ADDENDUM NO. 3

Florida City CDBG NR FFY 2023-2024 WTP Water Tank Repairs
ENGINEER'S PROJECT NUMBER: 26-0.19.02

April 02, 2026

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1. We are providing additional specifications and construction plans of the elevated spheroid water tank to offer further clarification and to assist contractors in preparing an accurate estimate. Check the attached documents.

CBI

CBI PROJECT SPECIFICATION

Foundation Construction

500 MG X 137' TCL Waterspheroid

Florida City, FL

CBI Contract 941085

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RL	DJN		CHKD	
DATE 24MAR95	DATE 24MAR95		DATE	

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REFERENCE DOCUMENTS

ACI 301-89 Specifications for Structural Concrete for Buildings

Project Manual Prepared by AB_2 MT Consultants, Inc. dated August 1, 1994

Subsurface Exploration Report by ATEC Associates, Inc.
ATEC Project No. 70-02-00206 dated July 21, 1994

DEFINITIONS

0.1 **Owner:** City of Florida City
Florida City, FL

0.2 **Engineer:** AB_2 MT Consultants, Inc.
9400 South Dadebud Blvd., Suite 370
Miami, FL 33156
Attn: Mr. Richard Kollar
Ph: 305-670-1011
Fax: 305-670-1016

0.3 **Designer:** Chicago Bridge and Iron
Technical Services Company
One Perimeter Park South
Suite 400-S
Birmingham, AL 35243
Attn: Mr. Jerry Turner
Ph: 205-969-9200
Fax: 205-969-9205

0.4 **Contractor:** CBI Na-Con, Inc.
4795 South Old Peachtree Rd.
Norcross, GA 30071
Attn: Mr. Phil Mullen
Ph: 404-446-0036
Fax: 404-449-5206

0.5 **Geotechnical Engineer:** ATEC Associates, Inc.
9955 NW 116 Way, Suite 1
Miami, FL 33178
Attn: Ms. Jeanette Owens, P.E.
Ph: 305-882-8200
Fax: 305-882-1200

0.6 **Subcontractor:**
The term, Subcontractor, shall mean the party retained by the Contractor to perform any or all work covered by this Specification. The term shall also mean the same as "Contractor" in ACI 301-89 for contracted work.

0.7 **Inspector:**
The term, Inspector, shall mean the authorized representative of the Engineer or Contractor assigned to make a detailed inspection of any or all portions of the work, or to obtain samples of materials used therein.

0.8 The term, "Designer" as used here shall mean the same as "Architect/Engineer" in ACI 301-89.

0.9 Pile installation is CBI Class III work requiring full time inspection. A representative of the geotechnical engineer and the contractor must be on-site during all auger cast pile installation procedures. Additionally, the Designer will be present during pile test procedures. Concrete construction of ring beam foundation, vault and other structures is CBI Class II work.

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1.0 This specification covers the detail foundation requirements for all earthwork and concrete construction for the elevated water storage tank foundation. All work shall be done in compliance with this Project Specification, the Specifications referenced in this Project Specification and CBI Contract Drawings.

2.0 **Excavation and Backfilling**

Excavation and backfilling shall conform to the requirements of CBI General Specification 541-7-1 except as modified by the supplemental requirements listed below.

2.1 Excavation

Excavation shall proceed to the base elevation of the pile cap and across the entire area of the cap, after the auger-cast piles have been installed.

2.2 Backfilling

All fill placed outside the ringwall shall be common backfill as described in CBI General Specification 541-7-1, except maximum grain size should be 1 inch. All fill placed inside the ringwall shall be structural backfill as described below.

2.3 Structural Backfill

The structural backfill shall be a well-graded granular material that conforms to one of the following classifications of the ASTM D3282-73 Specification: A-1, A-2 subgroups A-2-4 or A-2-5; or A-3 with a maximum grain size of 1", and shall be compacted by mechanical tamping or rolling to a minimum dry density of 95% of the maximum dry density as determined by ASTM D1557-78 (Modified Proctor Density Test), but the dry weight in-place shall not be less than 110 pounds per cubic foot.

2.4 Backfill for manhole and appurtenance excavation and pipe trenches shall conform to the Owner's detail shown on W.W. 4.7 of the Project Manual.

3.0 **Cast-In-Place Concrete**

All concrete work shall conform to Section 545, Concrete Construction.

4.0 **Piling**

Work shall conform to OFE 543-1-9, Auger Cast Piling Installation; except as modified by the following additional requirements.

4.1 Additional Requirements

1. All piles shall be 16" ϕ Auger Cast Piles. The required pile length will be approximately 40 ft, measured beneath existing grade. The pressure-grouted auger cast piles shall be constructed using f'c = 4500 psi. The pile capacity is 120 tons.

2. Contractor shall notify the Engineer and Designer one week prior to commencement of construction activities and, again, seventy-two (72) hours prior to placement of piles.

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3. The piling Subcontractor shall submit the following items to the Designer thru the Contractor at least 7 working days prior to the start:

   a. Experience list (10 years minimum experience required with last 2 years reported).

   b. Equipment, personnel & personnel experience; subcontractors foreman/ superintendent on site shall have at least 8 years experience.

   c. Detailed Installation procedure, sequences and methods of operation.

   d. Methods of Quality Control/Quality Assurance used i.e. checklist, inspection forms, data records.

4. At least one non-production auger cast pile shall be load tested in accordance with OFE 543-1-2 Static Pile Load Test. Piles shall be load tested in compression to 240 tons and 60 tons in tension.

5. Final installation criteria shall be determined after the load test data has been reviewed by the Designer.

6. The General Contractor shall provide a full-time Inspector to record and maintain all pile logs. Information required to be recorded is found in Section 9.0 of OFE 543-1-9. The Inspector shall also measure and record the as-installed pile locations. The Designer shall be informed immediately of piles placed outside of the following tolerances:

   a. The center of the pile shall be located ± 2" from the specified radius.

   b. The angular variation (chord dimension) between adjacent piles shall be ± 4" or less.

7. The production pile logs shall be sent to the Designer upon completion of pile installation. Any erratic pile installation results shall be reported to the Designer immediately.

1 8. An uplift connector consisting of 2 #7 rebar as detailed in the foundation drawings shall be inserted in each pile before the grout has set.

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0.1 Scope: This specification covers all material, equipment and labor required for the completion of all plain and reinforced cast-in-place concrete work shown on the Contract Drawings.

This specification is to be worked with the Contract Drawings and all other applicable contract instructions and specifications.

0.2 Standard of Concrete Work: Concrete work shall conform to all requirements of ACI 301-89, Specifications for Structural Concrete for Building, except as modified by the Supplemental Requirements listed below. The following paragraphs are numbered to correspond to ACI 301.

2.2 Admixtures: Admixtures containing calcium chloride may not be used. Water reducing admixtures meeting the requirements of ASTM C494 are permitted if used in accordance with the manufacturer's instruction. Retarding admixtures meeting the requirements of ASTM C494 are permitted when specifically approved by the Designer.

3.2 Compressive Strength: The specified compressive strength (f'c) of the concrete shall be as shown on the Contract Drawings.

3.4.1 Unless otherwise specified below, all concrete shall be proportioned to resist destructive exposure, and shall be air entrained as indicated below.

3.5 - 6.5% air entrainment.

3.5 Concrete shall be placed at a slump of 4 inches or less except as specified below.

Not less than 1 inch or more than 3 inches.

All concrete shall be consolidated by internal vibration.

3.6 Concrete aggregate shall meet the requirements of this section and the maximum size of coarse aggregate shall be 1-1/2" unless otherwise specified below.

Maximum size aggregate shall be 1".

3.7 Admixtures containing calcium chloride shall not be used.

3.9 Proportioning: Concrete materials shall be proportioned according to this section, except as specified below.

Proportioning based on empirical data (Section 3.10) shall not be used unless approved by Designer.

Minimum cement content shall be 564 lbs. per cubic yard.
Maximum water content ratio by weight shall be 0.44
for auger piles: f'c = 4500 psi
for structures: f'c = 4000 psi

4.1.3 Earth cuts may be used as forms for vertical surfaces when shown on the drawing or approved by the Designer and when the procedures and requirements listed below are met.

a The horizontal dimensions of the foundation at any point shall not vary from those shown on the Contract Drawings by more than 10% or 4", whichever is greater.

b At least 3" of cover for reinforcing must be provided where the concrete is cast against earth.

c Before concrete is placed the earth forming vertical walls shall be well drenched.

d The earth forming the vertical walls must be able to stand vertically during the construction period and when wetted down prior to the placing of concrete.

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4.3.1 Concrete shall be constructed to the tolerances shown on the Contract Drawings. Where tolerances are not provided on the Contract Drawings, the tolerances in **Table 4.3.1** shall be followed. Polygonal shaped footings and walls with a minimum of 16 sides may be substituted for circular shaped footings and ringwalls shown on the contract drawings, provided that: a) polygons circumscribe the circles which compose the outer edges of the footing and ringwall, b) polygons are circumscribed by the circles which compose the inner edges of the footing and ringwall.

4.4.2.1 Field applied release agents or sealers may not be applied to those forms used for forming of construction joints.

5.2 Types and grades of reinforcing steel shall be as shown on the Contract Drawings.

5.4 Welding of reinforcing steel is allowed only where shown on the Contract Drawings, unless specifically approved by the Designer in writing.

5.7.7 Reinforcement shall not be bent in hardened concrete, unless specifically approved by the Designer in writing.

6.1.1 Construction joints will be allowed only where shown on the Contract Drawings, unless specifically approved by the Designer in writing. The Designer shall also provide in writing the method of obtaining bond between old concrete and fresh concrete. When unplanned construction joints become necessary during the placement, they shall be installed in accordance with instructions provided by the Designer.

6.1.4 When bonding is required, the method used to obtain bond at construction joints shall be as shown on the Contract Drawings.

7.1 Ready-Mix Concrete: Concrete shall be purchased in accordance with ASTM C94 Option: C.

8.1.4 Concrete shall not be placed on any surface colder than 35° F.

9.1 Surface Defects: Surface defects which expose reinforcing steel or which indicate that a cold joint may exist shall not be repaired until approval of the Designer has been received in writing.

10.1 Finishes on Formed Surfaces: A smooth form finish shall be used for all formed surfaces to a distance of 1'–0 below final grade.

10.5 Surfaces to be grouted shall be given a rough but even finish with laitance removed to provide good bond between grout and foundations.

16.2 Testing Laboratory: The testing laboratory shall be retained by:

The Owner

16.3.4.4 Frequency of Strength Tests: Strength tests shall be made on each day's placement and at intervals that will satisfy the strictest of the following conditions:

a. At least one strength test shall be made for each day concrete is placed.
b. One test will be performed for every 25 cubic yards of concrete.
c. At least two strength tests shall be made during placement of the ringbeam.
d. At least one strength test shall be made during the placement of the floor slab.

A test shall consist of 3 cylinders: one to be tested at 7 days and the remaining 2 to be tested at 28 days.

Test cubes will be required for the Auger Cast pile mortar. Test frequency, and number of cubes is detailed in Auger Cast Pile Installation OFE 543-1-9 of this Specification.

16.3.6 The provisions of this section shall be followed unless otherwise specified below.

Only as required by the Inspector.

16.3.8 The provisions of this section shall be followed unless otherwise specified below.

Only as required by the Inspector.

16.6.2 Two copies of certified test reports of each test shall be forwarded to:

The Designer and the Engineer.

16.7.3 Two copies of the proposed mix design and concrete materials shall be submitted for approval at least one week prior to placing of concrete to:
The Designer and the Engineer.

16.7.4.4 Mill Test Reports: For individual structures requiring more than 75,000 lbs. of reinforcing steel, two copies of certified mill test reports of reinforcing steel shall be forwarded at least one week prior to placing of the concrete to:

Submit mill test certification of all reinforcing to the engineer prior to start of any field work.

17.1.2 Evaluation of Test Results: For structures requiring less than 200 cubic yards of concrete it shall not be necessary to obtain five tests.

EXCAVATION & BACKFILLING FOR FOUNDATIONS

0.1 Scope: This specification covers dewatering, excavating, disposal of excavated materials and furnishing of all labor, materials, and equipment for the completion of excavation, placement of fill, backfill work, and grading within the limits of this contract. This work shall be done in accordance with this General Specification, the Contract Drawings and the Project Specification which precedes this specification.

1.0 DEFINITIONS AND ABBREVIATIONS

Wherever the words or abbreviations defined in this section occur in the specifications, they shall have the meanings given herein.

1.1 Rock: Unless otherwise defined in the Project Specification, the work ''rock'' when used as the name of an excavated material or material to be excavated, shall mean only boulders and pieces of concrete or masonry exceeding 1 cubic yard in volume, or solid ledge rock which requires drilling and blasting, or breaking up with power operated tools, No soft or disintegrated rock which can be removed with a handpick or power operated shovel, no loose or previously blasted rock or broken stone, and no rock exterior to the maximum limits of measurement allowed will be measured as ''rock''.

1.2 ASTM: American Society for Testing and Materials.

1.3 Common Backfill: Non load bearing fill of soil conforming to Classifications A-1 through A-6 of ASTM D3282-83, and having a maximum particle size of 3''.

1.4 Structural Backfill: Granular soil used as load bearing material and as described in the Project Specification.

2.0 MATERIALS:

Fill and backfill materials shall be free of frost, trash, trees, roots, organic matter, and other objectionable material. When acceptable material is not available at the site, a source of suitable material shall be developed.

2.1 The tests for acceptance of materials, and placement of fill or backfill listed below shall be made where applicable.

DESCRIPTION	
Soils Classification	ASTM D3282-83
Material Grain Size	ASTM D422-63
Liquid Limit, Plastic Limit & Plasticity Index of Soils	ASTM D4318-84
Moisture-Density Relations of Soil (Modified Proctor)	ASTM D1557-78
In-Place Density Tests:	
Rubber Balloon Method	ASTM D2167-84
Sand Cone Method	ASTM D1556-82

3.0 DEWATERING

All excavations shall be kept dry and clear of ground water, seepage, and rain or storm water during the progress of the work and until the finished work is safe from damage. Dewatering may be accomplished by means of ditching, diking, pumping, well pointing or similar procedures. The dewatering procedure used shall not result in the disturbance or loosening of the material in the base of the excavation. Temporary drainage ditches shall be provided as necessary to divert surface water away from the construction areas.

4.0 EXCAVATION

Excavation shall be performed according to the requirements of the Project Specification. All top soil shall be stripped from within the construction area and stock piled or disposed of as directed by the Contractor. All other excavated material shall be stock piled separately, but shall not be placed so near the excavation as to endanger the stability of the excavated slope. All excavations in which employees are exposed to danger from moving ground shall be guarded by a shoring system, sloping of the ground, or some other equivalent means. Support systems shall be planned and designed by a qualified person when the excavation is in excess of 20' in depth, adjacent to structures or improvements, or subject to vibration or ground water. In addition, all requirements of OSHA, Subpart P – Excavations, Trenching, and Shoring, shall be followed.

4.1 Overexcavation: Overexcavation less than 1' beneath the foundation base and extending not more than 1' laterally from the foundation edge shall be backfilled with a lean concrete (minimum compressive strength, f'c, equals 2000 psi). The Designer shall be notified of overexcavation exceeding the limits defined above and remedial measures specified by the Designer shall be taken to compensate for the overexcavation.

5.0 PLACEMENT AND COMPACTION OF BACKFILL

Prior to placing fill material, the ground surface or the bottom of the excavation shall be cleared of all trash, timber, and other objectionable material. Fill and backfill shall not be placed on loose or disturbed earth.

No compaction shall be performed until the moisture content of the fill material is within the range required to obtain the minimum density required by the Project Specification.

Compaction equipment shall be of an adequate size, and shall be suitable for the type of material compacted, to achieve the minimum density requirements of this specification.

During cold weather construction fill material shall not be placed on uncompacted frozen soil or on snow or ice. A layer of fill shall not be left in an uncompacted state at the close of a day's operations. At the close of a day's operations the surface of the fill shall be rolled in a manner so as to eliminate ridges of soil. The final layer of compacted fill placed each day shall be crowned or sloped so that water will not pond and freeze.

5.1 Common Backfill: Unless otherwise specified in the Project Specification or shown on the Contract Drawings, common backfill is to be placed around all foundations. Backfill shall be placed as soon as practicable after forms and debris have been removed, tie holes have been patched and the foundations have been inspected.

Backfilling shall start at the deepest portion of the fill area and shall proceed in uniform, horizontal and continuous layers around the foundation up to finish grade. Backfill shall be deposited in a loose, moist (not wet) state in layers not to exceed 8'' in uncompacted thickness.

Each layer shall be compacted as necessary to achieve a unit soil weight of not less than 100 pcf. and to provide a tight, well-compacted backfill. Nonload settlement within the common backfill in excess of 1 inch shall be rectified by regrading and recompaction as directed by the Contractor.

5.2 Structural Backfill: When required by the Project Specification, structural backfill shall be placed where shown on the contract Drawings. Structural backfill shall be deposited in layers not to exceed 8'' in uncompacted thickness, and each layer shall be compacted to the requirements of the Project Specification.

6.0 PROTECTION

All existing structures such as buildings, walls, fences, walks, curbs, or other property adjacent to any excavation shall be carefully protected from damage. Where excavation, backfilling, or dewatering is required adjacent to existing structures, appropriate precautions shall be taken to prevent damage to existing structures. Before any work is begun, existing structures shall be inspected, level readings shall be taken, and any cracks or other evidence of previous damage shall be noted.

6.1 Bearing surfaces on which concrete is to be placed shall be protected against freezing during cold weather construction.

7.0 CONSTRUCTION STAKES, LINES, AND GRADES

Construction stakes, lines, and grades established at the site shall be located so as not to be disturbed by construction activity, and shall be tied into a USGS benchmark or a permanent benchmark located at the site by the Owner. The Contractor shall be notified of apparent errors in the initial site layout before the affected work is begun. If an existing benchmark is covered or disturbed during the work, it shall be raised or relocated in a permanent recoverable position.

FINAL CLEANING UP

Before final acceptance of the work, the area occupied in connection with the work including construction areas, stockpile areas, and access roads shall be cleaned of all rubbish, excess materials, temporary structures, and equipment; and all parts of the work shall be left in an acceptable condition.

4.1 Overexcavation: Overexcavation less than 1' beneath the foundation base and extending not more than 1' laterally from the foundation edge shall be backfilled with a lean concrete (minimum compressive strength, f'c, equals 2000 psi). The Designer shall be notified of overexcavation exceeding the limits defined above and remedial measures specified by the Designer shall be taken to compensate for the overexcavation.

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STATIC PILE LOAD TEST

0.1 Scope

This specification covers the static load test requirements for an individual pile. The pile load test shall be conducted in accordance with ASTM Standard, Designation D 1143-81, "Standard Method of Testing Piles Under Static Axial Compressive Load", the Project Specification which precedes this General Specification, and the following requirements of this General Specification.

1.0 Test Pile

The test pile shall be of the same type, and driven with the same hammer and procedure as required for the production piles.

2.0 Protection of Area

The pile load test area including the supports for dial gage beams and the wire support stakes shall be roped off to prevent disturbance from adjacent construction activity.

3.0 Apparatus for Applying Loads

3.1 Loading Devices:

The Piling Contractor shall be responsible for designing and providing a loading device in accordance with ASTM D 1143-81. Production piles may be used as reaction piles only if aproved by the Designer. Production piles used as reaction piles shall be retapped at the conclusion of the test. When production piles are used as reaction piles, the Piling Contractor shall be responsible for any damage to the piles either during conduct of the test or during retapping of the piles after the test.

3.2 Calibration of Jacks:

Prior to the start of the test, the Piling Contractor shall provide calibration curves for hydraulic jack, load cells, or other load measuring devices to be used.

4.0 Apparatus for Measuring Movement

As a minimum, pile movement shall be measured by means of dial gages and a wire, mirror, and scale in accordance with paragraph 4.2.2 of ASTM D 1143-81.

Elevation readings shall be taken on the reaction piles before and after the load test, at 100% and 200% of the anticipated working load, and if applicable, at the ultimate test load.

5.0 Loading Procedures

Piles shall be loaded and rebounded in accordance with paragraph 5.1, Standard Loading Procedure of ASTM D 1143-81, unless modified by the Project Specifications.

6.0 Approval

All loading devices and apparatus for measuring settlement shall be approved by the Designer prior to testing.

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DATE 9-13-72	DATE 9-13-72	DATE 2-22-83	

0.1 Scope: This specification defines the technical requirements for construction materials and procedures required for the installation of augered and pressure grouted piles.

1.0 Materials

1.1 Fine Aggregate: Sand shall conform to ASTM C33, except that aggregates failing to meet this specification, which can be shown by special test or actual service to produce mortar of adequate strength and durability, may be used when approved by the Designer.

1.2 Grouting Agent: Grouting agent shall be a compound possessing characteristics which will increase the fluidity, reduce bleeding, assist in the dispersal of cement grains, and eliminate the setting shrinkage of the high strength mortar.

1.3 Mineral Filler: Mineral filler shall be a finely powdered siliceous material which possesses the property of combining with the lime liberated during the process of hydration of portland cement.

1.4 Portland Cement: Portland cement shall conform to ASTM C150.

1.5 Reinforcing Steel: Reinforcing steel shall conform to ASTM A615 for the material grade indicated on the Contract Drawings.

1.6 Water: Water shall be fresh, clean, and free from injurious amounts of sewage, oil, acid, alkali, salts, or organic matter.

2.0 Mortar

The cement base nonshrinkage mortar shall consist of a mixture of portland cement, a mineral filler, a grouting agent, sand, and water so proportioned and mixed as to produce a mortar of the specified strength and capable of maintaining the solids in suspension without appreciable water gain; which may be pumped without difficulty and which will penetrate and fill any voids in the adjacent foundation material. Mix must be designed to remain plastic long enough to place reinforcing. Mortar shall have a minimum 28-day compressive strength of 4000 psi.

2.1 Mixing & Pumping: The grout pumping equipment shall be capable of pressure of at least 350 psi; it shall be equipped with pressure gages and an audible alarm system to indicate when pressure falls below 175 psi and there shall be reliable metering equipment directly coupled to the pumping equipment to measure grout quantities.

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All oil or other rust inhibitors shall be removed from the mixing drums, stirring mechanism, and other portions of the equipment in contact with the mortar, before the mixers are used.

All materials shall be measured by weight or volume as they are introduced.

Time of mixing shall be not less than one minute. If agitated continuously, the mortar may be held in the mixer or agitator not more than 90 minuts.

3.0 Pile Installation

3.1 Augering: A continuous flight, hollow shaft auger shall be drilled to the required pile tip elevation. When the auger has descended to full depth, it shall be slowed sufficiently such that an earth plug shall be maintained at the auger tip.

3.2 Grouting: The mortar shall be injected under pressure through the hollow withdrawn shaft and shall be placed so as to assure the exclusion of foreign matter and assure a continuous and full size pile. Grouting shall begin under pressures in excess of hydrostatic pressures, except that no grout shall be pumped at a line pressure of less than 100 psi. The hoisting line upon the auger shall be kept slack, but shall at all times react with the retracting movement of the auger. The auger shall always be raised gradually in a continuous movement, without abrupt jerks, at a rate not to exceed the volume of grout placed. If the line pressure drops below 100 psi or twice the static pressure, the auger shall descend 18" below the depth where the pressure drop occurred, at which point grouting shall be recommenced. A casing shall be used at the top of each pile. If a pile cannot be completed per the approved procedure whether due to equipment failure, the early setting of the mortar, or other, it shall be augered out before the mortar has initially set and replaced at the Subcontractor's expense. The ratio of grout pumped into each pile to that theoretically required by the individual pile shall be computed and this ratio reported to the Inspector.

3.3 Equipment Loads: Any heavy concentrated loads shall be distributed in such a manner as to prevent the compressing or shearing of the soil in the area of the top of the pile in order to prevent damage to the mortar placed in the pile.

3.4 Resteel: After grouting each pile, reinforcing bars shall be placed as shown on the Contract Drawing

4.0 Tolerances: Piles shall be installed to the tolerances specified below.

a. Pile butts shall be within 3" horizontal measurement from the locations indicated on the Contract Drawings.

b. Variation from plumb shall be less than 1/4" per 1'-0.

c. Pile butts shall be cut off level within ±1/4" when measured from the centerline of the pile.

d. Cutoff points, measured from the centerline of the pile, shall be within ±1/2" from the indicated elevation.

5.0 Damaged or Displaced Piles: If any pile is damaged during placement, or placed outside the specified tolerances, or does not meet the criteria for placement, it shall, at the option of the Designer, be abandoned and additional pile or piles shall be installed at locations specified by the Designer.

When obstructions such as boulders or timbers are encountered which prevent required penetration of any pile or piles, or cause drift in excess of the specified tolerances, the pile shall be completed and grouted from this point and paid for according to unit pricing, and replacement piling provided at locations specified by the Designer.

6.0 Testing: The high-strength mortar shall be tested by an independent testing laboratory to the requirements listed below:

a. The method of sampling fresh grout, and the method of making, curing, and testing specimens shall be in accordance with ASTM C109, except that the molds shall be covered by a top plate to restrain mortar expansion.

b. One strength test shall be made each day mortar is pumped, or for every five piles, whichever is stricter.

c. Each strength test shall consist of eight molded cubes. Two cubes shall be tested at three days for information and seven days for information. Two cubes shall be tested at 28 days for acceptance. If the 28-day tests do not meet the specified strength, the last two cubes shall be tested. The average strength of the four cubes shall be taken as the 28-day strength.

d. One flow cone test shall be made for each grout batch mixed. When visual inspection indicates a change in consistency from the previous batch, no grout shall be pumped until proper consistency is regained, and an additional flow cone test is conducted in the presence of the Inspector.

REV	BY	CHKD	DATE

MADE BY	CHKD BY	DATE
JRV	RL	24MAR95
DATE 9-9-81		

GO 836

6.1 Acceptance: The strength level of the mortar will be considered satisfactory as long as:

a. The average strength indicated by all 28-day tests shall be equal to or greater than the specified 28-day compressive strength.

b. The average of any three consecutive 28-day tests shall be equal to the specified 28-day strength.

c. Each 28-day test shall be greater than 85% of the specified design strength.

When the mortar fails to meet the 28-day strength requirements, installation of additional piles may be required, or approved alternate strength tests may be permitted. Alternate tests, such as coring, may be made upon approval by the Designer. Expense of such testing shall be for the Subcontractor's account.

7.0 Pile Load Test: When specified, pile load testing shall be performed in accordance with CBI General Specification, OFE 543-1-2, "Static Pile Load Test".

When anchor piles are used for applying load to the test pile, the Subcontractor shall be responsible for determining the required number and length of anchor piles. Reinforcing steel shall be placed full length in the anchor piles. Anchor piles shall not be used as production piles and shall be cut off at the elevation specified by the Engineer upon completion of the pile load test.

8.0 Coring: When required by the Designer, selected test or production piles shall be cored. Coring shall conform to the following requirements:

a. Continuous coring shall be conducted to the depth specified by the Designer.

b. All cores shall be tested with a Swiss hammer at 6" intervals. One sample from each core shall be laboratory tested in compression to calibrate Swiss hammer results. Cores shall be a minimum of NX size (3" hole) and shall be taken within 3" of the outside pile edge.

c. The holes from which the cores are taken shall be dry packed with grout or pressure grouted to the satisfaction of the Engineer.

d. If defective cores (e.g., non-continuous grout, foreign matter, or inadequate strength) are found, the Subcontractor shall be directed to core additional piles to determine the extent of defective piles, and shall replace such piles at his own expense.

MADE BY	CHKD BY	REV	BY
DATE 9-9-81	DATE 24 MAR 95		CHKD
			DATE

GG116

9.0 Records: The following information shall be recorded during pile installation.

a. the ratios of grout pumped to the theoretical amount required for each pile
b. the log of pressures and flow rates for each pile
c. the number of piles placed and the actual position of the center of the head of the piles
d. a brief memorandum on piles which had to be augered out and/or additional piles installed
e. the number of cube samples taken and a list of the identification numbers used for such samples
f. a brief memorandum on any mislocated or out-of-plumb piles with appropriate measurements and offsets listed
g. a description of any variation in the installation procedure

During progress of the work the records shall be made available for inspection by the Designer. Upon completion of the work a final report shall be submitted to the Designer.

10.0 Submittals: At least two weeks prior to the start of pile installation, the following data shall be submitted for approval by the Engineer.

a. grout mix design with laboratory certification as to strength, absence of shrinkage, and consistency (flow cone test rate)
b. qualifications of the foreman, including experience record on similar jobs
c. installation procedure
d. list of equipment to be used, with pertinent specifications
e. pressure gage calibration by an independent testing agency

DATE: 12-13-91 REV. -

CBI SUMMARY SHEET "0" - 500MG W'SOID

99

STRUCTURE WATERSPHEROID

500,000 GAL. X 99'-6 BCL

DESIGN SPECS AWWA D100 '84' & CUSTOMER

CUSTOMER CITY OF FLORIDA CITY

LOCATION FLORIDA CITY, FLORIDA

SUPPLIER INSPECTION YES BY CTR'S

SHOP INSP YES BY CBI

FIELD INSP YES BY CBI & CUST.

SANDBLAST : SHOP YES FIELD YES

PAINT : SHOP YES FIELD YES
(SEE P SHEETS)

WEIGHT SUMMARY	
FROM	EST WEIGHT
DIRECTS	
TOTAL	

LIST OF BILLS AND MISC.

FINAL BILLS 0 — 01 & 02
1 THRU 53

P SHTS: P, P1, ETC.

W SHTS W1 THRU W7

STDS 541-1-1, 9313-2-3

ESCALATED CONTRACT ☐

FIRM PRICE CONTRACT ☒

DRAWINGS COMPLETE ☒ YES ☐ NO

FINAL BILLS COMPLETE IF "NO" EXPLAIN ☒ YES ☐ NO

MATERIAL IDENTIFICATION REQUIRED ("ID") lb ← ENTER STRUCTURE NUMBER

NO. OF COPIES OF CERTIFICATION REQUIRED FOR CUSTOMER.

REMARKS: SHOP: SHIP WELD WIRE, ERECTION MATERIAL, GROUT SHIMS W/1st SHIPMENT. FIELD: SHIM & GROUT IN ACCORDANCE WITH STD. 541-1-1 BEFORE FILLING TANK. IN HIGH WIND AREAS & IF HIGH WIND LIKELY, GROUT BY TIME SHAFT ERECTED. 44 STACKS OF SHIMS REQUIRED. INSTALL EXPANSION JOINTS AS SHOWN IN STD. 9313-2-3. FOOT ELBOWS MUST BE ANCHORED BY THRUST BLOCK AS SHOWN ON FOUNDATION DRAWING.

LIST OF CONTRACT AND STANDARD DRAWINGS

BILLS	DWG. OR STD.	REV.	DESCRIPTION	BILLS	DWG. OR STD.	REV.	DESCRIPTION
—	F1	0	FOUNDATION PLAN	9	B.S. NP	-	NAMEPLATE #5145
—	F2	0	PILE ORIENTATION	-	1 ▶	1	GENERAL PLAN
—	F3	0	VALVE VAULT	28	3	0	UPPER BALL
—	F4	0	THRUST BLOCK ASS'Y	27	6	0	LOWER BALL
				30&31	27 ▶	1	ACCESS TUBE
				26	4C50-4-2	1	UPPER KNUCKLE
				13, 16-20	4C6-3	6	SHAFT
				6	2 SHT 2	0	BELL
53	37 ▶	1	PIPE ALIGNMENT GUIDES	21	29	0	SHAFT PLATFORM
				-	4	0	FIELD WELD & ASS'Y
				5	36	0	ANCHOR BOLT CHAIRS
				48	A26	8	PAINTER'S RINGS
				36	20 ▶	1	PIPE & PLAT. ORIENT.
				7	2 SHT 3	0	BELL
			CBIS JOB 101	-	2 SHT 1	0	BELL FIELD ASSY
TANK DIA : 55'-10			RANGE : 37'-6	-	2 SHT 4	0	DOOR INSTALLATION
SHAFT DIA : 10'-0			BELL DIA : 36'-0	12	2 SHT 6	0	LOWER KNUCKLE
WIND : 150 MPH			SOIL BEARING : 120 TONS	SEE BILL SHEET "01" FOR CONTINUATION OF LIST OF CONTRACT & STANDARD DRAWINGS.			
SEISMIC : NONE			• 37'-0				

SPECIAL NOTE: ALL WELDING TO BE CONINUOUS AND ALL PARTS TO BE SEAL WELDED.

DO ANY SHAFT SECTIONS FOR THIS CONTRACT EXCEED NORMAL LIFTING CAPACITY? YES (NORMAL IS 9,300LBS)

REV.	BY	CHKD	DATE	ENG ASSIGNED	MFG ASSIGNED	CONSTR ASSIGNED	MADE BY	CHKD BY	ENG COORDINATOR	CONTRACT NO.	SHEET
1	KWD	JRS	6-2-95	B'HAM (JLT)	CCM S41085	NORCROSS	KWD DATE 4-19-95	JRS DATE 4-20-95	B'HAM/JLT	941085	0

CAD FILE: BH-0500

DE 13 (PAGE 2) REV 1-73 RBB REV. 11-4-92 CBI

LIST OF DRAWINGS AND BILLS 01 - W'SOID & W'S 3-6-92

103

BILLS	DWG. OR STD.	REV.	DESCRIPTION	BILLS	DWG. OR STD.	REV.	DESCRIPTION
1, 2	---	-	ERECTION MATERIAL	51	C27	2	4 DIA NON-FREEZE DRAIN
3	IH109	2	GROUT SHIMS	35	34 ▶	1	10 DIA. OVERFLOW SECTION
4	---	-	WELD WIRE	37 & 38	21	0	OVERFLOW EXTENSION
9	---	-	INSTRUCTION PLATE	39 - 41	22 ▶	1	16 DIA INLER RISER
---	541-1-1	-	GROUT INSTRUCTIONS	---	WL248	-	SPOT EXAMINATION LIST
---	9313-2-3	-	EXPANSION JOINT INSTALLATION	---	C30	2	CATHODIC PROTECTION
8 & 9	4B10-5-10	16	BELL DOOR	39 & 42	---	-	EXPANSION JOINT(S)
10	A41-1-1	7	BELL DOOR LOCK	21	B37C	2	UPPER COND. CEILING DOOR
46	26	0	SAF-T-CLIMB EXT. HOLDER	24	35 ▶	1	PIPE SUPPORT IN BELL
47	28	0	1 1/2 DIA SUMP LINE	50	IH119	3	COVER ASS'Y FOR CABLE HOLE
14	30	0	LOWER CONDENSATE PLATFORM	45	IH116	3	ELECTRICAL MOUNTING BRACKETS
15	L19C	5	COND. DRAIN	24 & 36	1A7	4	U-BOLTS
14,21,36	1A6	8	DRIP RINGS	40,41,43,44	---	-	BOLTS & GASKETS
22 & 23	B19A	6	SHAFT DOOR	29	B41-	7	FAN VENT MANHOLE
30	B39	8	18 x 24 ACCESS TUBE OPENING & COVER	900, 901	---	-	PAINT BILLING
14	B37C	2	LOWER COND. CEILING DOOR	46, 52	---	-	SAF-T-CLIMB
31	B37C	2	TOP ACCESS TUBE DOOR	49	4C01-11-1	0	PAINTERS ATTACHMENTS
28	B37A	4	ROOF DOOR	45	24	0	ELECTRICAL CLIPS
28	1A31	3	PAINTERS CLIPS	---	31	0	UPPER COND. PLAT. MANHOLE
11	5	0	BELL LADDER	32 - 34	G4BX	10	FAIL SAFE VENT
13,16-21	D35	5	SHAFT LADDER	---	33 ▶	1	FAIL SAFE VENT
31	D35	5	PLATFORM TO ACCESS TUBE LADDER	---	H27A	0	OVERFLOW TEMPLATE FOR 15° BELL
30	D35	5	INS. ACCESS TUBE LADDER	25	32	0	ROOF SCAFFOLD RIGGING
31	D35	5	INS. TANK LADDER				LIST OF DRAWINGS: F1 - F4
42 - 44	23 ▶	1	16 DIA OUTLET RISER				1, 2 (SHEETS 1 - 4, 6), 3 - 6
---	25	0	OBSTR. & INT. LIGHTING				20 THRU 37, SD , W1 & W2

▲ REV.	BY	KWD					
	CHKD	1 JRS					
	DATE	6-2-95					

ENG ASSIGNED	MADE BY	DATE	CHKD BY	DATE	CONTRACT NO.	SHEET
DBE JLT	KWD	4-19-95	JRS	4-20-95	941085	01

CAD FORM

HORTON WATERSPHEROID®

941085	1995
CONTRACT NO.	YEAR
500,000	99.50
CAPACITY, GAL	HEIGHT TO BOTTOM, FT

CBI

CBI Na-Con, Inc.

Oak Brook, Illinois

5145

Aug 85

CBI INSTRUCTIONS

DE 9 REV 4-73

ENG ASSIGNED	MADE BY	CHKD BY	REVISION							CONTRACT NO.
B'HAM (JLT)	KWD	JRS	BY							941085
FABRICATED AT	DATE	DATE	CHKD							SHEET
CCM S41085	4-19-95	4-20-95	DATE							NP
			LINE							
			PURCH ACTION							
			DATE							

CBI FINAL BILL OF COATING MATERIAL

Rev	Line	Ship Pc	Mark	Assm Pc	S41085 Description	Est'd wt	No Fab / W.O.	Pcs	Order or Reserve / Routing	Source
	01				"SHOP PAINT"					
	02				Florida City, FL					
	03				(1) 500MG x 99'-6" BCL WATERSPHEROID					
	04									
	05		GALS	30	KOPPERS Kop Coat Hi-Gard Epoxy PW 0100 Color: Blue				855080 Carboline	900-5
	06									
	07		KITS	15	CARBOLINE Carbo Zinc 11 HS Color: Gray					900-7
	08				3.6 gal kit consists of: CARBO ZINC 11 HS Base, CARBO ZINC HS Activator, CARBOLINE Zinc Filler					
	09		GALS	5	Thinner: KOPPERS Kop-Coat 2000					900-9
	10		GALS	5	Thinner: CARBOLINE #26					900-10
	11		GALS	30	KOPPERS KOP COAT HI-GARD EPOXY PW 0100 COLOR: BLUE			30	356722 KOP COAT	900-11
	12									
	13									
	14		LBS	1260	STEEL SHOT SIZE : 280					S

Eng Assigned	Made By	Chkd By	Revision		Contract No.
PCB_A	MCB		By	MCB	S41085
			Chkd	WBR	
			Date	6/26/95	
Fabricated At	Date	Date	Line	11	Sheet
CCM	6/14/95	6/14/95	Purch Act		900
			Date		

CBI SERVICES

S41085

SHOP CLEANING AND PAINTING INSTRUCTIONS

Customer: City of Florida City
CBI Na-Con Norcross

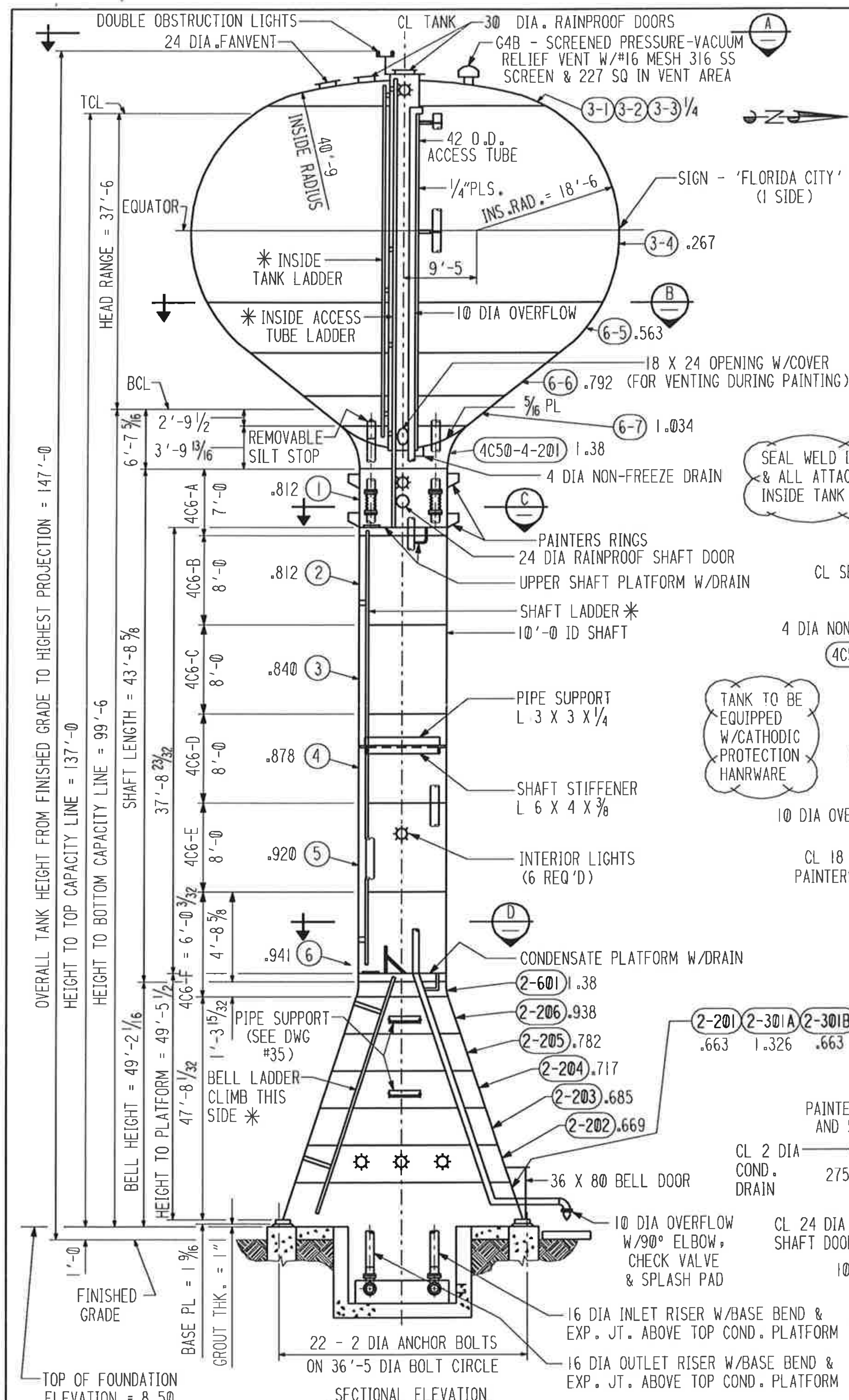
Location: Florida City, FL

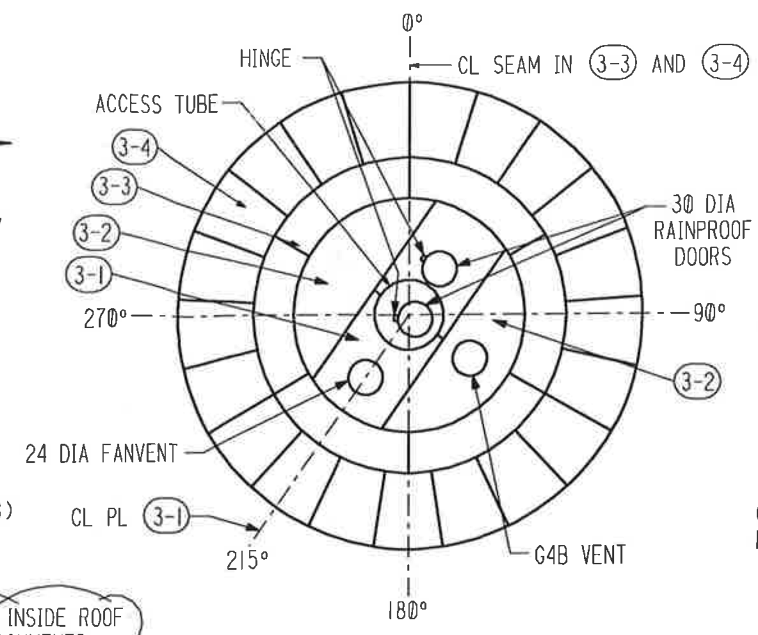
Structure: (1) 500MG x 99'-6" BCL WATERSPHEROID

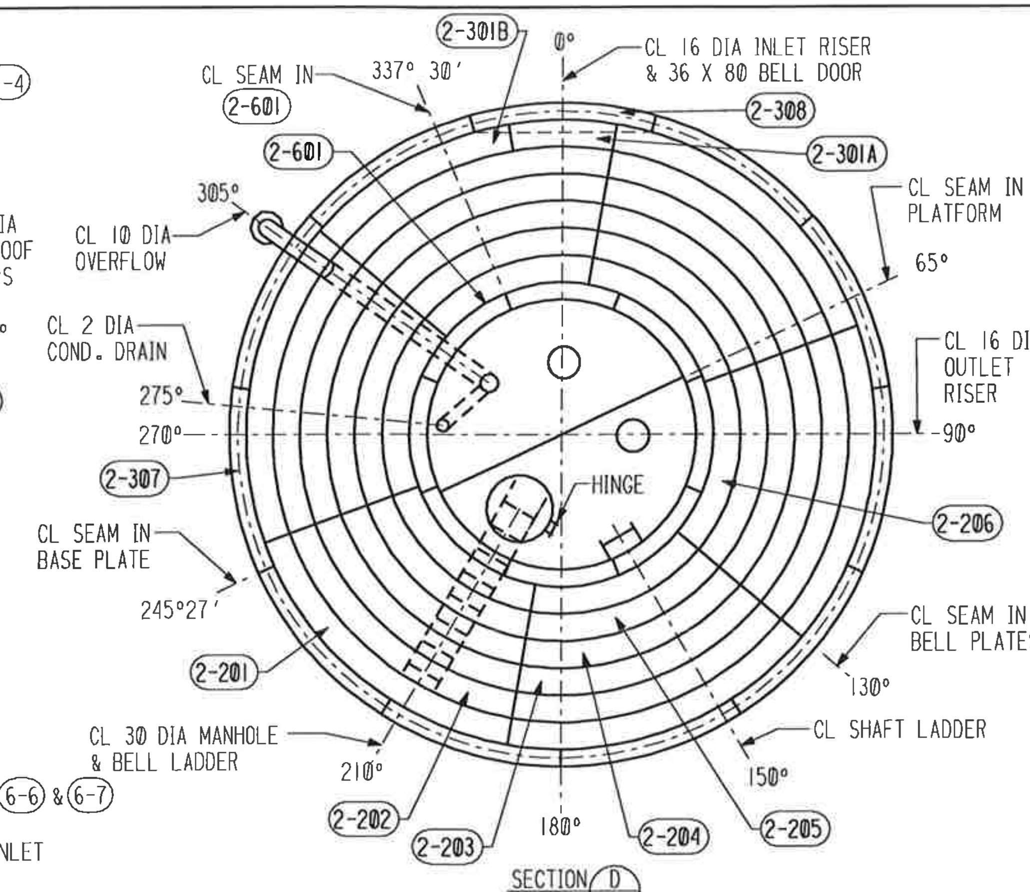
DESCRIPTION			SURFACE PREPARATION Blast: FULL ☐ SPOT ☐ Shop:	SURFACE PREPARATION Blast: FULL ☒ SPOT ☐ Shop: SSPC SP-6 COMMERCIAL	SURFACE PREPARATION Blast: FULL ☒ SPOT ☐ Shop: SSPC SP-10 NEAR WHITE BLAST
			Profile: 1 mil mim. - 2.5 mils max. Abrasive Type: Steel Shot S-280 Sand 20-40 or Equal	Profile: 1 mil mim. - 2.5 mils max. Abrasive Type: Steel Shot S-280 Sand 20-40 or Equal	Profile: 1 mil mim. - 2.5 mils max. Abrasive Type: Steel Shot S-280 Sand 20-40 or Equal
			SQ. FT:	SQ. FT: 5,400	SQ. FT: 12,600
				"INTERIOR" DRY ALL	EXTERIOR ALL
Paint Manufacturer				KOPPERS	CARBOLINE
Paint Manufacturer No.				Kop Coat Hi-Gard Epoxy PW 0100	Carbo Zinc 11 HS
Color				Blue	Gray
Thinner				Kop-Coat 2000	#26
Max Amt of Thinner for VOC Compliance				up to 8%	up to 30%
Wet Mil Thickness				6.0	3.0 to 5.0
Required Dry Mil Thickness (DFT)				3.0 to 4.0	2.0 to 3.0
Pot Life @ 70°F				8 hrs	6 hrs @ 75°F
Shelf Life				12 months	Part A 9 months, Other parts 24 months
Application	Brush	(Yes or No)		YES	Touch up only
Type:	Roll	(Yes or No)		YES	NO
	Conventional Spray	(Yes or No)		YES	YES
	Airless Spray	(Yes or No)		YES	YES
Substrate Temperature	(More than 5°f above dew point)			50°F TO 120°F	20°F TO 150°F
Ambient Temperature				50°F TO 120°F	35°F TO 120°F
Relative Humidity				LESS THAN 85%	30% to 95%
Drying Time:	To Touch	(At 75°f)		2-3 hrs	
	To Handle	(At 75°f)			1 hr
	To Top Coat	(At 75°f)		5-7 hrs	18 hrs
Inspection / Testing:	DRY FILM THICKNESS	(Yes or No)		YES	YES
	HOLIDAY TEST	(Yes or No)		NO	NO

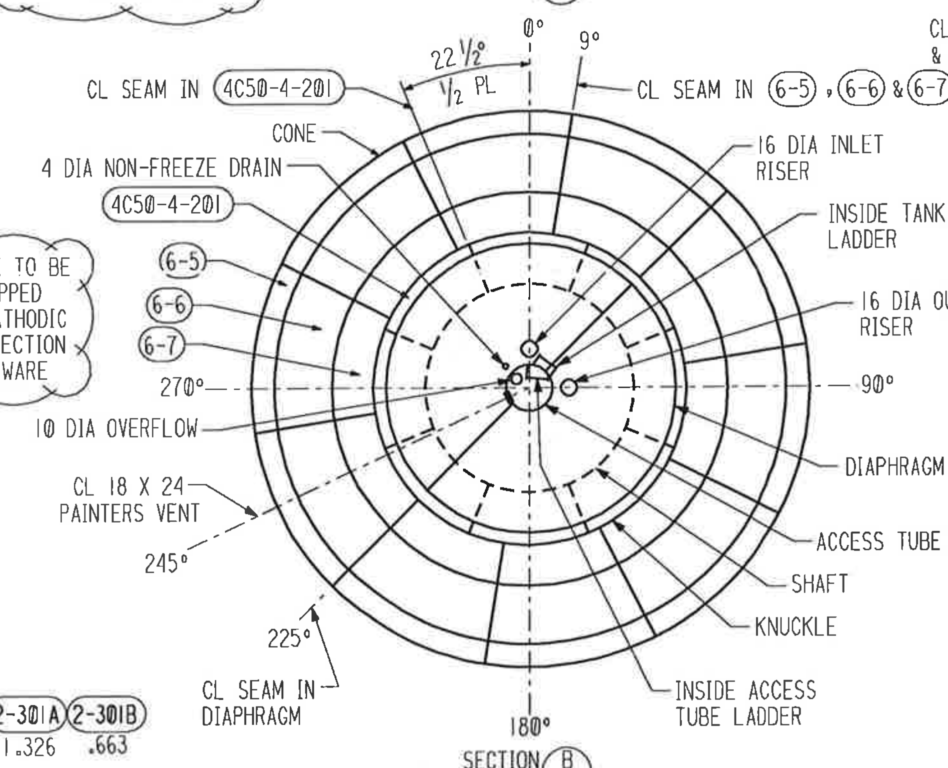
Special Instructions:
1. **LEAVE 2" WELD MARGINS. FOLLOW ALL SAFETY REGULATIONS ON MANUFACTURERS MATERIAL SAFETY DATA SHEETS.**
2. **FOR ANY OTHER APPLICATION INSTRUCTIONS, SEE MANUFACTURERS DATA SHEETS.**

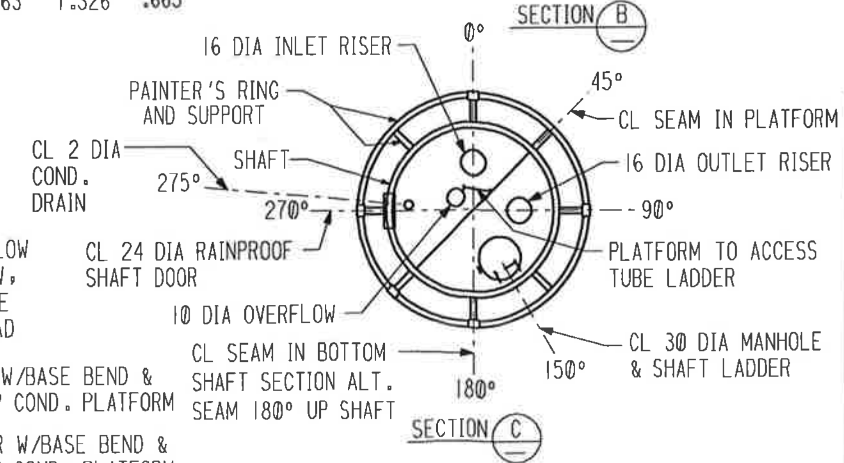
Eng Assigned	Made By	Chkd By	REV	By					Contract No:
	MCB			Chdk					S41085
				Date					
Fabricated At	Date	Date		Line					Sheet
CCM	6/14/95	6/14/95		Purchase Action					
				Date					P-1 SHOP











GENERAL NOTES

SPECIFICATIONS - AWWA - D100 '84' & CUSTOMER
SERVICE - MUNICIPAL
MATERIAL - PL = A36 (OR A283-C) STRUCTURAL - A36
▶ INSPECTION - MILL = CTR SHOP = CBI & CUSTOMER FIELD = CBI & CUSTOMER
ALL BUTT WELDS TO BE 100% FUSION
SANDBLAST - SHOP - YES - FIELD - YES
PAINT - SEE INSTRUCTION SHEET(S)

STERILIZATION - YES	LEVEL SURVEY - NONE
WIND - 110 MPH (SBC) 150 MPH (AWWA)	SNOW LOAD - 25 PSF
SEISMIC - NONE	CORROSION ALLOWANCE - NONE

1. PEEN ANCHOR BOLTS AFTER TIGHTENING TO PREVENT EASY REMOVAL OF NUTS.
2. DETAILS IN ELEVATION HAVE BEEN ROTATED INTO PLANE OF PROJECTION. SEE SECTIONAL VIEWS AND DWG.#20 FOR TRUE ORIENTATION.
3. GROUT UNDER BASE PLATE BEFORE FILLING TANK WITH WATER. FILL SPACE BETWEEN ANCHOR BOLT AND HOLE IN BASE PLATE WITH GROUT TO AVOID WATER POCKETS.

▶ *4. LADDERS TO BE EQUIPED W/SAF-T-CLIMB DEVICE W/2 HARNESSES, 2 SLEEVES AND 2 LANYARDS.

▶ INDICATES CHANGE FROM PREVIOUS ISSUE

REVISIONS: 1 — 6-2-95 — KWD — REVISED GENERAL NOTES PER CUSTOMER REVIEW
(BY / CHKD / DATE / REMARKS)

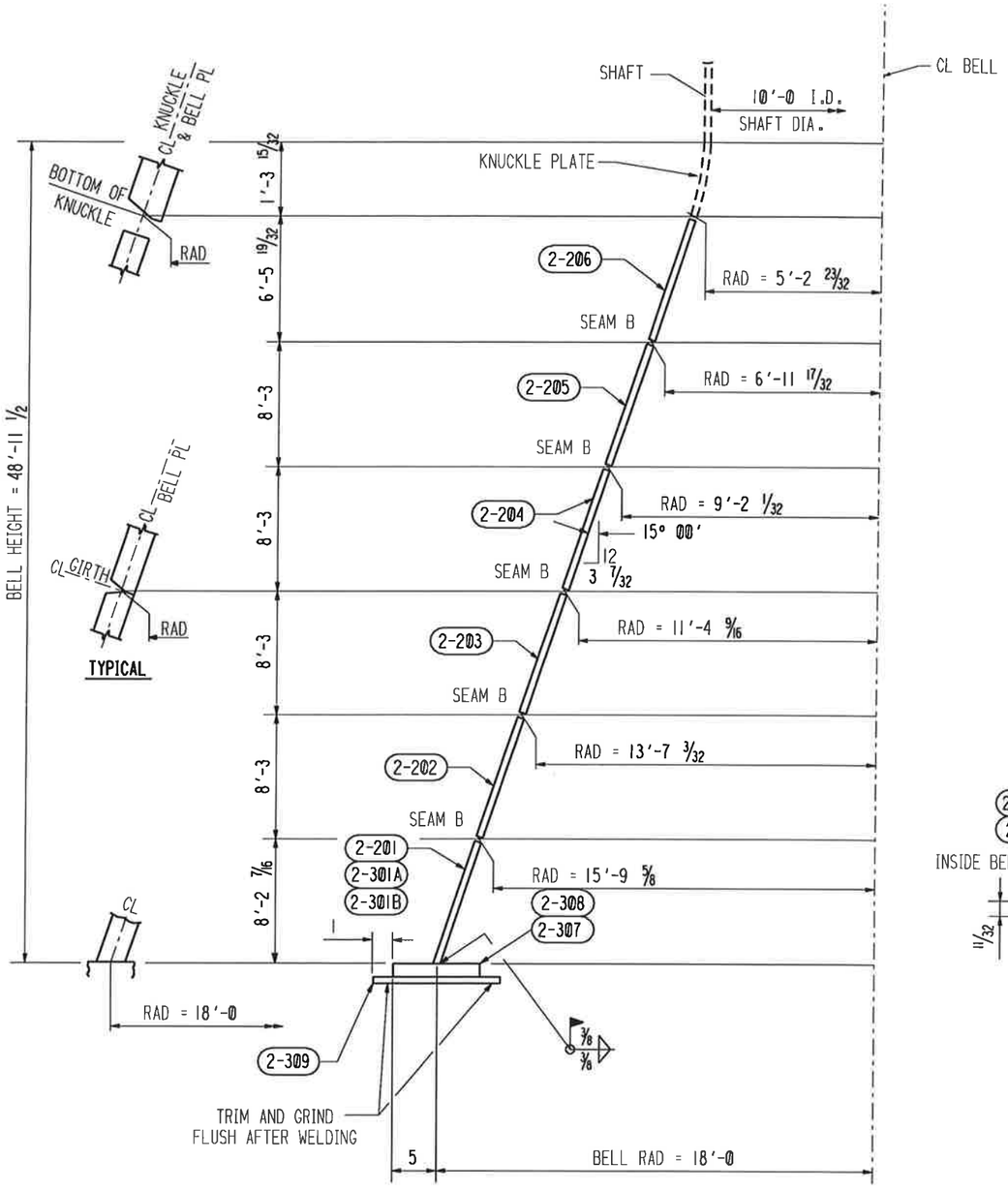
CBI — SUPPLIER'S / PURCHASER'S NO 541085

GENERAL PLAN
500 MG X 99'-6 BCL
WATERSPHEROID

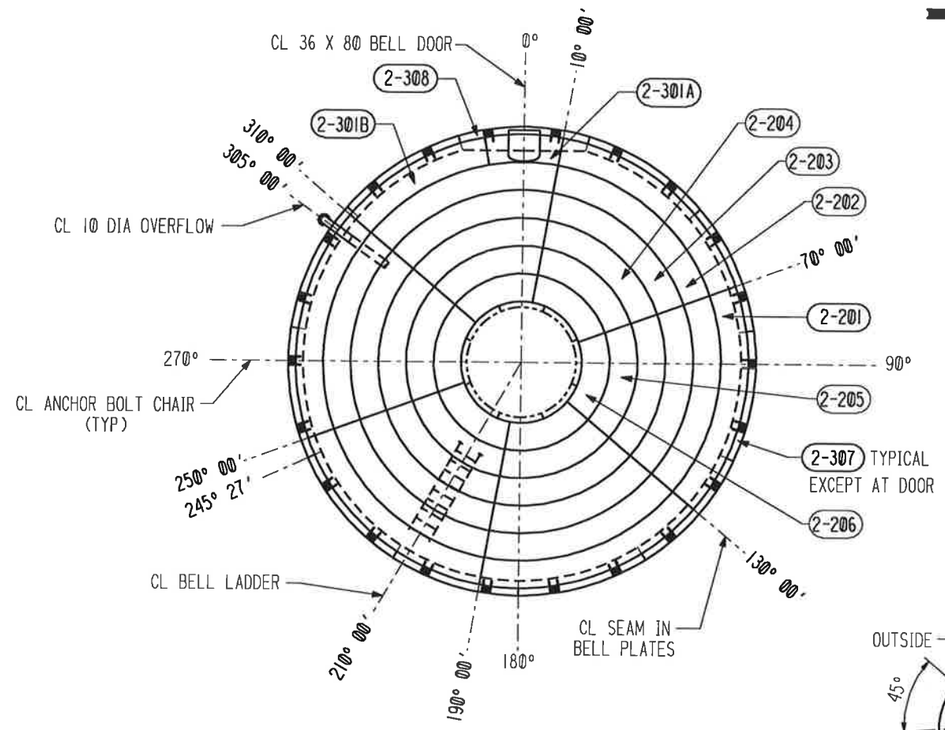
FLORIDA CITY, FLORIDA

CUSTOMER'S NO
BY KWD CHKD JRS DATE 4-18-95
BIRMINGHAM/J. L. TURNER
ENGINEERING ASSIGNED
CONTRACT NO 941085
DWG 1 REV
SHT 1

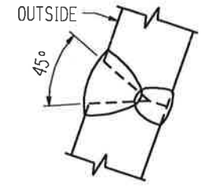
FILE: 941085001.DGN



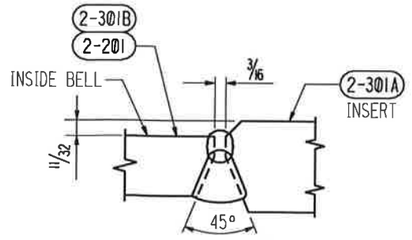
SECTION THRU BELL



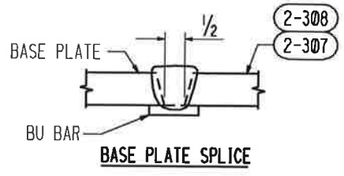
PLAN OF BELL



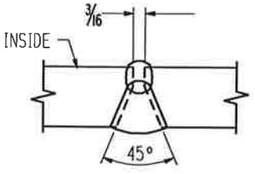
SEAM B



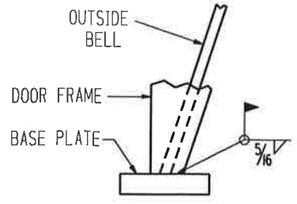
BELL DOOR INSERT PLATE TO BELL



BASE PLATE SPLICE



BELL VERTICAL JOINTS



TYP BELL DOOR FRAME TO BASE PLATE

NOTES:

BELL FIELD ASSEMBLY WEIGHT (W/DOOR) = 18266 (LB)
BELL FIELD ASSEMBLY WEIGHT (WITHOUT DOOR) = 17388 (LB)
DIAGONAL CHORD OF BELL GROUND ASSEMBLY = 50'-3 9/32
(MEASURED FROM THE INSIDE CORNER OF THE BOTTOM COURSE TO THE OPPOSITE UPPER CORNER OF THE TOP COURSE, EXCLUDING THE KNUCKLE.)

FIELD NOTE:
SHIM STACKS TO BE LOCATED ON CL OF BASE PLATE TO MEET CUSTOMER REQUIREMENTS

▶ INDICATES CHANGE FROM PREVIOUS ISSUE

REVISIONS	BY	CHKD	DATE	REMARKS

CBI

SUPPLIER'S / PURCHASER'S NO S41085

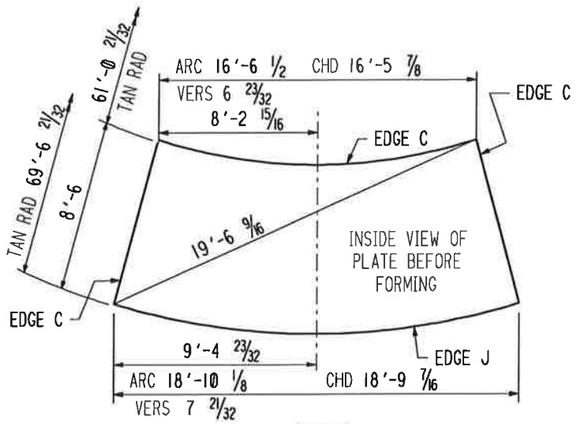
BELL FIELD ASSEMBLY
500 MG X 99'-6 BCL
WATERSPHEROID

FLORIDA CITY, FLORIDA

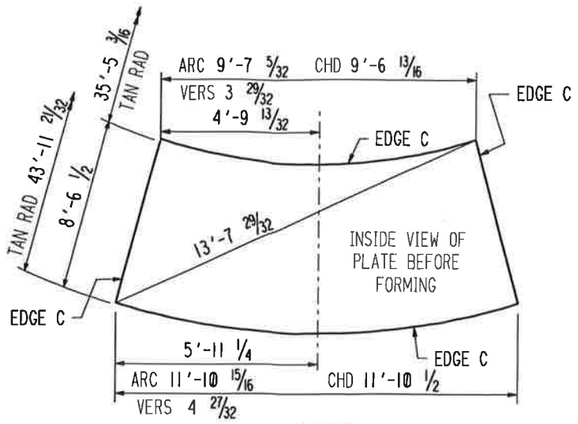
CUSTOMER'S NO
BY KWD CHKD JRS DATE 4-18-95
BIRMINGHAM/J. L. TURNER
ENGINEERING ASSIGNED

CONTRACT NO 941085
DWG 2 REV 0
SHT 1

410850002.D01
C0206N



201



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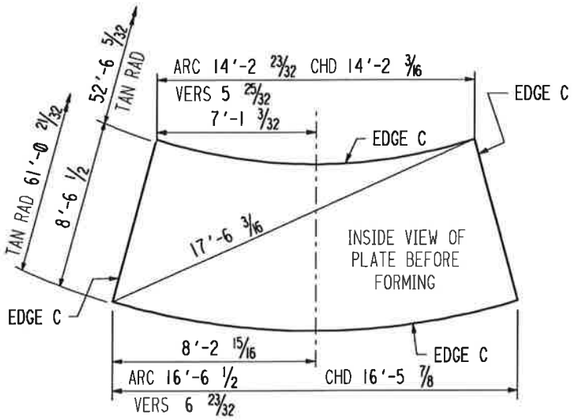
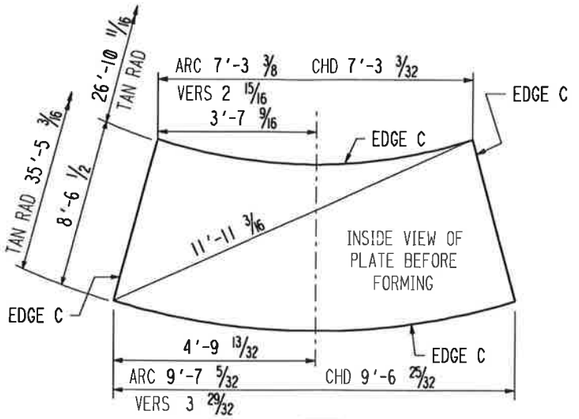
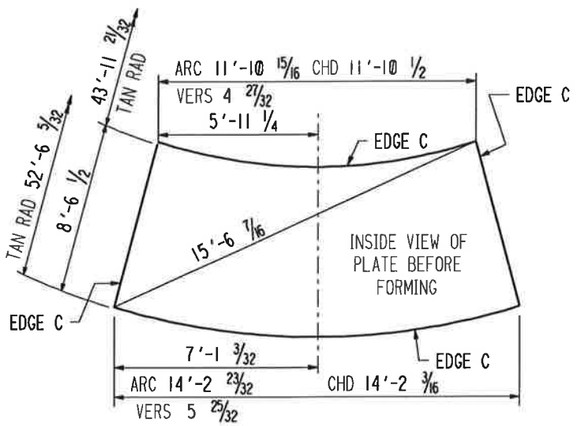


202



205



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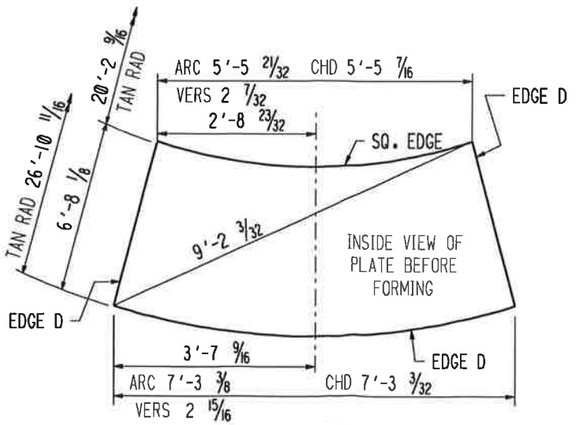
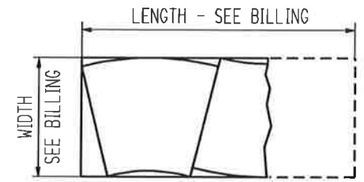


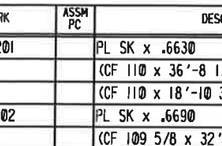
206

INDICATES CHANGE FROM PREVIOUS ISSUE

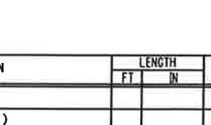
SHIP PC	MARK	ASSM PC	DESCRIPTION	LENGTH FT	LENGTH IN	SPEC	ID
5	2-201		PL SK x .6630			A36	IbA
			(CF 110 x 36'-8 1/2 C2)				
			(CF 110 x 18'-10 3/4 C1)				
6	2-202		PL SK x .6690			A36	IbA
			(CF 109 5/8 x 32'-1 1/4 C2)				
6	2-203		PL SK x .6850			A36	IbA
			(CF 108 5/8 x 27'-5 1/2 C2)				
6	2-204		PL SK x .7170			A36	IbA
			(CF 107 3/4 x 33'-8 1/4 C3)				
6	2-205		PL SK x .7820			A36	IbA
			(CF 106 3/4 x 26'-9 1/4 C3)				
6	2-206		PL SK x .9380			A36	IbA
			(CF 83 5/8 x 20'-4 C3)				



CUTTING SKETCH
BELL PLATES



EDGE J



EDGE C

EDGE D

NOTES:
1. CONE PLATE DIMENSIONS ARE FLAT PLATE DIMENSIONS.
2. ALL PLATE DIMENSIONS ARE TO EDGE OF PLATE AND INCLUDE ALLOWANCE FOR SHRINKAGE EQUAL TO HALF THE GAP FOR VERTICAL JOINTS ONLY.

CBI

SUPPLIER'S / PURCHASER'S NO S41085

PIECE DETAILS
500 MG X 99'-6 BCL
WATERSPHEROID

FLORIDA CITY, FLORIDA

CUSTOMER'S NO
BY KWD CHKD JRS DATE 4-18-95
BIRMINGHAM/J. L. TURNER
ENGINEERING ASSIGNED

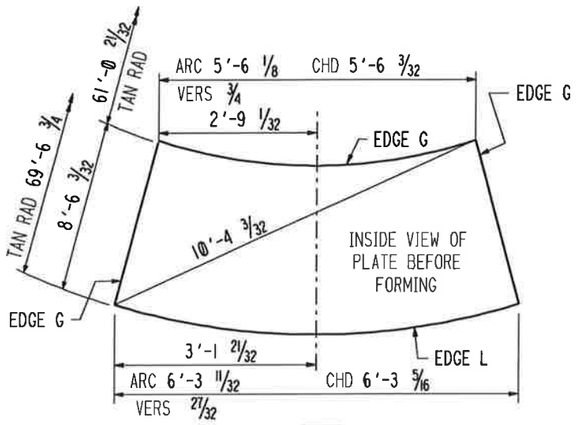
CONTRACT NO 941085
DWG 2 REV 0
SHT 2

REVISIONS | BY | CHKD | DATE | REMARKS

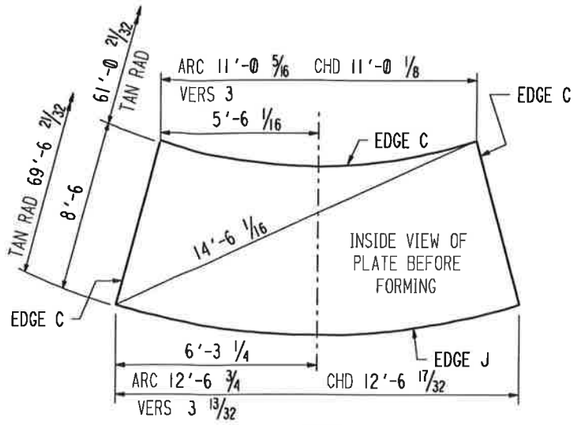
41085002.D02

C0206N

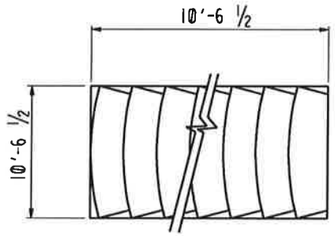
SHIP PC	MARK	ASSM PC	DESCRIPTION	LENGTH FT	LENGTH IN	SPEC	ID
10	2-307		PL SK x 1.5625			A36	IbA
			(CF 126 1/2 x 10'-6 1/2 C10)				
1	2-308		PL SK x 1.5625			A36	IbA
			(CW 2-307)				
11	2-309		BAR 1 1/2 x 3/8	1	0	A36	IbF
1	2-3A		BELL DOOR ASSEMBLY				
	2-301A	1	PL SK x 1.3260			A36	IbA
			(CF 104 3/8 x 6'-5)				
	2-301B	1	PL SK x .6630			A36	IbA
			(CF 106 1/4 x 12'-8)				
		1	BELL DOOR (DWG 4B10) (BILL COMPLETE)				



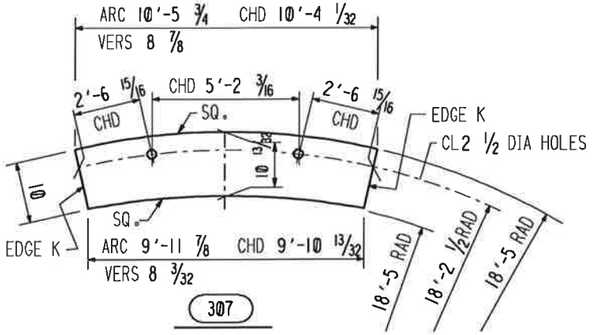
301A



301B



CUTTING SKETCH
BASE PLATES



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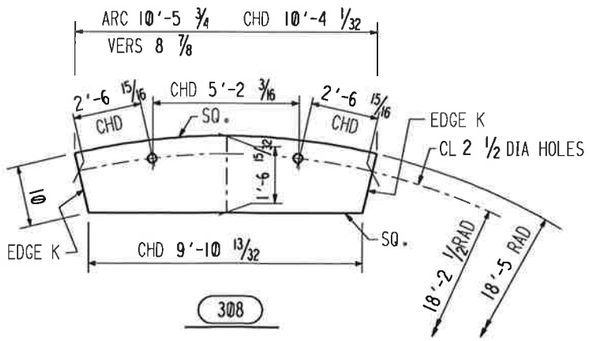
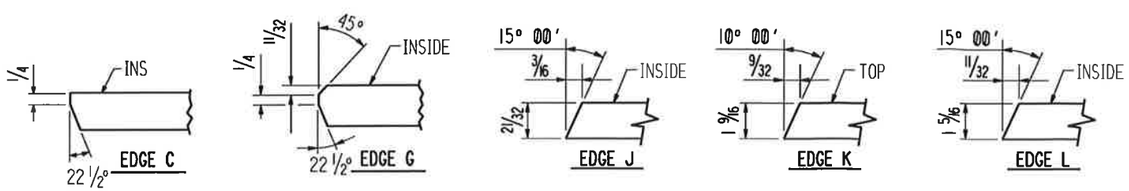


308



▶ INDICATES CHANGE FROM PREVIOUS ISSUE

NOTES:
1. CONE PLATE DIMENSIONS ARE FLAT PLATE DIMENSIONS.
2. ALL PLATE DIMENSIONS ARE TO EDGE OF PLATE AND INCLUDE ALLOWANCE FOR SHRINKAGE EQUAL TO HALF THE GAP FOR VERTICAL JOINTS ONLY.

CBI

SUPPLIER'S / PURCHASER'S NO
S41085

PIECE DETAILS
500 MG X 99'-6 BCL
WATERSPHEROID

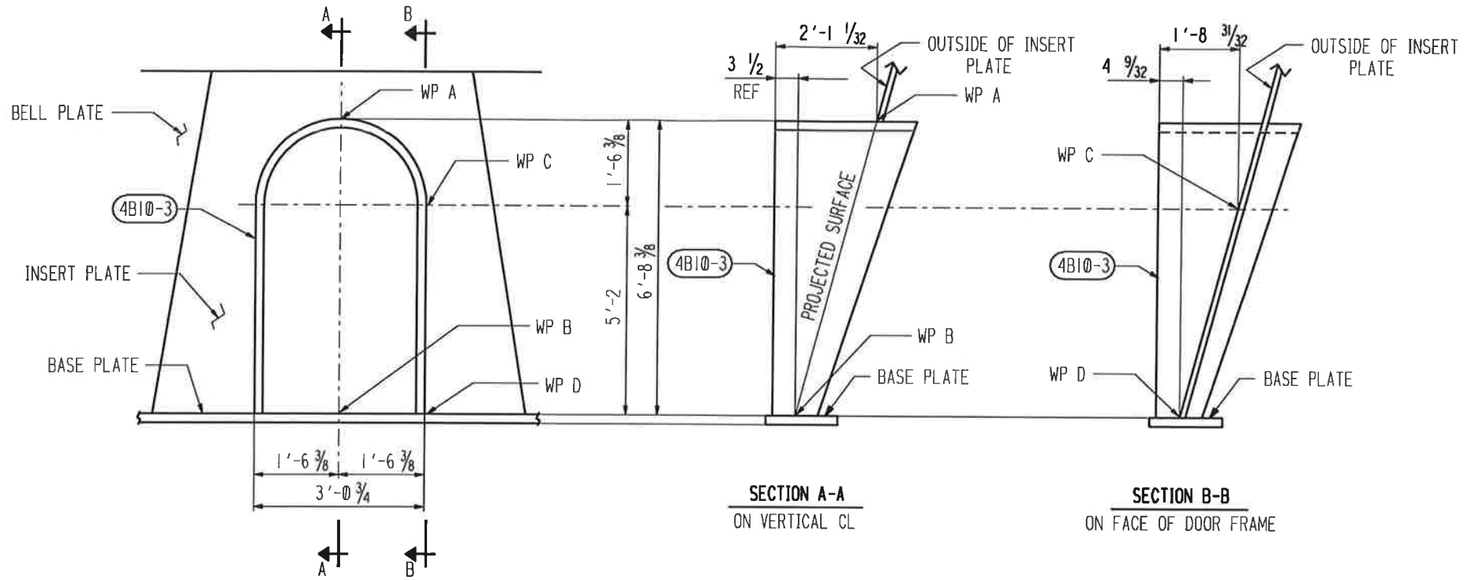
FLORIDA CITY, FLORIDA

CUSTOMER'S NO
BY KWD CHKD JRS DATE 4-18-95
BIRMINGHAM/J. L. TURNER
ENGINEERING ASSIGNED

CONTRACT NO
941085
DWG 2 REV 0
SHT 3

REVISIONS | BY | CHKD | DATE | REMARKS

41085002.D03
C0206N



SECTION A-A
ON VERTICAL CL

SECTION B-B
ON FACE OF DOOR FRAME

OUTSIDE ELEVATION OF DOOR

NOTES:

1. THIS TEMPLATE IS FOR USE WITH THE STANDARD 36 X 80 BELL DOOR ON STANDARD 4B10.

▶ INDICATES CHANGE FROM PREVIOUS ISSUE

BY	CHKD	DATE	REMARKS
BY	CHKD	DATE	REVISIONS
BY	CHKD	DATE	
BY	CHKD	DATE	

CBI

SUPPLIER'S / PURCHASER'S NO
S41085

DOOR INSTALLATION AND TEMPLATE
500 MG X 99'-6 BCL
WATERSPHEROID

FLORIDA CITY, FLORIDA

CUSTOMER'S NO

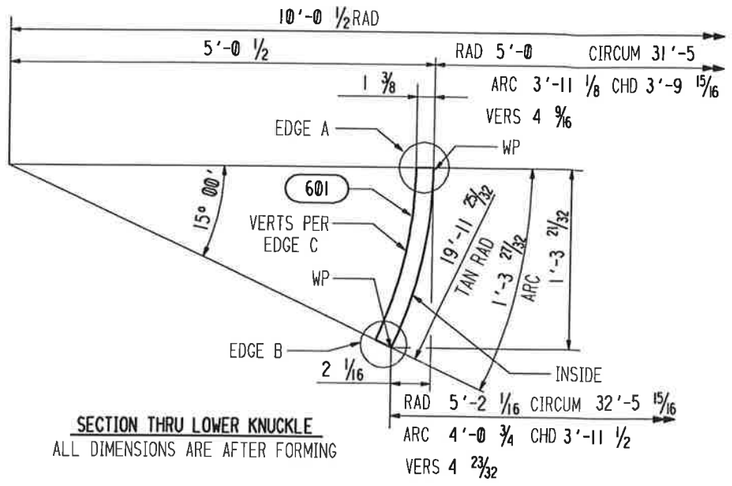
BY KWD CHKD JRS DATE 4-18-95
BIRMINGHAM/J. L. TURNER
ENGINEERING ASSIGNED

CONTRACT NO
941085

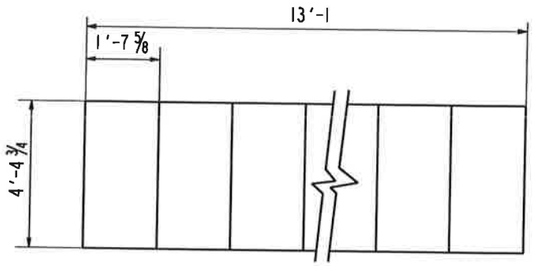
DWG 2 REV 0
SHT 4

C0206N 41085002.D04

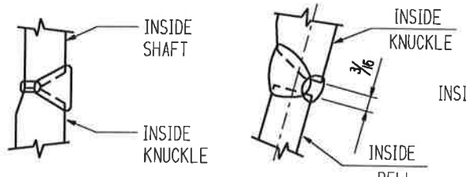
SHIP PC	MARK	ASSM PC	DESCRIPTION	LENGTH FT	LENGTH IN	SPEC	ID
			(SHOP ATTACH TO BOTTOM SHAFT SECT.)				
	2-601	8	PL SK x 1.3800			A36	1bA
			(CF 52 3/4 x 13'-1 C8)				



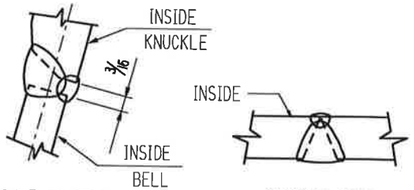
SECTION THRU LOWER KNUCKLE
ALL DIMENSIONS ARE AFTER FORMING



CUTTING SKETCH

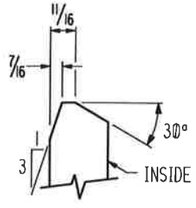


SHAFT TO KNUCKLE
INSIDE FLUSH

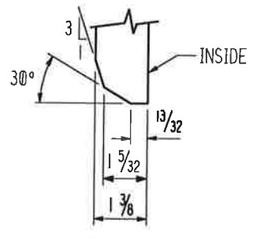


KNUCKLE TO BELL
CL STACKED

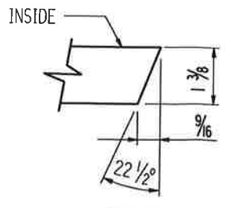
KNUCKLE VERT



EDGE A
TOP OF KNUCKLE



EDGE B
BOTTOM OF KNUCKLE



EDGE C
KNUCKLE VERT

NOTES:
1. DIMENSIONS ARE TO EDGE OF PLATE.
2. NO SHRINKAGE ALLOWANCE IS INCLUDED.
3. AFTER FIT-UP AND WELDING, SHOP CHECK CIRCUMFERENCE AT TOP AND BOTTOM OF KNUCKLE.
4. SHOP USE DIE FOR PIECE MARK 4C4-9 SEE STANDARD DRAWING 4C50-4-2A

▶ INDICATES CHANGE FROM PREVIOUS ISSUE

REVISIONS	BY	CHKD	DATE
REMARKS			

CBI

SUPPLIER'S / PURCHASER'S NO S41085

LOWER KNUCKLE
500 MG X 99'-6 BCL
WATERSPHEROID

FLORIDA CITY, FLORIDA

CUSTOMER'S NO

BY KWD CHKD JRS DATE 4-18-95

BIRMINGHAM/J. L. TURNER
ENGINEERING ASSIGNED

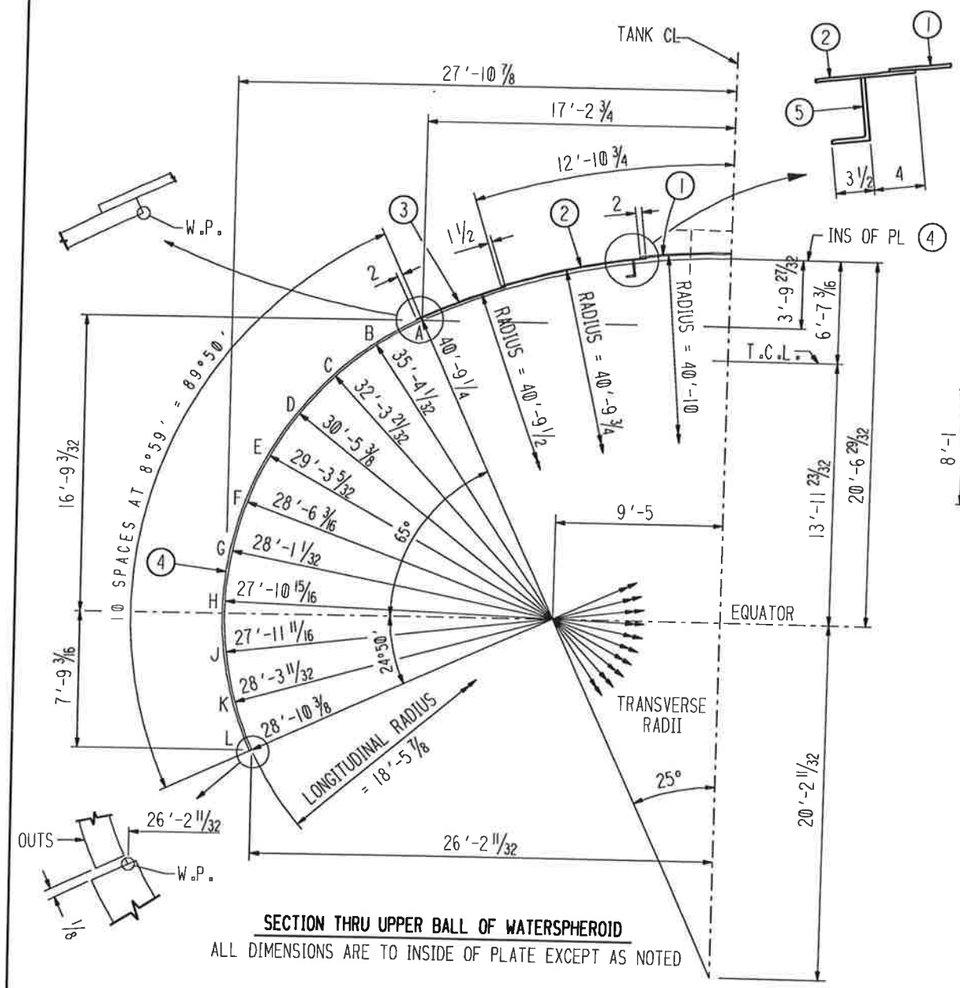
CONTRACT NO 941085

DWG 2 REV 0

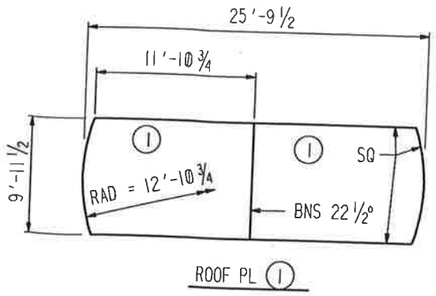
SHT 6

410850002.D06

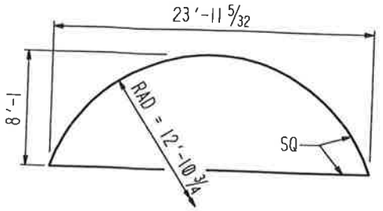
C0206N



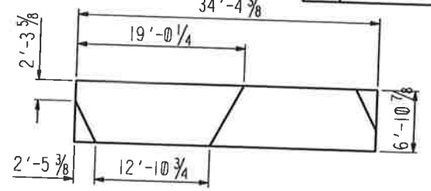
SECTION THRU UPPER BALL OF WATERSPHEROID
ALL DIMENSIONS ARE TO INSIDE OF PLATE EXCEPT AS NOTED



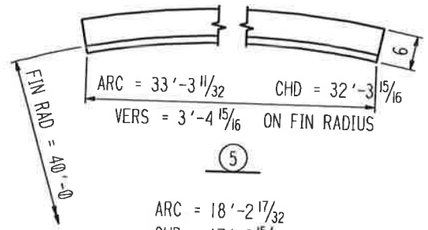
ROOF PL (1)



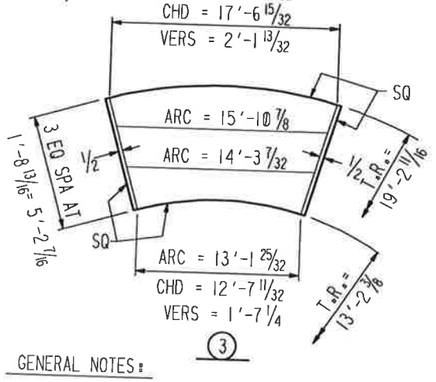
ROOF PL (2) - 2 REQ'D



CUTTING SK (3)

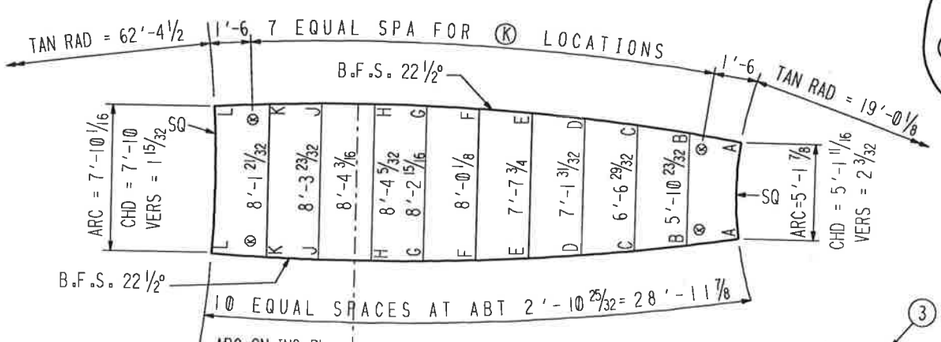


(5)

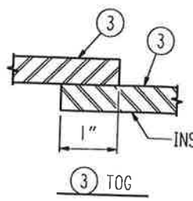


(3)

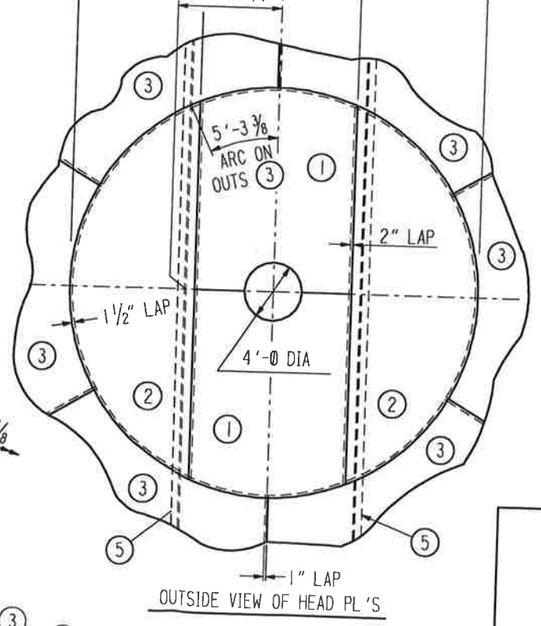
SHIP PC	MARK	ASSM PC	DESCRIPTION	LENGTH FT	LENGTH IN	SPEC	ID
2	3-1		PL SK X 1/4			A36	IbB
			(CF 120 X 25'-10 1/2 C2)				
2	3-2		PL SK X 1/4			A36	IbB
			(CF 97 1/2 X 24'-0)				
6	3-3		PL SK X 1/4			A36	IbA
			(CF 82 7/8 X 34'-4 3/8 C2)				
21	3-4		PL SK X .267			A383C	IbA
			(CF 102 1/4 X 29'-6)				
2	3-5		L 6 X 3 1/2 X 5/16 FIN	33	3 11/32	A36	IbB
			FIN RAD = 40'-0 SHR	35	4		
2	1A31		BAR 4 X 1/4 (W/HOLES)			A36	IbF
2			CPLG 2 DIA 3000# SCREWED			FS	IbB
		2	PLUG 2 DIA 3000# SQ HD			FS	IbB



BALL PL #4
(21 REQ'D)
INSIDE VIEW - D.N.S.

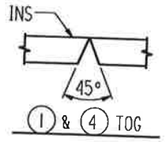


(3) TOG



OUTSIDE VIEW OF HEAD PL'S

THIS DWG IS THE SAME AS STD 4C1-50-16 EXCEPT FOR SIZE OF ANGLE (5) & CUTOUT IN PC (1)



(1) & (4) TOG

GENERAL NOTES:

1. ALL DIMENSIONS ARE CALCULATED ON INSIDE OF PLATE
2. CL OF PLATE (4) IS ALIGNED WITH CL OF PLATE (5) BELOW
3. NO SHRINKAGE ALLOWANCE IS INCLUDED IN THE TRANSVERSE SEAM DIMENSIONS OF PLATE (4). SHRINKAGE EQUALS GAP BETWEEN UPPER AND LOWER BALL.
4. DISH PLATE (4) TO RADII SHOWN IN SECTION.
5. DISH PLATES (1) (2) & (3) TO RADII SHOWN.
6. BE SURE CORNERS FIT TEMPLATE CLOSELY.
7. ALL DIMENSIONS ARE TO EDGE OF PLATE.

▶ INDICATES CHANGE FROM PREVIOUS ISSUE

CBI

SUPPLIER'S / PURCHASER'S NO 541085

UPPER BALL
500 MG X 99'-6 BCL
WATERSPHEROID

FLORIDA CITY, FLORIDA

CUSTOMER'S NO

BY KWD CHKD JRS DATE 4-18-95

BIRMINGHAM/J. L. TURNER
ENGINEERING ASSIGNED

CONTRACT NO 941085

DWG 3 REV 0

SHT

REVISIONS | BY | CHKD | DATE | REMARKS

410850D3.DGN

ARC = 15'-5 11/16
CHORD = 14'-11 17/32
ARC = 20'-11 23/32 (INS PL)
INSIDE DIAGONAL CHORD = 31'-11 9/16
4
EQUATOR
ARC=23'-6 3/8 CHORD=22'-9
OUTSIDE VIEW

ARC = 16'-5 19/32 CHD = 16'-2 11/32
5
6
7
INS DIAGONAL CHORD = 28'-0 13/32
CHECK DIMENSIONS FOR GROUND ASSEMBLY
ARC=4'-3 21/32
CHD=4'-2 13/16
OUTSIDE VIEW

2 DIA COUPLING & PLUGS (2 ARD.) LOCATE DIRECTLY ABOVE PAINTERS CLIPS ON DIAPHRAGM.

ALL DIMENSIONS ARE ON OUTSIDE OF PLATES EXCEPT WHERE NOTED OTHERWISE

SEAL 3/16
INS ROOF
3 1/8 DIA C/O
DETAIL "P"

TYP 1/4 1/4
1 1/2
2 MIN
2 MIN
3/16 3/16
CL
DETAIL "P"
1'-1 11/16
2'-0
BALL LADDER

OUTS.
SECTION B-B

1/8
DIAPHRAGM TOGETHER

3'-9
CL TANK
CL ROOF MANHOLE & FAN VENT
SEAL 3/16
SEAL FANVENT ONLY

1/4 1/4
OUTSIDE
ROOF PLATES TOGETHER
† = ROOF PLATE THICKNESS

3
E
5'-0
E
SHAFT
TYP 1/4
PAINTERS RINGS

1/4
WELD
3/16 TYP
VIEW E-E

6-8
6-5
ACCESS TUBE
F
F
1
2
3
TOP VIEW OF ROOF PLATES

OUTSIDE BELL
DOOR FRAME
BASE PLATE
5/16
TYP BELL DOOR FRAME TO BASE PLATE

90°
PAINTER'S CLIP
DETAIL D

3/16 FOR .792
1/8 FOR .563
INS.
SECTION G-G

CL
5/32
3/16
SEAL 1/4 MIN. 2 PASSES
TYP 1/4
PAINTERS CLIPS (2 ARD.). SEE DETAIL "D" FOR ORIENTATION MOVE OUT RADIALLY IF NEEDED TO CLEAR RISER PIPE.
2'-0
3
1/4 1/4
FLUSH INSIDE
3/16
5/32
FOR T = .730 THRU 1.019
FOR T = .375 THRU .729

TYP. PIPING TO DIAPHRAGM WELD

OUTSIDE
SECTION F-F

5/32 FOR T = .375 THRU 1.875
OUTS.
SECTION A-A

3 1/8 DIA C/O
CENTERED APPROX.
DIAPHRAGM
1/4 1/4
1'-0
LOCATE ON APPROX. SAME RADIAL CL AS SHAFT MANHOLE
ACCESS TUBE
DIAPHRAGM COUPLING 2 DIA W/2 PLUGS

4'-2 1/2
CL PRESSURE VACUUM RELIEF VENT
CL TANK
SEAL 3/16
VENT TO ROOF DETAIL

1/2
BASE PLATE SPLICE

* - SEE BELL DWG

PLATFORM TO ACCESS TUBE LADDER
PIPING CUTOUTS SEE GEN. PLAN
C
C
SHAFT LADDER
MANHOLE
PLAN OF SHAFT PLATFORM

3/16
SECTION J-J

INSIDE
SECTION M-M

ACCESS TUBE
K
K
SHAFT PLATFORM
PLATFORM TO ACCESS TUBE LADDER
MANHOLE
3/16 TYP
SHAFT LADDER
SHAFT
SECTION C-C

1/8
1/8
VIEW K-K

CL
5/32
TYP 1/4
ANCHOR BOLT CHAIRS
SECTION THRU WATERSPHEROID

CL BELL PL
OUTSIDE
BASE PLATE
T
1"
* *
TRIM & GRIND FLUSH AFTER WELDING
1 1/2 X 3/8 BACK-UP BAR
BELL TO BASE PL & B.U. BAR DETAIL

COND. PLATFORM OR LADDER PLATFORM
3/16 TYP
3/16 TYP
H
H
BELL LADDER

TYP
3/16
SECTION H-H

▶ INDICATES CHANGE FROM PREVIOUS ISSUE

BY	CHKD	DATE	BY	CHKD	DATE	BY	CHKD	DATE	REMARKS / REVISIONS

CBI

SUPPLIER'S / PURCHASER'S NO
S41085

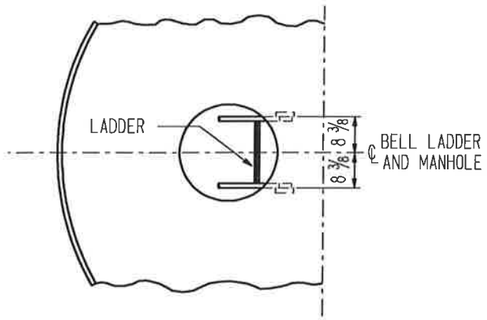
FIELD WELD AND ASSEMBLY
500 MG X 99'-6 BCL
WATERSPHEROID

FLORIDA CITY, FLORIDA

CUSTOMER'S NO
BY KWD CHKD JRS DATE 4-18-95
BIRMINGHAM/J. L. TURNER
ENGINEERING ASSIGNED

CONTRACT NO
941085
DWG 4 REV
SHT 0

41085004.DGN

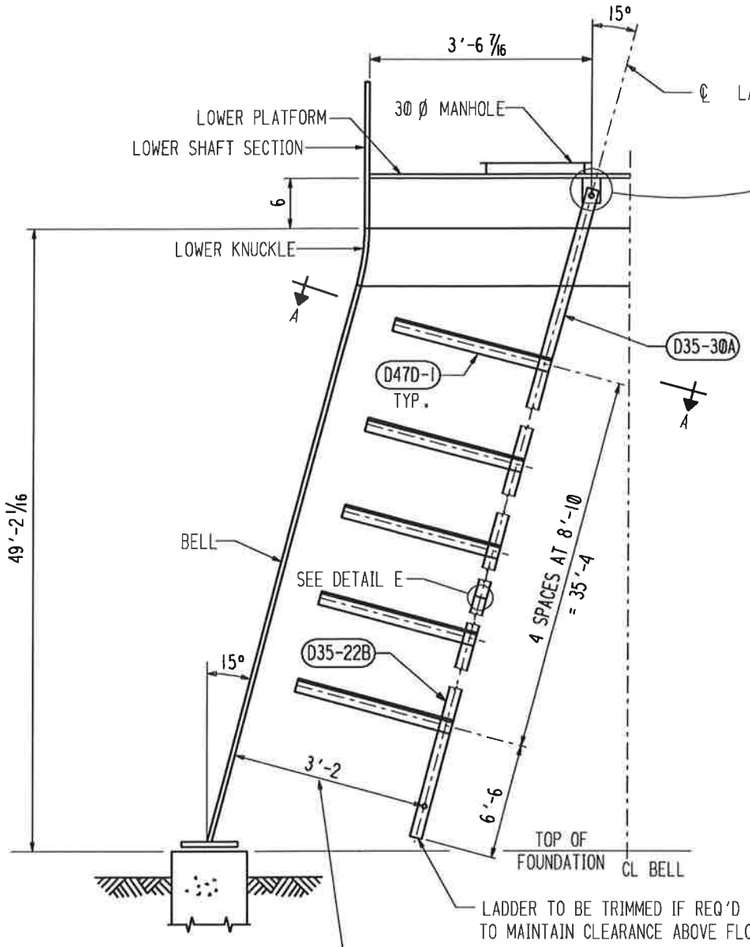


PLAN

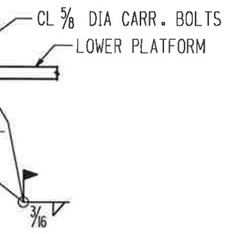
SHIP PC	MARK	ASSM PC	DESCRIPTION	LENGTH FT	LENGTH IN	SPEC	ID
1	D35-30A		LADDER ASSEMBLY	30	0		
1	D35-22B		WELDED LADDER ASSEMBLY	22	0		
10	D47D-1		L 3 x 3 x 1/4	4	4	A36	IbB
2			5/8 DIA SQ NECK CARRIAGE BOLTS	0	2	A307A	IbB
		2	5/8 DIA FIN HEX NUT			A563A	IbB
2	1G10		BAR 2 1/2 X 3/8 W/HOLE	0	3 1/2	A36	IbB

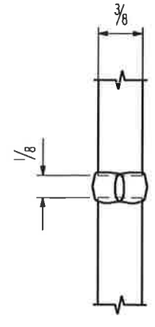
FIELD NOTE:

1. FIELD LOCATE (D47D-1) PERPENDICULAR WITH LADDER.

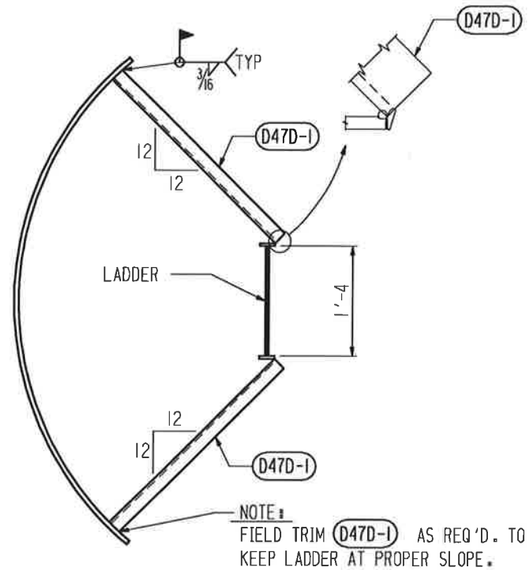


SECTIONAL ELEVATION





DETAIL E
FIELD SPLICE



NOTE:
FIELD TRIM (D47D-1) AS REQ'D. TO KEEP LADDER AT PROPER SLOPE.

SECTION A-A

▶ INDICATES CHANGE FROM PREVIOUS ISSUE

REVISIONS BY	CHKD	DATE	REMARKS

CBI

SUPPLIER'S / PURCHASER'S NO 541085

BELL LADDER
500 MG X 99'-6 BCL
WATERSPHEROID

FLORIDA CITY, FLORIDA

CUSTOMER'S NO

BY KWD CHKD JRS DATE 4-19-95

BIRMINGHAM/J. L. TURNER
ENGINEERING ASSIGNED

CONTRACT NO 941085

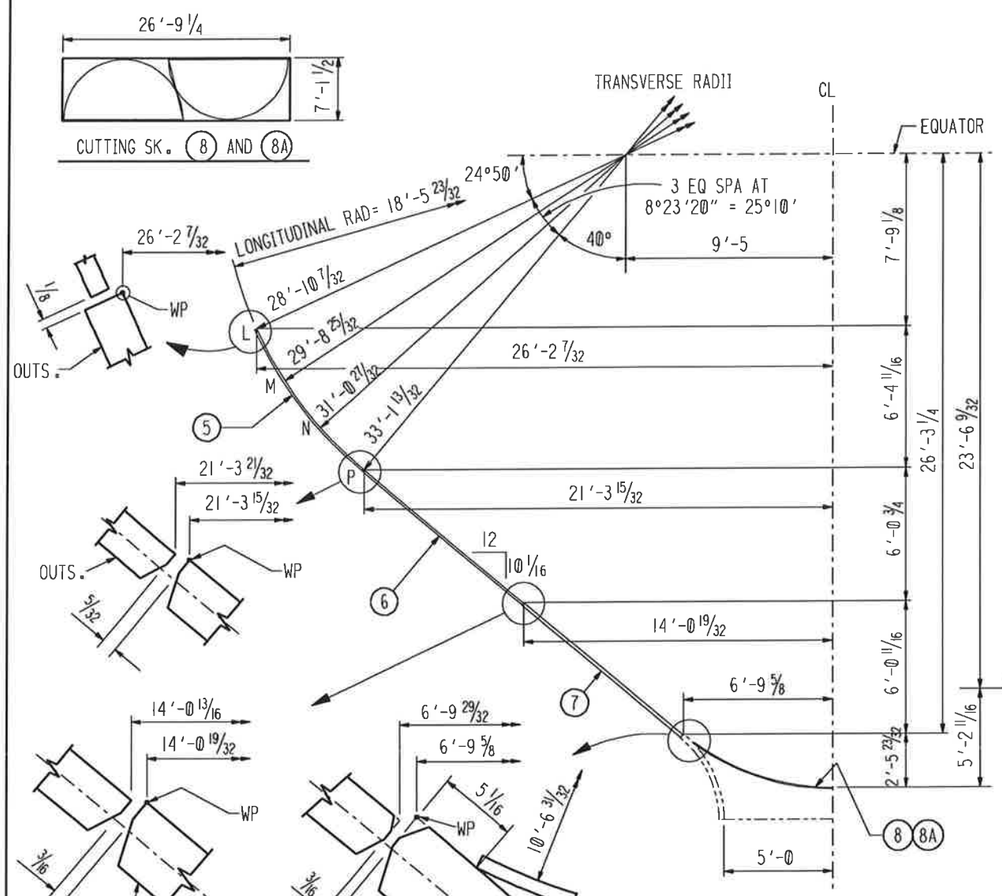
DWG 5 REV 0

SHT

410850005.DGN

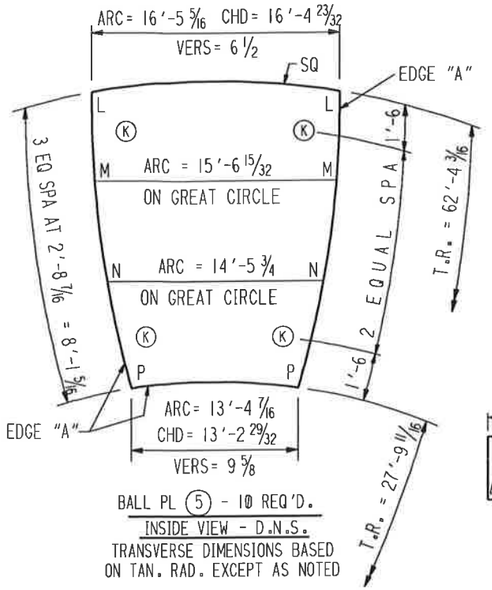
SHIP PC	MARK	ASSM PC	DESCRIPTION	LENGTH FT	LENGTH IN	SPEC	ID
10	6-5		PL SK x .563			A36	IbA
			(CF 109 x 16'-8)				
10	6-6		PL SK x .792			A36	IbA
			(CF 121 3/8 x 24'-8 C2)				
2	6-7		PL SK x 1.034			A36	IbA
			(CF 118 1/2 x 15'-8 C2)				
8	6-7		PL SK x 1.034			A36	IbA
			(CF 118 1/2 x 29'-1 C4)				
❋ 1	6-8		PL SK x 5/16			A36	IbA
			(CF 85 1/2 x 26'-9 1/4 C2)				
❋ 1	6-8A		PL SK x 5/16			A36	IbA
			(CW PC #6-8)				
1			CPLG 2 DIA 3000# SRWD			FS	IbB
		2	PLUG 2 DIA 3000# SQ HD			FS	IbB

❋ SEE PIPING AND PLATFORM ORIENTATION DRAWING FOR SHOP CUTOUTS IN DIAPHRAGM PLATE.

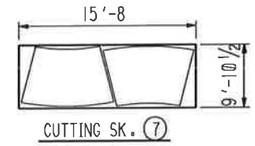


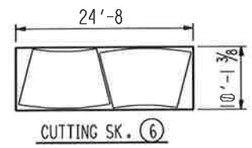
SECTION THRU BOTTOM

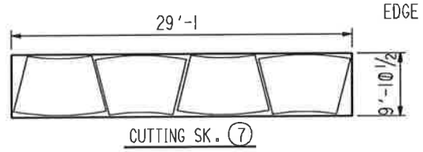
INSIDE OF KNUCKLE FOLLOWS THE BASIC CURVE
ALL DIMENSIONS ARE TO THE INSIDE OF THE PLATE EXCEPT AS NOTED
ALL PLATES ARE CENTERLINE STACKED

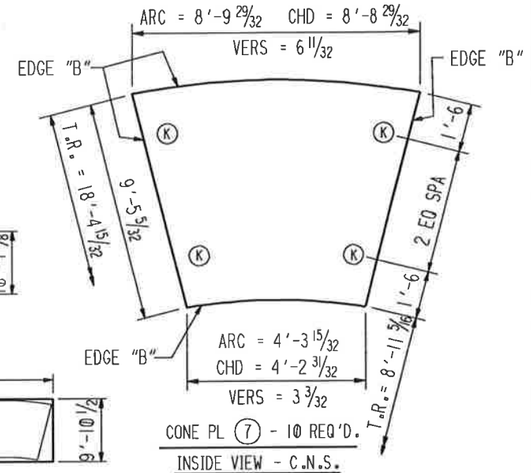


BALL PL (5) - 10 REQ'D.
INSIDE VIEW - D.N.S.
TRANSVERSE DIMENSIONS BASED ON TAN. RAD. EXCEPT AS NOTED

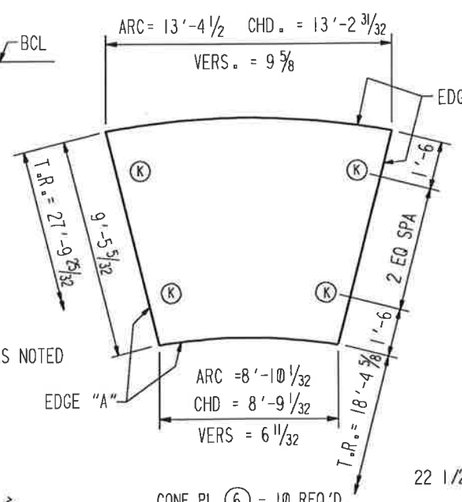




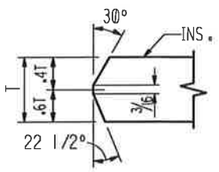




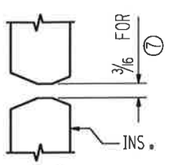
CONE PL (7) - 10 REQ'D.
INSIDE VIEW - C.N.S.
TRANSVERSE DIMENSIONS BASED ON TANGENT RADIUS



CONE PL (6) - 10 REQ'D.
INSIDE VIEW - C.N.S.
TRANSVERSE DIMENSIONS BASED ON TANGENT RADIUS

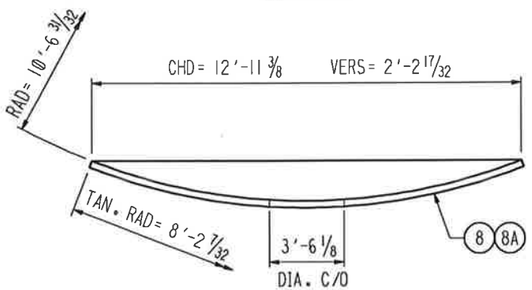


EDGE 'B'

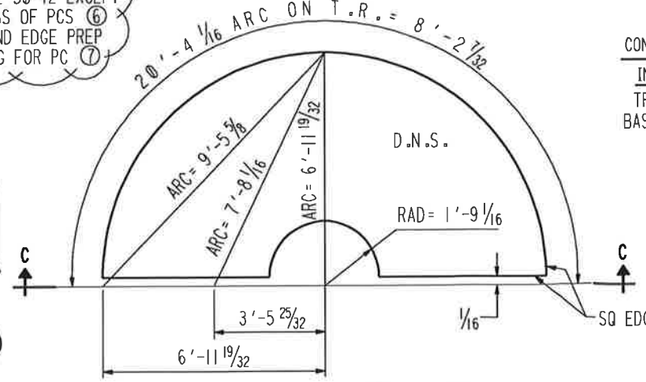


(7) TOG

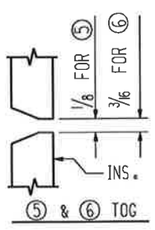
THIS DWG IS THE SAME AS STD 4C2-50-12 EXCEPT THICKNESS OF PCS (6) & (7) AND EDGE PREP & PL TOG FOR PC (7)



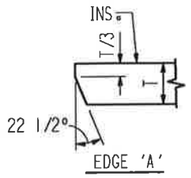
VIEW C-C



DIAPHRAGM PLATES (8) & (8A)
DIMENSIONS ARE TO INSIDE OF PLATE



(5) & (6) TOG



EDGE 'A'

GENERAL NOTES

1. NO SHRINKAGE ALLOWANCE IS INCLUDED IN TRANSVERSE ARCS & CHORDS OF PL (5). LONGITUDINAL DIMENSIONS OF PL (5) INCLUDE SHRINKAGE EQUAL 3/32.
2. ALL DIMENSIONS ON PL'S (6) & (7) ARE CALCULATED TO THE CL OF THE PLATE. ALL DIMENSIONS ON PL (5) ARE CALCULATED TO THE INS. OF THE PLATE.
3. DISH PLATES TO RADII SHOWN IN SECTION.
4. BE SURE PL CORNERS FIT TEMPLATE CLOSELY.
5. NO SHRINKAGE ALLOWANCE INCLUDED IN ALL DIMENSIONS OF PL'S (6), (7) & (8) & (8A)
6. ALL DIMENSIONS ARE TO EDGE OF PL's.

▶ INDICATES CHANGE FROM PREVIOUS ISSUE

CBI

SUPPLIER'S / PURCHASER'S NO S41085

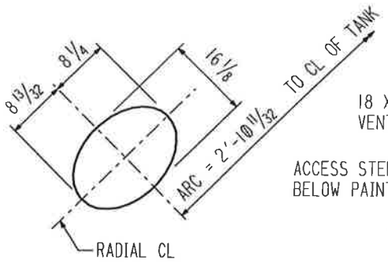
LOWER BALL
500 MG X 99'-6 BCL
WATERSPHEROID

FLORIDA CITY, FLORIDA

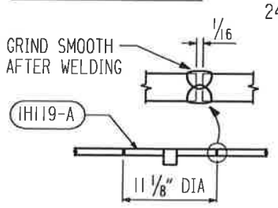
CUSTOMER'S NO
BY KWD CHKD JRS DATE 4-19-95
BIRMINGHAM/J. L. TURNER
ENGINEERING ASSIGNED

CONTRACT NO 941085
DWG 6 REV
SHT 0

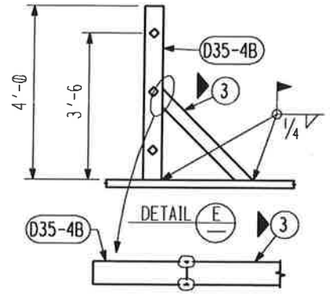
REVISIONS — BY / CHKD / DATE / REMARKS

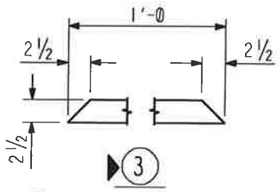


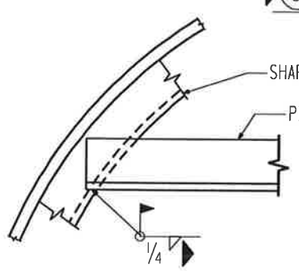
DIAPHRAGM CUTOUT FOR BOTH RISER PIPES



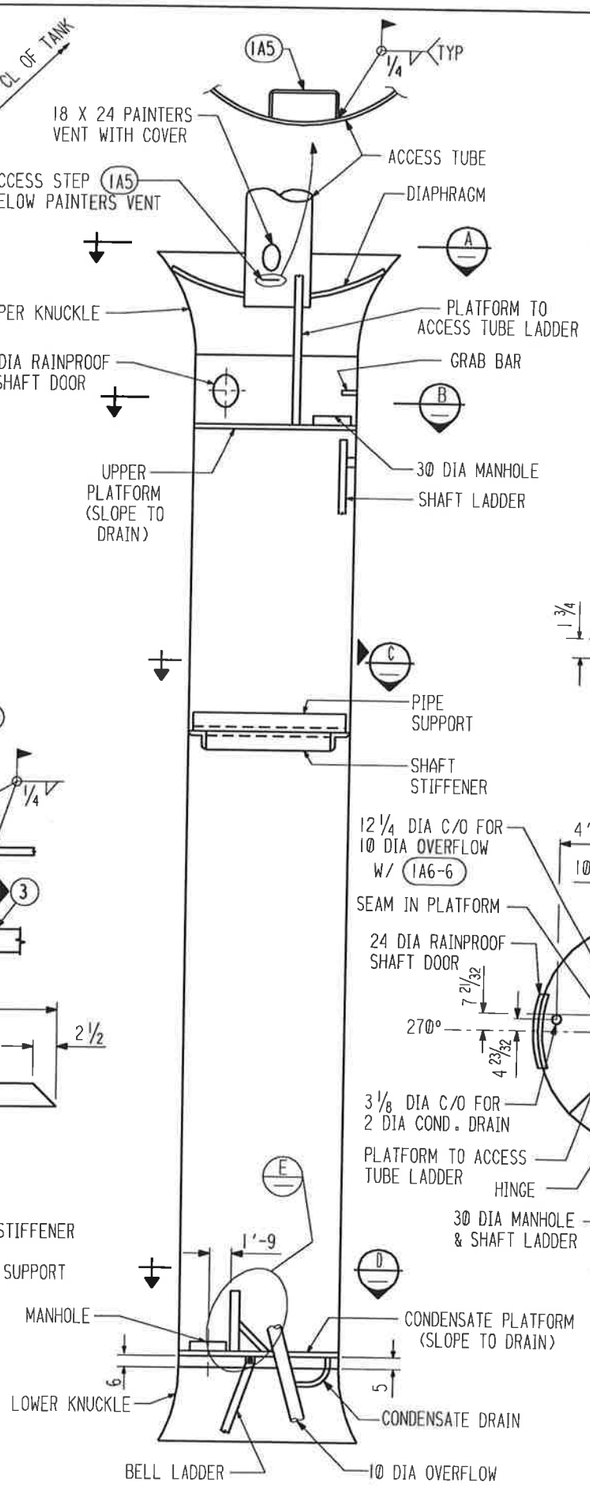
▶ FIELD LOCATE AND BURN CUTOUT FOR DERRICK CABLES WHERE NEEDED IN PLATFORMS



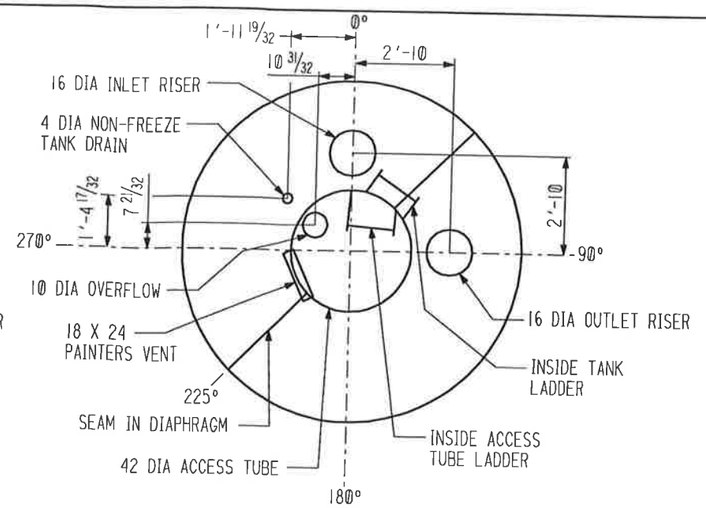




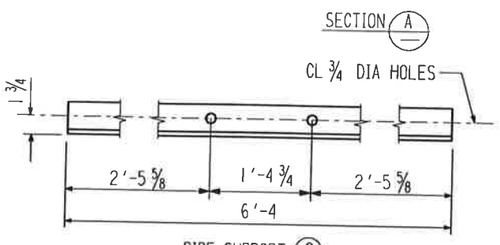
TYPICAL WELDING OF PIPE SUPPORT TO STIFFENER



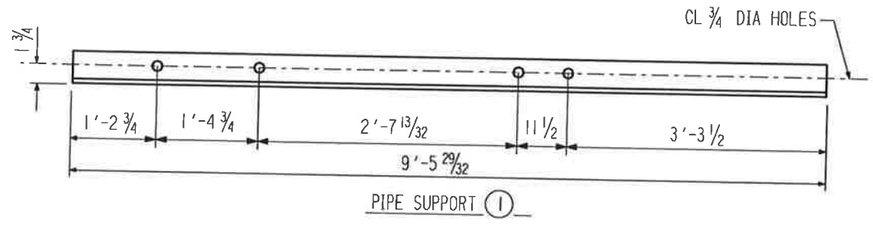
SECTION THRU SHAFT



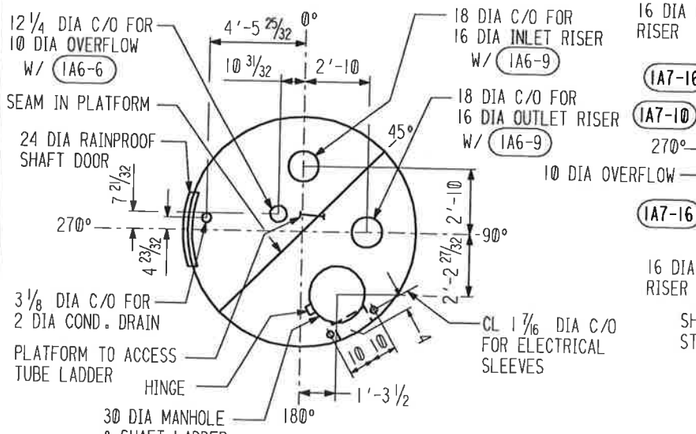
SHIP PC	MARK	ASSM PC	DESCRIPTION	LENGTH FT	LENGTH IN	SPEC	ID
1	20-1		L 3 X 3 X 1/4 W/HOLES	9	5 29/32	A36	IbB
1	20-2		L 3 X 3 X 1/4 W/HOLES	6	4	A36	IbB
1	1A7-10		U-BOLT 5/8 DIA TBE 2 1/2	2	8 5/16	A36	IbF
		2	NUT 5/8 DIA HEX			A563A	IbF
2	1A7-16		U-BOLT 5/8 DIA TBE 2 1/2	3	9 11/16	A36	IbF
		4	NUT 5/8 DIA HEX			A563A	IbF
2	1A6-A9		CONDENSATE RING ASS'Y				
	1A6-9	2	BAR 3 X 1/4 ROLL	4	9 11/32	A36	IbB
	1A6-27	2	PL 26 OD X 1/4 X 18 ID			A283C	IbB
1	D35-4B		WELDED LADDER ASS'Y	4	0		
1	20-3		BAR 2 1/2 X 3/8 MBE	1	0	A36	IbB
1	1A5		HANDLE ROD 7/8 DIA (BENT)	1	10	A36	IbF



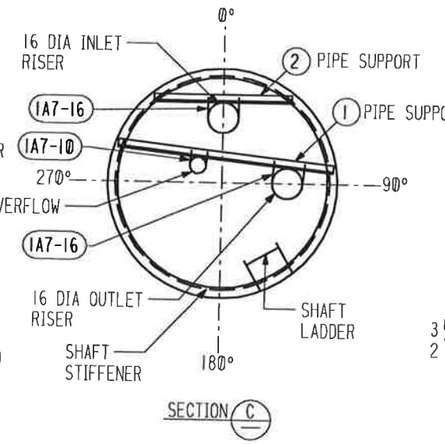
PIPE SUPPORT (2)



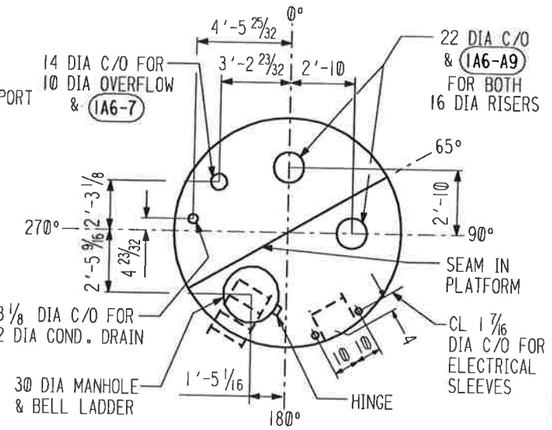
PIPE SUPPORT (1)



SECTION B



SECTION C



SECTION D

GENERAL NOTES

1. ALL CUTOUTS IN SHAFT PLATFORMS AND DIAPHRAGM ARE TO BE MADE IN THE SHOP UNLESS NOTED OTHERWISE.
2. SEE GENERAL PLAN FOR LOCATION OF PIPE SUPPORT BRACKETS IN SHAFT.
3. MAXIMUM SPACING OF PIPE SUPPORT BRACKETS IN SHAFT TO BE 32'-0.
4. SEE GENERAL PLAN FOR NUMBER OF STIFFENERS AND SHAFT STD. FOR LOCATION.

▶ INDICATES CHANGE FROM PREVIOUS ISSUE

BY	CHKD	DATE	REVISIONS	REMARKS
KWD	JRS	6-2-95	MISC. REVISIONS PER CUSTOMER AND IN-HOUSE REVIEW	

CBI

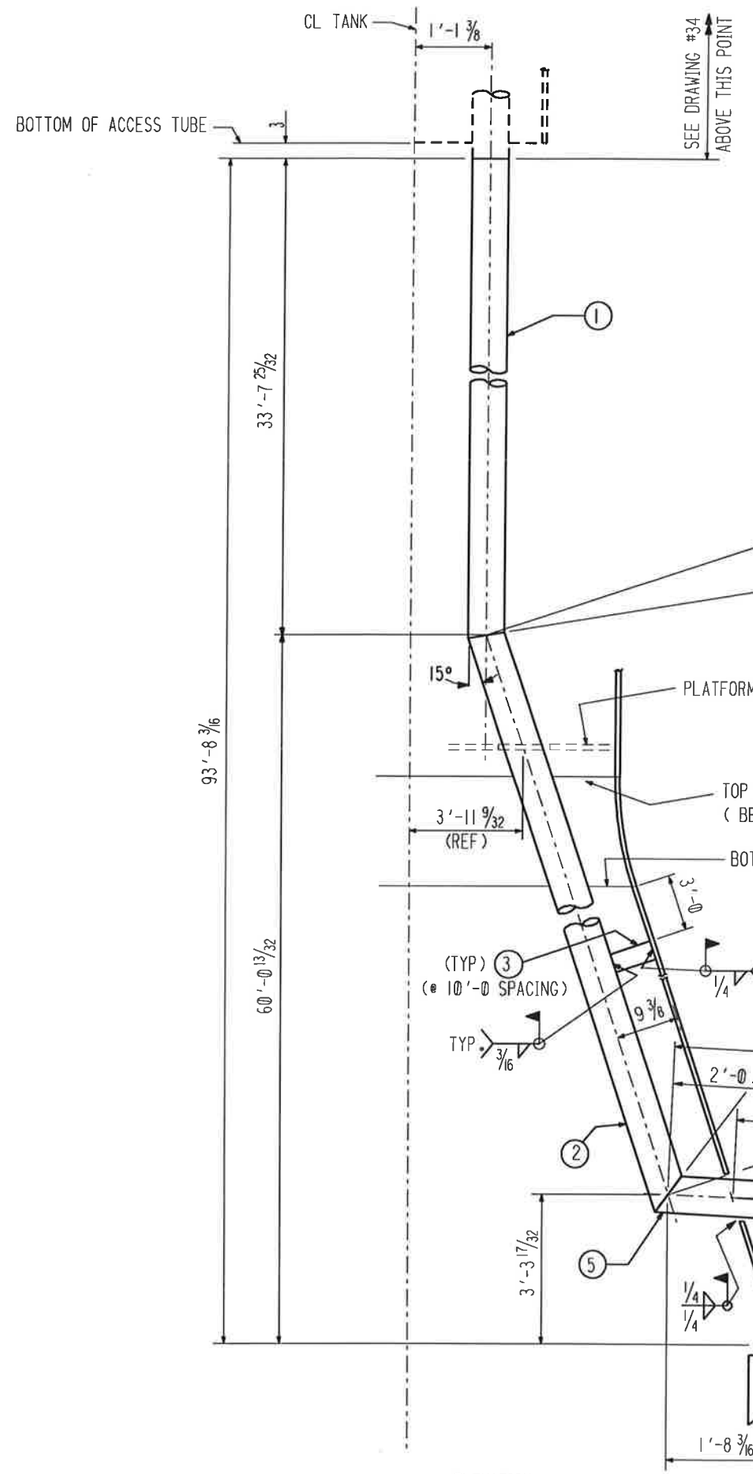
SUPPLIER'S / PURCHASER'S NO 541085

ORIENTATION OF ACCESSORIES IN SHAFT
500 MG X 99'-6 BCL
WATERSPHEROID
FLORIDA CITY, FLORIDA

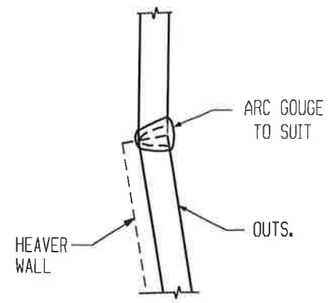
CUSTOMER'S NO
BY KWD CHKD JRS DATE 4-19-95
BIRMINGHAM/J. I. TURNER
ENGINEERING ASSIGNED

CONTRACT NO 941085
DWG 20 REV
SHT

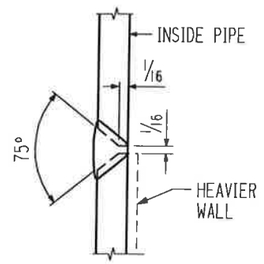
FILE NAME=20D4DGN - WITH 904.BIL



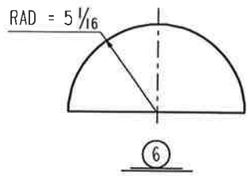
ELEVATION

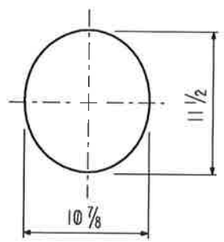


TYP. MITERED PIPE JOINT

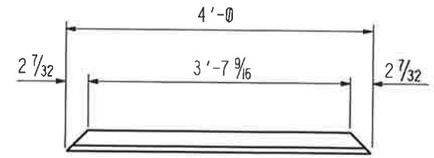


TYP. WELD JOINT FOR PIPE





APPROX. CUTOUT IN BELL



10

SHIP PC	MARK	ASSM PC	DESCRIPTION	LENGTH FT	LENGTH IN	SPEC	ID
1	21-1		PIPE 10 DIA SCH 20 POE MOE CTOE	33	7 25/32	M3	IbB
			BEVEL INTER'M JOINTS FOR WELDING				
			(CF RUN 98'-0 CUTS 1,2,8 & 11)				
1	21-2		PIPE 10 DIA SCH 20 MBE CTOC	58	8 7/8	M3	IbB
			BEVEL INTER'M JOINTS FOR WELDING				
			(CW 21-1)				
4	21-3		BAR FLAT 3 X 1/4	0	4	A36	
1	21-A		PIPE ASSY				
	21-5	1	PIPE 10 DIA SCH 120 BOE MOE CTOE	2	0	M3	IbB
			(CF PC 2'-8)				
	21-6	1	PL SK X 1/4			A283C	
			(CF 5 1/2 X 1/4 X 10 3/4)				
	21-7	1	ELBOW 90 DEG 10 DIA STD WT L.R.			A234	IbB
	21-8	1	PIPE 10 DIA SCH 20 (CW 21-1) PBE	0	6	M3	IbB
	21-11	1	PIPE 10 DIA SCH 20 (CW 21-1)CTOE BBE	5	5 1/4	M3	IbB
1	21-9		CHECK VALVE 10 DIA TIDEFLEX			RUBBER	IbF
			SERIES 35 FLANGED 150#				
			BACK PRESSURE ATMOS				
			LINE PRESSURE GRAVITY				
			MAX FLOW RATE 4200 GPM				
			VELOCITY				
			DISCHARGE TO ATMOSPHERE				
			PIPE OD 10 5/8 DIA				
			PIPE MATERIAL STEEL				
1	21-10		L 3 X 3 X 1/4 SK	4	0	A36	IbB
1	21-12		FLG 10 DIA 150# FF SO			A105	IbB
12			BOLT 7/8 DIA HVY HEX	0	3 3/4	SS	IbB
		12	NUT 7/8 DIA HEX			SS	IbB
1	1C12-2-10		GASKET FULL FACE			RED RUBBER	IbF
			16 OD X 1/8 X 10 3/4 ID				
			W/12 1" DIA HOLES ON 14 1/4 BC				
			M3 = A53B TYPE E OR TYPE S				
			OR API-5L GRADE B				

GENERAL NOTES

1. SEE PIPING & PLATFORM DWG. #20 FOR ORIENTATION & PIPE SUPPORT DETAILS.
2. WORK THIS DWG. WITH DWG. #34.

▶ INDICATES CHANGE FROM PREVIOUS ISSUE

REVISIONS	BY	CHKD	DATE	REMARKS

CBI

SUPPLIER'S / PURCHASER'S NO S41085

10" DIA. OVERFLOW TO GROUND
500 MG X 99'-6 BCL
WATERSPHEROID
WITH ORIFICE
FLORIDA CITY, FLORIDA

CUSTOMER'S NO

BY KWD CHKD JRS DATE 4-19-95

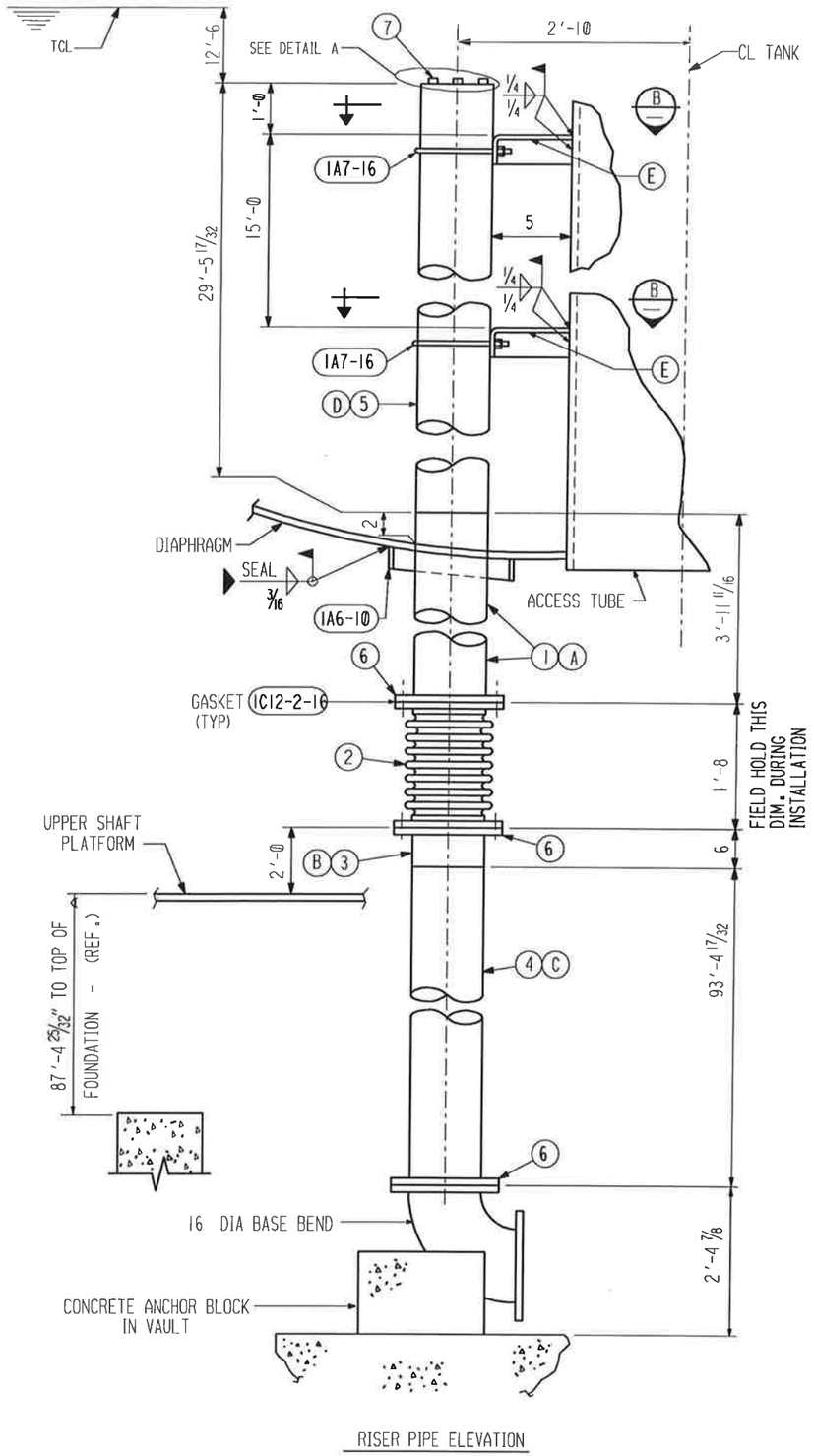
BIRMINGHAM/J. I. TURNER
ENGINEERING ASSIGNED

CONTRACT NO 941085

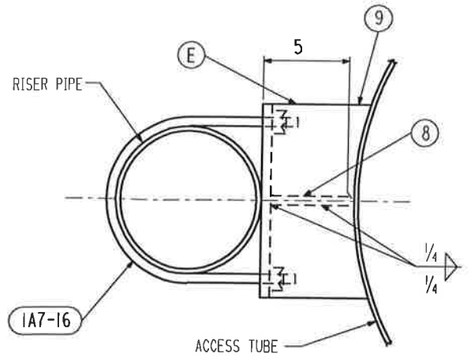
DWG 21 REV 0

SHT 0

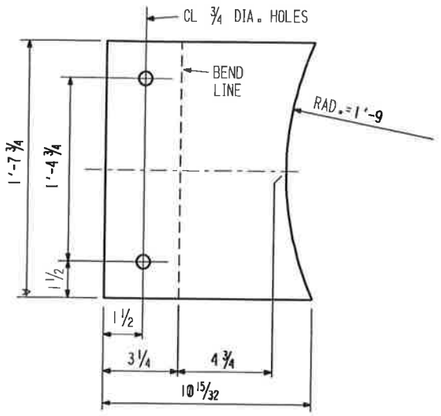
Program: C0110A Date of Version: 5/19/86



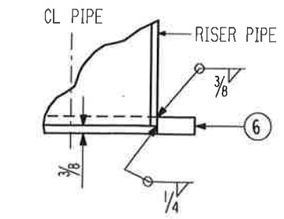
RISER PIPE ELEVATION



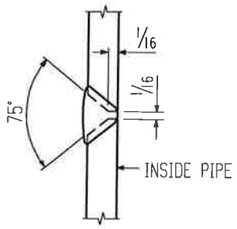
VIEW B



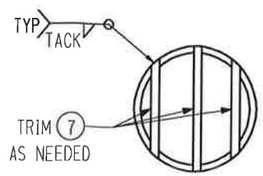
9



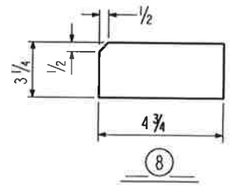
WELD FOR FLANGE TO RISER PIPE



TYP. WELD JOINT FOR PIPE OF SAME THICKNESS



DETAIL A



8

SHIP PC	MARK	ASSM PC	DESCRIPTION	LENGTH FT	LENGTH IN	SPEC	ID
1	22-A		PIPE ASSEMBLY	3	11 11/16		
	22-1	1	PIPE 16 DIA SCH 40 POE BOE	3	11 5/16	M3	1bB
	22-6	1	PL FLG 16 DIA FF 150#			A105	1bB
1	22-2		KOPPERMAN 16 DIA EXPANSION JOINT			SS	1bF
			MODEL # F-115 W/6 CORRUGATIONS				
1	22-B		PIPE ASSEMBLY	0	6		
	22-3	1	PIPE 16 DIA SCH 40 POE BOE	0	5 5/8	M3	1bB
	22-6	1	PL FLG 16 DIA FF 150#			A105	1bB
1	22-C		PIPE ASSEMBLY	93	4 17/32		
	22-4	1	PIPE 16 DIA SCH 40 POE BOE	93	4 5/32	M3	1bB
			BEVEL INTER'M JOINTS FOR WELDING				
	22-6	1	PL FLG 16 DIA FF 150#			A105	1bB
1	22-D		PIPE ASSEMBLY				
	22-5	1	PIPE 16 DIA SCH 40 PBE	29	5 17/32	M3	1bB
			BEVEL INTER'M JOINTS FOR WELDING				
	22-7	3	BARS 3/4 SQ	1	4	A36	1bB
2	22-E		RISER SUPPORT BRACKET ASSEMBLY				
	22-8	2	PL 3 1/4 X 1/4 CLIP	0	4 3/4	A36	1bB
	22-9	2	PL SK X 1/4			A36	1bB
			(CF 10 1/2 X 1'-7 3/4 CI)				
	1A7-16	2	U-BOLT 5/8 DIA [TBE 2 1/2]	3	9 11/16	A36	1bF
		4	NUT 5/8 DIA HVY HEX			A563A	1bF
48			BOLTS 1 DIA FIN HEX	0	4	SS	1bF
		48	NUTS 1 DIA FIN HEX			SS	1bF
3	1C12-2-16		GASKET FULL FACE			RED RUBBER	1bF
			23 1/2 OD X 1/8 X 16 ID				
			W/16 - 1 1/8 DIA HOLES ON 21 1/4 BC				
1	1A6-10		BAR 3 X 1/4 [ROLL]	5	3 5/8	A36	1bF
			M3 = A53B TYPE E(ELECTRIC-RESISTANCE				
			WELDED) OR TYPE S (SEAMLESS) OR				
			API-5L GRADE B (ELECTRIC WELDED				
			OR SEAMLESS)				

NOTES:

1. SEE PIPING AND PLATFORM DWG #20 FOR ORIENTATION OF RISER AND DETAIL OF PIPE SUPPORT BRACKET.

▶ INDICATES CHANGE FROM PREVIOUS ISSUE

BY	CHKD	DATE	REVISIONS	REMARKS
KWD	JRS	6-2-95	REVISED TO SHOW SEAL WELD IN RISER PIPE ELEVATION PER CUSTOMER REVIEW	

CBI

SUPPLIER'S / PURCHASER'S NO S41085

16" DIAMETER INLET RISER PIPE

500 MG x 99'-6 BCL
WATERSPHEROID

FLORIDA CITY, FLORIDA

CUSTOMER'S NO

BY KWD CHKD JRS DATE 4-19-95

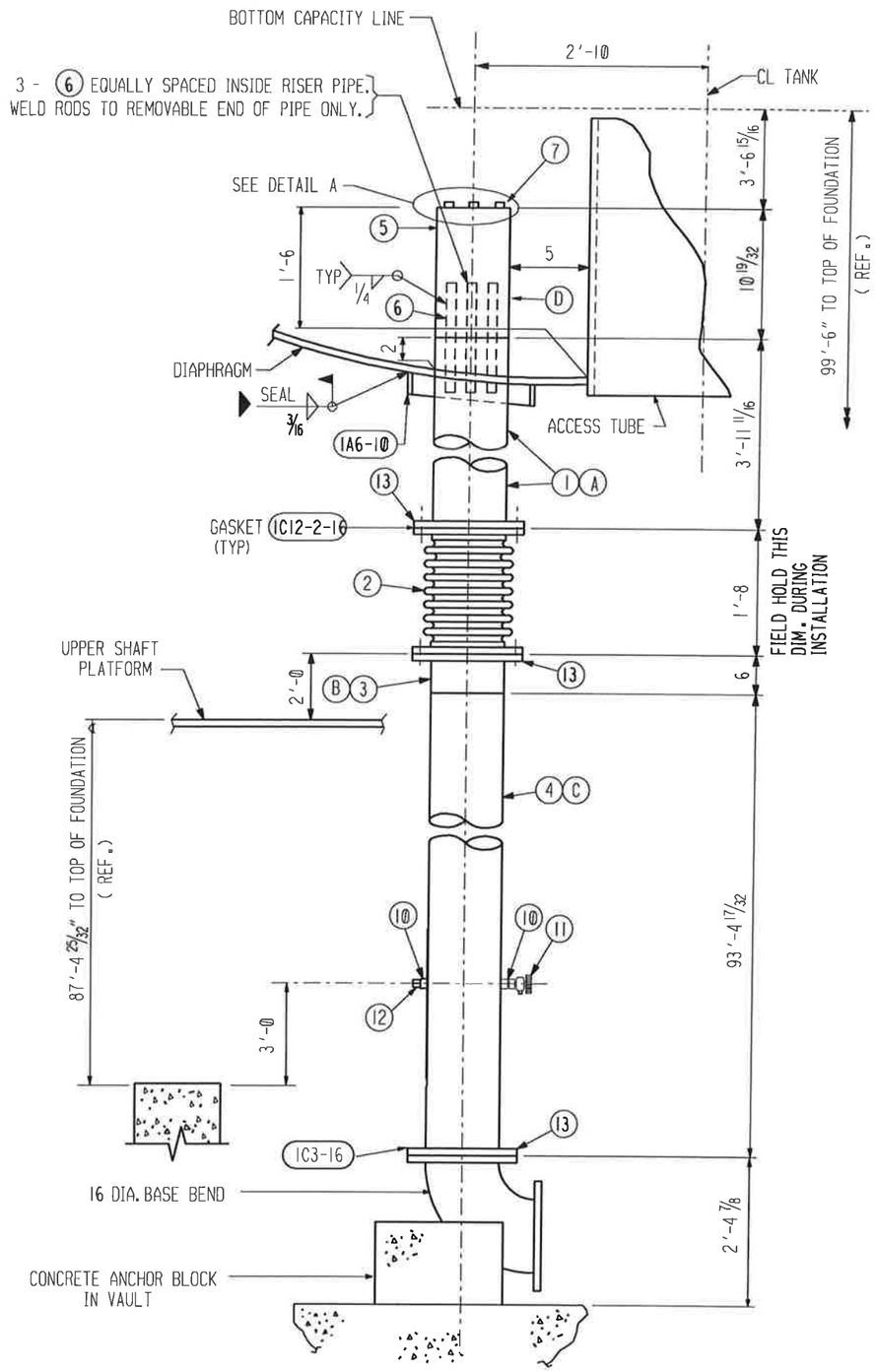
BIRMINGHAM/J. L. TURNER
ENGINEERING ASSIGNED

CONTRACT NO 941085

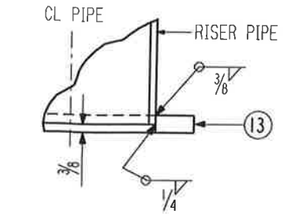
DWG 22 REV 1

SHT

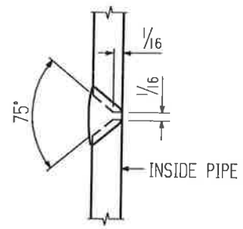
41085022.DGN



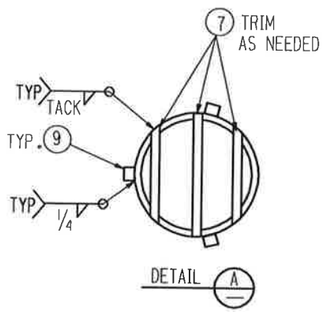
RISER PIPE ELEVATION



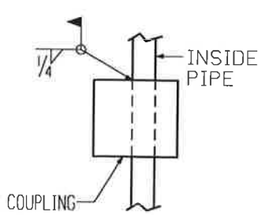
WELD FOR FLANGE TO RISER PIPE



TYP. WELD JOINT FOR PIPE OF SAME THICKNESS



DETAIL A



TYP. WELD OF COUPLING TO RISER

SHIP PC	MARK	ASSM PC	DESCRIPTION	LENGTH FT	LENGTH IN	SPEC	ID
1	23-A		PIPE ASSEMBLY	3	11 11/16		
	23-1	1	PIPE 16 DIA SCH 40 POE BOE	3	11 5/16	M3	1bB
	23-13	1	PL FLG 16 DIA FF 150#			A105	1bB
1	23-2		KOPPERMAN 16 DIA EXPANSION JOINT			SS	1bF
			MODEL # F-115 W/6 CORRUGATIONS				
1	23-B		PIPE ASSEMBLY	0	6		
	23-3	1	PIPE 16 DIA SCH 40 POE BOE	0	5 5/8	M3	1bB
	23-13	1	PL FLG 16 DIA FF 150#			A105	1bB
1	23-C		PIPE ASSEMBLY	93	4 17/32		
	23-4	1	PIPE 16 DIA SCH 40 POE BOE	93	4 5/32	M3	1bB
			BEVEL INTER'M JOINTS FOR WELDING				
	23-13	1	PL FLG 16 DIA FF 150#			A105	1bB
1	23-D		PIPE ASSEMBLY				
	23-5	1	PIPE 16 DIA SCH 40 PBE	1	6	M3	1bB
	23-6	3	BARS SQUARE 1/2	0	8	A36	1bB
	23-7	3	BARS 3/4 SQ	1	4	A36	1bB
2	23-10		HALF CPLG 3/4 DIA 3000#			FS	1bF
1	23-11		SAMPLE COCK 3/4 DIA			BRONZE	1bF
			(CONBRACO 26-307-28 SERIES) OR EQUAL				
1	23-12		PIPE PLUG 3/4 DIA			CS	1bF
48			BOLTS 1 DIA FIN HEX	0	4	SS	1bF
		48	NUTS 1 DIA FIN HEX			SS	1bF
3	1C12-2-16		GASKET FULL FACE			RED RUBBER	1bF
			23 1/2 OD X 1/8 X 16 ID				
			W/16 - 1 1/8 DIA HOLES ON 21 1/4 BC				
1	1A6-10		BAR 3 X 1/4 [ROLL]	5	3 5/8	A36	1bF
			M3 = A53B TYPE E (ELECTRIC-RESISTANCE				
			WELDED) OR TYPE S (SEAMLESS) OR				
			API-5L GRADE B (ELECTRIC WELDED				
			OR SEAMLESS)				

NOTES: 1. SEE PIPING AND PLATFORM DWG. 20 FOR ORIENTATION OF RISER AND DETAIL OF PIPE SUPPORT BRACKET.

▶ INDICATES CHANGE FROM PREVIOUS ISSUE

BY	CHKD	DATE	REVISIONS	REMARKS
KWD	JRS	6-2-95	REVISED TO SHOW A SEAL WELD IN RISER PIPE ELEVATION PER CUSTOMER REVIEW	

CBI

SUPPLIER'S / PURCHASER'S NO S41085

16" DIAMETER OUTLET RISER PIPE
500 MG x 99'-6 BCL
WATERSPHEROID

FLORIDA CITY, FLORIDA

CUSTOMER'S NO

BY KWD CHKD JRS DATE 4-19-95

BIRMINGHAM/J. L. TURNER

ENGINEERING ASSIGNED

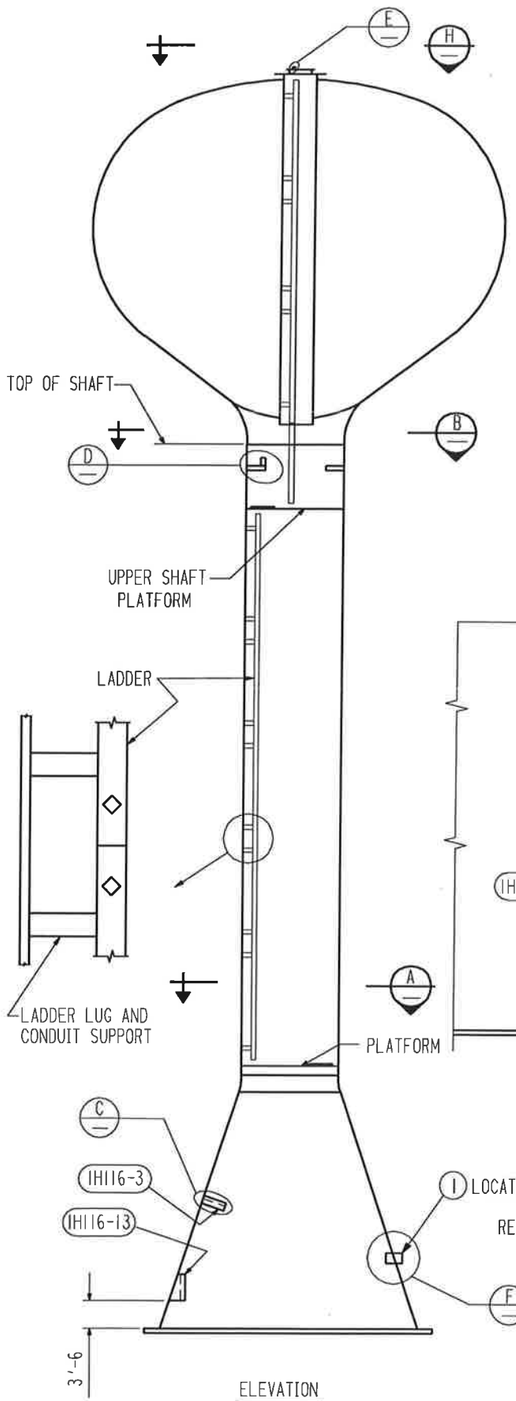
CONTRACT NO 941085

DWG 23 REV

SHT 1

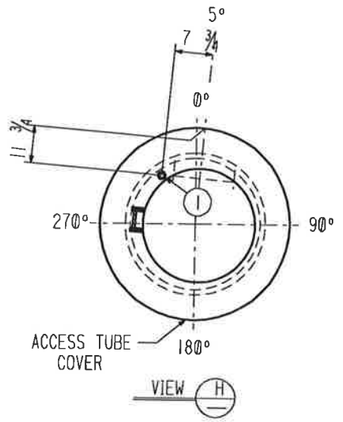
41085023.DGN

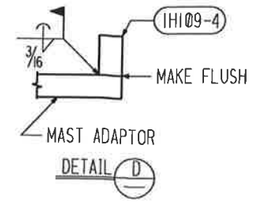
SHIP PC	MARK	ASSM PC	DESCRIPTION	LENGTH FT	LENGTH IN	SPEC	ID
2	24-1		CPLG SRWD 1" DIA 3000#			FS	
2	1H109-4		BAR 2 X 1/4	0	4	A36	
1	1H116-13		PL SK X 1/4			A36	
			(CF 36 3/8 X 5'-11 5/8)				
19	1H116-3		L 2 X 2 X 3/16	0	8	A36	

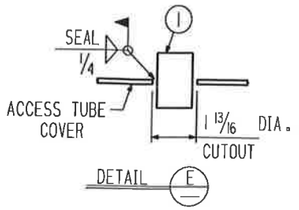


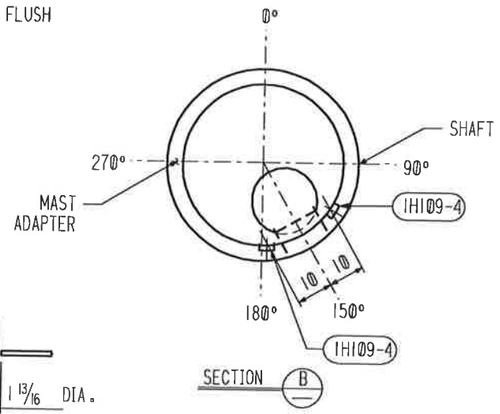
ELEVATION

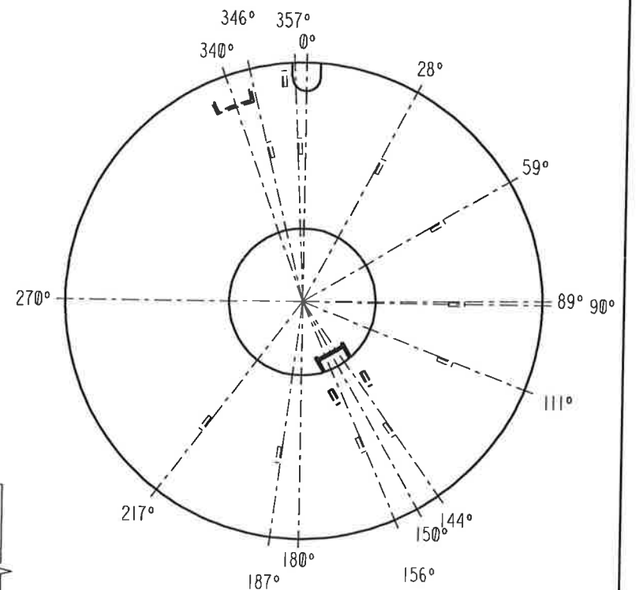
(SEE SECTION (A) OR (B) FOR ORIENTATION OF COMPONENTS)



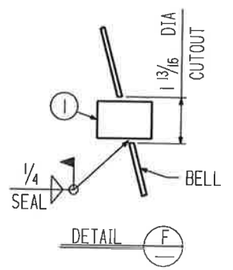


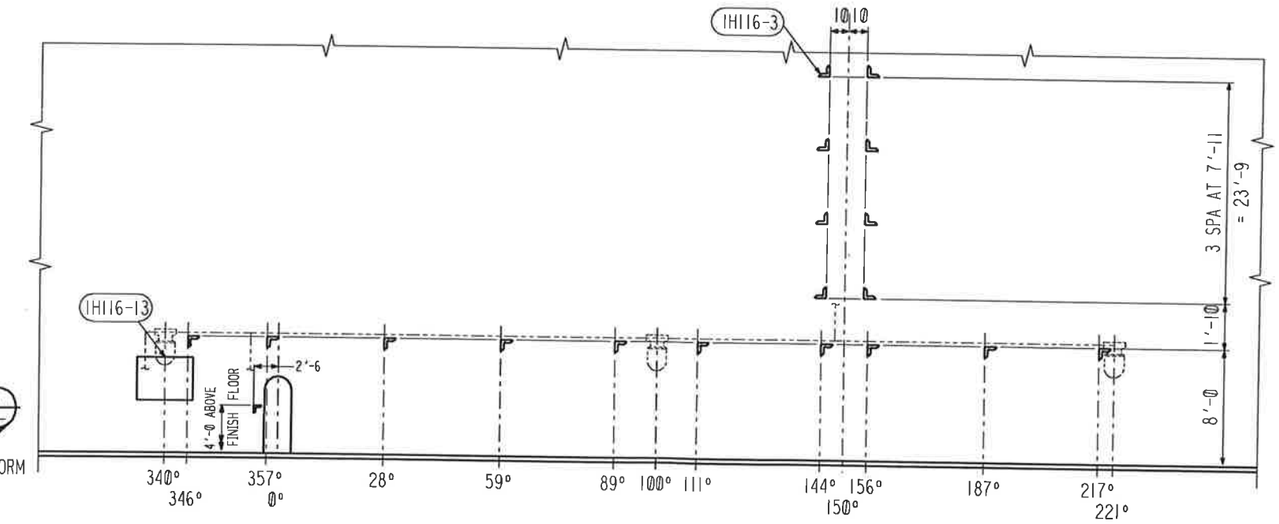






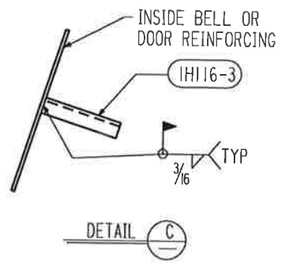
(SINGLE VERTICAL CONDUIT SUPPORT ANGLES OMITTED FOR CLARITY)

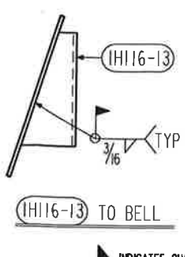




INSIDE STRETCHOUT OF BELL

(ALL ANGLE CLIPS ARE (1H116-3))





▶ INDICATES CHANGE FROM PREVIOUS ISSUE

REVISIONS	BY	CHKD	DATE	REMARKS

CBI

SUPPLIER'S / PURCHASER'S NO S41085

ELECTRICAL ORIENTATION

500 MG X 99'-6 BCL
WATERSPHEROID

FLORIDA CITY, FLORIDA

CUSTOMER'S NO

BY KWD CHKD JRS DATE 4-19-95

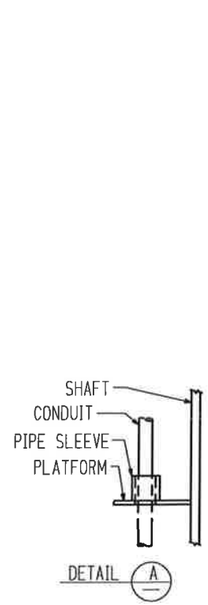
BIRMINGHAM/J. L. TURNER
ENGINEERING ASSIGNED

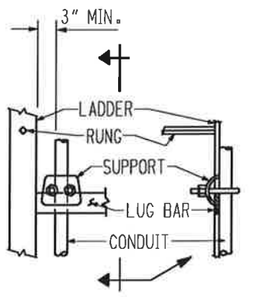
CONTRACT NO 941085

DWG 24 REV 0

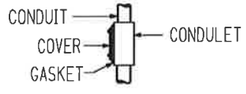
SHT

Program C0101A Date of Version 9-17-86

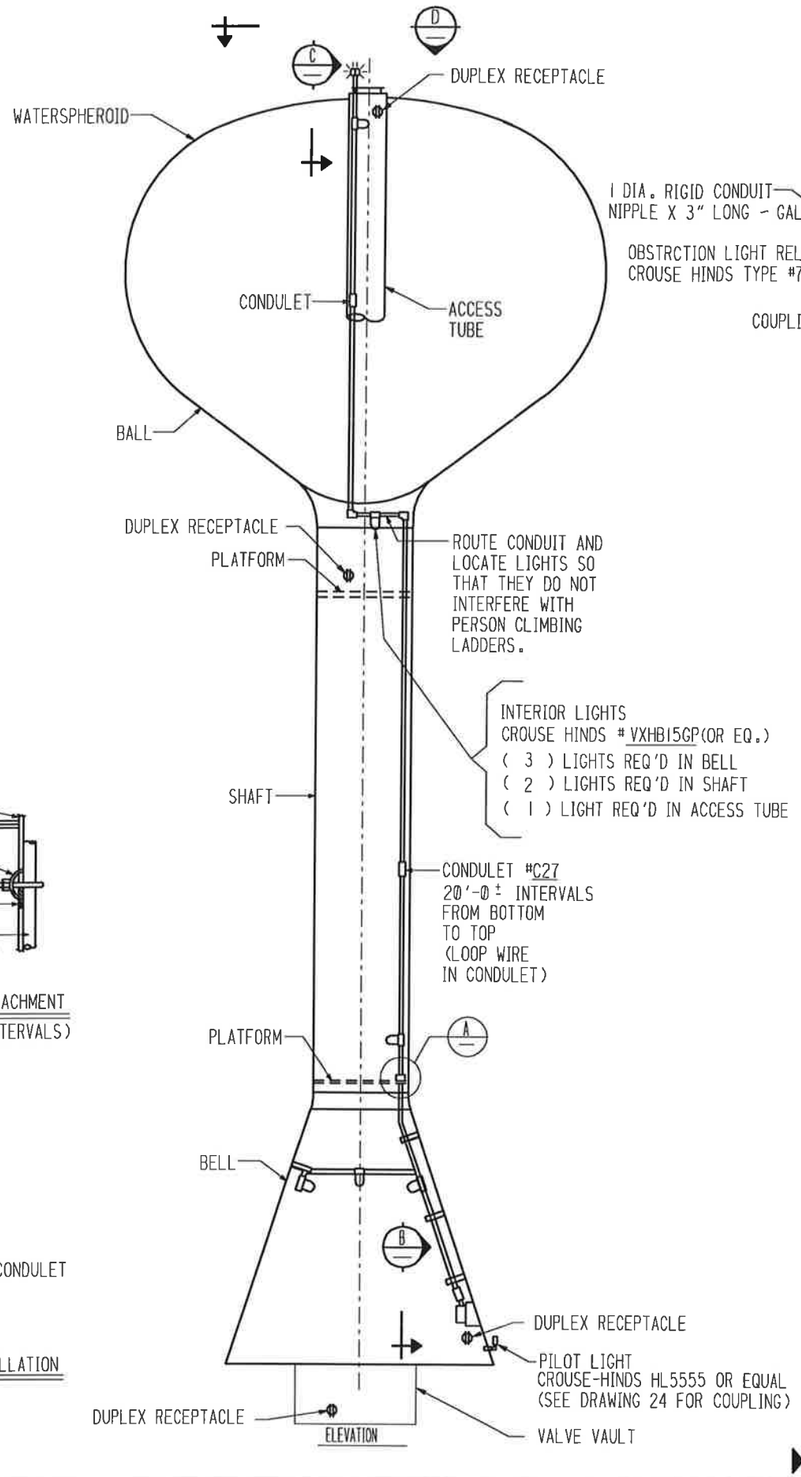


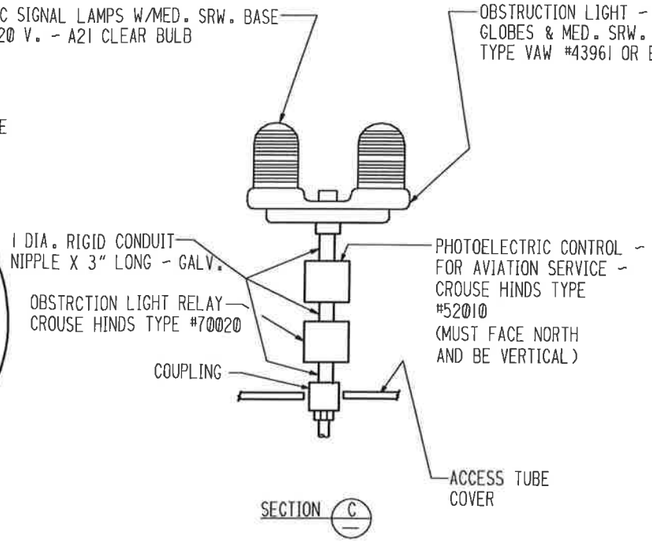


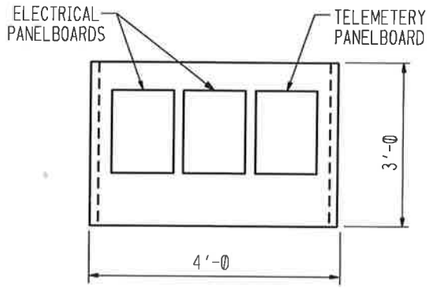
TYP. CONDUIT SUPPORT ATTACHMENT
(SPACE AT ABOUT 10'- 0 INTERVALS)



TYP. CONDULET INSTALLATION

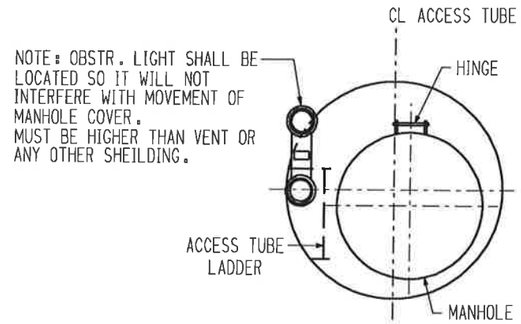


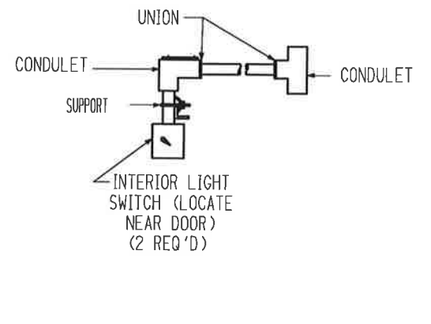




VIEW B ELECTRIC MOUNTING PANEL

SEE FOUNDATION DRAWINGS FOR ELECTRICAL ENTRANCES THRU RINGWALL & VAULT





NOTES:

1. ALL WIRING, CONDUIT, DEVICES AND ETC. ARE TO BE PER
   CUSTOMER SPEC: SECTION 16010 & 16640
   CUSTOMER DWG: SHEET 3 OF 3
   AND THE NATIONAL ELECTRIC CODE.
2. MATERIALS OF EQUAL QUALITY AND FUNCTION MEETING F.A.A. SPECS MAY BE SUBSTITUTED FOR ITEMS SHOWN.
3. SEE ORIENTATION DWG. AND DETAIL DWGS. FOR SIZES AND LOCATIONS OF SUPPORTS, SLEEVES AND CPLGS.

▶ INDICATES CHANGE FROM PREVIOUS ISSUE

BY	CHKD	DATE	REVISIONS	REMARKS

CBI

SUPPLIER'S / PURCHASER'S NO 541085

DOUBLE OBSTRUCTION & INTERIOR LIGHTS 500 MG X 99'-6 BCL WATERSPHEROID FLORIDA CITY, FLORIDA

CUSTOMER'S NO

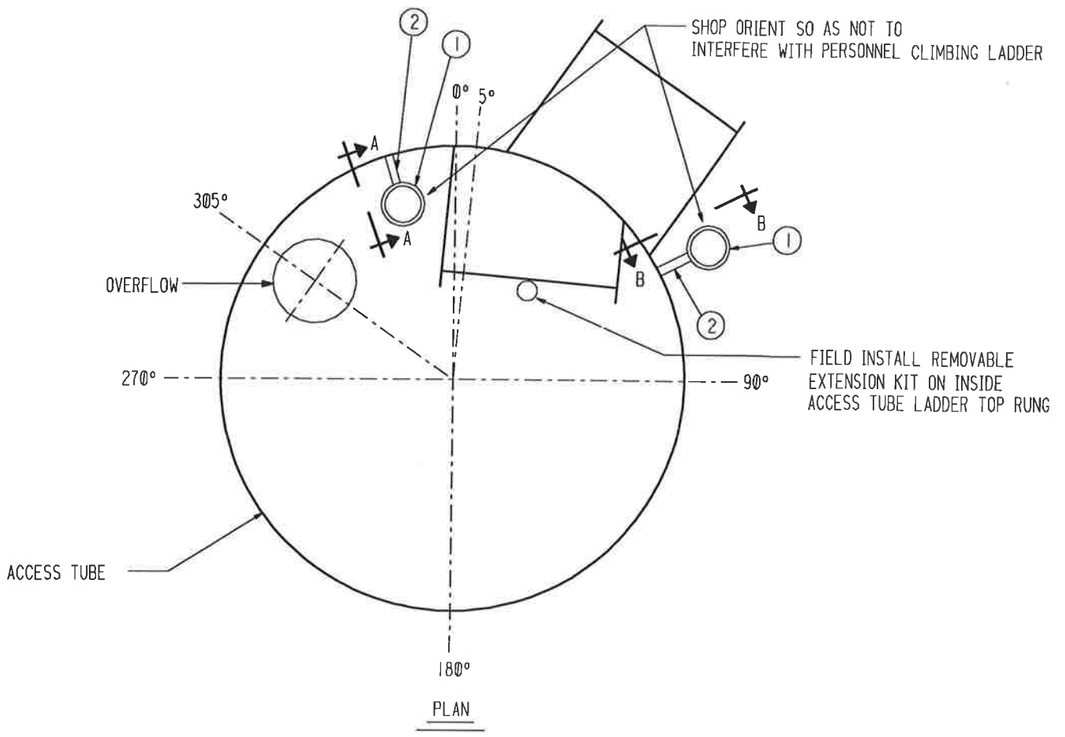
BY KWD CHKD JRS DATE 4-19-95

BIRMINGHAM/J. L. TURNER
ENGINEERING ASSIGNED

CONTRACT NO 941085

DWG 25 REV 0
SHT

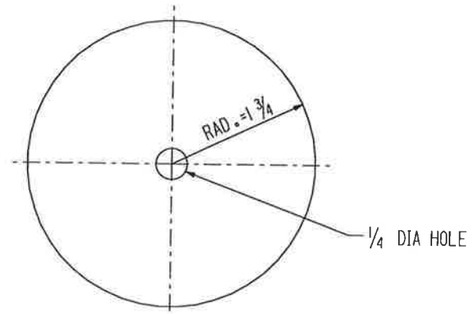
41085025.DGN

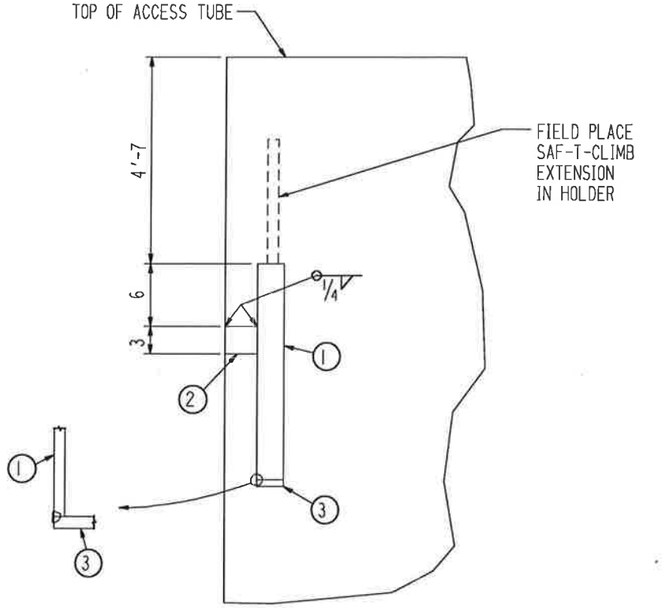


PLAN

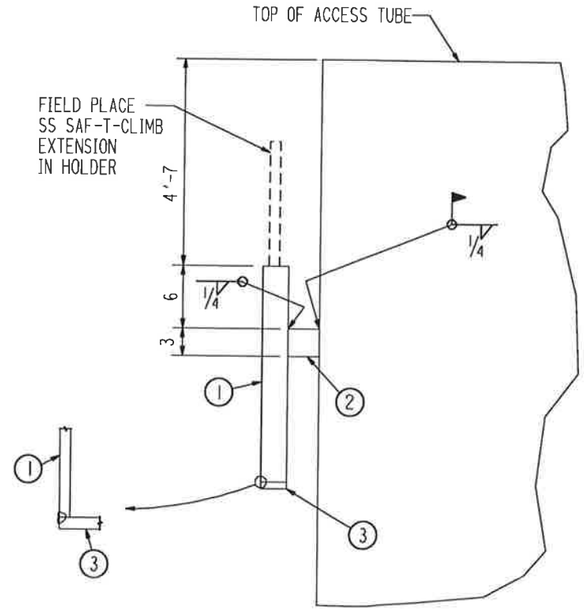
SHOP ATTACH TO ACCESS TUBE

SHP PC	MARK	ASSM PC	DESCRIPTION	LENGTH FT	LENGTH IN	SPEC	ID
			DRAWING #26				
	26-A	1	SAF-T-CLIMB EXTENSION ASSY				
	26-1	1	PIPE 3 DIA SCH 40 PBE	2	0	A120	IbF
	26-2	1	BAR 3 X 1/4	0	6	A36	IbF
	26-3	1	PL 3 1/2 X OD X 1/4 [W/HOLES]			A36	IbF
1	26-A		SAF-T-CLIMB EXTENSION ASSY				
	26-1	1	PIPE 3 DIA SCH 40 PBE	2	0	A120	IbF
	26-2	1	BAR 3 X 1/4	0	6	A36	IbF
	26-3	1	PL 3 1/2 X OD X 1/4 [W/HOLES]			A36	IbF
1			SAF-T-CLIMB REMOVABLE EXTENSION			316 SS	IbF
			KIT (COMPLETE)				
1			SAF-T-CLIMB REMOVABLE EXTENSION			GALV	IbF
			KIT (COMPLETE)				





SECTION A-A



SECTION B-B

FIELD NOTE:

SAF-T-CLIMB ASSEMBLY
TO BE CONSTRUCTED SO THAT
IT MAY BE ASSEMBLED FROM
TANK LADDER AND ROOF

▶ INDICATES CHANGE FROM PREVIOUS ISSUE

BY	CHKD	DATE	REMARKS

CBI

SUPPLIER'S / PURCHASER'S NO
S41085

SAF-T-CLIMB EXTENSION HOLDER
500 MG X 99'-6 BCL
WATERSPHEROID

FLORIDA CITY, FLORIDA

CUSTOMER'S NO

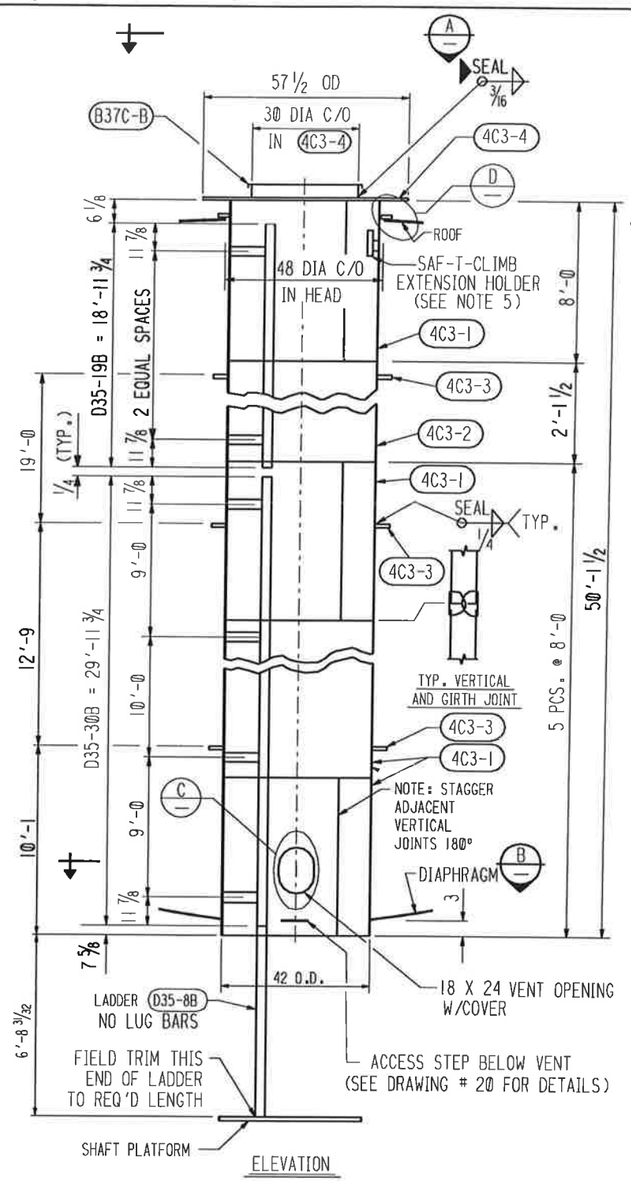
BY KWD CHKD JRS DATE 4-19-95

BIRMINGHAM/J. L. TURNER
ENGINEERING ASSIGNED

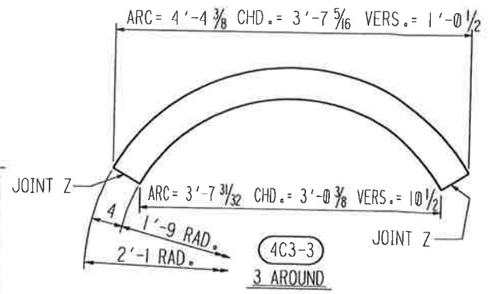
CONTRACT NO
941085

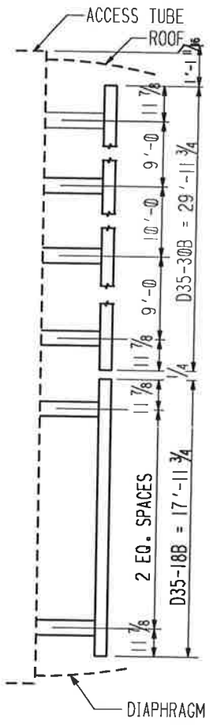
DWG 26 REV
SHT 0 0

41085026.DGN

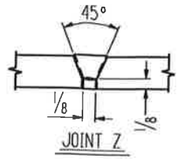


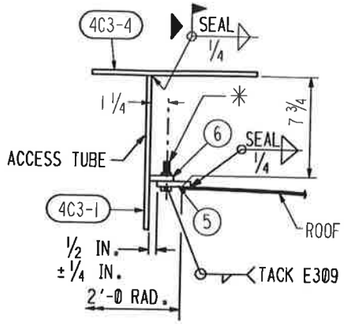
ELEVATION





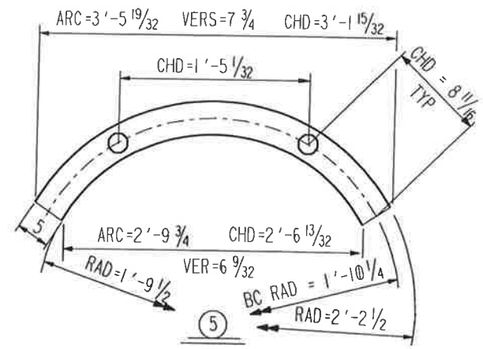
OUTSIDE LADDER





NOTE:
CLEAN, PAINT, AND CURE ROOF PRIOR TO INSTALLATION OF NEOPRENE GASKET. CLEANING AND PAINTING SHALL BE IN ACCORDANCE WITH SPECIFICATIONS.

DETAIL D

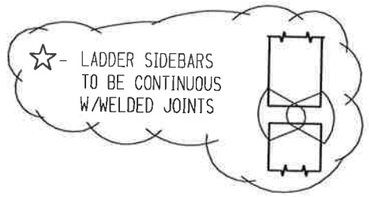


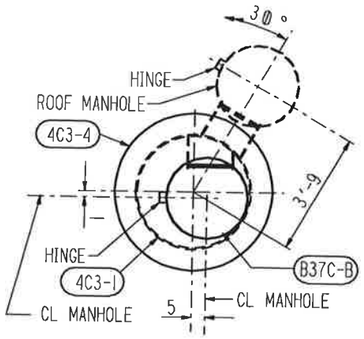
* — 8 - 3/8 316 SS BOLTS, NUTS AND WASHERS. (WELD TO STEEL FROM INTERIOR)

(6) - 3 X 1/4 NEOPRENE. USE CONSTRUCTION ADHESIVE TO SECURE TO ANNULAR RING. DO NOT SECURE TO ACCESS TUBE PROVIDE EIGHT SLOTTED HOLES IN NEOPRENE.

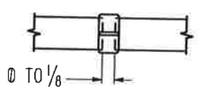
THIS DRAWING THE SAME AS STD 4C3-12 FOR 500 MG TANK EXCEPT FOR PC (5) & (6).

SHIP PC	MARK	ASSM PC	DESCRIPTION	LENGTH FT	LENGTH IN	SPEC	ID
1	4C3-A		ACCESS TUBE ASSEMBLY	50	1 1/2		
			[SHOP ORIENT FITTINGS AS SHOWN]				
	4C3-1	6	PL 96 x 1/4	10	11 7/32	A36	lbB
			(CF 97 x 11'-0 1/2 C1)				
	4C3-2	1	PL 25 1/2 x 1/4	10	11 7/32	A36	lbB
			(CF 26 1/2 x 11'-0 1/2)				
	4C3-3	9	PL SK x 1/2			A36	lbB
			(CF 29 1/2 x 3'-7 11/16 C3)				
	B39-A	1	18 x 24 VENT OPENING & COVER				
	4B2-6	4	ROD 5/8 SQ	0	6	A36	lbB
	D35-30B	1	WELDED LADDER ASSEMBLY	30	0		
	D35-19B	1	WELDED LADDER ASSEMBLY	19	0		
	ID13-7	7	BAR 3 x 3/8	0	9 3/4	A36	lbB
	ID13-15	7	BAR 3 x 3/8	0	4 1/8	A36	lbB
1	4C3-B		ACCESS TUBE COVER ASSEMBLY				
	4C3-4	1	PL SK x 1/4 (58 X 4'-10)			A36	lbB
	B37C-B	1	30 DIA RAINPROOF DOOR				
4	27-5		PL SK X 1/4			A36	lbB
			(CF 2'-10 X 3'-3 C4)				
8			BOLT 3/8 DIA HVY HEX	0	1	SS	lbF
		8	NUT 3/8 DIA HVY HEX			SS	lbF
1	27-6		NEOPRENE GASKET			NEOPRENE	lbF
			48 OD X 1/4 X 42 ID				
1	D35-30B		LADDER SECTION ASSEMBLY	30	0		
	ID13-12	8	BAR 3 x 3/8	0	11 3/4	A36	lbB
1	D35-18B		LADDER SECTION ASSEMBLY	18	0		
	ID13-12	6	BAR 3 x 3/8	0	11 3/4	A36	lbB
1	D35-8B		LADDER SECTION ASSEMBLY	8	0		

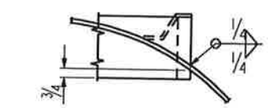




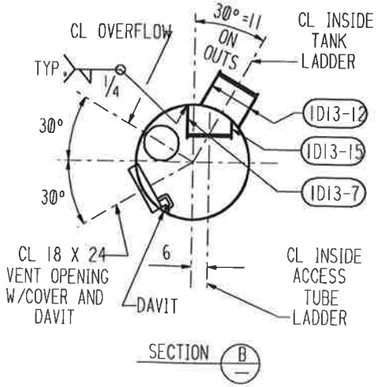
VIEW A



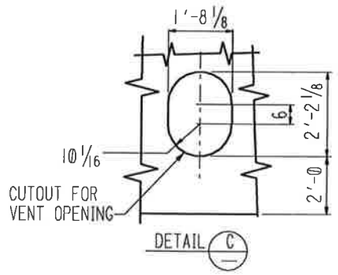
SPLICE IN (5)



18 X 24 VENT OPENING WITH COVER TO ACCESS TUBE



SECTION B



DETAIL C

GENERAL NOTES

1. 1/16 SHRINKAGE ALLOWANCE INCLUDED IN PL LENGTH.
2. SHRINKAGE ALLOWANCE EQUAL TO GAP INCLUDED IN PL 4C3-3 DIMENSION.
3. SEE GENERAL PLAN FOR ORIENTATION.
4. WORK THIS DWG W/OVERFLOW & DWG #34.
5. SHOP ATTACH SAF-T-CLIMB EXTENSION HOLDER AT TOP OF ACCESS TUBE. SEE DRAWING #26

▶ INDICATES CHANGE FROM PREVIOUS ISSUE

BY	CHKD	DATE	REVISIONS	REMARKS
KWD	JRS	6-2-95	REVISED TO SHOW SEAL WELDS IN DETAIL D & ELEVATION PER CUSTOMER REVIEW	

CBI

SUPPLIER'S / PURCHASER'S NO 941085

42" DIA ACCESS TUBE
500 MG X 99'-6 BCL
WATERSPHEROID

FLORIDA CITY, FLORIDA

CUSTOMER'S NO

BY KWD CHKD JRS DATE 4-19-95

BIRMINGHAM/J. L. TURNER
ENGINEERING ASSIGNED

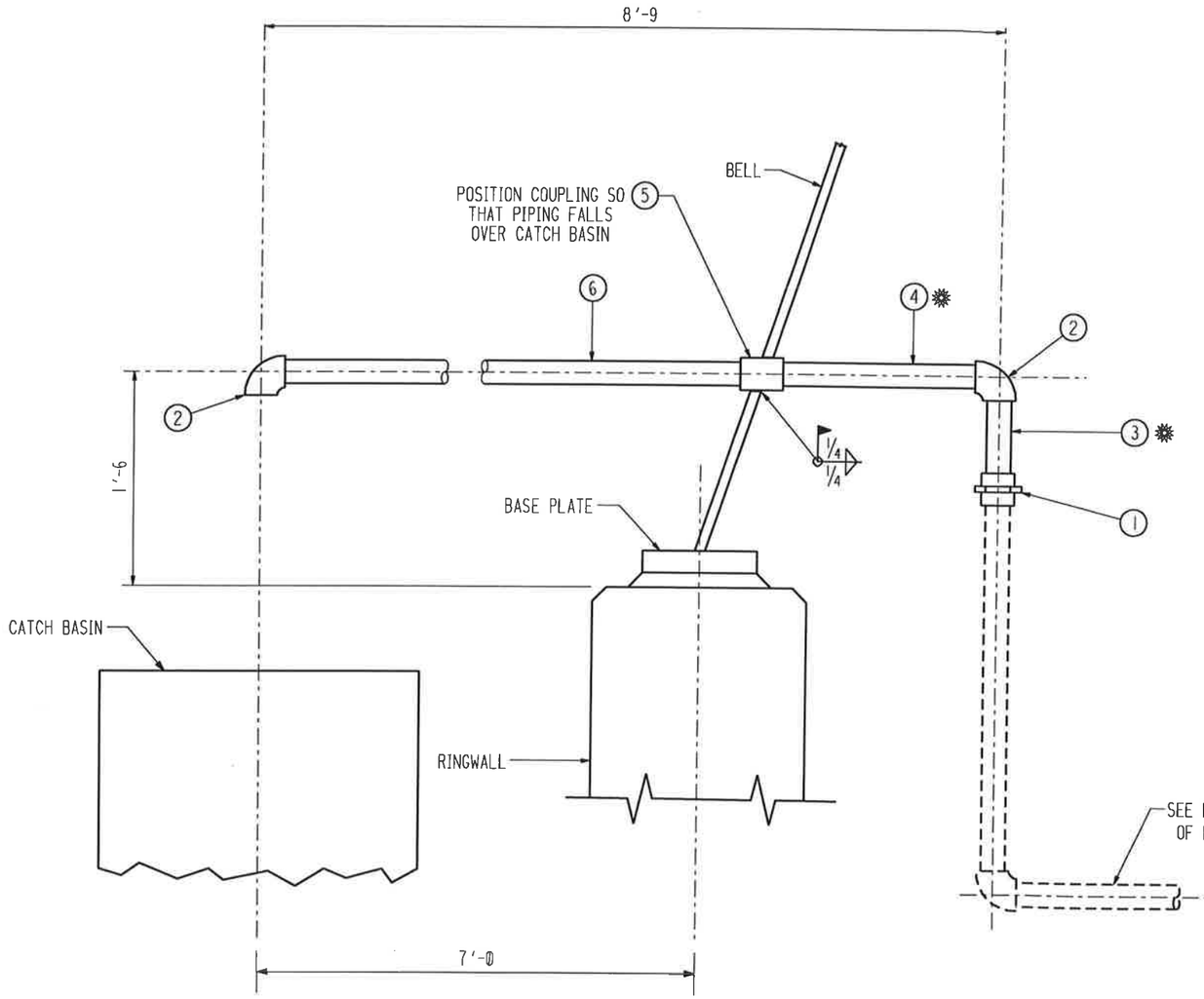
CONTRACT NO 941085

DWG 27 REV 1

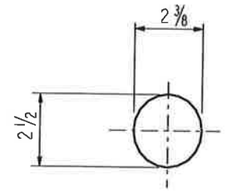
SHT

941085027.DGN

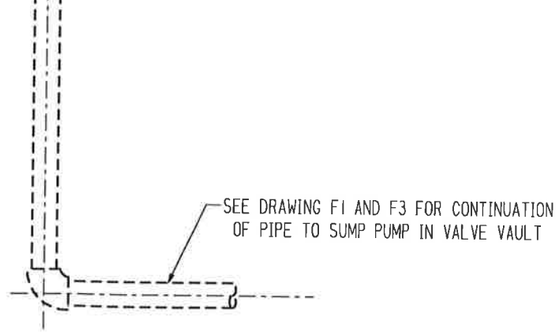
SHIP PC	MARK	ASSM PC	DESCRIPTION	LENGTH FT	LENGTH IN	SPEC	ID
1	28-1		UNION 1 1/2 DIA SCH 80 SOCKET			PVC	1bB
2	28-2		ELBOW 1 1/2 DIA 90 DEG SOCKET			PVC	1bB
1	28-3		PIPE 1 1/2 DIA SCH 80 PBE	0	11	PVC	1bB
1	28-4		PIPE 1 1/2 DIA SCH 80 POE TOE	1	9	PVC	1bB
1	28-5		COUPLING 1 1/2 DIA 3000# SCREWED LADISH NO. 386 OR EQUAL			FS	1bB
1	28-6		PIPE 1 1/2 DIA SCH 80 POE TOE	7	3	PVC	1bB
1			PINT PVC CEMENT				



1 1/2" DIA SUMP PUMP DISCHARGE LINE



CUTOUT FOR COUPLING



NOTES:

1. SEE DRAWING F1 FOR ORIENTATION OF SUMP AND DISCHARGE LINE
❋ 2. EXTRA LENGTH HAS BEEN PROVIDED. CUT LENGTHS TO SUIT.

▶ INDICATES CHANGE FROM PREVIOUS ISSUE

REVISIONS	BY	CHKD	DATE	REMARKS

CBI

SUPPLIER'S / PURCHASER'S NO 541085

1 1/2 DIA SUMP PUMP DISCHARGE LINE 500 MG X 99'-6 BCL WATERSPHEROID FLORIDA CITY, FLORIDA

CUSTOMER'S NO

BY KWD CHKD JRS DATE 4-19-95

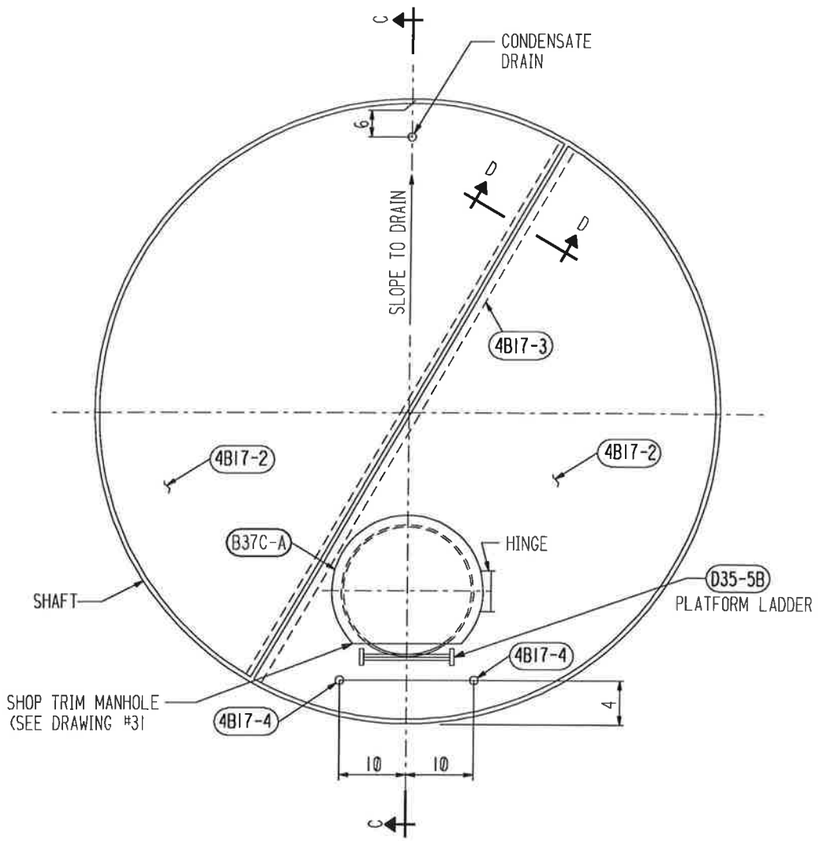
BIRMINGHAM/J. L. TURNER ENGINEERING ASSIGNED

CONTRACT NO 941085

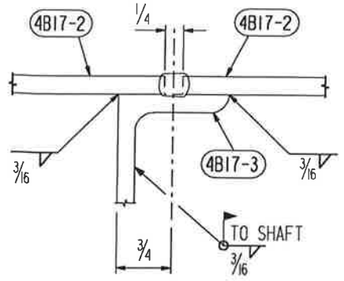
DWG 28 REV 0

SHT

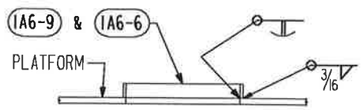
41085028.DGN



PLAN OF PLATFORM



SECTION D-D

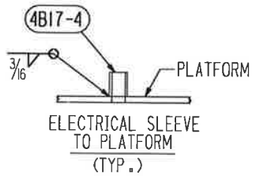


CONDENSATE RING TO PLATFORM
(TYP)

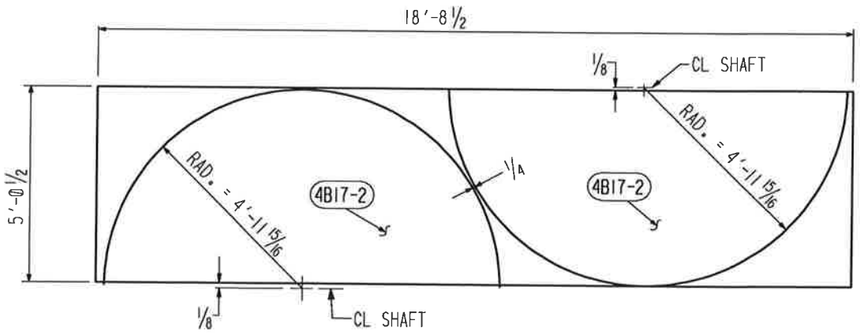
SHIP PC	MARK	ASSM PC	DESCRIPTION	LENGTH FT	LENGTH IN	SPEC	ID
	4B17-2	2	PL SK X 1/4			A36	1bF
			(CF 60 1/2 X 18'-8 1/2 C2)				
	4B17-3	1	C4 X 5.4	9	11 7/8	A36	1bF
	4B17-4	2	PIPE 1 1/2 DIA SCH 40 PBE	0	3	A120	--
	B37C-A	1	30 DIA RAINPROOF DOOR				
	1A6-6	1	PIPE 12 DIA SCH 20 PBE	0	3	M3	1bF
	1A6-9	1	BAR 3 X 1/4 (ROLL)	4	9 11/32	A36	1bF
	D35-5B	1	WELDED LADDER ASSEMBLY	5	0		
	1D13-12	4	BAR 3 X 3/8	0	11 3/4	A36	1bB
			M3 = A53B TYPE E(ELECTRIC-RESISTANCE				
			WELDED) OR TYPE S (SEAMLESS) OR				
			API-5L GRABE B (ELECTRIC WELDED				
			OR SEAMLESS)				

NOTE

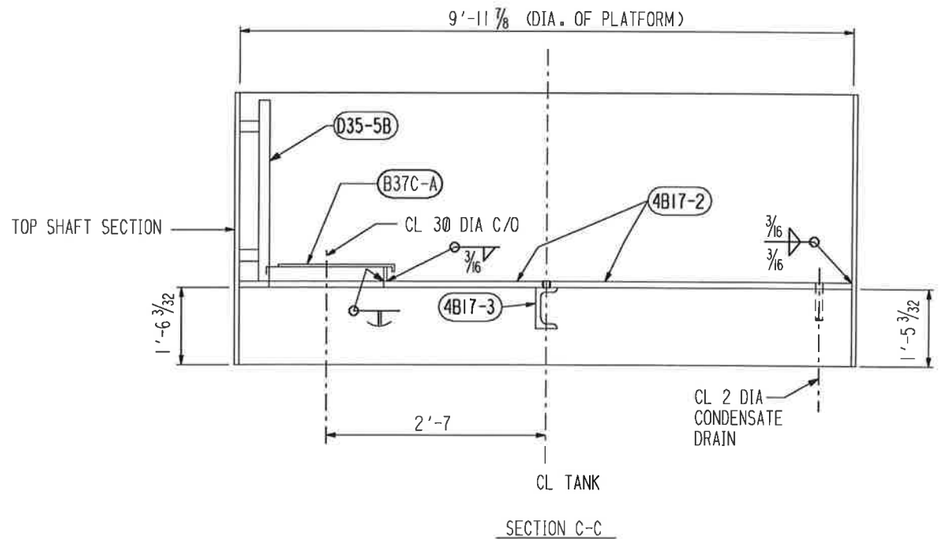
PLAN AND SECTION VIEWS DO NOT REFLECT ACTUAL ORIENTATION. THEY ARE FOR DIMENSIONAL PURPOSES ONLY. SEE PIPING & PLATFORM ORIENTATION DRAWING FOR ACCESSORIES ORIENTATION AND C/O SIZES.



ELECTRICAL SLEEVE
TO PLATFORM
(TYP.)



CUTTING SK. FOR (4B17-2)



SECTION C-C

THIS DRAWING IS THE SAME AS STD 4B17-4 EXCEPT FOR ADDITIONAL WELDING & SLOPE ON PLATFORM

▶ INDICATES CHANGE FROM PREVIOUS ISSUE

BY	CHKD	DATE	REMARKS

REVISIONS

CBI

SUPPLIER'S / PURCHASER'S NO
541085

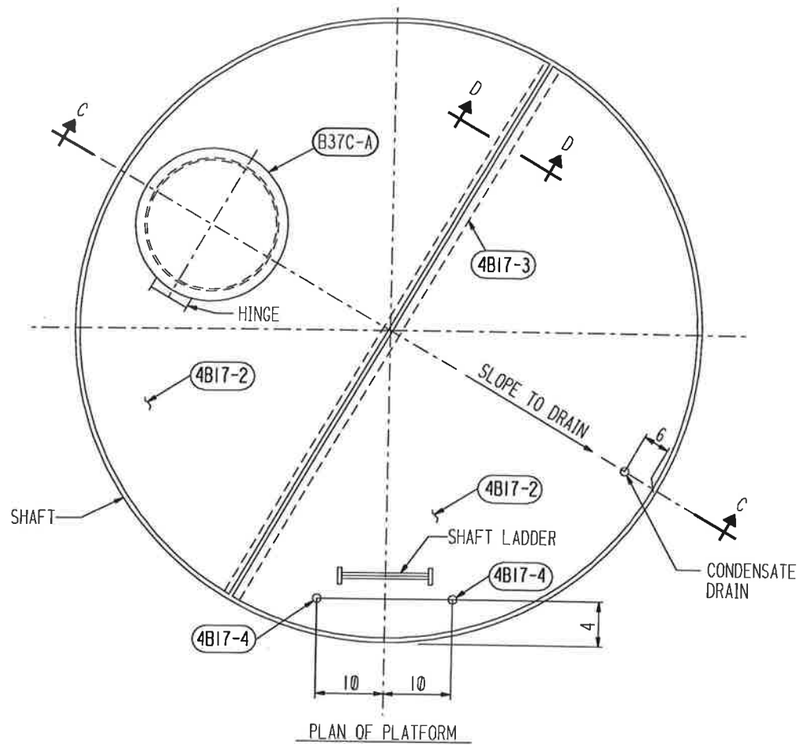
UPPER CONDENSATE PLATFORM
500 MG X 99'-6 BCL
WATERSPHEROID

FLORIDA CITY, FLORIDA

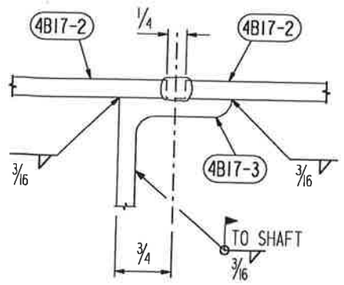
CUSTOMER'S NO
BY KWD CHKD JRS DATE 4-19-95
BIRMINGHAM/J. L. TURNER
ENGINEERING ASSIGNED

CONTRACT NO
941085
DWG 29 REV 0
SHT

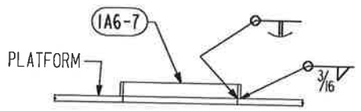
41085029.DGN



PLAN OF PLATFORM



SECTION D-D

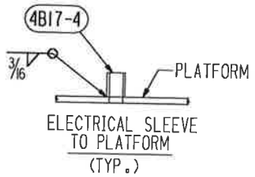


CONDENSATE RING TO PLATFORM (TYP)

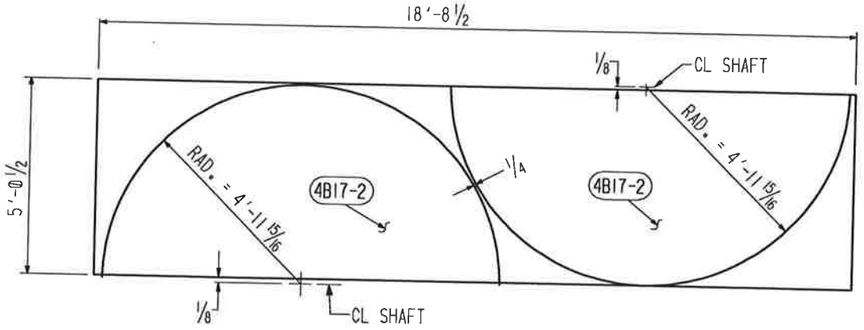
SHIP PC	MARK	ASSM PC	DESCRIPTION	LENGTH FT	LENGTH IN	SPEC	ID
	4B17-2	2	PL SK X 1/4			A36	1bF
			(CF 60 1/2 X 18'-8 1/2 C2)				
	4B17-3	1	C4 X 5.4	9	11 7/8	A36	1bF
	4B17-4	2	PIPE 1 1/2 DIA SCH 40 PBE	0	3	A120	--
	B37C-A	1	30 DIA RAINPROOF DOOR				
	1A6-7	1	BAR 3 X 1/4 [ROLL]	3	8 25/32	A36	1bF

NOTE

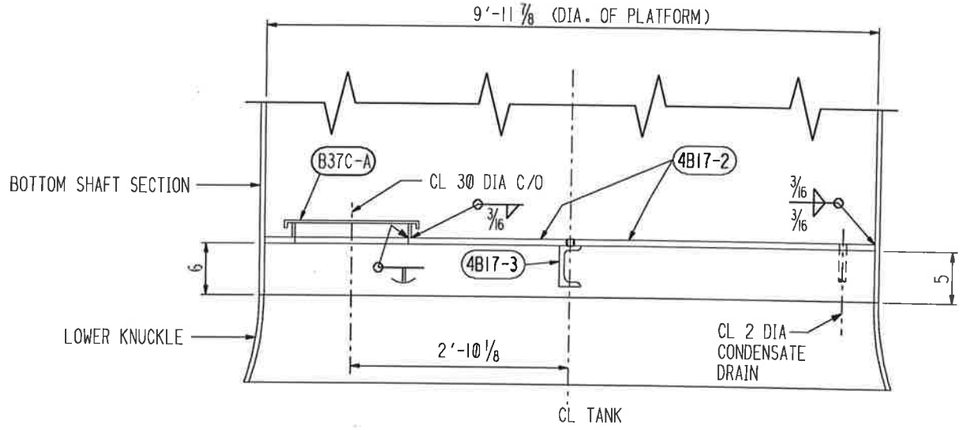
PLAN AND SECTION VIEWS DO NOT REFLECT ACTUAL ORIENTATION. THEY ARE FOR DIMENSIONAL PURPOSES ONLY. SEE PIPING & PLATFORM ORIENTATION DRAWING FOR ACCESSORIES ORIENTATION AND C/O SIZES.



ELECTRICAL SLEEVE TO PLATFORM (TYP.)



CUTTING SK. FOR (4B17-2)



SECTION C-C

THIS DRAWING IS THE SAME AS STD 4B17-4 EXCEPT FOR ADDITIONAL WELDING

▶ INDICATES CHANGE FROM PREVIOUS ISSUE

BY	CHKD	DATE	REMARKS
			REVISIONS

CBI

SUPPLIER'S / PURCHASER'S NO 941085

BOTTOM CONDENSATE PLATFORM
500 MG X 99'-6 BCL
WATERSPHEROID

FLORIDA CITY, FLORIDA

CUSTOMER'S NO

BY KWD CHKD JRS DATE 4-19-95

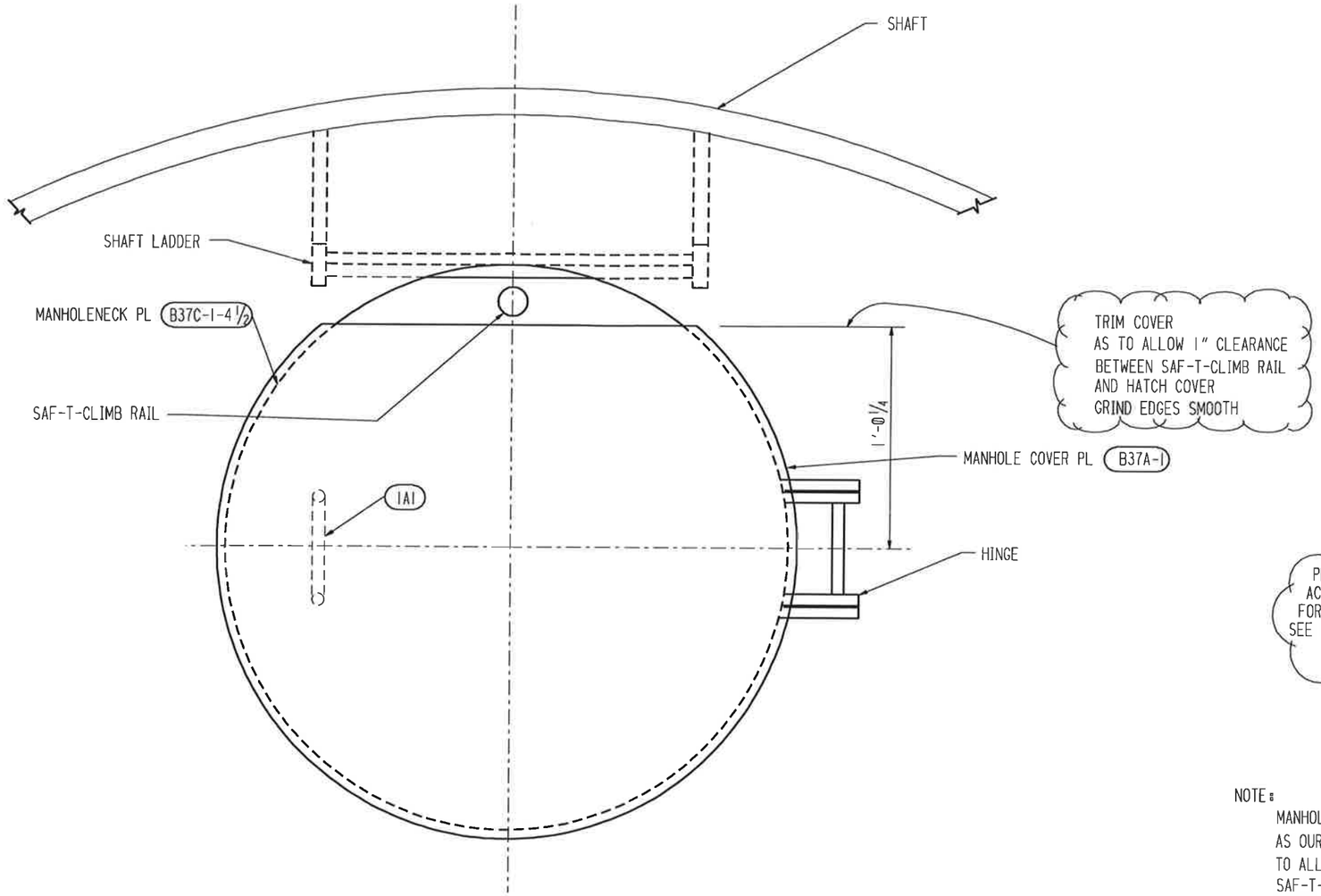
BIRMINGHAM/J. L. TURNER
ENGINEERING ASSIGNED

CONTRACT NO 941085

DWG 30 REV 0

SHT

41085030.DGN



PLAN

PLAN VIEW DOES NOT REFLECT ACTUAL ORIENTATION. THEY ARE FOR DIMENSIONAL PURPOSES ONLY. SEE PIPING & PLATFORM ORIENTATION DRAWING #20 FOR ACTUAL ORIENTATION OF MANHOLE

NOTE:

MANHOLE AND ALL ATTACHMENTS ARE EXACTLY THE SAME AS OUR STD. B37C-2 EXCEPT THAT THE COVER WILL BE CUT TO ALLOW FOR PASSAGE OF THE SHAFT LADDER SAF-T-CLIMB WHICH WILL EXTEND 4'-6 ABOVE THE UPPER CONDENSATE PLATFORM.

▶ INDICATES CHANGE FROM PREVIOUS ISSUE

REVISIONS	BY	CHKD	DATE	REMARKS

CBI

SUPPLIER'S / PURCHASER'S NO S41085

UPPER CONDENSATE PLATFORM
MANHOLE DETAIL
500 MG X 99'-6 BCL
WATERSPHEROID
FLORIDA CITY, FLORIDA

CUSTOMER'S NO

BY KWD CHKD JRS DATE 4-19-95

BIRMINGHAM/J. L. TURNER
ENGINEERING ASSIGNED

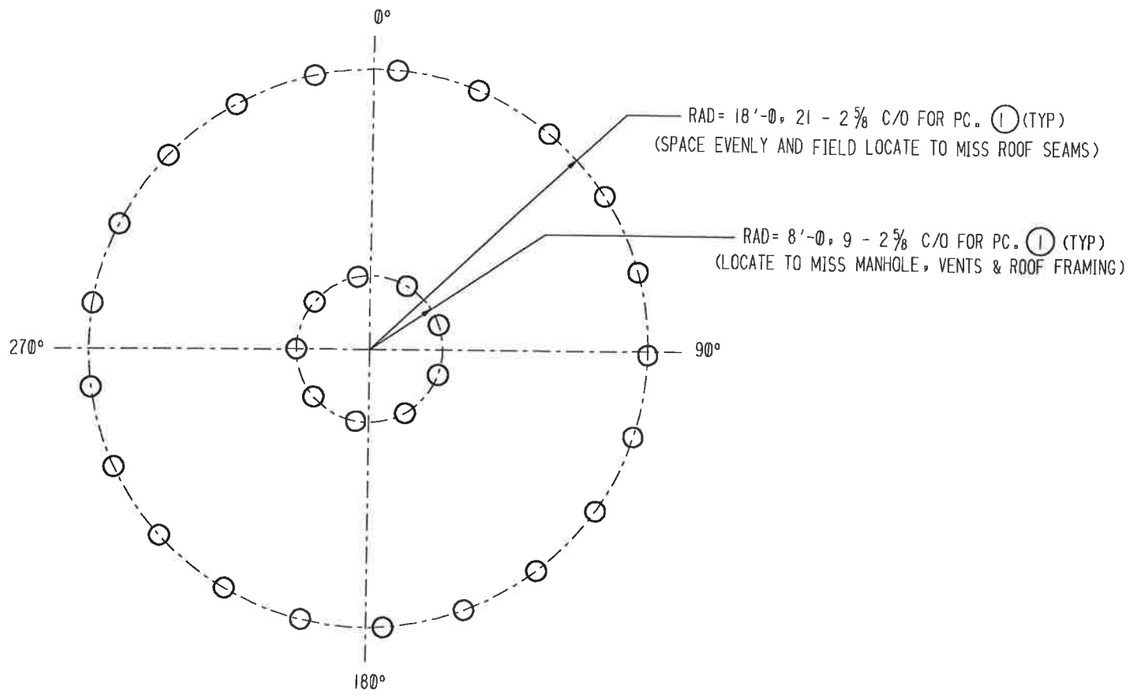
CONTRACT NO 941085

DWG 31 REV 0

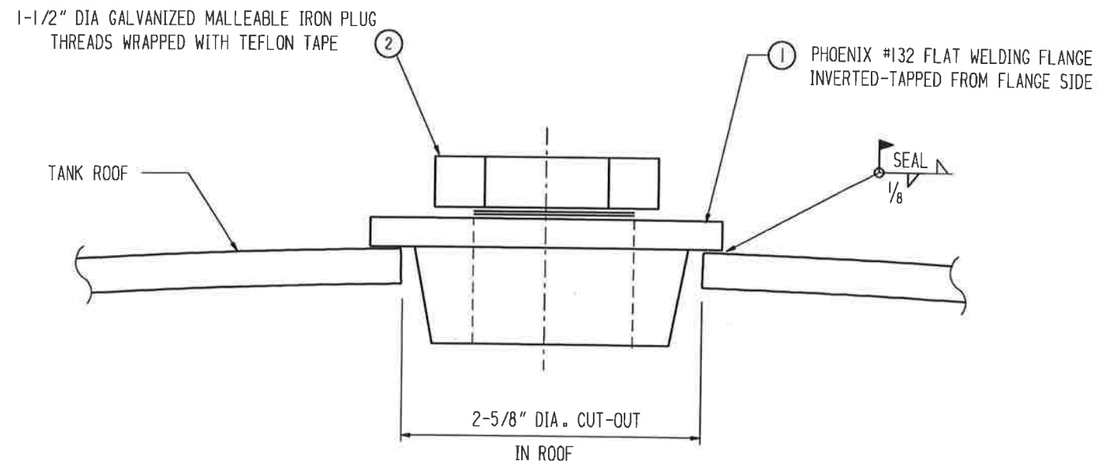
SHT

41085031.DGN

SHIP PC	MARK	ASSM PC	DESCRIPTION	LENGTH FT	LENGTH IN	SPEC	ID
30	32-1		FLAT WELDING FLANGE			A105	IDB
			PHOENIX NO. 132 OR EQUAL				
			DRILL & TAP FROM FLANGE SIDE FOR				
			1 1/2 DIA N.P.T.				
30	32-2		PLUGS 1 1/2 DIA N.P.T.			GALVANIZED	IDB



PLAN VIEW



TYP COUPLING INSTALLATION

▶ INDICATES CHANGE FROM PREVIOUS ISSUE

BY	CHKD	DATE	REMARKS
			REVISIONS

CBI

SUPPLIER'S / PURCHASER'S NO
S41085

ROOF SCAFFOLD RIGGING OPENINGS
500 MG X 99'-6 BCL
WATERSPHEROID

FLORIDA CITY, FLORIDA

CUSTOMER'S NO

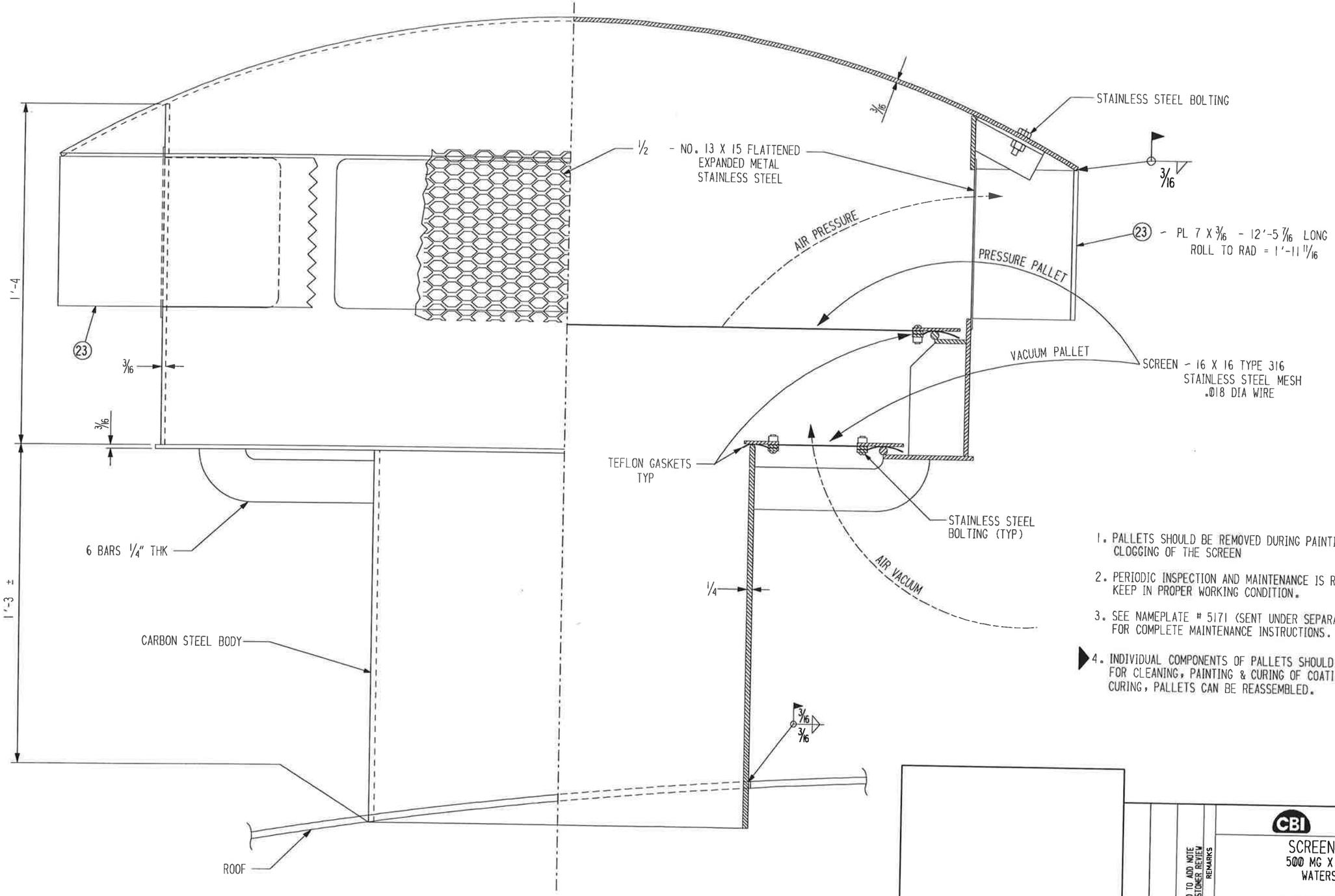
BY KWD CHKD JRS DATE 4-19-95

BIRMINGHAM/J. L. TURNER
ENGINEERING ASSIGNED

CONTRACT NO
941085

DWG 32 REV
SHT Ø

41085032.DGN



SECTIONAL ELEVATION

1. PALLETS SHOULD BE REMOVED DURING PAINTING TO PREVENT CLOGGING OF THE SCREEN
2. PERIODIC INSPECTION AND MAINTENANCE IS REQUIRED TO KEEP IN PROPER WORKING CONDITION.
3. SEE NAMEPLATE # 5171 (SENT UNDER SEPARATE COVER) FOR COMPLETE MAINTENANCE INSTRUCTIONS.
4. INDIVIDUAL COMPONENTS OF PALLETS SHOULD BE SEPARATED FOR CLEANING, PAINTING & CURING OF COATING. AFTER CURING, PALLETS CAN BE REASSEMBLED.

▶ INDICATES CHANGE FROM PREVIOUS ISSUE

BY	CHKD	DATE	REVISIONS	REMARKS
KWD	JRS	6-2-95	1	REVISED TO ADD NOTE PER CUSTOMER REVIEW

CBI

SUPPLIER'S / PURCHASER'S NO 941085

SCREENED VENT
500 MG X 99'-6 BCL
WATERSPHEROID

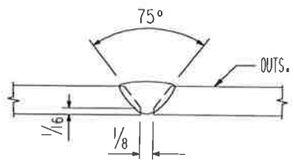
FLORIDA CITY, FLORIDA

CUSTOMER'S NO
BY KWD CHKD JRS DATE 4-19-95
BIRMINGHAM/J. L. TURNER
ENGINEERING ASSIGNED

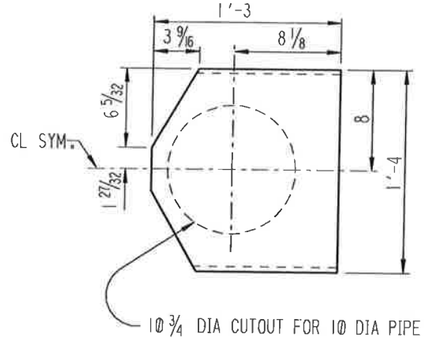
CONTRACT NO 941085
DWG 33 REV 1
SHT

41085033.DGN

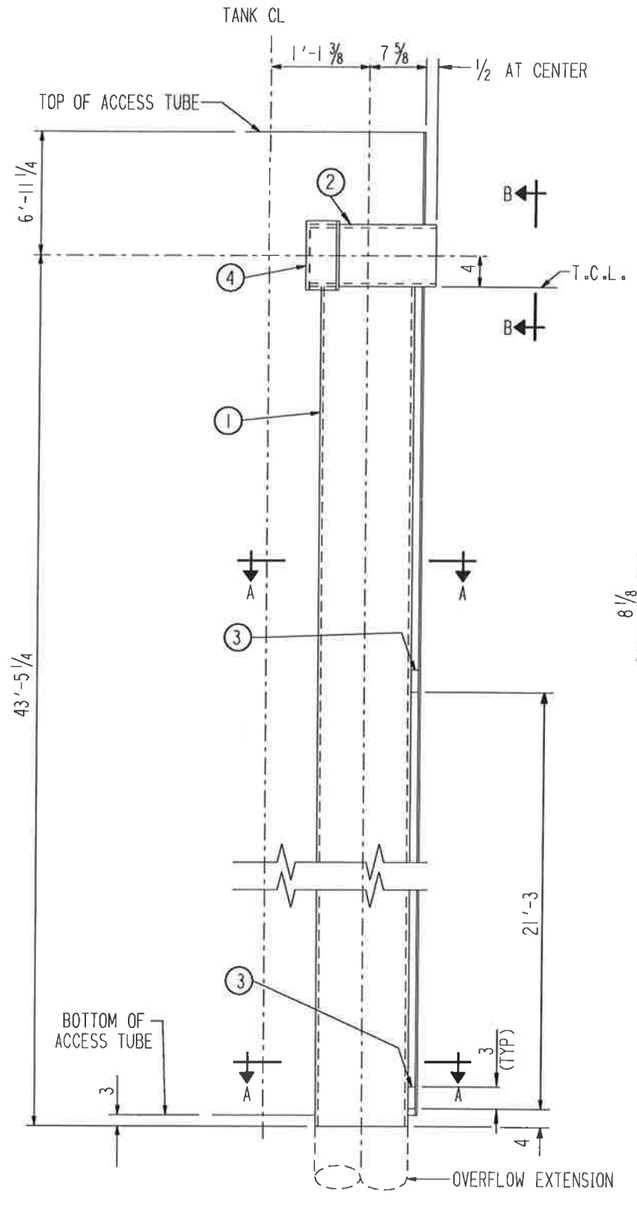
SHIP PC	MARK	ASSM PC	DESCRIPTION	LENGTH FT	LENGTH IN	SPEC	ID
1	34-A		PIPE & WEIR BOX ASSEMBLY				
	34-1	1	PIPE 10 DIA SCH 20 POE BOE	43	1 1/4	M3	1bB
			BEVEL INTER'M JOINTS FOR WELDING				
	34-2	1	RECT TUBE 16 X 8 X 5/16 WALL SK	1	3	A36	1bF
	34-3	2	BAR 3 X 1/4	0	2	A36	1bF
	34-4	1	PL 8 1/2 X 1/4 [BENT]	1	6 5/8	A36	1bF
1	34-5		PL SK X 1/4			A36	1bF
			(CF 32 X 3'-6 1/2)				
2	34-6		PL SK X 1/4			A36	1bF
			(CF 11 1/2 X 1'-0 1/2 CI)				
			M3 = A53B TYPE E				
			(ELECTRIC-RESISTANCE WELDED) OR				
			TYPE S (SEAMLESS) OR API-5L GRADE B				
			(ELECTRIC WELDED OR SEAMLESS)				



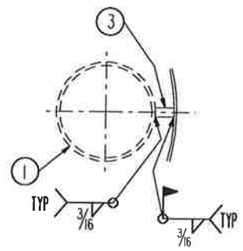
TYP. PIPE JOINT



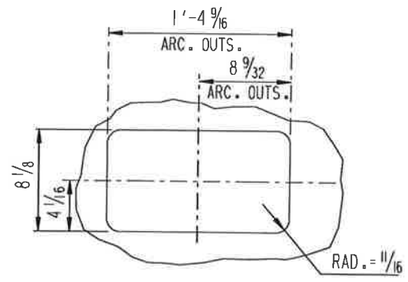
(2)



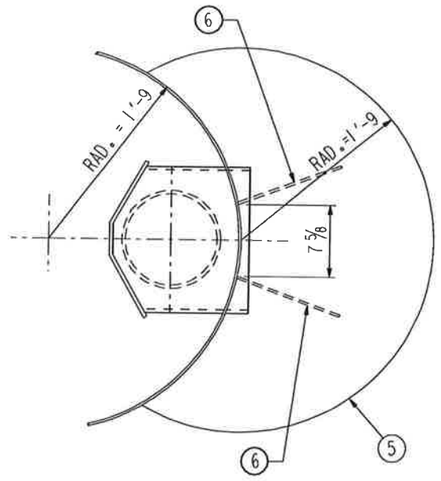
ELEVATION



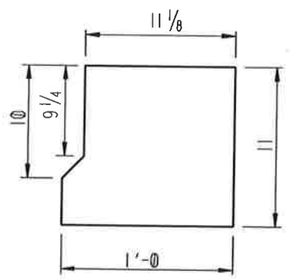
SECTION A-A



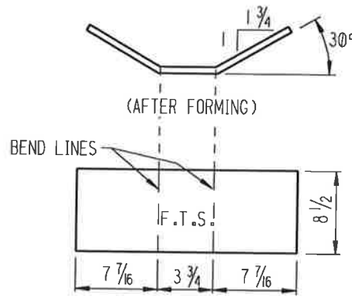
VIEW B-B
(CUTOUT IN ACCESS TUBE BY SHOP)



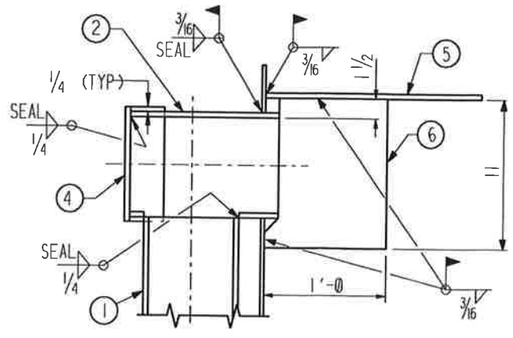
PLAN OF
VORTEX BREAKER & BOX



(6)



(4)



ELEVATION OF
VORTEX BREAKER & BOX

▶ INDICATES CHANGE FROM PREVIOUS ISSUE

NOTE:

1. SEE PIPING AND PLATFORM ORIENTATION DRAWING FOR ORIENTATION OF OVERFLOW.
2. SHOP PROVIDE PADDING ON ASSEMBLY (A) FOR FIELD INSTALLATION.

BY	CHKD	DATE	REVISIONS	REMARKS
KWD	JRS	6-2-95	REVISED TO CHANGE PC MARK FROM 35-6 TO 34-6 PER IN-HOUSE REVIEW	

CBI

SUPPLIER'S / PURCHASER'S NO
S41085

10 DIA. UPPER OVERFLOW SECTION
500 MG X 99'-6 BCL
WATERSPHEROID

FLORIDA CITY, FLORIDA

CUSTOMER'S NO

BY KWD CHKD JRS DATE 4-20-95

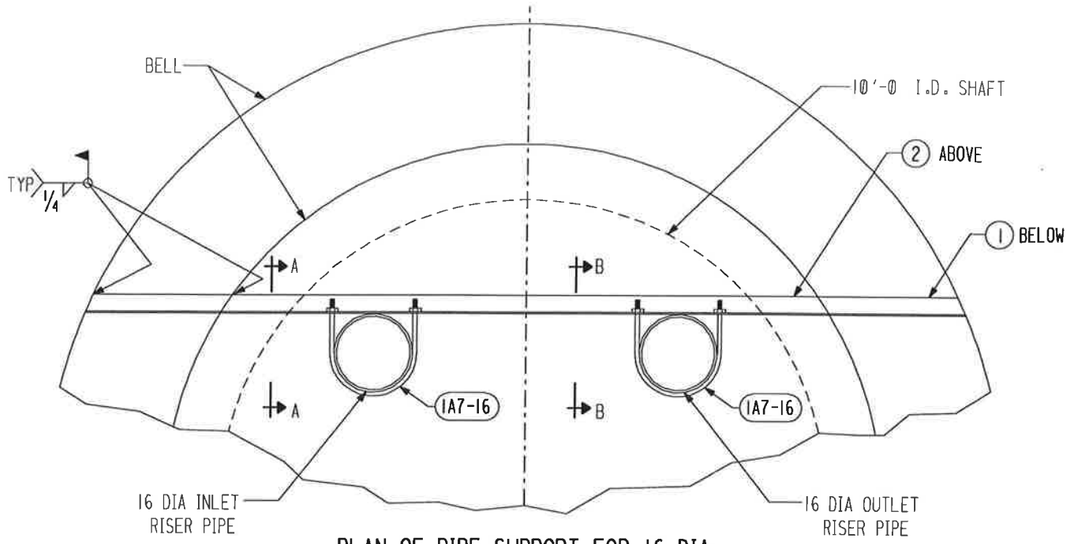
BIRMINGHAM/J. L. TURNER
ENGINEERING ASSIGNED

CONTRACT NO
941085

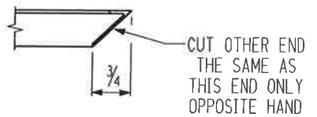
DWG 34 REV 1
SHT

41085034.DGN

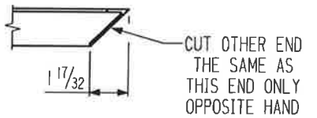
SHIP PC	MARK	ASSM PC	DESCRIPTION	LENGTH FT	LENGTH IN	SPEC	ID
1	35-1		L 3 X 3 X 1/4 SK	22	5 5/8	A36	IbF
1	35-2		L 3 X 3 X 1/4 SK	11	2	A36	IbF
4	1A7-16		U-BOLT 5/8 DIA [TBE 2 1/2"]	3	9 11/16	A36	IbF
		8	NUT 5/8 DIA FIN HEX			A563A	IbF



PLAN OF PIPE SUPPORT FOR 16 DIA INLET & OUTLET RISERS W/NO INSULATION

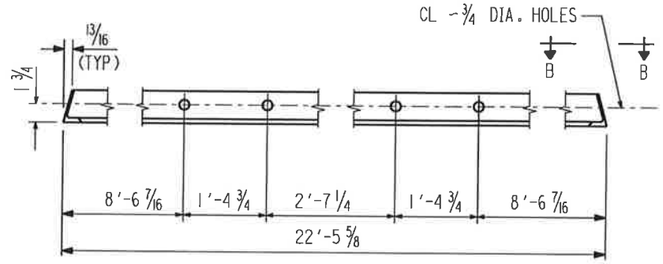


SECTION B-B

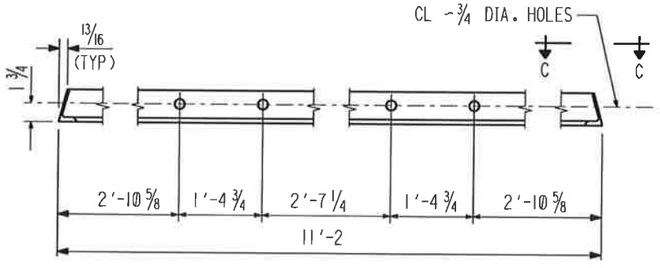


SECTION C-C

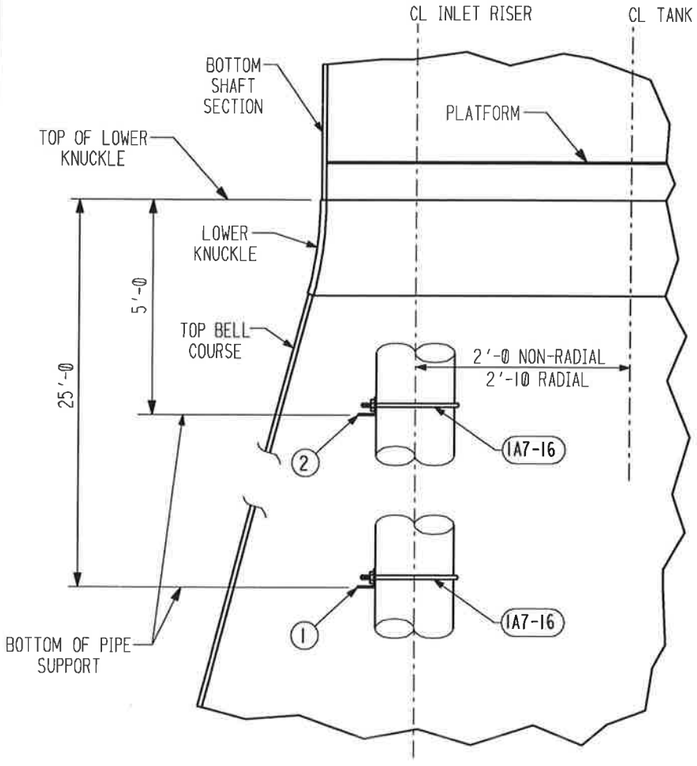
PLAN & SECTION VIEWS DO NOT REFLECT ACTUAL ORIENTATION. THEY ARE FOR DIMENSIONAL PURPOSES ONLY. SEE DWG #20 FOR ACTUAL ORIENTATION OF RISER.



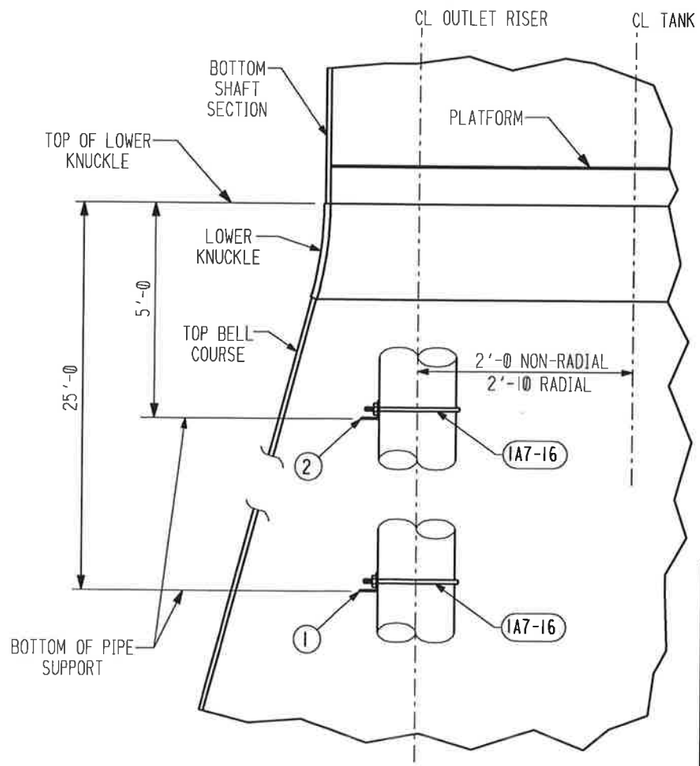
1



2



SECTION A-A



SECTION B-B

▶ INDICATES CHANGE FROM PREVIOUS ISSUE

BY	CHKD	DATE	REMARKS
KWD	JRS	6-2-95	REVISED TO CHANGE PC MARK FROM 35-1 TO 35-2 PER IN-HOUSE REVIEW

CBI

SUPPLIER'S / PURCHASER'S NO S41085

PIPE SUPPORT IN BELL

16 DIA INLET & OUTLET RISERS W/NO INSULATION
FOR 500 MG X 99'-6 BCL
WATERSPHEROID
FLORIDA CITY, FLORIDA

CUSTOMER'S NO

BY KWD CHKD JRS DATE 4-20-95

BIRMINGHAM/J. L. TURNER
ENGINEERING ASSIGNED

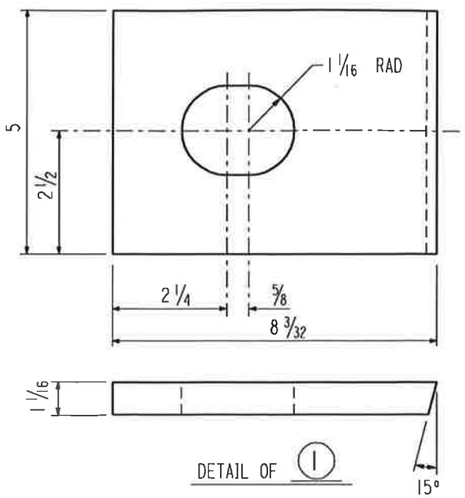
CONTRACT NO 941085

DWG 35 REV 1

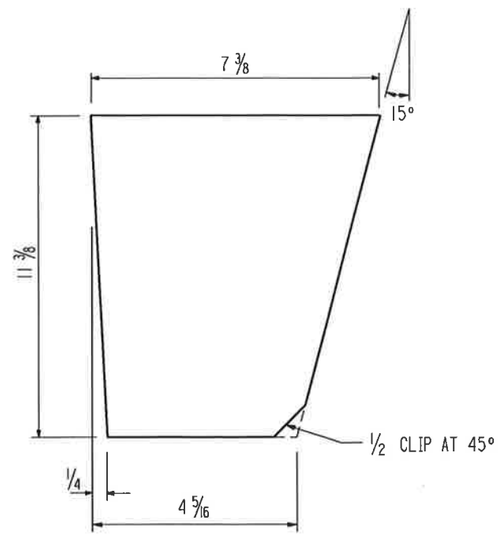
SHT

FILE NAME: 41085035.DGN

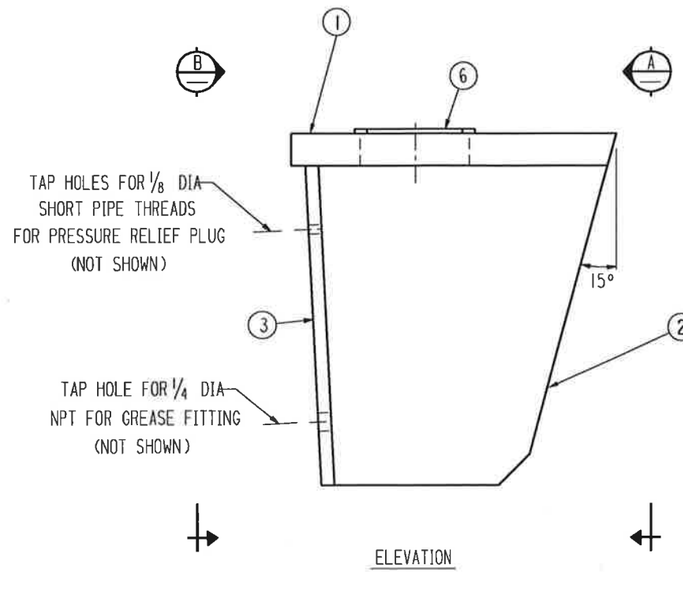
SHIP PC	MARK	ASSM PC	DESCRIPTION	LENGTH FT	LENGTH IN	SPEC	ID
22	36-A		12" ANCHOR BOLT CHAIR ASSEMBLY				
	36-1	22	PL 5 X 1 1/16 X SK	Ø	8 3/32	A36	lbB
	36-2	44	PL SK X 1/2			A36	lbB
			(11 3/8 X 1'-1/2 C2)				
22	36-3		PL 3 1/2 X 1/4 W/HOLES	Ø	11 3/8	A36	lbB
44	36-4		PRESSURE RELIEF PLUG ALEMITE STYLE			BRONZE	lbF
			#47200 OR EQUAL				
22	36-5		1/4 NPT HYDRAULIC LUBRICATION			STL	lbF
			FITTING ALEMITE NO. 1627-B				
22	36-6		WASHER PLATE 4 OD X 1/4 X 2 1/8 ID			A36	lbB



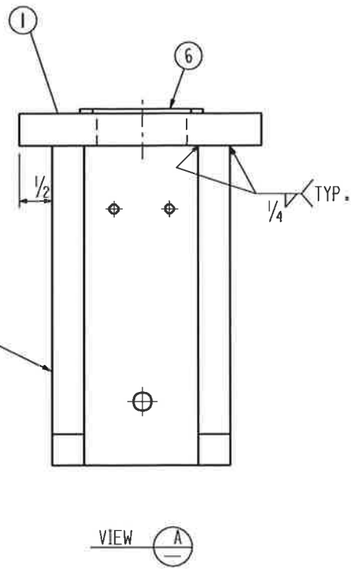
DETAIL OF (1)



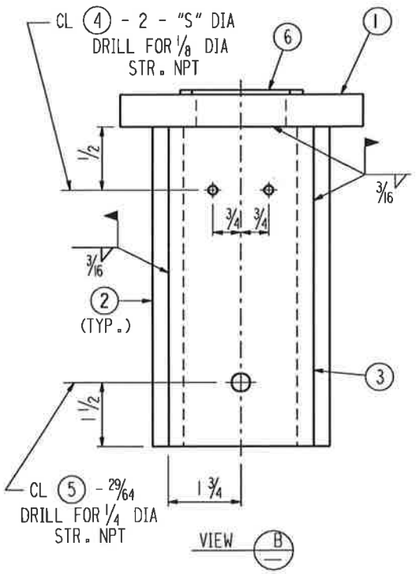
DETAIL OF (2)



ELEVATION



VIEW (A)



VIEW (B)

ANCHOR BOLT CHAIR ASSEMBLY (A)

FIELD:

FILL EACH CHAIR WITH GREASE UNTIL GREASE RUNS OUT AROUND BOLT AT HOLE IN CAP PL THEN TIGHTEN NUT.

OWNER:

FUTURE MAINTENANCE IS REQUIRED USING THE GREASE FITTING AND AIR BLEED FITTINGS.

▶ INDICATES CHANGE FROM PREVIOUS ISSUE

BY	CHKD	DATE	REMARKS
BY	CHKD	DATE	REVISIONS
BY	CHKD	DATE	

CBI

SUPPLIER'S / PURCHASER'S NO S41085

12" ANCHOR BOLT CHAIRS
FOR 2" DIA ANCHOR BOLTS W/2 1/2" OFFSET
500 MG X 99'-6 BCL
WATERSPHEROID
FLORIDA CITY, FLORIDA

CUSTOMER'S NO

BY KWD CHKD JRS DATE 4-20-95

BIRMINGHAM/J. L. TURNER
ENGINEERING ASSIGNED

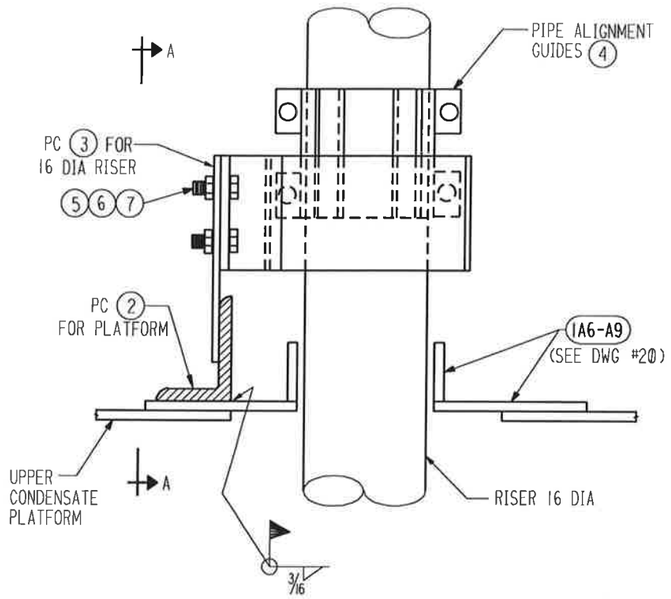
CONTRACT NO 941085

DWG 36 REV 0

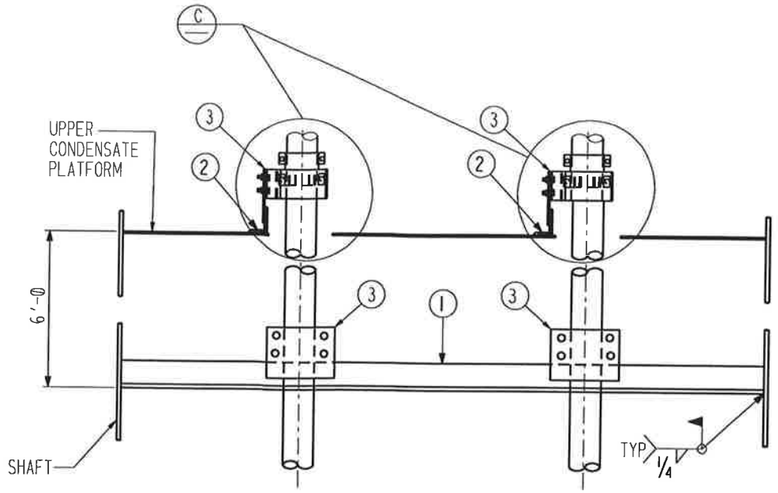
SHT

41085036.DGN

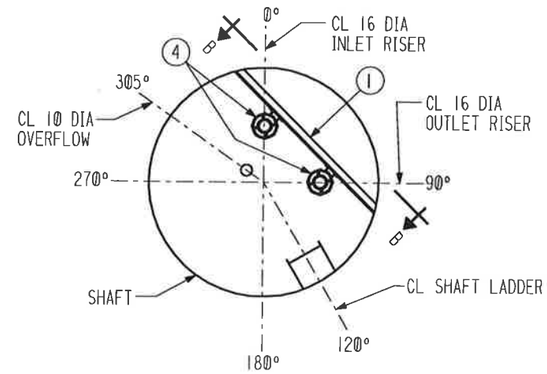
SHIP PC	MARK	ASSM PC	DESCRIPTION	LENGTH FT	LENGTH IN	SPEC	ID
1	37-1		L 6 X 3 1/2 X 5/16	8	3	A36	IbB
2	37-2		L 6 X 3 1/2 X 5/16	1	5	A36	IbB
4	37-3		PL 12 1/2 X 1/4	1	5 3/4	A36	IbB
16	37-5		BOLTS 3/4 DIA FIN HEX	0	1 1/2	A307B	IbF
	37-6	16	NUTS 3/4 DIA FIN HEX			A563A	IbF
	37-7	16	WASHERS 3/4 DIA			CS	IbF
4	37-4		16 DIA PIPE ALIGNMENT GUIDES				
			MANUFACTURED BY P.H.S.				
			FIG. 255 SIZE 11				



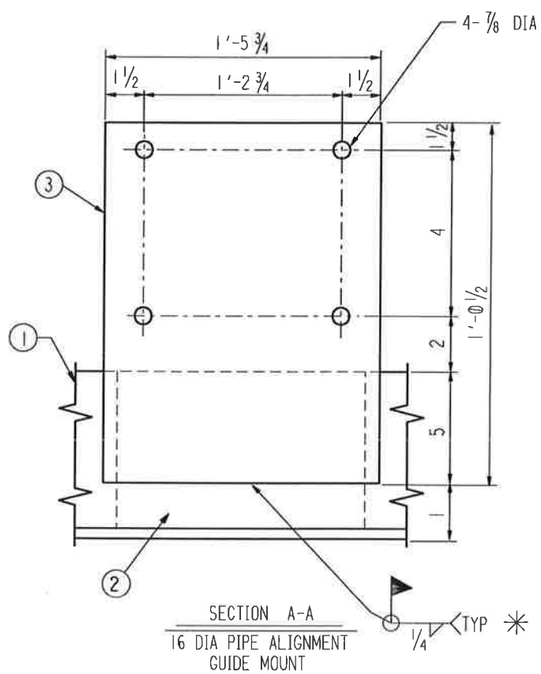
DETAIL (C)



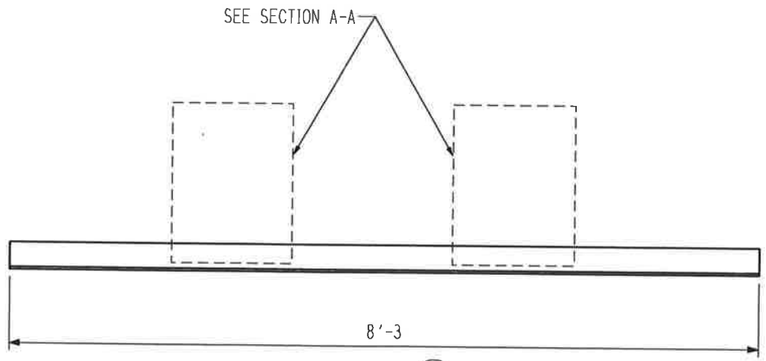
SECTION B-B
(OVERFLOW & LADDER NOT SHOWN)



PLAN



SECTION A-A
16 DIA PIPE ALIGNMENT GUIDE MOUNT



ALIGNMENT GUIDE SUPPORT (1)

NOTES:

✳ 1. ATTACH PIPE ALIGNMENT GUIDE TO PIPE & PC (3) BEFORE WELDING PC (3) TO SUPPORT.

2. WORK THIS DRAWING WITH DRAWING #20.

▶ 3. PIPE ALIGNMENT GUIDES TO BE REMOVED FOR CLEANING & PAINTING OF PIPE.

FIELD NOTE:
TRIM PC (1) TO REQUIRED LENGTH TO FIT ALINGMENT GUIDE & SHAFT

▶ INDICATES CHANGE FROM PREVIOUS ISSUE

BY	CHKD	DATE	REVISIONS	REMARKS
KWD	JRS	6-2-95	1	REVISED TO ADD NOTE PER CUSTOMER REVIEW

CBI

SUPPLIER'S / PURCHASER'S NO 541085

PIPE ALIGNMENT GUIDES
FOR BOTH 16 DIA RISER PIPES
500 MG X 99'-6 BCL
WATERSPHEROID
FLORIDA CITY, FLORIDA

CUSTOMER'S NO

BY KWD CHKD JRS DATE 4-24-95

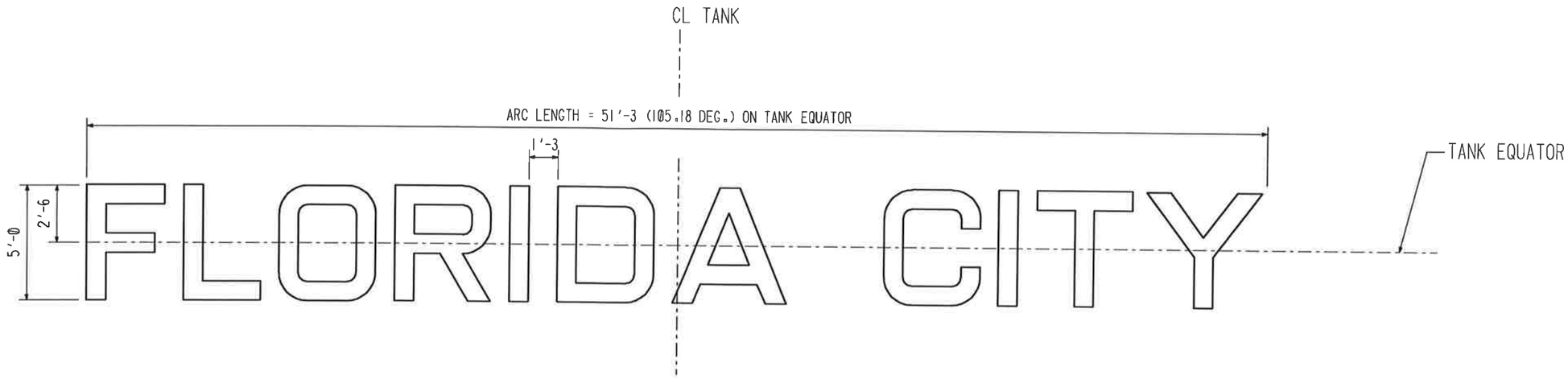
BIRMINGHAM/J. L. TURNER
ENGINEERING ASSIGNED

CONTRACT NO 941085

DWG 37 REV 1

SHT

41085037.DGN



EXTERIOR LETTERING

AFTER THE FINAL EXTERIOR COAT HAS BECOME THOROUGHLY DRY, PAINT THE NAME "FLORIDA CITY" ON 1 SIDE(S) OF THE TANK SHELL IN ACCORDANCE WITH PAINT SHEETS. THE LETTERS SHALL HAVE A STEM WIDTH OF 10 WITH A SPACING OF 10 UNLESS NOTED OTHERWISE. THE EXACT SHAPE, SIZE, AND SPACING OF THE LETTERS SHALL BE AS SHOWN ON SIGN BLOCK LETTERING DWG. SBL6. THE EXACT LOCATION AND COLOR OF THE LETTERING SHALL BE DESIGNATED BY THE CUSTOMERS REPRESENTATIVE. (LETTERS TO BE PAINTED SOLID)

▶ INDICATES CHANGE FROM PREVIOUS ISSUE

BY	CHKD	DATE	REMARKS

CBI

SUPPLIER'S / PURCHASER'S NO
S41085

SIGN DETAIL
500 MG X 99'-6 BCL WATERSPHEROID
FOR TANK DIA. = 55'-10

FLORIDA CITY, FLORIDA

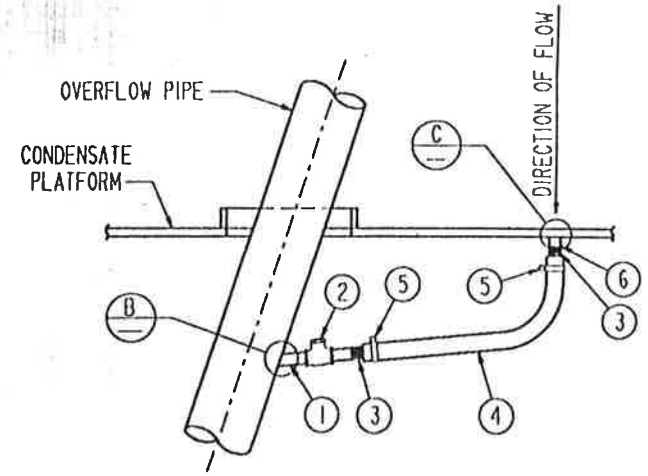
CUSTOMER'S NO

BY KWD CHKD JRS DATE 4-20-95
BIRMINGHAM/J. L. TURNER
ENGINEERING ASSIGNED

CONTRACT NO
941085

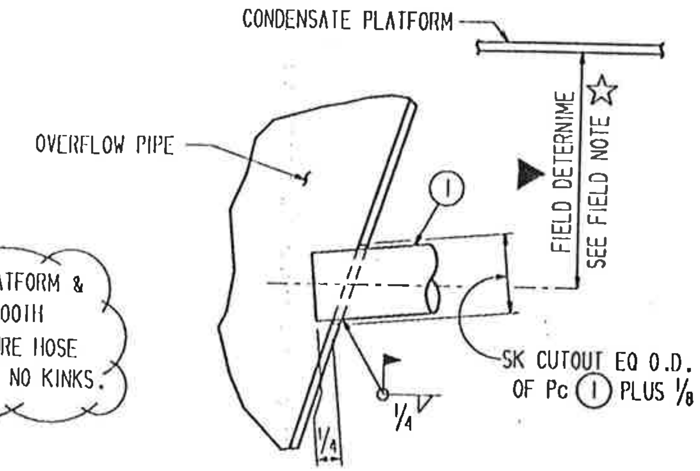
DWG SD REV 0
SHT

Program: COIIIN Date of Version: 5/28/86



ELEVATION

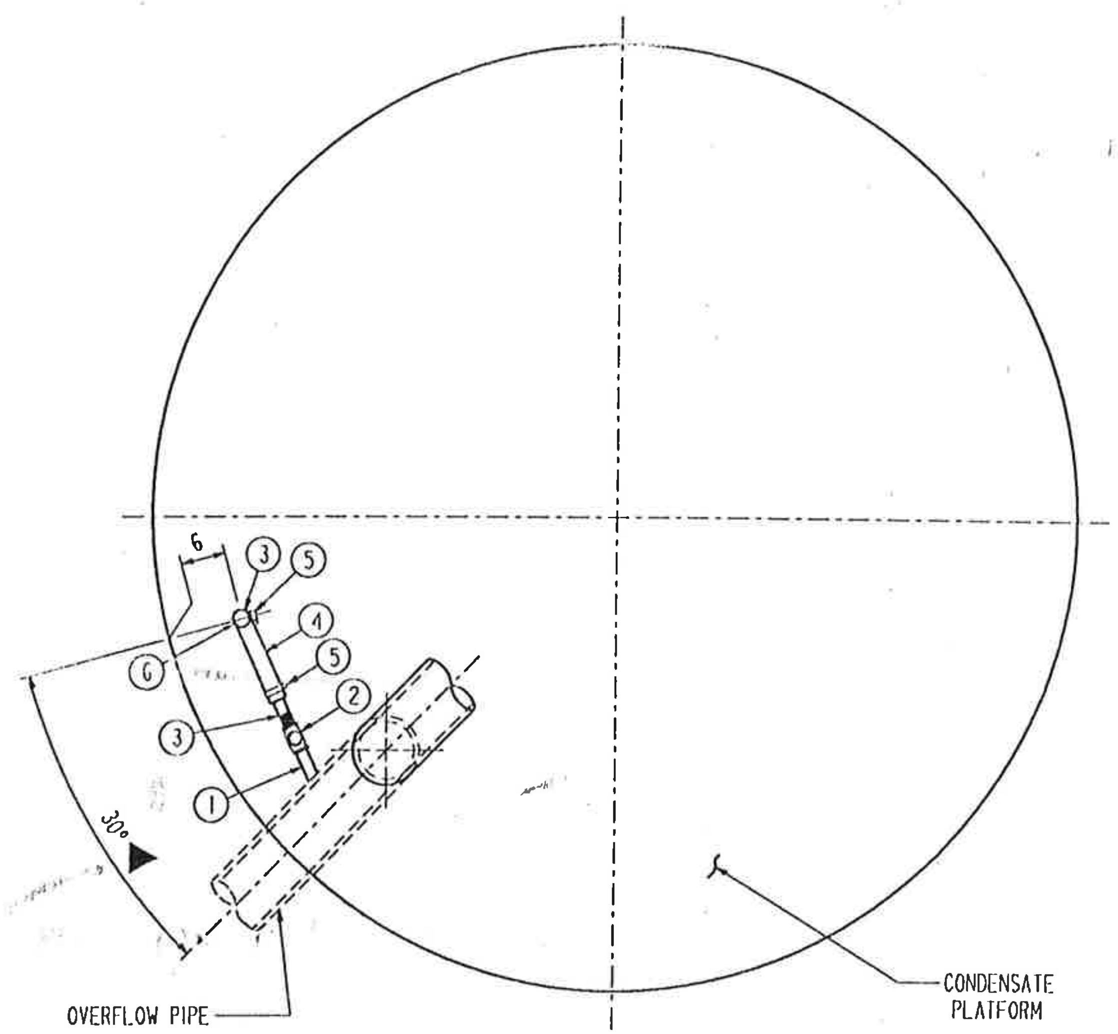
☆ FIELD NOTE:
DETERMINE DIMENSION BELOW PLATFORM & ANGLE OF PC. (1) TO ALLOW SMOOTH TRANSITION OF PC. (4). BE SURE HOSE MAKES A SMOOTH CURVE AND HAS NO KINKS.



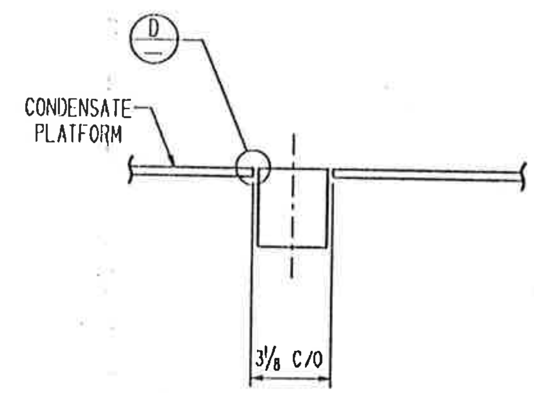
DETAIL (B)

SHIP PC	MARK	ASSM PC	DESCRIPTION	LENGTH FT	LENGTH IN	SPEC	WEIGHT
1	L19C-1		PIPE 2 DIA STD WT TOE POE	0	6	A53F	2
1	L19C-2		SWING CHECK VALVE 2 DIA			BRONZE	6
			STOCKHOM #B-319 OR EQUAL				
2	L19C-3		SURE GRIP COMBINATION HOSE NIPPLE			STL	
			HOSE ID = 2" X 2" NPT				
			McMASTER-CARR #5363K56 OR EQUAL				
1	L19C-4		SUPER-FLEX WATER HOSE 2" ID	3	6	*	
			McMASTER-CARR #5297K888 OR EQUAL				
2	L19C-5		WORM DRIVE HOSE CLAMPS			SS	
			2 1/16 MIN DIA X 3 MAX DIA				
			McMASTER-CARR #5416K22 OR EQUAL				
1	L19C-6		CPLG 2 DIA 3000# SRWD			FS	3

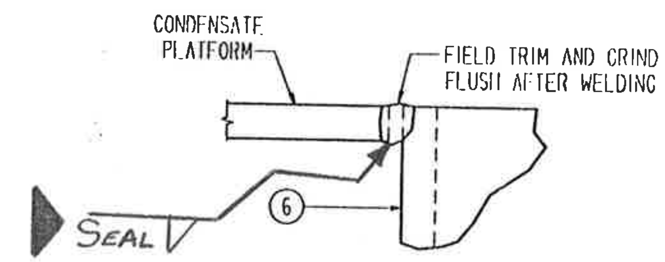
* - NITRILE AND SBR REINFORCED WITH SYNTHETIC FABRIC AND TEMPERED HIGH CARBON STEEL WIRE HELIX WITH NEOPRENE COVER



PLAN



DETAIL (C)



DETAIL (D)

Use For Contract 941085 Only

DETAILER NOTE:

DRAIN MAY BE LOCATED ON OPPOSITE SIDE OF OVERFLOW.

FIELD NOTE:

1. SEE ORIENTATION DRAWING FOR LOCATION OF CONDENSATE DRAIN.
2. SLOPE PC. (1) TO FACILITATE DRAINAGE.

▶ INDICATES CHANGE FROM PREVIOUS ISSUE

REVISIONS	BY	CHKD	DATE	REMARKS
3	KWD	GAH	10-29-92	MISC. REVISIONS
4	KWD	GAH	6-20-94	REVISED LENGTH OF PC 4 & MADE PC 6 3000#, FS
4	JKK	GAH	10-29-93	REVISED PC 4 BILLING

CBI

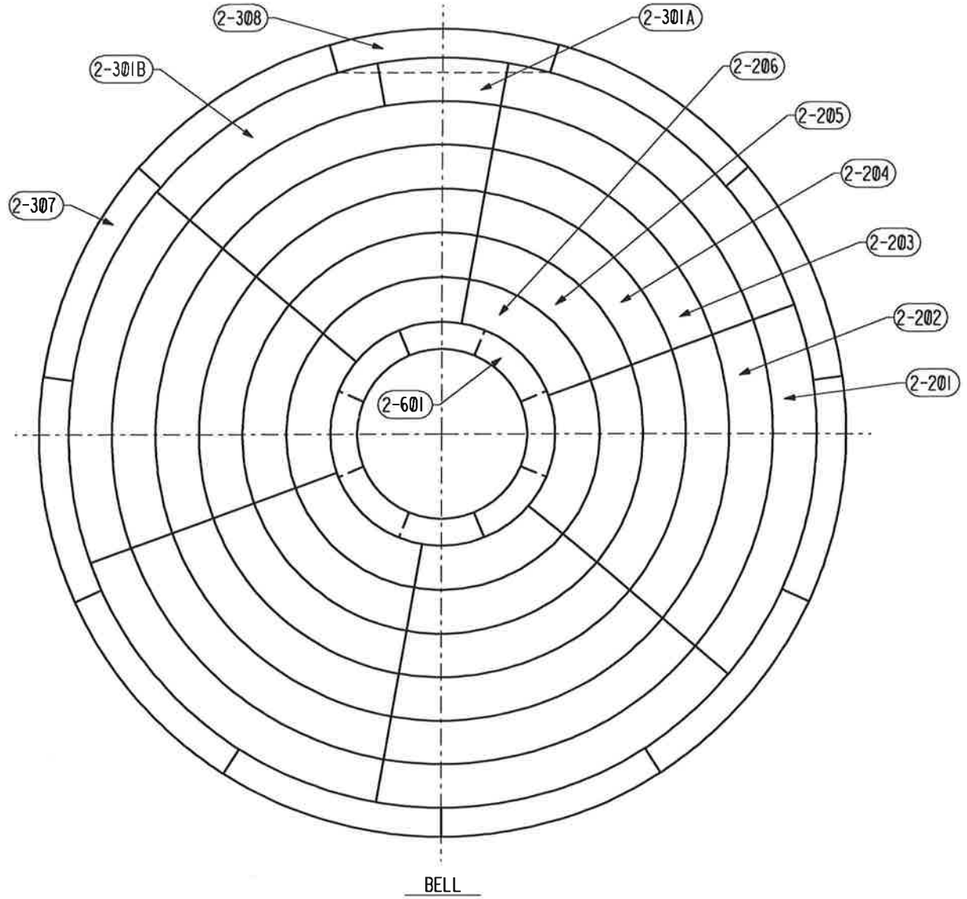
2 DIA. CONDENSATE DRAIN FOR PEDESTAL TANKS WITH CONDENSATE CEILING ADJACENT TO BELL

BY JFN CHKD GAH DATE 3/23/92

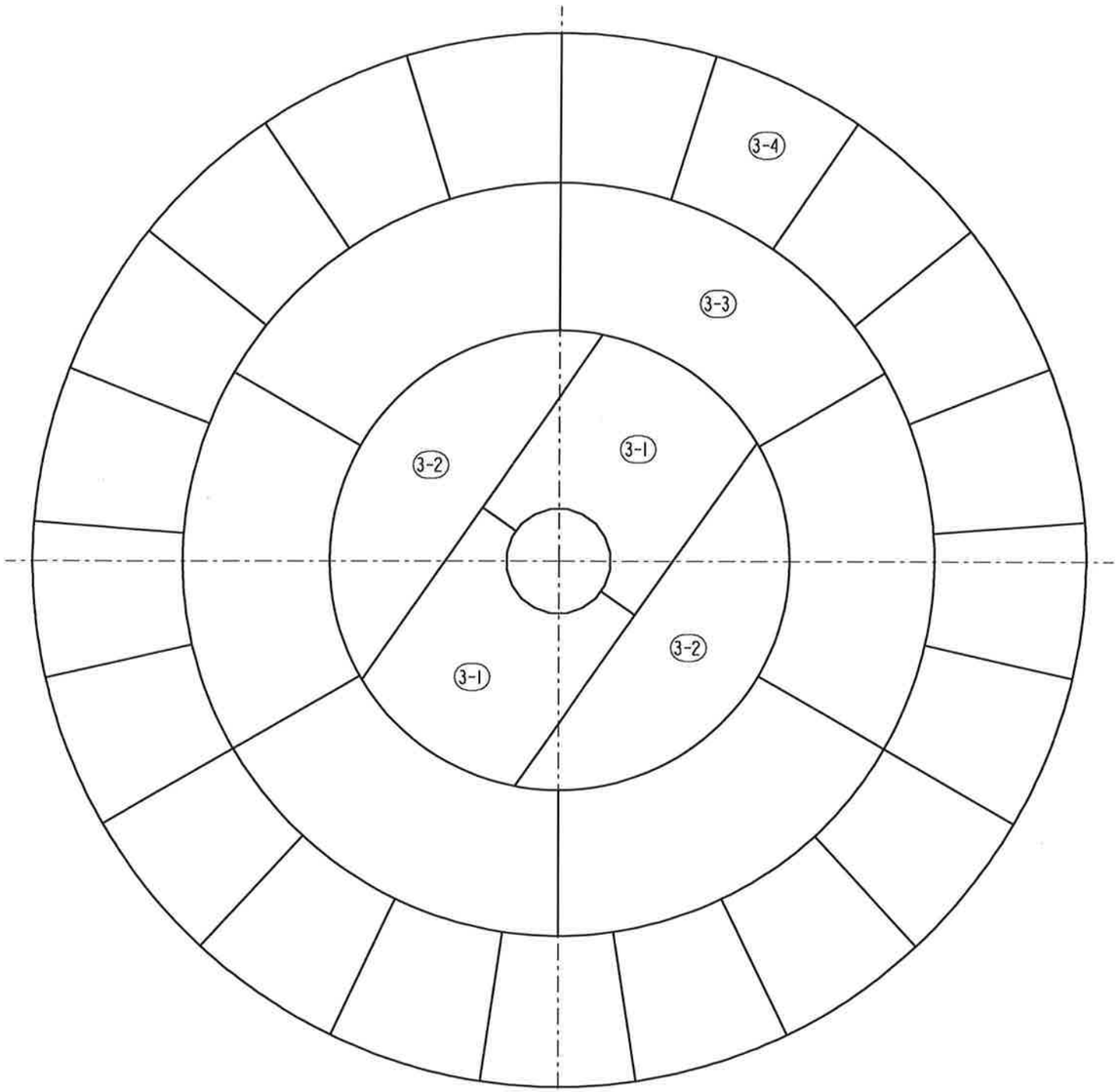
APPROVED BY JBT DATE 6-20-94

STANDARD DRAWING NO. L19C-5

L19C



BELL



UPPER BALL

NAME OF WELDER	I.D.

FOREMAN NOTES:

1. SHOW WELDERS IDENTIFICATION ON ALL WELDING SEAMS AND ALL SPOT RADIOGRAPH LOCATIONS.
2. SEE DRAWING #1 FOR TRUE ORIENTATION OF PLATES.
3. LINES MARKED (—·—·—) INDICATE SHOP SEAMS.

▶ INDICATES CHANGE FROM PREVIOUS ISSUE

BY	CHKD	DATE	REMARKS

REVISIONS

CBI

SUPPLIER'S / PURCHASER'S NO
941085

WELD DRAWING
FOR 500 MG X 99'-6 BCL
WATERSPHEROID

FLORIDA CITY, FLORIDA

CUSTOMER'S NO

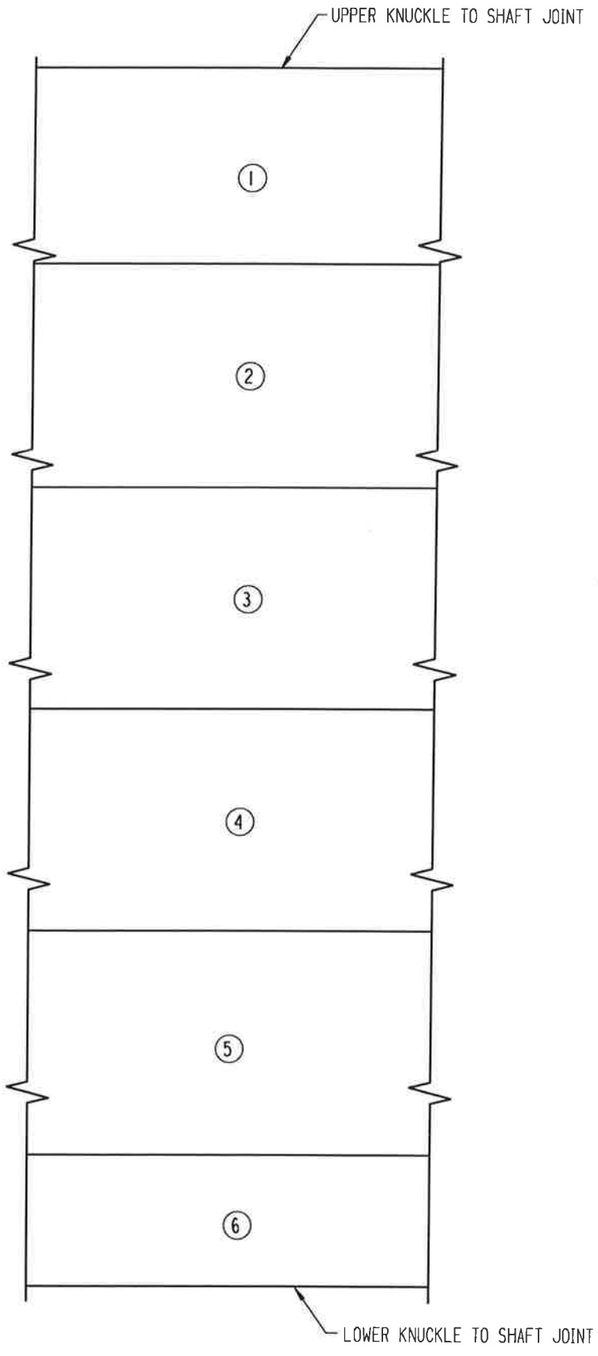
BY KWD CHKD JRS DATE 4-20-95

BIRMINGHAM/J. L. TURNER
ENGINEERING ASSIGNED

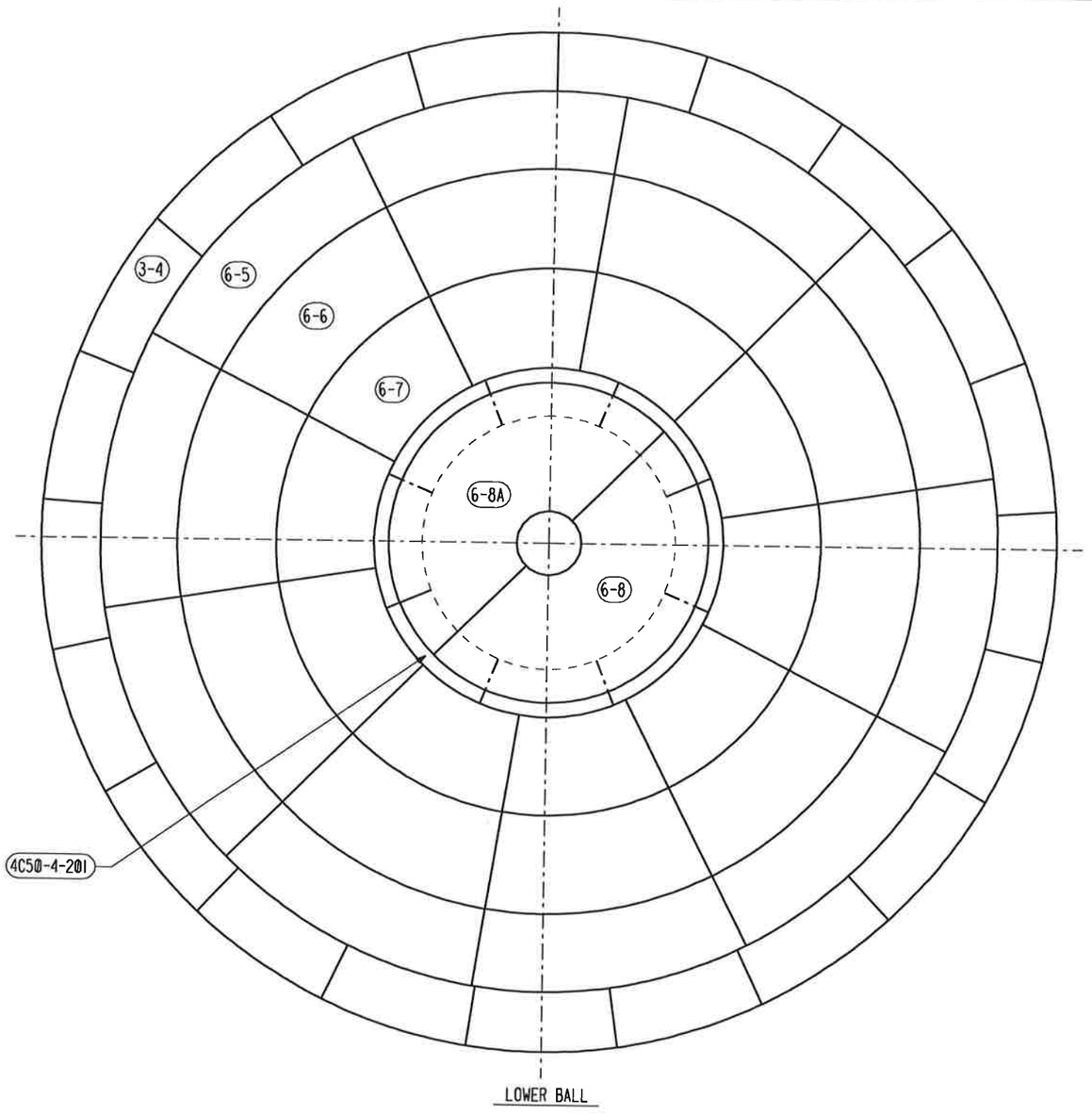
CONTRACT NO
941085

DWG W1 REV 0
SHT

410850W1.DGN



SHAFT



INDICATES CHANGE FROM PREVIOUS ISSUE

BY	CHKD	DATE	REMARKS

CBI

SUPPLIER'S / PURCHASER'S NO
S41085

WELD DRAWING
FOR 500 MG X 99'-6 BCL
WATERSPHEROID

FLORIDA CITY, FLORIDA

CUSTOMER'S NO

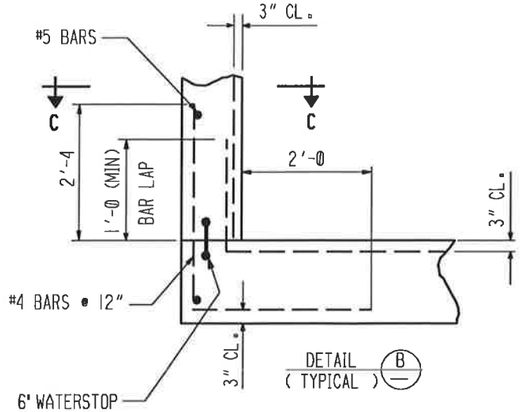
BY KWD CHKD JRS DATE 4-20-95

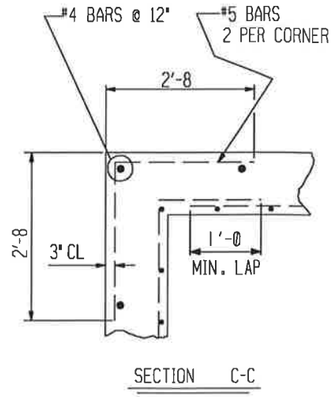
BIRMINGHAM/J. L. TURNER
ENGINEERING ASSIGNED

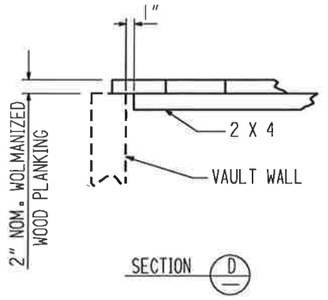
CONTRACT NO
941085

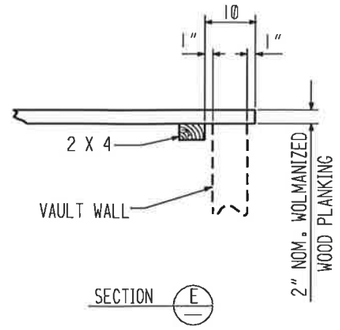
DWG W2 REV 0
SHT

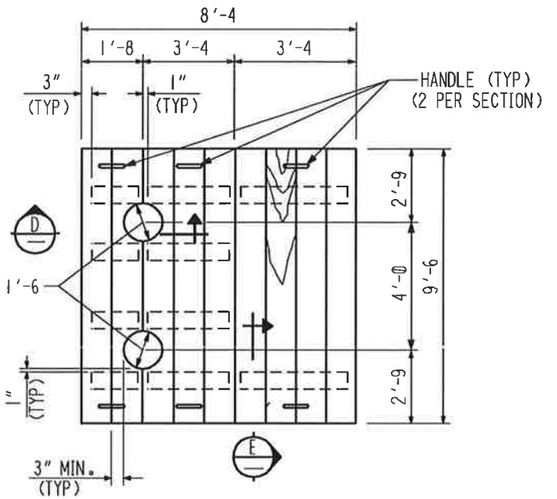
41085ØW2.DGN

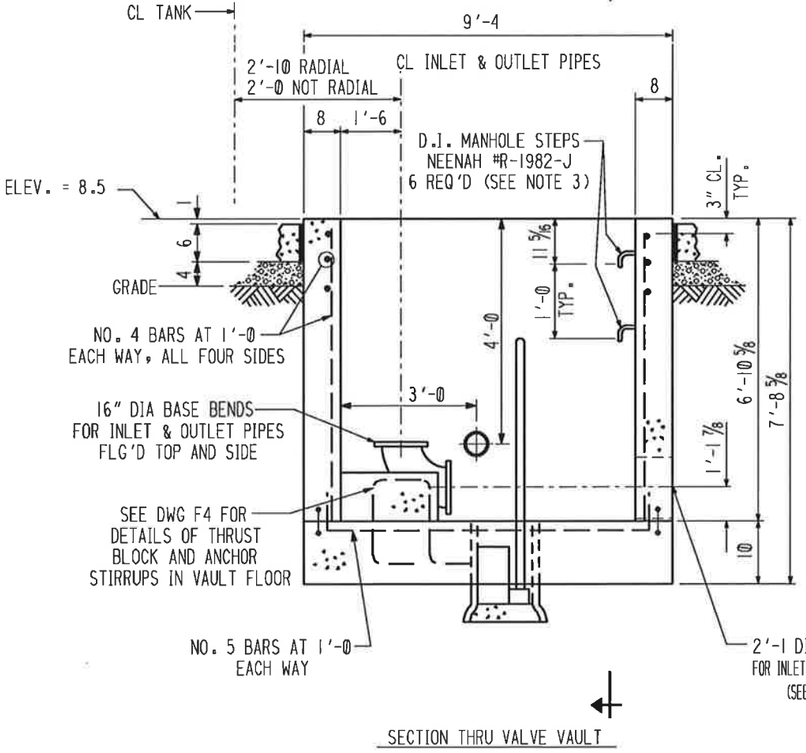


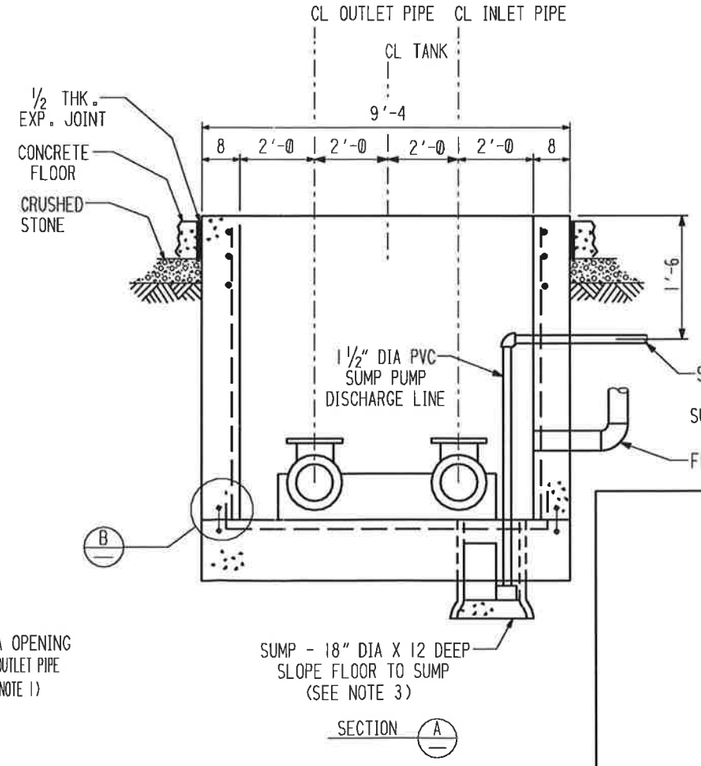












NOTES:

1. GROUT AROUND PIPE AND SEAL OUTSIDE WITH "BENJAMIN FOSTER" 95 X 44 BUTYL RUBBER BASE CAULKING COMPOUND OR EQUAL. FOR WATERTIGHT JOINT.
2. WORK THIS DRAWING WITH DRAWING F1 AND F4.
3. SEE DRAWING F1 FOR TRUE ORIENTATION OF MANHOLE STEPS & SUMP.

▶ INDICATES CHANGE FROM PREVIOUS ISSUE

BY	CHKD	DATE	REMARKS
			REVISIONS

CBI

SUPPLIER'S / PURCHASER'S NO 941085

VALVE VAULT
500 MG X 99'-6 BCL WATERSPHEROID

FLORIDA CITY, FLORIDA

CUSTOMER'S NO

BY KWD CHKD LRL DATE 3-29-95

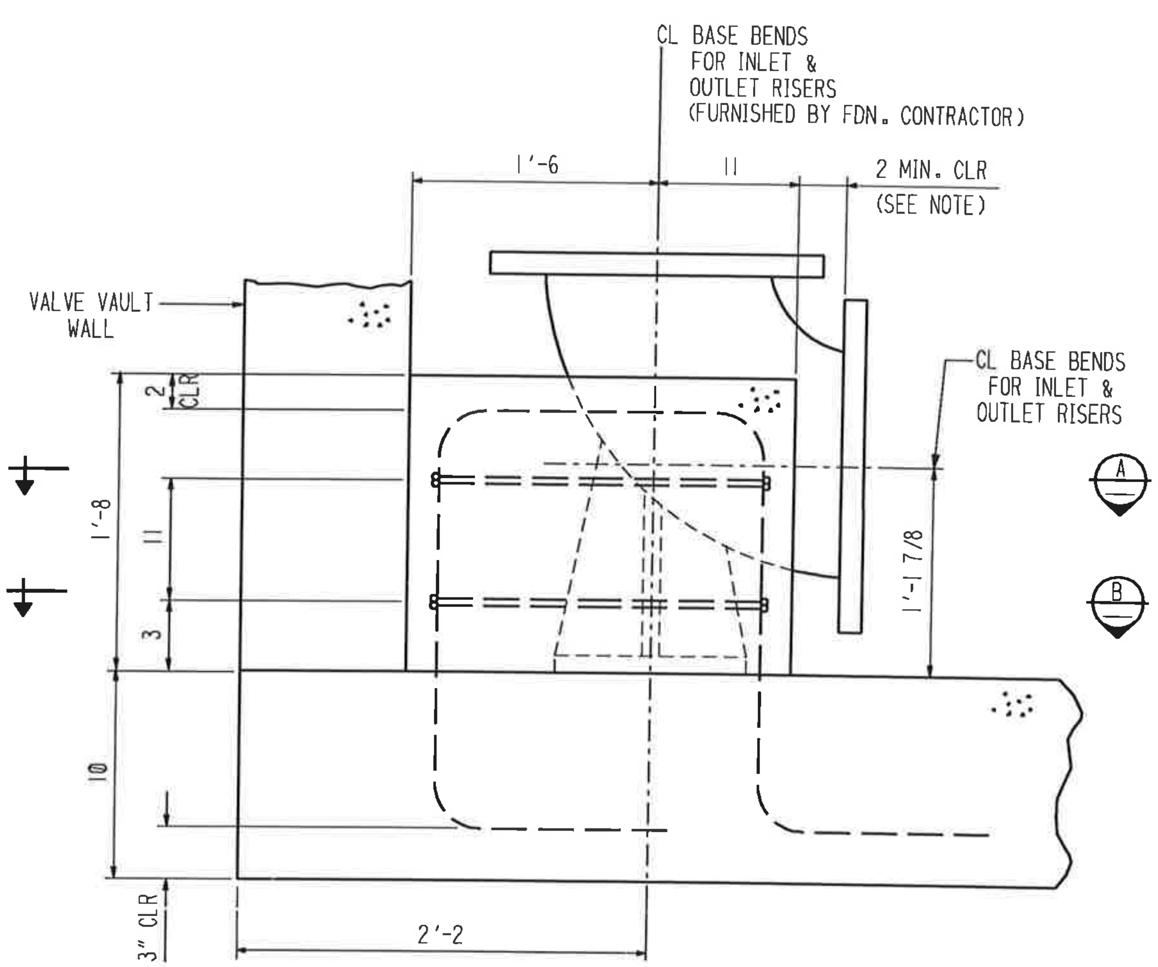
BIRMINGHAM/J. L. TURNER
ENGINEERING ASSIGNED

CONTRACT NO 941085

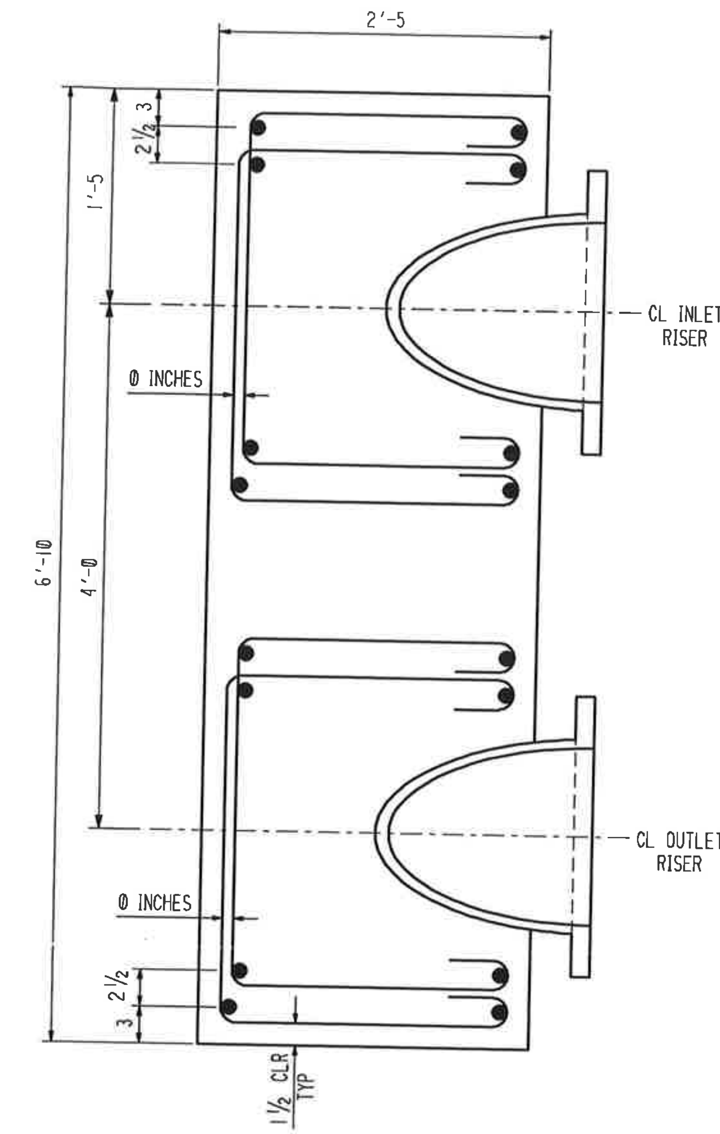
DWG F3 REV 0

SHT

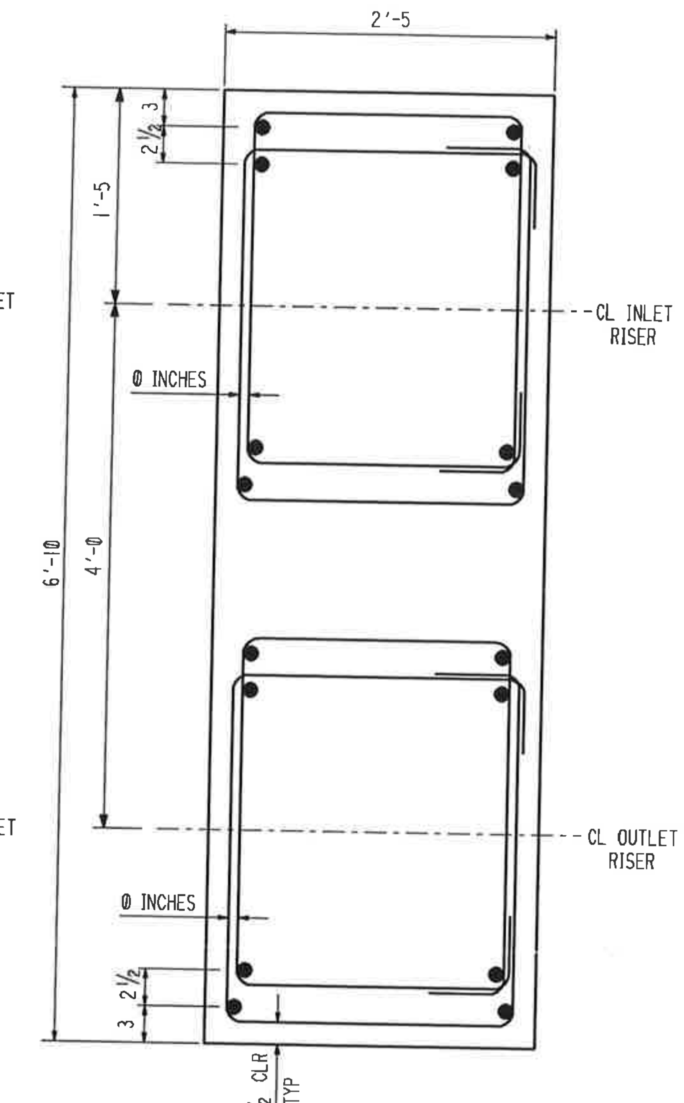
Program C0104A Date of Version: 12-29-86



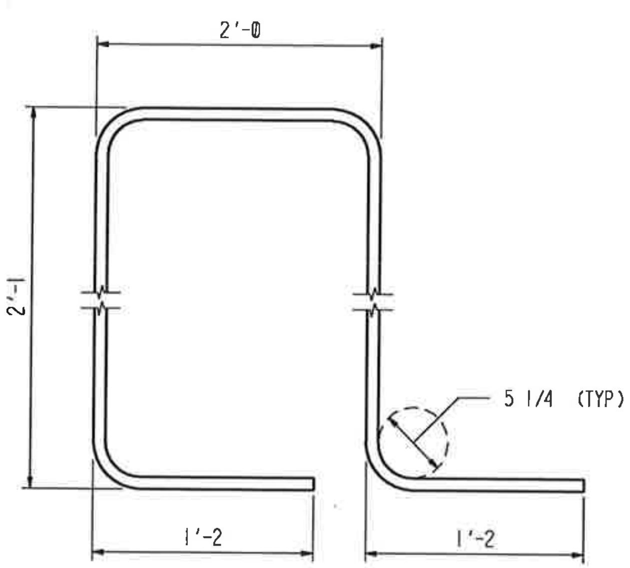
THRUST BLOCK FOR 16" DIAMETER BASE BENDS
FOR INLET & OUTLET RISERS



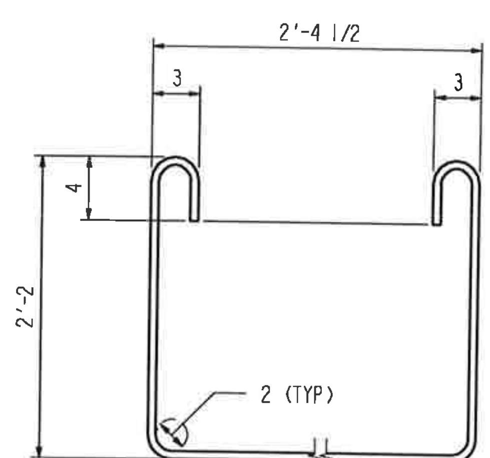
SECTION A



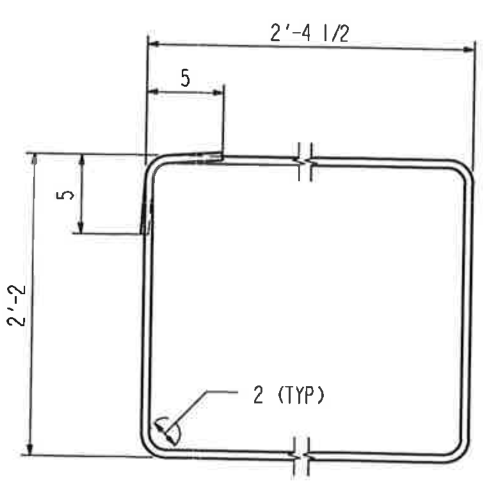
SECTION B



BEND DETAIL - #7 TYPE S5 BAR, 8'-6 LONG
(8 REQUIRED)



BEND DETAIL - #4 TYPE S9 TIE BAR, 7'-10 1/2 LONG
(4 REQUIRED)



BEND DETAIL - #4 TYPE T2 TIE BAR, 9'-11 LONG
(4 REQUIRED)

NOTE:
THE 2 INCH CLEAR DISTANCE BETWEEN BACK OF VERTICAL FLANGE AND FACE OF CONCRETE BLOCK DOES NOT NECESSARILY PROVIDE CLEARANCE TO INSTALL BOLTS FROM BASE BEND SIDE. VALVES AND FITTINGS THAT ATTACH TO THE BASE BEND SHOULD BE CHECKED TO ASSURE THAT BOLTS CAN BE INSTALLED.

▶ INDICATES CHANGE FROM PREVIOUS ISSUE

CBI

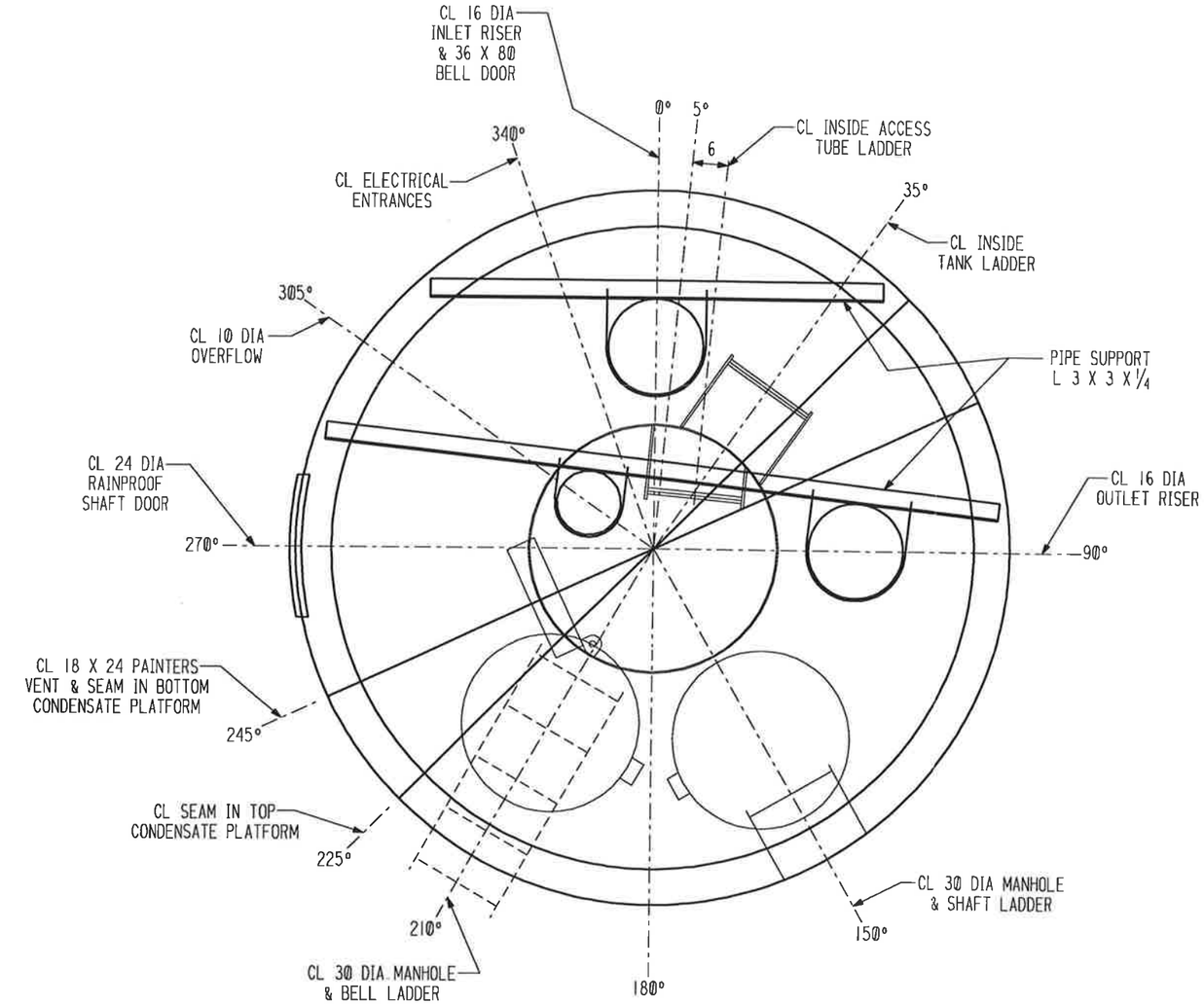
SUPPLIER'S / PURCHASER'S NO 541085

THRUST BLOCK ASSEMBLY
16 DIAMETER BASE BENDS
FOR INLET & OUTLET RISERS
500 MG X 99'-6 BCL WATERSPHEROID
FLORIDA CITY, FLORIDA

CUSTOMER'S NO	CONTRACT NO 941085
BY KWD CHKD LRL DATE 3-29-95	DWG F4
BIRMINGHAM/J. L. TURNER ENGINEERING ASSIGNED	SHT — REV 0

REVISIONS | REMARKS | BY | CHKD | DATE

Program: C0106N Date of Version: 5/23/86



INDICATES CHANGE FROM PREVIOUS ISSUE

BY	CHKD	DATE	REMARKS
			REVISIONS

CBI

SUPPLIER'S / PURCHASER'S NO
541085

LAYOUT DRAWING
FOR 500 MG X 99'-6 BCL
WATERSPHEROID

FLORIDA CITY, FLORIDA

CUSTOMER'S NO

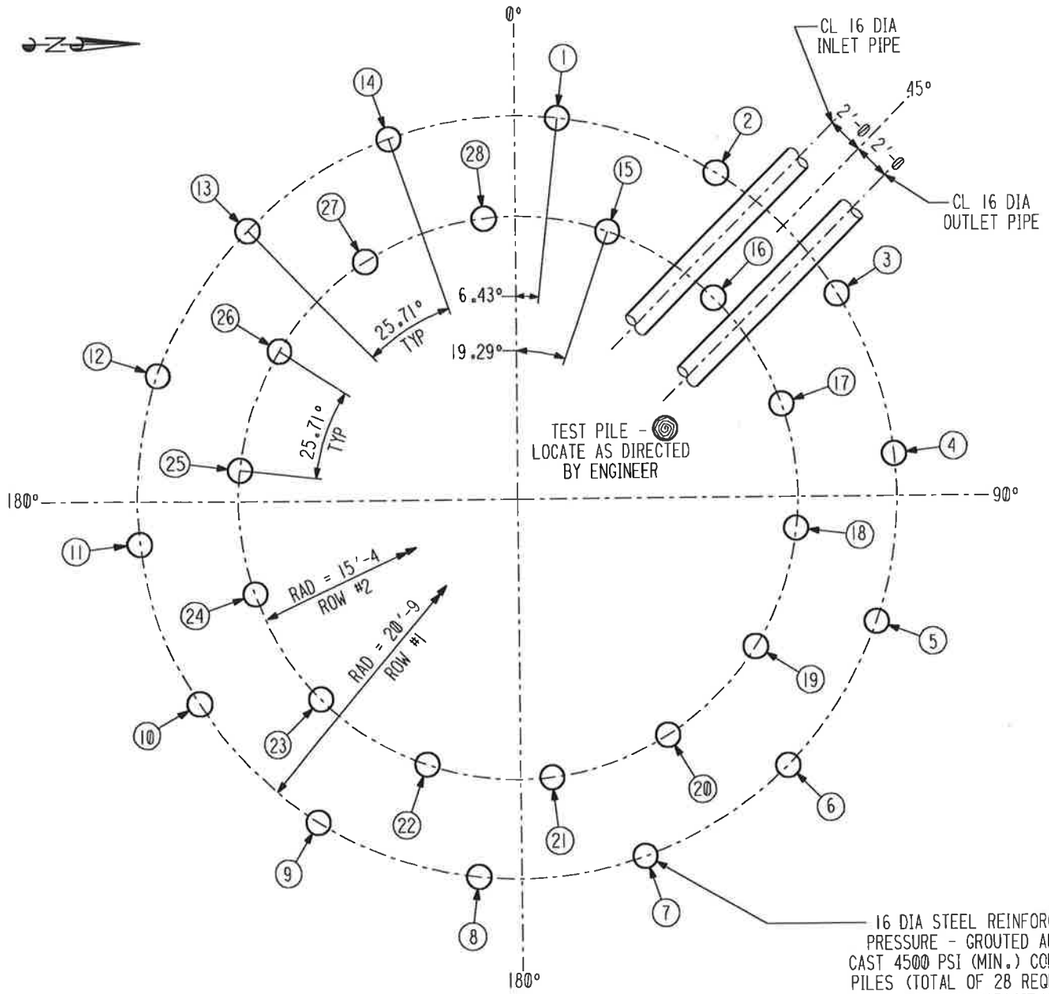
BY KWD CHKD LRL DATE 3-29-95

BIRMINGHAM/J. L. TURNER
ENGINEERING ASSIGNED

CONTRACT NO
941085

DWG LO REV 0
SHT

410850LO.DGN

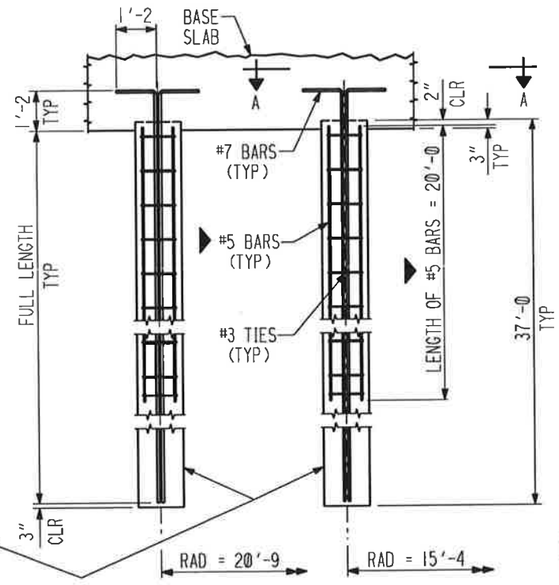


PILE ORIENTATION

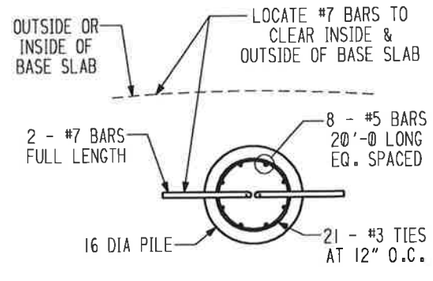
PILE CHORD DIMENSIONS

ROW #1		
FROM	TO PILE NO.	CHORD DIMENSION
0°	1	2'-3 15/16
PILE NO.1	2	9'-2 13/16
PILE NO.1	3	18'-0 1/16
PILE NO.1	4	25'-10 1/2
PILE NO.1	5	32'-5 11/32
PILE NO.1	6	37'-4 11/16
PILE NO.1	7	40'-5 1/2
PILE NO.1	8	41'-6

ROW #2		
FROM	TO PILE NO.	CHORD DIMENSION
0°	15	5'-1 21/32
PILE NO.15	16	6'-9 7/8
PILE NO.15	17	13'-3 21/32
PILE NO.15	18	19'-1 7/16
PILE NO.15	19	23'-11 23/32
PILE NO.15	20	27'-7 9/16
PILE NO.15	21	29'-10 25/32
PILE NO.15	22	30'-8



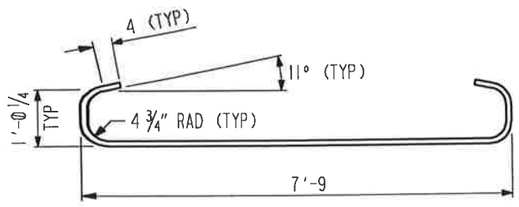
PILE W/UPLIFT CONNECTION



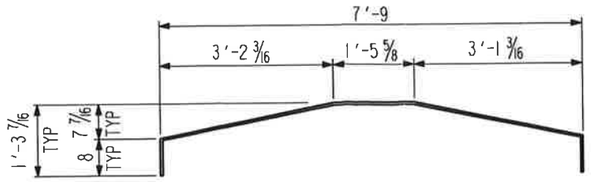
SECTION A-A

NOTES:

1. PILE LENGTH IS APPROXIMATELY 37'-0 TIP TO CUTOFF. EXACT LENGTH OF PILES TO BE DETERMINED AFTER PILE LOAD TEST.
2. UPLIFT CONNECTORS ARE FURNISHED AND INSTALLED BY PILING CONTRACTOR
3. SEE PROJECT SPECIFICATIONS FOR LOCATION TOLERANCE.
4. STATIC PILE LOAD TEST IS REQUIRED (COMPRESSION & TENSION)



BOTTOM RADIAL BASE SLAB STEEL
(136 #9 BARS 10'-5 LONG)



TOP RADIAL BASE SLAB STEEL
(136 #4 BARS 9'-2 LONG)

▶ INDICATES CHANGE FROM PREVIOUS ISSUE

BY	CHKD	DATE	REMARKS
KWD	LRL	3-31-95	REVISED NOTES PER IN-HOUSE REVIEW

SUPPLIER'S / PURCHASER'S NO 541085

CBI

PILE ORIENTATION & BASE SLAB RADIAL TOP & BOTTOM BAR DETAILS FOR 500 MG X 99'-6 BCL WATERSPHEROID FLORIDA CITY, FLORIDA

CUSTOMER'S NO

BY KWD CHKD LRL DATE 3-29-95

BIRMINGHAM/J. L. TURNER
ENGINEERING ASSIGNED

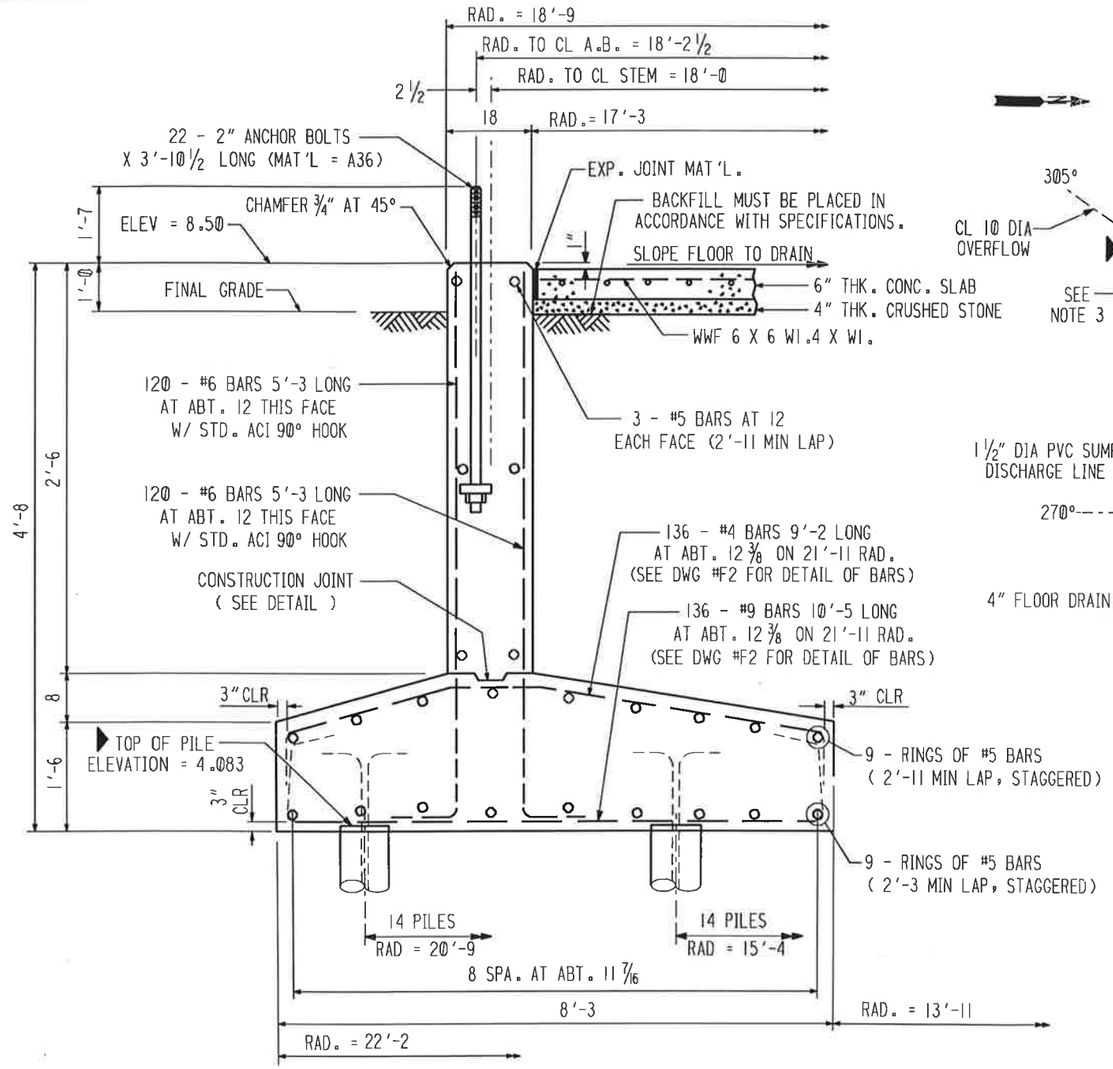
CONTRACT NO 941085

DWG F2 REV

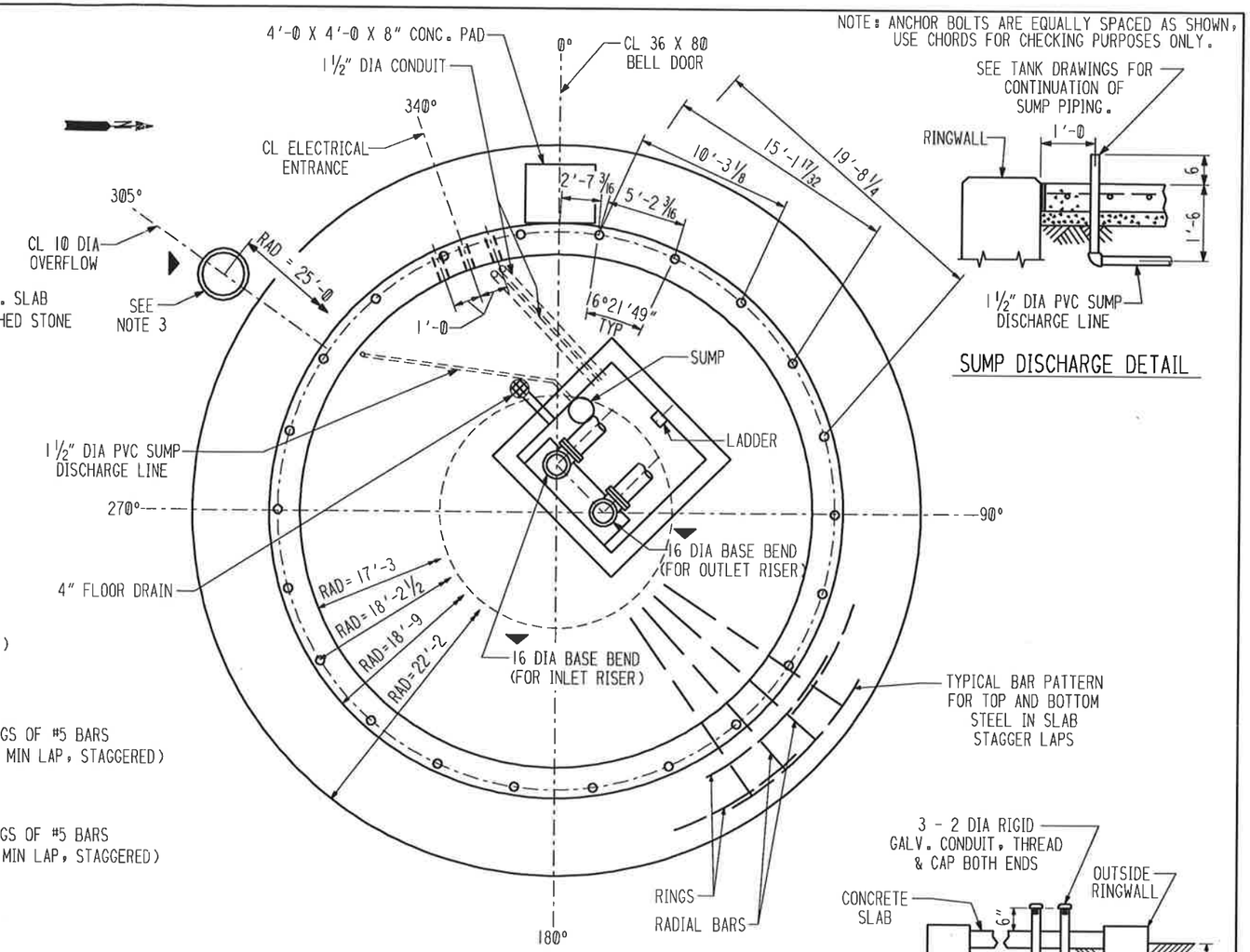
SHT 1

410850F2.DGN

NOT TO SCALE



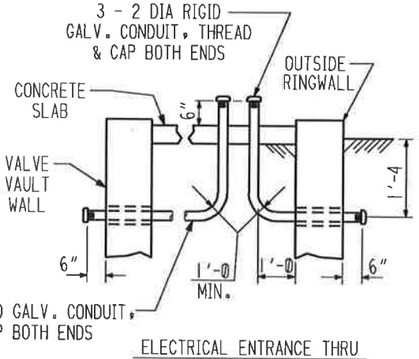
SECTION THRU FOUNDATION



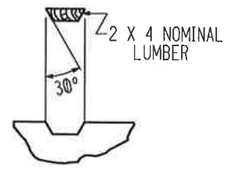
PLAN

NOTE: ANCHOR BOLTS ARE EQUALLY SPACED AS SHOWN, USE CHORDS FOR CHECKING PURPOSES ONLY.

SUMP DISCHARGE DETAIL



ELECTRICAL ENTRANCE THRU
RINGWALL AND VAULT
(3 REQ'D) AZIMUTH - 340°



TYP. CONSTRUCTION JOINT

SEE DWG #F2 FOR DETAILS & ORIENTATION OF PILES

NOTES:
1. ALL REINFORCING COVER TO BE 3" MINIMUM.
2. WORK THIS DRAWING WITH PROJECT SPECIFICATIONS AND DRAWING F1 - F4
3. CATCH BASIN AT AZIMUTH 305° (SEE CUST. DWGS & SPECS.)
4. LADDER TO BE LOCATED A MIN. OF 15" FROM CL OF LADDER TO INS. OF VAULT WALL.

ESTIMATED FOUNDATION QUANTITIES

ITEM	CONCRETE (CU. YDS.)	REIN'F. STEEL (LB.)
FND. STEM	15.7	805
FND. BASE SLAB	65.6	9670
VALVE VAULT	8.6	600
FLOOR SLAB	15.7	200
THRUST BLOCK	1.0	185
TOTAL	106.6	11460

FOUNDATION CONTRACTOR SHALL MAKE OWN ESTIMATE OF QUANTITIES FOR BIDDING AND/OR CONTRACTING.

TABLE OF LOADINGS

ITEM	LOAD (KIPS)	LOAD PER PILE (TONS)
WATER	4230.0	
METAL	336.0	
CONCRETE (144 PCF)	320.8	
EARTH 100 PCF	139.8	
TOTAL W/O WIND	5026.6	89.8 TONS
	W/WIND (FT-KIP)	W/WIND (TONS)
OVERTURNING MOMENT	12050	26.8
TOTAL LOAD PER PILE (TONS)		116.6

TOLERANCES:

TOP OF RINGWALL TO BE TROWELLED LEVEL AND TO BE WITHIN ± 1/4" OF THEORETICAL ELEVATION. ANCHOR BOLTS TO BE WITHIN 1/4" OF THEORETICAL POSITION, TO BE PLUMB WITHIN 1/8:12, AND WITH PROJECTION ABOVE THE TOP OF RINGWALL WITHIN 1/2" OF THE SPECIFIED HEIGHT.

SPECIFICATIONS:

SEE SPECIFICATIONS BY CUSTOMER AND C.B.I.. ALL CONCRETE TO HAVE 4000 P.S.I. COMP. STRENGTH IN 28 DAYS. REINFORCING STEEL TO HAVE MINIMUM YIELD STRENGTH OF 60000 P.S.I. AND CONFORM TO ASTM A615 (SI) GR. 60/SI. ALL MATERIAL UNLESS OTHERWISE NOTED TO BE FURNISHED AND INSTALLED BY FOUNDATION CONTRACTOR. ANCHOR BOLTS ARE FURN. BY C.B.I..

PIPE COVER = 4'-0.

▶ INDICATES CHANGE FROM PREVIOUS ISSUE

BY	CHKD	DATE	REVISIONS
KWD	LRL	4-29-95	REVISED TO SHOW 16 DIA BASE BEND, NOTE & MOVED CATCH BASIN PER CUSTOMER & IN-HOUSE REVIEW

CBI

SUPPLIER'S / PURCHASER'S NO 541085

FOUNDATION PLAN
FOR 500 MG X 99'-6 BCL
WATERSPHEROID

FLORIDA CITY, FLORIDA

CUSTOMER'S NO

BY KWD CHKD LRL DATE 3-29-95

BIRMINGHAM/J. L. TURNER
ENGINEERING ASSIGNED

CONTRACT NO 941085

DWG F1 REV

SHT 1

Program C012IA Date of Version: 1/8/88