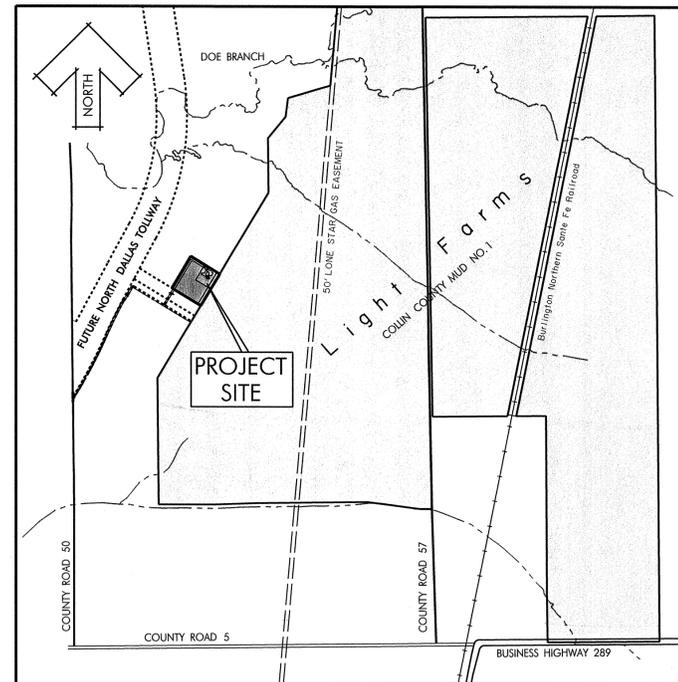


# ENGINEERING PLANS FOR THE DEVELOPMENT OF ELEVATED WATER STORAGE TANK LIGHT FARM CITY OF CELINA, TEXAS

**General Notes:**

- All construction shall be in accordance with the latest revision of the North Central Texas Council of Governments 'Standard Specifications for Public Works Construction' including the Standard Drawings therein and the City of Celina's addendum thereto.
- Before beginning construction, the contractor shall prepare a construction sequence schedule. The construction schedule shall be such that there is the minimum interference with traffic along or adjacent to the project.
- Construction may not be begun earlier than 7:00 A.M. on weekdays nor continued after dark without permission from the City of Celina. Construction on holidays and Saturday must be approved two days in advance, a fee of \$300.00 a day for working on holidays and Saturday will be assessed payable to the City before work is performed. Work may not be begun before 8:00 A.M. on Saturday and work on Sunday is prohibited without special permission and payment of fees.
- Utilities shown on the plans were taken from field surveys and information provided by the utility companies. The completeness and the accuracy of this data is not guaranteed.
- The contractor is responsible for verifying the location of all underground utilities and structures and protecting them from damage during construction.
- Work may not be backfilled or covered until the City has inspected it.
- Material testing shall be performed by an independent testing laboratory and paid for by the Owner. The following material tests shall be provided by the Owner:
  - Embankment - One soil density test shall be performed at each location for each 500 C.Y. of backfill placed.
  - Pavement Sub-grade - One gradation test (where lime stabilized) and one soil density test shall be performed for each 100 linear feet of pavement unless otherwise noted.
  - Utility Trench Backfill - One soil density test shall be performed as directed by City of Celina. (Every 300 LF of Trench)
  - Concrete Tests:
    - Compressive Strength - as specified in the N.C.T.C.O.G. specifications or City specifications.
    - Air Content - One test for each 25 C.Y. of concrete or fraction thereof unless otherwise noted.
    - Slump - One test for each 9 C.Y. unless otherwise noted.
  - All material testing and inspection associated with tank installation.
- The City shall select the location and depth of each soil density test, unless otherwise directed. Reference Geotechnical Report project No. 07-13028 from Rone Engineering.
- All excavation on the project is unclassified.
- Temporary erosion control shall be used to minimize the spread of silt and mud from the project on to existing streets, alleys, drainage ways and public and private property. Temporary erosion controls may include silt fences, rock check dams, stabilized construction entrances, straw bales, berms, dikes, swales, strips of undisturbed vegetation, check dams and other methods as required by the City Manager or his representative and shall conform to the Storm Water Quality Best Management Practices for Construction Activities as published by the North Central Texas Council of Governments.
- Finished slopes on public rights-of-way and easements shall not be steeper than 4:1. All slopes steeper than 6:1 shall be covered with erosion control matting and hydro mulched and maintained by the contractor until grass covers all parts of the slope.
- The contractor shall maintain two-way traffic at all times along the project.
- Remove, salvage and replace all street and traffic control signs, which may be damaged by the construction of the project.
- All trenching and excavation shall be performed in accordance with OSHA standards.



LOCATION MAP  
NTS

Prepared For:  
**THE CITY OF CELINA, TEXAS**  
Through:  
**COLLIN COUNTY MUNICIPAL UTILITY DISTRICT NO. 1**

CO Republic Property Group  
8401 North Central Expressway  
Suite 350 Dallas, TX 75225  
Phone 214-292-3410 Fax 214-292-3411

Developer:  
**Forestar/RPG Land Company, LLC**

Mark Wagner  
8401 North Central Expressway  
Suite 350 Dallas, TX 75225  
Phone 214-292-3410 Fax 214-292-3411

Prepared By:  
**HUITT-ZOLLARS**

Huitt-Zollars, Inc.  
3131 McKinney Ave., Ste. 600 Dallas, Texas 75204  
Phone (214) 871-3311 Fax (214) 871-0757  
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INDEX OF DRAWINGS	
SHEET NO.	DESCRIPTION
1	COVER SHEET
* 2	CONSTRUCTION PLAT
3	WATER LINE PLAN
4	DIMENSION CONTROL PLAN
5	ELEVATED STORAGE TANK ELEVATIONS
6	WATER TOWER PLAN
7	WATER TOWER PLAN - DETAILS
8	ELECTRICAL SITE PLAN
9	WATER TOWER ELEVATION - ELECTRICAL
10	WATER TOWER PLAN - ELECTRICAL
11	ELECTRICAL DETAILS AND SCHEDULES
* 12,13	CITY OF CELINA DETAILS

\* Not Included In This Set



**RECORD DRAWING**

THIS DRAWING HAS BEEN MODIFIED FROM THE ORIGINAL TO SHOW ONLY THE FIELD CHANGES AND ADJUSTMENTS MADE DURING CONSTRUCTION BY THE CONTRACTOR WHICH WERE DOCUMENTED AND FURNISHED TO THE ENGINEER FOR THE PURPOSE OF PREPARING THESE RECORD DRAWINGS. FIELD INSPECTION OF CONSTRUCTION WAS PERFORMED BY OTHERS. TO THE BEST OF OUR KNOWLEDGE AND UNDERSTANDING THESE RECORD DRAWINGS REPRESENT THE 'AS-BUILT' CONDITIONS.

RECORD DRAWINGS

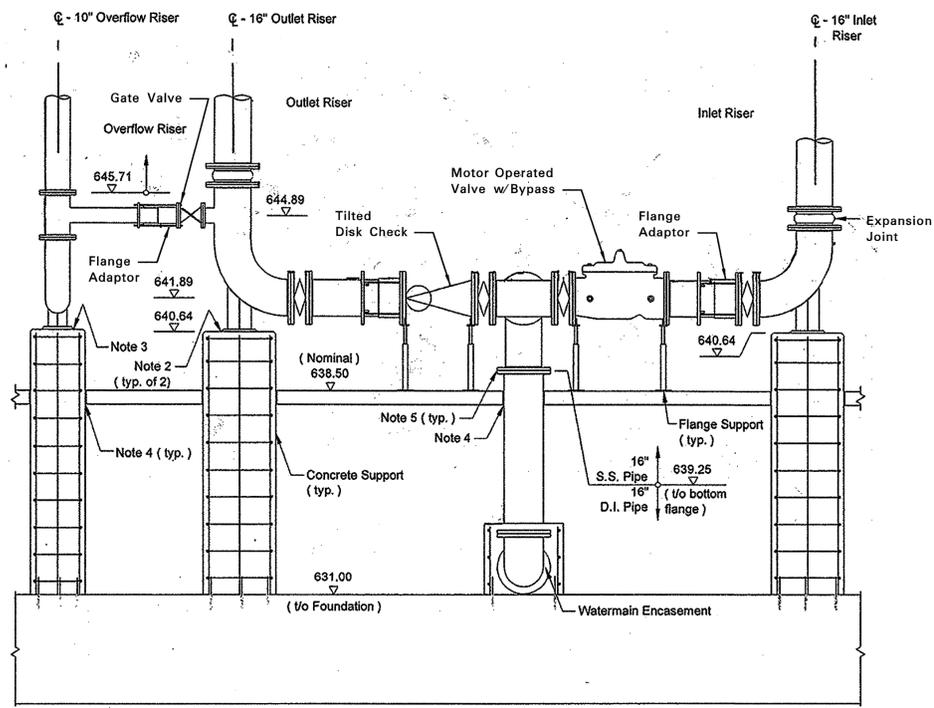
JULY, 2009









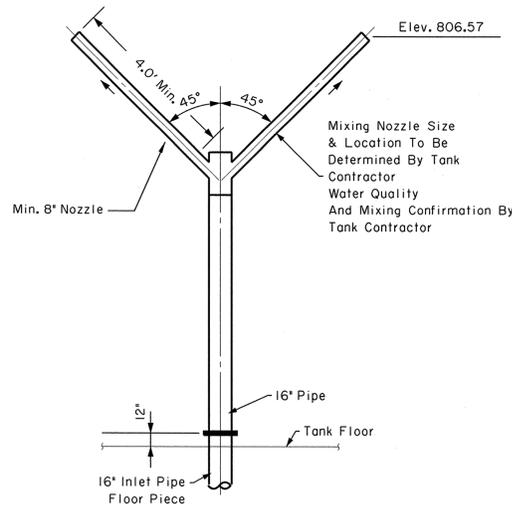


Section A - A

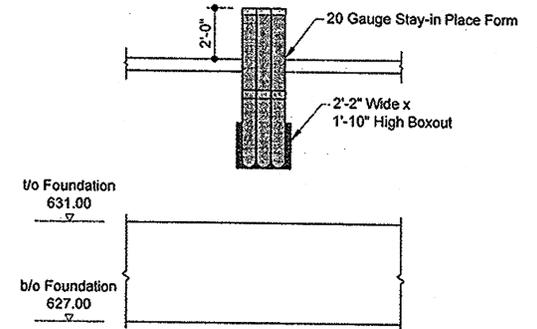
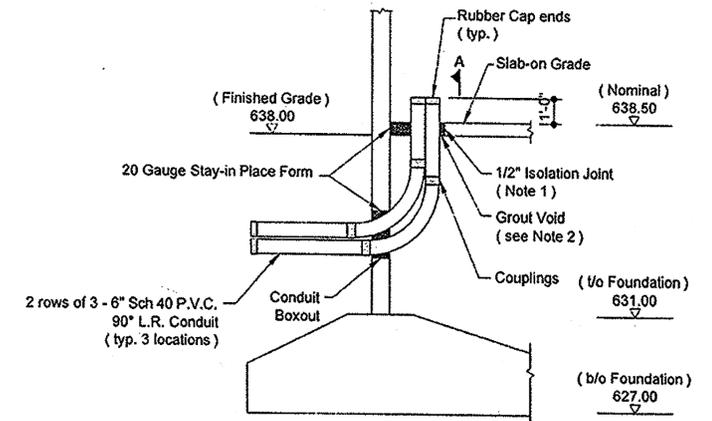
**MECHANICAL PIPING SECTION VIEW**  
N.T.S.

**NOTES:**

- Support base plate with 1" nonshrink grout. Install 4 pc's 5/8" expansion anchors.
- Support base plate with 1" nonshrink grout. Install 4 pc's 1/2" expansion anchors.
- 1/2" expansion joint cap strip with self leveling sealant.
- Provide flange isolation gasket / sleeves / washers at pipe material change.



**TANK MIXING ASSEMBLY SECTION VIEW**  
N.T.S.

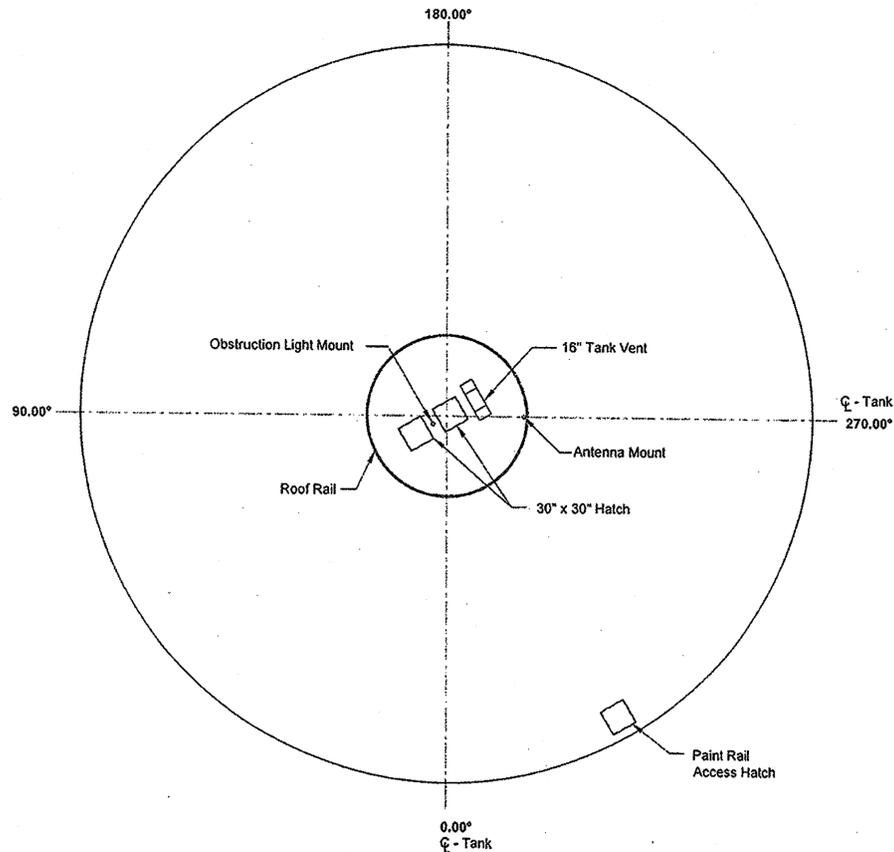


Section 'A'

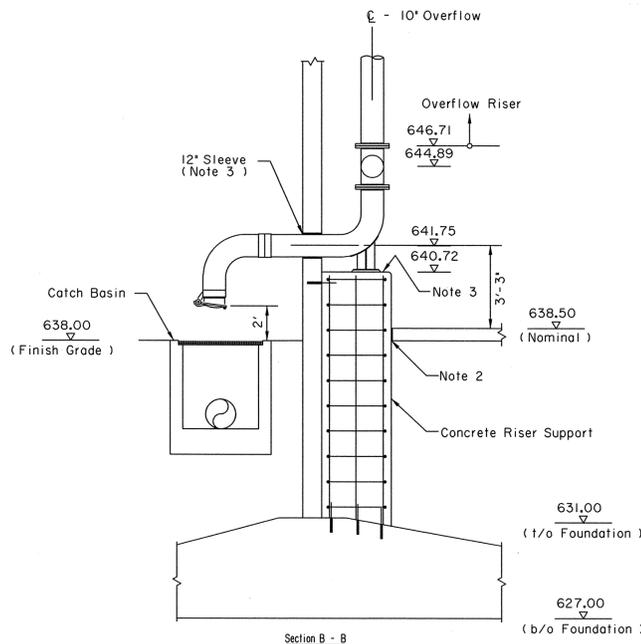
**NOTES:**

- Blockout Slab on Grade @ Conduit locations. Maintain continuity of isolation joint. Fill with concrete.
- Grout void with min. 3000 psi strength grout.

**CONDUIT SLEEVE DETAIL**  
N.T.S.



**ROOF PLAN**  
N.T.S.



Section B - B

**SIDE VIEW OVERFLOW DRAINAGE**  
N.T.S.

**NOTES:**

- 1/2" expansion joint cap strip with self leveling sealant.
- Support base plate with 1" nonshrink grout. Install 4 pc's 1/2" expansion anchors.
- Grout void after pipe installation.



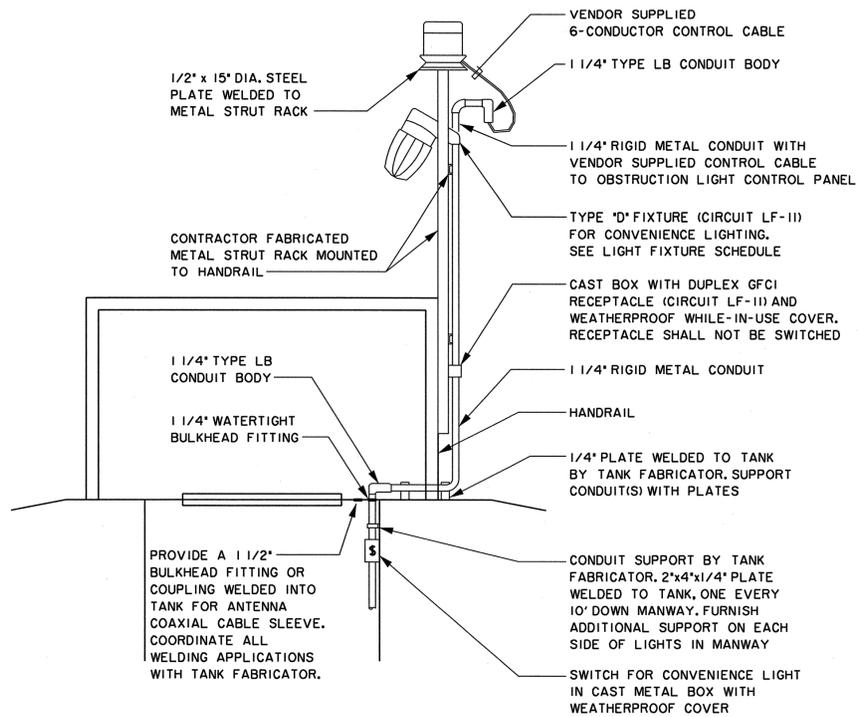
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WATER TOWER PLAN - DETAILS						
LIGHT FARMS						
ELEVATED WATER STORAGE TANK						
CITY OF CELINA, TEXAS						
HUITT-ZOLIARS						
DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
KNC	RLP		NTS		01-3905-05	7

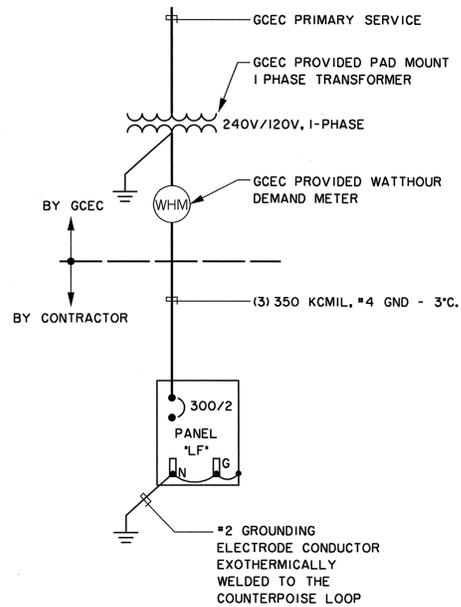




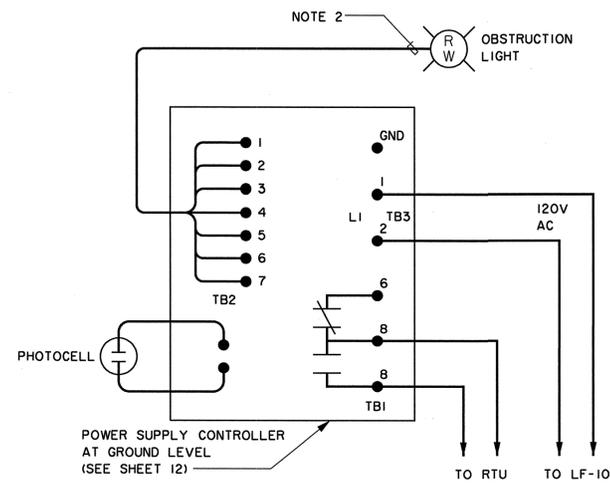




**1 TANK TOP ELECTRICAL DETAIL**  
SCALE: NO SCALE



**2 ONE-LINE DIAGRAM**  
SCALE: NO SCALE

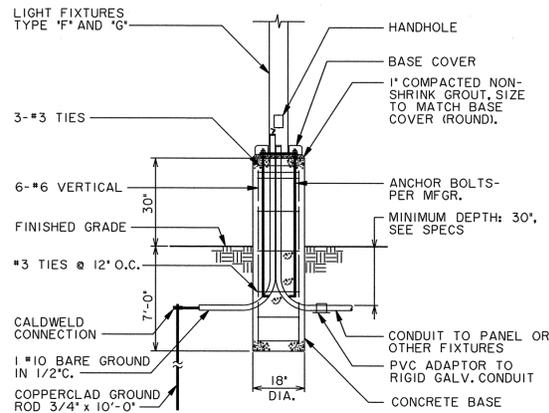


- NOTES:
- REFER TO OBSTRUCTION LIGHT VENDOR DETAILS.
  - FURNISH AND INSTALL VENDOR SUPPLIED MULTI-CONDUCTOR CABLE IN 1 1/4" CONDUIT PER VENDOR INSTALLATION REQUIREMENTS.

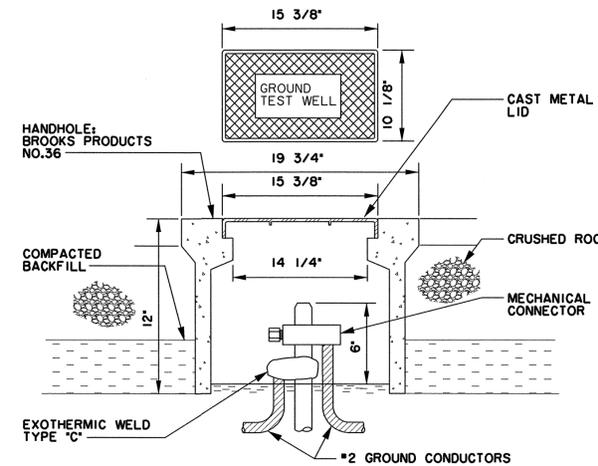
**3 OBSTRUCTION LIGHTS CONTROL SCHEMATIC**  
SCALE: NO SCALE

PANEL LF			PHASE 1		PHASE 2		PHASE 3		TOTAL	
CIRC. NO.	TRIP AMPS	NO. POLES	LOAD SERVED	PH. LOAD-VA	PH. LOAD-VA	PH. LOAD-VA	LOAD SERVED	PH. LOAD-VA	PH. LOAD-VA	PH. LOAD-VA
1	20	1	GROUND FLOOR RECEPTACLES	1000			JIB CRANE	2	20	1
3	20	1	SECOND FLOOR RECEPTACLES	1200			SPARE	4	20	1
5	20	1	FIRST FLOOR AND EXTERIOR LIGHTING	1390			EXTERIOR TANK AND ENTRY GATE LTG	6	20	
7	20	1	SECOND FLOOR LIGHTING	1510			SPARE	8	20	2
9	20	1	SECOND FLOOR LADDER & CONV. LTG	1575			FAA OBSTRUCTION LIGHT CONTROLLER	10	20	1
11	20	1	LADDER & CONV. LTG CONV. RECEPTACLES	850			SECURITY CAMERA	12	20	1
13	20	1	IRRIGATION CONTROLLER	1200			RTU/SCADA PANEL	14	20	1
15	40		UNIT HEATER	3750	800		RTU/SCADA PANEL	16	20	1
17	2			3750	500		RESIDUAL ANALYZER	18	20	1
19	40		UNIT HEATER	3750	1440		GATE OPERATOR	20	20	
21	2			3750				22	20	2
23	20	1	SPARE				SPARE	24	20	1
25	20	1	SPARE				SPARE	26		
27	20	1	SPARE				SPARE	28		
29	20	1	SPARE				SPARE	30		
31								32		
33								34		
35								36		
37								38		
39								40		
41								42		
TOTAL CONNECTED LOAD			35	19,565	15,930			DEMAND LINE AMPS		146
ESTIMATED DEMAND LOAD			4	17,790	12,990			(PER NEC)		

LIGHT FIXTURE SCHEDULE				
TYPE	DESCRIPTION	LAMPS	MANUFACTURER	REMARKS
A	INTERIOR LADDER AND ACCESS TUBE LIGHTS WITH DIE CAST BACK BOX	(2) 42W COMPACT FLUORESCENT	DAYBRITE *VSP42CDDTBKLP	MOUNT AS SHOWN OR CALLED OUT ON THE PLANS
AI	SIMILAR TO TYPE 'A' EXCEPT WITH EMERGENCY BALLAST	(2) 42W COMPACT FLUORESCENT	DAYBRITE *VSP42CDDTBKLPDL940/E	SAME AS TYPE 'A'
B	EXTERIOR WALL PACK DOOR LIGHTS WITH PHOTO CONTROL	70 WATT METAL HALIDE	DAYBRITE *WCS070MI2LP PHOTO CONTROL *PEC-MT	MOUNT EXTERIOR DOOR LIGHTS 10' ABOVE GRADE
C	MOTION ACTIVATED SECURITY LIGHT	(2) 150 WATT PAR 38	DAYBRITE *NPL-BR	MOUNT AT 10' ABOVE FINISHED GRADE PROVIDE 2-150 WATT PAR 38 LAMPS
D	STANCHION MOUNT LIGHT WITH GLOBE AND GUARD	150 WATT INCANDESCENT	CROUSE-HINDS *VXHA45GP	STANCHION MOUNT WITH 1 1/4" RIGID METAL CONDUIT AS SHOWN ON DETAIL I OF THIS SHEET.
E	EXIT LIGHT		MCPHILBEN *ER60MLIRB	
EI	DOUBLE-HEAD DIE-FORMED STEEL EMERGENCY LIGHT WITH REMOTE HEAD WHERE INDICATED	(2-3) 30 WATT TUNGSTEN-SEALED BEAM	MCPHILBEN *ES12L-100-W-PAWG REMOTE HEAD AND PLATE *MCH-MPIW	
F	POLE MOUNTED SERIES 3100 FOR TANK ILLUMINATION	400 WATT METAL HALIDE	ABS LIGHTING *S100-XN-400MH-240V-BD-Y3F-PRBI-BZE POLE : KW INDUSTRIES, INC. *RSP28-4.5-11-K813-2-BC	AIM FIXTURES AND ADJUST BARN DOORS IN THE FIELD AS NECESSARY TO CONCENTRATE ILLUMINATION ON THE VERTICAL SURFACE OF THE STORAGE TANK.
G	POLE MOUNTED ENTRY GATE LIGHT	250 WATT PULSE START METAL HALIDE	EMCO LIGHTING *ECA18-1-3H-250PSMH-240-BRP-PCT POLE *SRS-25-5-DI-BRP	
H	GROUND FLOOR, CEILING MOUNTED INDUSTRIAL FLUORESCENT FIXTURE WITH WIRE GUARD	(3) 32 WATT T8	DAYBRITE *HDL-3-32-120-EB101 WIRE GUARD *HBI-173	
I	OBSTRUCTION LIGHT	XENON-SPECIAL	HONEYWELL FLASHGUARD 3000B	FAA TYPE L-864/L-865. PROVIDE CONTROL CABLE, PART #77-4017-4 AT REQUIRED LENGTH
J	GROUND FLOOR WALL MOUNTED FIXTURES	(1) 400 WATT METAL HALIDE	DAYBRITE *WLR400MI2-LP	MOUNT AT 18' ABOVE FINISHED FLOOR



**4 LIGHT FIXTURE BASE DETAIL**  
SCALE: NO SCALE



**5 GROUNDING TEST WELL DETAIL**  
SCALE: NO SCALE

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ELEVATED WATER STORAGE TANK						
CITY OF CELINA, TEXAS						
HUITT-ZOLLARS						
DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZ1	HZ1		NTS		01-3905-05	11