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100% CONSTRUCTION DOCUMENTS

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LANDSCAPE ARCHITECT

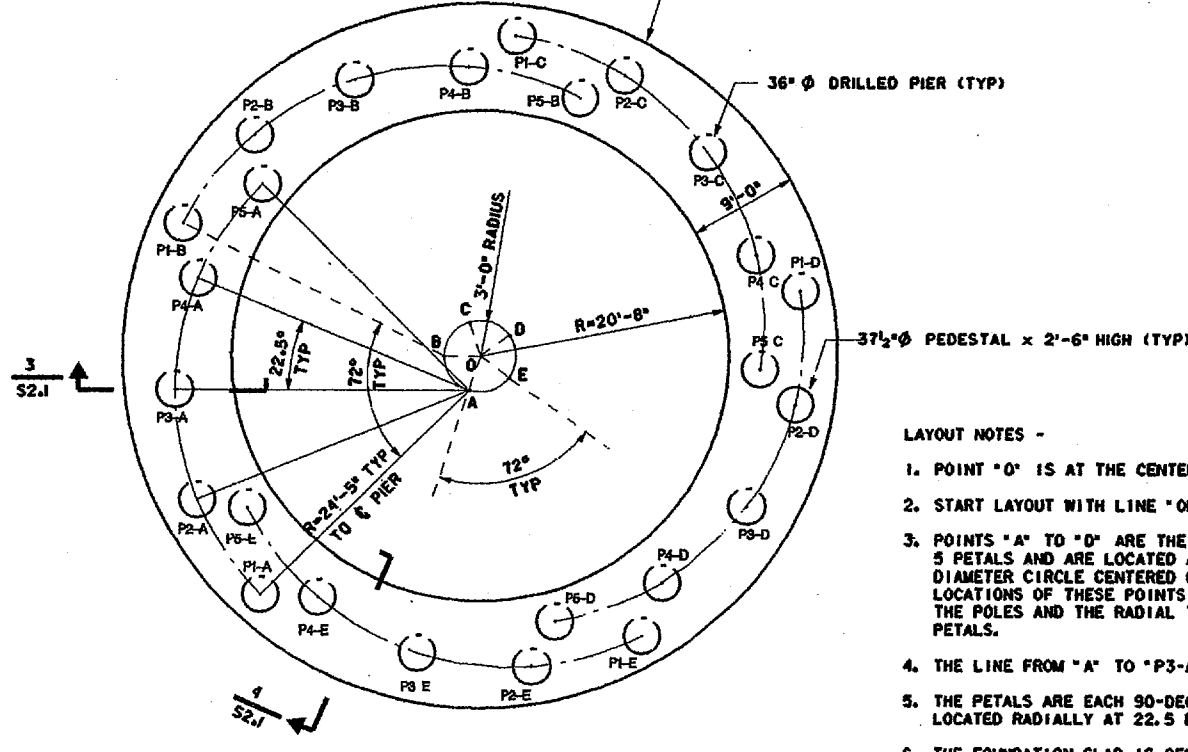
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**Metal Sculpture
Foundation Plan
Details and Notes**

JOB NUMBER: 98275 DRAWING NUMBER:
DATE: 12 AUG 1998
SCALE: AS NOTED
DRAWN BY: WCY
CHECKED BY: DFS

S1.01

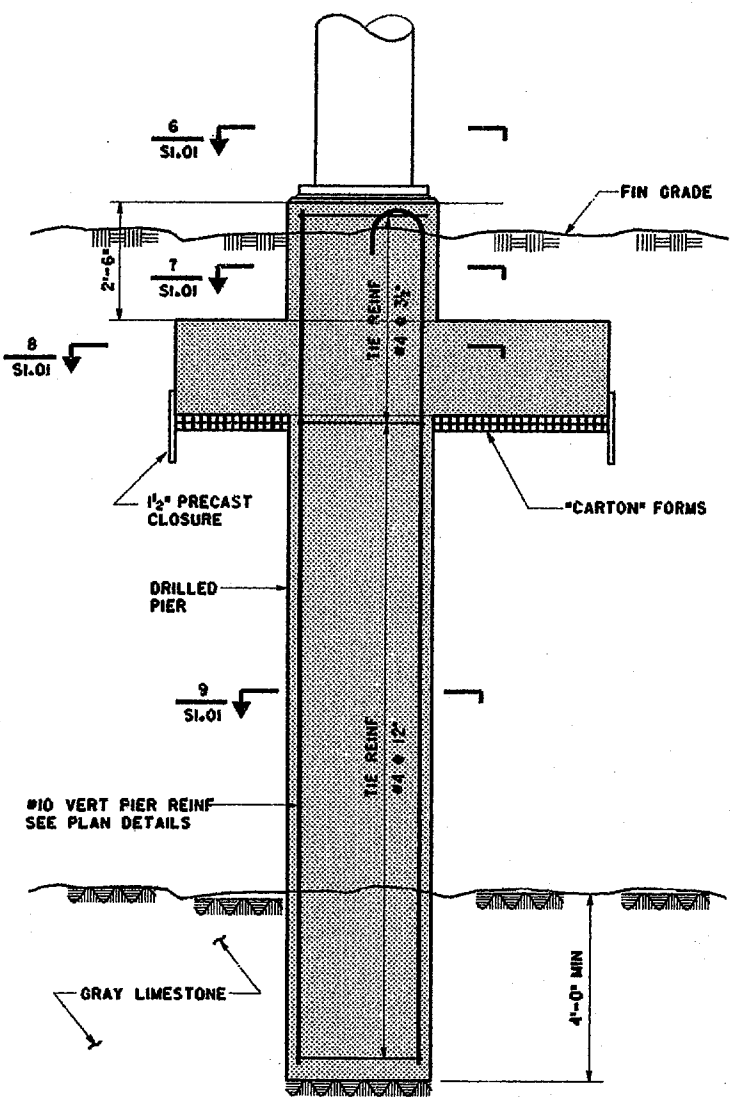
- A - GENERAL**
- A1 THE CONTRACTOR SHALL SUBMIT COMPLETE SHOP DRAWINGS FOR ALL PARTS OF THE WORK, NO PERFORMANCE OF THE WORK SHALL COMMENCE WITHOUT REVIEW OF THE SHOP DRAWINGS BY THE LANDSCAPE ARCHITECT.
- B - DESCRIPTION OF SCULPTURE**
- B1 THE TOTAL SCULPTURE IS COMPOSED OF 5 STRUCTURALLY INDEPENDENT BUT IDENTICAL PETALS.
- B2 EACH PETAL IS SUPPORTED BY 5 PIPE POLES WHICH ARE IDENTICAL EXCEPT FOR THE LENGTH OF THE STRAIGHT PORTION AT THE BASE.
- B3 THE POLES ARE CONNECTED BY TRUSS PANELS WHICH IN TURN SUPPORT AN ARTWORK LAYER DIRECTLY ATTACHED TO THE BOTTOM SURFACE OF THE PANELS.
- B4 POLES -
(A) POLES ARE MADE UP FROM WELDED SEGMENTS OF 24" HIGH-STRENGTH LINE PIPE (.625" WALL) AND AN APPROX 30 FOOT LENGTH OF TAPERED PIPE AT THE TOP (.375" WALL).
- (B) THE MIDDLE SECTION OF THE POLE IS BENT AT A CONSTANT RADIUS OF 25'-7" AT THE CENTERLINE OF THE 24" PIPE.
- (C) THE FINISHED POLE IS PLANAR.
- B5 TRUSS PANELS -
(A) THERE ARE 4 IDENTICAL PIPE TRUSS PANELS IN EACH PETAL.
- (B) ALTHOUGH THE OVERALL TRUSS PANELS ARE CURVED AND WARPED, ALL INDIVIDUAL PIPES IN EACH PANEL ARE STRAIGHT.
- (C) EACH PANEL IS COMPOSED OF TWO LAYERS OF 2 1/2" PIPE CONNECTED BY 1 1/4" LONG 2 1/2" SPACER PIPES. ALL SPACER PIPES ARE PERPENDICULAR TO THE HORIZONTAL PLANE.
- (D) ALL RADIAL PIPES ARE IDENTICAL, (23 FEET LONG).
- (E) CURVES ARE MADE UP OF APPROX. 5 FOOT STRAIGHT 2 1/2" PIPES WELDED TO THE RADIAL PIPES. THE INFILL PIPES IN EACH OF THE 5 RINGS ARE IDENTICAL EXCEPT AT THE SUPPORTS.
- (F) EACH RADIAL PIPE HAS THE SAME ANGLE TO THE HORIZONTAL PLANE BUT IS OFFSET IN ELEVATION. THE TOTAL VERTICAL OFFSET FROM ONE SIDE OF A PANEL TO THE OTHER IS 2'-8".
- (G) WELDED TRUSS JOINTS MUST DEVELOP THE FULL BENDING CAPACITY OF THE PIPES.
- C - FOUNDATIONS**
- C1 NO RESPONSIBILITY IS ASSUMED BY THE LANDSCAPE ARCHITECT FOR THE VALIDITY OF THE SUBSURFACE CONDITIONS DESCRIBED ON THE DRAWINGS, SPECIFICATIONS OR TEST BORINGS IN THE GEOTECHNICAL REPORT. THESE DATA ARE INCLUDED ONLY TO ASSIST THE CONTRACTOR DURING BIDDING AND SUBSEQUENT CONSTRUCTION AND REPRESENT CONDITIONS ONLY AT THESE SPECIFIC LOCATIONS AT THE PARTICULAR TIME THEY WERE MADE.
- C2 DESIGN PENETRATION OF DRILLED SHAFTS INTO GRAY LIMESTONE IS 4 FEET.
- C3 EXCAVATIONS OF DRILLED SHAFTS SHALL BE MAINTAINED IN THE DRY.
- C4 COMPLETE INSTALLATION OF INDIVIDUAL SHAFTS WITHIN 8 HOURS AFTER THE DESIGN PENETRATION INTO THE GRAY LIMESTONE IS BEGUN.
- C5 IMMEDIATELY BEFORE FILLING WITH CONCRETE, THE DRILLED SHAFTS MUST BE INSPECTED BY THE OWNER'S REPRESENTATIVE FOR VERIFICATION OF BEARING SURFACE.
- D - CONCRETE**
- D1 CONCRETE WORK SHALL CONFORM TO "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318-95)," AND "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS (ACI 301-95)."
- D2 CONCRETE SHALL BE CONTROLLED CONCRETE, PROPORTIONED, MIXED, AND PLACED IN THE PRESENCE OF A REPRESENTATIVE OF THE OWNER'S TESTING AGENCY.
- D3 CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH 4000 PSI (NORMALWEIGHT).
- E - REINFORCEMENT**
- E1 REINFORCEMENT WORK OF DETAILING, FABRICATION, AND ERECTION SHALL CONFORM TO "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318-95)," "ACI DETAILING MANUAL-1988 (SP-66)," "CRSI MANUAL OF STANDARD PRACTICE (MSP 1-90)," AND "STRUCTURAL WELDING CODE - REINFORCING STEEL (AWS D1.4-92)."
- E2 STEEL REINFORCEMENT, UNLESS NOTED OTHERWISE, SHALL CONFORM TO ASTM A615 GRADE 60.
- E3 PROVIDE AND SCHEDULE ON SHOP DRAWINGS THE NECESSARY ACCESSORIES TO HOLD REINFORCEMENT SECURELY IN POSITION. MINIMUM REQUIREMENTS SHALL BE HIGH CHAIRS, 4'-0" O.C. WITH CONTINUOUS #5 SUPPORT BARS. SLAB BOLTERS, CONTINUOUS AND 3'-0" O.C.
- E4 MINIMUM CONCRETE PROTECTIVE COVERING FOR REINFORCEMENT, UNLESS NOTED OTHERWISE, SHALL BE 2" FOR FORMED SURFACES AND 3" FOR SURFACES IN CONTACT WITH GROUND.
- E5 REINFORCEMENT SHALL BE CONTINUOUS THROUGH CONSTRUCTION JOINTS.
- E6 REINFORCEMENT SHALL NOT BE TACK WELDED.
- E7 INSTALLATION OF REINFORCEMENT SHALL BE COMPLETED AT LEAST 24 HOURS PRIOR TO THE SCHEDULED CONCRETE PLACEMENT. NOTIFY LANDSCAPE ARCHITECT OF COMPLETION AT LEAST 24 HOURS PRIOR IN ADVANCE OF PLACEMENT.
- F - STRUCTURAL STEEL**
- F1 STRUCTURAL STEEL WORK SHALL CONFORM TO "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (AISC 1989)," "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS & BRIDGES AND "STRUCTURAL WELDING CODE - STEEL (AWS D1.1-94)."
- F2 STRUCTURAL STEEL SHALL BE DETAILED IN ACCORDANCE WITH "DETAILING FOR STEEL CONSTRUCTION (AISC)."
- F3 STRUCTURAL STEEL SHALL BE NEW STEEL CONFORMING TO THE FOLLOWING:
(A) PLATES AND TAPERED PIPE..... ASTM A572 GRADE 50 (Fy = 50 KSI)
(B) ARTWORK TUBES..... ASTM A500 GRADE B (Fy = 46 KSI)
(C) PIPES..... API 5L X60 (Fy = 60 KSI)
(D) BOLTS, ANCHOR BOLTS..... ASTM A325
(E) MISC ARTWORK LAYER MEMBERS..... ASTM A36
- F4 ANCHOR BOLTS SHALL BE LOCATED AND BUILT INTO FOUNDATIONS, PRESET BY TEMPLATES.
- F5 WELDED CONNECTIONS SHALL BE MADE BY APPROVED CERTIFIED WELDERS USING FILLER METAL CONFORMING TO ERW OR F7X-ERWX WITH LOW HYDROGEN.
- F6 WELDS SHALL DEVELOP THE FULL STRENGTH OF THE MATERIALS BEING WELDED, UNLESS NOTED OTHERWISE.
- F7 FILLET WELDS SHALL BE A MINIMUM OF 1/4" UNLESS SPECIFICALLY APPROVED.
- F8 FIELD CUTTING OF STRUCTURAL STEEL OR ANY FIELD MODIFICATIONS OF STRUCTURAL STEEL SHALL NOT BE MADE WITHOUT PRIOR WRITTEN APPROVAL BY LANDSCAPE ARCHITECT FOR EACH SPECIFIC CASE.
- F9 ATTACH ARTWORK LAYER (SHOWN ON "A" SERIES DRAWINGS) TO BOTTOM CHORDS OF PIPE TRUSSES.
- F10 ARTWORK LAYER WEIGHT NOT TO EXCEED 10,000# PER PETAL.
- F11 ARTWORK LAYER CONNECTIONS TO BE DESIGNED BY FABRICATOR FOR A LOAD OF 4 TIMES THE SELFWEIGHT LOAD OF THE ARTWORK.
- F12 NEOPRENE PADS SHALL BE USED AS REQUIRED BETWEEN THE TRUSS CHORD AND THE ARTWORK LAYER FOR SOUND ATTENUATION.
- F13 MODIFY ARTWORK MEMBERS AS REQUIRED, OR ADD ADDITIONAL STIFFENING TO KEEP SELFWEIGHT DEFLECTION OF ARTWORK LESS THAN 1/8" BETWEEN SUPPORTS.
- F14 PIPE SPLICES TO BE FULL PENETRATION WELDED AND GROUND SMOOTH.
- F15 BENDING PROCESS SHALL MAINTAIN SPECIFIED YIELD STRENGTH OF PIPES.
- G - ERECTION NOTES**
- G1 PROVIDE SHORING AND GUYS FOR TEMPORARY SUPPORT OF POLES DURING ERECTION.
- G2 SHORING MAY NOT BE REMOVED FROM A PARTICULAR POLE UNTIL REQUIRED ANCHOR BOLT WORK IS COMPLETE.
- G3 ERECT TRUSS PANELS AS ONE COMPLETE UNIT, PREFERABLY WITH ARTWORK ALREADY ATTACHED.
- G4 IN ORDER TO MINIMIZE SHEAR ON FOUNDATIONS, ERECT ONLY ONE OF THE FOUR TRUSS PANELS ON A PETAL UNTIL ALL POLES HAVE BEEN ERECTED.
- G5 SINCE THE OUTER POLES WILL MOVE LATERALLY TOWARDS THE CENTER POLE IN A PETAL WHEN THE TRUSS LOAD IS APPLIED, TEMPORARY SHORING MAY FACILITATE FINAL TRUSS ERECTION. FINAL BOLT UP SHOULD FIRST BE DONE AT THE CENTER POLE AND THEN PROCEED ALTERNATELY TO THE OUTSIDE EDGES TO MINIMIZE LATERAL SHIFT. PROVIDE GUYED SUPPORT TO CENTER POLE DURING TRUSS ERECTION.
- H - DESIGN LOADS (PER PETAL)**
- H1 DEAD LOAD
(A) SELFWEIGHT OF POLES AND TRUSSES.....57 KIPS
(B) ARTWORK LAYER ALLOWANCE.....10 KIPS
- H2 LIVE LOAD
(A) ICE LOADING.....56 KIPS
- H3 WIND LOAD
(A) FROM ANY DIRECTION (36 PSF).....33 KIPS



FOUNDATION PLAN

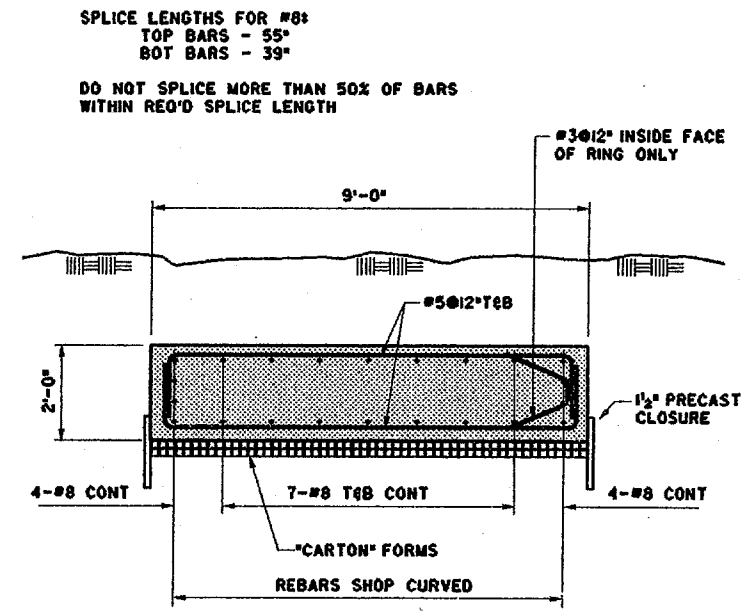
- LAYOUT NOTES -
1. POINT "O" IS AT THE CENTER OF THE SCULPTURE.
 2. START LAYOUT WITH LINE "OB" HORIZONTAL.
 3. POINTS "A" TO "E" ARE THE ARC CENTERS OF THE 5 PETALS AND ARE LOCATED AS SHOWN ON A 3 FOOT DIAMETER CIRCLE CENTERED ON "O". THE PLAN LOCATIONS OF THESE POINTS ARE USED TO LAY OUT THE POLES AND THE RADIAL TRUSS MEMBERS OF THE PETALS.
 4. THE LINE FROM "A" TO "P3-A" IS PARALLEL TO "OB".
 5. THE PETALS ARE EACH 90-DEGREE ARCS WITH POLES LOCATED RADIALLY AT 22.5 DEGREE INCREMENTS.
 6. THE FOUNDATION SLAB IS CENTERED ON POINT "O".

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



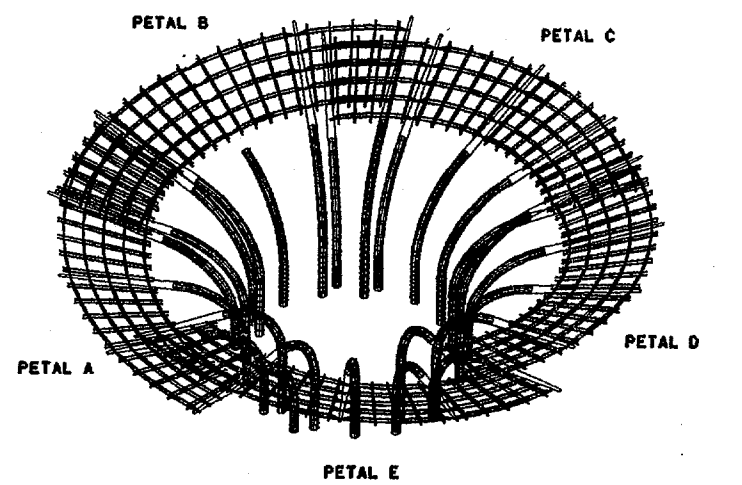
SECTION THRU PIER

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



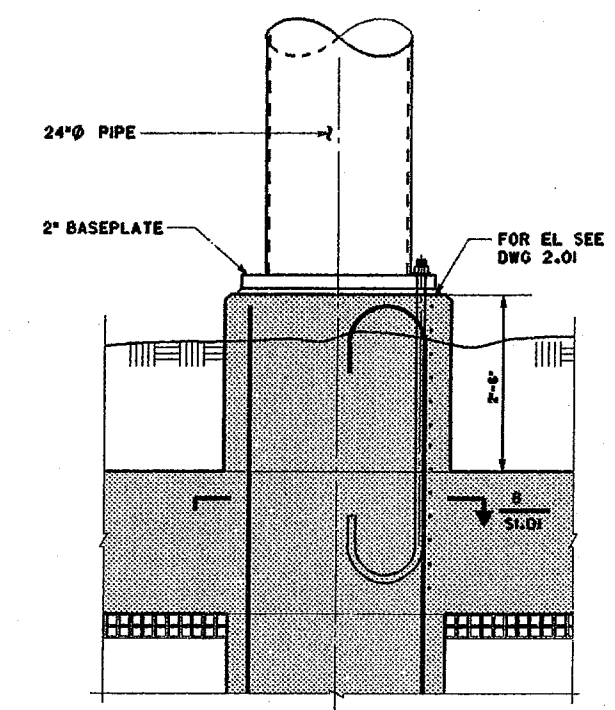
SECTION THRU SLAB

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



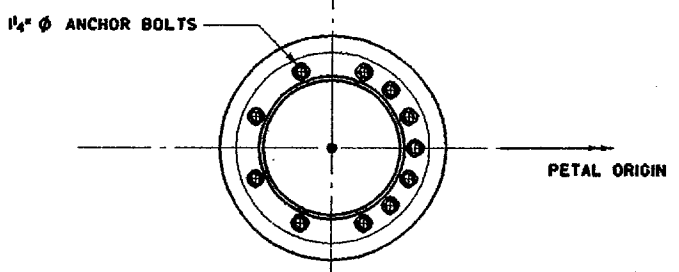
PERSPECTIVE OF SCULPTURE

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



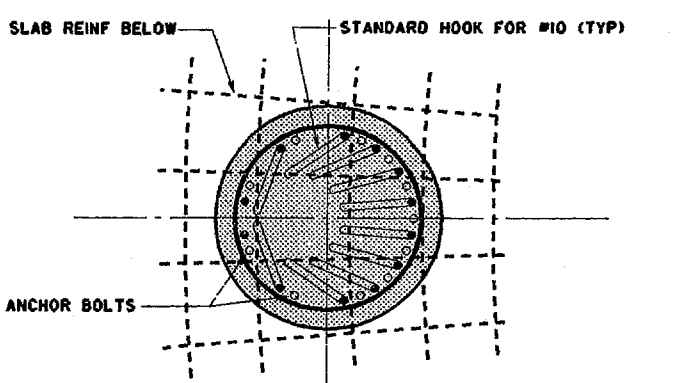
SECTION THROUGH PEDESTAL

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



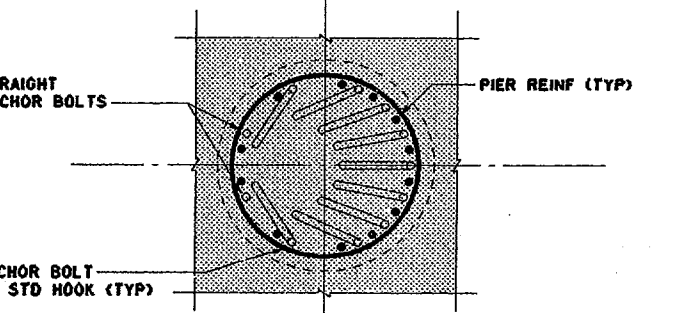
POLE BASE PLATE PLAN

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



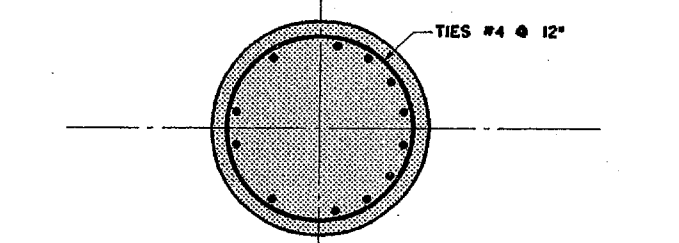
PEDESTAL PLAN SECTION

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



PIER PLAN SECTION AT SLAB

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



PIER PLAN SECTION

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