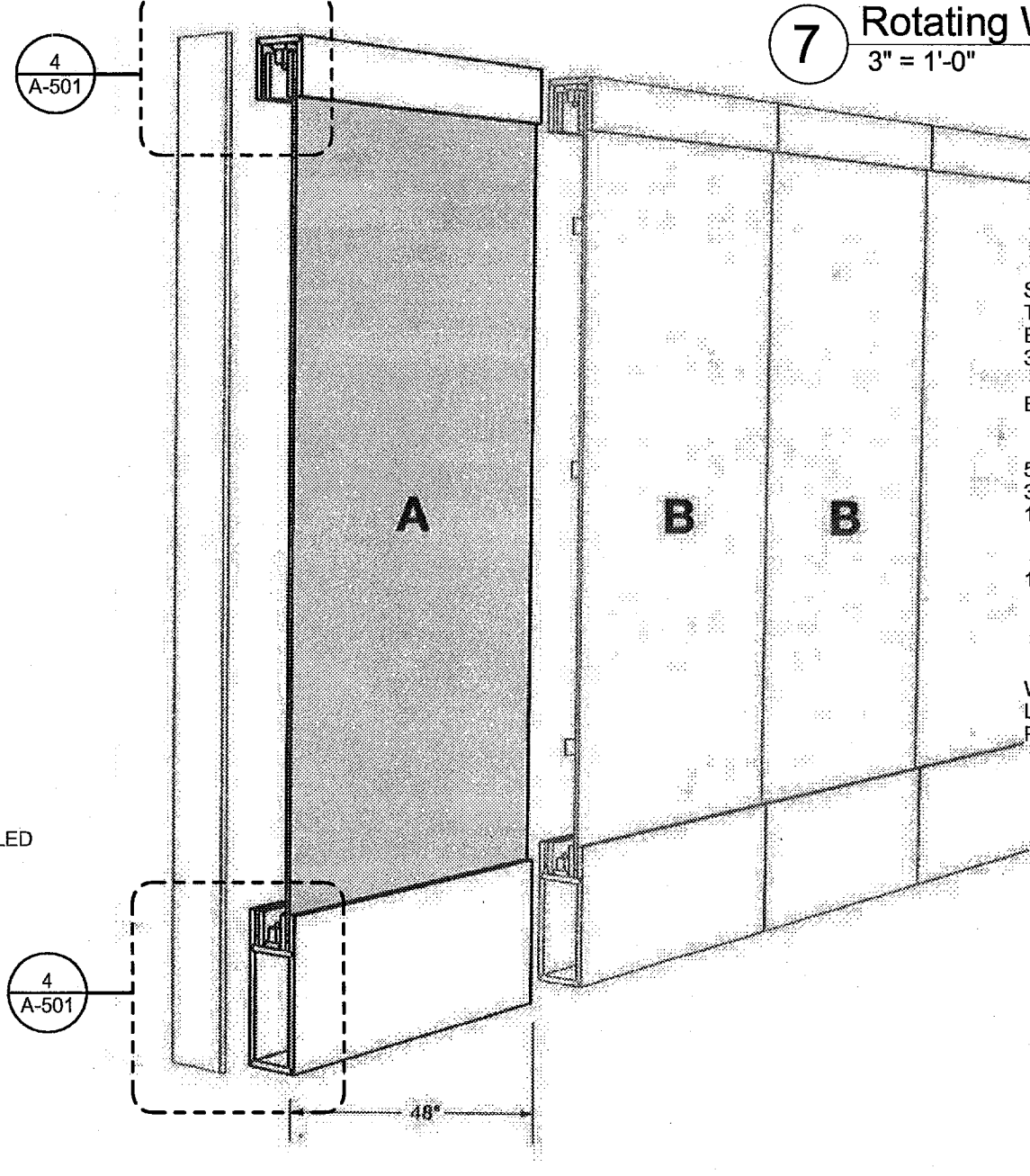
7 Rotating Wall Base Detail
3" = 1'-0"



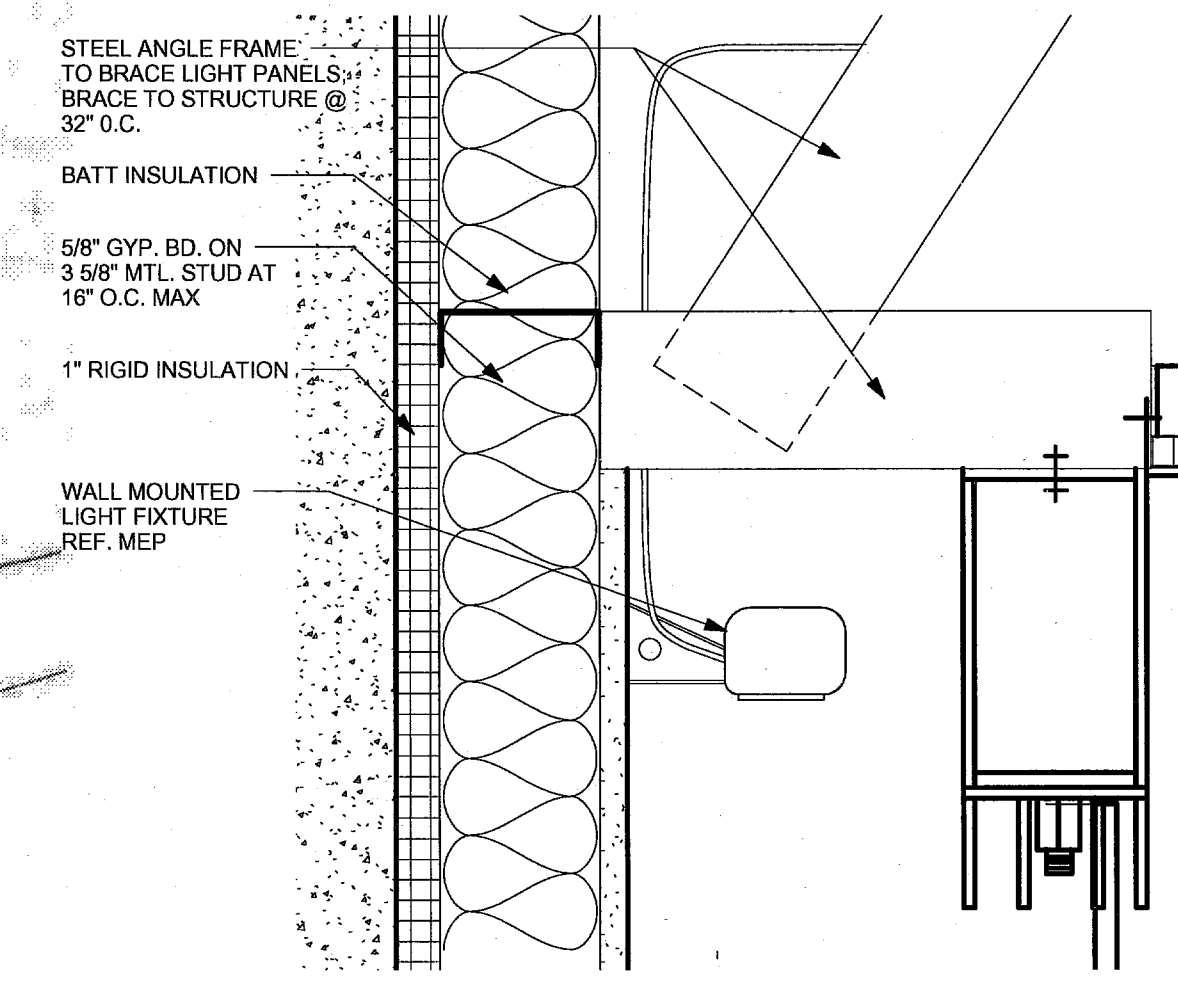
8 Rotating Wall Head Detail
3" = 1'-0"



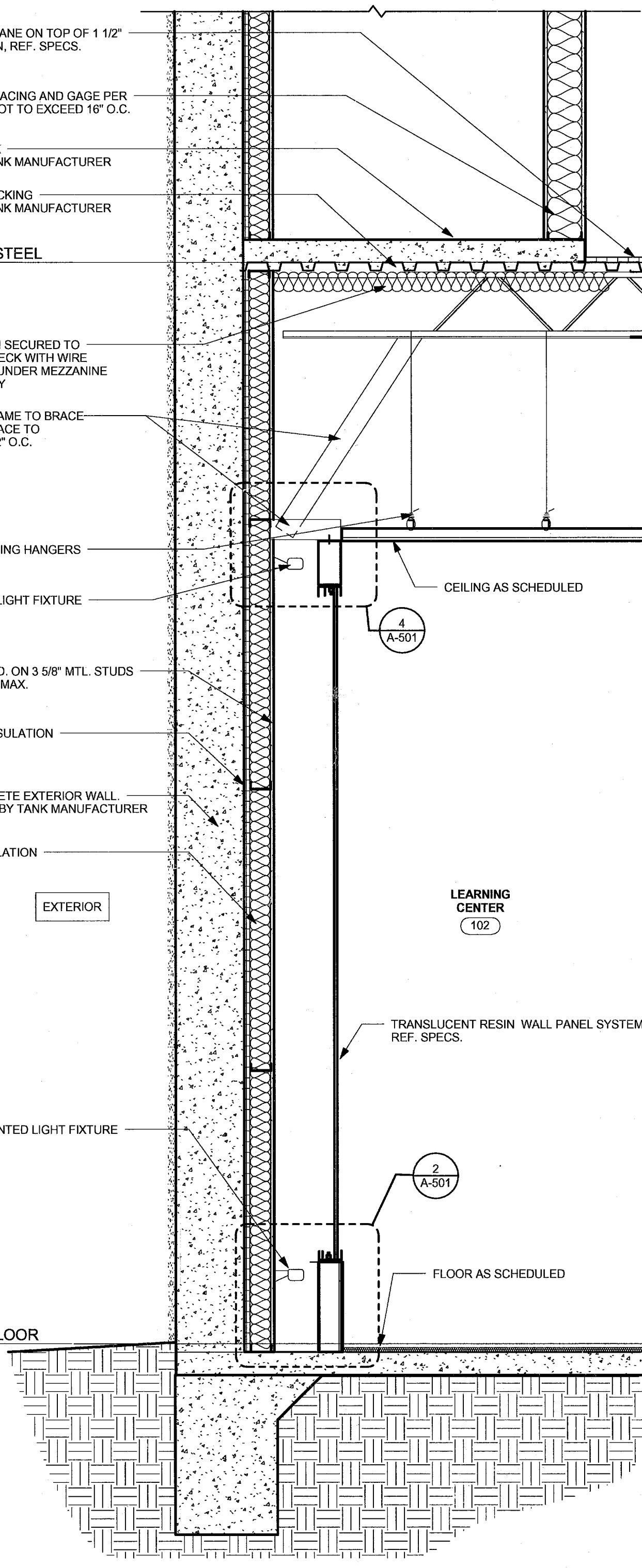
2 Wall Section Detail - 2
3" = 1'-0"



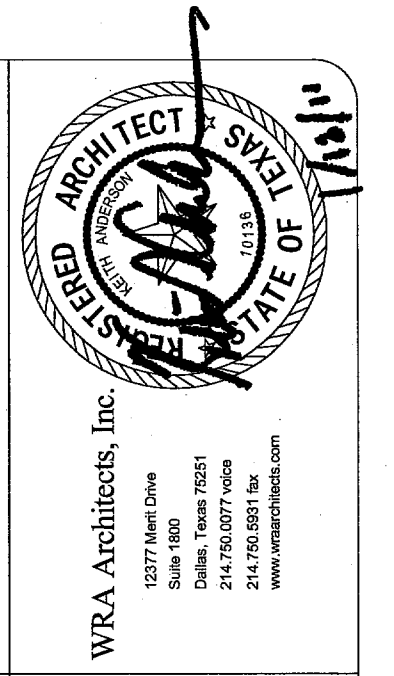
3 Light Wall Perspective
12" = 1'-0"



4 Wall Section Detail - 1
3" = 1'-0"



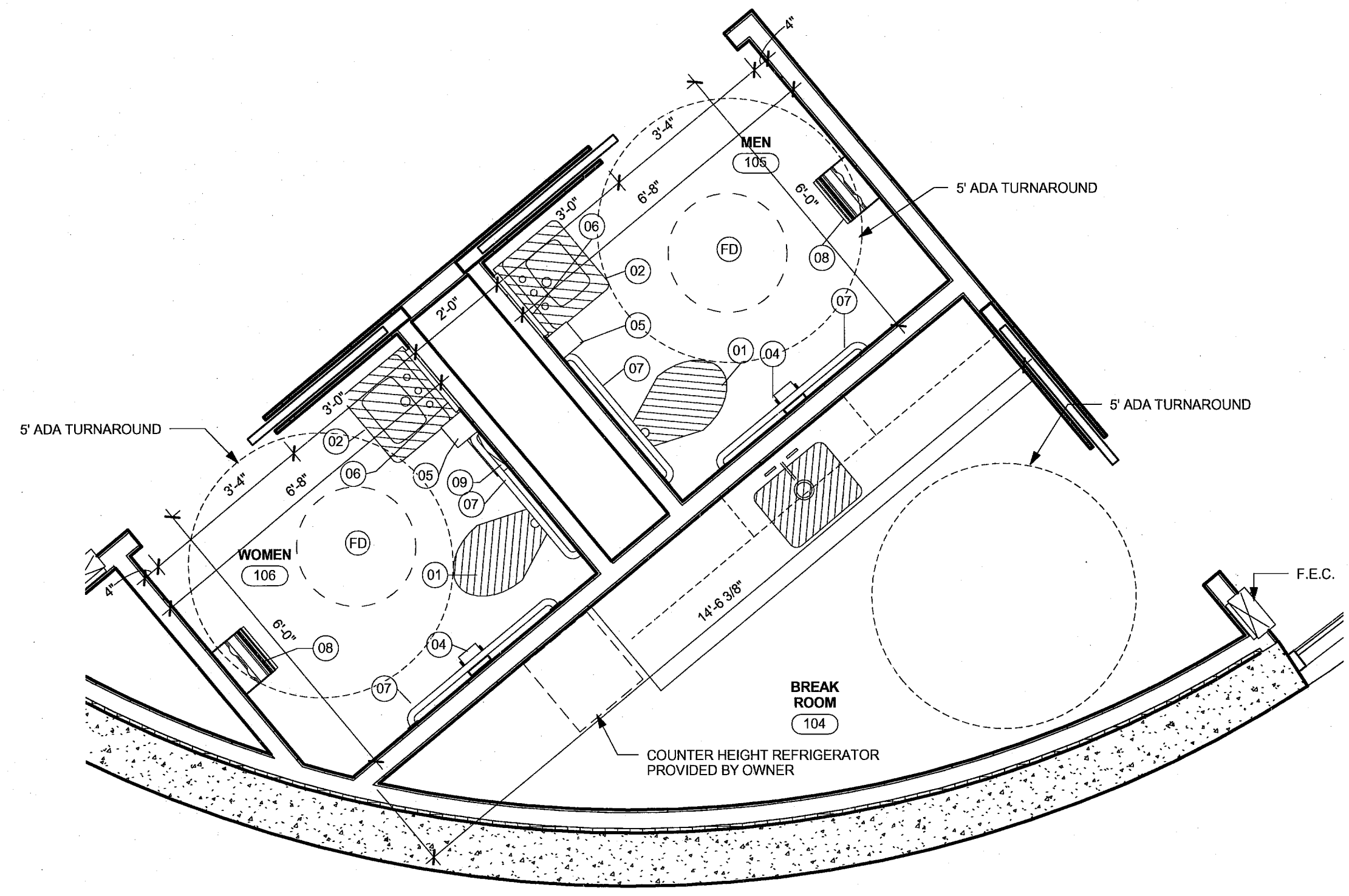
5 Wall Section 1
3/4" = 1'-0"



WRA Architects, Inc.
2220 San Jacinto Blvd., Suite 330
Denton, Texas 76205
Phone - (940) 387-4600
Fax - (940) 387-4677
Web - www.wra.com

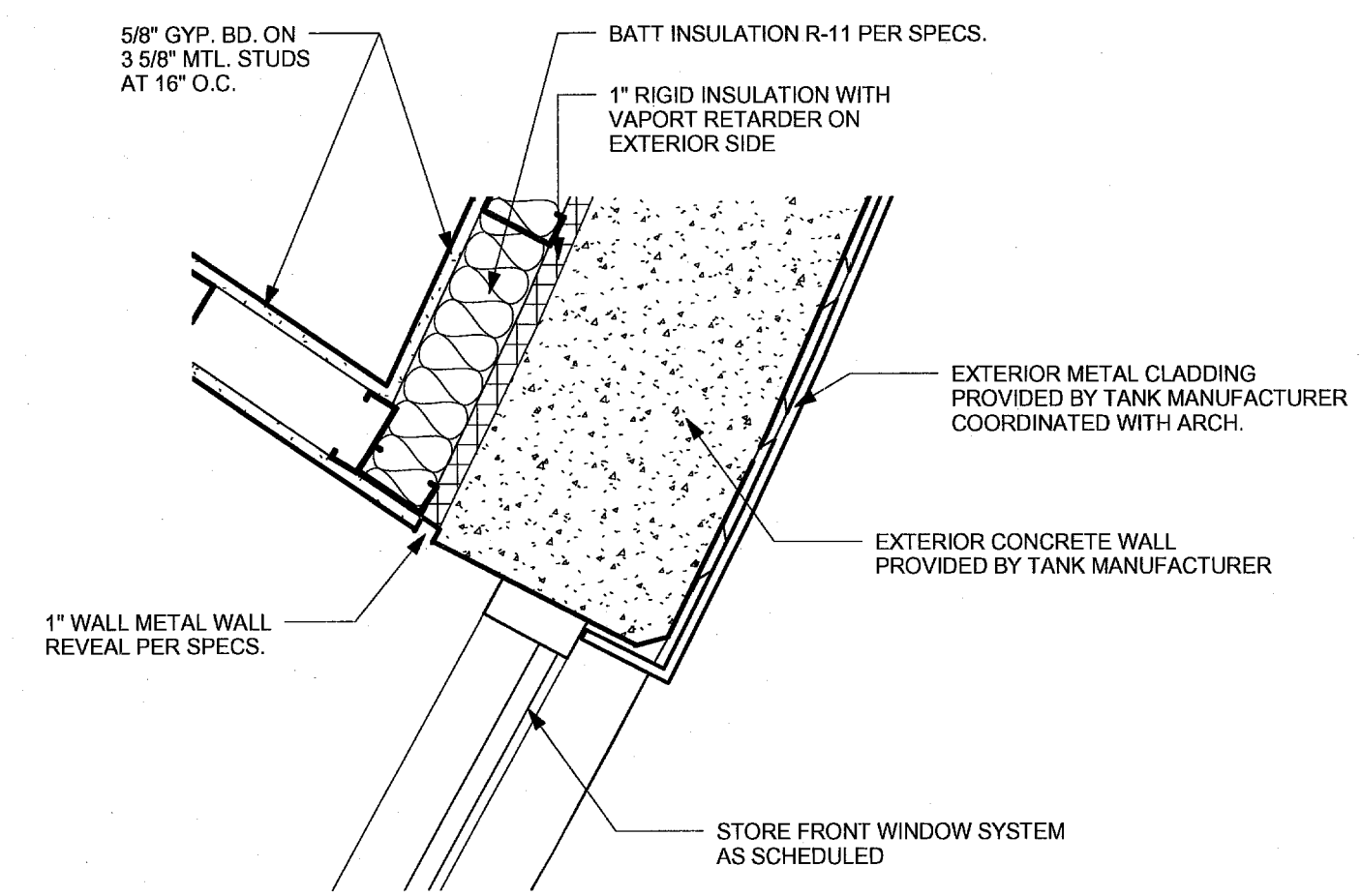
Town of Addison, Texas
SURVEYOR 1.5 MG EST
ARCHITECTURE
Wall Sections

NO.	ISSUE	BY	DATE	FAN JOB NO.	ADD08489	DESIGNED	07/18/11	DATE	DATE	FILE NAME
						DRAWN	SNA	DESIGNED	SNA	
						REVISED		DESIGNED		
						CHECKED		DESIGNED		
VERIFY SCALE: Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.										
SHEET A-501										

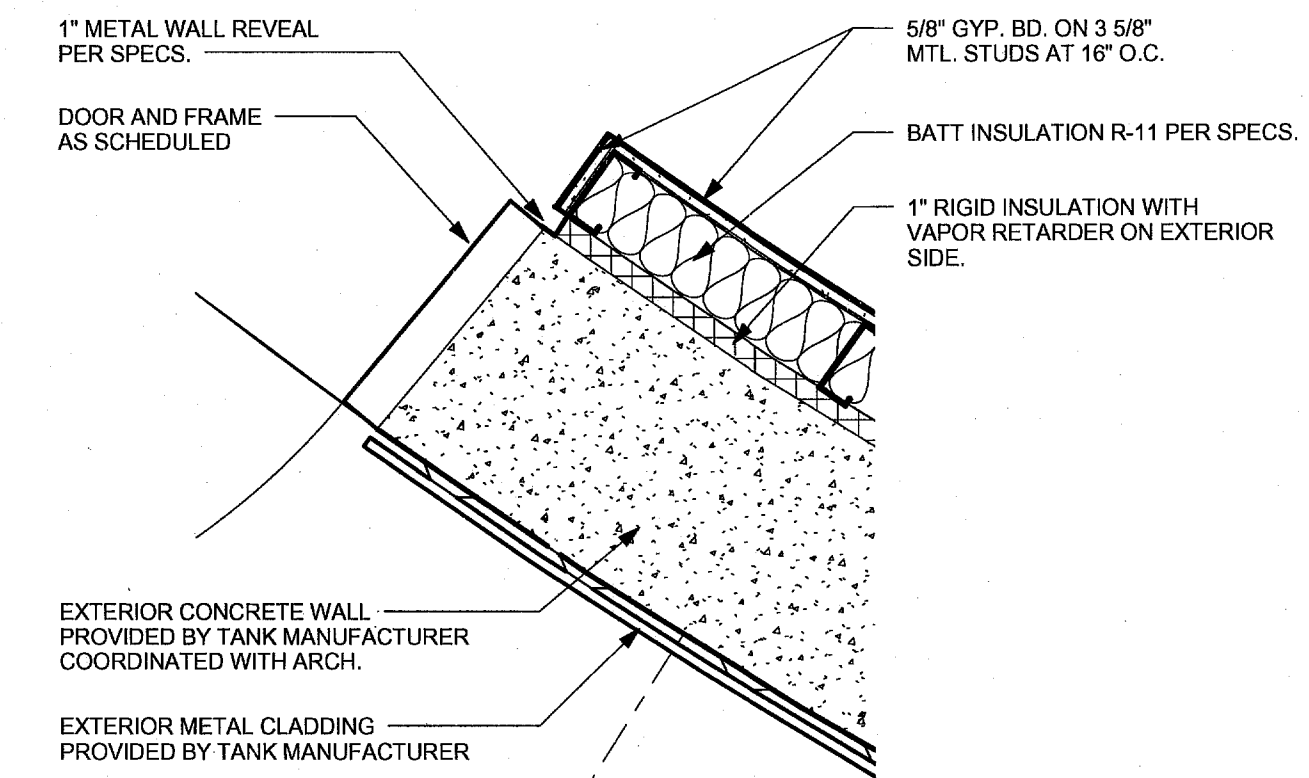


TOILET FIXTURES AND ACCESSORIES SCHEDULE	
01	ACCESSIBLE WATER CLOSET (SHADED)
02	ACCESSIBLE LAVATORY (SHADED)
03	ACCESSIBLE SINK
04	TOILET PAPER DISPENSER
05	SOAP DISPENSER
06	ACCESSIBLE MIRROR 18" W x 42" H
07	GRAB BARS
08	ELECTRIC HAND DRYER
09	FEMININE NAPKIN DISPOSAL

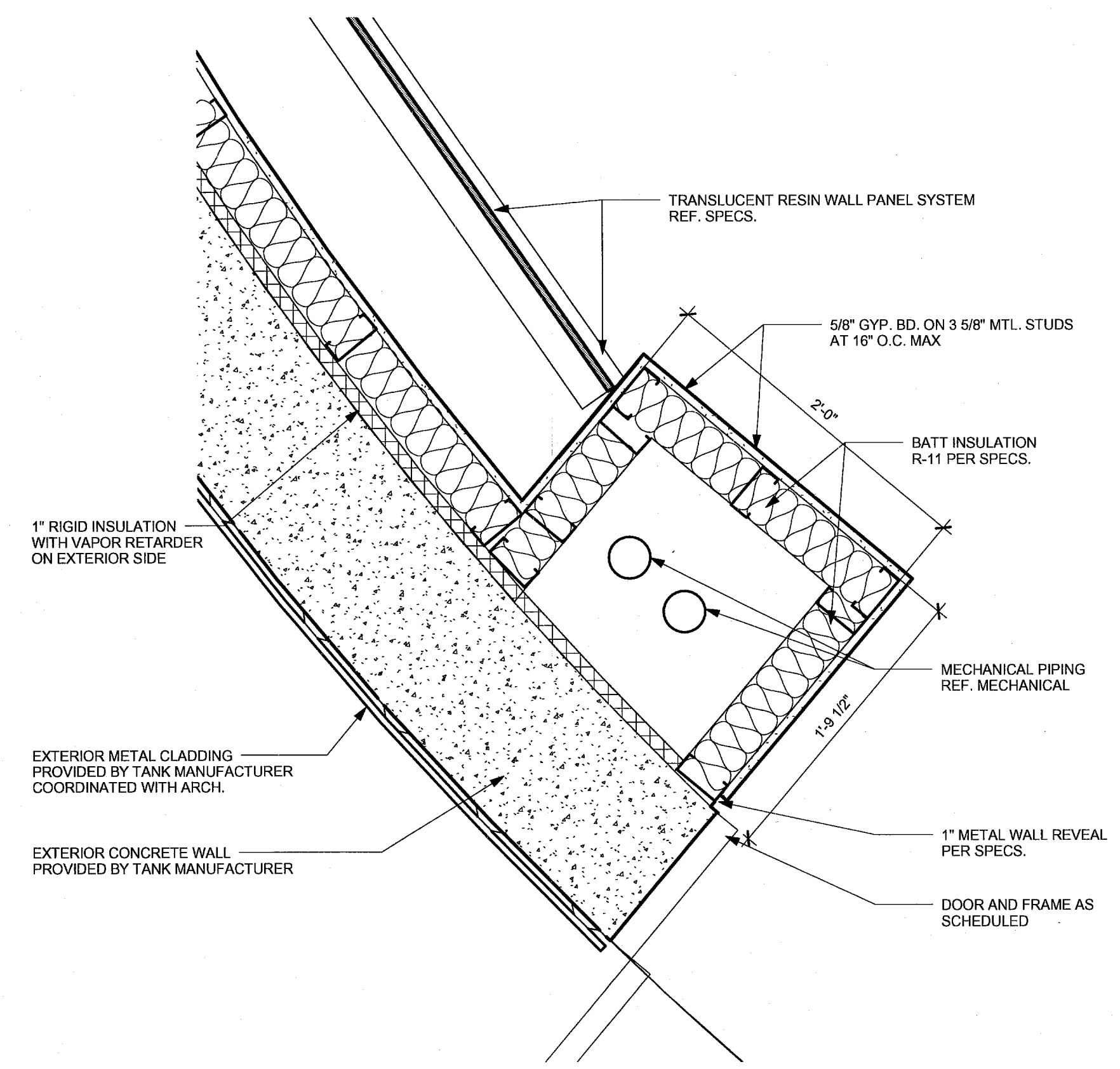
1 Enlarged Restroom Plan
1/2" = 1'-0"



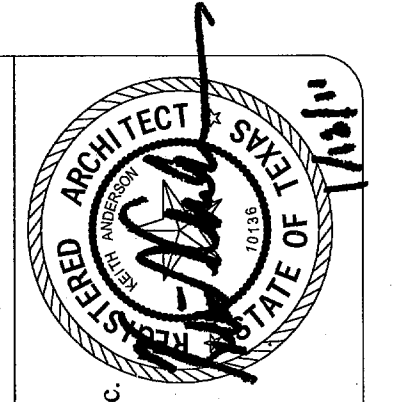
2 Plan Detail - 1
1 1/2" = 1'-0"



3 Plan Detail - 2
1 1/2" = 1'-0"



4 Plan Detail - 3
1 1/2" = 1'-0"



WRA Architects, Inc.
13277 Amber Drive
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214.750.0077
www.wraarchitects.com

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ARCHITECTURE
2220 San Jacinto Blvd., Suite 330
Dallas, Texas 75205
Phone - (940) 387-4600
Fax - (940) 387-4677
Web - www.freesse.com

Town of Addison, Texas
SURVEYOR 1.5 MG EST

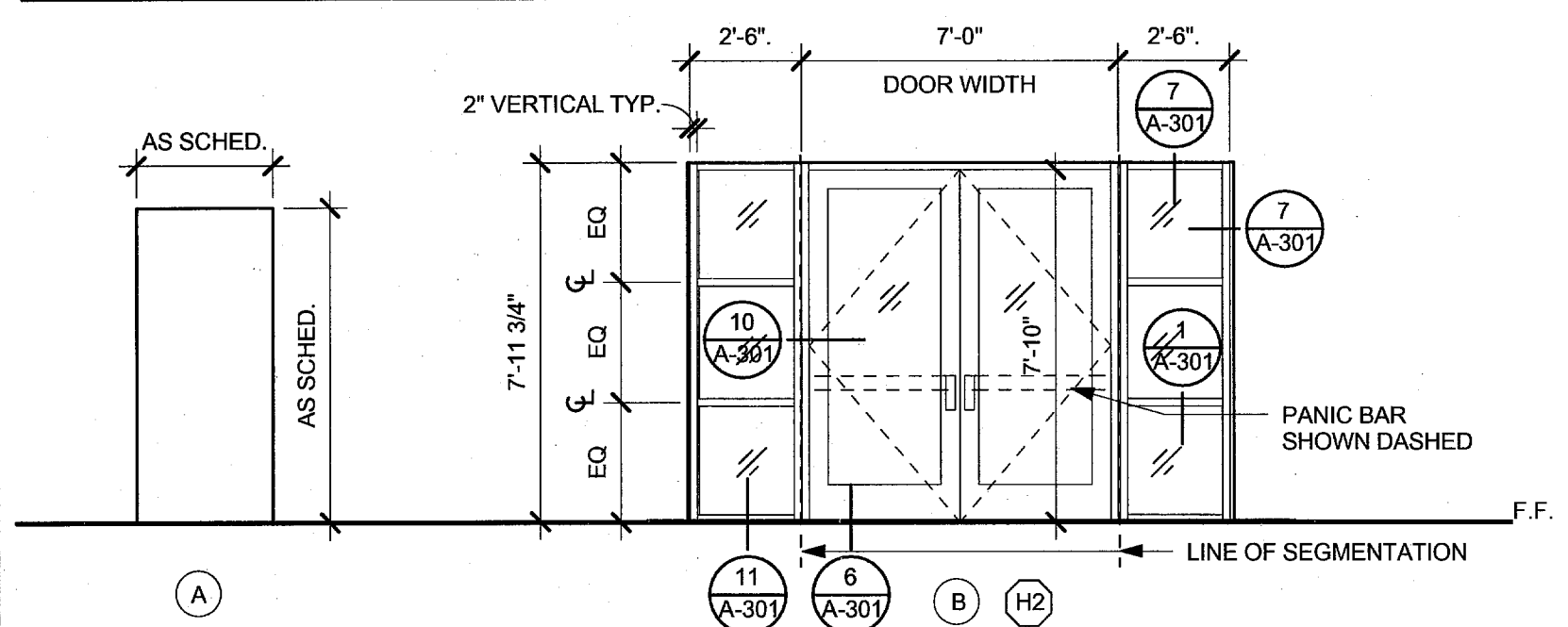
ARCHITECTURE
Plan Details

NO.	ISSUE	BY	DATE	REV. JOB NO.	DATE	DESIGNED	DRAWN	REVISION	CHECKED	FILE NAME
				ADD09459	01/18/11					

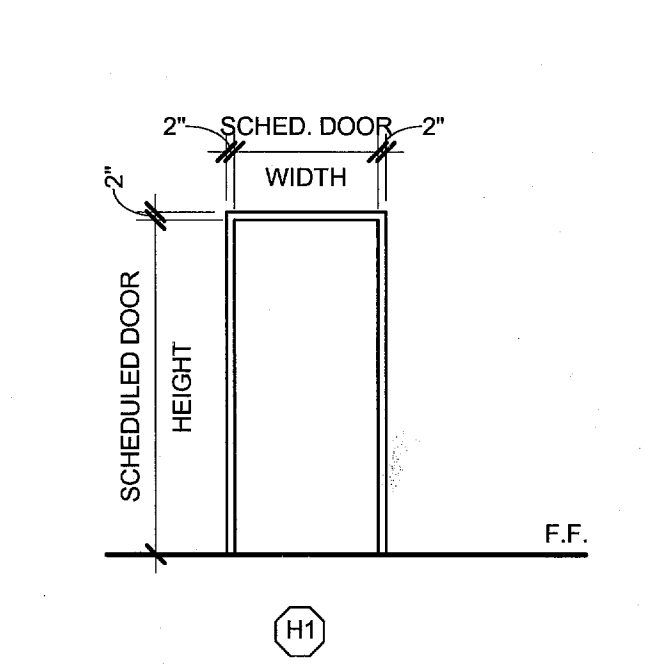
VERIFY SCALE: Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

SHEET **A-351**

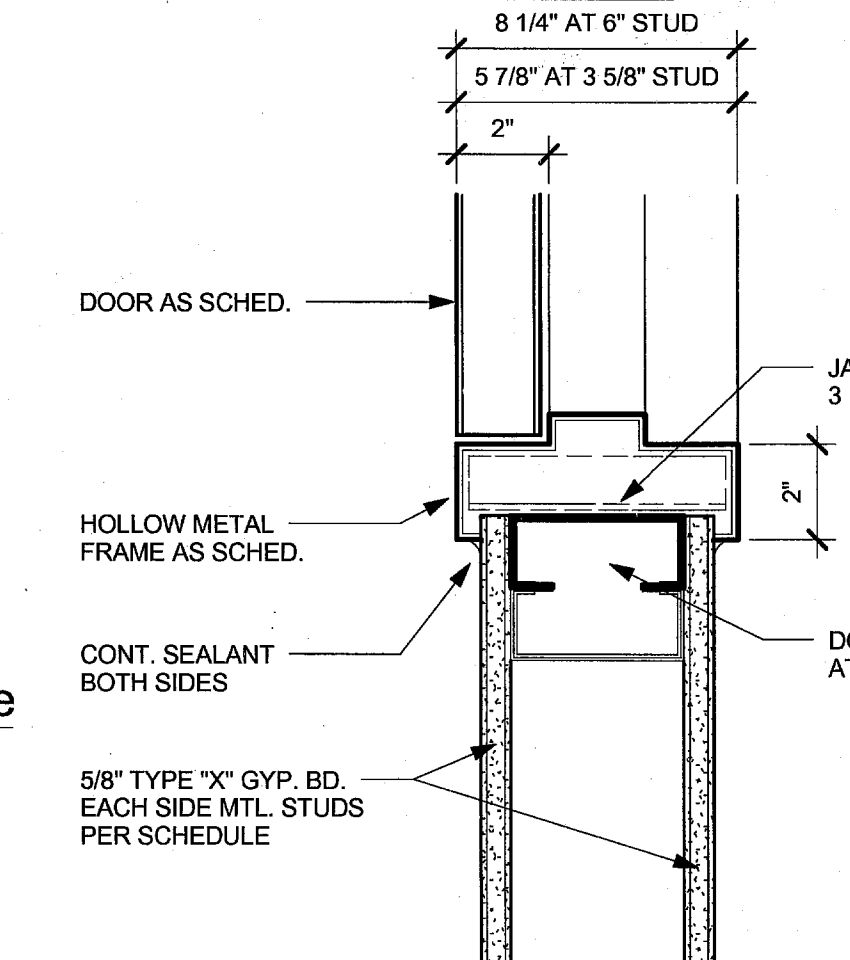
Door Schedule															
Arch No.	Ext.	S / PR.	Width	Height	Thickness	Fire Label	Frame Mat.	Frame Type	Jamb Depth	Head	Jamb	Door Mat.	Door Type	HDW.	Comments
A101	Yes	PR	6'-8"	7'-10"	2"		Alum.	H2		12/A301	13/A301	Alum.	B	Set 10.10.73	
A102	Yes	S	3'-0"	7'-0"	1 3/4"		H.M.	H1	5 7/8"	13/A301	13/A301	H.M.	A	Set 26.00.73	
A103	No	S	3'-4"	7'-0"	1 3/4"		Wd.	-	6 1/2"	8/A301	9/A301	Wd.	A	Set 96.30.00	
A104	No	S	3'-4"	7'-0"	1 3/4"		Wd.	-	6 1/2"	8/A301	9/A301	Wd.	A	Set 96.30.00	
A105	No	S	3'-4"	7'-0"	1 3/4"		Wd.	-	6 1/2"	8/A301	9/A301	Wd.	A	Set 96.60.00	
A106	No	S	3'-4"	7'-0"	1 3/4"		Wd.	-	6 1/2"	8/A301	9/A301	Wd.	A	Set 96.60.00	
A201	No	S	3'-0"	7'-0"	1 3/4"		H.M.	-	5 7/8"	3/A301	4/A301	H.M.	A	Set 26.40.01	



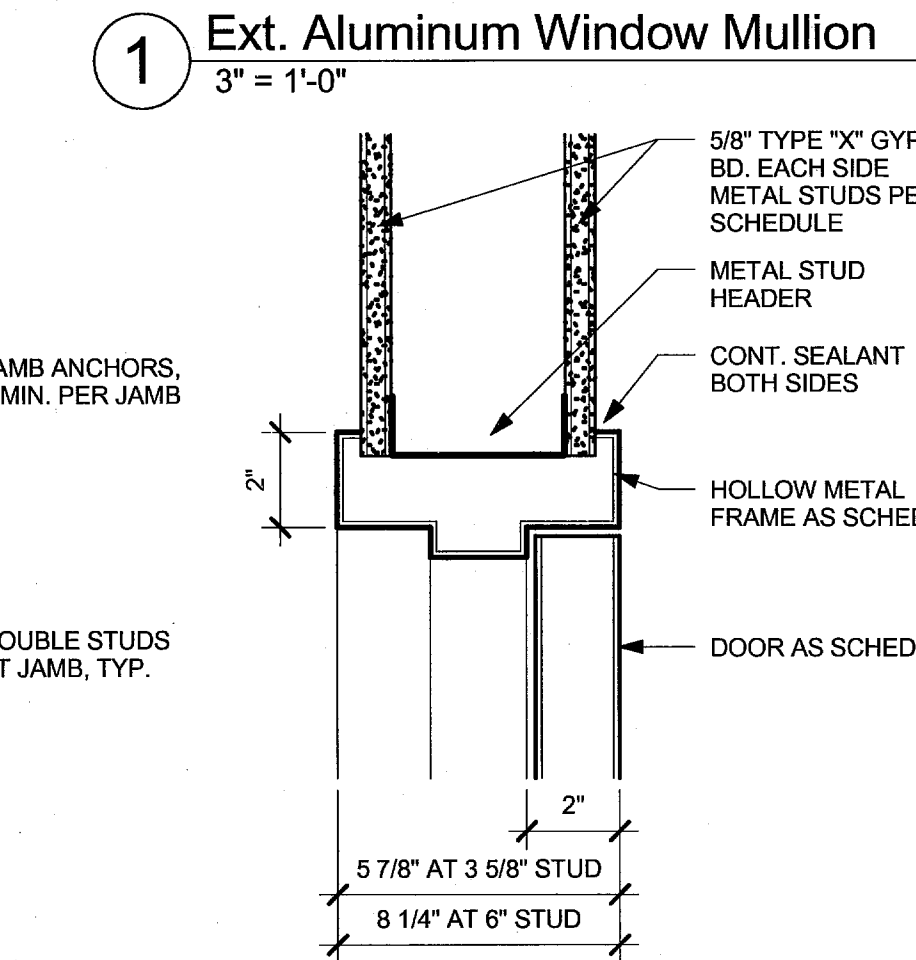
2 Schedule Door Type
1/4" = 1'-0"



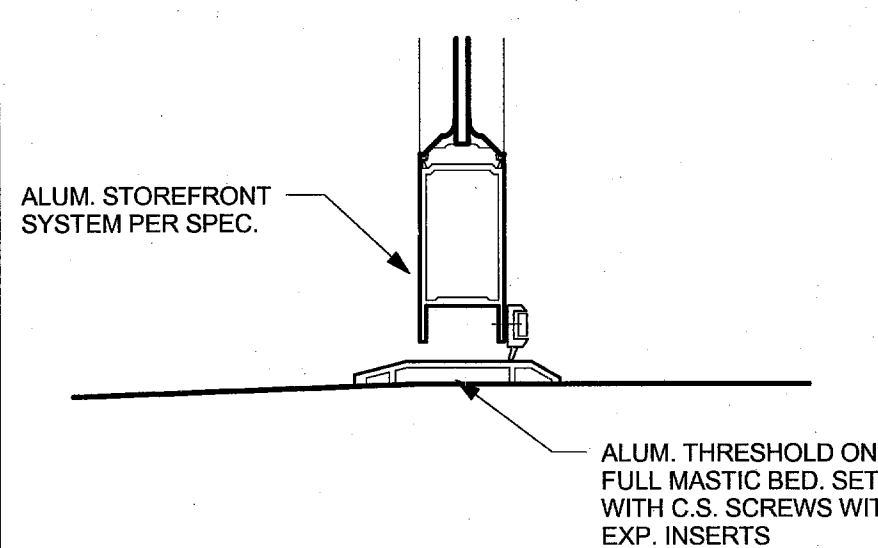
3 Hollow Metal Frame Type
1/4" = 1'-0"



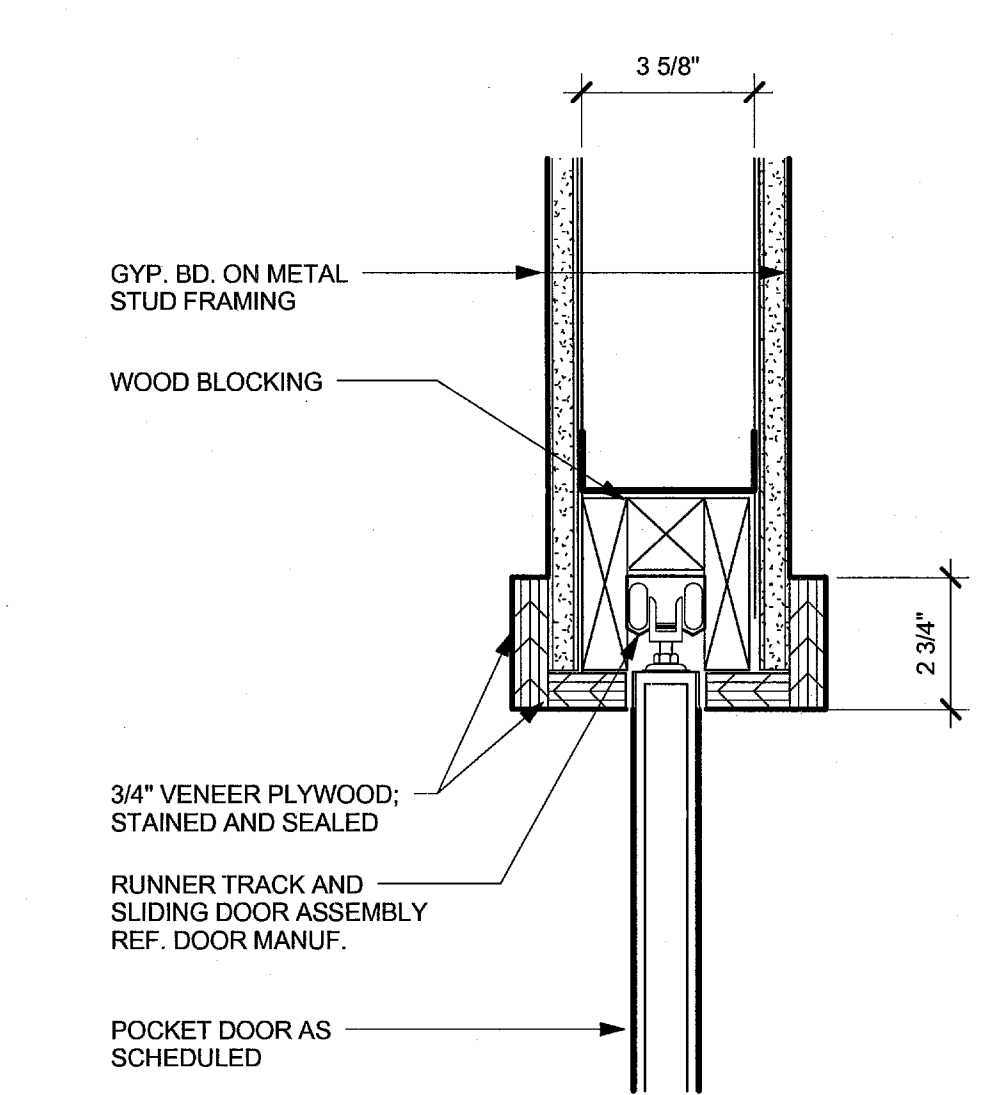
4 Int. H.M. Door Jamb at Metal Stud
3" = 1'-0"



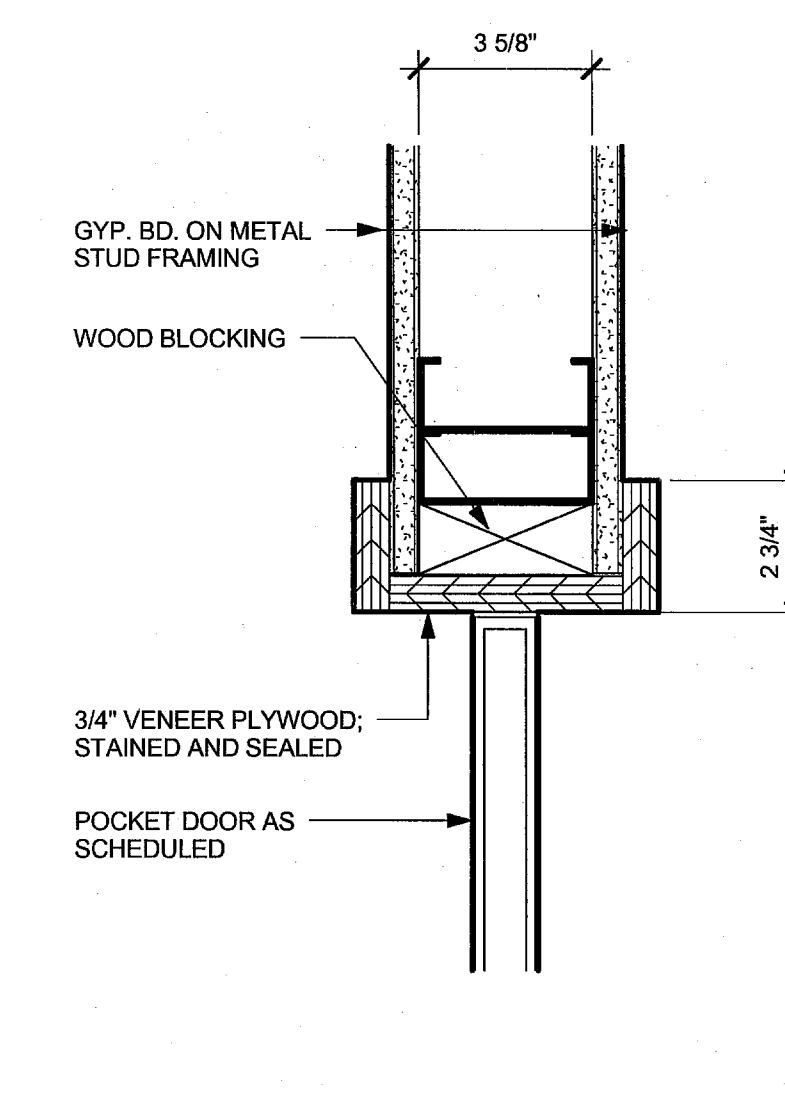
5 Int. H.M. Door Head at Metal Stud
3" = 1'-0"



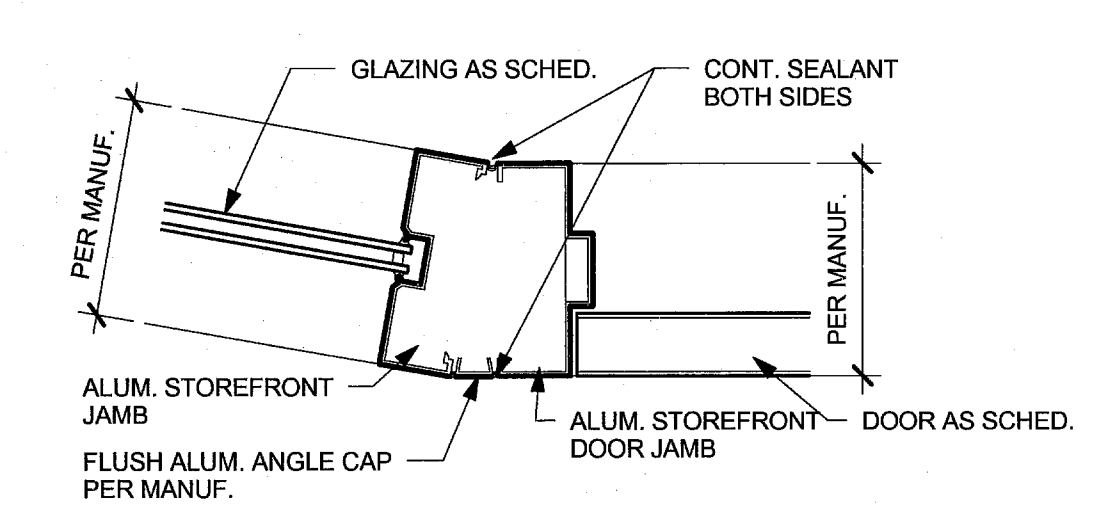
6 Ext. Alum. Door Sill
3" = 1'-0"



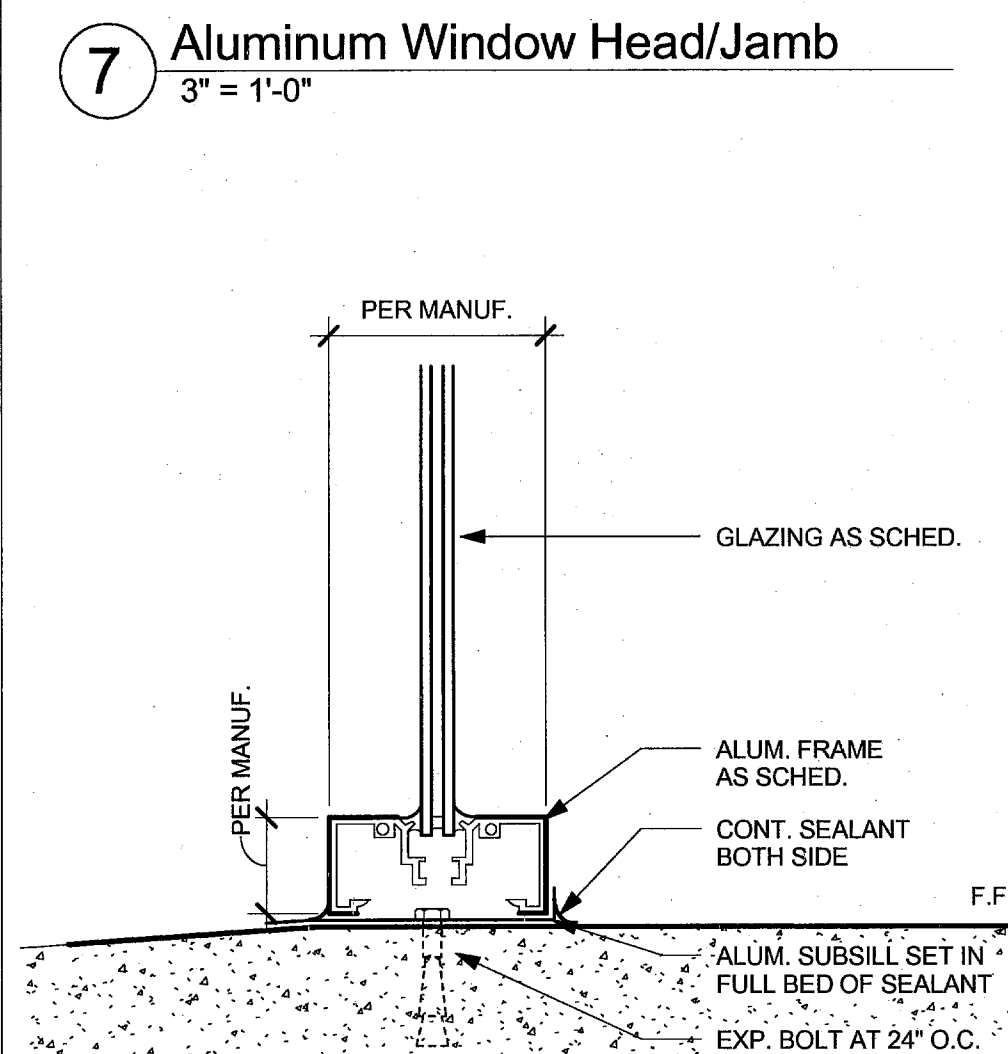
8 Pocket Door Head
3" = 1'-0"



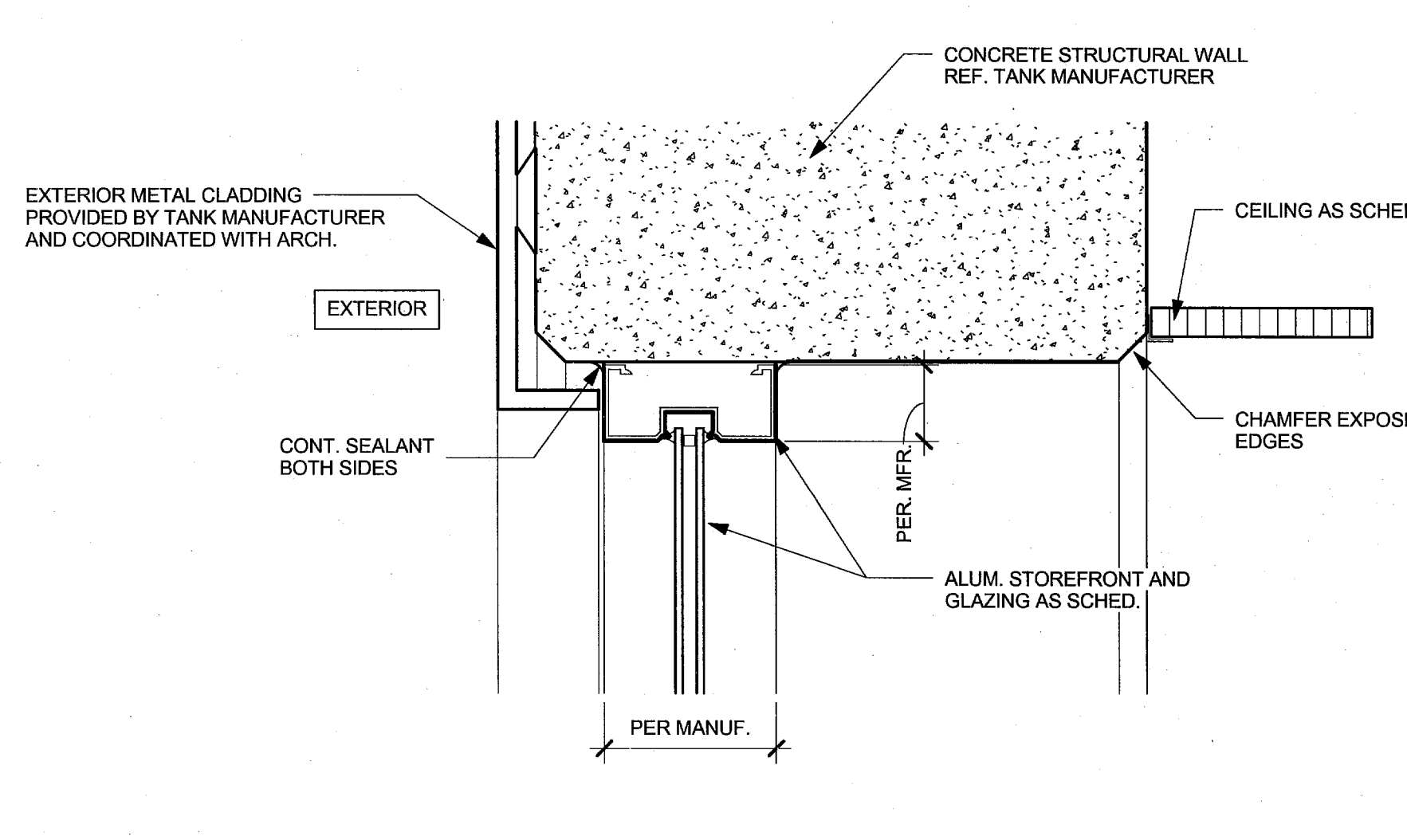
9 Pocket Door Jamb
3" = 1'-0"



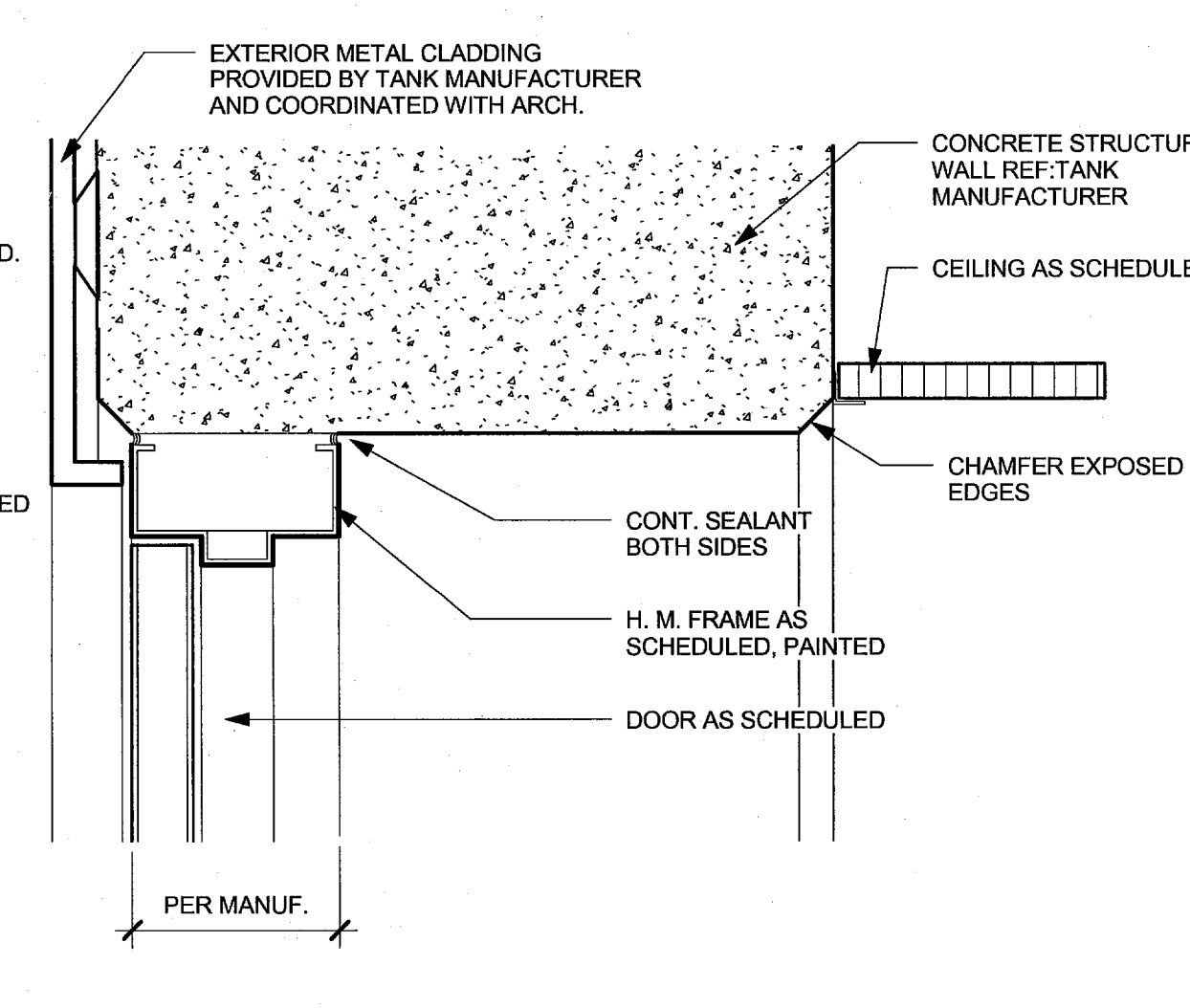
10 Ext. Alum. Angle Window Mullion
3" = 1'-0"



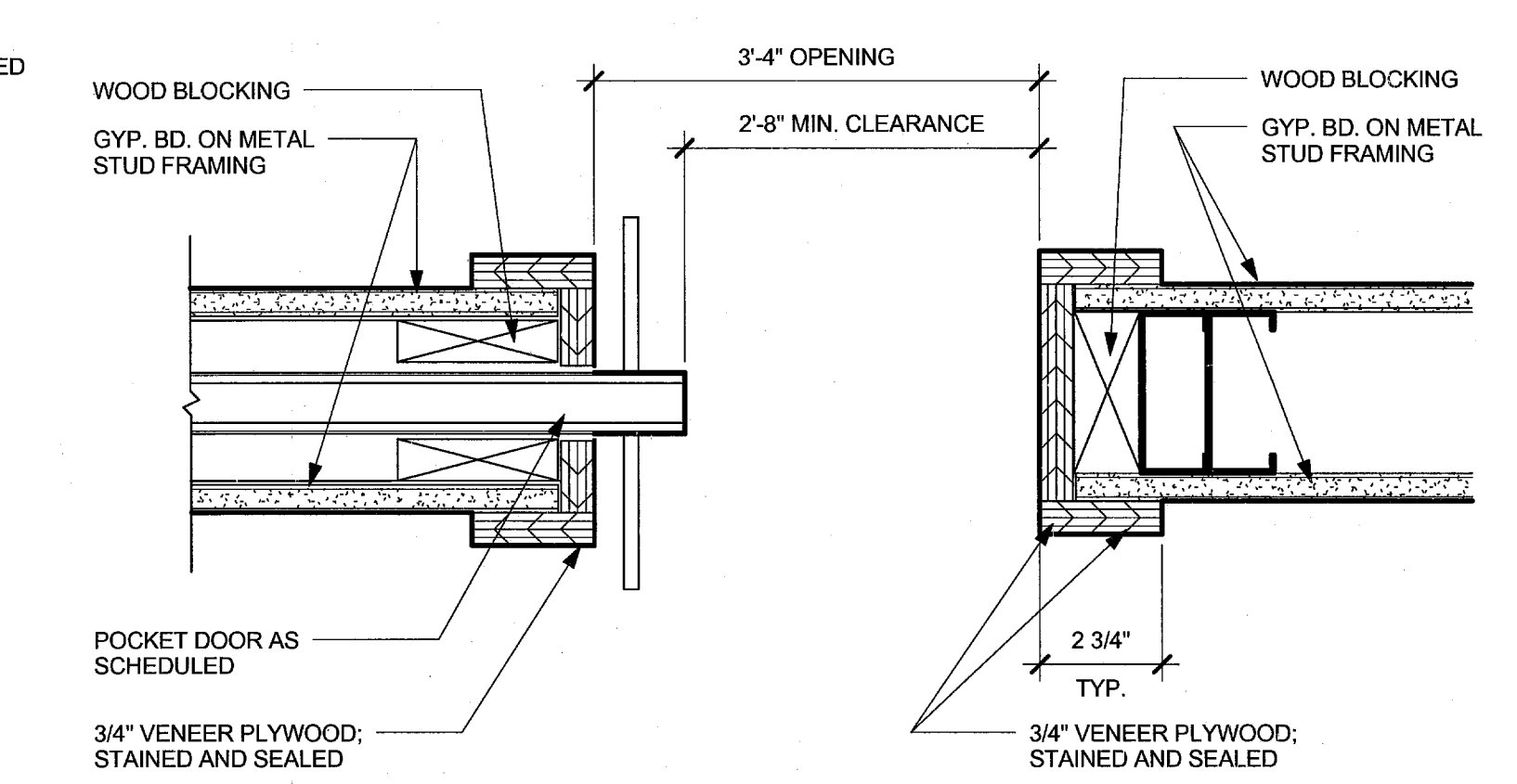
7 Aluminum Window Head/Jamb
3" = 1'-0"



11 Ext. Aluminum Storefront Sill
3" = 1'-0"



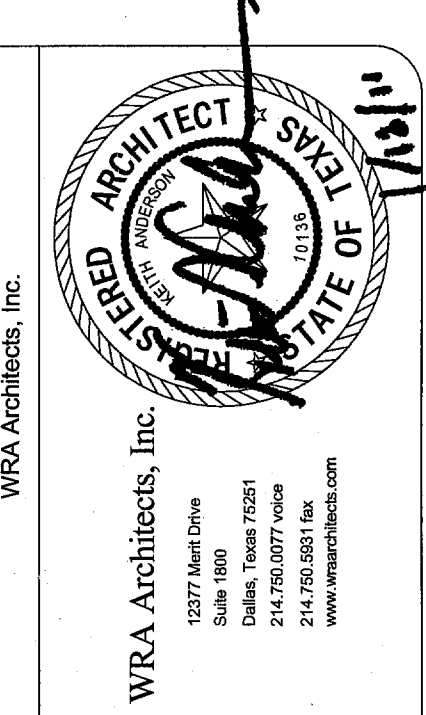
13 Ext. H.M. Door Head (Jamb Sim.) - Concrete
3" = 1'-0"



14 Pocket Door Closing Detail
3" = 1'-0"

PARTITION HEAD DETAIL SCHEDULE	
TYPE	DESCRIPTION
CN	BRACE TO STRUCTURE ABOVE AS REQUIRED LAY-IN CEILING PARTITION AS SCHEDULED ACOUSTICAL BATTLS WHERE SCHEDULED

PARTITION SCHEDULE			
TYPE	WALL THICKNESS	DESCRIPTION	U.L. DESIGN NUMBER WHERE SCHEDULED
A 3 5/8" STUDS	4 7/8"	1 LAYER OF 5/8" GYPSUM BOARD PARTITION TYPE A - 3 5/8" METAL STUDS AT 16" O.C.	U465 - 1HR
B 6" STUDS	7 1/4"	1 LAYER OF 5/8" GYPSUM BOARD PARTITION TYPE B - 6" METAL STUDS AT 16" O.C.	
F 3 5/8" STUDS	4 1/4"	METAL STUDS AT 16" O.C.	
G 6" STUDS	6 5/8"	2 LAYERS OF 5/8" GYPSUM BOARD	
X	5 7/8"	1" VERTICAL Z-FURRING @ 16" O.C. HORIZONTALLY TYPE 'X': EXTERIOR CONCRETE WALL 1 LAYER OF 5/8" GYPSUM BOARD 1" RIGID INSULATION WHERE SCHEDULED METAL STUDS AT 16" O.C.	

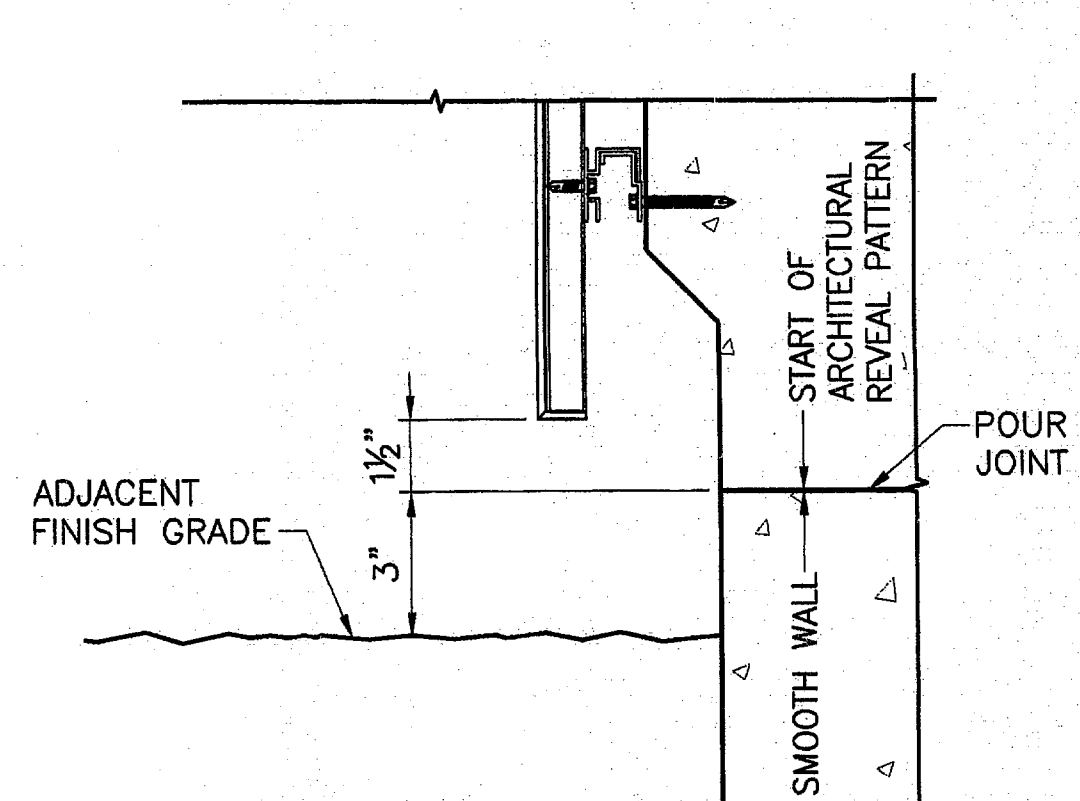
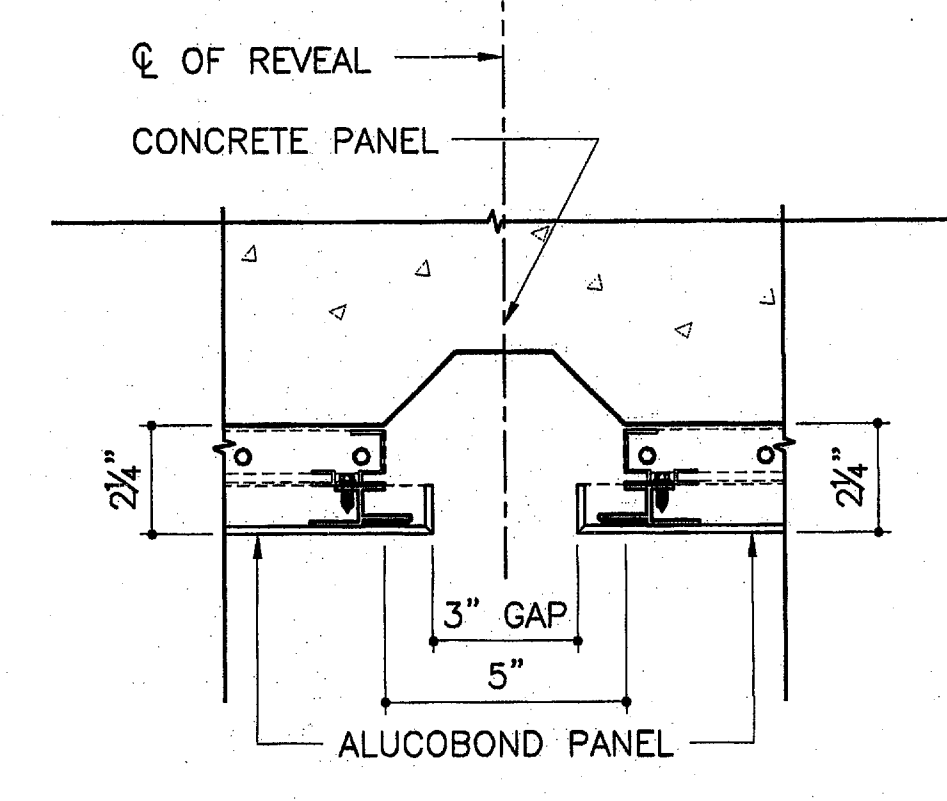
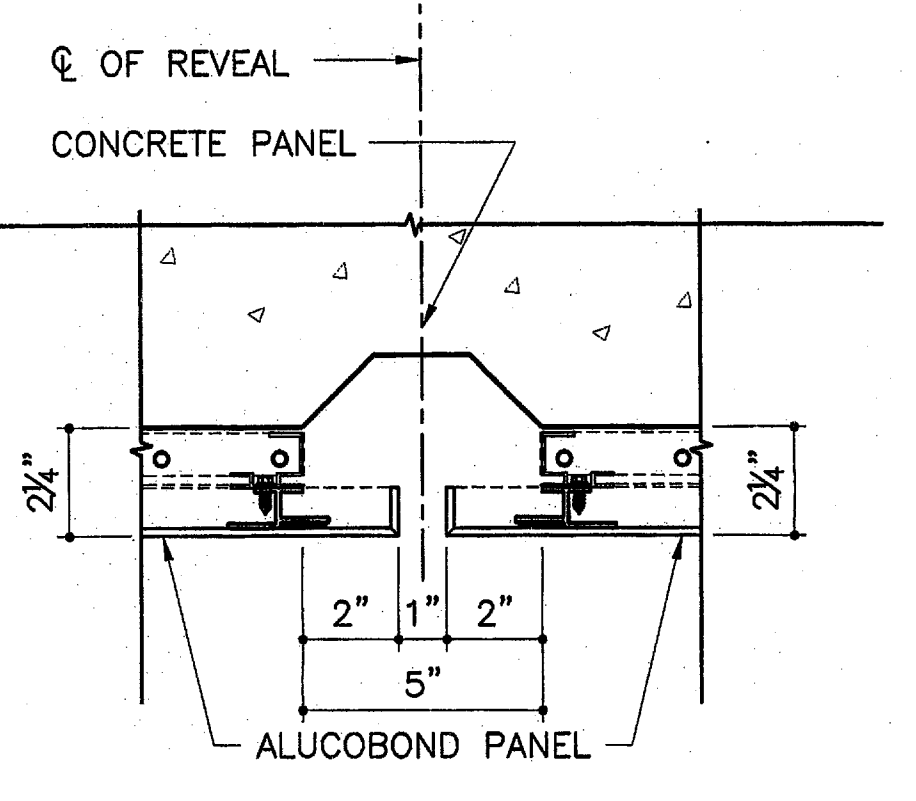
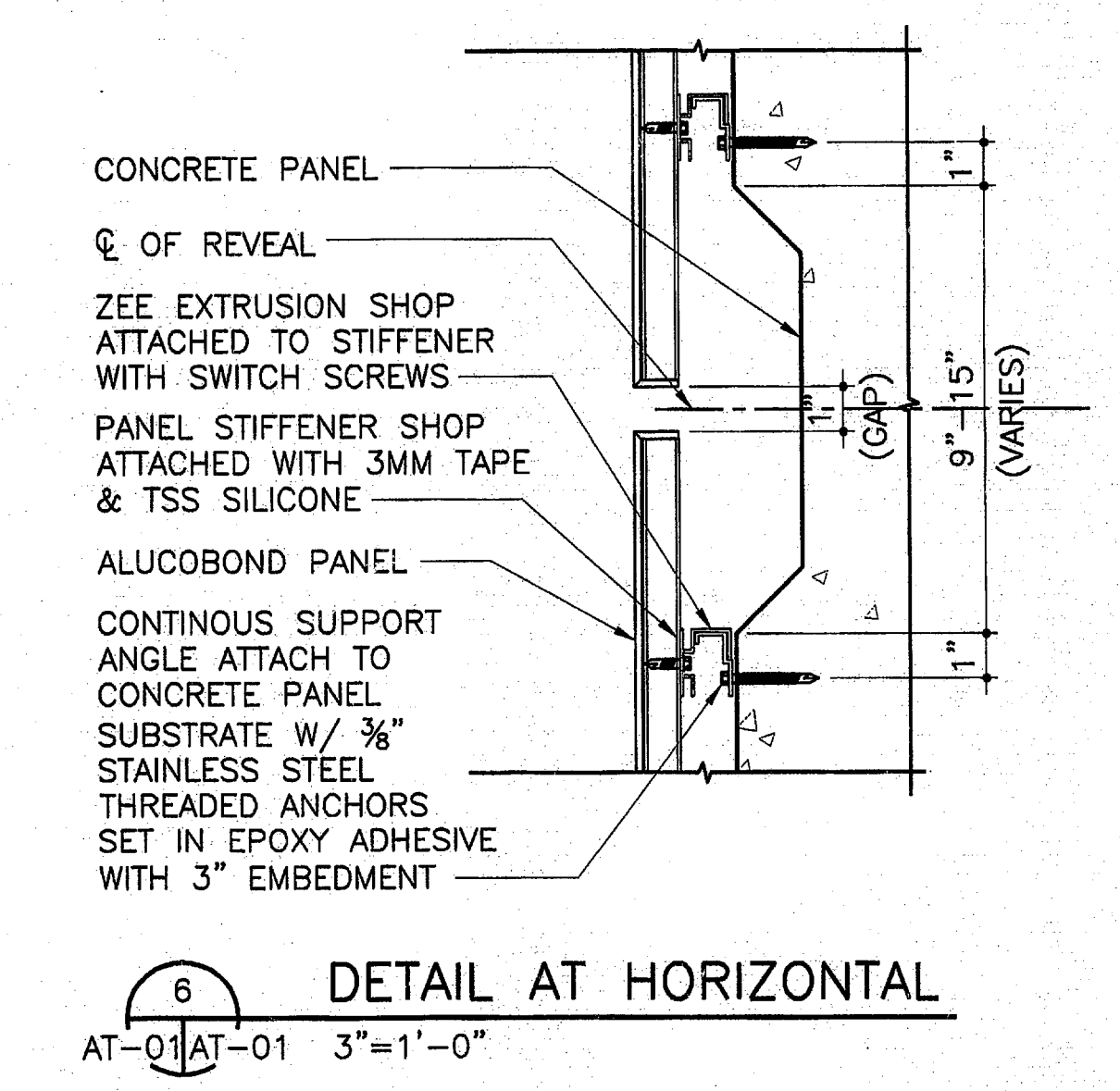
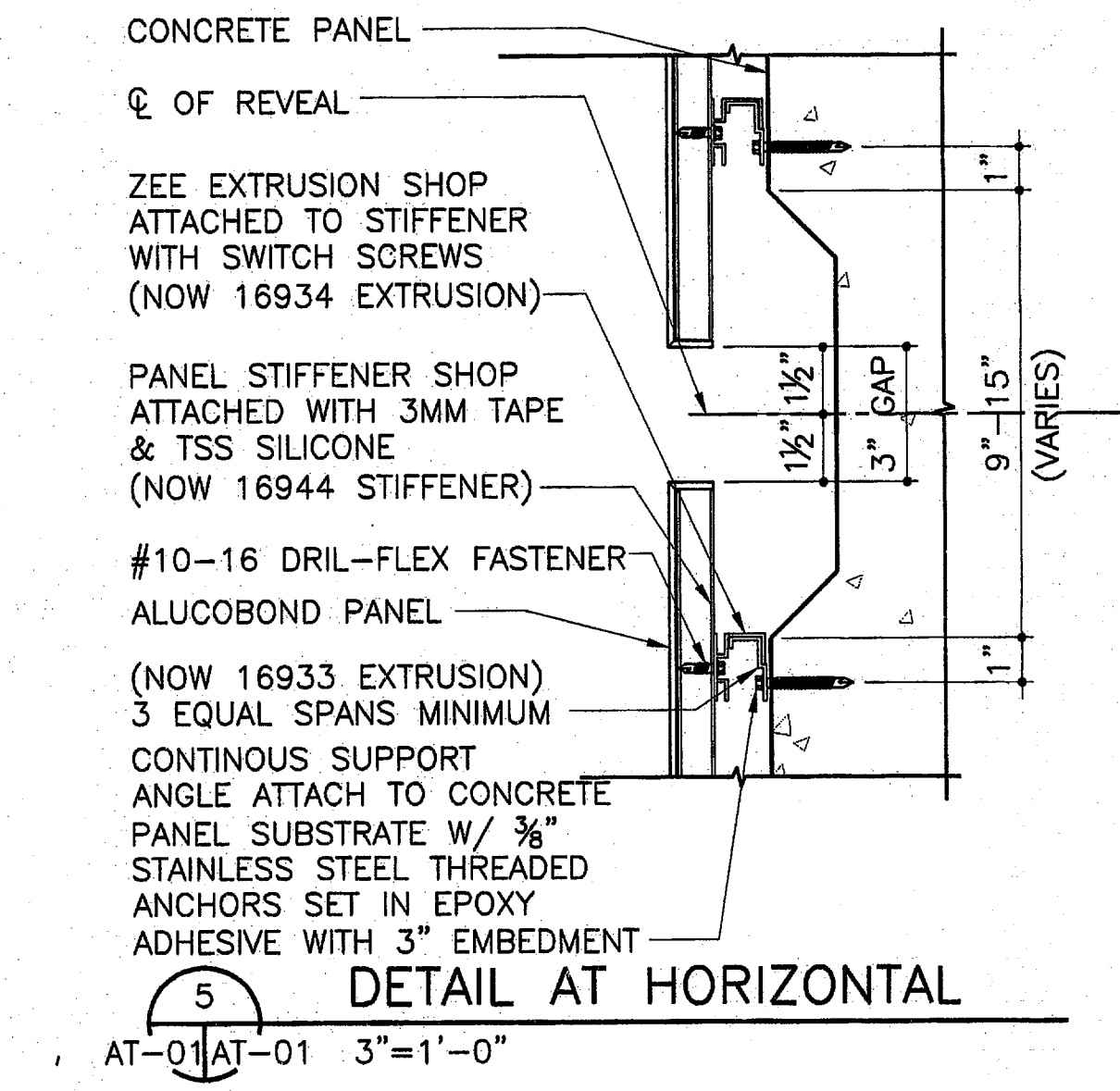
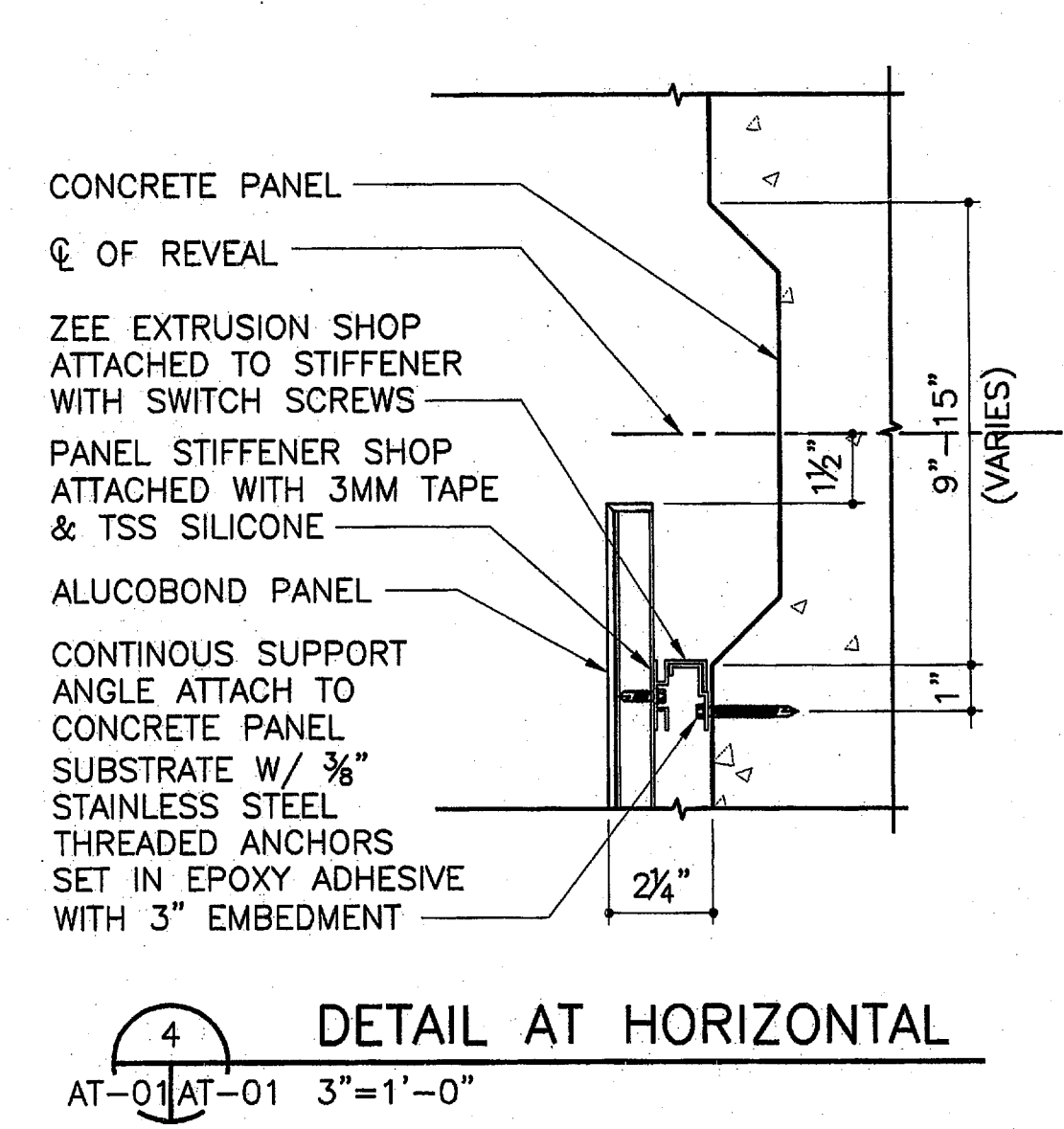
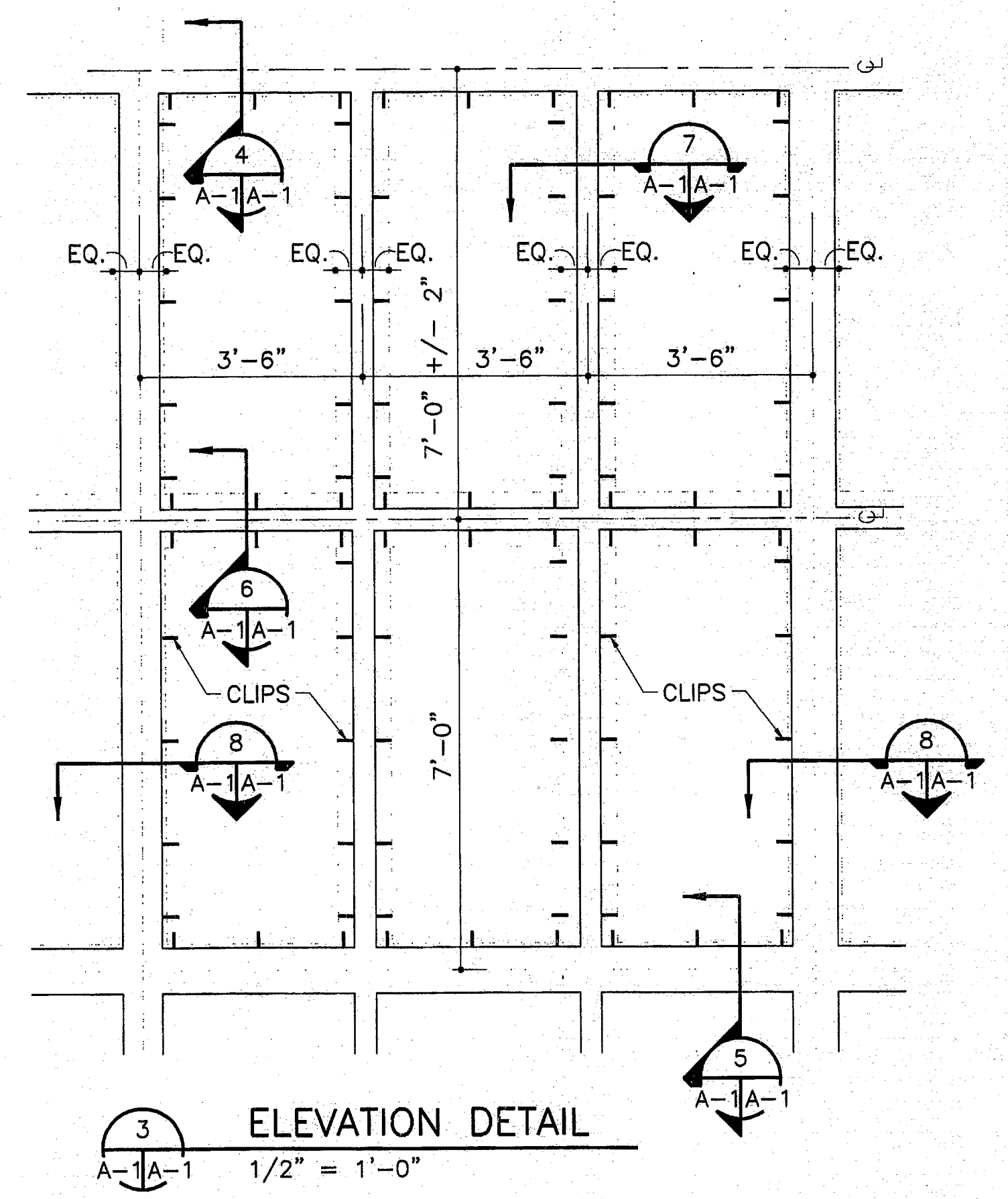
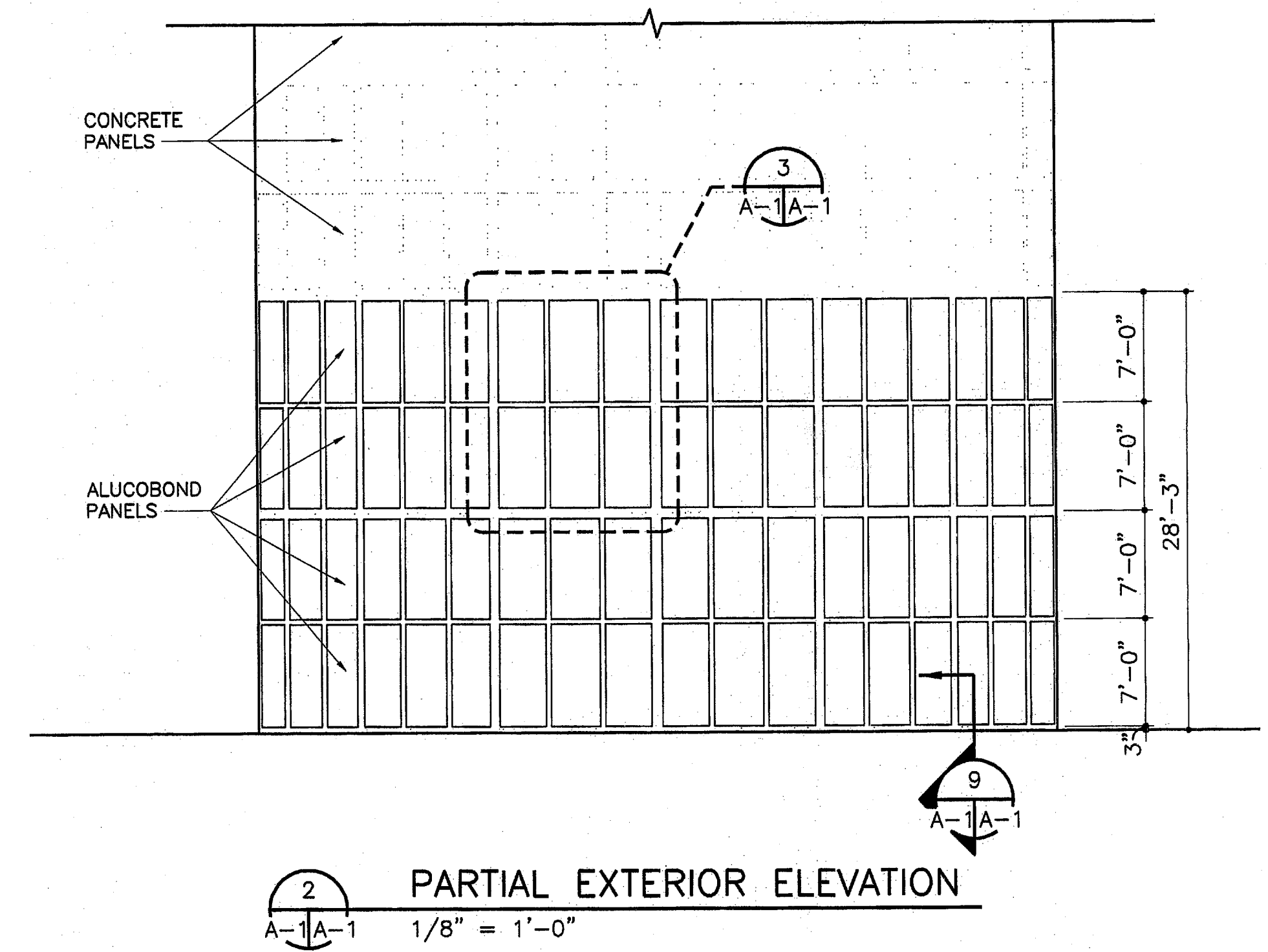
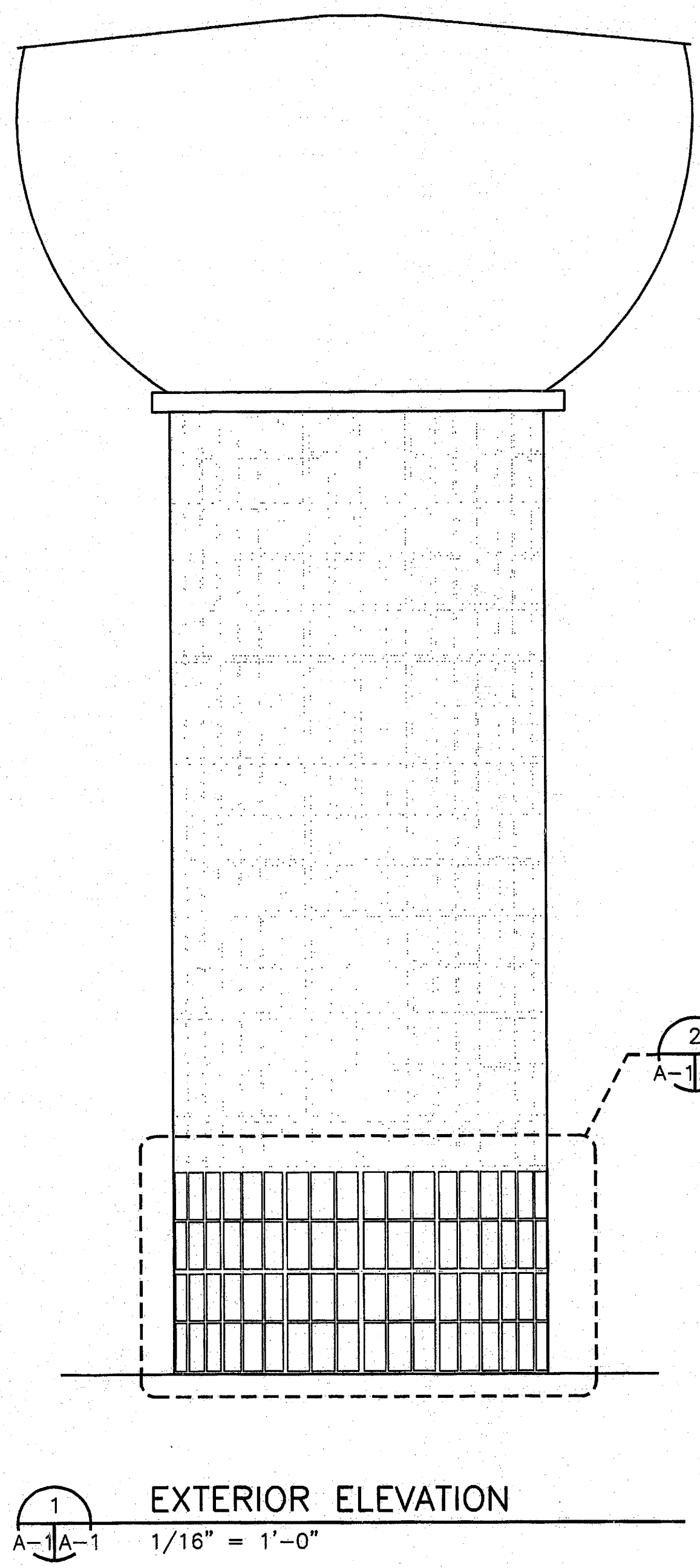


FRESE NICHOLS
2220 San Jacinto Blvd., Suite 330
Denton, Texas 76205
Phone - (840) 387-4600
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Web - www.freese.com

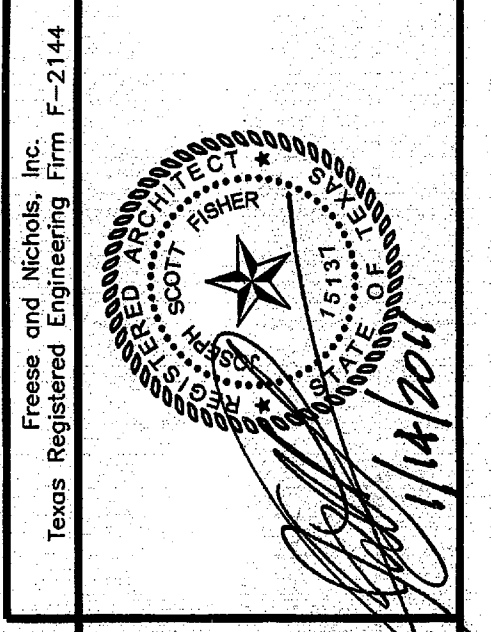
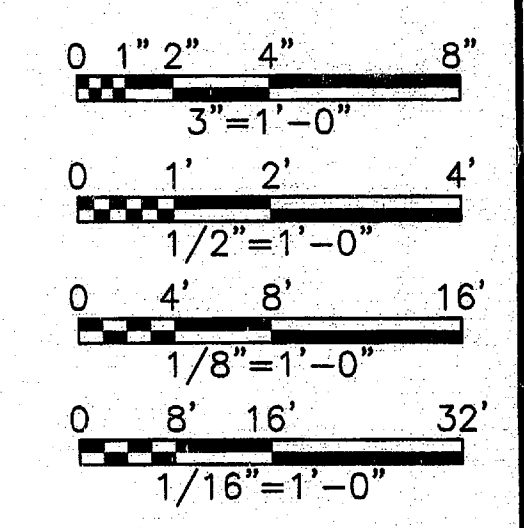
Town of Addison, Texas
SURVEYOR 1.5 MG EST
ARCHITECTURE
Door Schedules/ Details

DATE	ADD08499	DATE	01/18/11	DESIGNED	SMA	DRAWN	SMA	REVIEWED	FILE NAME
BY		DATE		ISSUE		NO.		SHEET	

ACAD: Plt 18.1s (LMS Tech)
 (ADD08459) (DINSR2) N:\Arc\cv-util-pl-tank2.dwg LAYOUT: Layout1
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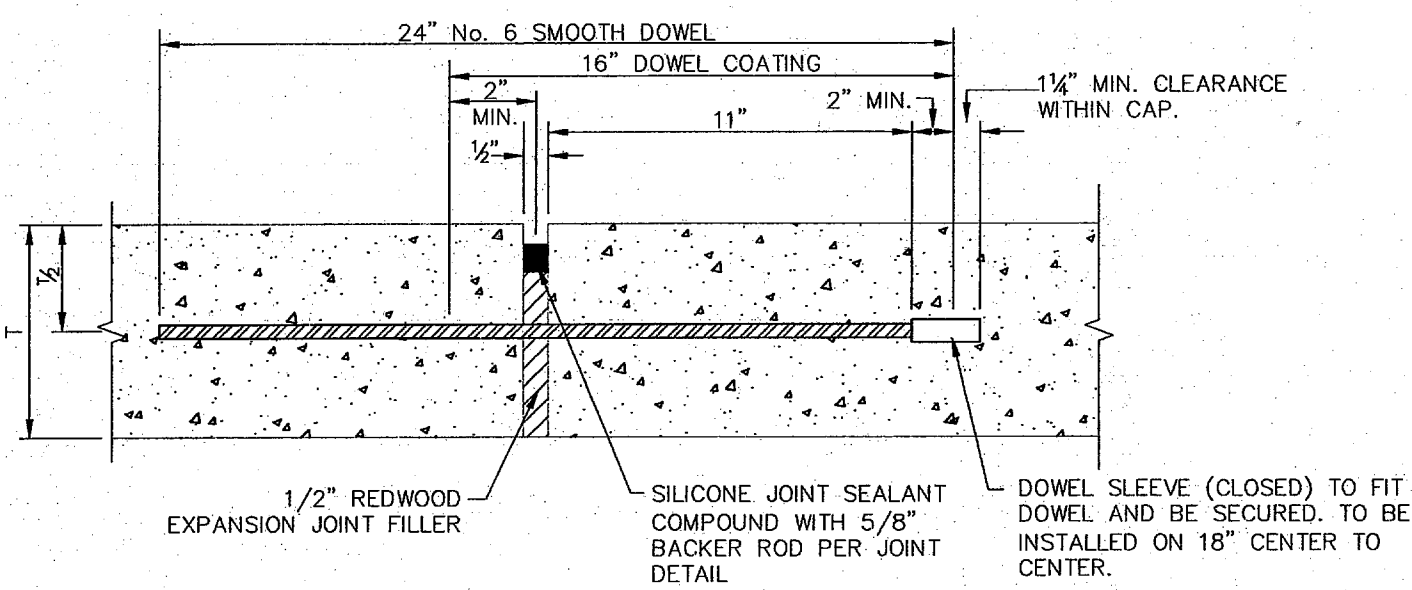
- GENERAL NOTES**
1. FIELD VERIFY PANEL LOCATIONS BEFORE FABRICATION.
 2. REFER 5/AT-01 FOR PART NUMBERS (TYP).



FREESSE AND NICHOLS
 ARCHITECTS
 2220 S.W. Nichols Blvd., Suite 330
 Denton, Texas 76205-7559
 Phone - (940) 387-4600
 Fax - (940) 387-4677

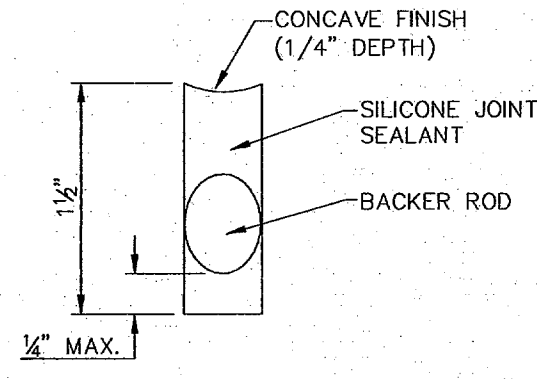
TOWN OF ADDISON, TEXAS
 SURVEYOR 1.5 MG EST
 ARCHITECTURE
 EXTERIOR ELEVATIONS AND DETAILS

NO.	ISSUE	DATE	BY	FILE NAME
		01/21/11		cv-util-pl-tank2.dwg
			DESIGNED	
			DRAWN	
			REVISED	
			CHECKED	
VERIFY SCALE: Bar is one inch on original. Bar is one inch on this sheet, adjust scale.				
AT-01				



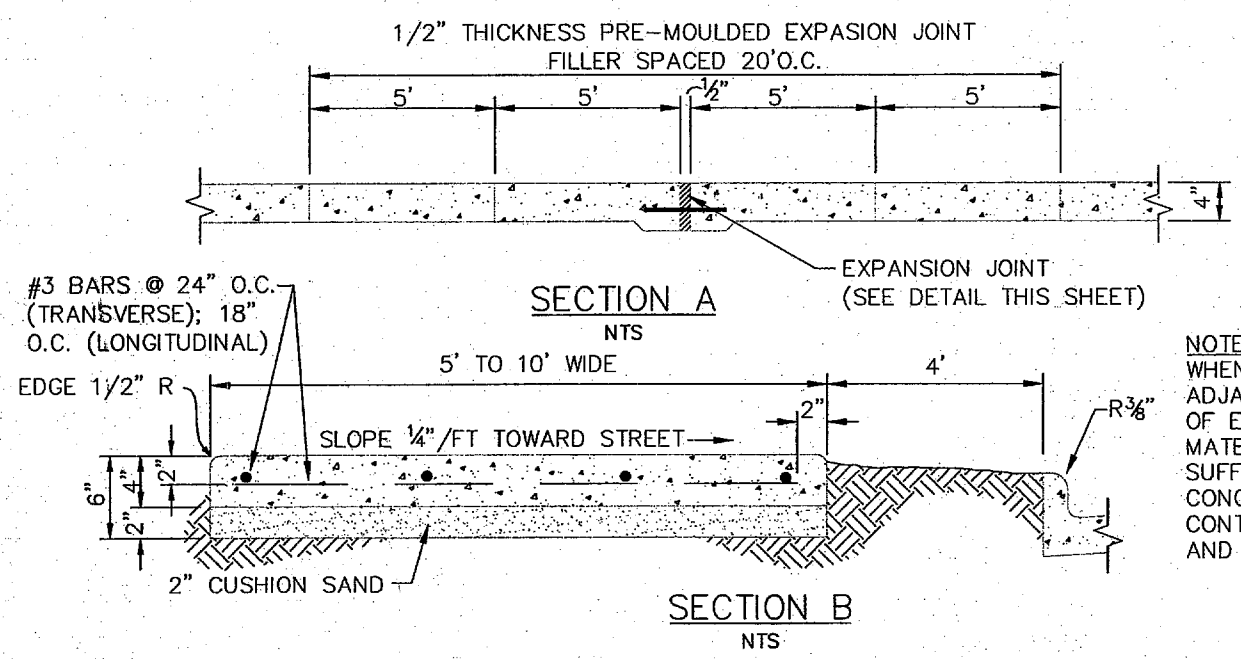
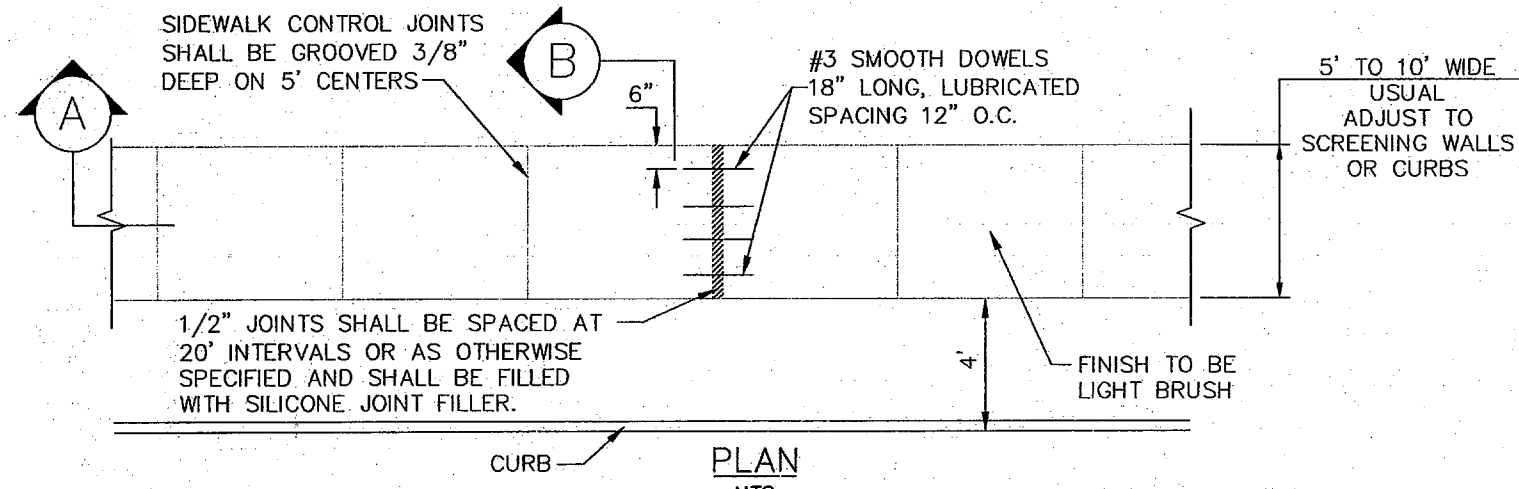
T=PAVEMENT THICKNESS

- NOTES:
1. DOWELS AND REINFORCING BARS SHALL BE SUPPORTED BY AN APPROVED DEVICE AND MUST BE TIED OR CHAIRED ON EACH SIDE. DOWELS MUST BE PERPENDICULAR TO FACE OF CONCRETE.
 2. NO. 5 SMOOTH DOWEL BARS MAY BE USED IN 6" PAVEMENT.
 3. TRANSVERSE EXPANSION JOINTS SHALL HAVE A MAXIMUM SPACING OF 600 FT.
 4. TRANSVERSE EXPANSION JOINTS SHALL BE LOCATED AT INTERSECTIONS.

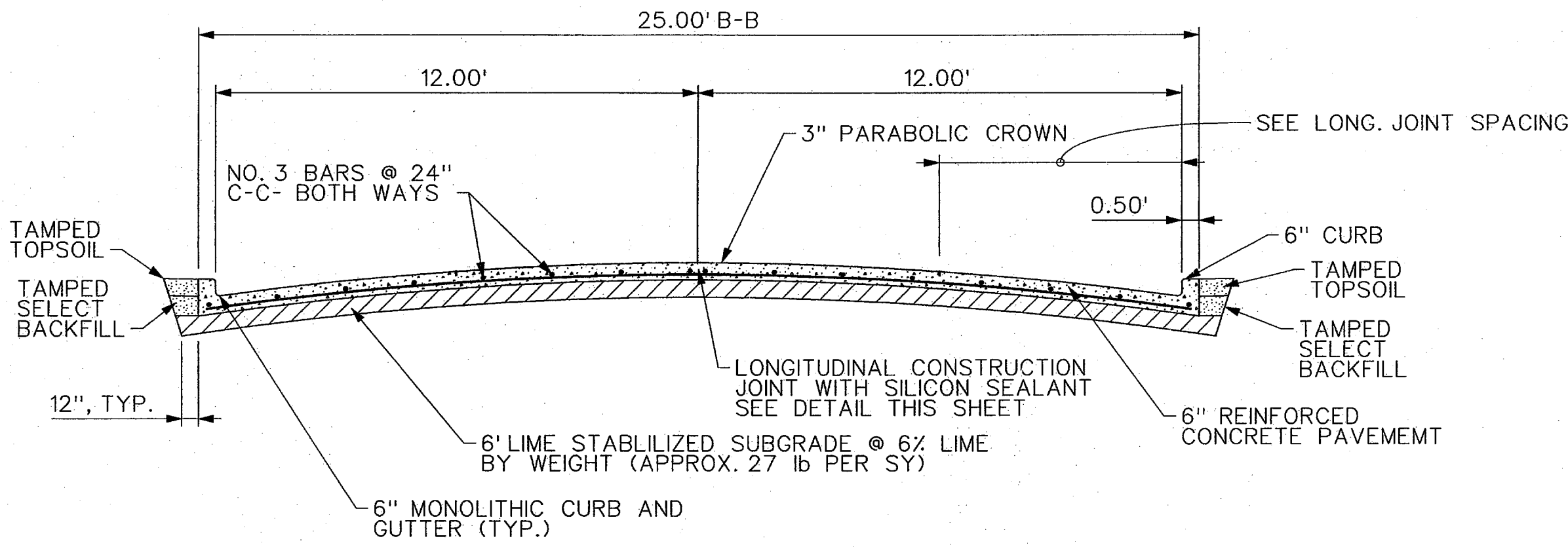


JOINT DETAIL
NTS

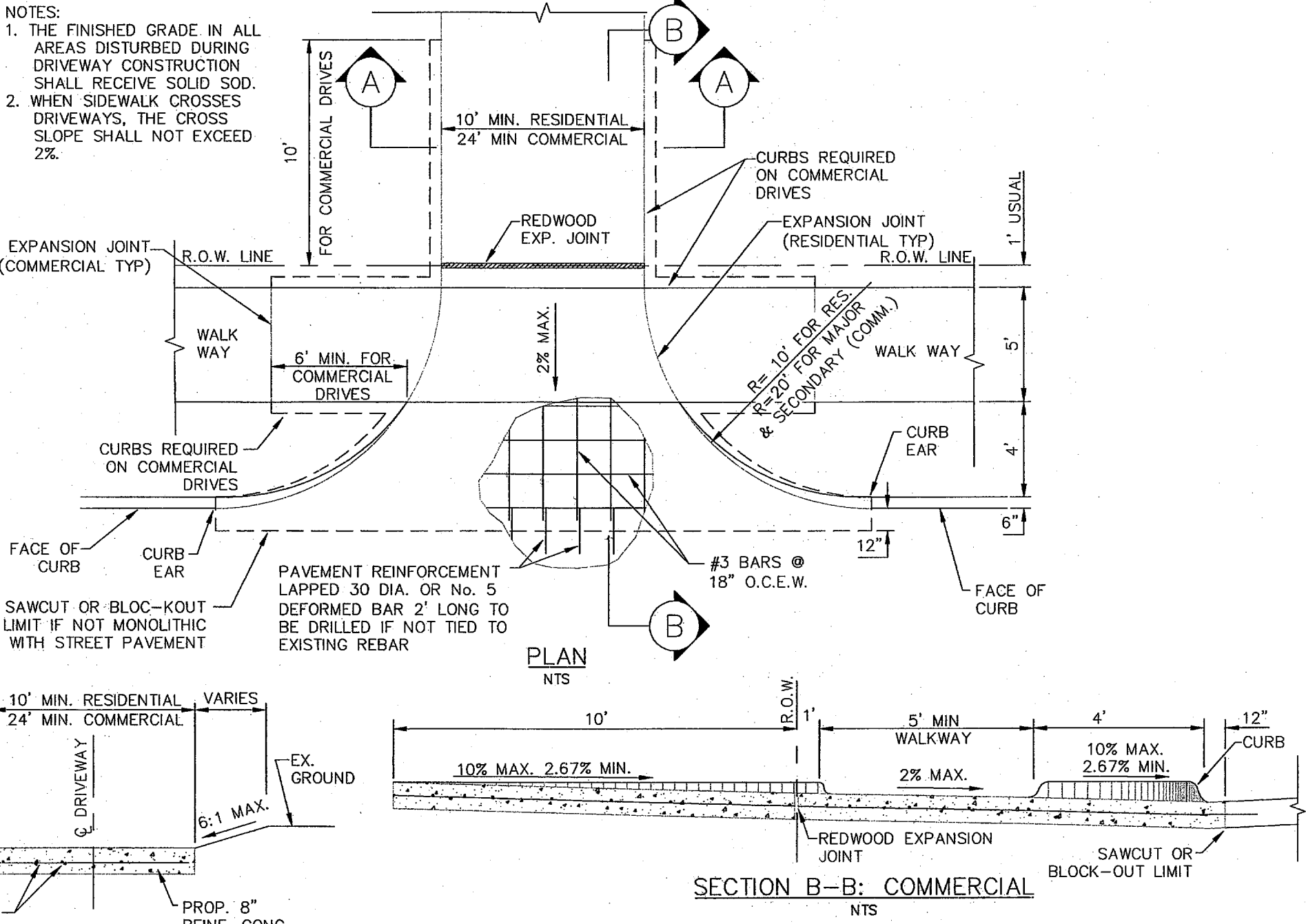
TRANSVERSE
TITLE 2
EXPANSION JOINT



NOTE: WHEN CONCRETE WALK IS ADJACENT TO CURB, DEPTH OF EXPANSION JOINT MATERIAL SHALL BE SUFFICIENT TO PREVENT CONTACT BETWEEN WALK AND CURB.

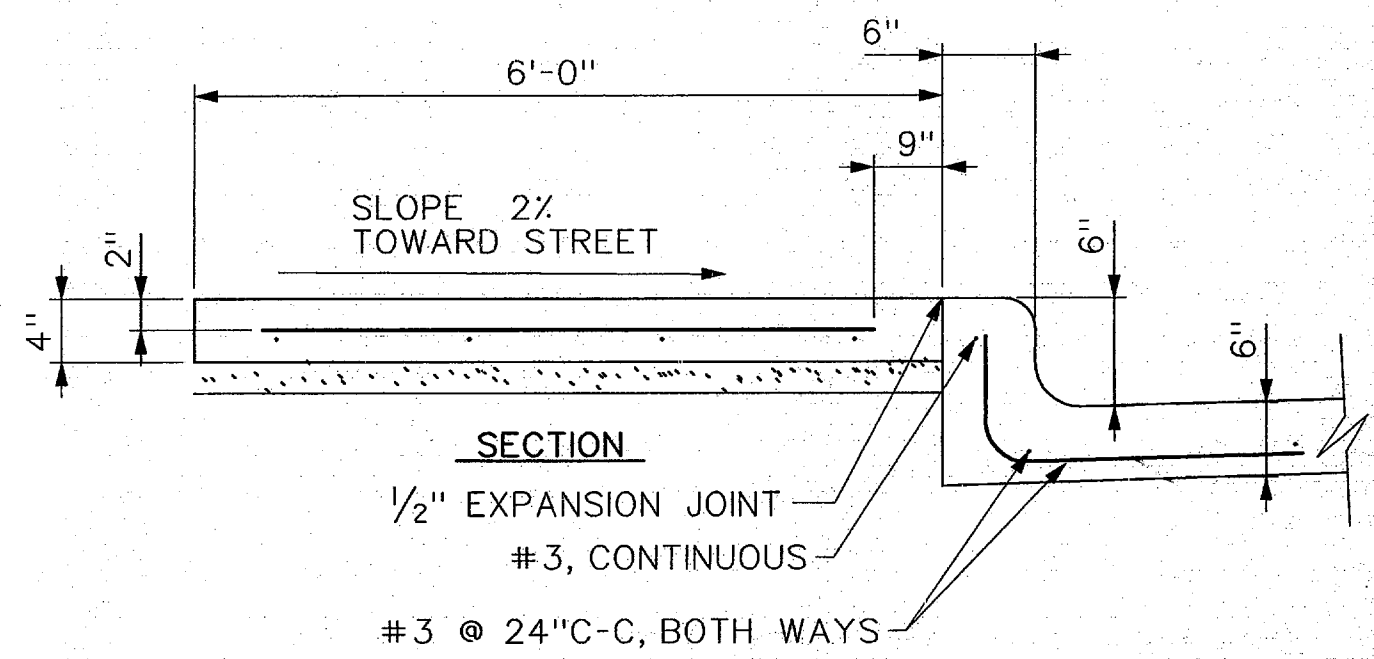


TYPICAL SECTION
NOT TO SCALE



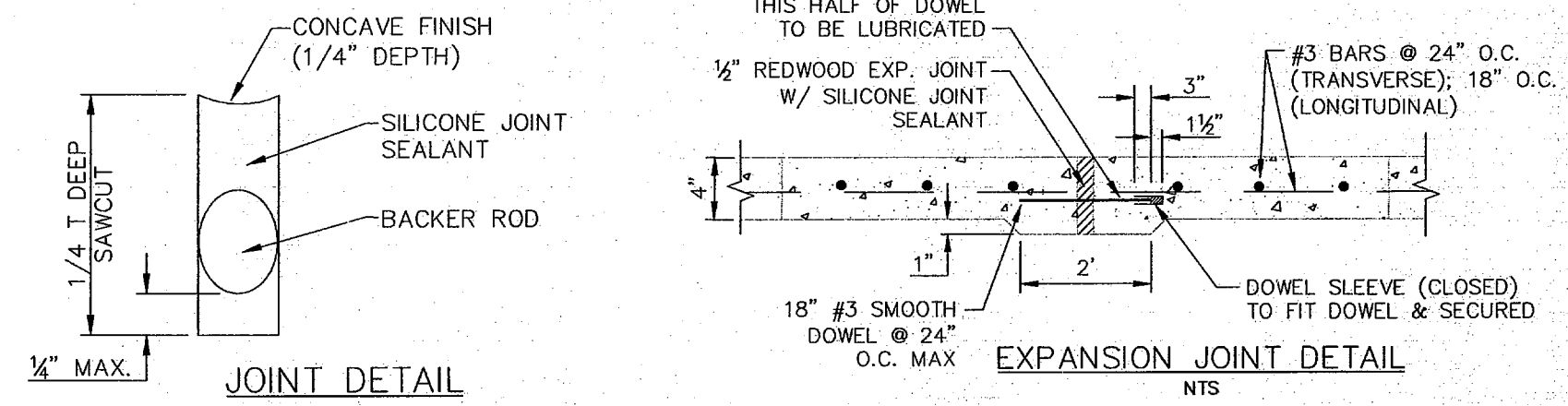
TYPICAL DRIVEWAY
APPROACH

NOT TO SCALE



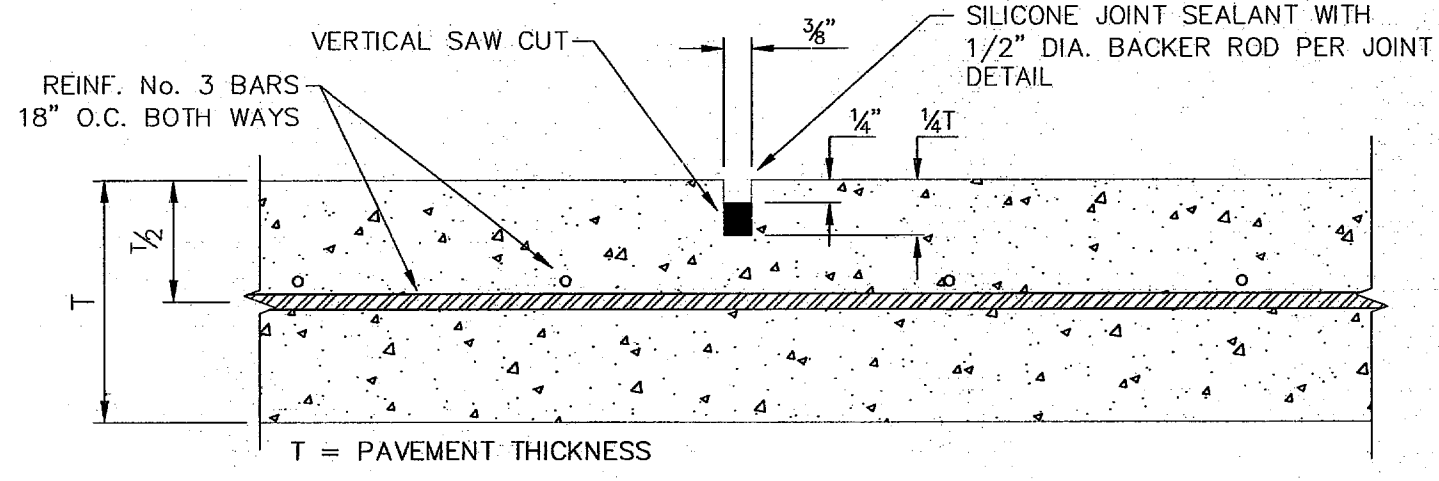
CONCRETE
CURB & GUTTER

NOT TO SCALE

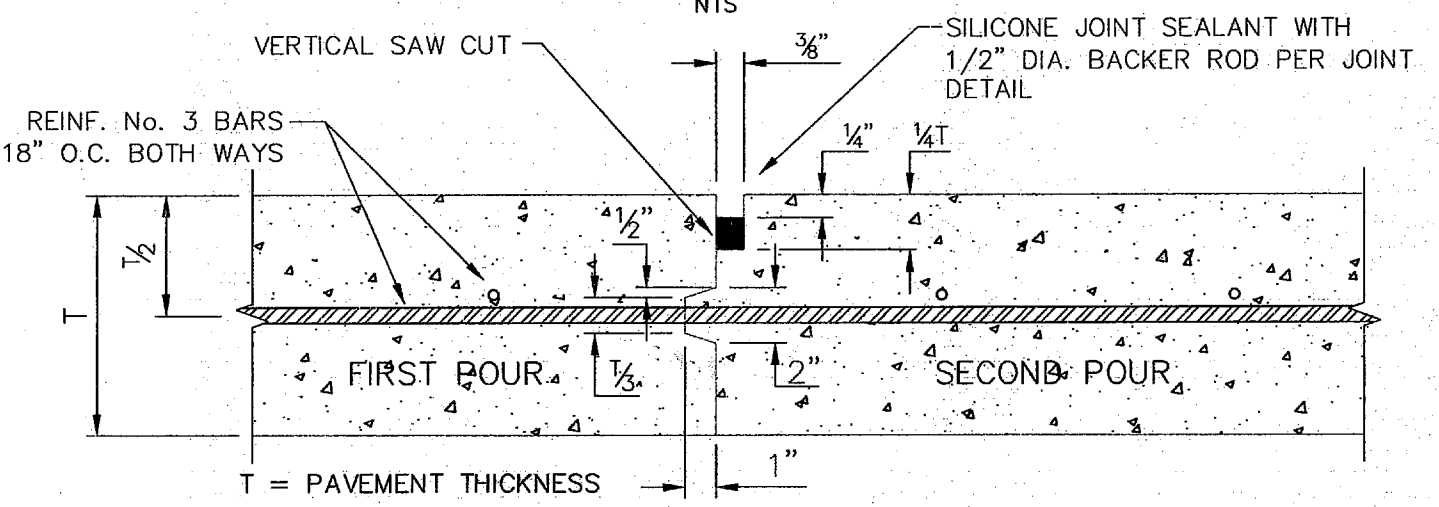


JOINT DETAIL
NTS

EXPANSION JOINT DETAIL
NTS



SAWED DUMMY JOINTS



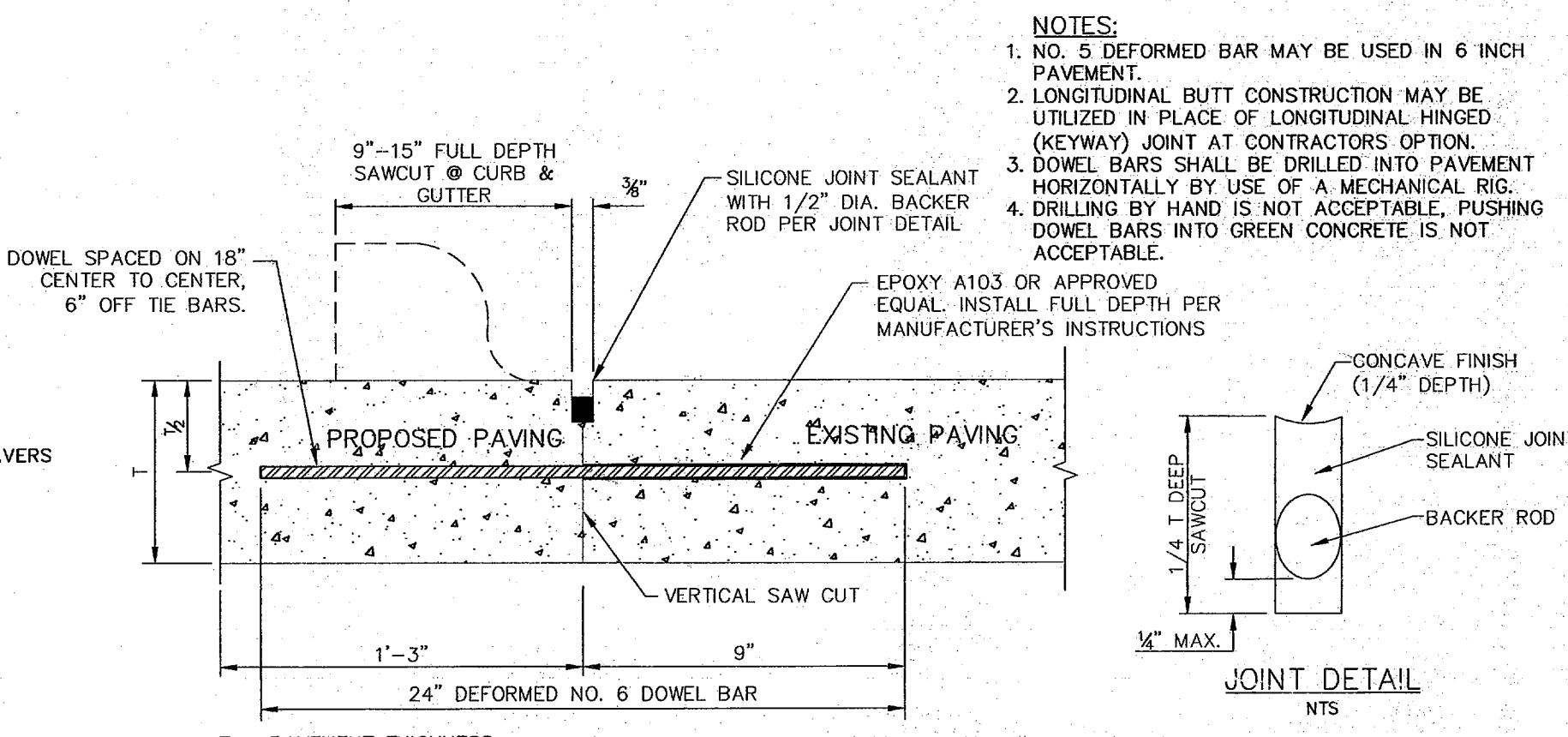
NOTE: CONTRACTOR SHALL PROTECT KEYWAY PRIOR TO SECOND POUR. IF LONGITUDINAL KEYWAY IS DAMAGED, CONTRACTOR SHALL REPAIR WITH THE USE OF LONGITUDINAL BUTT JOINT. DRILL AND GROUT DOWELS INTO FIRST POUR.

CONSTRUCTION JOINTS FOR PAVEMENT

TRANSVERSE AND LONGITUDINAL JOINTS

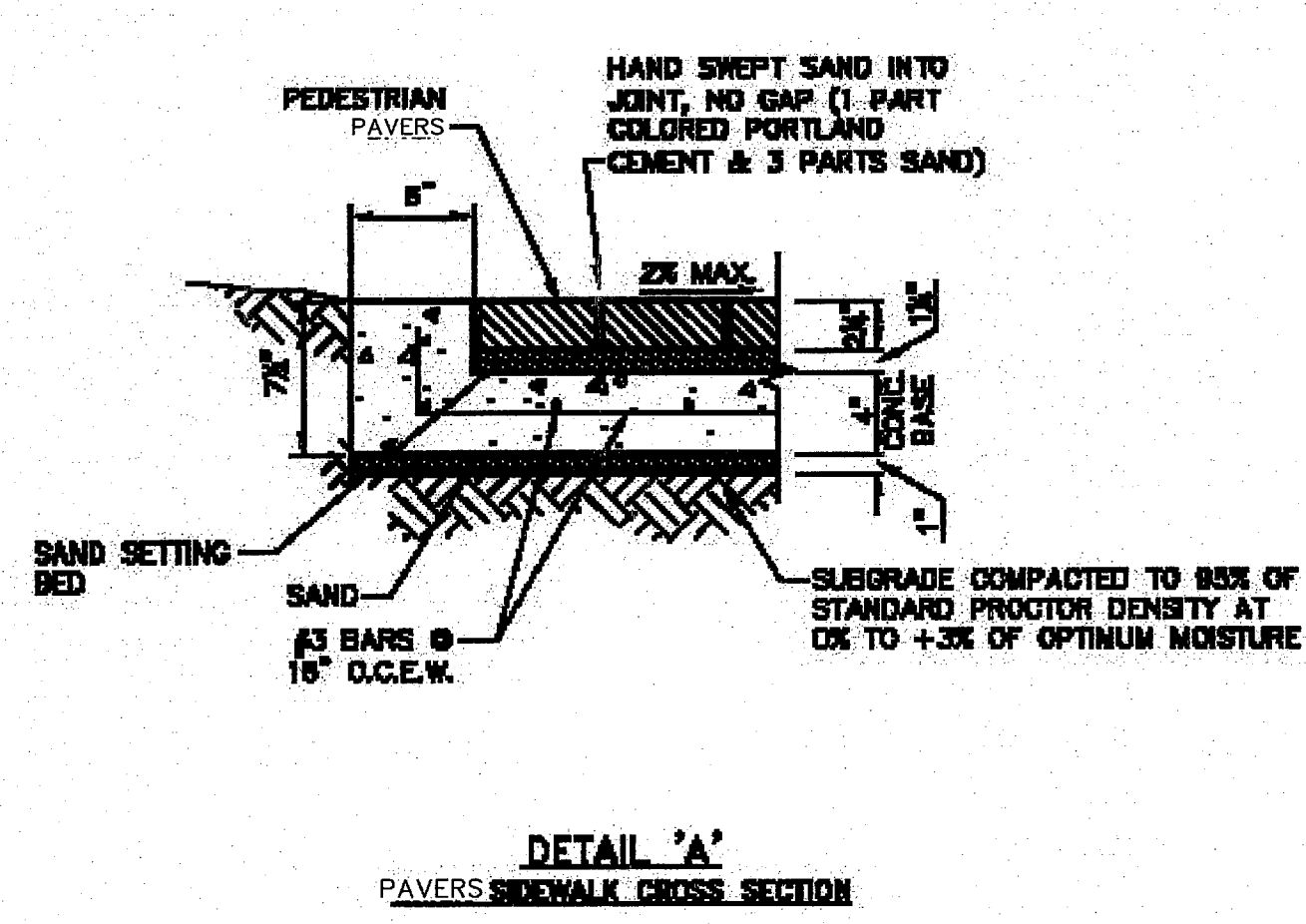
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DETAILS

NOT TO SCALE

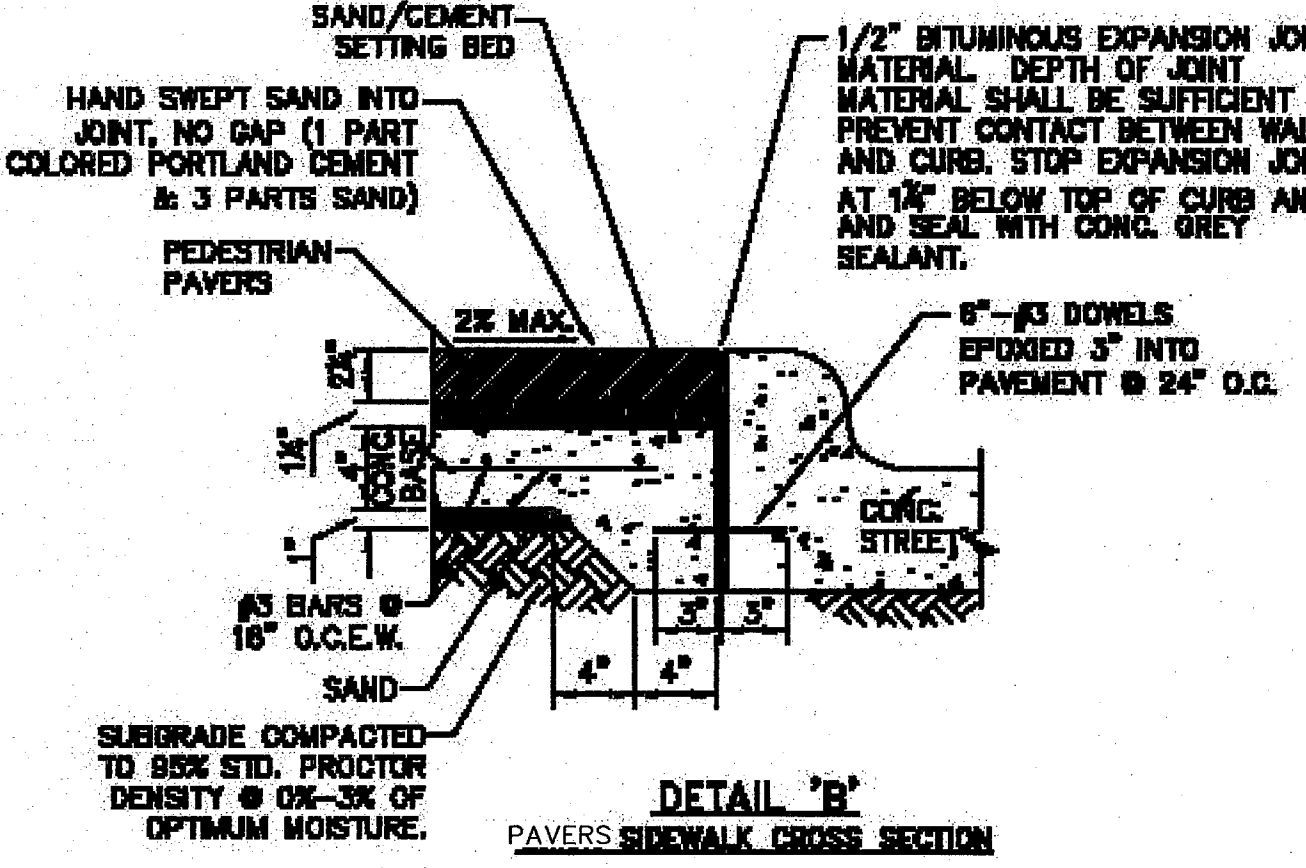


LONGITUDINAL
BUTT JOINT

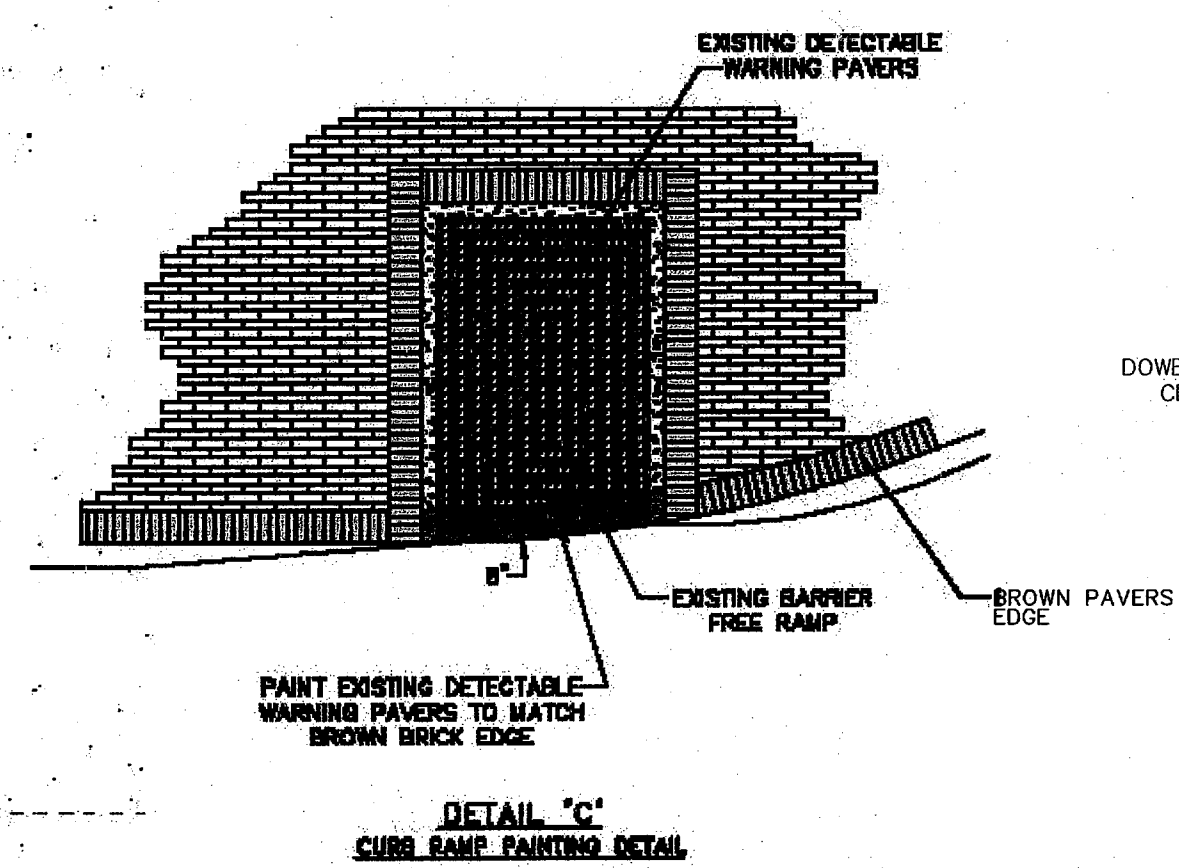
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DETAIL 'A'
PAVERS SIDEWALK CROSS SECTION



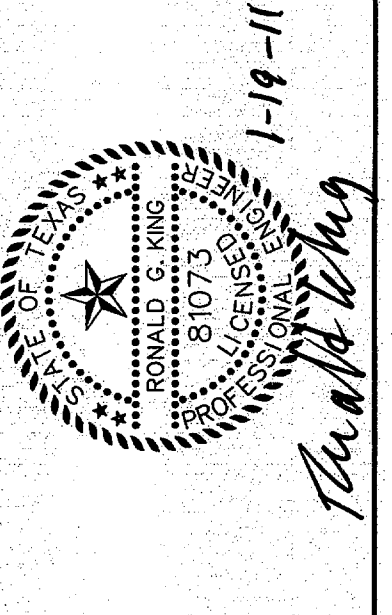
DETAIL 'B'
PAVERS SIDEWALK CROSS SECTION



DETAIL 'C'
CURB RAMP PAVING DETAIL

NOTE: PEDESTRIAN PAVERS SHALL BE PAVESTONE HOLLAND STONE. PROVIDE SAMPLES FOR TOWN COLOR SELECTION.

NOT TO SCALE



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Web: www.frese.com

TOWN OF ADDISON, TEXAS
SURVEYOR 1.5 MG EST
CIVIL
PAVING DETAILS

NO. ISSUES	DATE	BY	DESIGNED	DRAWN	REVISION	CHECKED	DAT
	01/21/11						
FILE NAME							CV-EST-DT-TYP08.SHT
SHEET							DT-08

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ADD08459
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Plot Scale: 1:1000
Date: 01/21/11 09:41:40 PM
Project: Frese and Nichols, Inc.

NOTES:

- PERIMETER SEDIMENT BARRIERS AND CONSTRUCTION EXIT MUST BE IN PLACE BEFORE STARTING SOIL DISTURBING ACTIVITIES. WHEN INSTALLING SEDIMENT BARRIERS, DO NOT TRENCH WITHIN THE DRIP LINE OF TREES TO BE SAVED.
- RETAIN FLOATABLE AND WIND BLOWN MATERIALS ON SITE BY STORING ALL TRASH AND BUILDING MATERIAL WASTE IN ENCLOSURES UNTIL PROPER DISPOSAL AT OFF-SITE FACILITIES. CHECK ADJACENT AREAS DAILY AND PICK UP CONSTRUCTION WASTE MATERIALS AND DEBRIS THAT HAVE BLOWN OR WASHED OFF SITE.
- INSTALL A TEMPORARY PIT OR BASIN FOR ON-SITE CONTAINMENT OF CONCRETE WASTE FROM MIXING DRUMS AND CHUTES.
- INSTALL A LIQUID TIGHT BERMED AREA (LINER REQUIRED), OR OTHER SPILL PROTECTION MEASURE PER THE FIRE CODE, FOR ANY TEMPORARY FUEL TANKS PLACED ON SITE DURING CONSTRUCTION.
- PERMANENTLY STABILIZE ALL SURFACE AREA WITHIN AND ADJACENT TO THIS SITE THAT IS DISTURBED BY CONSTRUCTION OF THE PROPOSED FACILITY. THIS INCLUDES REVEGETATION OF SWALES, SLOPES, AREAS AROUND DRAINAGE OUTFALL LOCATIONS AND OTHER BARE GROUND THAT IS EXPOSED BY VEHICLES, GRADING AND OTHER CONSTRUCTION ACTIVITIES. STABILIZATION IS OBTAINED WHEN THE DISTURBED SURFACE IS COVERED WITH STRUCTURES, PAVING AND/OR PERENNIAL VEGETATION HAVING A UNIFORM DENSITY OF AT LEAST 70 PERCENT. STABILIZATION OF ALL DISTURBED AREA IS REQUIRED BEFORE TERMINATING MAINTENANCE AND REMOVAL OF EROSION CONTROL MEASURES.
- CONTRACTORS OR DEVELOPER SHALL INSPECT POLLUTION CONTROL MEASURES AT LEAST ONCE EVERY 14 DAYS AND WITHIN 24 HOURS AFTER A STORM EVENT OF 1/2 INCH OR GREATER. REPAIR AND REPLACE DAMAGED MEASURES AS NECESSARY TO RETAIN SEDIMENT AND OTHER POLLUTANTS ON SITE. CONTROL MEASURES THAT PROVE TO BE INEFFECTIVE SHALL BE REPLACED WITH MORE EFFECTIVE MEASURES OR ADDITIONAL MEASURES WITHIN (7) CALENDAR DAYS. REPEATED FAILURE OF A CONTROL MEASURE REQUIRES INSTALLATION OF A MORE SUITABLE DEVICE TO PREVENT DISCHARGE OF POLLUTANTS FROM THE CONSTRUCTION SITE.
- AT STABILIZED CONSTRUCTION ENTRANCE, TOP-DRESS THE EXIT WITH CLEAN STONE WHEN THE SURFACE BECOMES TRACKED WITH MUD OR SEDIMENT. SEDIMENT DISCHARGED OR TRACKED TO EXISTING PAVEMENT SHALL BE REMOVED DAILY.
- FOR EROSION CONTROL DETAILS SEE THIS SHEET.
- ALL RUNOFF FROM MATERIALS USED IN THE SUBGRADE STABILIZATION PROCESS MUST BE CONTAINED.
- REMOVE SEDIMENT FROM CONTROL MEASURES WHEN DESIGN CAPACITY IS REDUCED BY 50%.
- OFF-SITE VEHICLE TRACKING OF SEDIMENTS AND THE GENERATION OF DUST SHALL BE MINIMIZED. HAUL ROADS AND GRADED AREAS SHALL BE DAMPENED FOR DUST CONTROL.
- DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITY HAS CEASED (TEMPORARILY OR PERMANENTLY) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITIES ARE SCHEDULED TO RESUME AND DO SO WITHIN 21 DAYS.
- CONTRACTOR SHALL ENSURE AND DEMONSTRATE COMPLIANCE WITH APPLICABLE STATE AND/OR LOCAL WASTE DISPOSAL, SANITARY SEWER AND SEPTIC SYSTEM REGULATIONS.
- ALLOWABLE NON-STORM WATER DISCHARGES:
 - FIRE HYDRANT FLUSHINGS
 - WATER USED TO WASH VEHICLES OR CONTROL DUST
 - POTABLE WATER SOURCES, SUCH AS FLUSHING NEW WATER DISTRIBUTION PIPES
 - IRRIGATION DRAINAGE
 - WATER FROM TANK OVERFLOW ONSITE.
- INSTALL CURB INLET PROTECTION AT ALL STORM DRAIN INLETS FOLLOWING CONSTRUCTION AND MAINTAIN UNTIL ALL ADJACENT AREAS IN WATERSHED ARE STABILIZED.

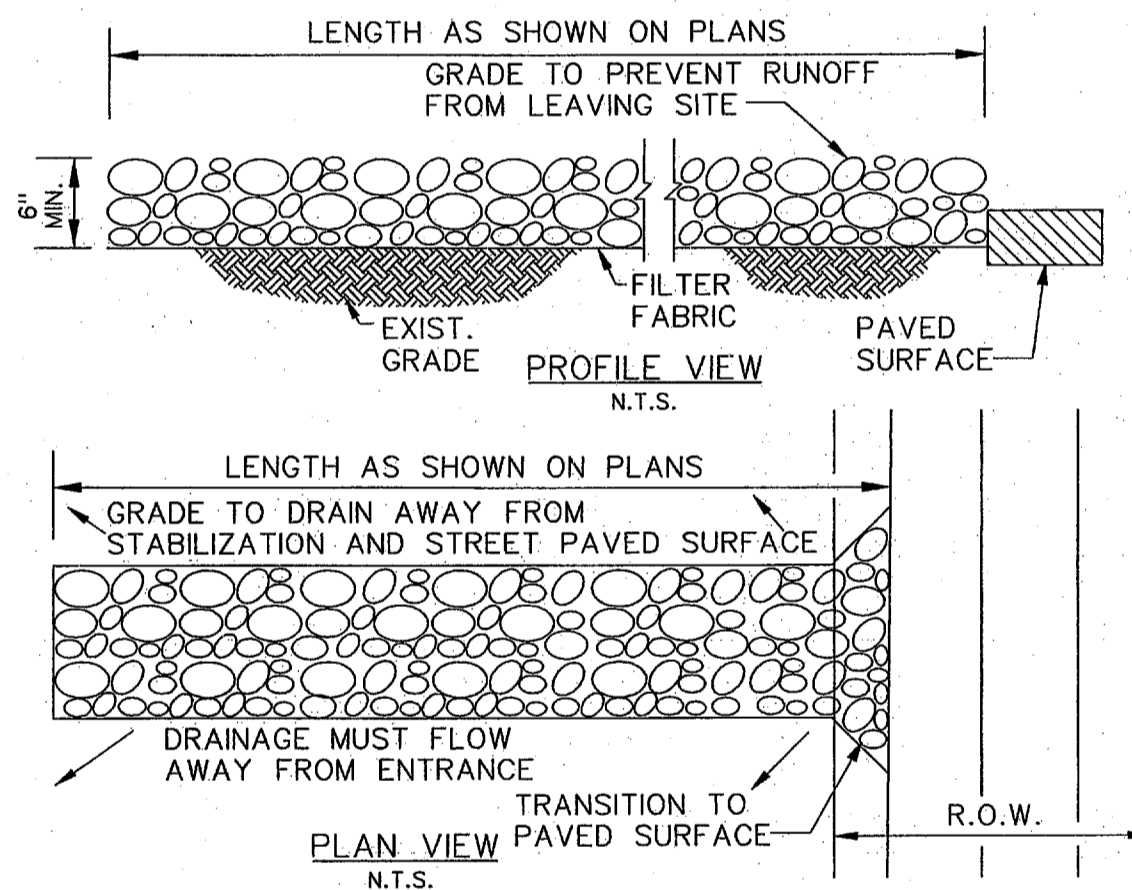
EXISTING UTILITIES ARE INDICATED ON THE PLANS FROM AVAILABLE INFORMATION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION OF ALL UTILITIES, TO NOTIFY ALL UTILITY COMPANIES OF THE CONTRACTOR'S OPERATIONS, TO PROTECT ALL UTILITIES FROM DAMAGE, TO REPAIR ALL UTILITIES DAMAGED DUE TO THE CONTRACTOR'S OPERATIONS, AND TO NOTIFY THE ENGINEER PROMPTLY OF ALL CONFLICTS OF THE WORK WITH EXISTING UTILITIES.

STABILIZED CONSTRUCTION ENTRANCE

GENERAL NOTES:

- STONE SHALL BE 3 TO 5 INCH DIAMETER CRUSHED ROCK OR ACCEPTABLE CRUSHED PORTLAND CEMENT CONCRETE.
- LENGTH SHALL BE SHOWN ON PLANS, WITH A MINIMUM LENGTH OF 30 FEET FOR LOTS WHICH ARE LESS THAN 150 FEET FROM EDGE OF PAVEMENT. THE MINIMUM DEPTH IN ALL OTHER CASES SHALL BE 50 FEET.
- THE THICKNESS SHALL NOT BE LESS THAN 6 INCHES.
- THE WIDTH SHALL BE NO LESS THAN THE FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
- WHEN NECESSARY, VEHICLES SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO A PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WITH DRAINAGE FLOWING AWAY FROM BOTH THE STREET AND THE STABILIZED ENTRANCE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATERCOURSE USING APPROVED METHODS.
- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PAVED SURFACES. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PAVED SURFACES, MUST BE REMOVED IMMEDIATELY.
- THE ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

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DEC. '92



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DEC. '92

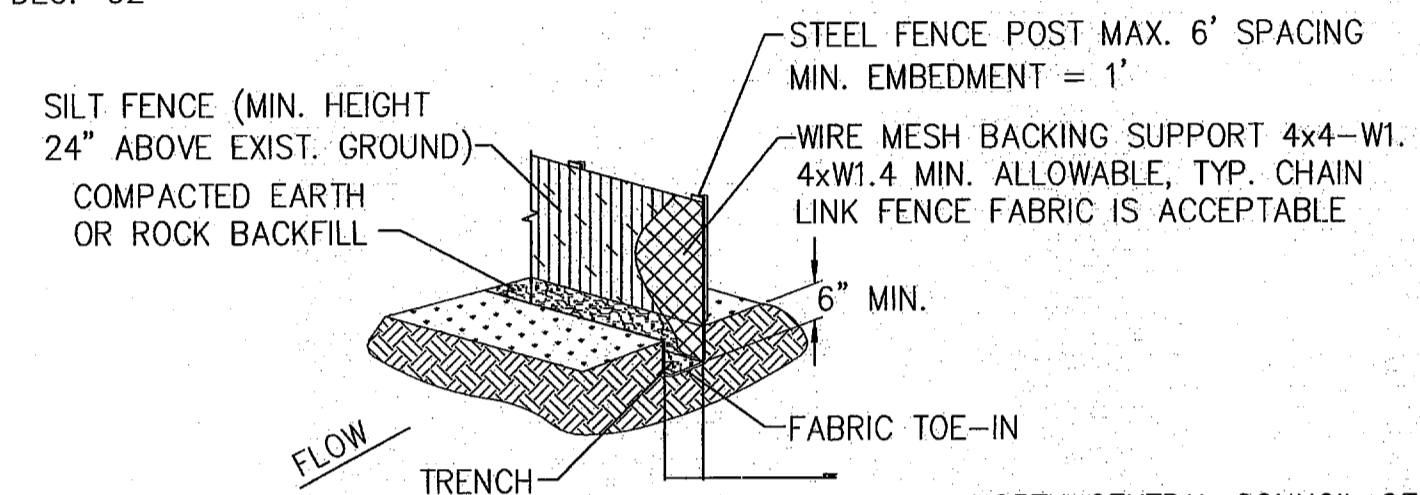
STABILIZED CONSTRUCTION ENTRANCE

SILT FENCE

GENERAL NOTES:

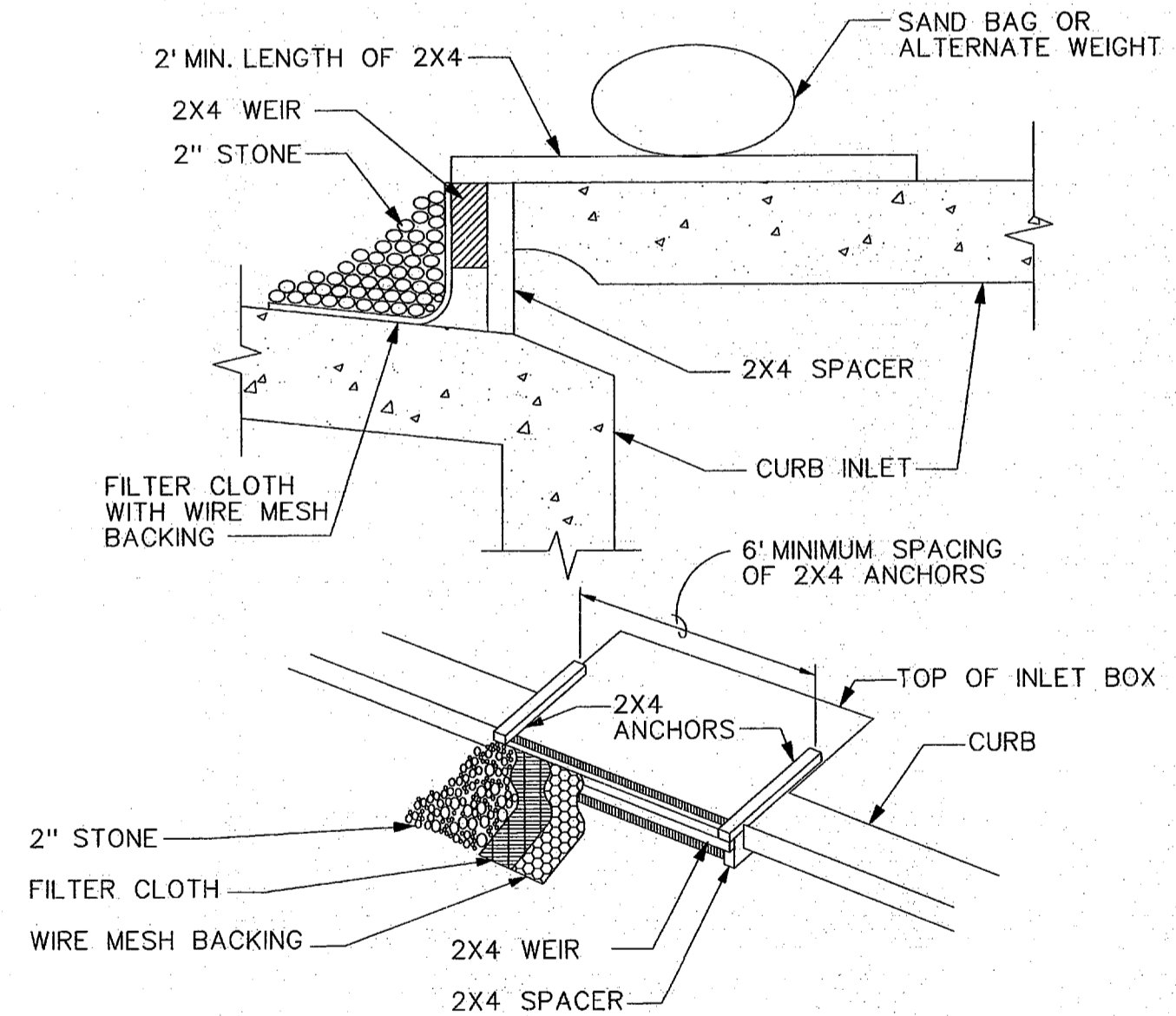
- STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT.
- THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN, (E.G. PAVEMENT), WEIGHT FABRIC FLAP WITH ROCK ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.
- THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
- SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST. THERE SHALL BE A 3 FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
- INSPECTION SHALL BE MADE WEEKLY AND AFTER EACH RAINFALL. REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
- SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
- ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF HALF THE HEIGHT OF THE FENCE. THE SILT SHALL BE DISPOSED OF AT AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.

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ISOMETRIC PLAN VIEW
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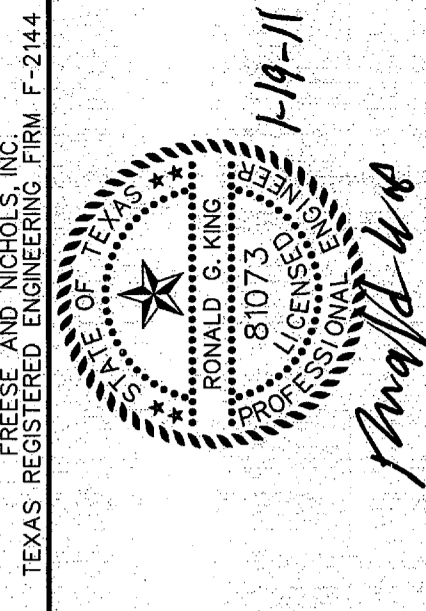


CURB INLET PROTECTION DETAIL

NOT TO SCALE

GENERAL NOTES:

- WOODEN FRAME IS TO BE CONSTRUCTED OF 2X4 CONSTRUCTION GRADE LUMBER.
- WIRE MESH BACKING MUST BE OF SUFFICIENT STRENGTH TO SUPPORT FILTER FABRIC, AND STONE FOR CURB INLETS, WITH WATER FULLY IMPOUNDED AGAINST IT.
- FILTER CLOTH MUST BE OF A TYPE APPROVED FOR THIS PURPOSE. RESISTANT TO SUNLIGHT WITH SIEVE SIZE, EOS 40-85, TO ALLOW SUFFICIENT PASSAGE OF WATER AND REMOVAL OF SEDIMENT.
- STONE IS 2" IN SIZE AND CLEAN, SINCE FINER WOULD CLOG THE CLOTH.
- THE ASSEMBLY SHALL BE PLACED SO THAT THE ENDS OF THE SPACERS ARE A MINIMUM OF 1" BEYOND ENDS OF THE THROAT OPENING.
- FORM THE WIRE MESH AND FILTER CLOTH TO THE CONCRETE GUTTER AND AGAINST THE FACE OF CURB ON BOTH SIDES OF THE INLET. PLACE CLEAN STONE OVER THE FILTER CLOTH IN SUCH A MANNER AS TO PREVENT WATER FROM ENTERING THE INLET UNDER OR AROUND THE CLOTH.
- THIS TYPE OF INLET PROTECTION MUST BE INSPECTED FREQUENTLY AND THE FILTER CLOTH AND STONE REPLACED WHEN CLOGGED WITH SEDIMENT.
- ASSURE THAT STORM FLOW DOES NOT BYPASS INLET BY INSTALLING TEMPORARY EARTH OR ASPHALT DIKES DIRECTING FLOW INTO INLET.
- CONSTRUCT SIMILAR TYPE STRUCTURE AT BACK OF PROPOSED CURB INLETS WITH OPEN BACKS.

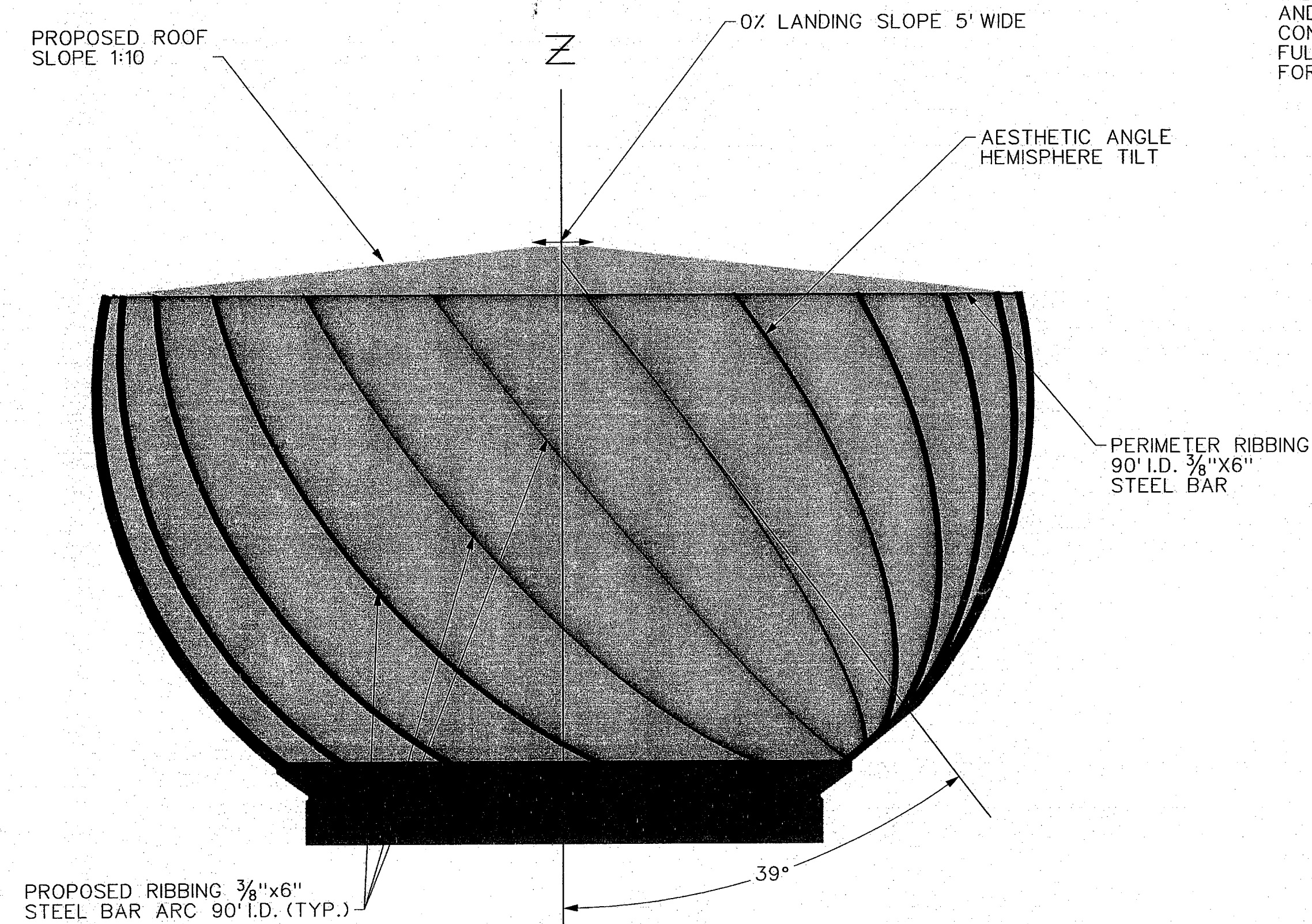


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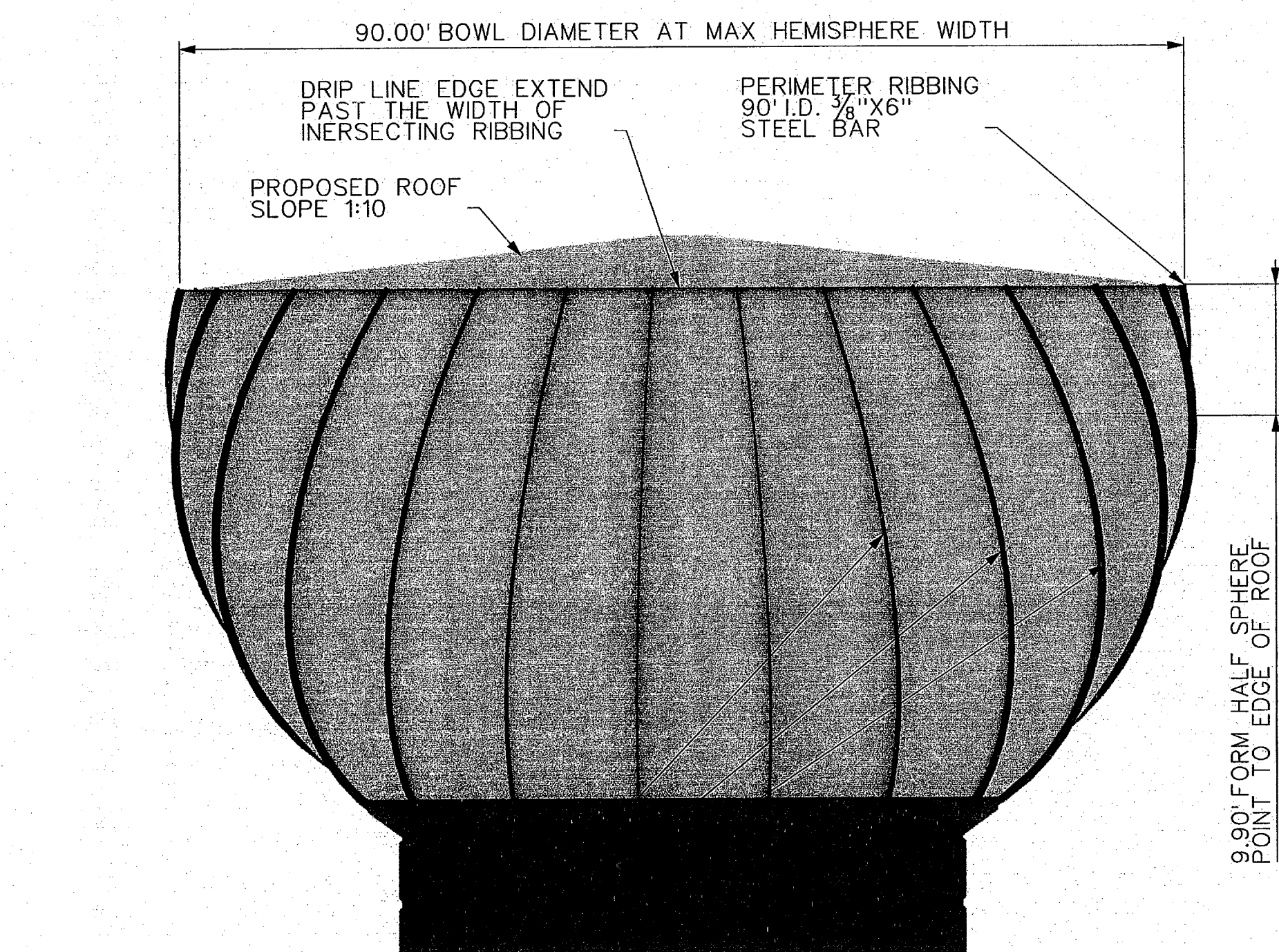
TOWN OF ADDISON, TEXAS
SURVEYOR 1.5 MG EST
CIVIL
EROSION CONTROL DETAILS

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				DESIGNED	DAT
				DRAWN	RJS
				REVISED	SB
				CHECKED	RJK
				FILE NAME	CV-EST-DT-TYP07.SHT
VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.					
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DT-07					

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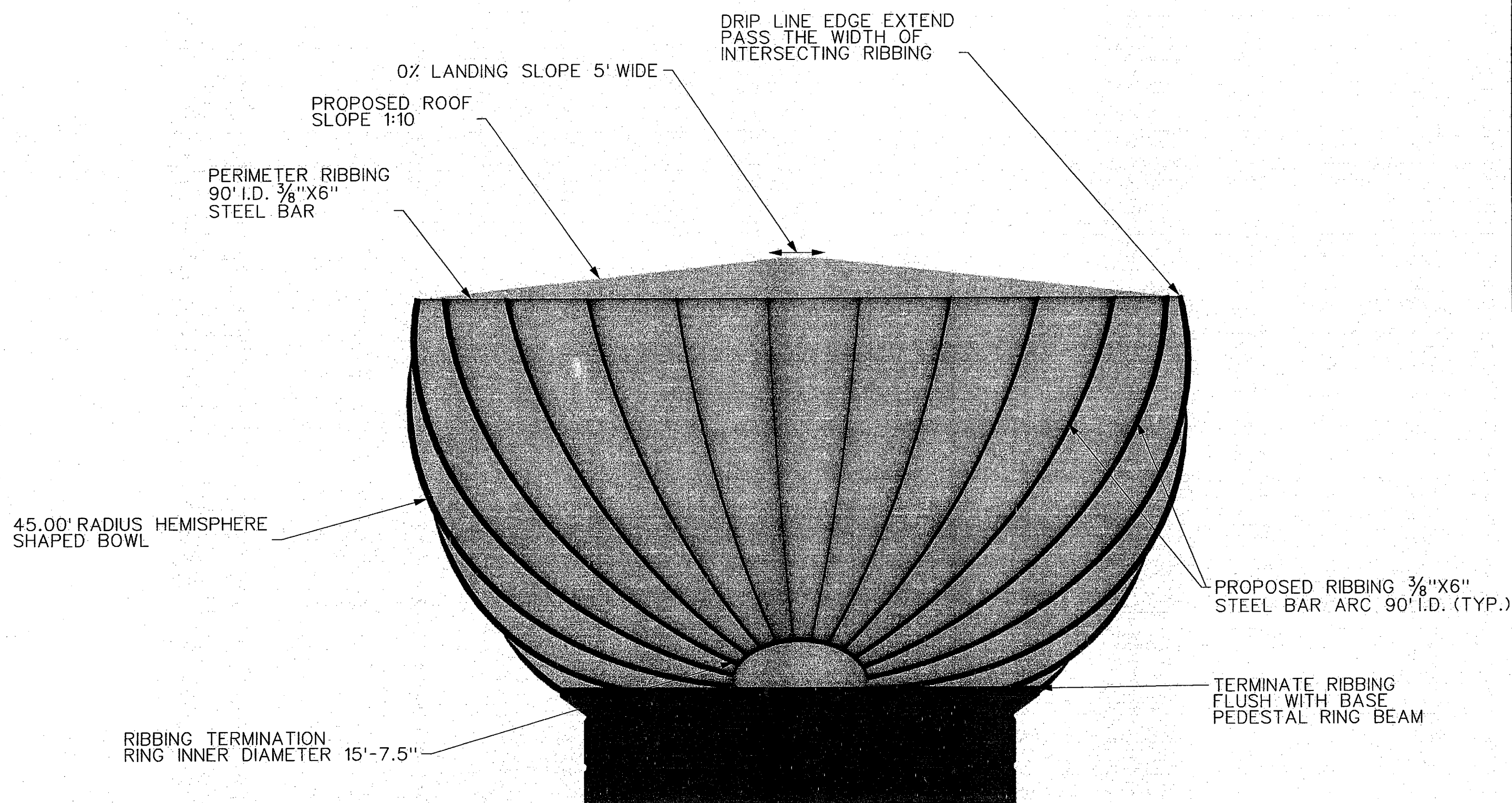


1 SIDE VIEW
NOT TO SCALE

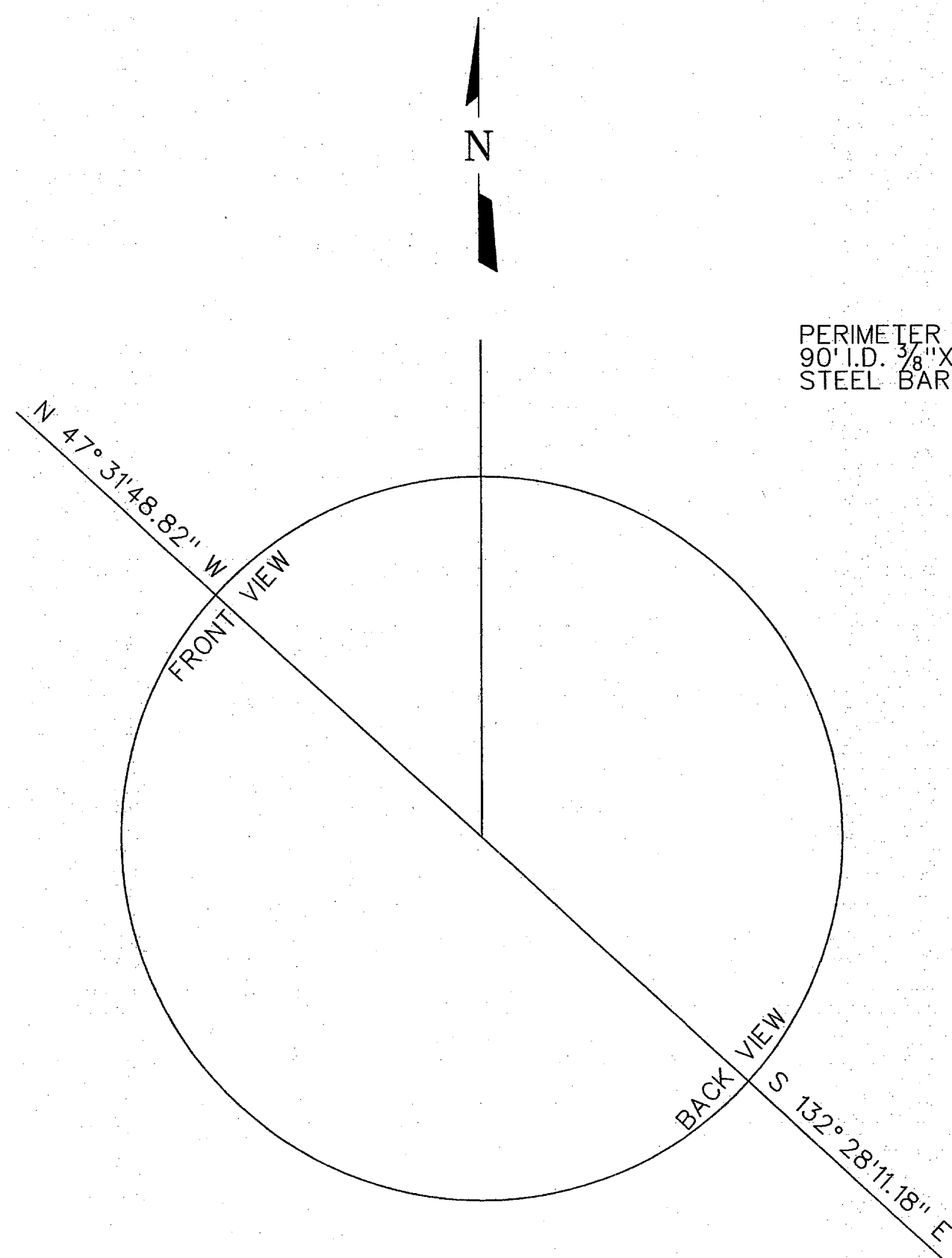


3 BACK VIEW
NOT TO SCALE

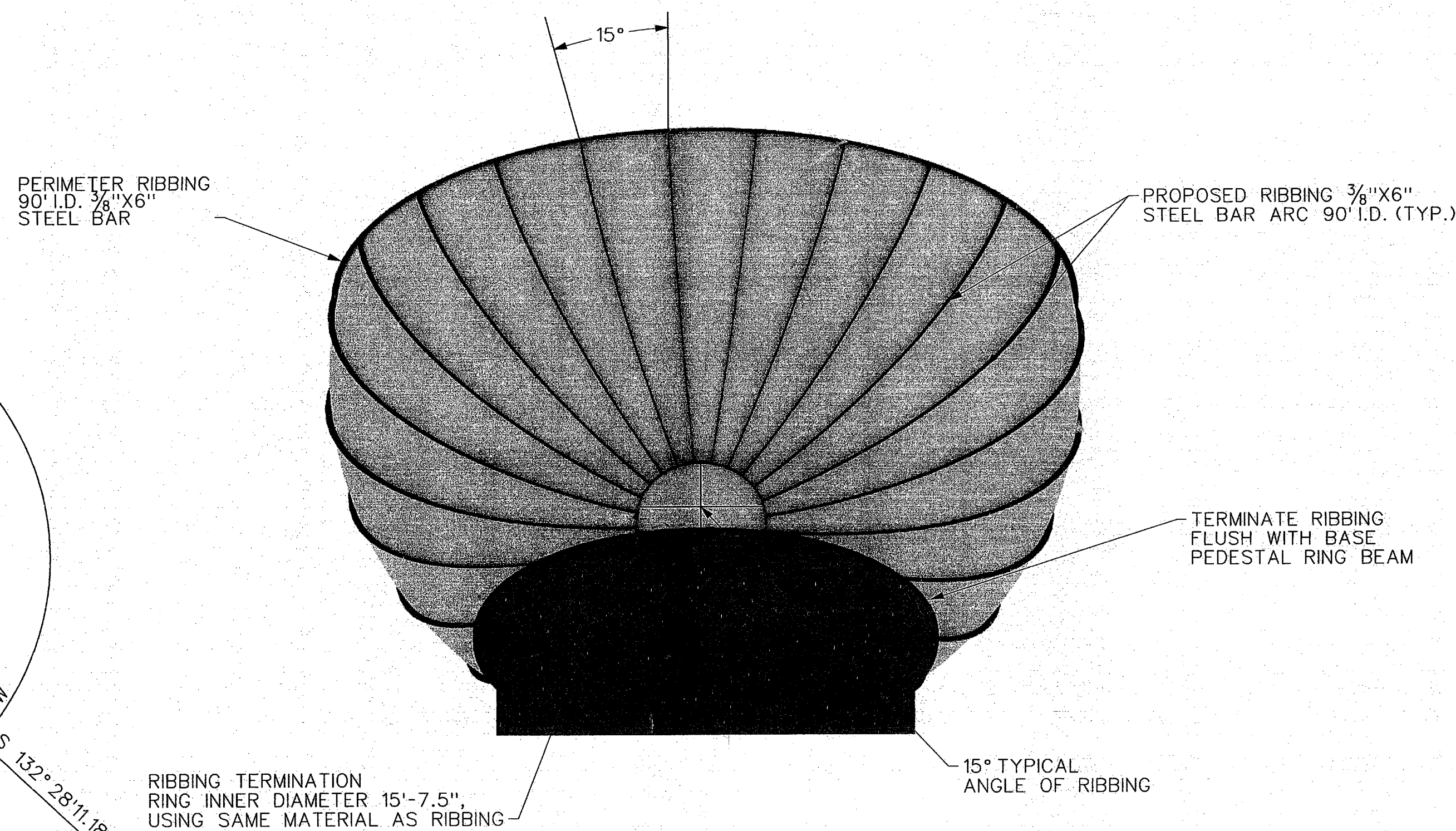
NOTE:
1. EACH EDGE OF RIBBINGS AND TERMINATION RING CONTACTING BOWL SHALL BE FULLY WELDED WATER TIGHT FOR FULL LENGTH.



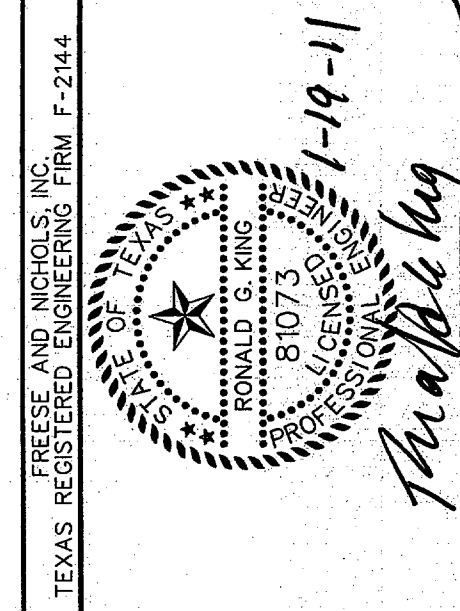
2 FRONT VIEW FACING INTERSECTION
ARAPAHO/SURVEYOR
NOT TO SCALE



4 BOWL VIEW
KEY MAP
NOT TO SCALE



5 39° ANGLE
FRONT VIEW
NOT TO SCALE



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TOWN OF ADDISON, TEXAS
SURVEYOR 1.5 MG EST
CIVIL
TANK BOWL DETAIL

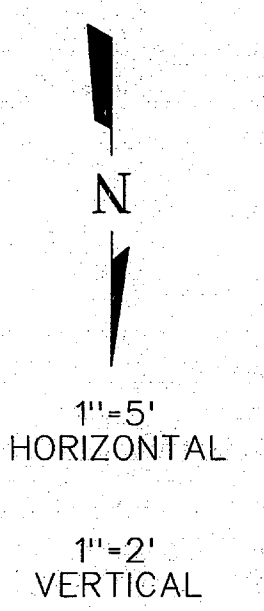
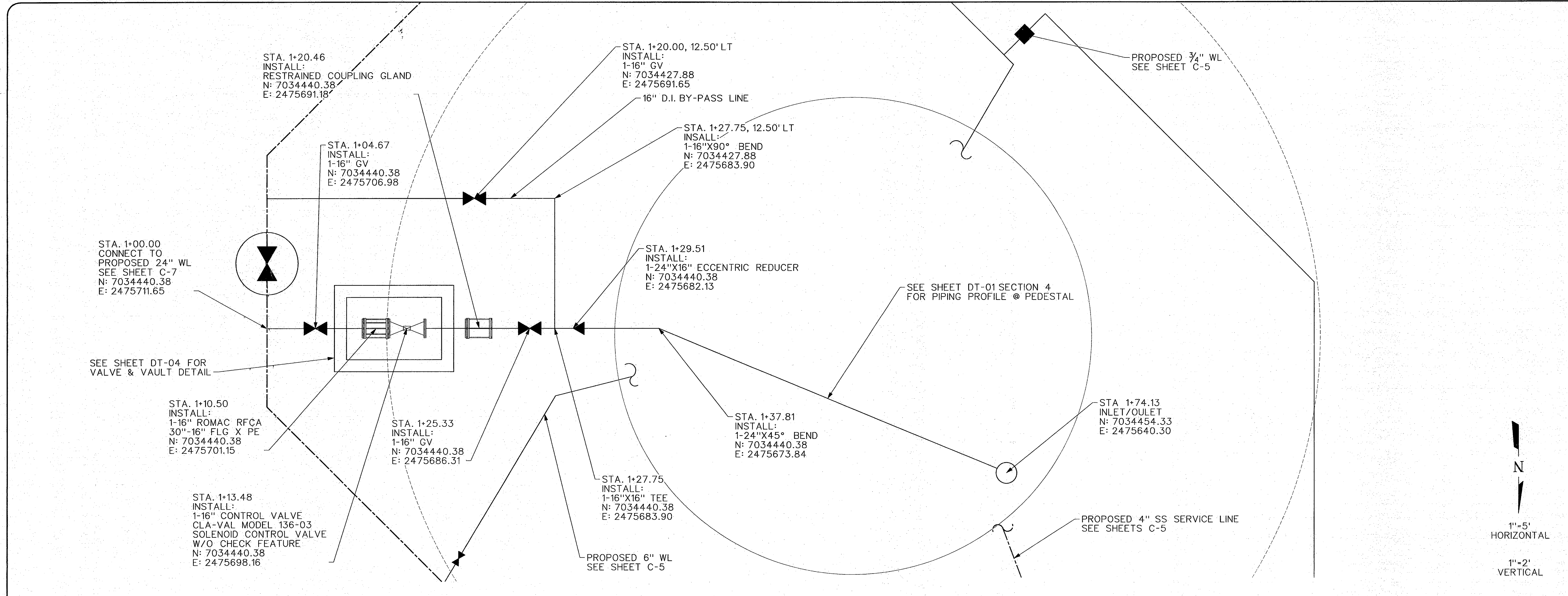
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 Date: 01/19/2011 - 01:27:10 PM Project: Freese and Nichols, Inc. - J01-PP-WL01.dgn



598	STA. 1+00.00 CONNECT TO PROPOSED 24" WL	PROPOSED GROUND @ C OF PIPE	598
595	PROPOSED 16" WL D.I. @ 0.00%	EXISTING GROUND @ C OF PIPE	595
592	PROPOSED 24" WL D.I. @ 0.00%		592
589			589
586	EGL = 598.74 T.O.P. = 593.79		586
583	STA. 1+04.67 1-16" GV STA. 1+10.50 1-16" ROMAC RFCA STA. 1+13.48 1-16" CONTROL VALVE STA. 1+20.46 1-16" RESTRAINED COUPLING GLAND STA. 1+25.33 1-16" GV STA. 1+27.75 1-16"X16" TEE STA. 1+29.51 1-24"X16" ECCENTRIC REDUCER STA. 1+37.81 1-24"X45° BEND EGL = 598.22 T.O.P. = 593.79		583
1+00			1+50

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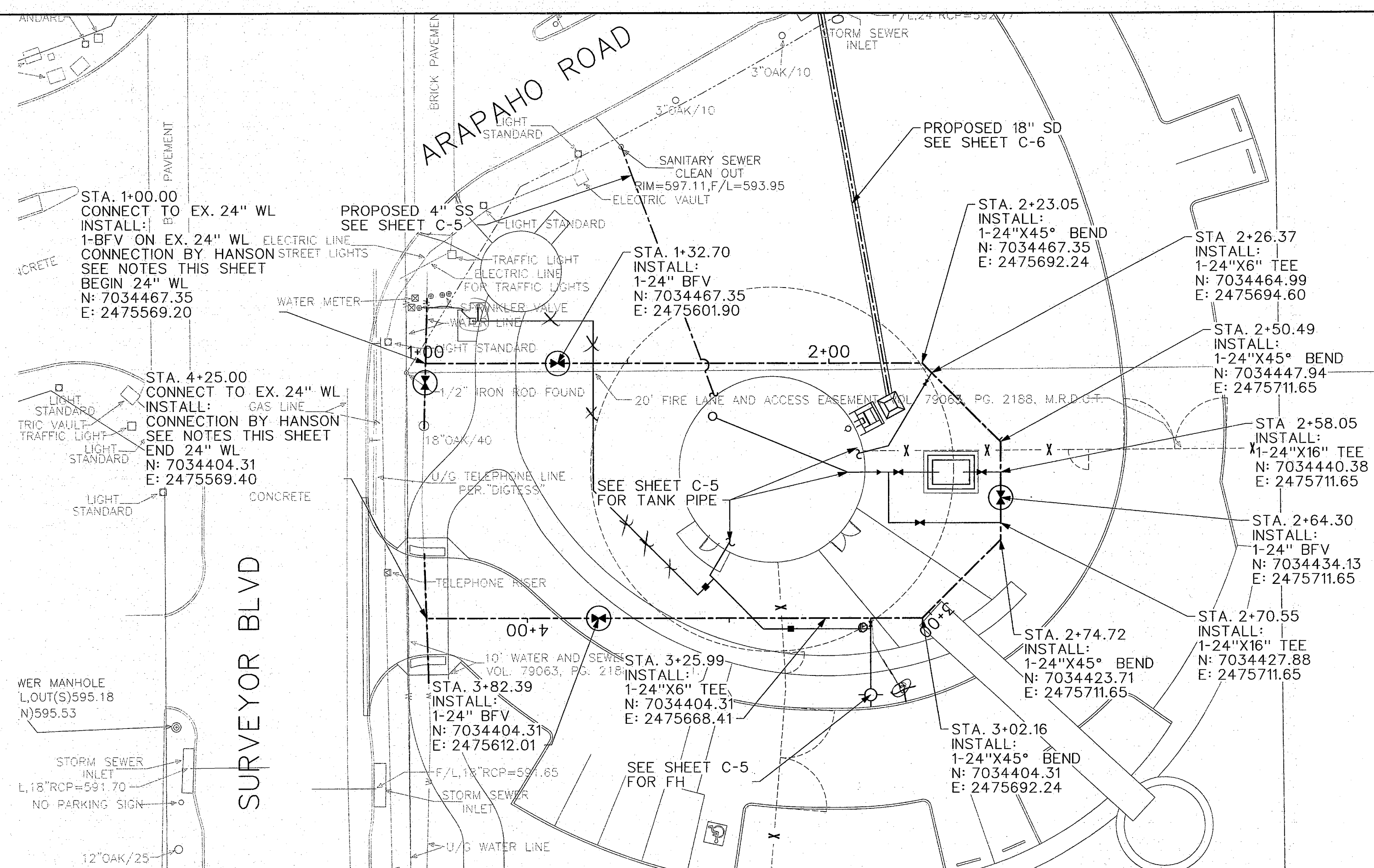
RONALD G. KING
 81073
 1-19-11

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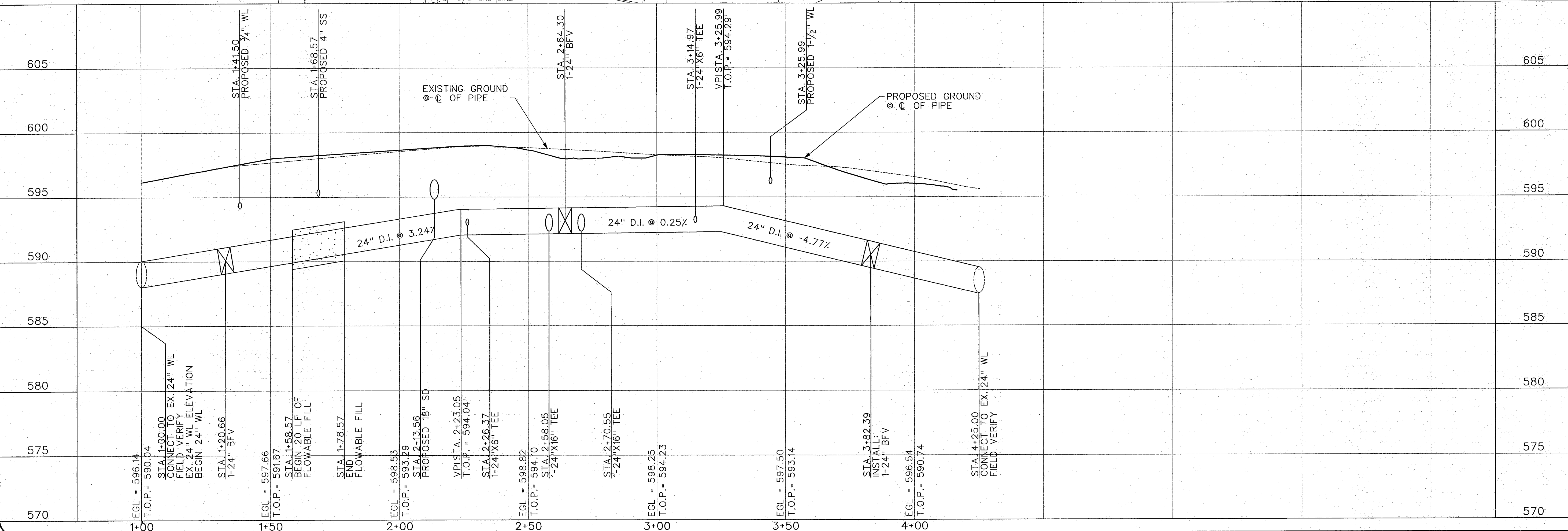
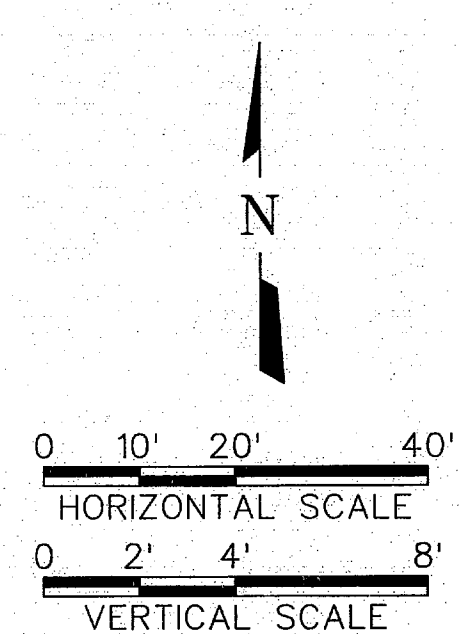
TOWN OF ADDISON, TEXAS
 SURVEYOR 1.5 MG EST
 CIVIL
 16" WATERLINE PLAN AND PROFILE

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 Date: 01/19/2011 - 01:25:31 PM Project: Freese and Nichols, Inc. - UTI-PP-WL01.dgn



- NOTES FOR CONNECTION TO EX. 24" WATER MAIN
1. AVAILABLE INFORMATION INDICATES EXISTING 24" MAIN IS AWWA C-303 PIPE, CONTRACTOR SHALL CONFIRM IN FIELD THE TYPE OF PIPE.
 2. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF JOINTS ON EXISTING 24" WATER MAIN. EACH TIE-IN TO EXISTING 24" MAIN SHALL OCCUR AT ONE SEGMENT OF EXISTING PIPE. ADDITIONAL PROPOSED 24" DUCTILE IRON PIPING AND FITTINGS SHALL BE PROVIDED AS NEEDED TO LINE UP THOSE TIE-IN LOCATIONS, AND COST SHALL BE AT THE UNIT PRICE BID FOR EACH RESPECTIVE ITEM.
 3. TIE-IN PIPE SEGMENTS AND FITTINGS SHALL BE MANUFACTURED BY HANSON, AND SHALL BE MINIMUM PRESSURE CLASS 200 PSI PLUS 100 PSI SURGE ALLOWANCE.
 4. CONTRACTOR SHALL PROTECT AND PRESERVE EXISTING 18" OAK TREE DURING CONNECTION.



Office: Denton ADD08459 Date: 01/19/2011 - 01:25:31 PM User: omr File: N:\V\Drawings\CV\EST-PP-WL01.SHT

NO. ISSUES SHEET C-7

BY DATE FILE NAME CV-EST-PP-WL01.SHT

DESIGNED RUS CHECKED

DRAWN RUS REVISION

DATE 01/21/11 DESIGNED RUS RUS

FIRM JOB NO. ADD08459

TOWN OF ADDISON, TEXAS

SURVEYOR 1.5 MG EST

CIVIL

STA. 1+00 TO STA. 4+25.00

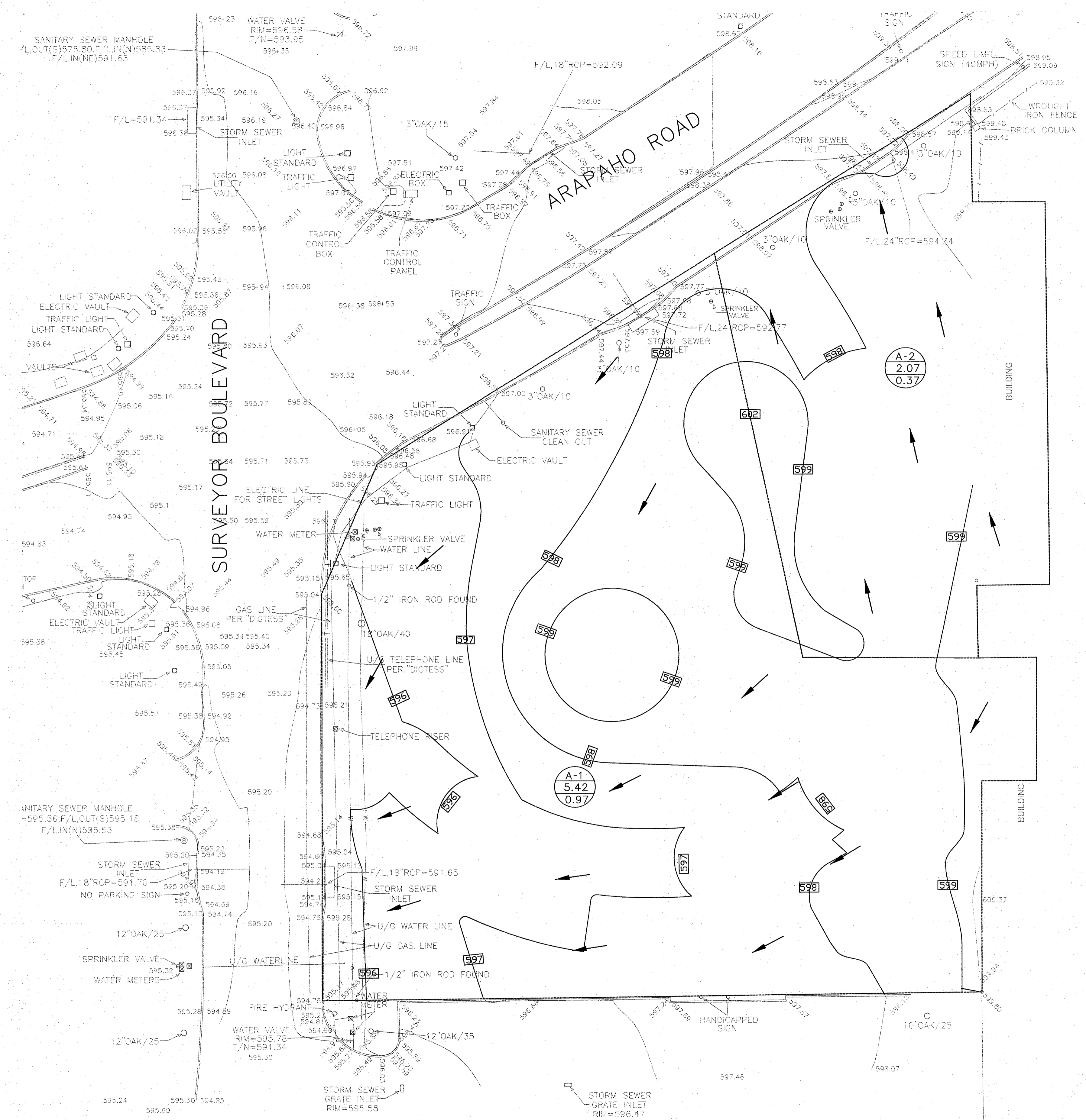
24" WATER LINE PLAN AND PROFILE

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 810730
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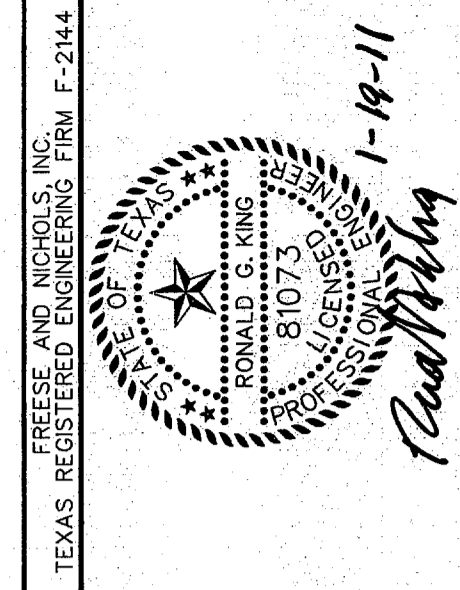
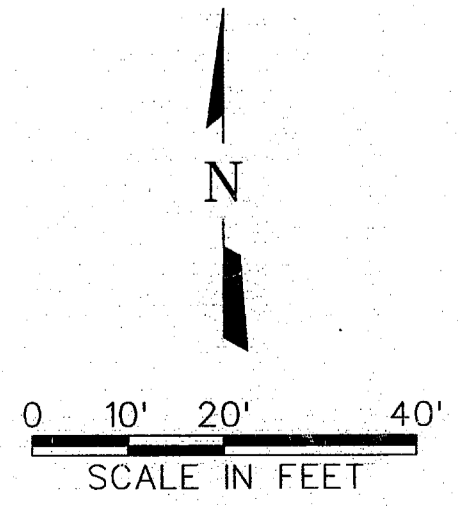
LEGEND

- DRAINAGE AREA BOUNDARY
- FLOW DIRECTION
- ⊙ (AREA / (Q(CFS) / AC)) DRAINAGE DESCRIPTION

EXISTING CONDITIONS					
AREA NO.	AREA (acre)	C-VALUE	Tc (min)	I (in/hr)	Q (cfs)
A-1	0.97	0.30	15.00	7.98	2.32
A-2	0.37	0.30	15.00	7.98	0.89

PROPOSED CONDITIONS					
AREA NO.	AREA (acre)	C-VALUE	Tc (min)	I (in/hr)	Q (cfs)
A-1	0.97	0.60	15.00	7.98	4.64
A-2	0.37	0.60	15.00	7.98	1.78

PROPOSED CONDITIONS RUNOFF COEFFICIENT		
AREA DESCRIPTION	AREA (sf)	C-VALUE
DRIVE PAVEMENT	13,500	0.95
SIDEWALKS	5,550	0.95
PAVERS	1,000	0.95
ELEVATED TANK	6,362	1.00
GRASSED SPACE	31,958	0.30
COMPOSITE	58,370	0.60



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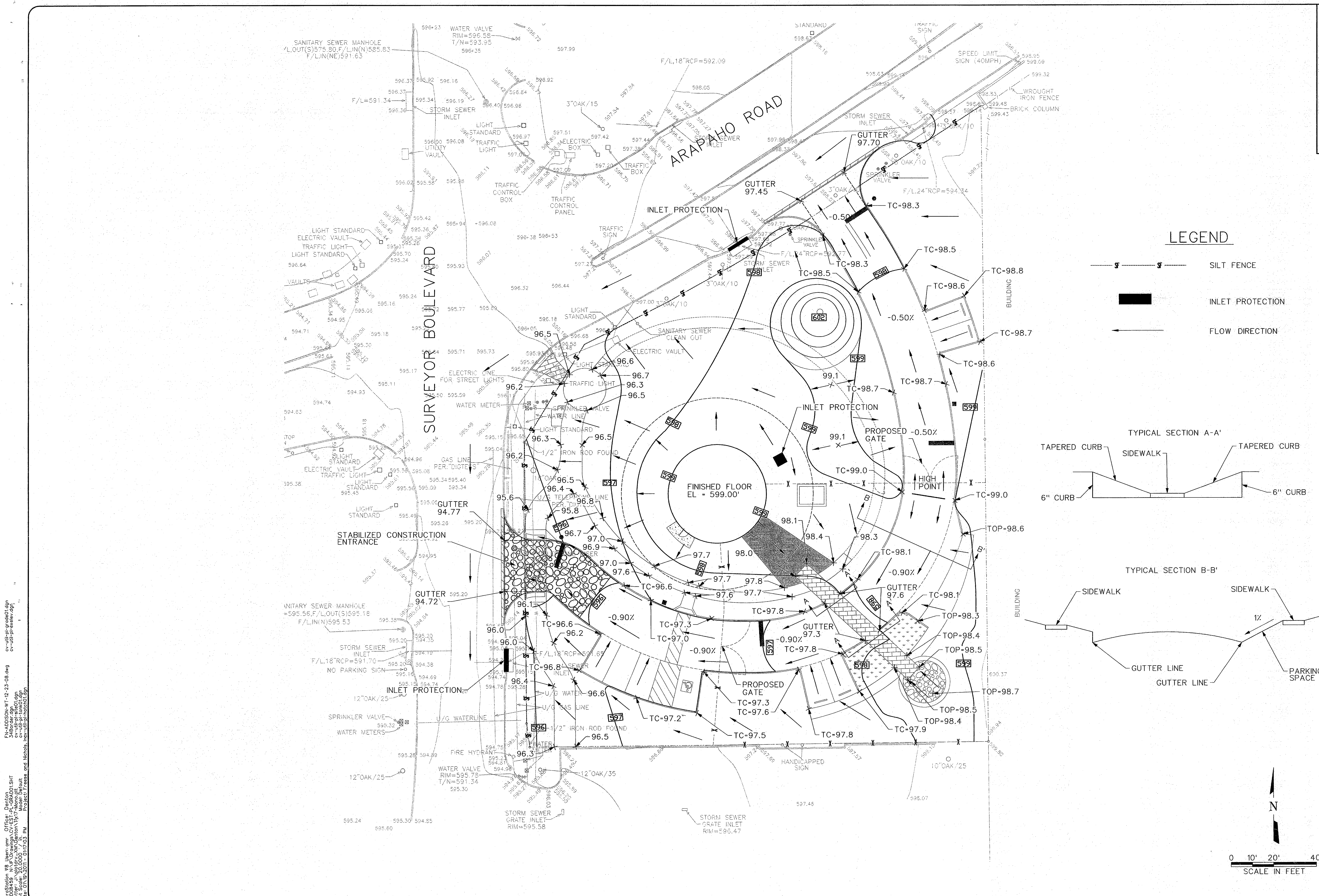
TOWN OF ADDISON, TEXAS
 SURVEYOR 1.5 MG EST
 CIVIL
 DRAINAGE AREA MAP

NO. ISSUES	BY	DATE	FRN JOB NO.	ADD08459
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			DESIGNED	DAT
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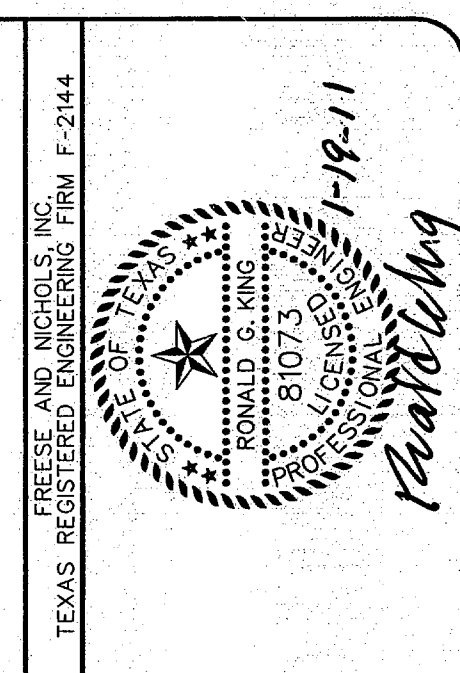
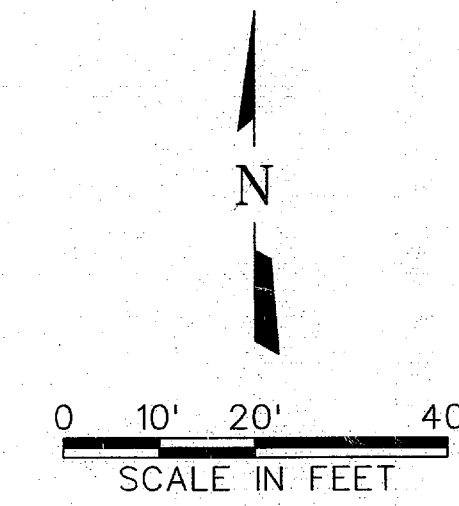
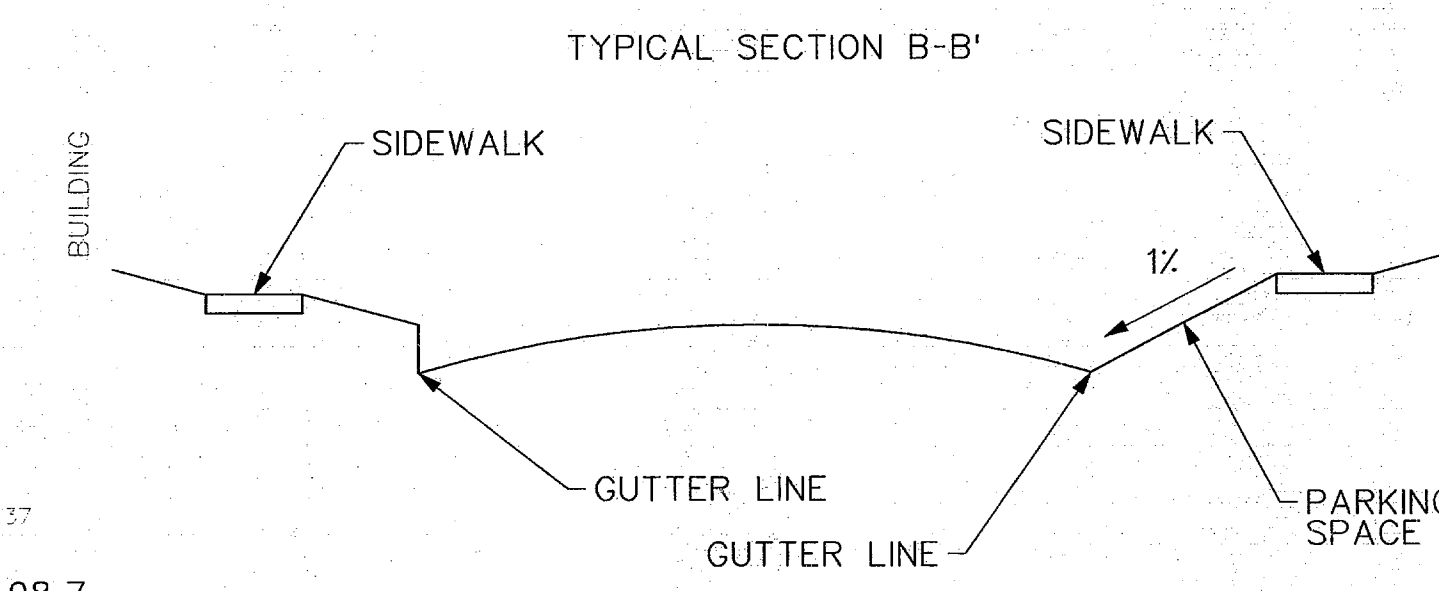
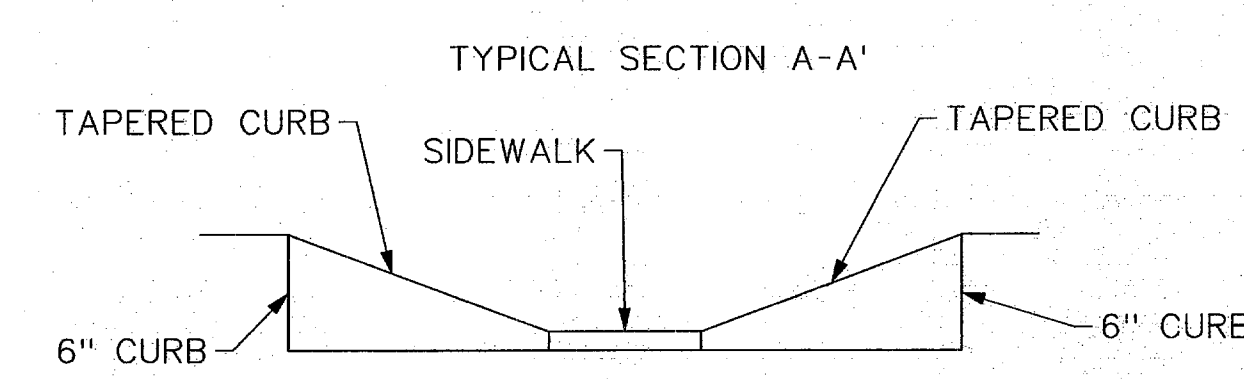
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 Office: Denton
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 Date: 01/19/2011 - 01/17/03 PM
 Project: Freese and Nichols



LEGEND

- SILT FENCE
- INLET PROTECTION
- FLOW DIRECTION



FRESE & NICHOLS
 2220 San Jacinto Blvd., Suite 330
 Denton, TX 76205-4600
 Phone: (940) 387-4677
 Fax: (940) 387-4677
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TOWN OF ADDISON, TEXAS
SURVEYOR 1.5 MG EST
 CIVIL
GRADING & EROSION CONTROL PLAN

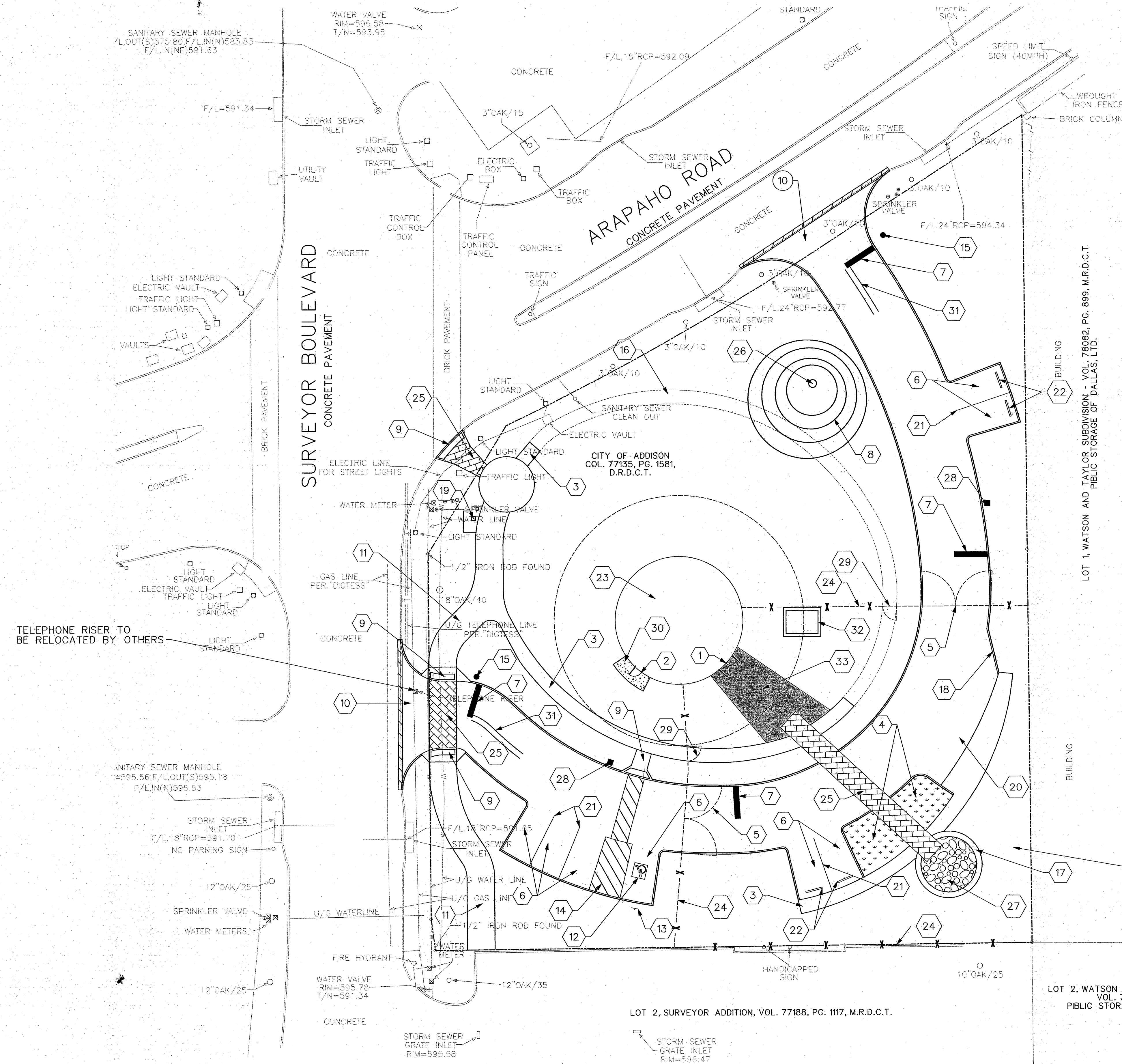
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SHEET **C-3**

MicroStation V8 User: hmr
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 Project: Freese and Nichols, Inc.



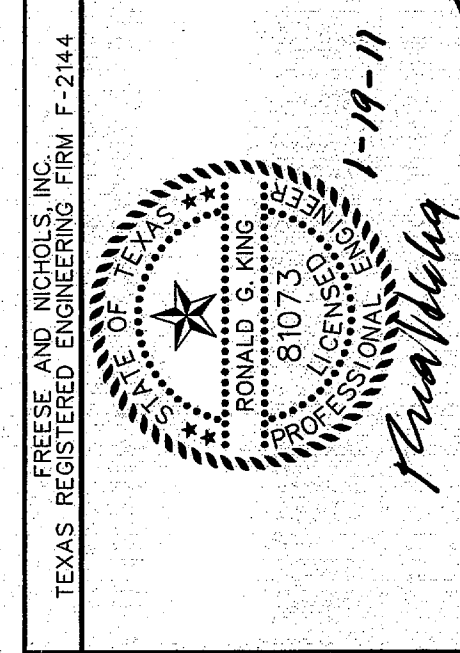
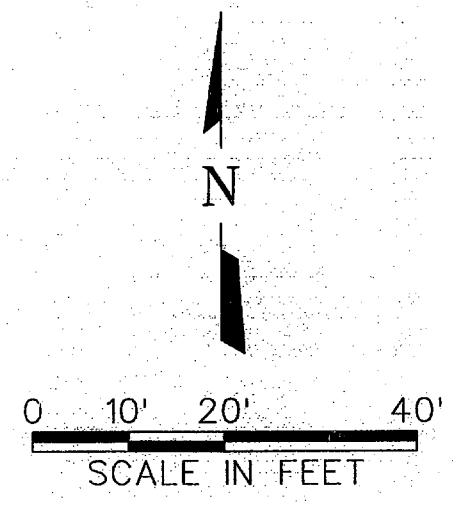
- NOTES BY SYMBOL**
1. DOUBLE DOORS (SEE ARCHITECTURAL PLANS)
 2. EMERGENCY EXIT MAN DOOR (SEE ARCH. PLANS)
 3. 5' CONCRETE SIDEWALK
 4. GRASS AREA
 5. 24' DOUBLE SWING GATE
 6. 10'X20' PARKING SPACES
 7. 24" WHITE THERMOPLASTIC STOP BAR
 8. LANDSCAPING BERM (SEE SHEET C-3)
 9. TYPE A HANDICAP RAMP SEE DT-09 FOR DETAILS
 10. DRIVEWAY APPROACH
 11. 10' CONCRETE SIDEWALK
 12. HANDICAP MARKER
 13. HANDICAP SIGN
 14. 6" WHITE STRIPE VAN ACCESSIBLE LANE
 15. STOP SIGN
 16. FUTURE 5' SIDEWALK
 17. LANDSCAPING WALL
 18. 10' CURB TAPER
 19. PROPOSED DRINKING FOUNTAIN WITH CONCRETE WALKWAY PAD
 20. PARKING SPACE FOR LARGE VEHICLES
 21. 4" WHITE PARKING LINE STRIPE
 22. CONCRETE PARKING WHEEL STOPS
 23. LEARNING CENTER IN PEDESTAL, SEE ARCHITECTURAL AND MEP PLANS
 24. PERIMETER FENCE
 25. PAVESTONE PAVERS, PROVIDE EDGE STRIP WHERE REQUIRED BY DETAIL SHEET DT-06
 26. TURBINE DISPLAY UNIT (BY OTHERS)
 27. DECOMPOSED GRANITE
 28. GATE ENTRY CARD READER
 29. 5' MANGATE
 30. CONCRETE LANDING WALK
 31. 4" DOUBLE YELLOW SOLID LINE, 20' LONG
 32. CONTROL VALVE VAULT
 33. BASE BID-REINFORCED CONC. SIDEWALK SECTION ALTERNATE BID-PAVESTONE PAVERS

LOT 1, WATSON AND TAYLOR SUBDIVISION - VOL. 78082, PG. 899, M.R.D.C.T.
 PUBLIC STORAGE OF DALLAS, LTD.

REMAINDER OF LOT 1, WATSON SUBDIVISION, VOL. 79063, PG. 2188, M.R.D.C.T. PART OF LOT 1, WATSON SUBDIVISION CITY OF ADDISON, TEXAS VOL. 82004, PG. 2001, D.R.T.C.T.

LOT 2, SURVEYOR ADDITION, VOL. 77188, PG. 1117, M.R.D.C.T.

LOT 2, WATSON AND TAYLOR SUBDIVISION VOL. 78082, PG. 899, PUBLIC STORAGE OF DALLAS, LTD.



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TOWN OF ADDISON, TEXAS
SURVEYOR 1.5 MG EST

CIVIL
SITE PLAN

NO.	ISSUES	BY	DATE	F&N JOB NO.	DATE	DESIGNED	DRAWN	REVISION	CHECKED	ROCK	FILE NAME
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GENERAL NOTES

- ALL EXISTING UTILITIES ARE AS PER AVAILABLE RECORDS. PRIOR TO CONSTRUCTION, EXACT LOCATION OF UTILITIES SHALL BE VERIFIED ON THE GROUND BY THE CONTRACTOR.
- THE INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF EXISTING UNDERGROUND AND OTHER UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATIONS AS TO THE TYPE AND LOCATION OF ALL UNDERGROUND AND OTHER UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. THE CONTRACTOR SHALL CONTACT THE FOLLOWING AT LEAST 72 HOURS PRIOR TO EXCAVATION:
ADDISON PUBLIC WORKS DEPARTMENT 972-450-2871
ONCOR 972-860-0607
AT&T
TIME WARNER
LINE LOCATE 1-800-DIG-TESS OR TEXAS 811
- EXISTING IMPROVEMENTS INCLUDING, BUT NOT LIMITED TO FENCES, DRIVEWAYS, SIDEWALKS PAVEMENT, CURBS, UTILITIES PIPELINES, AND DRAINAGE STRUCTURES WHICH ARE DAMAGED, REMOVED OR ALTERED TO PERMIT INSTALLATION OF THE WORK SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR, AT THE CONTRACTOR'S EXPENSE, IN THE SAME LOCATION AND IN CONDITION AS GOOD AS OR BETTER THAN THEY WERE FOUND.
- UNLESS SPECIFICALLY STATED ON A DRAWING, THE CONTRACTOR SHALL NOT REMOVE, CUT OR DAMAGE TREES OR LIMBS WITHOUT WRITTEN APPROVAL OF THE TOWN OF ADDISON.
- THE CONTRACTOR SHALL AVOID DAMAGING ANY EXISTING SPRINKLER SYSTEM THAT MAY BE IN THE CONSTRUCTION AREA AND WILL BE RESPONSIBLE FOR REPAIRS TO ANY HEADS OR LINES DAMAGED. REPLACEMENT, AS NECESSARY, SHALL BE WITH LIKE OR BETTER MATERIAL INSTALLED BY A LICENSED IRRIGATOR, AT THE CONTRACTOR'S EXPENSE.
- ALL VALVE BOXES SHALL BE SET TO MATCH FINISHED GRADE.
- THE CONTRACTOR SHALL FURNISH A TRAFFIC CONTROL PLAN, SEALED AND SIGNED BY A REGISTERED PROFESSIONAL ENGINEER, FOR ALL WORKING AREAS, TO THE PUBLIC WORKS DEPARTMENT FOR APPROVAL PRIOR TO THE PRE-CONSTRUCTION MEETING. TWO-WAY TRAFFIC MUST BE MAINTAINED AT ALL TIMES. ONE LANE TRAVEL AROUND CONSTRUCTION OPERATIONS IN PROGRESS WITH ADEQUATE SAFEGUARDS WILL BE ACCEPTABLE ON MINOR STREETS ONLY. ALL BARRICADES, WARNING SIGNS, LIGHT DEVICES, AND ETC., FOR THE GUIDANCE AND PROTECTION OF TRAFFIC AND PEDESTRIANS, MUST CONFORM TO THE INSTALLATION SHOWN IN THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION), TEXAS DEPARTMENT OF TRANSPORTATION.
- ALL TRENCH BACKFILL IN UNPAVED AREAS SHALL BE PLACED TO EXISTING GRADE PLUS SIX INCHES TO ALLOW FOR SETTLEMENT. HOWEVER, DRAINAGE SHALL BE MAINTAINED AT ALL TIMES.
- THE CONTRACTOR SHALL REMOVE FROM THE PROJECT AREA ALL SURPLUS MATERIAL. THIS SHALL BE INCIDENTAL AND NOT A SEPARATE PAY ITEM. SURPLUS MATERIALS FROM EXCAVATION INCLUDING DIRT, TRASH, ETC. SHALL BE PROPERLY DISPOSED OF AT A SITE AS APPLICABLE BY LAW.
- THE INSPECTION AND MAINTENANCE OF THE EROSION PREVENTION MEASURES SHALL BE THE CONTRACTOR'S RESPONSIBILITY THROUGHOUT ALL PHASES OF CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH THE EPA'S NPDES REGULATIONS 40-CFR-122, 123, 124 CONCERNING EROSION AND SEDIMENT CONTROL. THE CONTRACTOR WILL BE RESPONSIBLE FOR PREPARING A STORM WATER POLLUTION PREVENTION PLAN AND SUBMITTING A NOTICE OF INTENT "NOI" TO TCEQ 72 HOURS PRIOR TO BEGINNING CONSTRUCTION AND NOTICE OF TERMINATION "NOT" TO TCEQ UPON COMPLETION OF THE PROJECT.
- ALL TRENCH EXCAVATION SHALL BE IN ACCORDANCE WITH THE U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATOR'S STANDARDS. CONTRACTOR IS RESPONSIBLE FOR ALL TRENCH SAFETY. THE CONTRACTOR SHALL CONSTRUCT THE PROPOSED WORK UTILIZING A TRENCH SAFETY PLAN, PREPARED BY A PROFESSIONAL ENGINEER FOR THIS PROJECT. A TRENCH SAFETY PLAN SHALL BE SUBMITTED AT THE PRE-CONSTRUCTION MEETING.
- CONTRACTOR SHALL MAINTAIN SUITABLE CONSTRUCTION ACCESS TO THE ENGINEER AND THE TOWN OF ADDISON AT ALL TIMES DURING CONSTRUCTION.
- ALL BURIED VALVES, FIRE HYDRANTS, METALLIC PIPING, AND METALLIC EQUIPMENT SHALL BE WRAPPED IN ACCORDANCE WITH THE SPECIFICATIONS.
- SEWER LINES AND FORCE MAINS SHALL HAVE A MINIMUM COVER OF 42" BELOW FINISHED GRADE, UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL INSTALL STANDARD BENDS AT LOCATIONS SHOWN. ALL NON-STANDARD VERTICAL AND HORIZONTAL BENDS SHALL BE INSTALLED USING STANDARD BENDS AND 75% OF THE MAXIMUM ALLOWABLE JOINT DEFLECTIONS AND MINIMUM RADIUS AS RECOMMENDED BY THE PIPE MANUFACTURER.

- CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ALL EXISTING UTILITIES IN SERVICE DURING CONSTRUCTION.
- THE CONTRACTOR SHALL REMOVE ALL FENCES, LOCATED WITHIN EASEMENTS, INTERFERING WITH CONSTRUCTION OPERATION AND PROVIDE TEMPORARY FENCING DURING CONSTRUCTION. REMOVED FENCES SHALL BE REPLACED WITH A NEW FENCE OR UNDAMAGED ORIGINAL FENCING. ALL AFFECTED PROPERTY OWNERS SHALL BE NOTIFIED PRIOR TO CONSTRUCTION. REMOVAL AND REPLACEMENT OF EXISTING AND TEMPORARY FENCES SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT COST AND REFLECTED IN THE UNIT BID PRICES FOR VARIOUS ITEMS LISTED IN THE PROPOSAL.
- CONTRACTOR SHALL PROVIDE CLOSURE PIECES FOR PIPELINE AS REQUIRED TO CONSTRUCT THE BEGINNING WORK ON EACH PROPERTY. THIS LETTER SHALL INCLUDE NAMES AND TELEPHONE NUMBERS OF CONTRACTOR CONTACTS, A DESCRIPTION OF WORK TO BE DONE, AND THE TIME FRAME FOR DOING THE WORK. COPIES OF THE LETTER SHALL BE FORWARDED TO THE CITY INSPECTOR. THE CONTRACTOR SHALL NOTIFY RESIDENTS 48 HOURS IN ADVANCE OF PERFORMING ANY WORK ON PRIVATE PROPERTY. DISTRIBUTION OF LETTERS SHALL BE CONSIDERED AS SUBSIDIARY TO THE COST OF PROJECT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- THE CONTRACTOR MAY ELECT TO VIDEO ALL POTENTIALLY IMPACTED PRIVATE PROPERTY AREAS PRIOR TO WORK. VIDEOS SHALL INCLUDE DATE NOTATION AND AUDIO IDENTIFICATION OF PROPERTY ADDRESS AND MAIN/LATERAL NAME. THIS PRE-CONSTRUCTION VIDEO TAPING OF IMPACTED PROPERTIES SHALL BE CONSIDERED SUBSIDIARY WORK.
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING WATER AND SEWER CONNECTIONS TO ALL HOMES AND BUSINESSES IN WORKING ORDER AT ALL TIMES, EXCEPT FOR BRIEF INTERRUPTIONS IN SERVICE FOR SEWER SERVICES TO BE REINSTALLED. IN NO CASE SHALL SERVICES BE ALLOWED TO REMAIN OUT OF SERVICE OVERNIGHT.
- ALL DRIVEWAYS, WHICH ARE OPEN CUT, SHALL HAVE ACCESS PROVIDED AT ALL TIMES. THE TEMPORARY SURFACE WILL BE CONSIDERED A NON-PAY ITEM.
- THE CONTRACTOR IS RESPONSIBLE FOR KEEPING STREETS AND SIDEWALKS ADJACENT TO PROTECT FREE OF MUD AND DEBRIS FROM THE CONSTRUCTION.
- THE CONTRACTOR SHALL INSTALL TEMPORARY BACKFILL AS REQUIRED FOR OPEN TRENCH IN ESTABLISHED ROADWAYS. NO OPEN TRENCH WILL BE ALLOWED IN EXISTING PAVEMENT DURING DAYLIGHT HOURS DURING CONSTRUCTION OPERATIONS. TEMPORARY BACK FILL SHALL BE INSTALLED TO THE FINISHED GRADE OF THE EXISTING PAVEMENT AND SHALL BE MAINTAINED BY THE CONTRACTOR TO ENSURE A SMOOTH DRIVING SURFACE FREE OF RUTTING AND POTHOLES. REPAIR DAMAGED PAVEMENT IN ACCORDANCE WITH SPECIFICATIONS.
- THE CONTRACTOR SHALL COORDINATE WITH THE ELECTRIC UTILITY COMPANY TO PROVIDE SUPPORT OF POWER POLES DURING CONSTRUCTION, AT NO ADDITIONAL COST TO THE OWNER.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
POTABLE WATER STORAGE TANK
GENERAL CONSTRUCTION NOTES

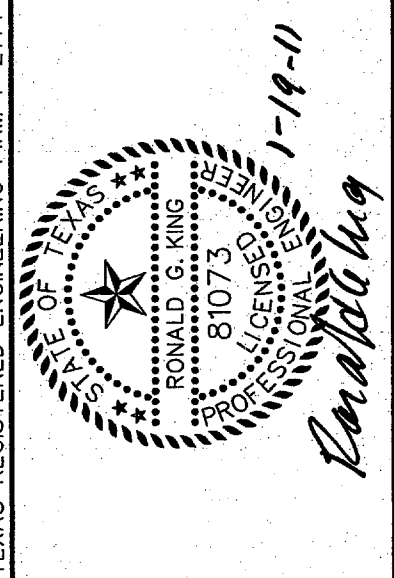
- THESE WATER STORAGE FACILITIES MUST BE CONSTRUCTED IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS 30 TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 290 SUBCHAPTER D.
- ALL FACILITIES FOR POTABLE WATER STORAGE SHALL BE COVERED AND DESIGNED, FABRICATED, ERRECTED, TESTED AND DISINFECTED IN STRICT ACCORDANCE WITH CURRENT AMERICAN WATER WORKS ASSOCIATION (AWWA) STANDARDS AND SHALL BE PROVIDED WITH THE MINIMUM NUMBER, SIZE AND TYPE OF ROOF VENTS, MAN WAYS, DRAINS, SAMPLE CONNECTIONS, ACCESS LADDERS, OVERFLOWS, LIQUID LEVEL INDICATORS AND OTHER APPURTENANCES AS SPECIFIED IN THESE RULES.
- ROOF VENTS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH CURRENT AWWA STANDARDS AND SHALL BE EQUIPPED WITH APPROVED SCREENS TO PREVENT ENTRY OF ANIMALS, BIRDS, INSECTS AND HEAVY AIR CONTAMINANTS. SCREENS SHALL BE FABRICATED OF CORROSION-RESISTANT MATERIAL AND SHALL BE 16-MESH OR FINER. SCREENS SHALL BE SECURELY CLAMPED IN PLACE WITH STAINLESS BANDS OR WIRES AND SHALL BE DESIGNED TO WITHSTAND WINDS OF NOT LESS THAN TANK DESIGN CRITERIA (UNLESS SPECIFIED OTHERWISE BY THE ENGINEER).
- ALL ROOF OPENINGS SHALL BE DESIGNED IN ACCORDANCE WITH CURRENT AWWA STANDARDS. EACH ACCESS OPENING SHALL HAVE A RAISED CURBING AT LEAST FOUR INCHES IN HEIGHT WITH A LOCKABLE COVER THAT OVERLAPS THE CURBING AT LEAST TWO INCHES IN A DOWNWARD DIRECTION. WHERE NECESSARY, A GASKET SHALL BE USED TO MAKE A POSITIVE SEAL WHEN THE HATCH IS CLOSED. ALL HATCHES SHALL REMAIN LOCKED EXCEPT DURING INSPECTIONS AND MAINTENANCE.
- OVERFLOWS SHALL BE DESIGNED IN STRICT ACCORDANCE WITH CURRENT AWWA STANDARDS AND SHALL TERMINATE WITH A GRAVITY HINGED AND WEIGHTED COVER. THE COVER SHALL FIT TIGHTLY WITH NO GAP OVER 1/16 INCH. IF THE OVERFLOW TERMINATES AT ANY POINT OTHER THAN THE GROUND LEVEL, IT SHALL BE LOCATED NEAR ENOUGH AND AT A POSITION ACCESSIBLE FROM A LADDER OR THE BALCONY FOR INSPECTION PURPOSES. THE OVERFLOW(S) SHALL BE SIZED TO HANDLE THE MAXIMUM POSSIBLE FILL RATE WITHOUT EXCEEDING THE CAPACITY OF THE OVERFLOW(S). THE DISCHARGE OPENING OF THE OVERFLOW(S) SHALL BE ABOVE THE SURFACE OF THE GROUND AND SHALL NOT BE SUBJECT TO SUBMERGENCE.
- ALL CLEARWELLS AND WATER STORAGE TANKS SHALL HAVE A LIQUID LEVEL INDICATOR LOCATED AT THE TANK SITE. THE INDICATOR SHALL BE AN PRESSURE TRANSDUCER / LEVEL INDICATOR, CALIBRATED IN FEET OF WATER. PRESSURE GAUGES MUST NOT BE LESS THAN THREE INCHES IN DIAMETER AND CALIBRATED AT NOT MORE THAN TWO-FOOT INTERVALS. REMOTE READING GAUGES AT THE OWNER'S TREATMENT PLANT OR PUMPING STATION WILL NOT ELIMINATE THE REQUIREMENT FOR A GAUGE AT THE TANK SITE UNLESS THE TANK IS LOCATED AT THE PLANT OR STATION.

- EACH CLEARWELL OR POTABLE WATER STORAGE TANK SHALL BE PROVIDED WITH A MEANS OF REMOVING ACCUMULATED SILT AND DEPOSITS AT ALL LOW POINTS IN THE BOTTOM OF THE TANK. DRAINS SHALL NOT BE CONNECTED TO ANY WASTE OR SEWAGE DISPOSAL SYSTEM AND SHALL BE CONSTRUCTED SO THAT THEY ARE NOT A POTENTIAL AGENT IN THE CONTAMINATION OF THE STORED WATER.
- ALL CLEAR WELLS, GROUND STORAGE TANKS, STANDPIPES, AND ELEVATED TANKS SHALL BE PAINTED, DISINFECTED, AND MAINTAINED IN STRICT ACCORDANCE WITH CURRENT AWWA STANDARDS. HOWEVER, NO TEMPORARY COATINGS, WAX GREASE COATINGS, OR COATING MATERIALS CONTAINING LEAD WILL BE ALLOWED. NO OTHER COATINGS WILL BE ALLOWED WHICH ARE NOT APPROVED FOR USE (AS A CONTACT SURFACE WITH POTABLE WATER) BY THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (EPA), NATIONAL SANITATION FOUNDATION (NSF), OR THE UNITED STATES FOOD AND DRUG ADMINISTRATION (FDA). ALL NEWLY INSTALLED COATINGS MUST CONFORM TO ANSI/NSF STANDARD 61 AND MUST BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY ANSI.
- NO TANKS OR CONTAINERS SHALL BE USED TO STORE POTABLE WATER THAT HAVE PREVIOUSLY BEEN USED FOR ANY NON-POTABLE PURPOSE. WHERE A USED TANK IS PROPOSED FOR USE, A LETTER FROM THE PREVIOUS OWNER OR OWNERS MUST BE SUBMITTED TO THE COMMISSION WHICH STATES THE USE OF THE TANK.
- ACCESS MANWAYS IN THE RISER PIPE, SHELL AREA, ACCESS TUBE, BOWL AREA OR ANY OTHER LOCATION OPENING DIRECTLY INTO THE WATER COMPARTMENT SHALL BE LOCATED IN STRICT ACCORDANCE WITH CURRENT AWWA STANDARDS. WHERE NECESSARY, FOR ANY ACCESS MANWAY WHICH ALLOWS DIRECT ACCESS TO THE WATER COMPARTMENT, A GASKET SHALL BE USED TO MAKE A POSITIVE SEAL WHEN THE ACCESS MANWAY IS CLOSED.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
WATER DISTRIBUTION SYSTEM
WATER LINE GENERAL CONSTRUCTION NOTES

- THIS WATER DISTRIBUTION SYSTEM MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS 30 TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 290 SUBCHAPTER D.
- ALL NEWLY INSTALLED PIPES AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE/NATIONAL SANITATION FOUNDATION (ANSI/NSF) STANDARD 61 AND MUST BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY ANSI.
- PLASTIC PIPE FOR USE IN PUBLIC WATER SYSTEMS MUST BEAR THE NATIONAL SANITATION FOUNDATION SEAL OF APPROVAL (NSF-PW) AND HAVE AN ASTM DESIGN PRESSURE RATING OF AT LEAST 235 PSIOR A STANDARD DIMENSION RATIO OF 26 OR LESS.
- NO PIPE WHICH HAS BEEN USED FOR ANY PURPOSE OTHER THAN THE CONVEYANCE OF DRINKING WATER SHALL BE ACCEPTED OR RELOCATED FOR USE IN ANY PUBLIC DRINKING WATER SUPPLY.
- WATER TRANSMISSION AND DISTRIBUTION LINES MUST BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. HOWEVER, THE TOP OF THE WATER LINE MUST BE LOCATED BELOW THE FROST LINE AND IN NO CASE SHALL THE TOP OF THE WATER LINE BE LESS THAN 42 INCHES BELOW GROUND SURFACE.
- THE HYDROSTATIC LEAKAGE RATE SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY AWWA FORMULA FOR PVC PIPE: $L = (N)(D)/(P)/7,400$. THE FORMULA FOR DUCTILE OR CAST IRON PIPE IS $L = (S)(D)/(P)/133,200$.
- THE USE OF PIPES AND PIPE FITTINGS THAT CONTAIN MORE THAN 8.0% LEAD OR SOLDER AND FLUX THAT CONTAINS MORE THAN 0.2% LEAD IS PROHIBITED IN THE FOLLOWING CIRCUMSTANCES FOR INSTALLATION OR REPAIR OF ANY PUBLIC WATER SUPPLY AND FOR INSTALLATION OR REPAIR OF ANY PLUMBING IN A RESIDENTIAL OR NONRESIDENTIAL FACILITY PROVIDING WATER FOR HUMAN CONSUMPTION AND CONNECTED TO A PUBLIC DRINKING WATER SUPPLY SYSTEM.
- THE CONTRACTOR SHALL INSTALL APPROPRIATE AIR RELEASE DEVICES IN THE DISTRIBUTION SYSTEM AT ALL POINTS WHERE TOPOGRAPHY OR OTHER FACTORS MAY CREATE AIR LOCKS IN THE LINES. ALL VENT OPENINGS TO THE ATMOSPHERE SHALL BE COVERED WITH 16-MESH OR FINER, CORROSION RESISTANT SCREENING MATERIAL OR AN ACCEPTABLE EQUIVALENT.
- THE SYSTEM SHALL BE DESIGNED TO AFFORD EFFECTIVE CIRCULATION OF WATER WITH A MINIMUM OF DEAD ENDS. ALL DEAD-END MAINS SHALL BE PROVIDED WITH ACCEPTABLE FLUSH VALVES AND DISCHARGE PIPING. ALL DEAD-END LINES LESS THAN TWO INCHES IN DIAMETER WILL NOT REQUIRE FLUSH VALVES IF THEY END AT A CUSTOMER SERVICE. WHERE DEAD ENDS ARE NECESSARY AS A STAGE IN THE GROWTH OF THE SYSTEM, THEY SHALL BE LOCATED AND ARRANGED TO ULTIMATELY CONNECT THE ENDS TO PROVIDE CIRCULATION.
- THE CONTRACTOR SHALL MAINTAIN A MINIMUM SEPARATION DISTANCE IN ALL DIRECTIONS OF NINE FEET BETWEEN THE PROPOSED WATERLINE AND WASTEWATER COLLECTION FACILITIES INCLUDING MANHOLES AND SEPTIC TANK DRAINFIELDS. IF THIS DISTANCE CANNOT BE MAINTAINED, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE PROJECT ENGINEER FOR FURTHER DIRECTION. SEPARATION DISTANCES, INSTALLATION METHODS, AND MATERIALS UTILIZED MUST MEET §290.44(E) OF THE CURRENT RULES.
- THE CONTRACTOR SHALL NOT PLACE THE PIPE IN WATER OR WHERE IT CAN BE FLOODED WITH WATER OR SEWAGE DURING ITS STORAGE OR INSTALLATION.
- THE CONTRACTOR SHALL DISINFECT THE NEW WATER MAINS IN ACCORDANCE WITH AWWA STANDARD C651 AND THEN FLUSH AND SAMPLE THE LINES BEFORE BEING PLACED INTO SERVICE. SAMPLES SHALL BE COLLECTED FOR MICROBIOLOGICAL ANALYSIS TO CHECK THE EFFECTIVENESS OF THE DISINFECTION PROCEDURE WHICH SHALL BE REPEATED IF CONTAMINATION PERSISTS. A MINIMUM OF ONE SAMPLE FOR EACH 1,000 FEET OF COMPLETED WATER LINE WILL BE REQUIRED OR AT THE NEXT AVAILABLE SAMPLING POINT BEYOND 1,000 FEET AS DESIGNATED BY THE DESIGN ENGINEER.

TEXAS REGISTERED ENGINEERING FIRM F-2144



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Fax: (940) 357-4677
Web: www.freese.com

TOWN OF ADDISON, TEXAS
SURVEYOR 1.5 MG EST

CIVIL

GENERAL NOTES

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