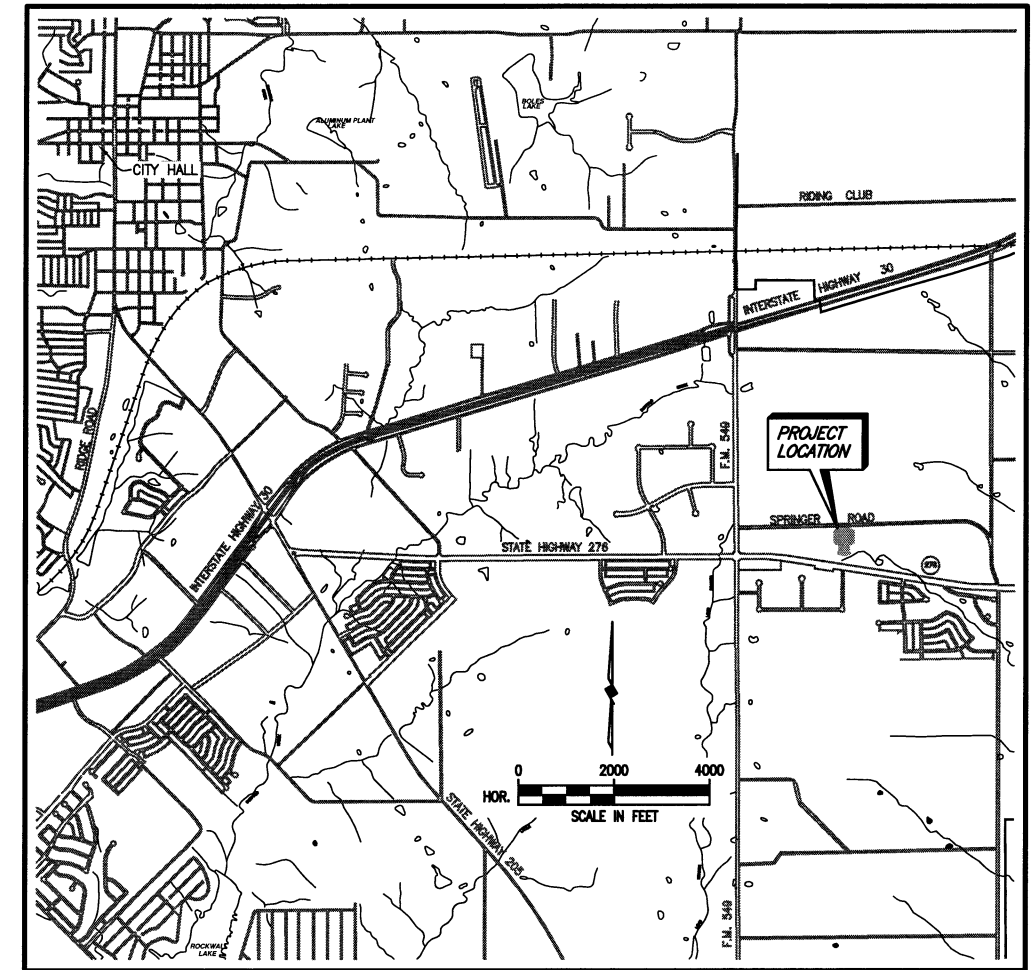


CITY OF ROCKWALL, TEXAS

CONSTRUCTION PLANS FOR:

SPRINGER ROAD 2.0 M.G. COMPOSITE ELEVATED STORAGE TANK

780 SERVICE AREA

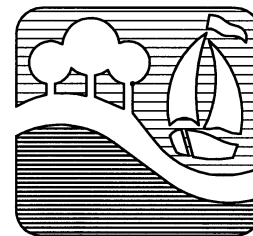


LOCATION MAP

SHEET INDEX

<u>SHEET NO.</u>	<u>SHEET DESCRIPTION</u>
—	COVER SHEET & LOCATION MAP
1	SITE PLAN, PAVING PLAN & BORING LOCATIONS
2	YARD PIPING PLAN
3	GRADING PLAN, WATER LINE PROFILE
4	FLOOR PLANS
5	STAIR & ELEVATOR DETAILS
6	TANK SECTIONS & DETAILS
7	TANK ELEVATION & DETAILS
8	LOG OF BORINGS & GENERAL NOTES
9-10	MISCELLANEOUS DETAILS
E1	ELECTRICAL SITE PLAN
E2	ELECTRICAL FLOOR PLANS & DETAILS
E3	TANK ELEVATION & ELECTRICAL DETAILS
E4	ELECTRICAL DETAILS
E5	ELECTRICAL SCHEMATICS

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 BY P.A.C. DATE 1/18/07

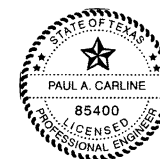


BIRKHOFF, HENDRICKS & CONWAY, L.L.P.
 CONSULTING ENGINEERS
 Dallas, Texas

MAY, 2002

THESE DOCUMENTS ARE FOR
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 AND PERMIT PURPOSES.

DATE: 5/20/02



COUNCIL MEMBERS

KEN JONES, MAYOR
 BILL CECIL, MAYOR PRO-TEM
 BOB COTTI
 JOHN KING
 BILLY MORRIS
 RON COLESON
 TERRY RAULSTON

CITY MANAGER

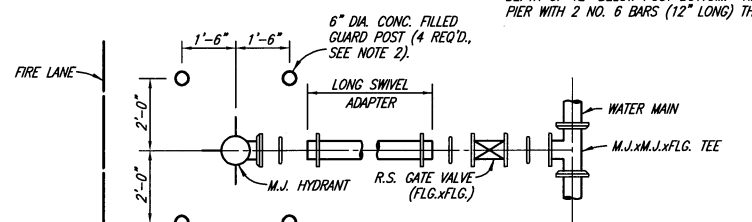
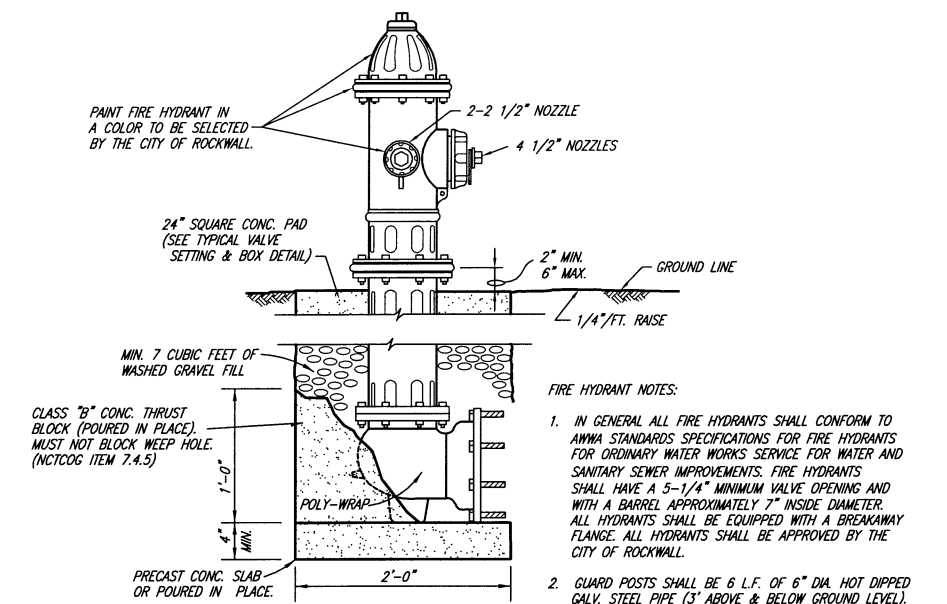
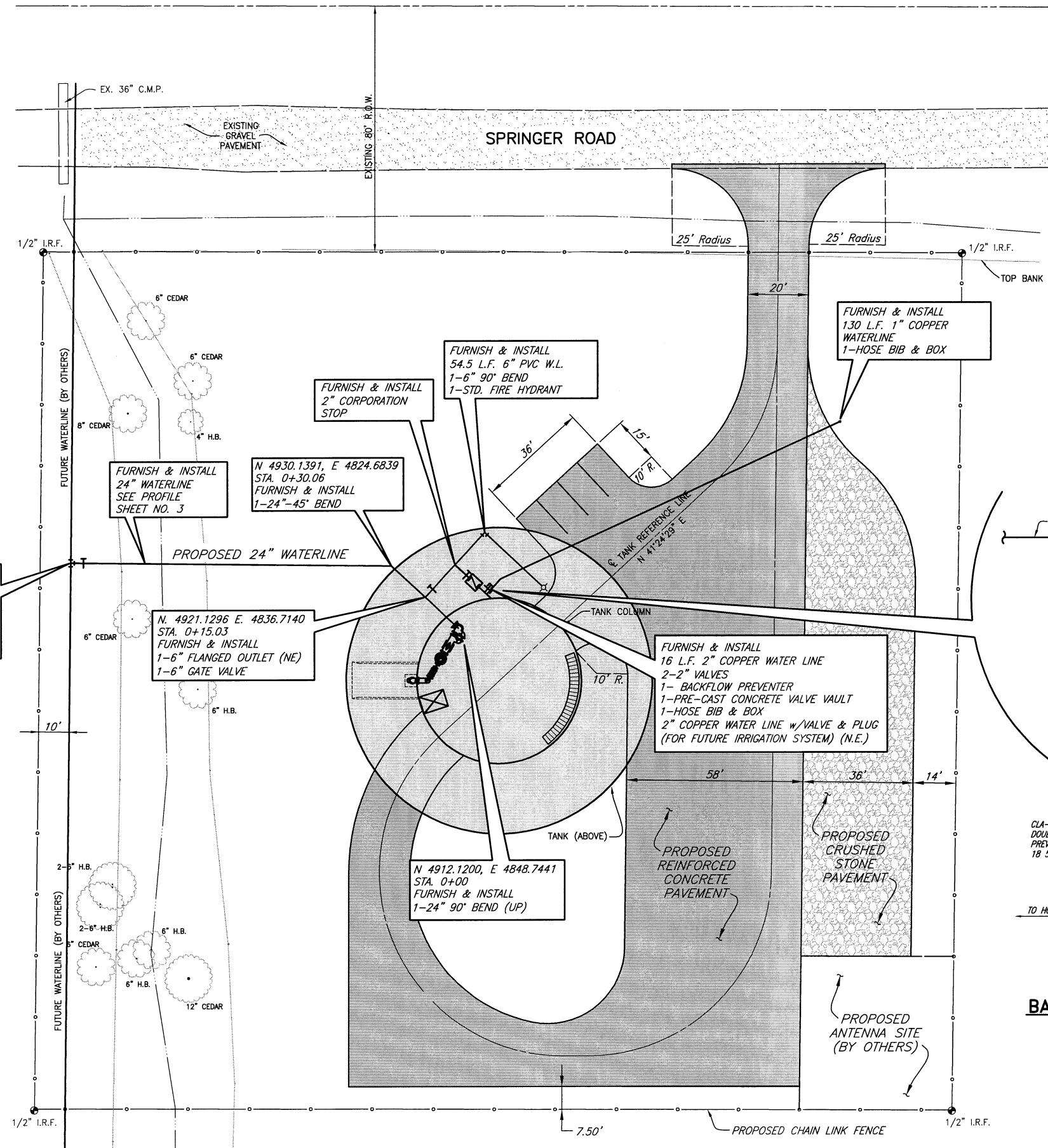
JULIE COUCH

ASSISTANT CITY MANAGER

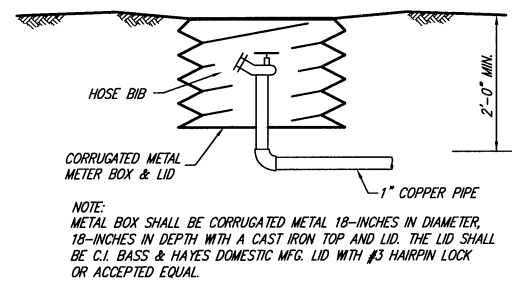
RICHARD CROWLEY

CITY ENGINEER

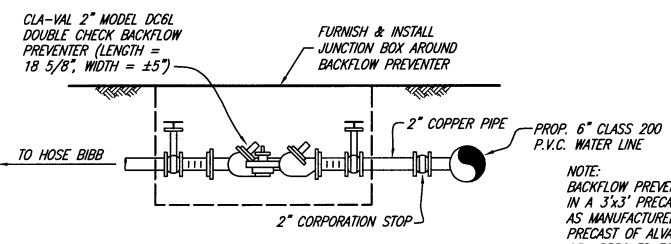
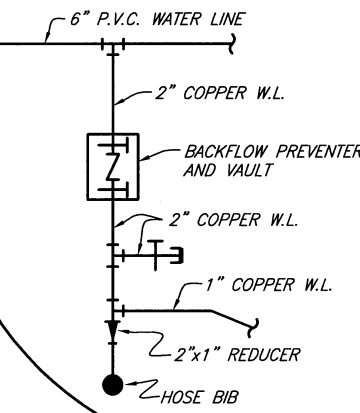
CHUCK TODD, P.E.



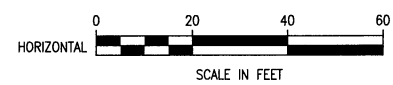
TYPICAL FIRE HYDRANT INSTALLATION
NO SCALE



HOSE BIB & BOX
NO SCALE



BACKFLOW PREVENTER ASSEMBLY
NO SCALE



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BY P.A.C. DATE 1/18/07

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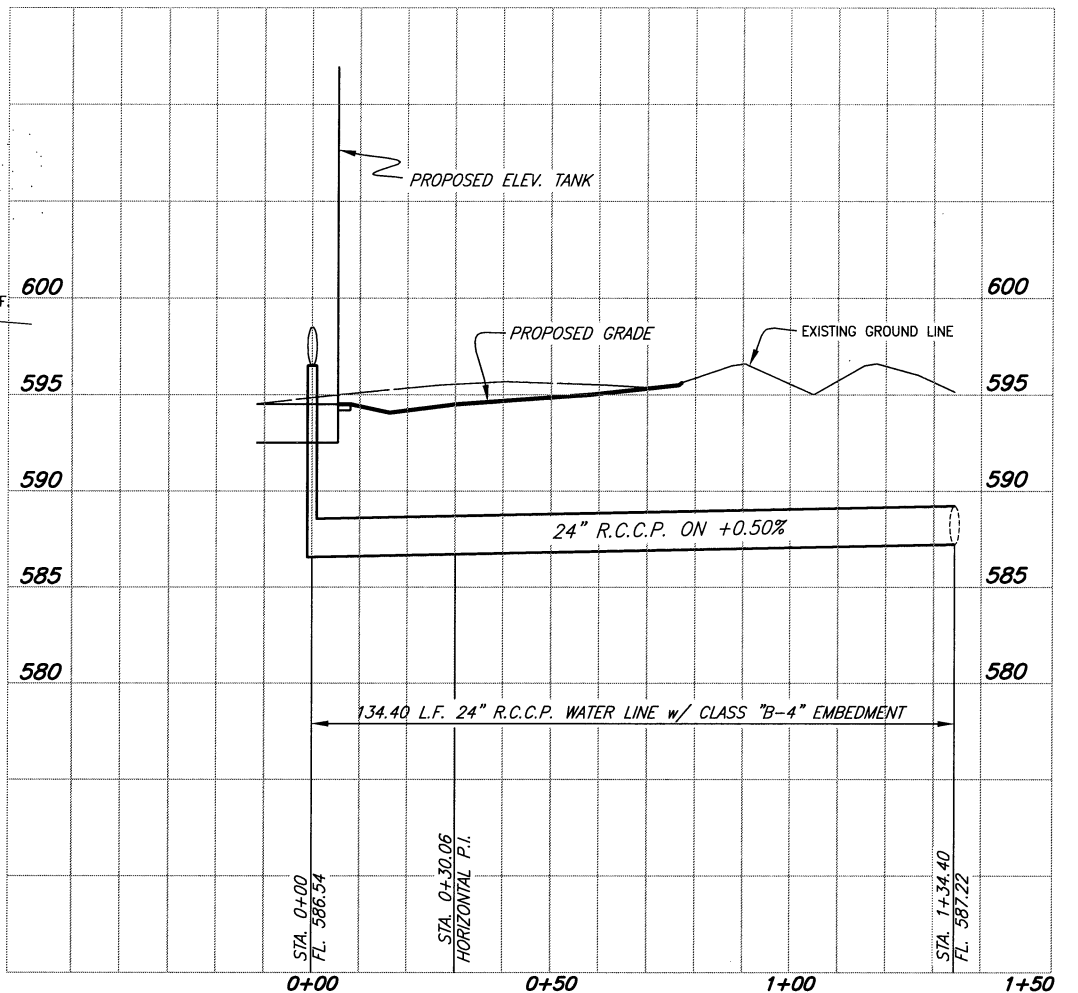
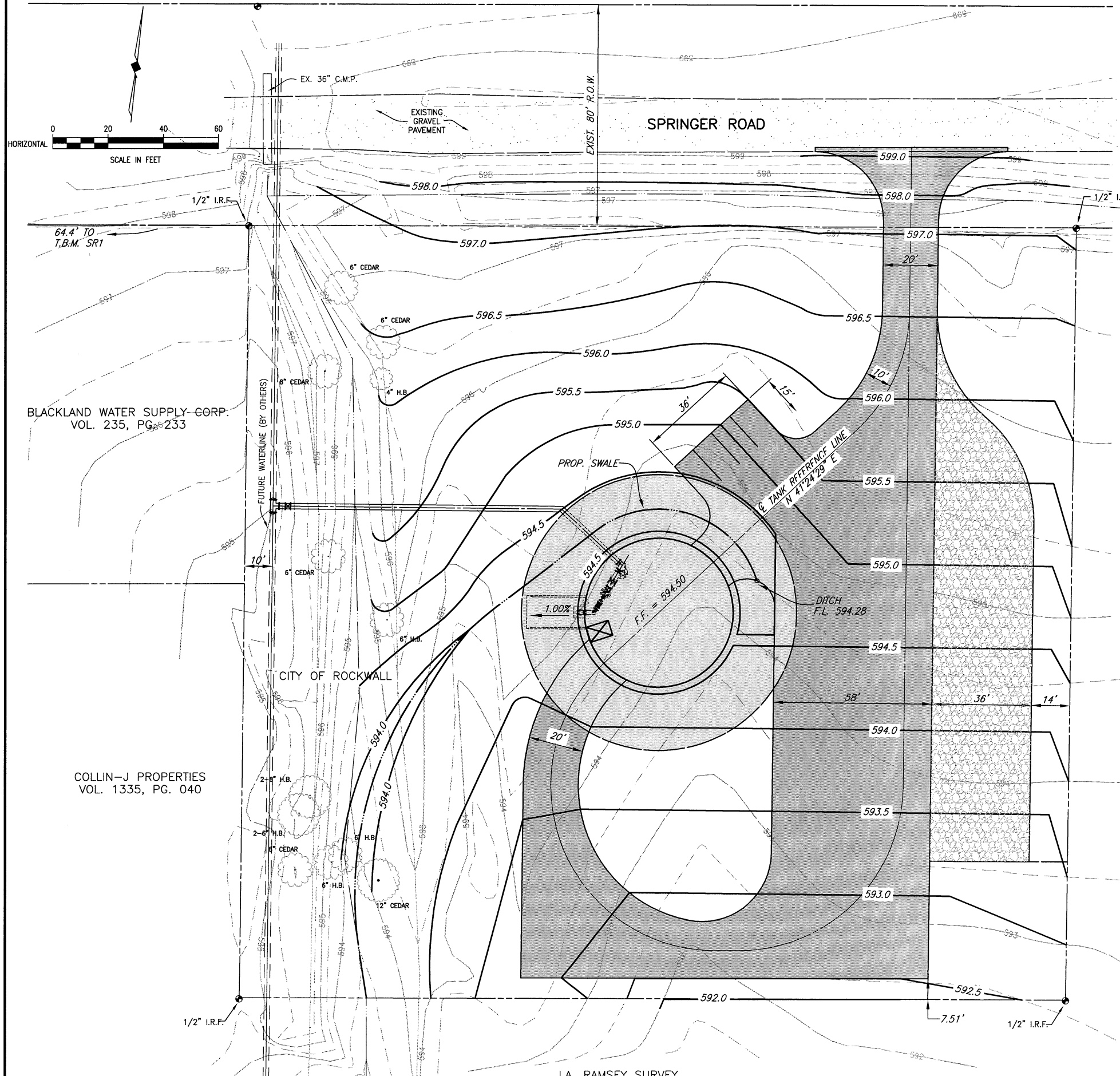


CITY OF ROCKWALL, TEXAS
SPRINGER ROAD ELEVATED STORAGE TANK
YARD PIPING PLAN

BIRKHOFF, HENDRICKS & CONWAY, L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

DESIGNED BY: <u>P.A.C.</u>	PROJECT: <u>2001180</u>	SHEET NO. <u>2</u>
DRAWN BY: <u>B. H. & C.</u>	DATE: <u>MAY, 2002</u>	OF 15 SHEETS

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PROFILE - 24" R.C.C.P. WATER LINE

- NOTES:**
1. NO TREES SHALL BE REMOVED UNLESS THEY ARE DESIGNATED FOR REMOVAL ON THE PLANS AND THE CITY OR ENGINEER HAS MARKED THEM FOR REMOVAL. THE CONTRACTOR SHALL PROTECT ALL TREES NOT DESIGNATED FOR REMOVAL AND IN DANGER OF BEING DAMAGED BY CONSTRUCTION WITH 2"x4" LUMBER ENCIRCLED WITH CHICKEN WIRE OR OTHER MEANS THAT DO NOT DAMAGE THE TREE. THESE TREE PROTECTION DEVICES SHALL BE INSTALLED PRIOR TO THE BEGINNING OF CONSTRUCTION.
 2. UPON COMPLETION OF SITE GRADING AND TANK CONSTRUCTION, ALL UNPAVED AREAS SHALL BE SEEDED WITH BUFFALO GRASS SEED. SEED SHALL BE FERTILIZED, WATERED AND MAINTAINED UNTIL A STAND OF GRASS IS ESTABLISHED IN ACCORDANCE WITH N.C.T.C.O.G. ITEM 3.10.4. PAYMENT FOR GRASS SHALL BE SUBSIDIARY TO THE LUMP SUM BID ITEM FOR THE CONSTRUCTION OF THE ELEVATED STORAGE TANK.

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 BY P.A.C. DATE 1/18/07

T.B.M. 'SR1'
 RAILROAD SPIKE IN POWER POLE
 N 5011.6375, E 4605.3100
 ELEV. 598.93

THESE DOCUMENTS ARE FOR
 BIDDING, CONSTRUCTION,
 AND PERMIT PURPOSES.
 DATE: 5/24/07



CITY OF ROCKWALL, TEXAS
 SPRINGER ROAD ELEVATED STORAGE TANK
 GRADING PLAN, WATER LINE PROFILE

BIRKHOFF, HENDRICKS & CONWAY, L.L.P.
 CONSULTING ENGINEERS
 Dallas, Texas

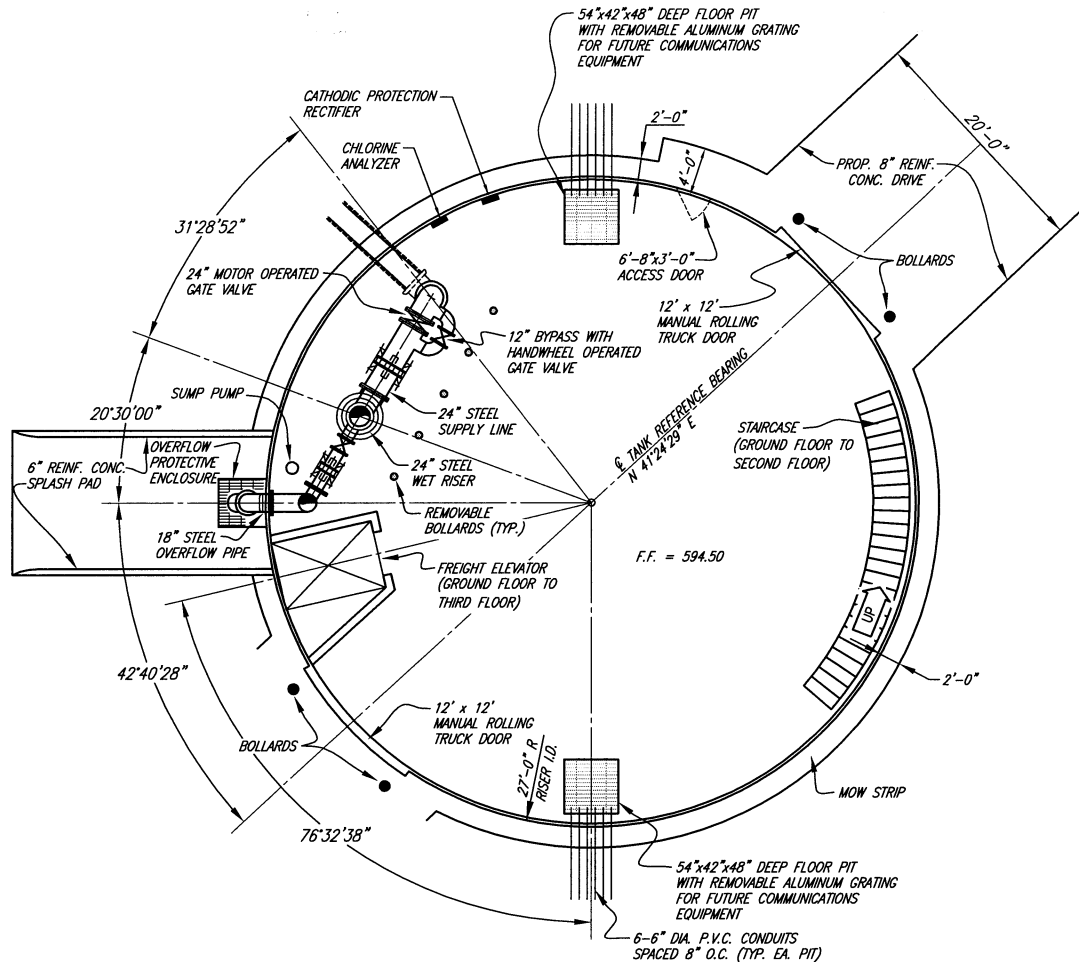
DESIGNED BY: P.A.C.	PROJECT: 2001180	SHEET NO. 3
DRAWN BY: B. H. & C.	DATE: MAY, 2002	OF 15 SHEETS

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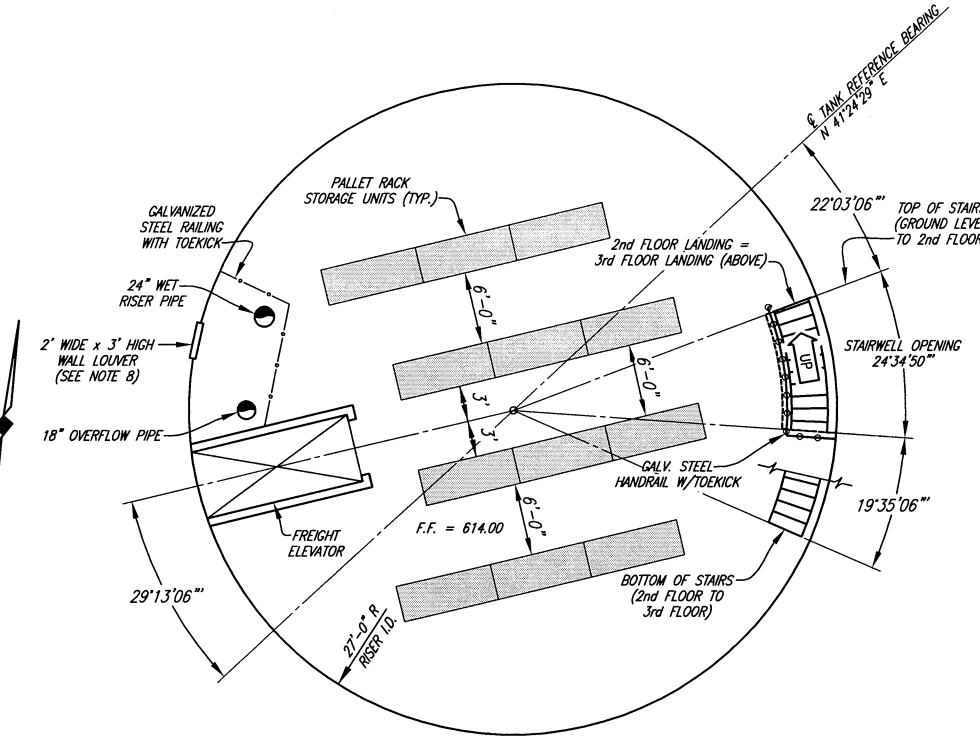
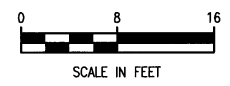
COLLIN-J PROPERTIES
 VOL. 1335, PG. 040

J.A. RAMSEY SURVEY
 ABSTRACT NO. 186

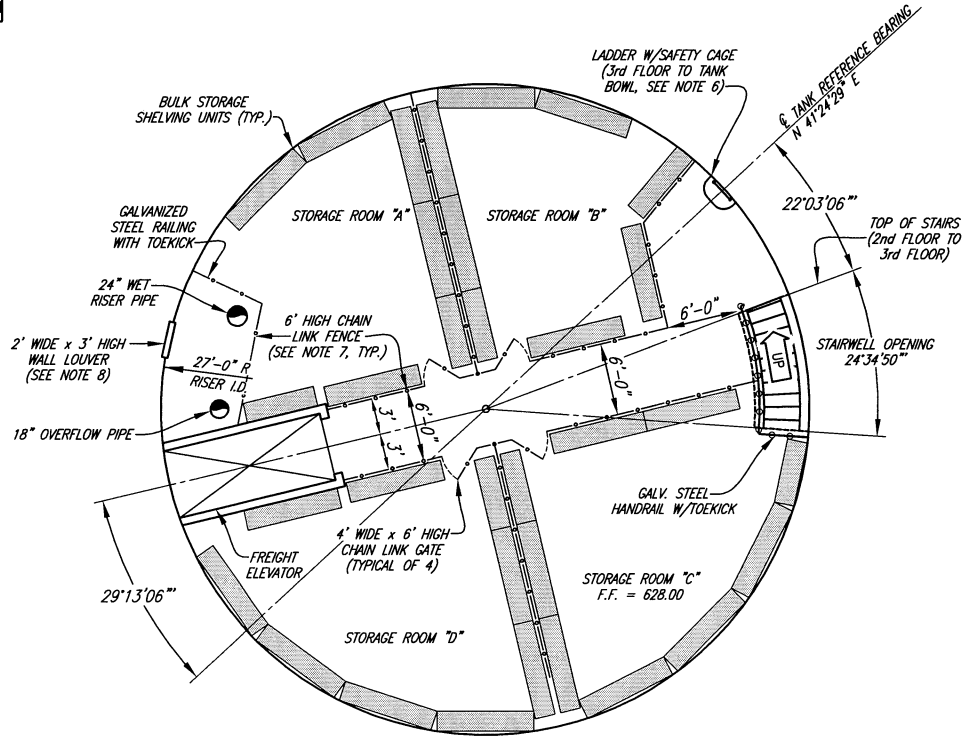
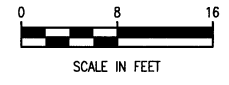
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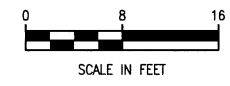
GROUND FLOOR PLAN



SECOND FLOOR PLAN



THIRD FLOOR PLAN



FLOOR PLAN NOTES:

1. COORDINATES AND DIMENSIONS ARE BASED UPON AN ELEVATED TANK RADIUS OF 50' AND A TANK RISER RADIUS OF 27'. ACTUAL DIMENSIONS MAY VARY ACCORDING TO TANK MFR'S. SHOP DRAWINGS.
2. COORDINATES ARE UNIQUE TO THIS PROJECT ONLY.
3. ROLLING TRUCK DOOR, ACCESS DOOR, LADDER AND SAFETY CAGE SHALL BE GALVANIZED STEEL.
4. EXTERIOR BOLLARDS SHALL BE 6" STEEL PIPE FILLED WITH CONCRETE AND SET 3' DEEP BELOW FLOOR SLAB AND 3' HIGH ABOVE FLOOR. BOLLARDS ARE TO BE PAINTED WITH INTERIOR COATING SYSTEM AND SHALL HAVE 2" WIDE YELLOW REFLECTIVE TAPE WRAPPED IN STRIPES EVERY 4". INTERIOR BOLLARDS ARE DETAILED ON SHEET NO. 9 OF THE CONSTRUCTION PLANS.
5. ELEVATOR SHALL BE ENCLOSED BY A CAST IN PLACE REINFORCED CONCRETE SHAFT. WALLS OF THE ELEVATOR SHAFT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,600 P.S.I. AT 28 DAYS (NCTCOG CLASS "C"). REINFORCING SHALL BE DESIGNED BY CONTRACTORS LICENSED PROFESSIONAL ENGINEERING AND BE SUBMITTED TO OWNER FOR REVIEW DURING THE SHOP DRAWING SUBMITTAL PROCESS.
6. LADDER AT THIRD FLOOR SHALL BE EQUIPPED WITH A GALVANIZED STEEL LOCKING DOOR ON SAFETY CAGE TO PREVENT UNAUTHORIZED ACCESS TO LADDERS.
7. THIRD FLOOR STORAGE ROOMS SHALL BE DIVIDED USING 6' HIGH CHAIN LINK FENCE (7 GAUGE, GALVANIZED). DIVIDING FENCE SHALL BE ANCHORED TO STORAGE FLOOR AT ALL POST LOCATIONS USING CONCRETE ANCHORS WITH BOLTED CONNECTIONS. ACCESS TO EACH STORAGE ROOM SHALL BE PROVIDED BY A 4' WIDE CHAIN LINK GATE. PROVISIONS FOR LOCKING EACH DOOR SHALL BE PROVIDED USING A LOCKING HASP. A CEILING FOR THE STORAGE ROOMS SHALL NOT BE REQUIRED. ALL POSTS, CHAIN LINK FENCE, ANCHOR HARDWARE AND APPURTENANCES SHALL BE HOT DIPPED GALVANIZED STEEL.
8. WALL LOUVERS SHALL BE INSTALLED ABOVE SECOND AND THIRD FLOORS FOR VENTILATING STORAGE AREAS. LOUVERS SHALL BE CONSTRUCTED OF GALVANIZED STEEL WITH 16 MESH INSECT RESISTANT SCREEN. LOUVERS SHALL BE INSTALLED 8 FEET ABOVE FINISHED FLOOR.
9. SUMP PIT, ELEVATOR PIT AND COMMUNICATIONS PITS SHALL BE CONSTRUCTED MONOLITHICALLY WITH GROUND FLOOR SLAB.
10. CONTRACTOR SHALL FURNISH AND INSTALL STORAGE SHELVING ON SECOND AND THIRD FLOORS AS SHOWN. PAYMENT FOR SHELVING SHALL BE SUBSIDIARY TO THE LUMP SUM BID ITEM FOR THE CONSTRUCTION OF THE ELEVATED STORAGE TANK.

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 BY P.A.C. DATE 1/18/07

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CITY OF ROCKWALL, TEXAS
SPRINGER ROAD ELEVATED STORAGE TANK
FLOOR PLANS

BIRKHOFF, HENDRICKS & CONWAY, L.L.P.
 CONSULTING ENGINEERS
 Dallas, Texas

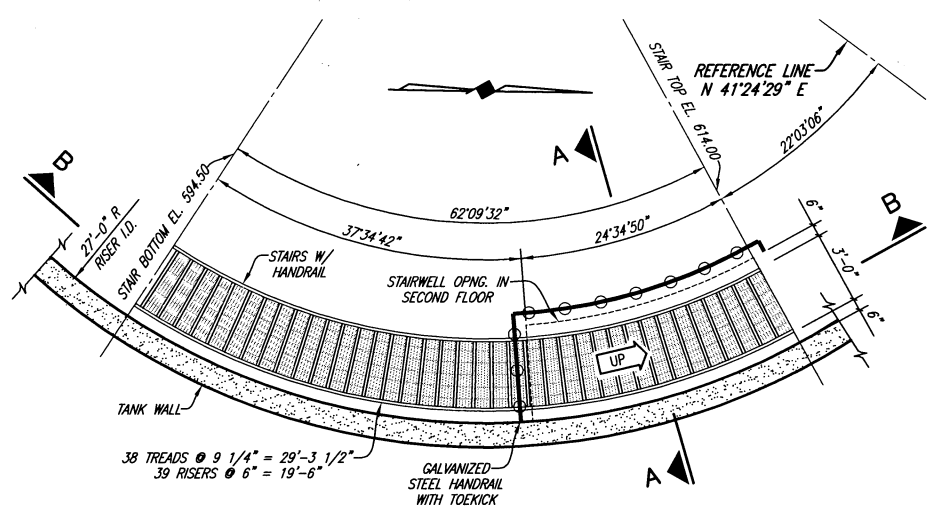


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 DATE: 5/22/02

DESIGNED BY: <u>P.A.C.</u>	PROJECT: <u>2001180</u>	SHEET NO. <u>4</u>
DRAWN BY: <u>B. H. & C.</u>	DATE: <u>MAY, 2002</u>	OF <u>15</u> SHEETS

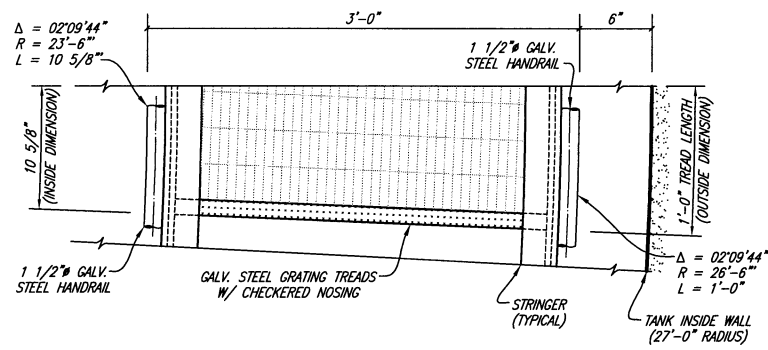
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BY P.A.C. DATE 1/18/07



STAIR PLAN

GROUND LEVEL FLOOR TO SECOND FLOOR
SCALE: 1/4" = 1'-0"

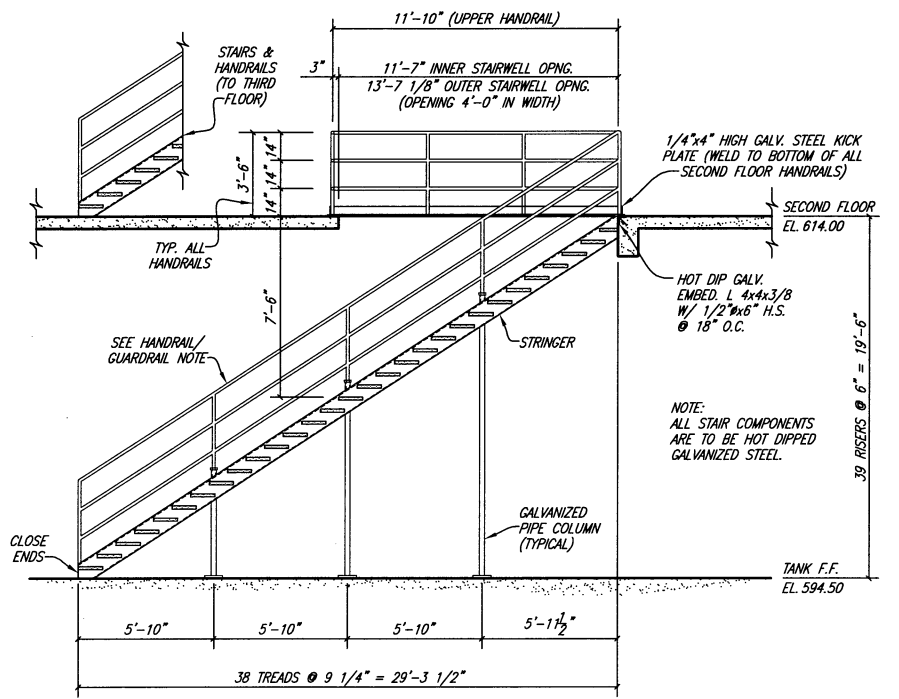


TREAD PLAN

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

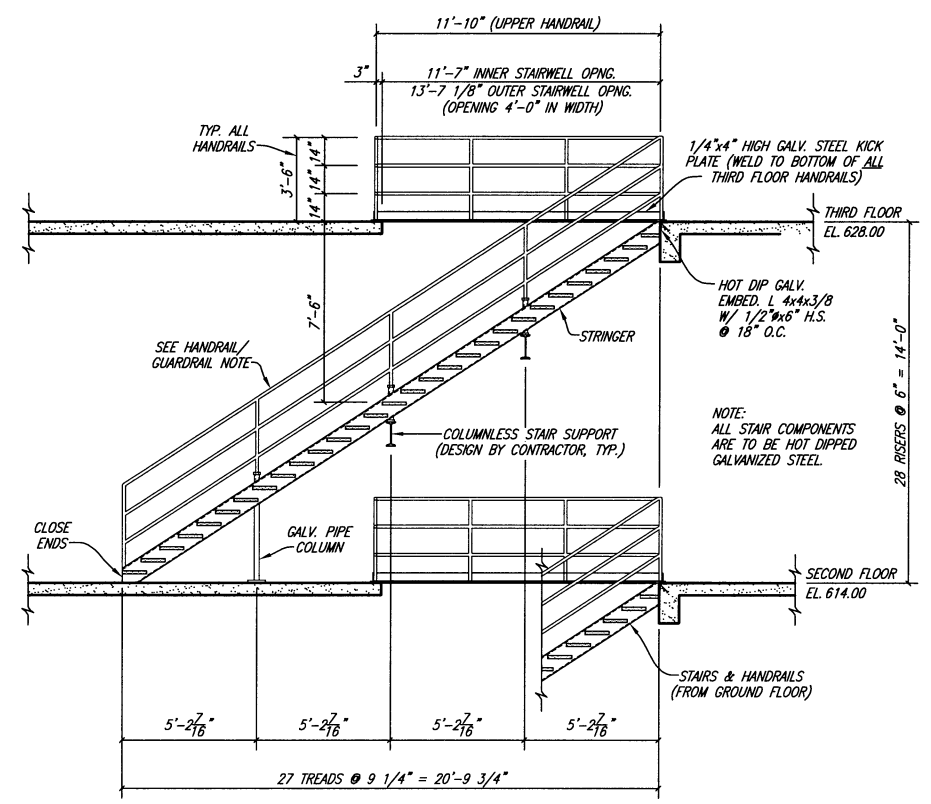
- SECOND & THIRD FLOOR PLAN NOTES:
- COORDINATES AND DIMENSIONS ARE BASED UPON AN ELEVATED TANK RADIUS OF 55' AND A TANK RISER RADIUS OF 27.0'. ACTUAL DIMENSIONS MAY VARY ACCORDING TO TANK MFR'S SHOP DRAWINGS.
 - COORDINATES ARE UNIQUE TO THIS PROJECT ONLY.
 - HANDRAILS, LADDER AND SAFETY CAGE SHALL BE GALVANIZED STEEL.
 - CONCRETE UPPER FLOOR DECK:
 - SYSTEM - COMPOSITE CONCRETE SLAB/ STEEL FLOOR DECK (CLEAR SPAN).
 - DESIGN STANDARDS -
 - SDI - SPECIFICATION AND COMMENTARY
 - AISC - ALLOWABLE STRESS DESIGN
 - DESIGN LIVE LOAD - 125 p.s.f.
 - DESIGN DEAD LOAD - 60 p.s.f. MIN.
 - FINISH -
 - GALVANIZE ALL EXPOSED METAL AND FRAMING.
 - STEEL TROWEL CONCRETE SLAB FINISH.
 - MINIMUM CONCRETE STRENGTH - 4000 p.s.i. @ 28 DAYS.

HANDRAIL AND GUARDRAIL NOTE:
VERIFY WITH BUILDING CODE - U.B.C.
REQUIRES AN INTERMEDIATE RAIL PATTERN SUCH THAT A 12" SPHERE MAY NOT PASS THROUGH.



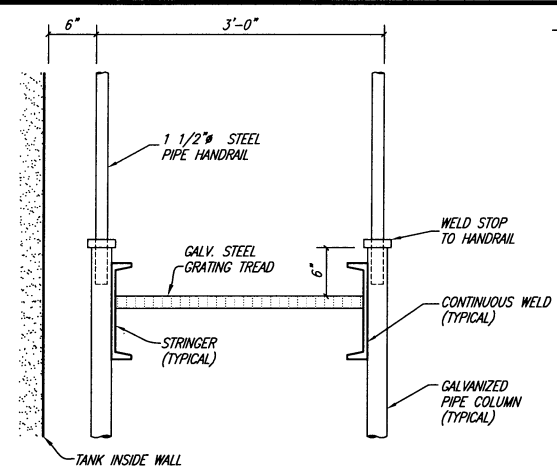
STAIR SECTION B-B

GROUND LEVEL FLOOR TO SECOND FLOOR
NO SCALE



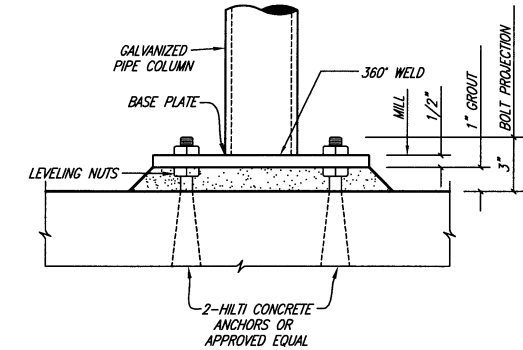
STAIR SECTION B-B

SECOND LEVEL FLOOR TO THIRD FLOOR
NO SCALE



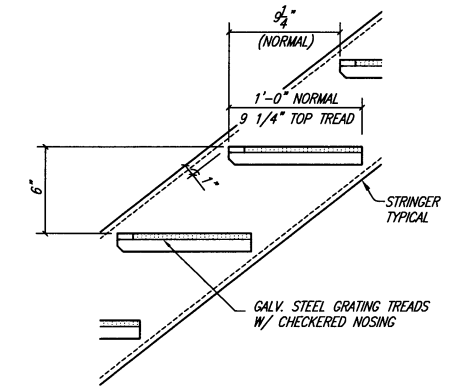
STAIR SECTION A-A

SCALE: 1" = 1'-0"



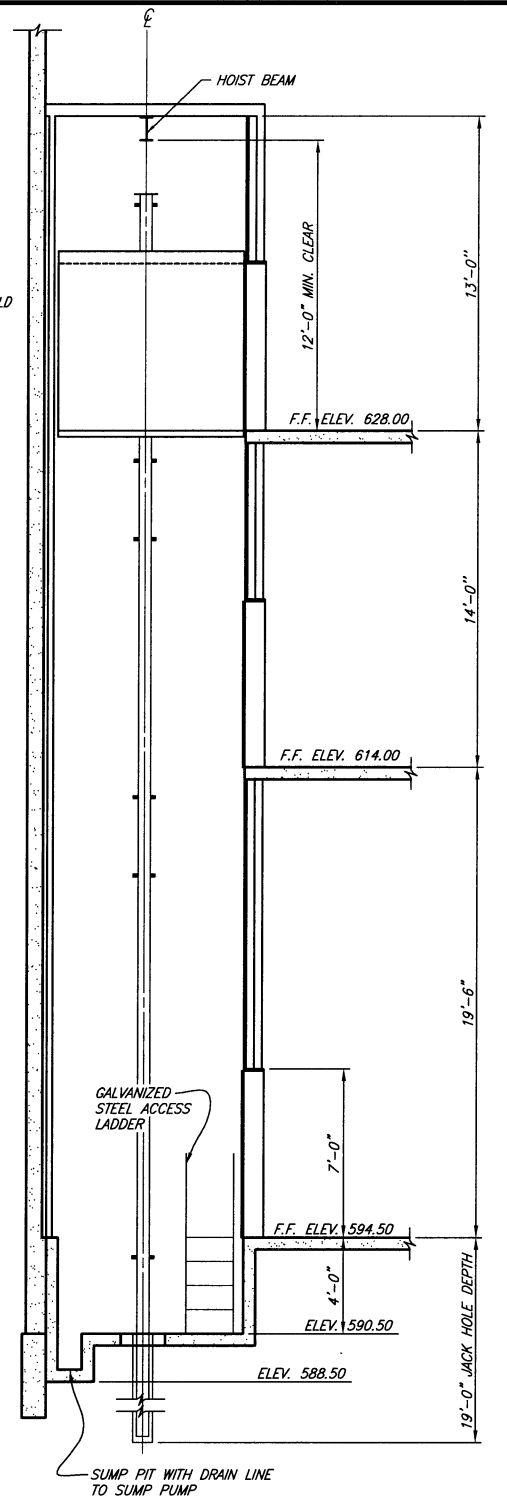
STAIR COLUMN BASE ELEVATION

SCALE: 3" = 1'-0"



STAIR SECTION B-B DETAIL

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



ELEVATOR SECTION

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

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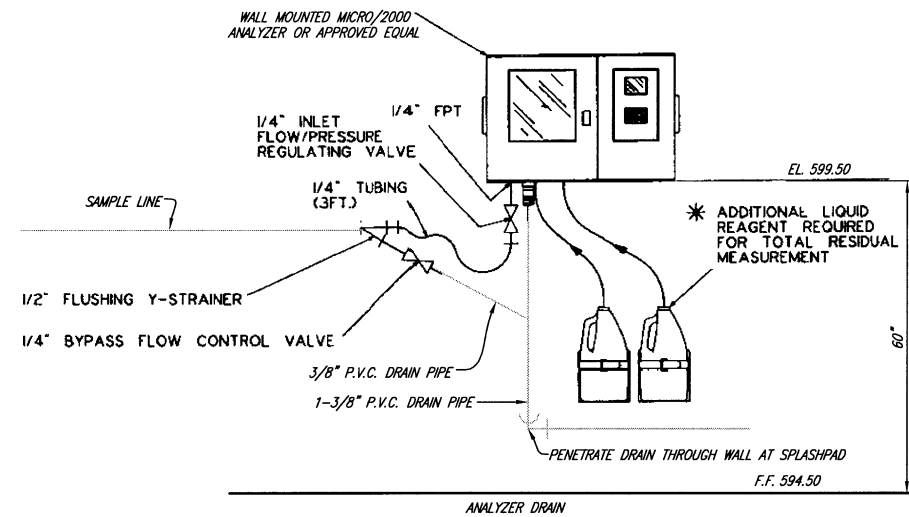
DATE: 5/24/02

CITY OF ROCKWALL, TEXAS

SPRINGER ROAD ELEVATED STORAGE TANK
STAIR & ELEVATOR DETAILS

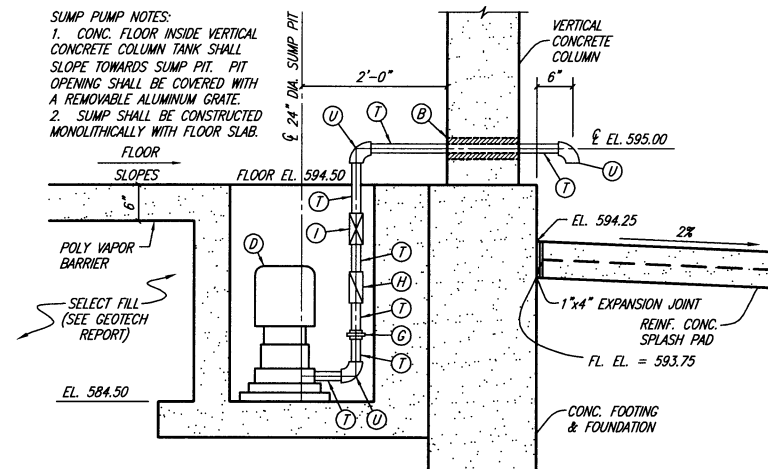
BIRKHOFF, HENDRICKS & CONWAY, L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

DESIGNED BY: J.W.B.	PROJECT: 2001180	SHEET NO. 5
DRAWN BY: B. H. & C.	DATE: MAY, 2002	OF 15 SHEETS



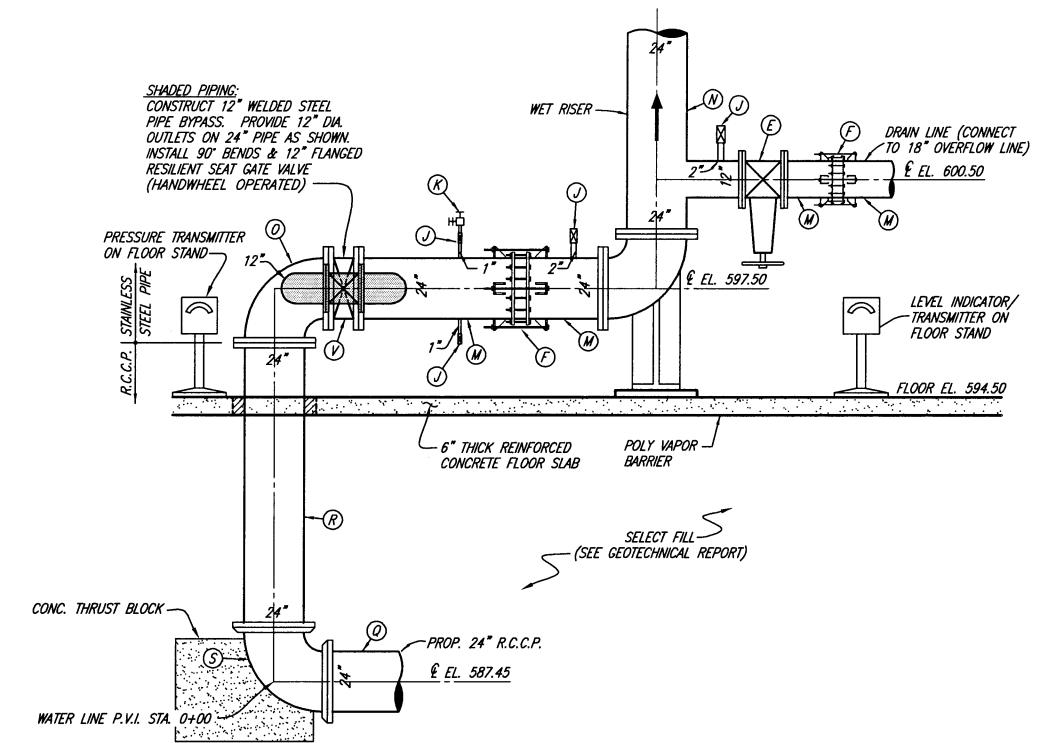
CHLORINE ANALYZER FRONT ELEVATION

NO SCALE



SECTION SUMP PUMP AT SPLASH PAD

NO SCALE



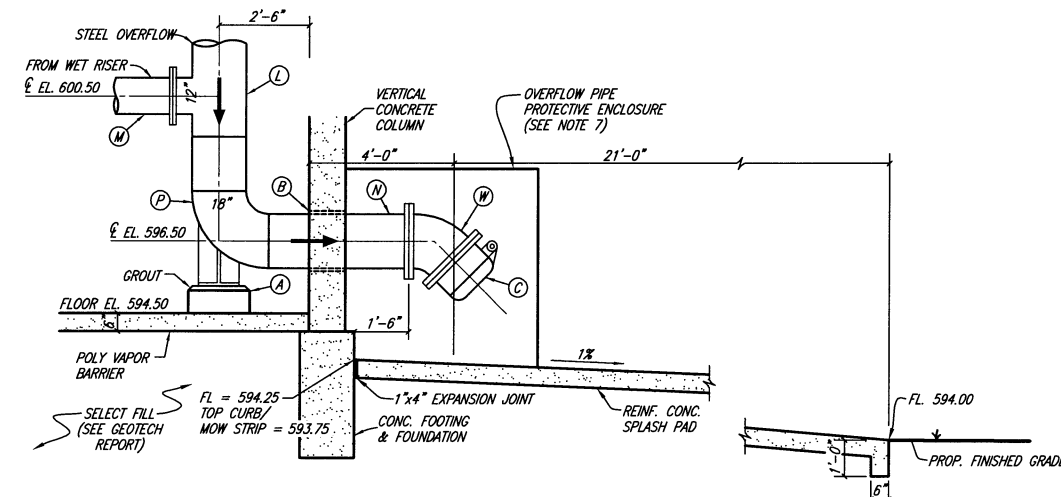
SECTION SUPPLY LINE AND WET RISER

NO SCALE - PIPES ROTATED FOR CLARITY

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 BY P.A.C. DATE 1/18/07

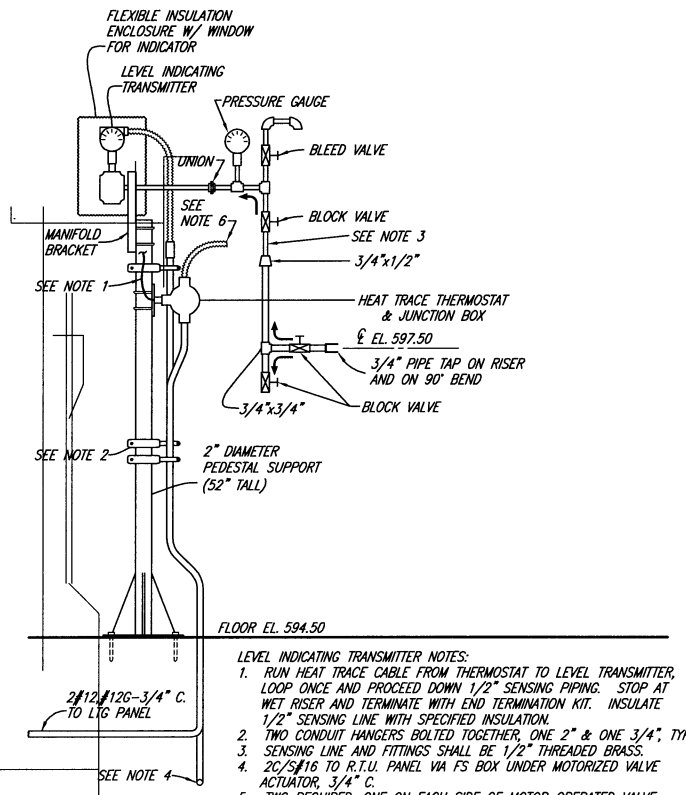
LEGEND

LETTER	PIPE	JOINT	DESCRIPTION
A	-	-	CONCRETE BASE BEND SUPPORT
B	-	P.E.	PIPE WALL SLEEVE
C	-	FLG.	FLAP VALVE W/ ADJUSTABLE COUNTERWEIGHT
D	-	THREADED	ELECTRIC SUMP PUMP
E	-	FLG.	RESILIENT SEAT GATE VALVE (HANDWHEEL OPERATED)
F	-	-	STAINLESS STEEL WELDED THRUST HARNESS ASSY.
G	-	-	UNION
H	-	THREADED	CHECK VALVE
I	-	THREADED	GATE VALVE
J	BRASS	THREADED	CORPORATION STOP
K	BRASS	THREADED	HOSE BIBB (ANTI-SIPHON)
L	STEEL	WELDED	PIPE SPOOL
M	STEEL	FLG.-P.E.	PIPE SPOOL
N	STEEL	WELDED-FLG.	PIPE SPOOL
O	STEEL	FLG.	90° BEND
P	STEEL	WELDED	90° BASE BEND
Q	R.C.C.P.	M.J.-P.E.	PIPE
R	R.C.C.P.	FLG.-P.E.	PIPE SPOOL
S	R.C.C.P.	FLG.-PUSH ON	TEE
T	P.V.C.	THREADED	PIPE SPOOL
U	P.V.C.	THREADED	90° BEND
V	-	FLG.	BUTTERFLY VALVE (MOTOR OPERATED)
W	STEEL	FLG.	45° BEND



SECTION OVERFLOW PIPE AT SPLASHPAD

NO SCALE



LEVEL & PRESSURE TRANSMITTER

NO SCALE - EQUIPMENT & PIPING ROTATED FOR CLARITY

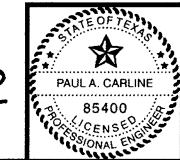
PIPING NOTES:

- ALL PIPE SIZES NOTED ARE INSIDE PIPE DIAMETERS.
- WET RISER SHALL HAVE EXPANSION FITTING.
- INSULATING KIT SHALL BE INSTALLED AT ALL UNIONS OF DISSIMILAR METALS.
- 1" AND 2" OUTLETS SHALL BE STEEL PIPE WITH THREADED JOINTS.
- FLAP VALVE (ITEM C) SHALL BE A WATERMAN MODEL F25F WITH BRONZE SEATS AND A 45° BOLT PATTERN.
- GATE VALVE (ITEM E) SHALL HAVE A MANUAL (HANDWHEEL) OPERATOR. BUTTERFLY VALVE (ITEM V) SHALL HAVE AN ELECTRIC OPERATOR.
- PROTECTIVE ENCLOSURE FOR OVERFLOW PIPE SHALL CONSIST OF CAST IN PLACE CONCRETE SIDES, BOLTED GALVANIZED STEEL GRATE TOP AND HINGED GALVANIZED STEEL GRATE DOOR. FRONT DOOR SHALL HAVE HASP FOR LOCK. ALL HARDWARE SHALL BE HOT-DIPPED GALVANIZED STEEL.

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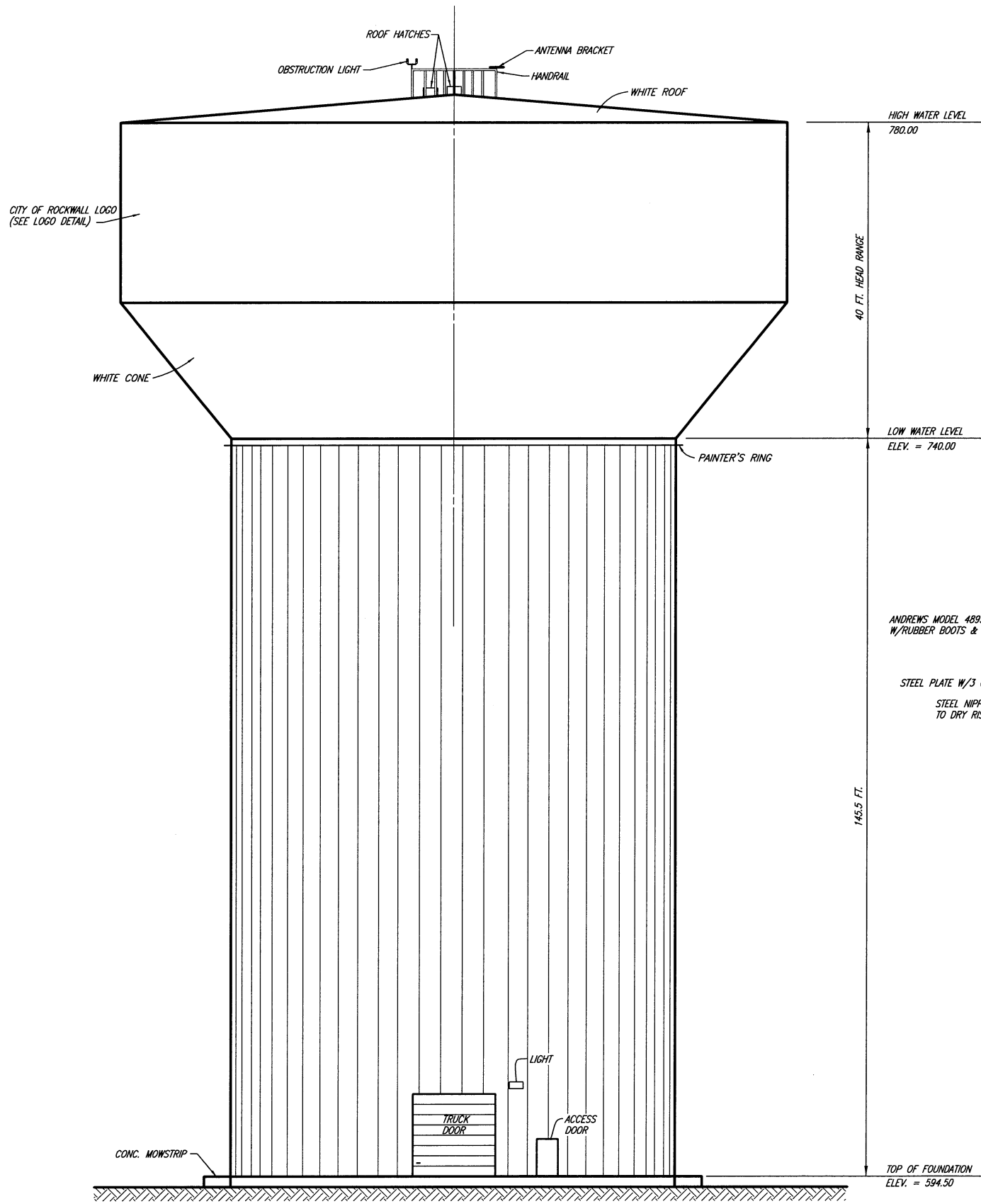
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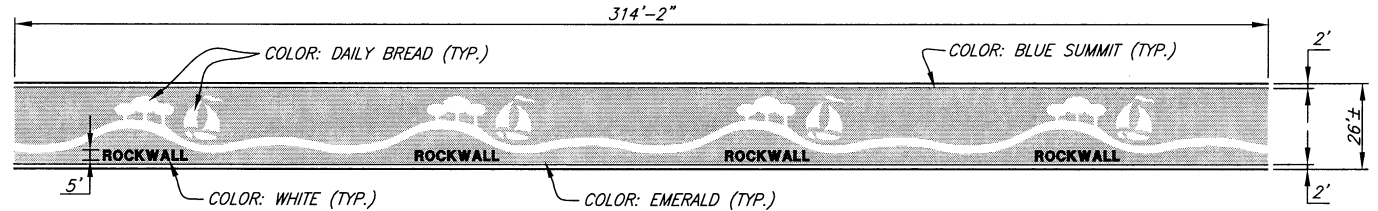
CITY OF ROCKWALL, TEXAS
 SPRINGER ROAD ELEVATED STORAGE TANK
 TANK SECTIONS AND DETAILS
BIRKHOFF, HENDRICKS & CONWAY, L.L.P.
 CONSULTING ENGINEERS
 Dallas, Texas

DESIGNED BY: J.W.B.	PROJECT: 2001 180	SHEET NO. 6
DRAWN BY: B. H. & C.	DATE: MAY, 2002	OF 15 SHEETS

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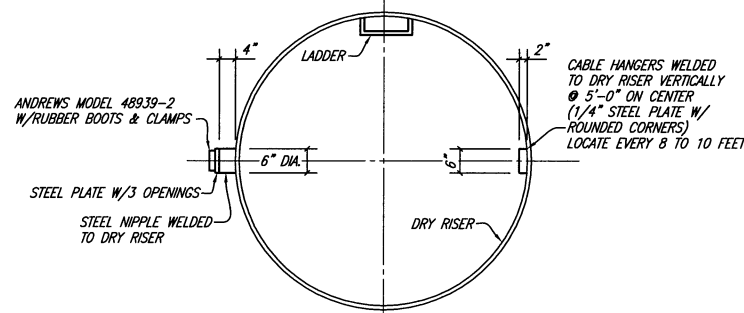
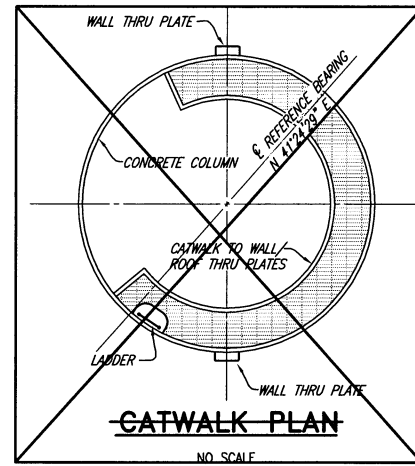


TANK ELEVATION
NO SCALE



TANK LOGO

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



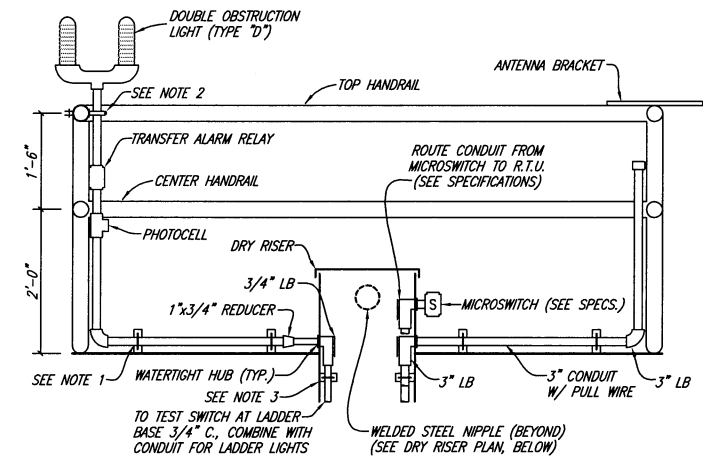
DRY RISER PLAN
NO SCALE

TANK ELEVATION NOTES:

1. THE CONTRACTOR SHALL FURNISH AND INSTALL TWO WIRELESS COMMUNICATION RINGS SUPPORTED BY THE CONCRETE COLUMN. THE RING SHALL BE HOT-DIPPED GALVANIZED STEEL OF AT LEAST 2-INCH DIAMETER.
2. THE CONTRACTOR SHALL FURNISH AND INSTALL TWO CATWALKS WITH HANDRAIL ON THE INTERIOR OF THE CONCRETE COLUMN AT THE 105.50 FT. AND THE 112.50 FT. LEVELS ABOVE THE FINISHED FLOOR. THE CATWALKS SHALL BE HOT-DIPPED GALVANIZED AND SHALL BE 3'-FEET BY WIDTH. THE CATWALKS SHALL PROVIDE ACCESS TO EACH WALL FEED THRU PLATE AND BE ATTACHED TO THE INTERIOR OF THE COLUMN.
3. THE CONTRACTOR SHALL FURNISH AND INSTALL MULTIPLE ENTRANCE WALL/ROOF FEED THRU PLATES WITH RUBBER WEATHERPROOF BOOTS AT EACH LEVEL OF COMMUNICATION RINGS. THE PLATES SHALL BE LOCATED ON TWO SIDES (180° APART) ON THE INTERIOR OF THE COLUMN, LINING UP WITH THE CABLE HANGERS. THE HANGERS SHALL BE VERTICALLY LOCATED AT THE 105.50 FT. AND THE 115.50 FT. LEVELS ABOVE THE FINISHED FLOOR. THE PLATES SHALL HAVE 6 OPENINGS FOR 3/8" CONDUIT AND SHALL BE MANUFACTURED BY THE ANDREW COMPANY OR APPROVED EQUAL.

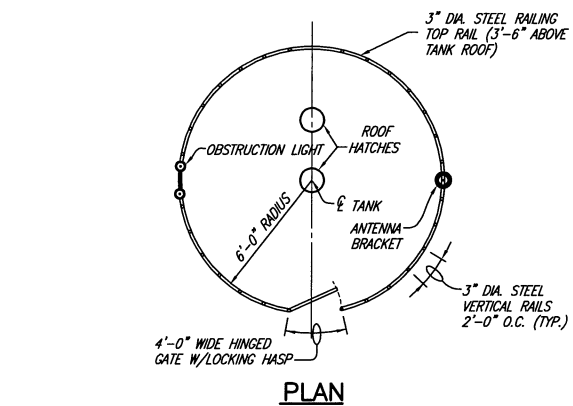
This record drawing is a compilation of the sealed engineering drawing for this project; modified by addenda, change orders and information furnished by the contractor. The information shown on the record drawings that was provided by the contractor or others not associated with the design engineer cannot be verified for accuracy or completeness. This original sealed drawings are on file at the offices of Birkhoff, Hendricks & Conway, L.L.P.

BY P.A.C. DATE 1/18/07



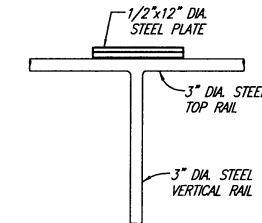
OBSTRUCTION LIGHT
NO SCALE

- OBSTRUCTION LIGHT NOTES:**
1. SUPPORT (BY TANK FABRICATOR), 2"x7"x1/4" PLATE WELDED TO TANK (TYP. 2 PLACES).
 2. GALVANIZED STEEL PIPE HANGERS BOLTED TOGETHER - ONE 3" AND ONE 1". ALL NUTS AND BOLTS SHALL BE GALVANIZED STEEL.
 3. CONDUIT SUPPORT (BY TANK FABRICATOR), 2"x4"x1/4" PLATE WELDED TO TANK SPACED ON 10"-0" CENTERS DOWN MANWAY. FURNISH ADDITIONAL SUPPORT ON EACH SIDE OF LIGHTS IN MANWAY.
 4. ALL CONDUIT ABOVE GRADE SHALL BE GALVANIZED RIGID. ALL CONDUIT BELOW GRADE SHALL BE SCHEDULE 40 P.V.C.
 5. 3" CONDUIT SHALL RUN FROM HANDRAIL DOWN THROUGH ACCESS TUBE TO THE LANDING. FROM LANDING DOWN COAX IS NOT REQUIRED TO BE IN CONDUIT.



PLAN

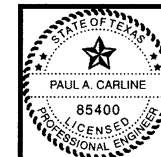
ELEVATION



ANTENNA BRACKET
NO SCALE

HANDRAIL PLAN
NO SCALE

THESE DOCUMENTS ARE FOR BIDDING, CONSTRUCTION, AND PERMIT PURPOSES.
DATE: 5/28/07



CITY OF ROCKWALL, TEXAS
SPRINGER ROAD ELEVATED STORAGE TANK
TANK ELEVATION & DETAILS
BIRKHOFF, HENDRICKS & CONWAY, L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

DESIGNED BY: P.A.C.	PROJECT: 2001 180	SHEET NO. 7
DRAWN BY: B. H. & C.	DATE: MAY, 2002	OF 15 SHEETS

HEINLEY-JOHNSTON & ASSOCIATES, INC. engineering geoscience consultants		LOG OF BORING SPRINGER ROAD ELEVATED STORAGE TANK ROCKWALL, TEXAS		PROJECT No.: 7403 BORING No.: 1 SHEET 1 of 3 LOCATION: SEE PLATE 1 GROUND ELEVATION: 594.4±	
DEPTH (feet)	SYMBOL	MATERIAL DESCRIPTION	ELEVATION, (feet)	CORE	
				DRILLED	RECOVERED
2.5		CLAY, slightly silty, with few organics, medium to stiff, dark gray and dark brown	588.7		X
5.0		CLAY, silty, with calcareous nodules, stiff, light brown, brown and gray	586.5		X
7.5		SHALE, severely weathered, jointed, calcareous, soft to firm, light brown, brown and tan	584.9		X
10.0		SHALE, moderately to severely weathered, jointed, calcareous, soft to firm, light brown, brown and tan		1.6	1.6
12.5					
15.0				10.0	8.5
17.5					
20.0					
22.5					
		gray			

HEINLEY-JOHNSTON & ASSOCIATES, INC. engineering geoscience consultants		LOG OF BORING SPRINGER ROAD ELEVATED STORAGE TANK ROCKWALL, TEXAS		PROJECT No.: 7403 BORING No.: 1 SHEET 2 of 3 LOCATION: SEE PLATE 1 GROUND ELEVATION: 594.4±	
DEPTH (feet)	SYMBOL	MATERIAL DESCRIPTION	ELEVATION, (feet)	CORE	
				DRILLED	RECOVERED
27.5		SHALE, moderately to severely weathered, jointed, calcareous, soft to firm, light brown, brown and tan	564.0		10.3
30.0		SHALE, calcareous, firm to moderately hard, olive gray and gray	561.0		
32.5		SHALE, moderately to severely weathered, with oxidized joints, calcareous, soft to firm, light brown and tan			
35.0		clayey, soft	557.4	9.9	9.8
37.5		SHALE, calcareous, firm to moderately hard, olive gray and gray			
40.0					
42.5					
45.0				10.0	10.0
47.5					
					ROD = 100% in unweathered

HEINLEY-JOHNSTON & ASSOCIATES, INC. engineering geoscience consultants		LOG OF BORING SPRINGER ROAD ELEVATED STORAGE TANK ROCKWALL, TEXAS		PROJECT No.: 7403 BORING No.: 1 SHEET 3 of 3 LOCATION: SEE PLATE 1 GROUND ELEVATION: 594.4±	
DEPTH (feet)	SYMBOL	MATERIAL DESCRIPTION	ELEVATION, (feet)	CORE	
				DRILLED	RECOVERED
52.5		SHALE, calcareous, firm to moderately hard, olive gray and gray			
55.0					
57.5				10.0	9.9
60.0					
62.5		TOTAL DEPTH: 61.5'	532.9		
65.0					
67.5					
70.0					
72.5					

HEINLEY-JOHNSTON & ASSOCIATES, INC. engineering geoscience consultants		LOG OF BORING SPRINGER ROAD ELEVATED STORAGE TANK ROCKWALL, TEXAS		PROJECT No.: 7403 BORING No.: 2 SHEET 1 of 2 LOCATION: SEE PLATE 1 GROUND ELEVATION: 594.7±	
DEPTH (feet)	SYMBOL	MATERIAL DESCRIPTION	ELEVATION, (feet)	CORE	
				DRILLED	RECOVERED
2.5		CLAY, slightly silty, with few organics, medium to stiff, dark gray and dark brown			X
5.0					X
7.5		CLAY, silty, with calcareous nodules, stiff, light brown, brown and gray	587.6		X
10.0		SHALE, severely weathered, jointed, calcareous, soft to firm, light brown, brown and tan	586.3		X
12.5		SHALE, moderately to severely weathered, jointed, calcareous, soft to firm, light brown, brown and tan	583.6		X
15.0				5.8	5.8
17.5					
20.0					
22.5				10.0	8.7

GENERAL NOTES
(NOTES APPLY TO ALL SHEETS)

- ALL CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" BY NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS (NCTCOG) MOST RECENT AMENDMENT.
- THE CONTRACTOR MUST HAVE A SET OF PLANS "APPROVED" BY THE ENGINEERING DEPARTMENT ON THIS PROJECT AT ALL TIMES.
- THE CONTRACTOR SHALL NOT DISPOSE WASTES OR ANY OTHER MATERIALS INTO STREAMS OR WATERWAYS. EXCESS MATERIAL SHALL BE HAULED AWAY EACH DAY AND NOT BE ALLOWED TO ACCUMULATE.
- CONTRACTOR SHALL ADEQUATELY BLOCK ALL PIPE BENDS AND PLUGS WITH A MINIMUM OF 2000 P.S.I. CONCRETE TO RESIST THE THRUST IN THE WATER LINE AND TO RESTRAIN TEST PRESSURES.
- THE CONTRACTOR SHALL MAINTAIN ADEQUATE DRAINAGE AT ALL TIMES.
- AFTER COMPLETION OF PAINTING THE TANK, THE CONTRACTOR SHALL CULTIVATE THE ENTIRE SITE TO A DEPTH OF 4 INCHES. THE ENTIRE SITE SHALL THEN BE HYDROMULCHED.
- THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE AND MAINTAIN ALL NECESSARY WARNING AND SAFETY DEVICES (FLASHING LIGHTS, BARRICADES, SIGNS, ETC.) IN CONFORMANCE WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL TO PROTECT PUBLIC SAFETY AND HEALTH UNTIL THE WORK HAS BEEN COMPLETED AND ACCEPTED BY THE CITY.
- CONTRACTOR SHALL DISPOSE OF ALL EXCESS EXCAVATION. DISPOSAL SITE SHALL BE DOCUMENTED AND PROVIDED TO THE CITY.

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BY P.A.C. DATE 1/18/07

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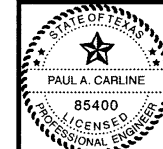
HEINLEY-JOHNSTON & ASSOCIATES, INC. engineering geoscience consultants		LOG OF BORING SPRINGER ROAD ELEVATED STORAGE TANK ROCKWALL, TEXAS		PROJECT No.: 7403 BORING No.: 2 SHEET 2 of 2 LOCATION: SEE PLATE 1 GROUND ELEVATION: 594.7±	
DEPTH (feet)	SYMBOL	MATERIAL DESCRIPTION	ELEVATION, (feet)	CORE	
				DRILLED	RECOVERED
27.5		SHALE, moderately to severely weathered, jointed, calcareous, soft to firm, light brown, brown and tan	567.3		
30.0		SHALE, calcareous, firm to moderately hard, olive gray and gray		5.0	5.0
32.5		weathered, soft to firm, light brown			
35.0					
37.5				10.0	10.0
40.0					
42.5					
45.0				3.6	3.6
47.5					
		TOTAL DEPTH: 46.1'	546.6		

HEINLEY-JOHNSTON & ASSOCIATES, INC. engineering geoscience consultants		LOG OF BORING SPRINGER ROAD ELEVATED STORAGE TANK ROCKWALL, TEXAS		PROJECT No.: 7403 BORING No.: 3 SHEET 1 of 2 LOCATION: SEE PLATE 1 GROUND ELEVATION: 593.7±	
DEPTH (feet)	SYMBOL	MATERIAL DESCRIPTION	ELEVATION, (feet)	CORE	
				DRILLED	RECOVERED
2.5		CLAY, slightly silty, with few organics, medium, dark gray and dark brown			X
5.0					X
7.5		SHALE, severely weathered, calcareous, soft, light brown, brown and tan	588.0		X
10.0			583.8		X
12.5		SHALE, severely weathered, jointed, calcareous, soft to firm, light brown, brown and tan			
15.0					X
17.5		SHALE, moderately weathered, jointed, calcareous, soft to firm, light brown, tan and occasionally gray	576.7		X
20.0				2.5	2.5
22.5					
				6.0	6.0

HEINLEY-JOHNSTON & ASSOCIATES, INC. engineering geoscience consultants		LOG OF BORING SPRINGER ROAD ELEVATED STORAGE TANK ROCKWALL, TEXAS		PROJECT No.: 7403 BORING No.: 3 SHEET 2 of 2 LOCATION: SEE PLATE 1 GROUND ELEVATION: 593.7±	
DEPTH (feet)	SYMBOL	MATERIAL DESCRIPTION	ELEVATION, (feet)	CORE	
				DRILLED	RECOVERED
27.5		SHALE, moderately weathered, jointed, calcareous, soft to firm, light brown, tan and occasionally gray	567.7		
30.0		SHALE, calcareous, firm to moderately hard, olive gray and gray		6.0	4.3
32.5		weathered, soft to firm, light brown			
35.0				2.0	2.0
37.5					
40.0				10.0	9.9
42.5					
45.0					
47.5					
		TOTAL DEPTH: 45.0'	548.7		

THESE DOCUMENTS ARE FOR BIDDING, CONSTRUCTION, AND PERMIT PURPOSES.

DATE: 5/10/07



CITY OF ROCKWALL, TEXAS
 SPRINGER ROAD ELEVATED STORAGE TANK
 LOG OF BORINGS & GENERAL NOTES

BIRKHOFF, HENDRICKS & CONWAY, L.L.P.
 CONSULTING ENGINEERS
 Dallas, Texas

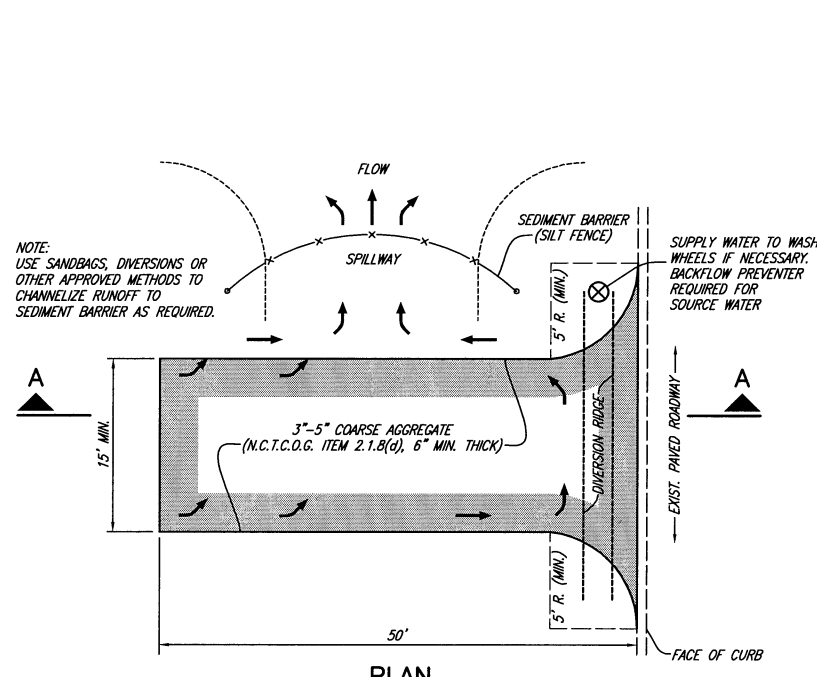
DESIGNED BY: P.A.C. PROJECT: 2001180 SHEET NO. 8
 DRAWN BY: B. H. & C. DATE: MAY, 2002 OF 15 SHEETS

SUMMARY OF ABBREVIATIONS AND DEFINITIONS

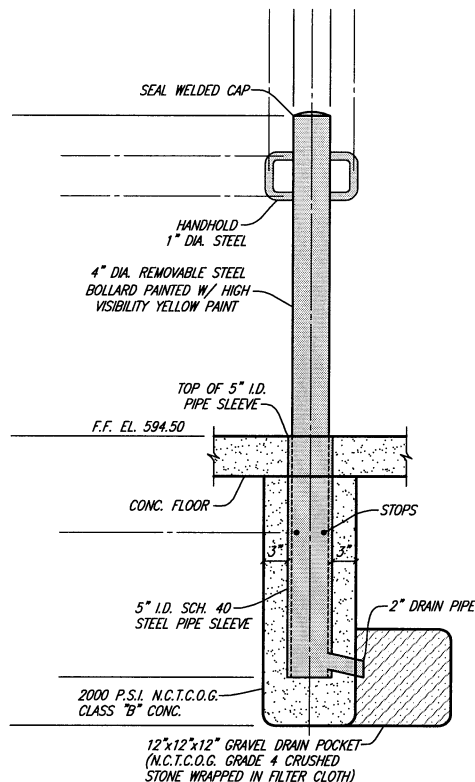
GENERAL TOPOGRAPHY & HORIZONTAL/ VERTICAL CONTROL				TREES & BUSHES	
ABBREVIATION	DEFINITION	ABBREVIATION	DEFINITION	ABBREVIATION	DEFINITION
B.C.	BACK OF CURB	P.I.	POINT OF INTERSECTION	B.D.	BOIS D'ARC TREE
B.-B.	BACK TO BACK	P.P. OR U.P.	PROPERTY LINE	B.T.	BLACK THORN TREE
C.	CENTERLINE	P.R.C.	POWER POLE OR UTILITY POLE	C.B.	CHINABERRY TREE
C.M.A.P.	CORRUGATED METAL ARCH PIPE	P.T.	POINT OF REVERSE CURVATURE	C.D.R.	CEDAR TREE
C.M.P.	CORRUGATED METAL PIPE	P.V.C.	POINT OF TANGENCY	C.E.	CEDAR ELM TREE
C.I.	CAST IRON	P.V.I.	PLASTIC PIPE	C.M.	CRAPE MYRTLE TREE
C.O.	CLEANOUT	P.V.I.	POINT OF VERTICAL INTERSECTION	C.P.	CHINESE PISTACHIO TREE
CONN.	CONNECTION	R.	RADIUS	C.W.	COTTONWOOD TREE
CULV.	CULVERT	R.C.	REINFORCED CONCRETE	CYP.	CYPRESS TREE
D.I.P.	DUCTILE IRON PIPE	R.C.P.	REINFORCED CONCRETE PIPE	H.B.	HACKBERRY TREE
EL.	ELEVATION	R.C.C.P.	REINF. CONCRETE CYLINDER PIPE	HICK.	HICKORY TREE
ELEC.	BURIED ELECTRICAL POWER LINE	R.O.W.	RIGHT OF WAY	H.T.	HAWTHORNE TREE
ENC.	ENCASEMENT	SAN. SEW. OR S.S.	SANITARY SEWER	JAP.	JAPONICA TREE
ESMT.	EDGE OF PAVEMENT	S.H.	LAWN SPRINKLER HEAD	LIG.	LIGUSTRUM BUSH
F.-F.	FACE TO FACE	S.	SURVEY LINE	L.O.	LIVE OAK TREE
F.H.	FIRE HYDRANT	S.S.	SANITARY SEWER	LOC.	LOCUST TREE
F.M.	SANITARY SEWER FORCE MAIN	S.S.M.H.	SANITARY SEWER MANHOLE	MAG.	MAGNOLIA TREE
F.L.	FLOW LINE	ST. SEW.	STORM SEWER	MAP.	MAPLE TREE
G.L.M.	GAS LINE MARKER	T.B.	TELEPHONE CABLE BOX	MSQ.	MESQUITE TREE
G.M.	GAS METER	T.C.	TOP OF CURB	MM.	MIMOSA TREE
G.V.	GAS VALVE	T.C.	TOP OF CURB	MUL.	MULBERRY TREE
GUT.	GUTTER	TEL.	BURIED TELEPHONE CABLE	NAN.	NANDENA BUSH
HDWL.	HEADWALL	T.M.H.	TELEPHONE CABLE MANHOLE	PEC.	PECAN TREE
I.P.F. OR I.R.F.	IRON PIN (ROD) FOUND	TO F.	TO FACE (OF CURB)	PER.	PERSIMMON TREE
L.L.	LANDSCAPING LIGHT	TRANS.	ELECTRICAL TRANSFORMER	PHOT.	RED TIPPED PISTACHIO BUSH
L.P.	LIGHT POLE	T.V.	BURIED TELEVISION CABLE	PIST.	CHINESE PISTACHIO TREE
L.S.	SANITARY SEWAGE LIFT STATION	T.V.B.	CABLE TELEVISION BOX	R.B.	REDBUD TREE
L.S.T.	LANDSCAPING TIMBERS	U.G.C.M.	UNDERGROUND CABLE MARKER	R.O.	RED OAK TREE
M.B.	MAILBOX	U.P.M.	UNDERGROUND PIPELINE MARKER	S.G.	SWEET GUM TREE
M.B.G.F.	METAL BEAM GUARD FENCE	V.C.	VERTICAL CURVE	SYC.	SYCAMORE TREE
M.H.	MANHOLE	W. OR W.L.	WATER LINE	WIL.	WILLOW TREE
P.C.	POINT OF CURVATURE	W.M.	WATER METER		
		W.V.	WATER VALVE		

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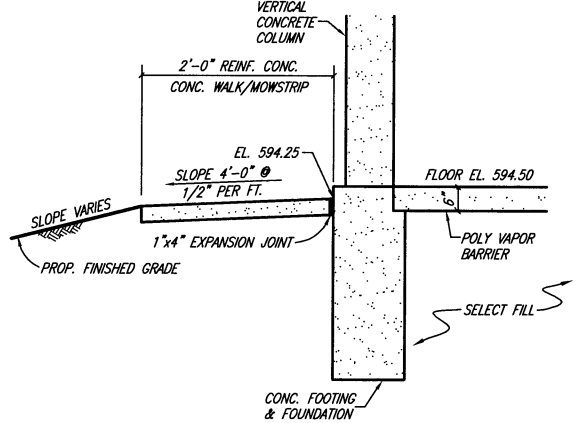
BY P.A.C. DATE 1/18/07



PLAN CONSTRUCTION ENTRANCE ROAD FOR EROSION CONTROL
NO SCALE



REMOVABLE PIPE BOLLARD
NO SCALE



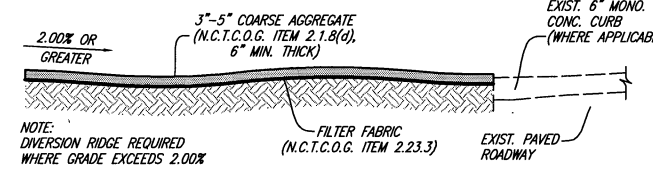
TYPICAL WALL SECTION
NO SCALE

SILT FENCE NOTES

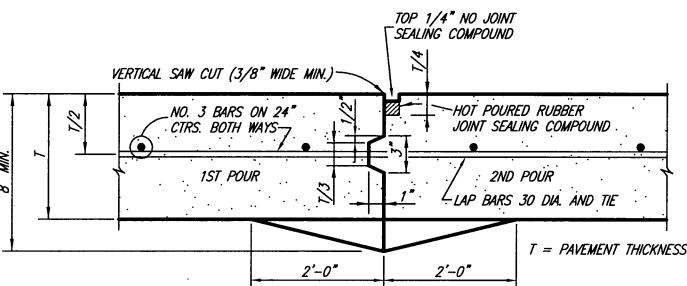
1. THE CONTRACTOR SHALL INSPECT SILT FENCE WEEKLY AND AFTER MAJOR RAIN EVENTS TO ENSURE THAT THE DEVICE IS FUNCTIONING PROPERLY.
2. THE CONTRACTOR SHALL REMOVE SEDIMENT FROM BEHIND FENCE WHEN THE DEPTH OF SEDIMENT HAS BUILT UP TO ONE-THIRD THE HEIGHT OF THE FENCE ABOVE GRADE.
3. THE CONTRACTOR SHALL INSPECT THE BASE OF THE FENCE TO ENSURE THAT NO GAPS HAVE DEVELOPED AND RETRENCH AS NECESSARY.
4. THE CONTRACTOR SHALL INSPECT FENCE POSTS TO ENSURE THAT THEY ARE PROPERLY SUPPORTING THE FENCE. IF NECESSARY, THE CONTRACTOR SHALL RESET AND ADD POSTS.
5. IF FILTER FABRIC IS RIPPED, DAMAGED OR DETERIORATED, THE CONTRACTOR SHALL REPLACE IT IN ACCORDANCE

STORM WATER POLLUTION PREVENTION NOTES

1. CONTRACTOR SHALL PROVIDE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) PREPARED BY A LICENSED PROFESSIONAL ENGINEER, FOR THE ENTIRE PROJECT UTILIZING EITHER OF THE ALTERNATES SHOWN ABOVE. NO SEPARATE PAY ITEM.
2. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO IMPLEMENT THE SWPPP AND TO MAINTAIN THE SILT FENCE THROUGHOUT THE PERIOD OF CONSTRUCTION.

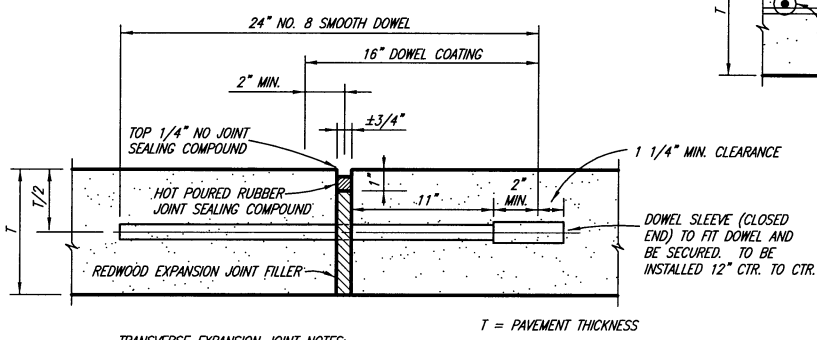


SECTION A-A



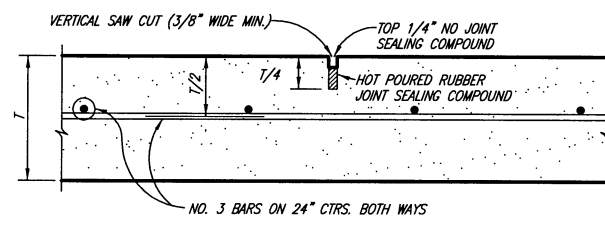
CONSTRUCTION JOINT
NO SCALE

- CONSTRUCTION JOINT NOTES:**
1. CONTRACTOR SHALL PROTECT KEYWAY PRIOR TO SECOND POUR. IF LONGITUDINAL KEYWAY IS DAMAGED, CONTRACTOR SHALL REPAIR WITH THE USE OF LONGITUDINAL BUTT JOINT (DRILL DOWELS INTO FIRST POUR).
 2. THICKENED EDGES ARE REQUIRED FOR FUTURE WIDENING ONLY.

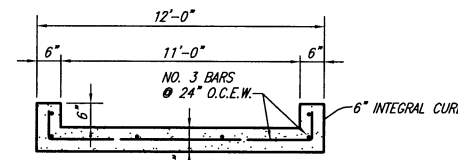


TRANSVERSE EXPANSION JOINT
NO SCALE

- TRANSVERSE EXPANSION JOINT NOTES:**
1. DOWELS AND REINFORCING BARS SHALL BE SUPPORTED BY AN APPROVED DEVICE.
 2. TRANSVERSE EXPANSION JOINTS SHALL BE SPACED AT 400 FT. MAXIMUM AND AT ALL INTERSECTIONS.



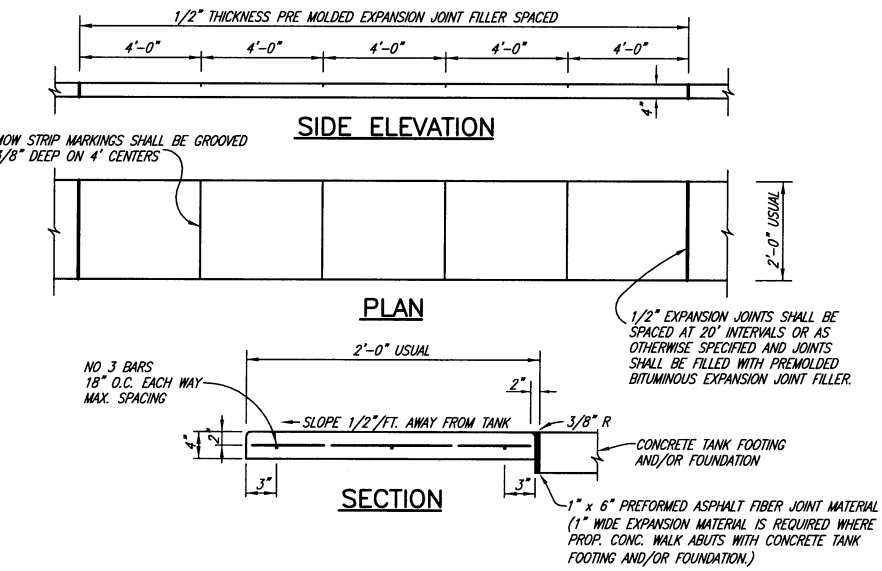
SAWED DUMMY JOINT
NO SCALE



SPLASH PAD SECTION
NO SCALE

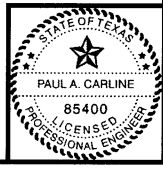
NOTE: CONCRETE SHALL BE 3600 P.S.I. COMPRESSIVE STRENGTH AT 28 DAYS (NCTCOG CLASS 'C')

THESE DOCUMENTS ARE FOR BIDDING, CONSTRUCTION, AND PERMIT PURPOSES.
DATE: 5/22/07



CONCRETE MOW STRIP
NO SCALE

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CITY OF ROCKWALL, TEXAS

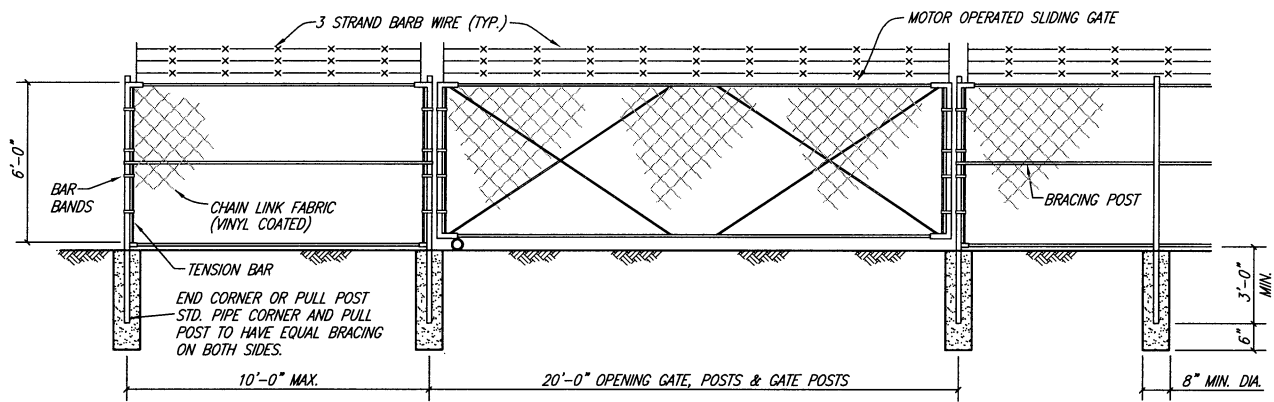
SPRINGER ROAD ELEVATED STORAGE TANK

MISCELLANEOUS DETAILS

BIRKHOFF, HENDRICKS & CONWAY, L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

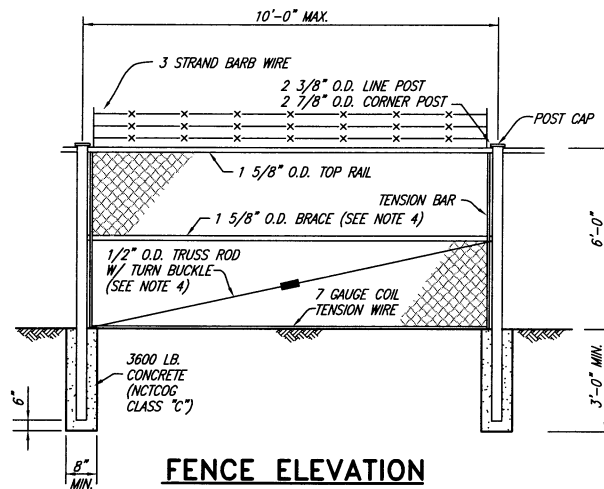
DESIGNED BY: P.A.C. PROJECT: 2000 180 SHEET NO. 9
DRAWN BY: B. H. & C. DATE: MAY, 2002 OF 15 SHEETS

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MOTOR OPERATED CHAIN LINK SLIDING GATE

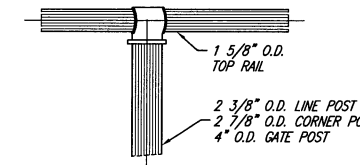
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FENCE ELEVATION

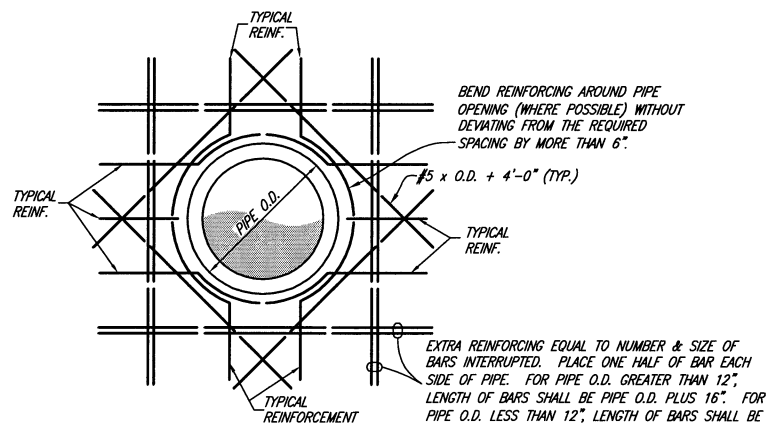
NO SCALE

- FENCE NOTES:**
- GATE TO BE CYCLONE STANDARD CANTILEVER SLIDE GATE OR APPROVED EQUAL.
 - ALL FENCE FABRIC SHALL BE 7 GAUGE BLACK VINYL COATED STEEL, 2 INCH MESH WITH KNUCKLE TOP AND SELVAGED BOTTOM.
 - CONTRACTOR SHALL FURNISH AND INSTALL AN AUTOMATIC GATE OPERATOR (ELITE MODEL SL-3000-UL-1 GEAR HEAD, A SENTEX DIGITAL KEYLESS ENTRY, AND A SARASOTA VEHICLE DETECTOR 4 MILLER PNEUMATIC GATE EDGE. ALL EXTERIOR MOUNTING OF EQUIPMENT SHALL BE IN WEATHERPROOF ENCLOSURES. INSTALLATION OF GATE SHALL INCLUDE CONCRETE PAD, RAILS AND ALL APPURTENANCES.
 - 1/2" O.D. TRUSS RODS & 1 5/8" O.D. HORIZONTAL BRACES SHALL BE LOCATED AT CORNER POSTS AND AT GATE POSTS.



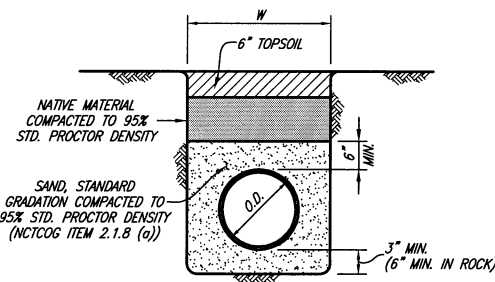
FENCE TOP RAIL

NO SCALE



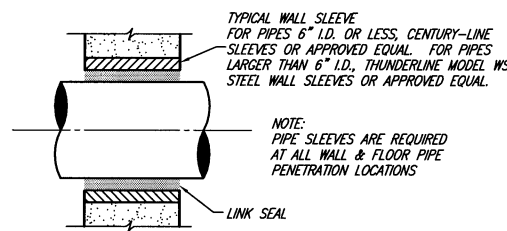
TYPICAL REINFORCING AT CAST IN PLACE WALL PIPE OPENINGS

TYPICAL FOR ALL STRUCTURES THIS PROJECT
NO SCALE



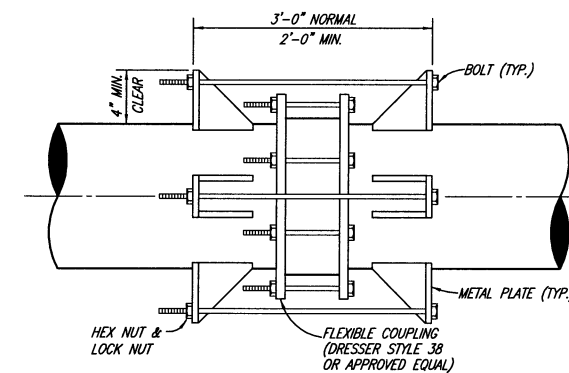
CLASS B-4 EMBEDMENT

UNDER PROPOSED PAVEMENT



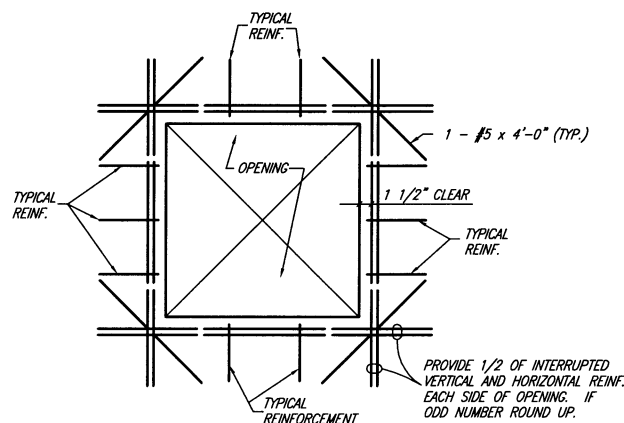
PIPE SLEEVE

NO SCALE



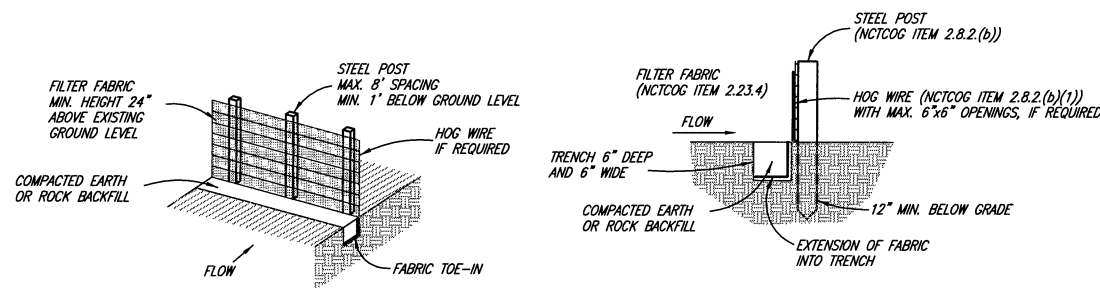
WELDED THRUST HARNESS ASSEMBLY

NO SCALE



TYPICAL REINFORCING AT RECTANGULAR OPENINGS IN CONCRETE STRUCTURE

NO SCALE

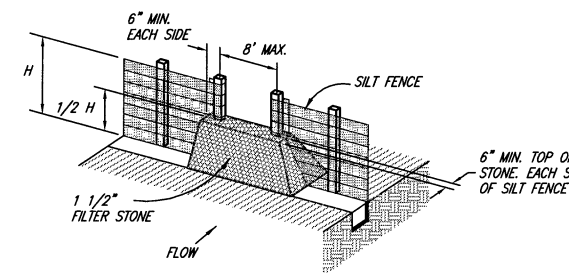


ISOMETRIC VIEW

SECTION VIEW

SILT EROSION CONTROL FENCE

NO SCALE



STONE OVERFLOW STRUCTURE

NO SCALE

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CITY OF ROCKWALL, TEXAS
SPRINGER ROAD ELEVATED STORAGE TANK
MISCELLANEOUS DETAILS

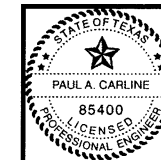
BIRKHOFF, HENDRICKS & CONWAY, L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

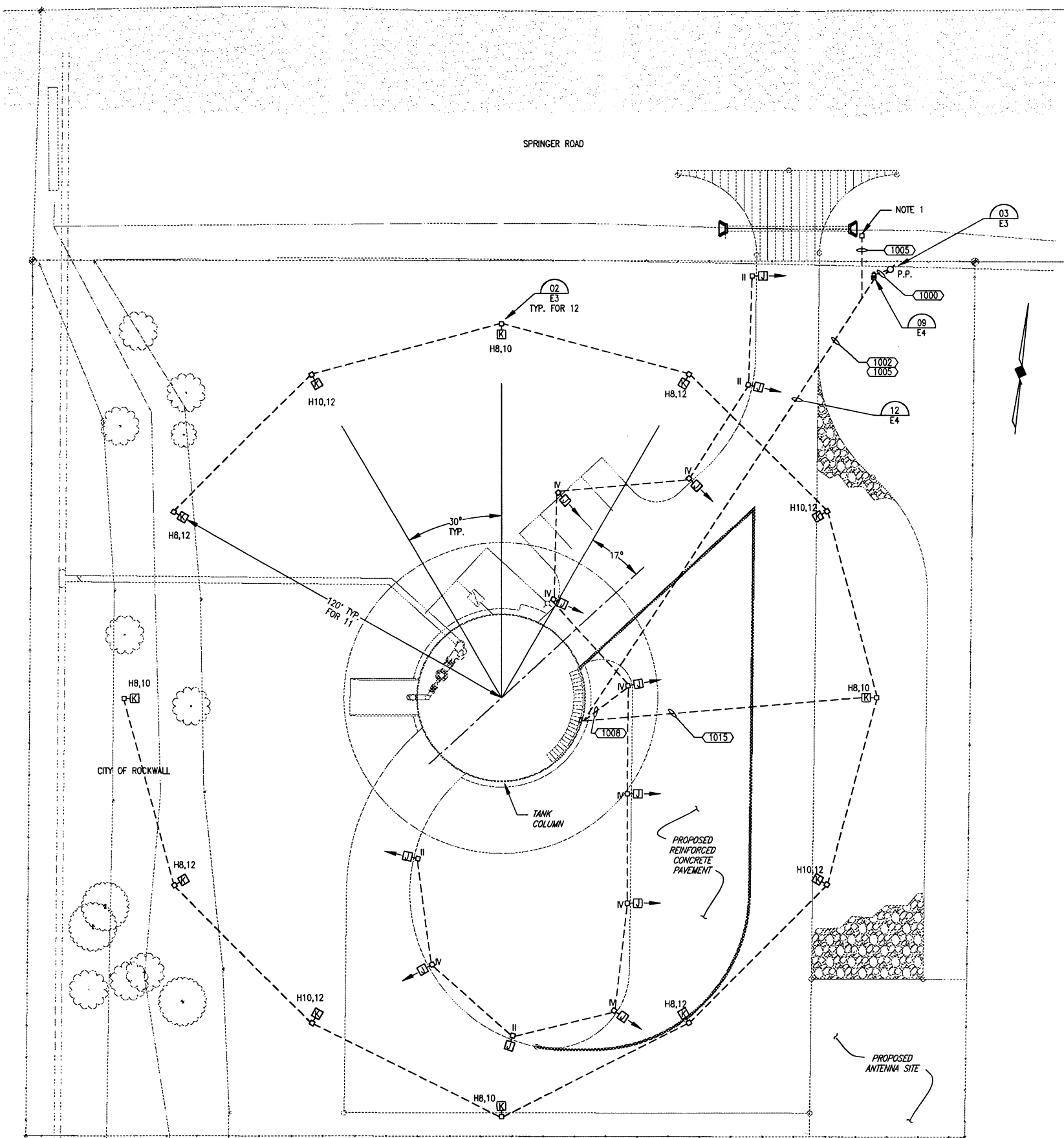
DESIGNED BY: P.A.C. PROJECT: 2001 180 SHEET NO. 10
DRAWN BY: B. H. & C. DATE: MAY, 2002 OF 15 SHEETS

This record drawing is a compilation of the sealed engineering drawing for this project, modified by addenda, change orders and information furnished by the contractor. The information shown on the record drawings that was provided by the contractor or others not associated with the design engineer cannot be verified for accuracy or completeness. This original sealed drawings are on file at the offices of Birkhoff, Hendricks & Conway, L.L.P.

BY P.A.C. DATE 1/18/07

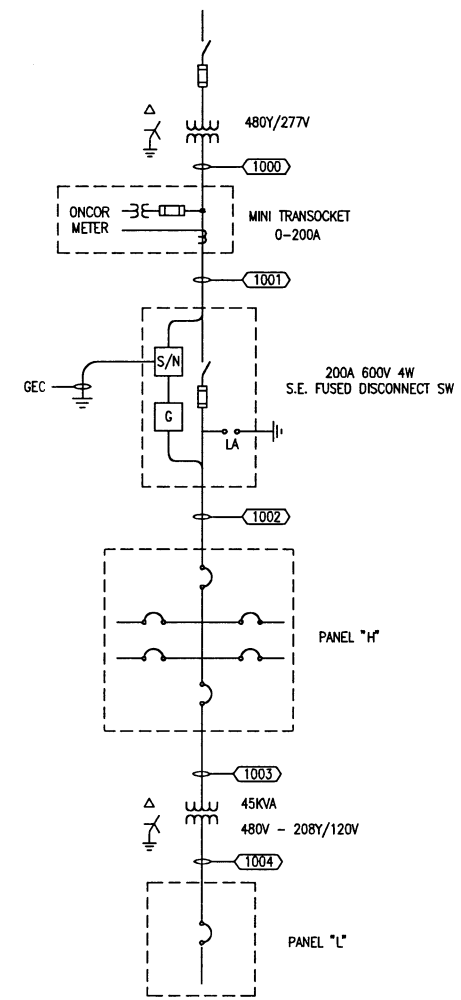
THESE DOCUMENTS ARE FOR BIDDING, CONSTRUCTION, AND PERMIT PURPOSES.
DATE: 5/20/02



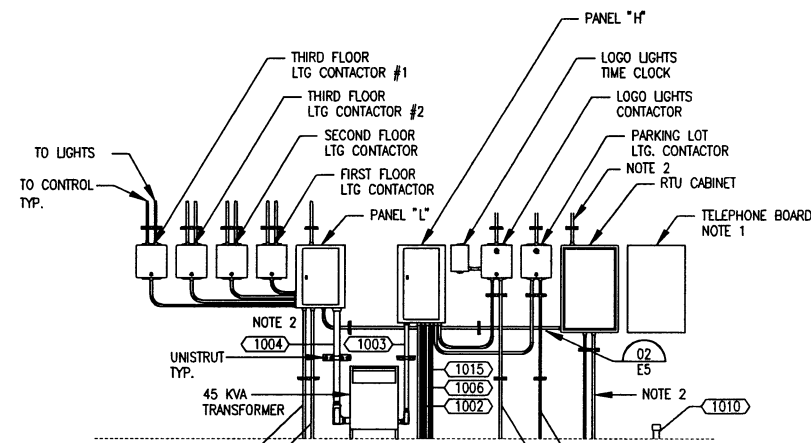


NOTES:
1. GATE OPERATOR. REFER TO SPECIFICATIONS.

ELECTRICAL SITE PLAN
SCALE: 1"=20'-0"



ONE LINE DIAGRAM



NOTES:
1. PROVIDE ONE DIAL-UP TELEPHONE LINE FOR RTU & A TELEPHONE JACK FOR VOICE COMMUNICATIONS.
2. MANY CONDUITS ARE NOT SHOWN. TYPICAL CONDUITS NOT SHOWN ARE FOR RTU I/O, LIGHTS, RECEPTACLES, CATHODIC PROTECTION, ALARM CONTACTS, OBSTRUCTION LIGHTS, TRANSMITTER HEAT TRACE, RTU ETC.

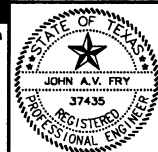
SECTION
E2
NOT TO SCALE

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REVISED TO CONFORM TO CONSTRUCTION RECORDS
BY *JAC* DATE *11/14/07*

John A. Fry 03 MAY 02
VERIFIED SCALE
Bar is one inch on original drawing.
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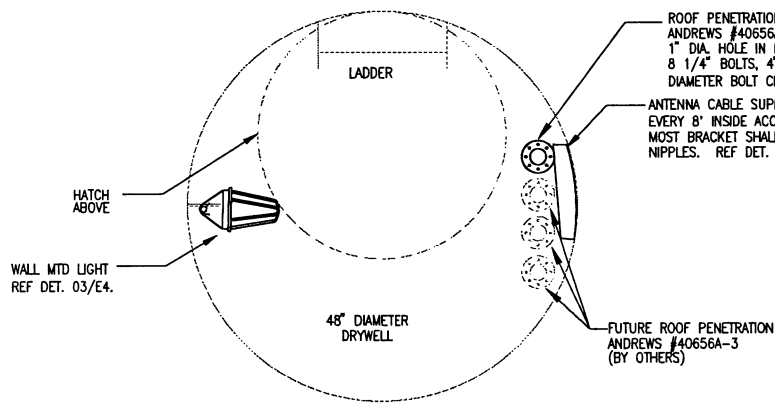
FILE NO. 18.031
Bar is one inch on original drawing.
If not one inch on this sheet, adjust scale accordingly.



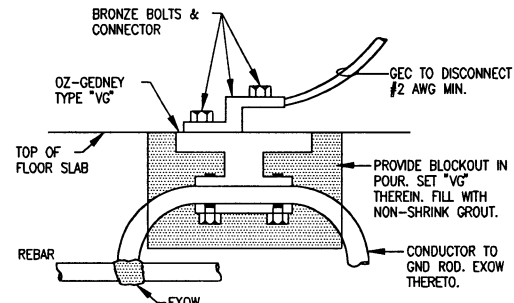
ONE LINE DIAGRAM LEGEND	
SYMBOL	DESCRIPTION
	POWER TRANSFORMER
	CURRENT TRANSFORMER
	CONTROL POWER (CPT) OR POTENTIAL (PT) TRANSFORMER
	THERMAL MAGNETIC CIRCUIT BREAKER: AF=FRAME SIZE, AT=AMP TRIP
	FUSE
	FUSED SWITCH
	CONNECTION TO GROUND
	SOLID NEUTRAL
	DELTA CONNECTED TRANSFORMER WINDINGS
	WYE CONNECTED TRANSFORMER WINDINGS
	LIGHTING ARRESTER
ELECTRICAL SITE & PLAN SYMBOL LEGEND	
SYMBOL	DESCRIPTION
	LIGHT FIXTURE - LETTER DENOTES FIXTURE TYPE
	HID WALL MOUNTED FIXTURE - LETTER DENOTES FIXTURE TYPE
	FLUORESCENT FIXTURE - RECESSED, SURFACE OR WALL MOUNTED
	EMERGENCY POWER PACK FIXTURE - WALL MOUNTED
	POLE MOUNTED FIXTURE - LETTER DENOTES FIXTURE TYPE NUMBER DENOTES DISTRIBUTION, ARROW INDICATES THROW
	EXPOSED CONDUIT RUN
	CONCEALED OR UNDERGROUND CONDUIT RUN
	CIRCUIT HOME RUN AS NOTED
	WALL SWITCH, SPST
	WALL SWITCH, 2 POLE
	WALL SWITCH, 3-WAY
	WALL SWITCH WITH PILOT LIGHT
	MOTOR RATED SWITCH WITH OVERLOADS
	DUPLEX RCPT & GFCI DEVICE MOUNTING IN WEATHERPROOF BOX & COVERS
	JUNCTION BOX - WALL OR CEILING MOUNTED
	DISCONNECT SWITCH - HEAVY DUTY TYPE - FUSED
	POWER OR DISTRIBUTION PANELBOARD - SURFACE MOUNTED
	OVERHEAD ELECTRICAL LINES
	WEATHERPROOF
	GROUND FAULT INTERRUPTER
	+48" MOUNTING HEIGHT ABOVE FLOOR
	E.C. EMPTY CONDUIT
	GRS GALVANIZED RIGID STEEL CONDUIT
	PP POWER POLE
	G.E.C. GROUNDING ELECTRODE CONDUCTOR

CITY OF ROCKWALL, TEXAS
SPRINGER ROAD ELEVATED STORAGE TANK
ELECTRICAL SITE PLAN
AND ONE LINE DIAGRAM
BIRKHOFF, HENDRICKS & CONWAY, L.L.P.
 CONSULTING ENGINEERS
 Dallas, Texas

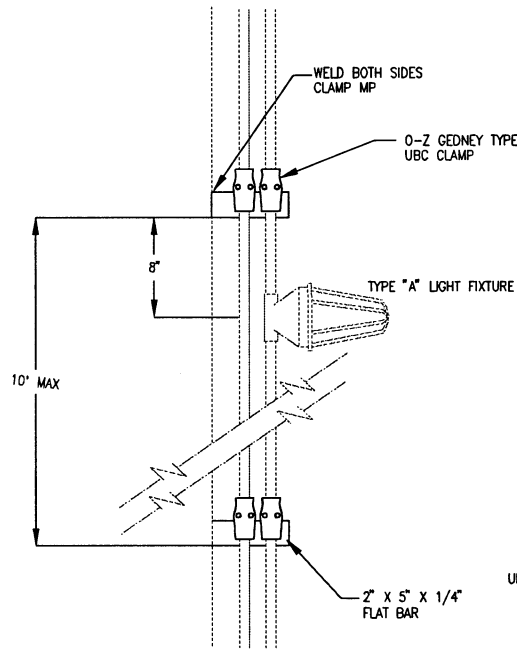
DESIGNED BY: J.A.V.F. PROJECT: 2001180 SHEET NO. E1
 DRAWN BY: R.E.B. DATE: MAY 2002 OF 15 SHEETS



01 PLANVIEW-DRYWELL
NOT TO SCALE

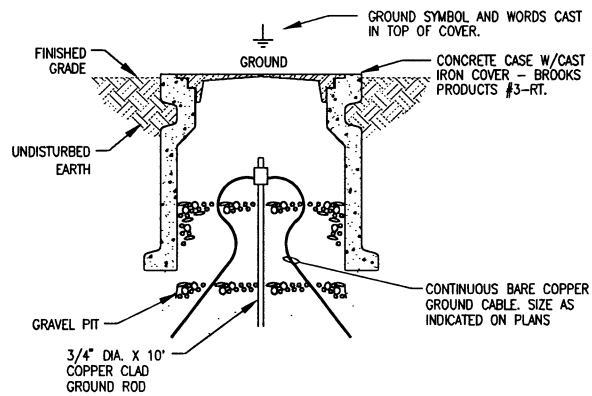


02 IN-SLAB GROUNDING CONDUCTOR
NOT TO SCALE

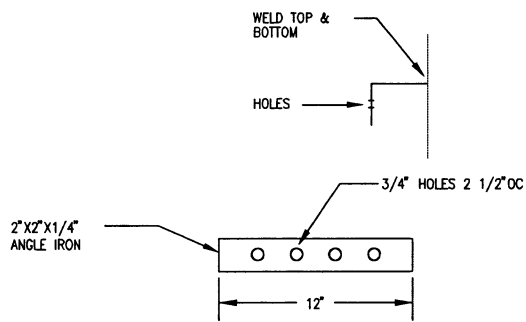


NOTE:
1. COORDINATE ALL WELDABLE CONDUIT SUPPORTS WITH FABRICATORS OF TANK.

03 DETAIL- DRYWELL LIGHT
NOT TO SCALE

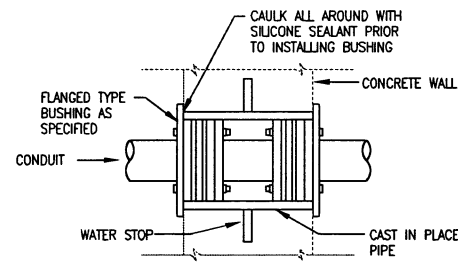


06 GROUND ROD & WELL
NOT TO SCALE

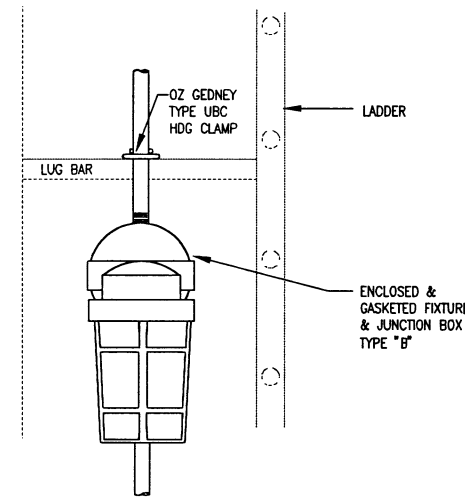


NOTE:
1. FORM ANGLE IRON TO TUBE DIAMETER BEFORE WELDING.
2. COORDINATE ALL WELDABLE CONDUIT SUPPORTS WITH FABRICATORS OF TANK.

04 DETAIL-DRYWELL ANTENNA BRACKET

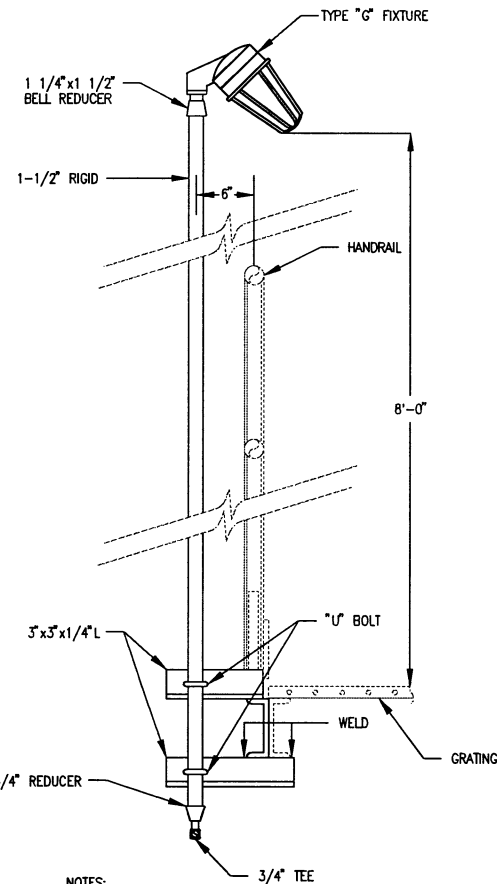


07 WATERTIGHT CONDUIT PENETRATION
NOT TO SCALE



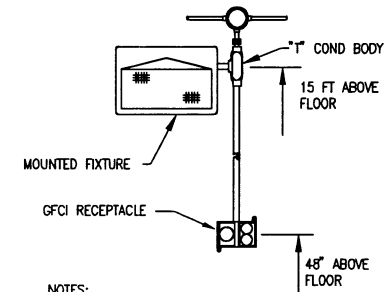
NOTE:
1. PROVIDE ONE LIGHT FIXTURE AT THE MIDPOINT OF EACH LADDER SECTION.

05 LADDER LIGHT FIXTURE
NOT TO SCALE TYP. FOR 6



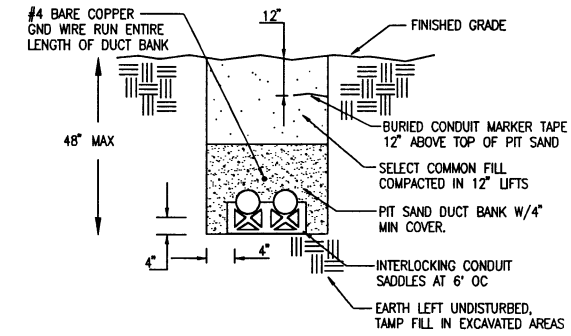
NOTE:
1. PROVIDE ONE FIXTURE AT EACH REST LANDING AND TWO AT THE TANK COLUMN TO TANK CENTER LANDING.

10 HANDRAIL MOUNTED LIGHT FIXTURE
NOT TO SCALE TYP. FOR 2



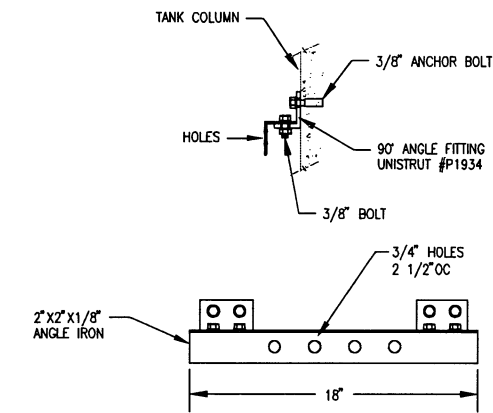
NOTES:
1. MOUNTING OF FIXTURES SHALL BE 20' AFF.
2. MOUNTING HARDWARE FOR FIXTURE & RECEPTACLE SHALL BE 304 STN STL ANCHORS.
3. RECEPTACLE OUTLET SHALL BE TYPICAL 120V GFCI DUPLEX RECEPTACLE.

11 TYPICAL LTG FIXTURE "D"
MTG DETAIL
NOT TO SCALE



NOTES:
1. NUMBER AND SIZE OF CONDUITS SHALL BE AS SHOWN ON THE PLANS.
2. TOP OF PIT SAND ENCASUREMENT SHALL BE A MINIMUM OF 18" FROM FINISHED GRADE.

12 PIT SAND ENCASED UNDERGROUND DUCTBANK
NOT TO SCALE



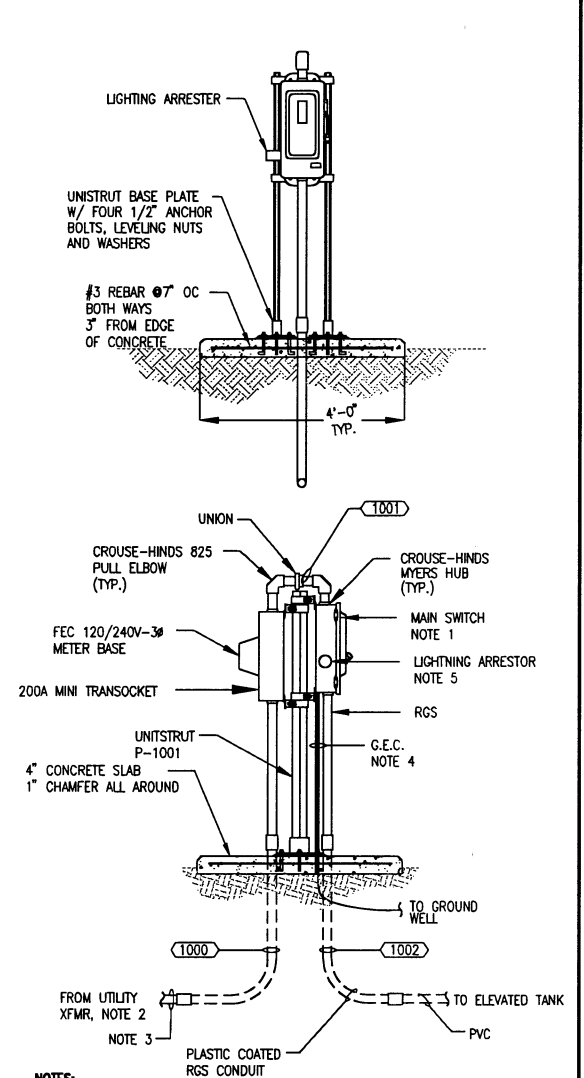
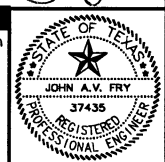
08 DETAIL- ANTENNA BRACKET TANK COLUMN
NOT TO SCALE

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John A.V. Fry
03 MAY 02

VERIFY SCALE

Bar is one inch on original drawing.
0 1
If not one inch on this sheet, adjust scale accordingly.



NOTES:
1. SERVICE ENTRANCE RATED 480/277V, 4W (3 BLADES & FUSE HOLDERS, 1-S/N) 200A HEAVY DUTY NEMA 4X VISIBLE BLADE, LOCKABLE SAFETY SWITCH WITH 200A FR-8 BUSSMAN FUSES, GROUNDING LUG, LOCK-ON PROVISION & SOLID NEUTRAL. SQUARE D CLASS 3110 H364NDS, H200, GL, SFLD, CLR OR EQUAL.
2. REF SITE PLAN FOR CONTINUATION.
3. 4" SCH.#40 PVC TO UTILITY TRANSFORMERS.
4. GROUNDING ELECTRODE CONDUCTOR SHALL BE #2 TW GREEN, PROTECT WITH SCH.#80 PVC CONDUIT.
5. PROVIDE 480V 3Ø LIGHTNING ARRESTER. DELTA LA-603 OR EQUAL.

09 ELECTRICAL SERVICE ENTRANCE
NOT TO SCALE

04 DETAIL-DRYWELL ANTENNA BRACKET

07 WATERTIGHT CONDUIT PENETRATION
NOT TO SCALE

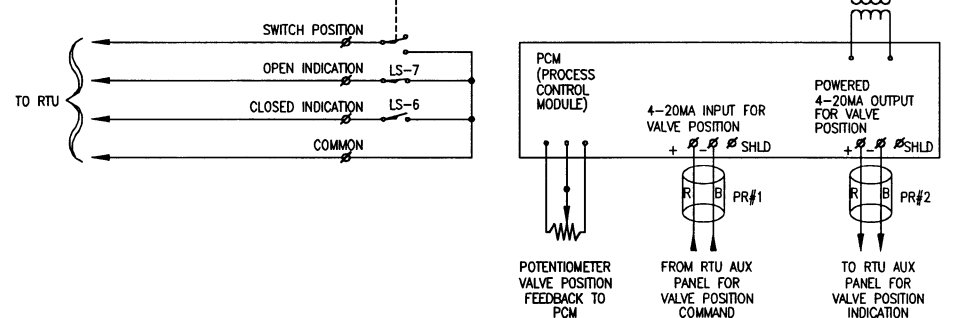
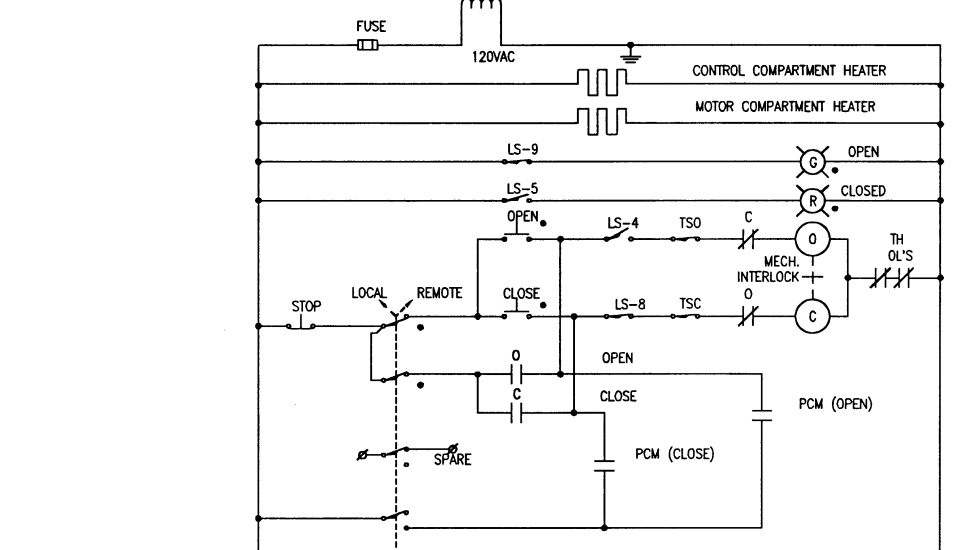
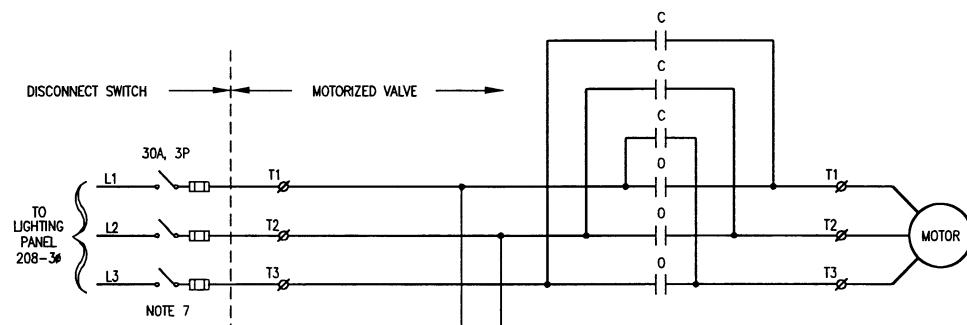
10 HANDRAIL MOUNTED LIGHT FIXTURE
NOT TO SCALE TYP. FOR 2

REVISED TO CONFORM TO CONSTRUCTION RECORDS
BY *FAC* DATE *11/14/07*

CITY OF ROCKWALL, TEXAS
SPRINGER ROAD ELEVATED STORAGE TANK
ELECTRICAL DETAILS

BIRKHOFF, HENDRICKS & CONWAY, L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

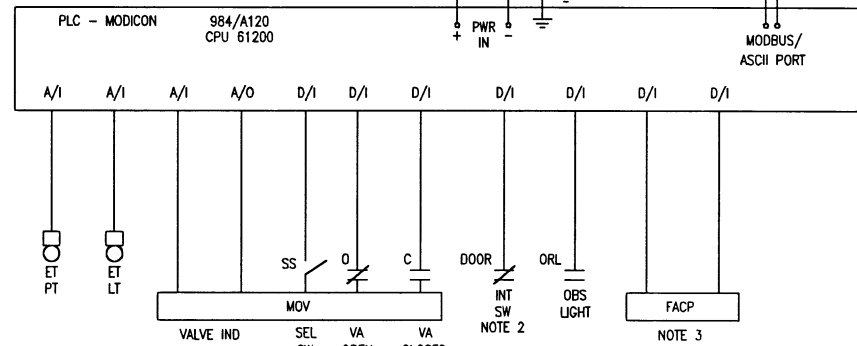
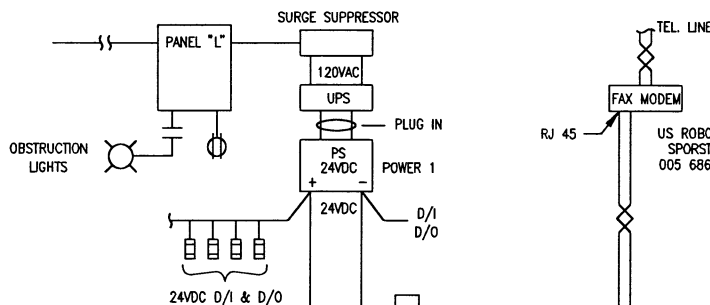
DESIGNED BY: J.A.V.F. PROJECT: 2001180 SHEET NO. E4
DRAWN BY: R.E.B. DATE: MAY 2002 OF 15 SHEETS



LIMIT SWITCH	VALVE POSITION		FUNCTION
	FULLY OPEN	FULLY CLOSED	
LS-2	██████████	██████████	SPARE
LS-3	██████████	██████████	SPARE
LS-4	██████████	██████████	OPEN LIMIT IND. LIGHT
LS-5	██████████	██████████	INDICATION
LS-6	██████████	██████████	INDICATION
LS-7	██████████	██████████	CLOSED LIMIT IND. LIGHT
LS-8	██████████	██████████	INDICATION
LS-9	██████████	██████████	IND. LIGHT

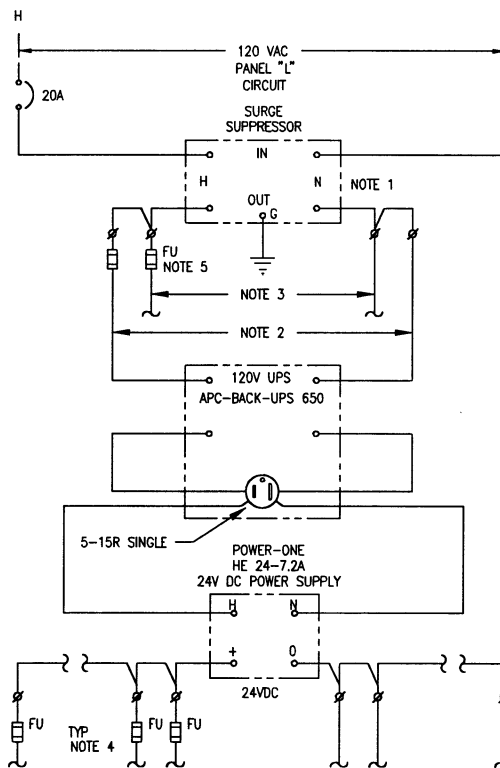
- NOTES:
- VALVE SHOWN IN FULL OPEN POSITION.
 - TSC - CLOSING TORQUE SWITCH INTERRUPTS CONTROL CIRCUIT IF MECHANICAL OVERLOAD OCCURS DURING CLOSING CYCLE.
 - TSO - OPEN TORQUE SWITCH INTERRUPTS CONTROL CIRCUIT IF MECHANICAL OVERLOAD OCCURS DURING OPENING CYCLE.
 - LIMIT SWITCH TRIP POINTS SHALL BE FULLY ADJUSTABLE.
 - GROUND SHIELD AT END WHICH LOOP IS POWERED FROM. INSULATE OPPOSITE END.
 - PCM FURNISHED BY MOTORIZED VALVE MANUFACTURER.
 - PROVIDE FRN-R FUSES PROPERLY SIZED TO PROTECT SELECTED MOV.

01 CONTROL SCHEMATIC-MOTORIZED VALVE ACTUATOR
TYPICAL FOR TWO



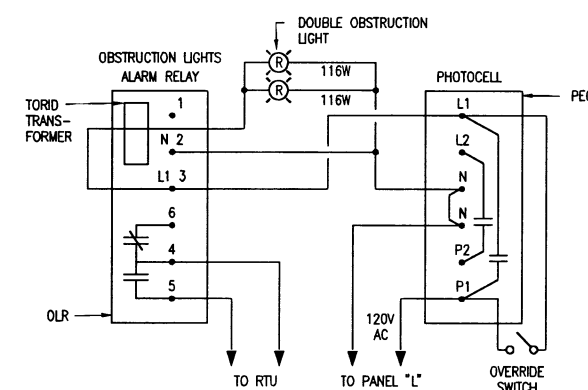
- NOTES:
- REFER TO SCHEMATICS.
 - WIRE ALL INTRUSION SWITCHES IN SERIES.
 - NFPA FIRE ALARM CONTROL PANEL. REFER TO SPECS.

02 CONTROL BLOCK DIAGRAM



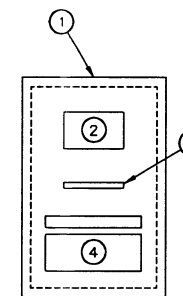
- NOTES:
- HARDWIRED 120V - 20A SURGE SUPPRESSOR. SUPERIOR ELECTRIC STABILINE SERIES 3000 TYPE PQI-3120H IN RTU CABINET. REF DET
 - TO UPS.
 - SPARE.
 - 1/4 AMP TERMINAL BLOCK FUSE. TYPICAL FOR 6. (2 SPARE) 24VDC PLC INPUTS AND OUTPUTS.

03 AC & DC POWER WITH UPS



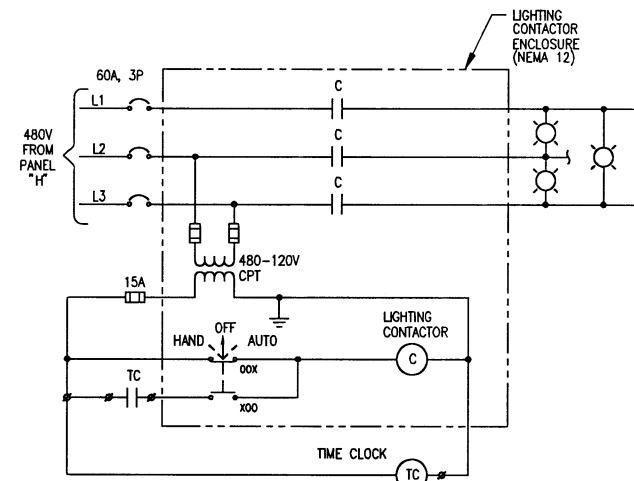
- NOTES:
- REFER TO OBSTRUCTION LIGHT DETAIL ON SHEET 7, CIVIL DRAWINGS.
 - DO NOT MOUNT PHOTO CELL AND ALARM RELAY IN OBSTRUCTION LIGHT VERTICAL SUPPORT CONDUIT. SUPPORT THESE ITEMS SEPARATELY.

04 CONTROL SCHEMATIC OBSTRUCTION LIGHTS



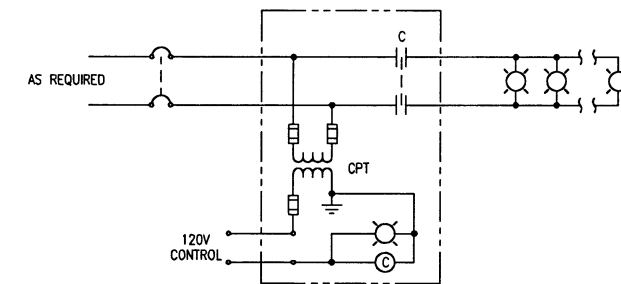
- NOTES:
- NEMA 4X STAINLESS STEEL ENCLOSURE. 36" Hx24" Wx12" D. PROVIDE STAINLESS STEEL BACK PANEL. HOFFMAN, OR EQUAL.
 - PLC. REFER TO CONTROL BLOCK DIAGRAM.
 - MODEM. REFER TO CONTROL BLOCK DIAGRAM.
 - 120 VAC UPS AND 24 VDC POWER SUPPLY. REFER TO AC & DC POWER WITH UPS DETAIL.

05 RTU CABINET



- NOTES:
- THE LIGHTING CONTACTOR SHALL BE ENCLOSED AND RATED FOR 60A.
 - THE TIME CLOCK SHALL BE SET TO COME ON BETWEEN 5PM AND MIDNIGHT. FURNISH AND INSTALL TORX #DZS100 W/ RESERVE POWER. MOUNT TIME CLOCK NEXT TO LIGHTING CONTACTOR.

06 SCHEMATIC-LOGO LIGHTING



LIGHTING CONTACTORS			
SERVICE	POWER	CONTROL	CPT
GROUND FLOOR	208V	2-WAY	V84
SECOND FLOOR	208V	3-WAY	V84
THIRD FLOOR	208V	3-WAY	V84
THIRD FLOOR	208V	2-WAY	V84
DRIVEWAY	480V	2-WAY	V81

PROVIDE SQUARE-D CLASS 8903 LIGHTING CONTROL NEMA 4X, 30A, 2P W/ CPT, FUSES & PILOT LIGHT. TYPE SNW1VXX FF4T.

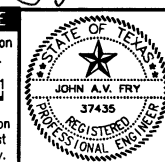
07 SCHEMATIC - LIGHTING CONTACTORS

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John A. Fry
03 MAY '02

REVISED TO CONFORM TO CONSTRUCTION RECORDS BY *FAC* DATE *11/14/07*

VERIFY SCALE
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FILE No. 18.031



CITY OF ROCKWALL, TEXAS

SPRINGER ROAD ELEVATED STORAGE TANK ELECTRICAL SCHEMATICS

BIRKHOFF, HENDRICKS & CONWAY, L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

DESIGNED BY: J.A.V.F. PROJECT: 2001180 SHEET NO. E5
DRAWN BY: R.E.B. DATE: MAY 2002 OF 15 SHEETS