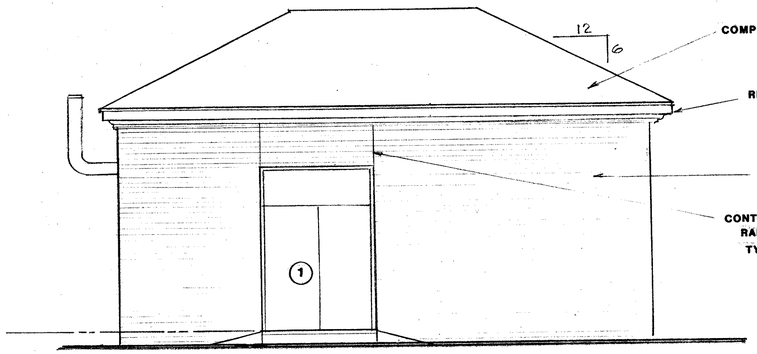
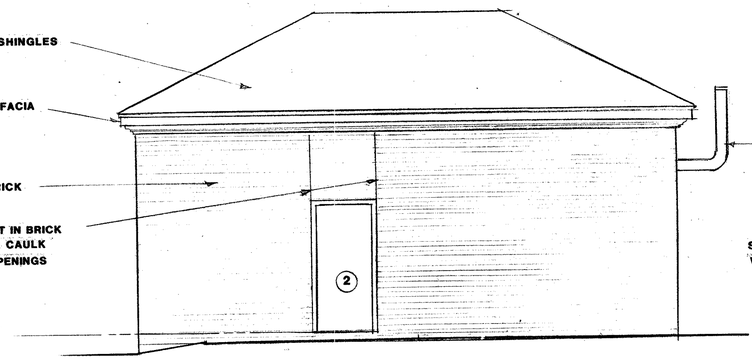
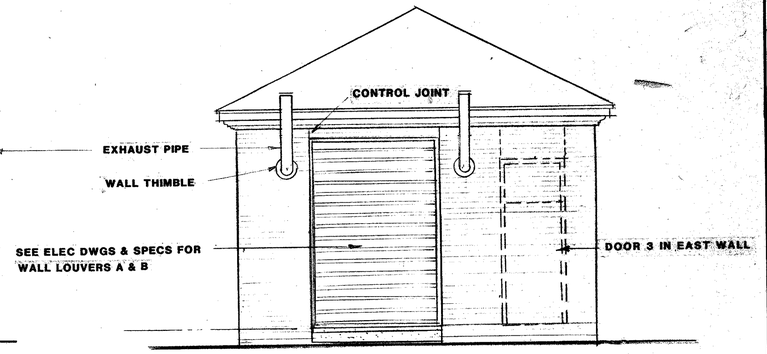


SOUTH ELEVATION

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

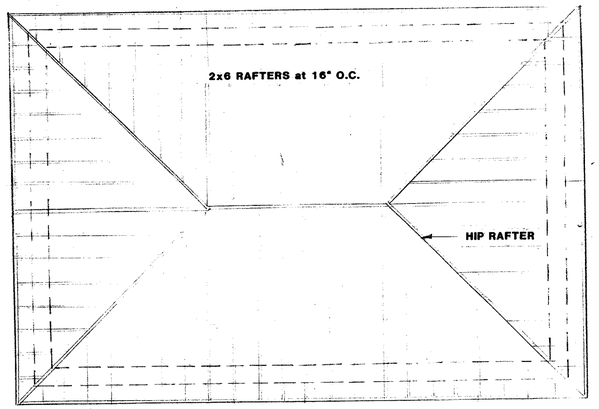


NORTH ELEVATION

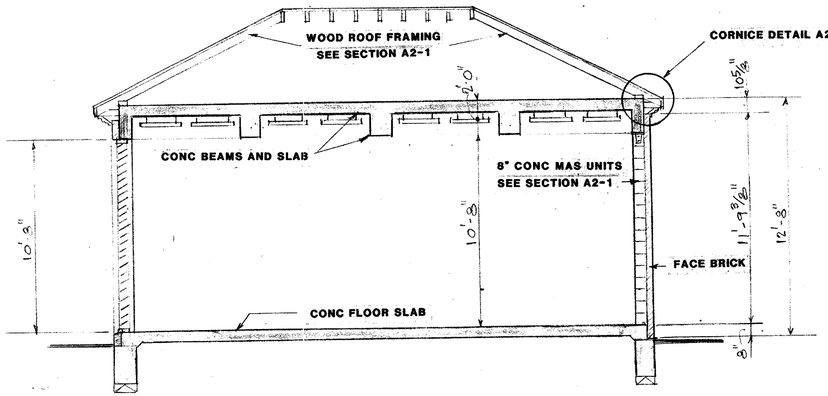


WEST ELEVATION

EAST ELEVATION Opposite Hand



ROOF FRAMING PLAN



SECTION A1-1

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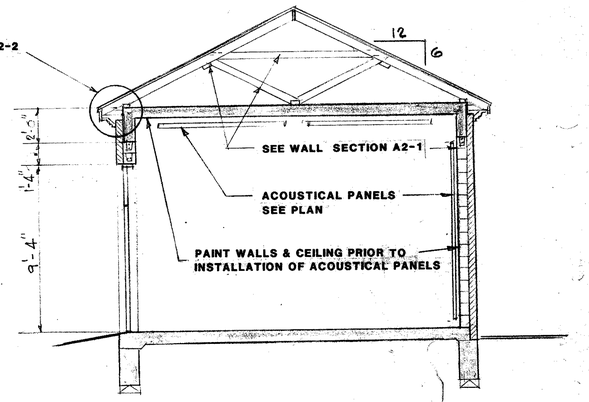
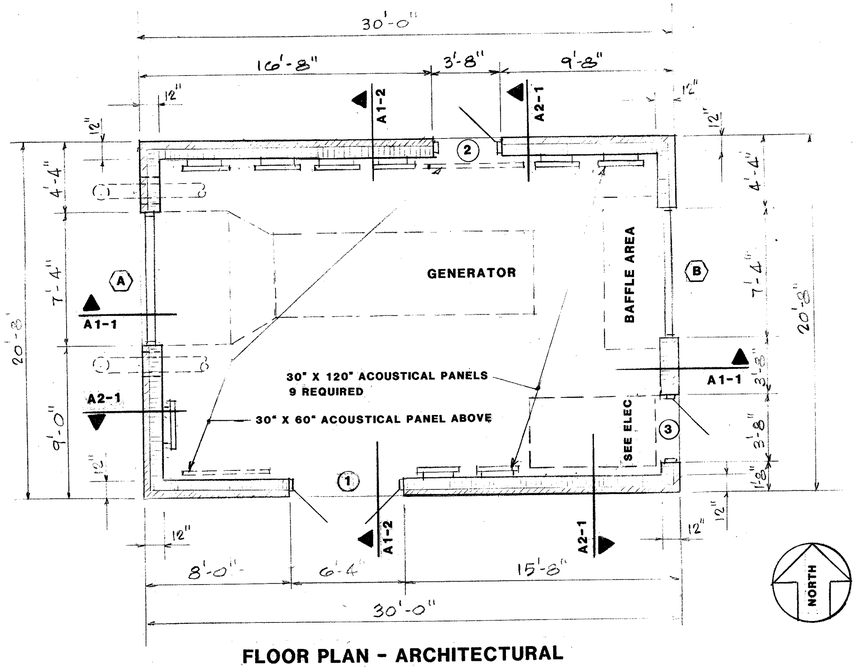
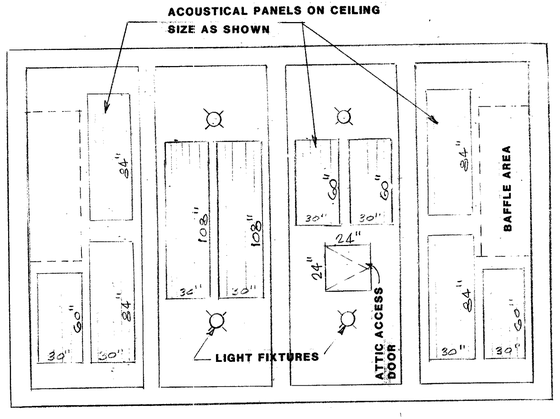


SECTION A1-2

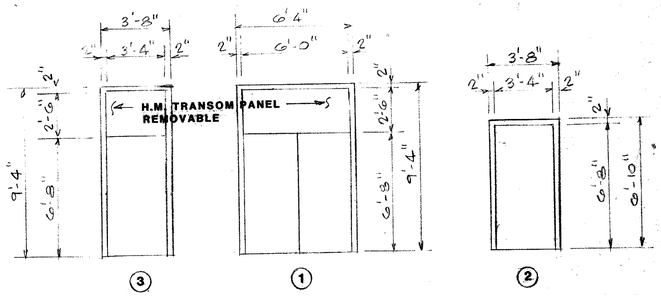


FLOOR PLAN - ARCHITECTURAL

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



REFLECTED CEILING PLAN - ARCHITECTURAL



HOLLOW METAL DOORS & FRAMES SOUND RETARDANT - STC 52

DOOR SCHEDULE

REGISTERED ARCHITECT
3288
STATE OF TEXAS

2-10-98

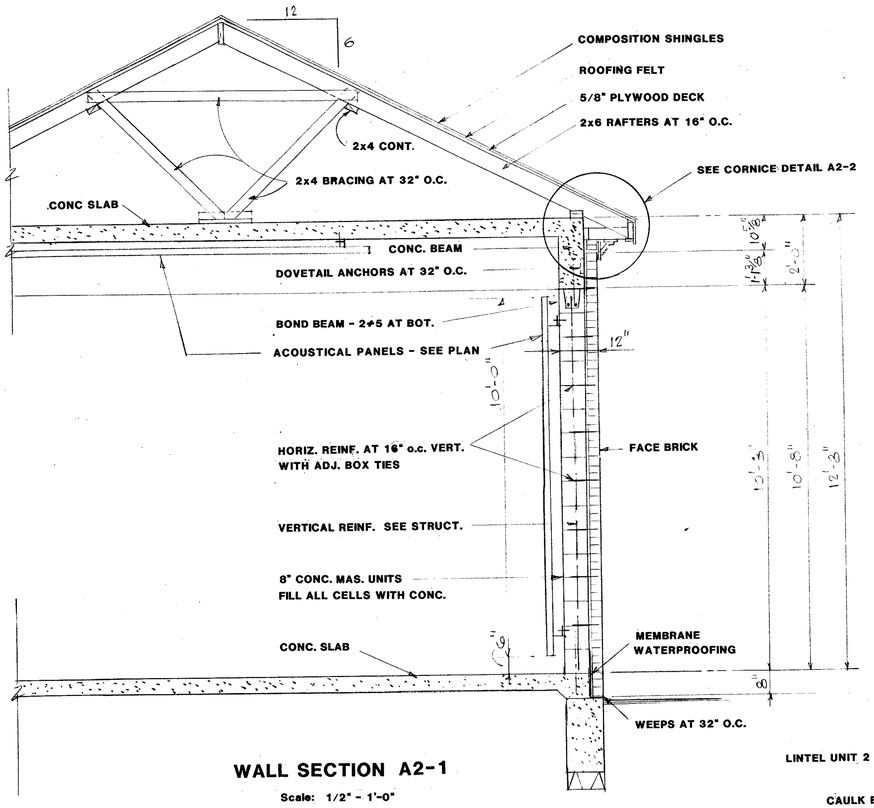
TOWN OF ADDISON, TEXAS

CELESTIAL ROAD PUMP STATION ADDITIONS

GENERATOR BUILDING

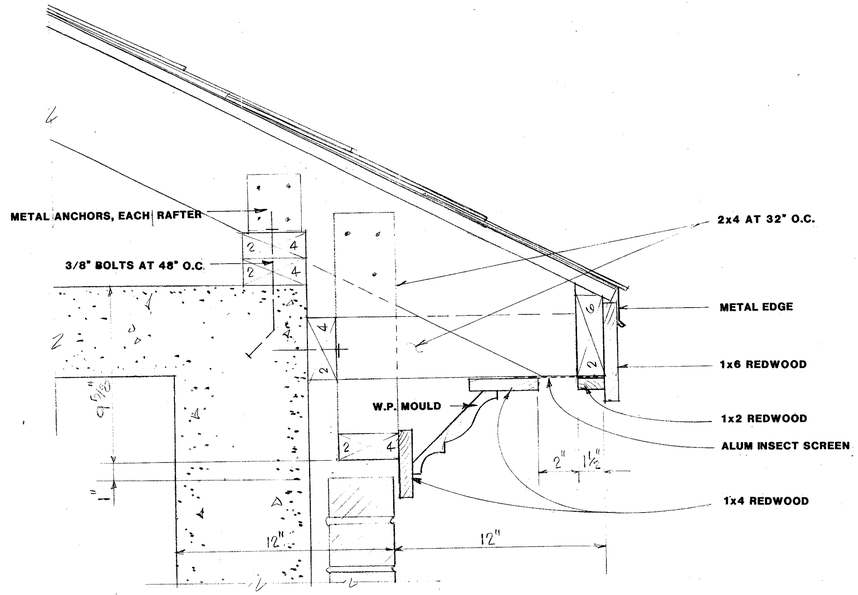
SHIMEK, JACOBS & FINKLEA, L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

DESIGNED BY		PROJECT 97 180	SHEET NO. A1
DRAWN BY	HGM	DATE FEBRUARY 1998	OF SHEETS



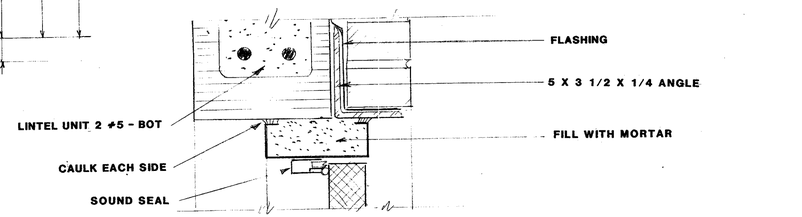
WALL SECTION A2-1

Scale: 1/2" - 1'-0"

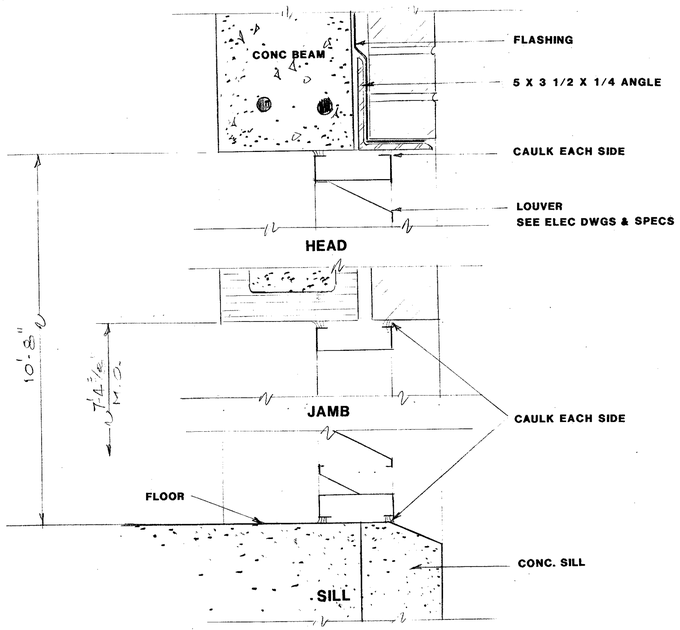


CORNICE DETAIL A2-2

Scale: 3" - 1'-0"

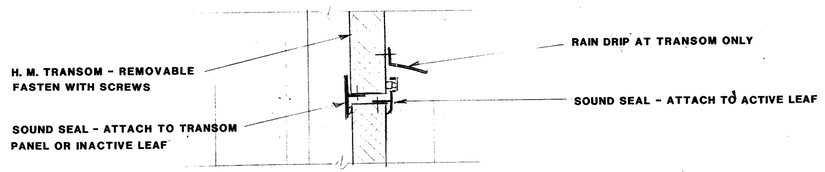


HEAD

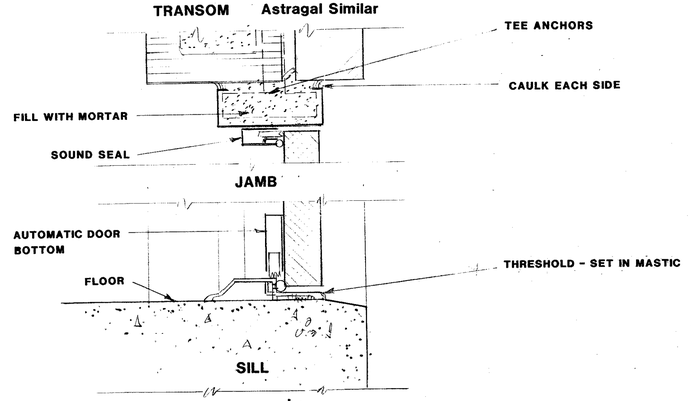


DETAIL - LOUVERS A & B

Scale: 3" - 1'-0"



TRANSOM Astragal Similar



DETAILS - DOORS 1, 2 & 3

2-10-98

TOWN OF ADDISON, TEXAS

CELESTIAL ROAD PUMP STATION ADDITIONS

GENERATOR BUILDING

SHIMEK, JACOBS & FINKLEA, L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

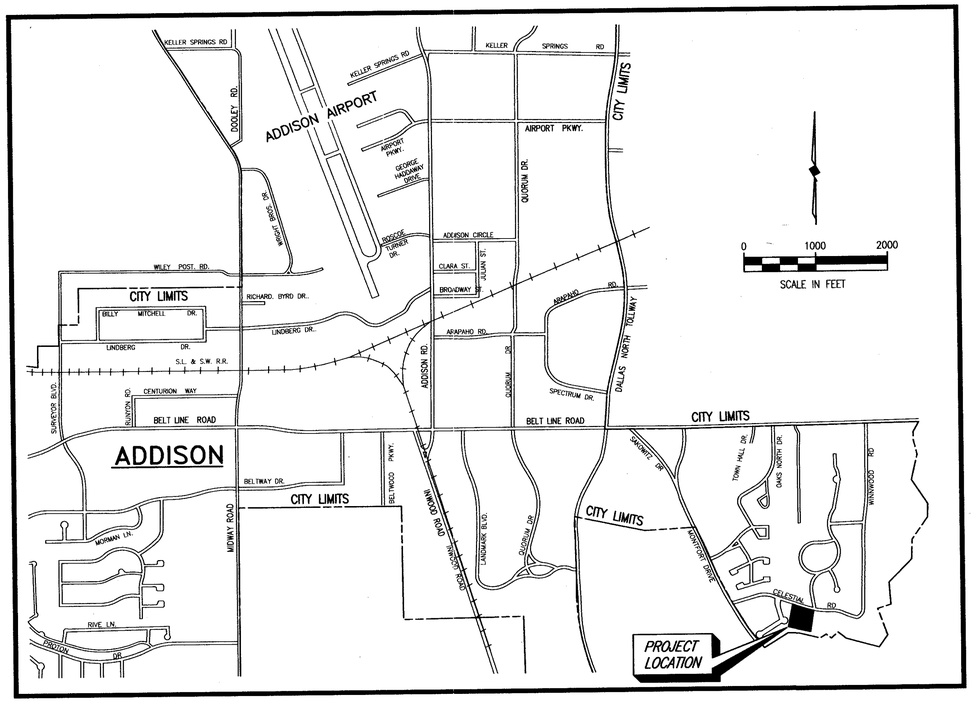
DESIGNED BY	PROJECT 97 180	SHEET NO. A2
DRAWN BY HGM	DATE FEBRUARY, 1998	OF SHEETS

B8-2

TOWN OF ADDISON, TEXAS

CONSTRUCTION PLANS FOR

CELESTIAL ROAD PUMP STATION ADDITIONS PUMPS 2 AND 4 & EMERGENCY GENERATORS



LOCATION MAP

THESE PLANS REFLECT ALL CHANGE ORDERS AND ADDENDA ISSUED TO THE DATE 12 FEB. 1998

▲1 ADDENDUM NO. 1

②2 ADDENDUM NO. 2

CONSTRUCTION SET
ISSUED BY
TOWN OF ADDISON
PUBLIC WORKS DEPARTMENT
NAME: Jeff Hawkins DATE: 3-23-98

SHEET INDEX

PREPARED BY

SHIMEK, JACOBS & FINKLEA, L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

JANUARY 1998

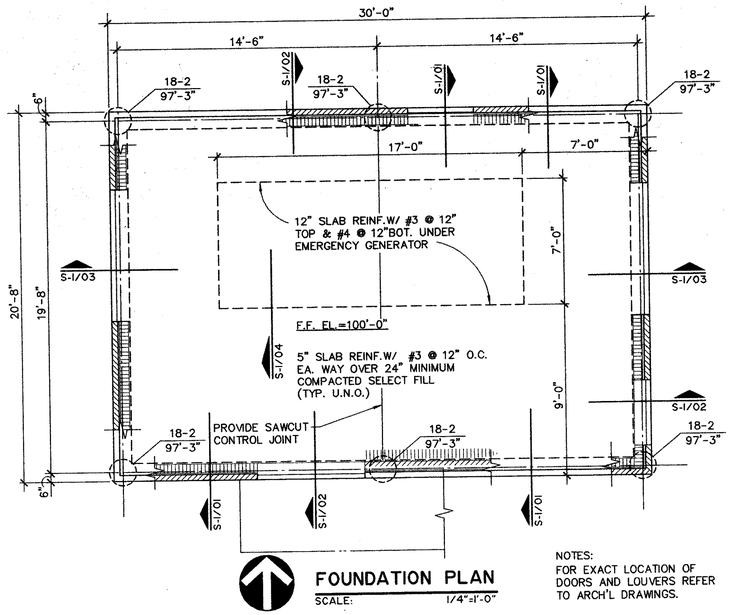
THESE DOCUMENTS ARE FOR BIDDING, CONSTRUCTION, AND PERMIT PURPOSES.
DATE: 2/11/98

STATE OF TEXAS
JOHN W. BIRKHOFF
54137
REGISTERED
PROFESSIONAL ENGINEER

REVISED 02/12/98 GAD 97180-00.DWG SCALE: 1=1 BLOCKS: LOCATION, INDEX

Celestial Pumps + Generator 3/98

B8-2

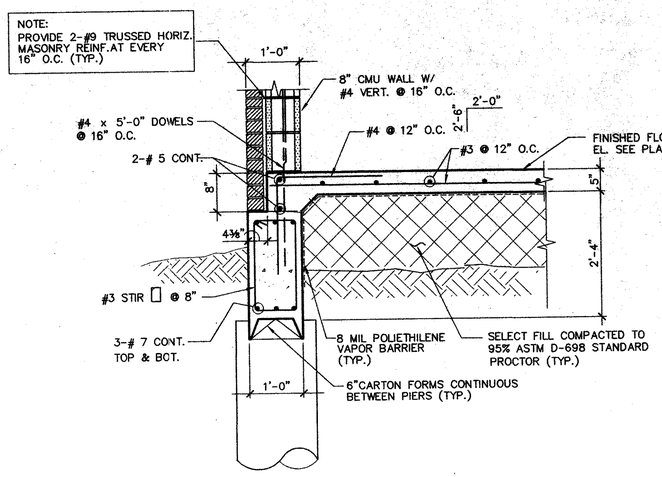


FOUNDATION PLAN

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

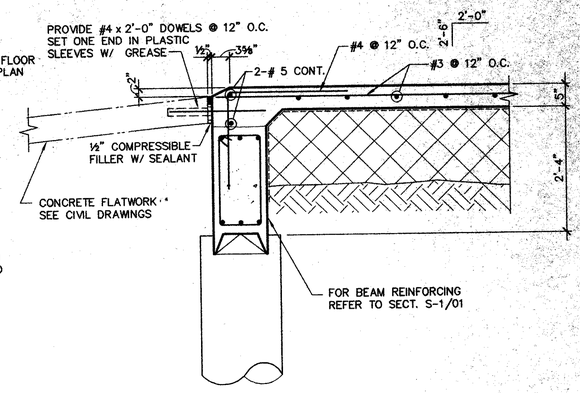
PLAN NORTH

NOTES:
FOR EXACT LOCATION OF DOORS AND LOUVERS REFER TO ARCH'L DRAWINGS.



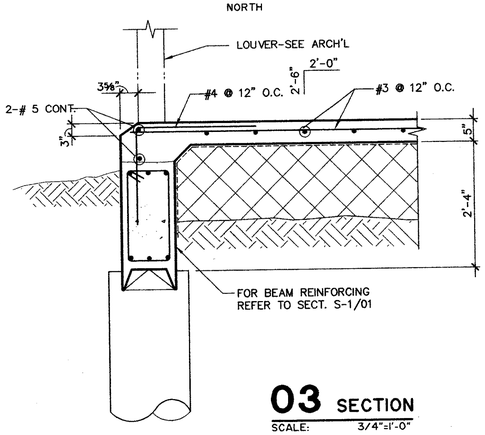
01 SECTION

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



02 SECTION

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



03 SECTION

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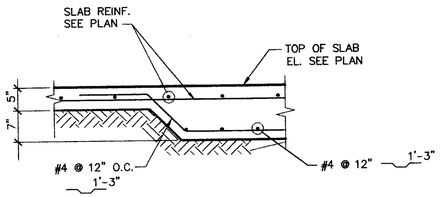
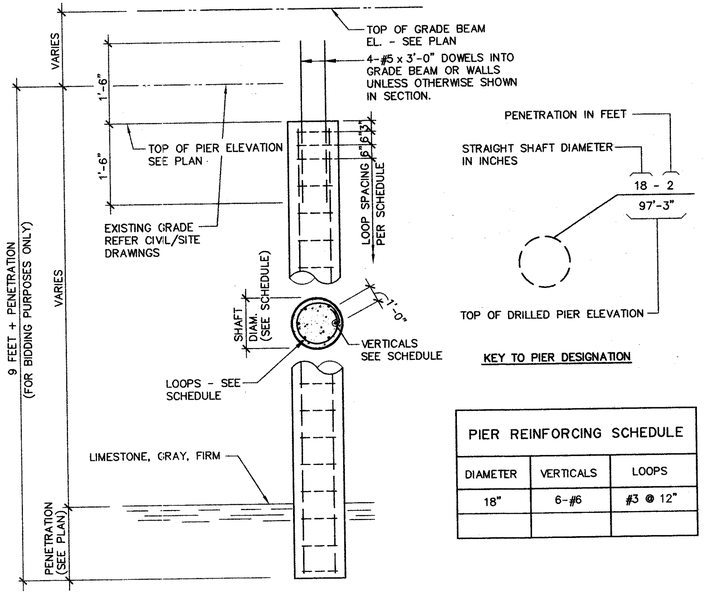


04 SECTION

SCALE: SCALE



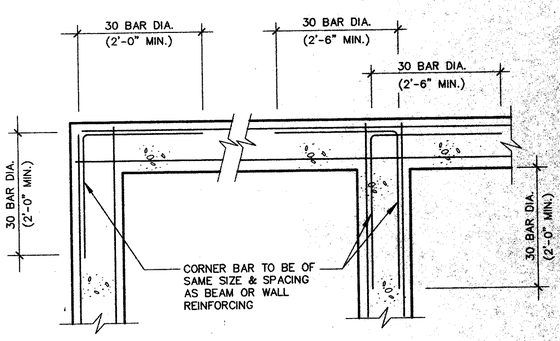
STRAIGHT SHAFT DRILLED PIER

05 TYPICAL DETAIL

NO SCALE

KEY TO PIER DESIGNATION

PIER REINFORCING SCHEDULE		
DIAMETER	VERTICALS	LOOPS
18"	6-#6	#3 @ 12"



CORNER BARS AT WALLS AND BEAMS

06 TYPICAL DETAIL

NO SCALE

TOWN OF ADDISON, TEXAS

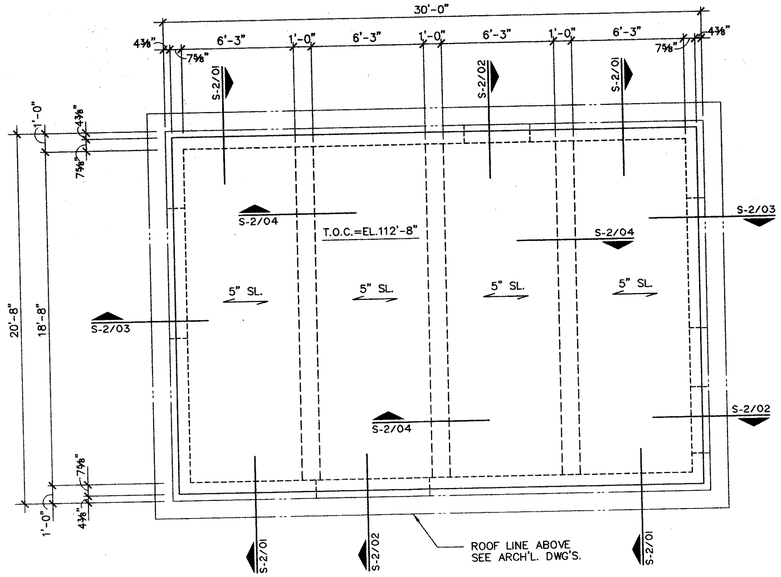
CELESTIAL ROAD PUMP STATION ADDITIONS

GENERATOR BUILDING

SHIMEK, JACOBS & FINKLEA, L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

DESIGNED BY:	J.O.M.	PROJECT: 97 180	SHEET NO. S-1
DRAWN BY:	J.O.M.	DATE: FEBRUARY, 1998	OF SHEETS

P:\1998\98-104\STRUCT\98104S1.DWG / SC: 1/4"=1'-0" / FEB 10, 1998 / 4:43 PM

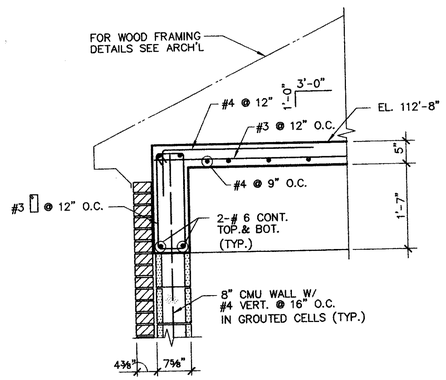


ROOF FRAMING PLAN

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

PLAN NORTH

T.O.C.= TOP OF CONCRETE



01 SECTION

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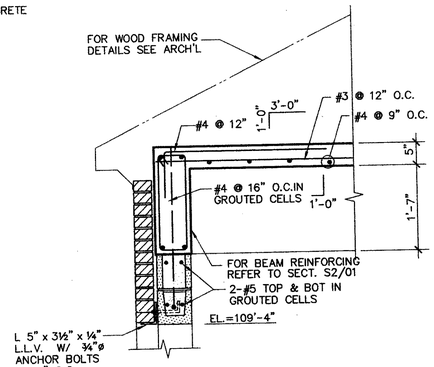

02 SECTION

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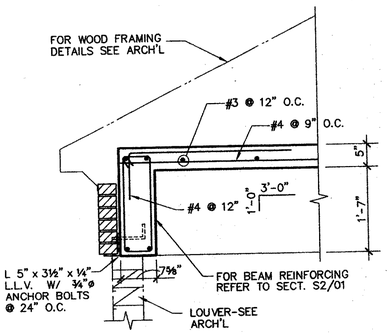
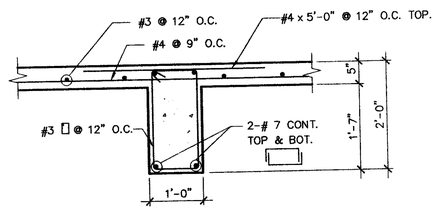


03 SECTION

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



04 SECTION

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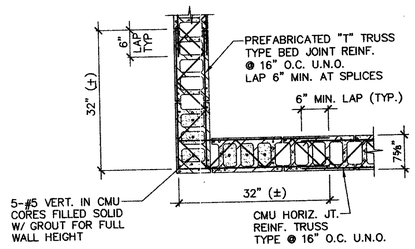


CMU BED JOINT REINF. AT WALL CORNERS

05 TYPICAL DETAIL

NO SCALE

GENERAL NOTES

DESIGN LOADS

1. GRAVITY LOADS:
   A. DESIGN UNIFORM LIVE LOADS ARE AS LISTED BELOW.

   UNIFORM LIVE LOADS
   ROOF = 20 PSF

   UNIFORM SUPERIMPOSED DEAD LOADS
   ROOF = 10 PSF WOOD FRAMING + 5 PSF ROOFING

2. WIND LOADS
   A. IN ACCORDANCE WITH UNIFORM BUILDING CODE, BASED ON A WIND SPEED OF 70 MPH AND EXPOSURE CLASS C.

FOUNDATION

1. FOUNDATION DESIGN IS BASED ON THE SOILS REPORT PREPARED BY JOHN H. HAYNES & ASSOCIATES, INC., JOB NO. 2882, DATED APRIL 24, 1985.

3. DESIGN END BEARING PRESSURE IS 50 KSF FOR DRILLED STRAIGHT-SHAFT PIERS WITH AT LEAST 7'-0" PENETRATION INTO FIRM GRAY LIMESTONE. DESIGN SKIN FRICTION IS 16 KSF FOR THE PORTION OF THE SHAFT EMBEDDED MORE THAN 4 FEET INTO FIRM GRAY LIMESTONE.

4. CAST CONCRETE WITHIN 8 HOURS OF DRILLING PIER SHAFT INTO BEARING STRATUM, AND IN NO CASE SHALL THE PIER EXCAVATION REMAIN OPEN OVERNIGHT.

5. SUBGRADE PREPARATION UNDER BUILDING SLAB ON GROUND:

   A. REMOVE THE UPPERMOST 6" OF SOIL AND STOCKPILE FOR USE ONLY AS TOP SOIL FOR FINAL GRADING.

   B. EXCAVATE AS REQUIRED FOR PLACEMENT OF SELECT FILL.

   C. BACKFILL BENEATH THE BUILDING WITH 2 FEET OF SELECT FILL. THE SELECT FILL SHALL BE LAYER COMPACTED IN 8 INCH MAXIMUM LOOSE THICKNESS TO A DRY DENSITY OF NOT LESS THAN 95% OF STANDARD PROCTOR (ASTM D-698) MAXIMUM DRY DENSITY. THE SOIL MOISTURE AT TIME OF COMPACTION SHALL BE WITHIN 3% OF THE MATERIAL'S OPTIMUM MOISTURE CONTENT. PLACE SELECT FILL AS SOON AS POSSIBLE OVER SUBGRADE TO LIMIT MOISTURE LOSS WITHIN THE UNDERLYING SOILS.

   D. SELECT FILL SHALL BE A UNIFORMLY BLENDED CLAYEY SAND HAVING A LIQUID LIMIT LESS THAN 30 AND A PLASTICITY INDEX (PI) BETWEEN 4 AND 15.

6. UNLESS SPECIFIED OTHERWISE, VAPOR BARRIER SHALL CONSIST PROVIDE 8 MIL POLYETHYLENE SHEET. TURN DOWN AT GRADE BEAMS AND PIERS. PROVIDE LAP AND SEAL AT ALL JOINTS. PATCH ALL TEARS PRIOR TO PLACING CONCRETE.

7. PROVIDE 6" CARTON FORMS UNDER ALL GRADE BEAMS.

8. ALL GRADE BEAMS SHALL BE FORMED ON BOTH SIDES. EARTH-FORMING IS NOT ACCEPTABLE.

9. IT MAY BE NECESSARY TO USE TEMPORARY CASING WHILE DRILLING THE PIERS IF UNDERGROUND WATER IS ENCOUNTERED.

10. IF TEMPORARY CASINGS ARE NECESSARY, EXTRACTION OF THE CASINGS SHALL BE DONE IN A MANNER THAT MAINTAINS A POSITIVE HEAD OF PLASTIC CONCRETE SO AS TO MINIMIZE THE POTENTIAL FOR INFILTRATION OF WATER SEEPAGE OR SLOUGHING SOILS.

REINFORCED CONCRETE

1. ALL STRUCTURAL CONCRETE SHALL BE OF NORMAL WEIGHT AGGREGATE WITH SPECIFIED PROPERTIES AS FOLLOWS:

	28 DAY STRENGTH	SLUMP	MAX. AGGREGATE
SLABS ON GROUND	– 3000 P.S.I.	5"	1"
GRADE BEAMS	– 4000 P.S.I.	5"	1"
ROOF BEAMS AND SLAB	– 4000 P.S.I.	5"	3/4"

2. REINFORCING STEEL SHALL CONFORM TO ASTM A-615, GRADE 60, U.N.O.

3. REINFORCING STEEL SPECIFICALLY NOTED TO BE TO BE SHOP OR FIELD WELDED SHALL CONFORM TO ASTM A-706, GRADE 60. WELDING OF OTHER REINFORCING STEEL IS NOT PERMITTED.

4. ALL REINFORCING SHALL LAP 36 BAR DIAMETERS AT SPLICES UNLESS NOTED OTHERWISE. HOOK CONTINUOUS BARS AT DISCONTINUOUS ENDS.

5. DETAILING OF CONCRETE REINFORCING AND ACCESSORIES SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ACI PUBLICATION 315.

6. UNLESS NOTED OTHERWISE, CONCRETE PROTECTION FOR MAIN REINFORCING STEEL SHALL BE AS FOLLOWS:

SLABS ON GROUND	CENTER IN SLAB
BEAMS AND WALLS ON EARTH	2" SIDES AND TOP, 3" BOTTOM
SUSPENDED BEAMS	2" SIDES, TOP AND BOTTOM
SUSPENDED SLABS	1" TOP, 3/4" BOTTOM

HOLLOW CONCRETE MASONRY

1. ALL HOLLOW CONCRETE BLOCK SHALL CONFORM WITH ASTM C90, TYPE N1, AND SHALL HAVE A COMPRESSIVE STRENGTH, BASED ON THE NET AREA AND AN AVERAGE OF 3 UNITS, OF 2000 PSI.

2. MORTAR FOR REINFORCED HOLLOW CONCRETE MASONRY SHALL BE TYPE S.

3. GROUT FOR REINFORCED HOLLOW CONCRETE MASONRY SHALL HAVE THE FOLLOWING PROPERTIES:

   A. MINIMUM STRENGTH = 3000 PSI AT 28 DAYS

   B. MAXIMUM COARSE AGGREGATE SIZE = 3/8"

   C. SLUMP = 7", +/-1".

   PLACE GROUT IN LIFTS OF 4'-0" OR LESS. GROUT ALL CELLS CONTAINING REINFORCING STEEL OR EMBEDDED METALS. DO NOT USE MORTAR AS GROUT.

4. PROVIDE HORIZONTAL JOINT REINFORCEMENT AT EVERY SECOND BLOCK COURSE UNLESS NOTED OTHERWISE.

5. PROVIDE 3-#5 VERTICALS IN GROUTED CELLS UNDER ALL CONCENTRATED LOADS.

TOWN OF ADDISON, TEXAS

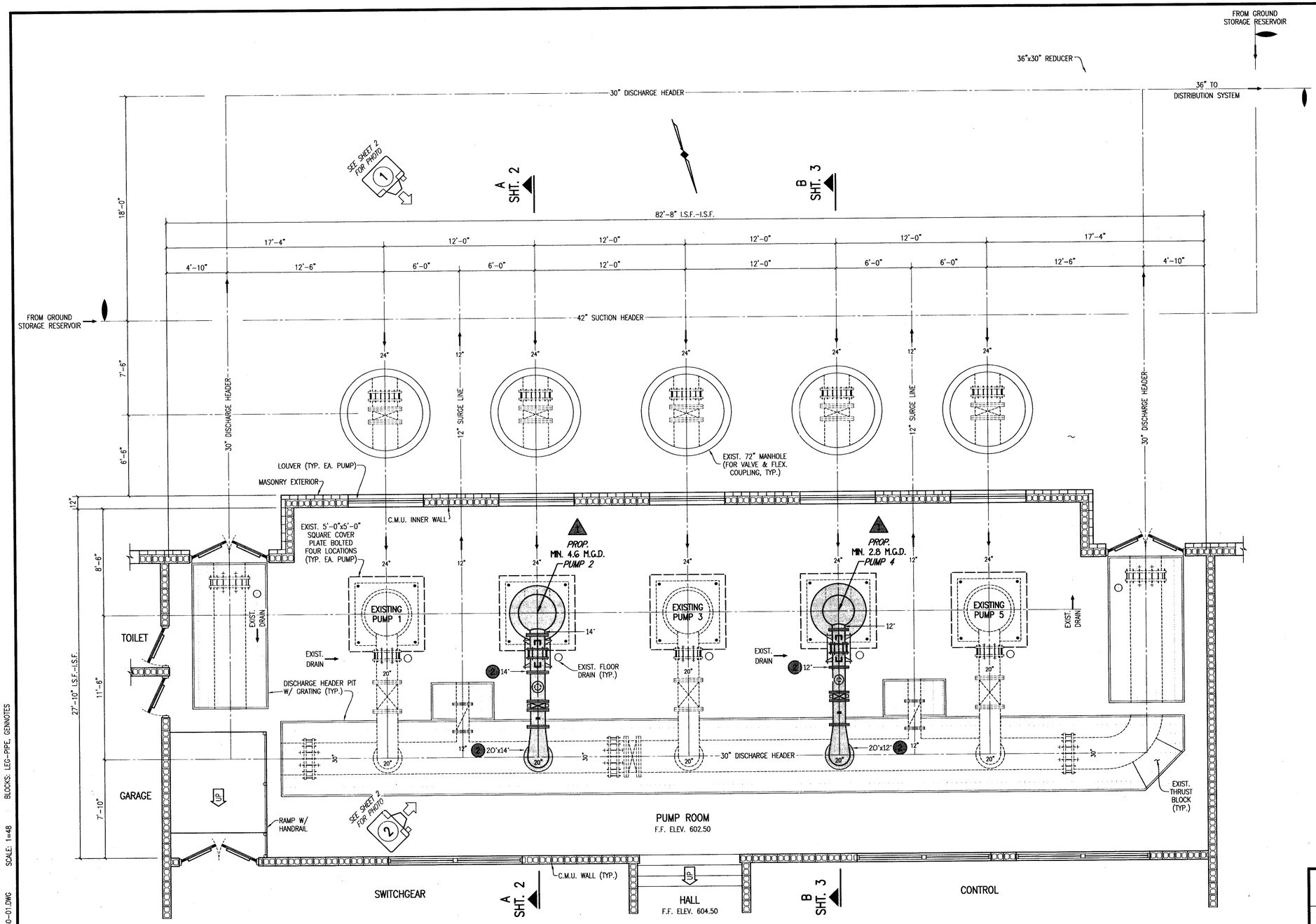
CELESTIAL ROAD PUMP STATION ADDITIONS

GENERATOR BUILDING

SHIMEK, JACOBS & FINKLEA, L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

CHARLES GOJER 33348 REGISTERED PROFESSIONAL ENGINEER STATE OF TEXAS 2-16-98

DESIGNED BY:	J.O.M.	PROJECT:	97 180	SHEET NO.	S-2
DRAWN BY:	J.O.M.	DATE:	FEBRUARY, 1998	OF	SHEETS



PROPOSED PUMP ROOM PIPING PLAN

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

GENERAL NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO COMMENCING CONSTRUCTION.

2. CONTRACTOR SHALL FURNISH & INSTALL NECESSARY PUMP BASE PLATE TO SUPPORT PUMP AND TO ATTAIN PROPER DISCHARGE HEADER CENTERLINE ELEVATION. FINISHED PUMP AND BASE PLATE SHALL BE WATERTIGHT AND NOT ALLOW ANY SEEPAGE INTO SUCTION HEADER WELL.

(2) 3. PROPOSED BUTTERFLY VALVES SHALL BE MOUNTED ON A SADDLE TYPE PIPE SUPPORT.

4. PRESSURE GAUGES SHALL BE 2 1/2" FACE DIAMETER, BE LIQUID FILLED, AND HAVE EXTERNAL ADJUSTMENT SCREWS FOR CALIBRATION. GAUGES SHALL BE MOUNTED TO GATE VALVE, WHICH THEN IS CONNECTED TO DISCHARGE HEADER PIPE.

5. ALL DRAINS FROM SUMP PUMP, PUMP CONTROL VALVE AND AIR RELEASE VALVE SHALL BE RUN INTO EXISTING FLOOR DRAINS. DRAIN LINES SHALL BE SCHEDULE 40 P.V.C. PIPE, 2" MIN. DIAMETER AND SHALL BE SECURELY ATTACHED.

6. PIPING AND FITTINGS SHALL BE STEEL OR DUCTILE IRON PIPE. ALL PIPE SHALL BE CEMENT MORTAR LINED. WORKING PRESSURE IS 120 p.s.i.

A. STEEL PIPE AND FITTINGS SHALL BE IN ACCORDANCE WITH THE FOLLOWING A.W.W.A. STANDARDS:
- C-200
- C-205
- C-206
- C-207
- C-208
- M-11

(2) B. DUCTILE IRON PIPE AND FITTINGS SHALL BE IN ACCORDANCE WITH THE FOLLOWING A.W.W.A. STANDARDS:
- C-151
- C-150
- C-115
- C-111
- C-110
- C-105
- C-104

C. ALL PIPING AND FITTINGS SHALL BE FROM A SINGLE MANUFACTURER.

D. PIPING SHALL HAVE FLANGED ENDS, EXCEPT AT THRUST HARNESS.

7. REMOVABLE SKYLIGHTS MAY BE USED TO INSTALL PUMPS AND MOTORS. IF USED, THE CONTRACTOR SHALL REPLACE ALL FLASHING AND MAKE UNITS WATERTIGHT. AFTER INSTALLATION OF THE SKYLIGHTS, A WATER HOSE SHALL BE TAKEN TO THE ROOF TO CHECK INITIAL WATERTIGHTNESS OF INSTALLATION.

PIPING FIXTURE LEGEND

- EXISTING PIPING FIXTURES
- EXISTING PIPING FIXTURES
- PROPOSED PIPING IMPROVEMENTS
- PROPOSED PIPING IMPROVEMENTS

BENCHMARK:
U.S.G.S. DISK IN BRICK WALL OF OLD ADDISON SCHOOL BUILDING (4 FEET ABOVE GROUND).
ELEV. 650.61

T.B.M.
RED PAINT MARK ON TOP OF GROUND STORAGE RESERVOIR.
ELEV. 600.00

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

DATE: 2/11/98

STATE OF TEXAS — JOHN W. BIRKHOFF — 54137 — REGISTERED PROFESSIONAL ENGINEER

TOWN OF ADDISON, TEXAS

CELESTIAL ROAD PUMP STATION ADDITIONS

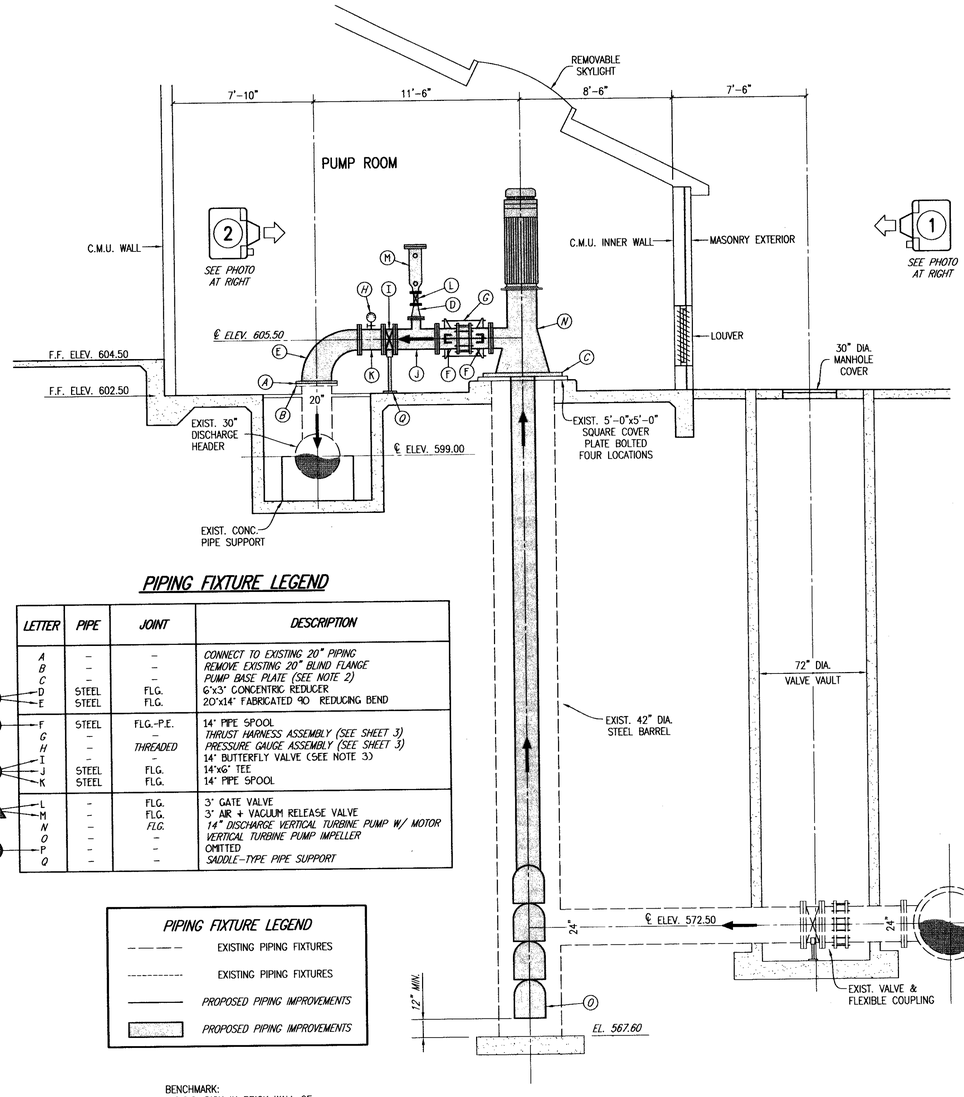
PUMP ROOM PIPING PLAN

SHIMEK, JACOBS & FINKLEA, L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

DESIGNED BY: J.W.B.	PROJECT: 97 180	SHEET NO. 1A
DRAWN BY: E.W.H.	DATE: JANUARY 1998	OF 14 SHEETS

REVISED 02/11/98 CAD 97180-01.DWG SCALE: 1=48 BLOCKS: LEG-PIPE, GENNOTES

(2) ADDENDUM NO. 2 ▲ ADDENDUM NO. 1



PIPING FIXTURE LEGEND

LETTER	PIPE	JOINT	DESCRIPTION
A	–	–	CONNECT TO EXISTING 20" PIPING
B	–	–	REMOVE EXISTING 20" BLIND FLANGE
C	–	–	PUMP BASE PLATE (SEE NOTE 2)
D	STEEL	FLG.	6"x3" CONCENTRIC REDUCER
E	STEEL	FLG.	20"x14" FABRICATED 90° REDUCING BEND
F	STEEL	FLG.-P.E.	14" PIPE SPOOL
G	–	–	THRUST HARNESS ASSEMBLY (SEE SHEET 3)
H	–	THREADED	PRESSURE GAUGE ASSEMBLY (SEE SHEET 3)
I	–	–	14" BUTTERFLY VALVE (SEE NOTE 3)
J	STEEL	FLG.	14"x6" TEE
K	STEEL	FLG.	14" PIPE SPOOL
L	–	FLG.	3" GATE VALVE
M	–	FLG.	3" AIR + VACUUM RELEASE VALVE
N	–	FLG.	14" DISCHARGE VERTICAL TURBINE PUMP W/ MOTOR
O	–	–	VERTICAL TURBINE PUMP IMPELLER
P	–	–	OMITTED
Q	–	–	SADDLE-TYPE PIPE SUPPORT

PIPING FIXTURE LEGEND

- EXISTING PIPING FIXTURES
- EXISTING PIPING FIXTURES
- PROPOSED PIPING IMPROVEMENTS
- PROPOSED PIPING IMPROVEMENTS

BENCHMARK:
U.S.G.S. DISK IN BRICK WALL OF OLD ADDISON SCHOOL BUILDING (4 FEET ABOVE GROUND).
ELEV. 650.61

T.B.M.
RED PAINT MARK ON TOP OF GROUND STORAGE RESERVOIR.
ELEV. 600.00

PIPING SECTION A–A

PROPOSED PUMP 2 - MIN. 4.6 M.G.D. ▲4
COLUMN LENGTH: 37.90 FEET
FROM DISCHARGE CENTERLINE
SCALE: 1/4" = 1'-0"

GENERAL NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO COMMENCING CONSTRUCTION.

2. CONTRACTOR SHALL FURNISH & INSTALL NECESSARY PUMP BASE PLATE TO SUPPORT PUMP AND TO ATTAIN PROPER DISCHARGE HEADER CENTERLINE ELEVATION. FINISHED PUMP AND BASE PLATE SHALL BE WATERTIGHT AND NOT ALLOW ANY SEEPAGE INTO SUCTION HEADER WELL.

● 3. PROPOSED BUTTERFLY VALVES SHALL BE MOUNTED ON A SADDLE TYPE PIPE SUPPORT.

4. PRESSURE GAUGES SHALL BE 2 1/2" FACE DIAMETER, BE LIQUID FILLED, AND HAVE EXTERNAL ADJUSTMENT SCREWS FOR CALIBRATION. GAUGES SHALL BE MOUNTED TO GATE VALVE, WHICH THEN IS CONNECTED TO DISCHARGE HEADER PIPE.

5. ALL DRAINS FROM SUMP PUMP, PUMP CONTROL VALVE AND AIR RELEASE VALVE SHALL BE RUN INTO EXISTING FLOOR DRAINS. DRAIN LINES SHALL BE SCHEDULE 40 P.V.C. PIPE, 2" MIN. DIAMETER AND SHALL BE SECURELY ATTACHED.

6. PIPING AND FITTINGS SHALL BE STEEL OR DUCTILE IRON PIPE. ALL PIPE SHALL BE CEMENT MORTAR LINED. WORKING PRESSURE IS 120 p.s.i.

A. STEEL PIPE AND FITTINGS SHALL BE IN ACCORDANCE WITH THE FOLLOWING A.W.W.A. STANDARDS:
C-200
C-205
C-206
C-207
C-208
M-11

● B. DUCTILE IRON PIPE AND FITTINGS SHALL BE IN ACCORDANCE WITH THE FOLLOWING A.W.W.A. STANDARDS:
C-151
C-150
C-115
C-111
C-110
C-105
C-104

C. ALL PIPING AND FITTINGS SHALL BE FROM A SINGLE MANUFACTURER.

D. PIPING SHALL HAVE FLANGED ENDS, EXCEPT AT THRUST HARNESS.

7. REMOVABLE SKYLIGHTS MAY BE USED TO INSTALL PUMPS AND MOTORS. IF USED, THE CONTRACTOR SHALL REPLACE ALL FLASHING AND MAKE UNITS WATERTIGHT. AFTER INSTALLATION OF THE SKYLIGHTS, A WATER HOSE SHALL BE TAKEN TO THE ROOF TO CHECK INITIAL WATERTIGHTNESS OF INSTALLATION.

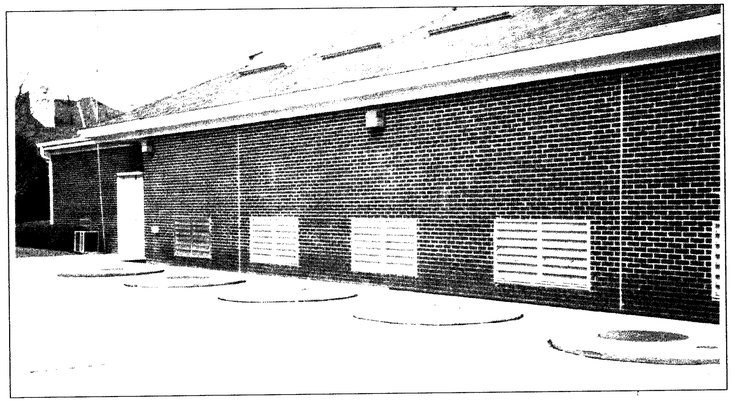


PHOTO 1 – PUMP STATION BUILDING SOUTH WALL
EXTERIOR VIEW OF WALL, LOUVERS & ROOF SKYLIGHTS

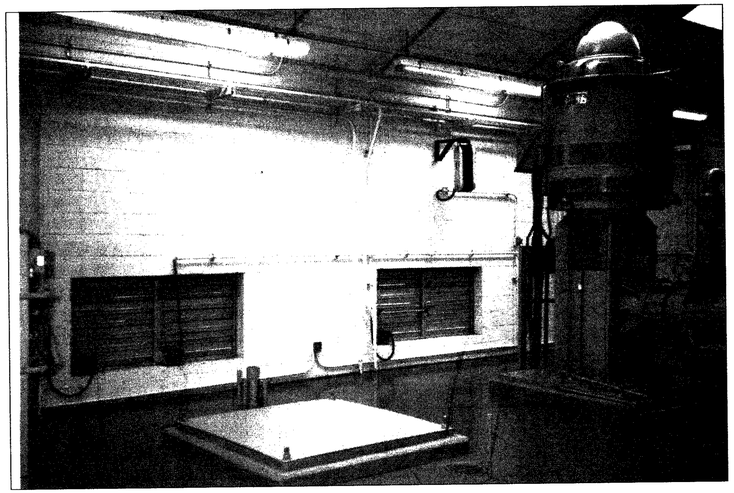


PHOTO 2 – PUMP STATION BUILDING SOUTH WALL
INTERIOR VIEW OF WALL, LOUVERS, PUMP PAD & COVER PLATE

THESE DOCUMENTS ARE FOR BIDDING, CONSTRUCTION, AND PERMIT PURPOSES.
DATE: 2/11/98

STATE OF TEXAS
JOHN W. BIRKHOFF
54137
REGISTERED PROFESSIONAL ENGINEER

TOWN OF ADDISON, TEXAS

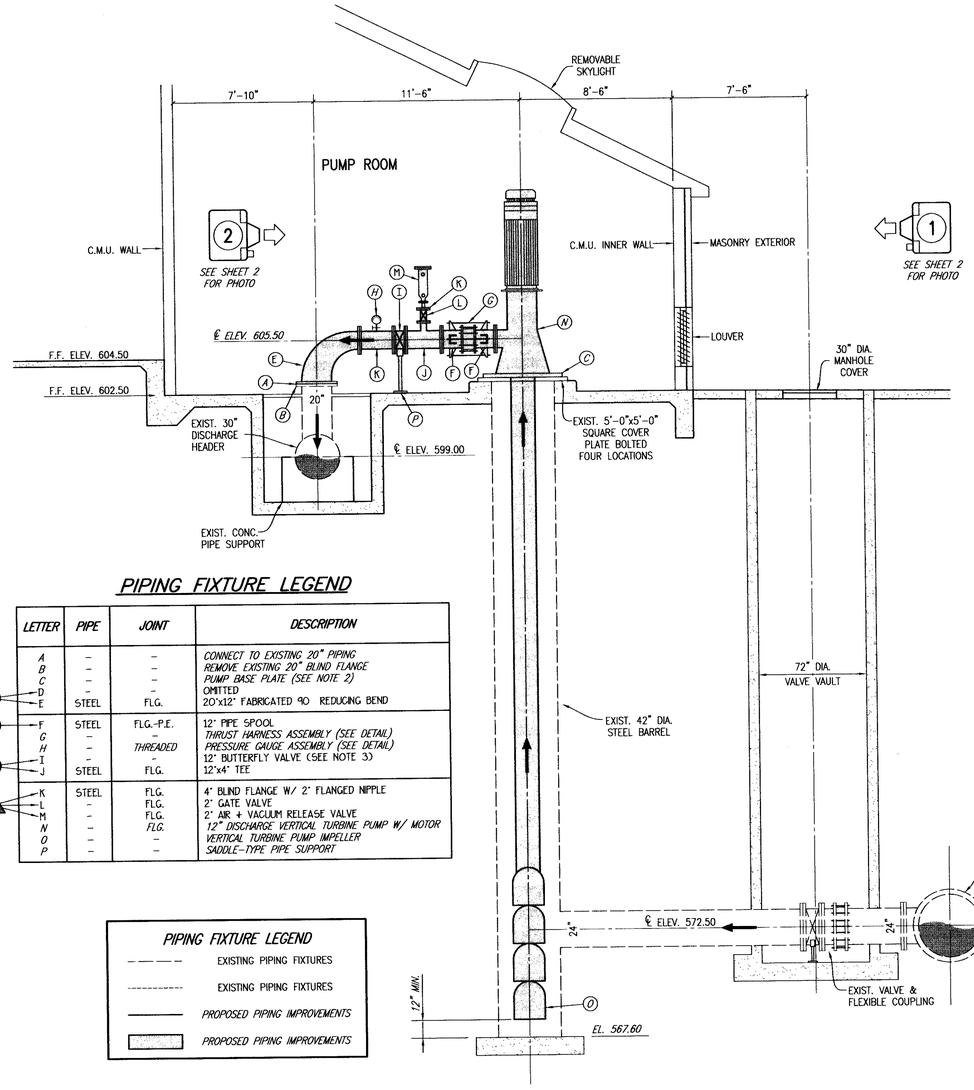
CELESTIAL ROAD PUMP STATION ADDITIONS
PIPING SECTION A–A

SHIMEK, JACOBS & FINKLEA, L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

DESIGNED BY: J.W.B.	PROJECT: 97 180	SHEET NO. 2▲
DRAWN BY: E.W.H.	DATE: JANUARY 1998	OF 14 SHEETS

● ADDENDUM NO. 2 ▲ ADDENDUM NO. 1

REVISED 02/12/98 GAD 97180-02.DWG SCALE: 1=48 BLOCKS: GENNOTES, LEG-PIPE, ADDISON1.TIFF, ADDISON2.TIFF



PIPING FIXTURE LEGEND

LETTER	PIPE	JOINT	DESCRIPTION
A	–	–	CONNECT TO EXISTING 20" PIPING
B	–	–	REMOVE EXISTING 20" BLIND FLANGE
C	–	–	PUMP BASE PLATE (SEE NOTE 2)
D	–	–	OMITTED
2 E	STEEL	FLG.	20"x12" FABRICATED 90° REDUCING BEND
F	STEEL	FLG.-P.E.	12" PIPE SPOOL
2 G	–	–	THRUST HARNESS ASSEMBLY (SEE DETAIL)
H	–	THREADED	PRESSURE GAUGE ASSEMBLY (SEE DETAIL)
I	–	–	12" BUTTERFLY VALVE (SEE NOTE 3)
2 J	STEEL	FLG.	12"x4" TEE
K	STEEL	FLG.	4" BLIND FLANGE W/ 2" FLANGED NIPPLE
1 L	–	FLG.	2" GATE VALVE
M	–	FLG.	2" AIR + VACUUM RELEASE VALVE
N	–	FLG.	12" DISCHARGE VERTICAL TURBINE PUMP W/ MOTOR
O	–	–	VERTICAL TURBINE PUMP IMPELLER
P	–	–	SADDLE-TYPE PIPE SUPPORT

PIPING FIXTURE LEGEND

- EXISTING PIPING FIXTURES
- EXISTING PIPING FIXTURES
- PROPOSED PIPING IMPROVEMENTS
- PROPOSED PIPING IMPROVEMENTS

BENCHMARK:
U.S.G.S. DISK IN BRICK WALL OF OLD ADDISON SCHOOL BUILDING (4 FEET ABOVE GROUND).
ELEV. 650.61

T.B.M.
RED PAINT MARK ON TOP OF GROUND STORAGE RESERVOIR.
ELEV. 600.00

PIPING SECTION B-B

PROPOSED PUMP 4 - MIN. 2.8 M.G.D. 1
COLUMN LENGTH: 37.90 FEET
FROM DISCHARGE CENTERLINE
SCALE: 1/4" = 1'-0"

GENERAL NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO COMMENCING CONSTRUCTION.

2. CONTRACTOR SHALL FURNISH & INSTALL NECESSARY PUMP BASE PLATE TO SUPPORT PUMP AND TO ATTAIN PROPER DISCHARGE HEADER CENTERLINE ELEVATION. FINISHED PUMP AND BASE PLATE SHALL BE WATERTIGHT AND NOT ALLOW ANY SEEPAGE INTO SUCTION HEADER WELL.

2 3. PROPOSED BUTTERFLY VALVES SHALL BE MOUNTED ON A SADDLE TYPE PIPE SUPPORT.

4. PRESSURE GAUGES SHALL BE 2 1/2" FACE DIAMETER, BE LIQUID FILLED, AND HAVE EXTERNAL ADJUSTMENT SCREWS FOR CALIBRATION. GAUGES SHALL BE MOUNTED TO GATE VALVE, WHICH THEN IS CONNECTED TO DISCHARGE HEADER PIPE.

5. ALL DRAINS FROM SUMP PUMP, PUMP CONTROL VALVE AND AIR RELEASE VALVE SHALL BE RUN INTO EXISTING FLOOR DRAINS. DRAIN LINES SHALL BE SCHEDULE 40 P.V.C. PIPE, 2" MIN. DIAMETER AND SHALL BE SECURELY ATTACHED.

6. PIPING AND FITTINGS SHALL BE STEEL OR DUCTILE IRON PIPE. ALL PIPE SHALL BE CEMENT MORTAR LINED. WORKING PRESSURE IS 120 p.s.i.

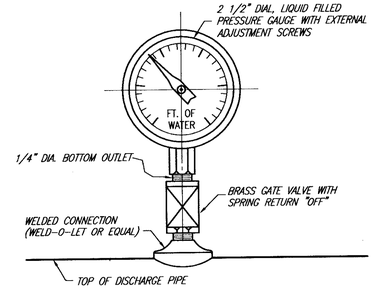
A. STEEL PIPE AND FITTINGS SHALL BE IN ACCORDANCE WITH THE FOLLOWING A.W.W.A. STANDARDS:
- C-200
- C-205
- C-206
- C-207
- C-208
- M-11

2 B. DUCTILE IRON PIPE AND FITTINGS SHALL BE IN ACCORDANCE WITH THE FOLLOWING A.W.W.A. STANDARDS:
- C-151
- C-150
- C-115
- C-111
- C-110
- C-105
- C-104

C. ALL PIPING AND FITTINGS SHALL BE FROM A SINGLE MANUFACTURER.

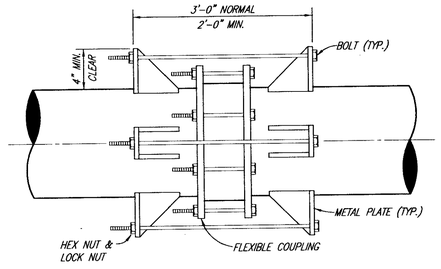
D. PIPING SHALL HAVE FLANGED ENDS, EXCEPT AT THRUST HARNESS.

7. REMOVABLE SKYLIGHTS MAY BE USED TO INSTALL PUMPS AND MOTORS. IF USED, THE CONTRACTOR SHALL REPLACE ALL FLASHING AND MAKE UNITS WATERTIGHT. AFTER INSTALLATION OF THE SKYLIGHTS, A WATER HOSE SHALL BE TAKEN TO THE ROOF TO CHECK INITIAL WATERTIGHTNESS OF INSTALLATION.



PRESSURE GAUGE ASSEMBLY

NO SCALE (SEE SPECIFICATIONS)



WELDED THRUST HARNESS ASSEMBLY

NO SCALE

REVISED 02/12/98 GAD 97180-03.DWG SCALE: 1=48 BLOCKS: GENNOTES, LEG-PIPE, PROGAUGE, THWELD

These plans and related specifications were prepared for construction of this specific project only. Reuse of these documents is not permitted without written authorization of Shimek, Jacobs & Finklea, L.L.P.

THESE DOCUMENTS ARE FOR BIDDING, CONSTRUCTION, AND PERMIT PURPOSES.
DATE: 2/11/98

STATE OF TEXAS
JOHN W. BIRKHOFF
54137
REGISTERED PROFESSIONAL ENGINEER

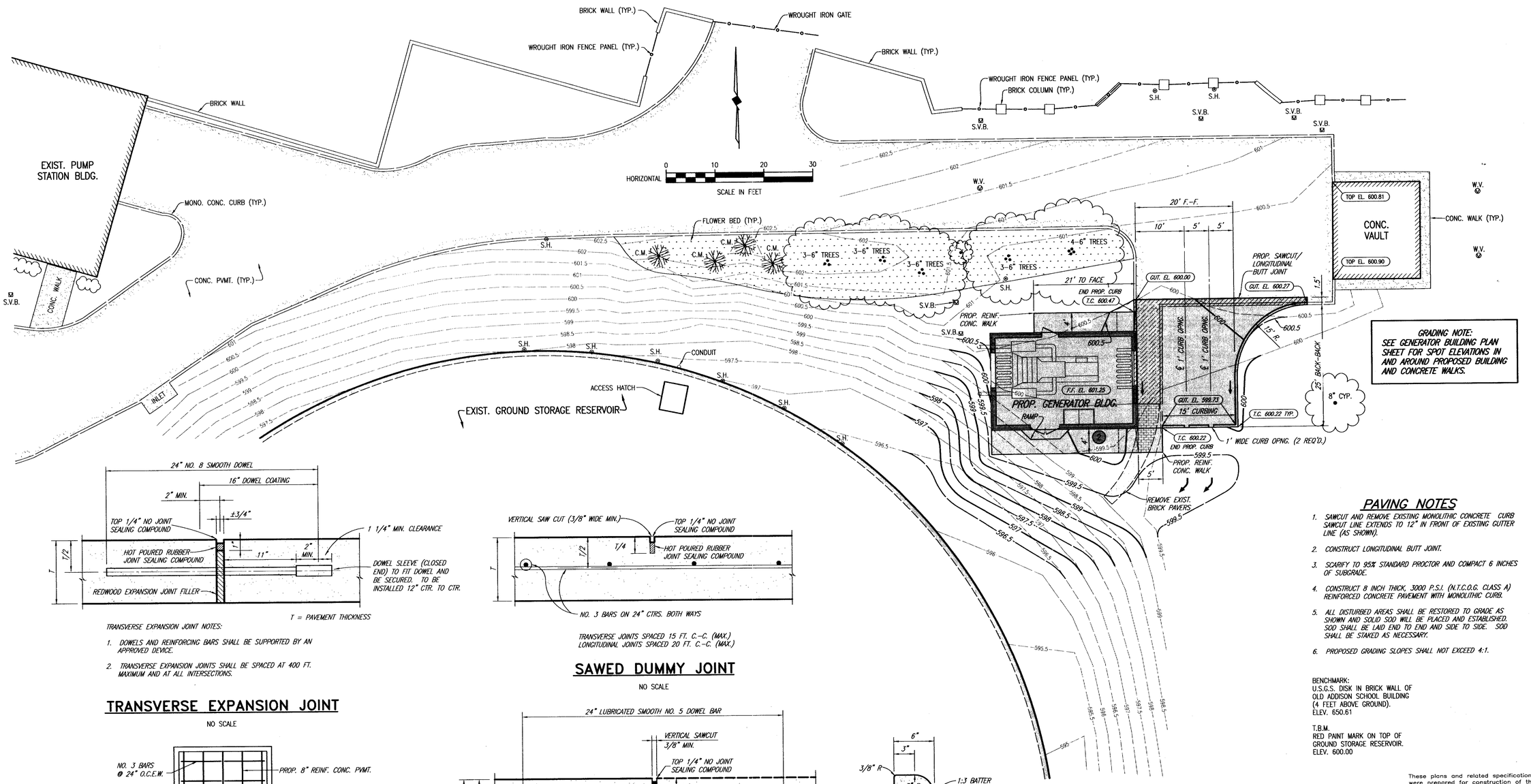
TOWN OF ADDISON, TEXAS

CELESTIAL ROAD PUMP STATION ADDITIONS
PIPING SECTION B-B

SHIMEK, JACOBS & FINKLEA, L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

DESIGNED BY: J.W.B.	PROJECT: 97 180	SHEET NO. 3 A
DRAWN BY: E.W.H.	DATE: JANUARY 1998	OF 14 SHEETS

2 ADDENDUM NO. 2 1 ADDENDUM NO. 1

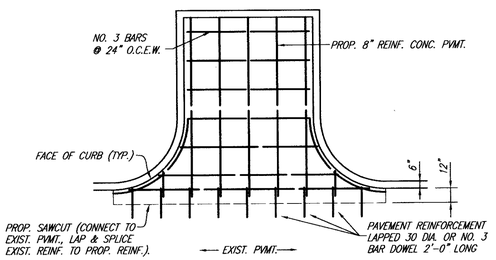


TRANSVERSE EXPANSION JOINT NOTES:

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.

TRANSVERSE EXPANSION JOINT

NO SCALE



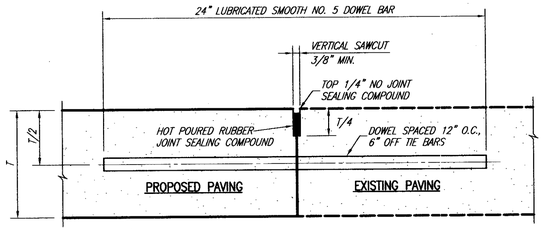
TYPICAL PAVEMENT REINFORCING PLAN

NO SCALE

TRANSVERSE JOINTS SPACED 15 FT. C.-C. (MAX.)
LONGITUDINAL JOINTS SPACED 20 FT. C.-C. (MAX.)

SAWED DUMMY JOINT

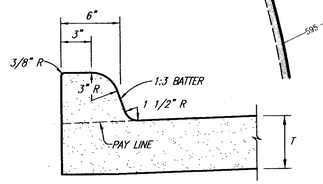
NO SCALE



NOTE:
DOWEL BARS SHALL BE DRILLED INTO PAVEMENT HORIZONTALLY BY USE OF A MECHANICAL RIG. DRILLING BY HAND IS NOT ACCEPTABLE. PUSHING DOWEL BARS INTO GREEN CONCRETE IS NOT ACCEPTABLE.

LONGITUDINAL BUTT JOINT

NOT TO SCALE



INTEGRAL CURB

NO SCALE

PAVING NOTES

1. SAWCUT AND REMOVE EXISTING MONOLITHIC CONCRETE CURB. SAWCUT LINE EXTENDS TO 12" IN FRONT OF EXISTING GUTTER LINE (AS SHOWN).
2. CONSTRUCT LONGITUDINAL BUTT JOINT.
3. SCARIFY TO 95% STANDARD PROCTOR AND COMPACT 6 INCHES OF SUBGRADE.
4. CONSTRUCT 8 INCH THICK, 3000 P.S.I. (N.T.C.O.G. CLASS A) REINFORCED CONCRETE PAVEMENT WITH MONOLITHIC CURB.
5. ALL DISTURBED AREAS SHALL BE RESTORED TO GRADE AS SHOWN AND SOLID SOD WILL BE PLACED AND ESTABLISHED. SOD SHALL BE LAID END TO END AND SIDE TO SIDE. SOD SHALL BE STAKED AS NECESSARY.
6. PROPOSED GRADING SLOPES SHALL NOT EXCEED 4:1.

BENCHMARK:
U.S.G.S. DISK IN BRICK WALL OF OLD ADDISON SCHOOL BUILDING (4 FEET ABOVE GROUND).
ELEV. 650.61

T.B.M.
RED PAINT MARK ON TOP OF GROUND STORAGE RESERVOIR.
ELEV. 600.00

THESE DOCUMENTS ARE FOR BIDDING, CONSTRUCTION, AND PERMIT PURPOSES.
John W. Birkhoff
DATE: 2/11/98

STATE OF TEXAS
JOHN W. BIRKHOFF
54137
REGISTERED PROFESSIONAL ENGINEER

TOWN OF ADDISON, TEXAS

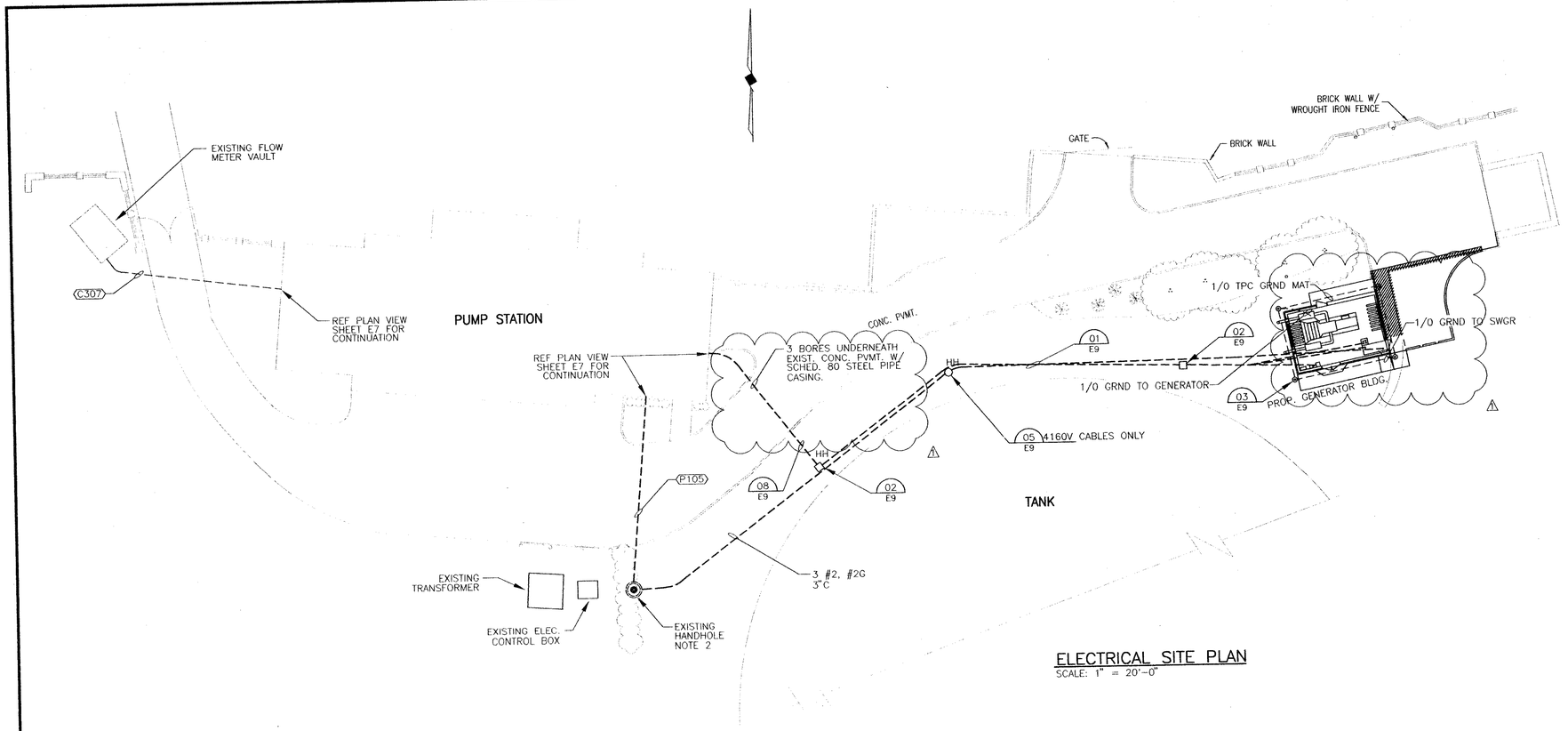
CELESTIAL ROAD PUMP STATION ADDITIONS
PAVING IMPROVEMENTS

SHIMEK, JACOBS & FINKLEA, L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

DESIGNED BY: J.W.B.	PROJECT: 97 180	SHEET NO. 4A
DRAWN BY: E.W.H.	DATE: JANUARY 1998	OF 14 SHEETS

ADDENDUM NO. 2 ADDENDUM NO. 1

REVISED 01/31/98 GAD 97180-04.DWG SCALE: 1=10 BLOCKS: EXP.IT, DRIVE, MONOCURB, BUTT.IT, DUMMY.IT



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

ELECTRICAL SITE & PLAN LEGEND

- EXPOSED CONDUIT RUN
- CONCEALED OR UNDERGROUND CONDUIT RUN
- ABOVE CEILING CONDUIT RUN
- (1T22) CONDUIT AND CABLE TAG NUMBER
- (A) WALL MOUNTED LIGHT FIXTURE
- (E) EMERGENCY LIGHT FIXTURE, LETTER DENOTES TYPE OF FIXTURE
- S SPST SWITCH
- T WALL MOUNTED THERMOSTAT
- (G) WP DUPLEX RECEPTACLE AND GFCI DEVICE MOUNTED IN WEATHERPROOF BOX WITH WEATHERPROOF COVERS
- GROUND ROD W/ TEST WELL
- CONDUIT TEE FITTING
- CONDUIT FITTING LB, LR, ETC.
- CROSS CONDUIT FITTING

ELECTRICAL ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	MTD	MOUNTED
AL	ALUMINUM	NC	NORMALLY CLOSED
BKR	BREAKER	NO	NORMALLY OPEN
BLDG	BUILDING	OC	ON CENTER
CKT	CIRCUIT	PNL	PANEL
CONC	CONCRETE	PMT	PAD MOUNTED TRANSFORMER
C	CONDUIT	PRI	PRIMARY
CPT	CONTROL POWER TRANSFORMER	PVC	POLYVINYL CHLORIDE
CT	CURRENT TRANSFORMER	PT	POTENTIAL TRANSFORMER
CU	COPPER	S	SPST SWITCH
EC	EMPTY CONDUIT	SC	SURGE CAPACITOR
EGC	EQUIPMENT GROUNDING CONDUCTOR	S/N	SOLID NEUTRAL
FDR	FEEDER	STN/STL	STAINLESS STEEL
G GND	GROUND GROUND,GROUNDING,GROUNDED	SW	SWITCH
GFP	GROUND FAULT PROTECTION	SWGR	SWITCHGEAR
GRS	GALVANIZED RIGID STEEL	SZ	SIZE
HDG	HOT DIPPED GALVANIZED	TYP	TYPICAL
HOA	HAND/OFF/AUTO	TUE	TU ELECTRIC
HH	HANDHOLE	UG	UNDERGROUND
LA	LIGHTNING ARRESTER	WP	WEATHER PROOF
LT	LIGHT	XFMR	TRANSFORMER
LTG	LIGHTING		
MB	MAIN BREAKER		

NOTES:

1. ALL UNDERGROUND CONDUIT RUNS SHALL BE CONCRETE ENCASED.
2. FURNISH AND INSTALL 3/4"X10' COPPERCLAD STEEL GROUND ROD IN EXISTING HANDHOLE. BOND #1/0G WIRE IN DUCTBANK THERETO.
3. INSTRUMENTATION CONDUITS SHALL BE RUN THROUGH HH IN CONDUIT. INSTALL "C" PULLING FITTING IN HANDHOLE.

NO.	DATE	REVISION	BY
1	2-10-98	ADDENDUM 2	JJK

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

E1

THESE DOCUMENTS ARE FOR BIDDING, CONSTRUCTION, AND PERMIT PURPOSES.
DATE: 2-10-98

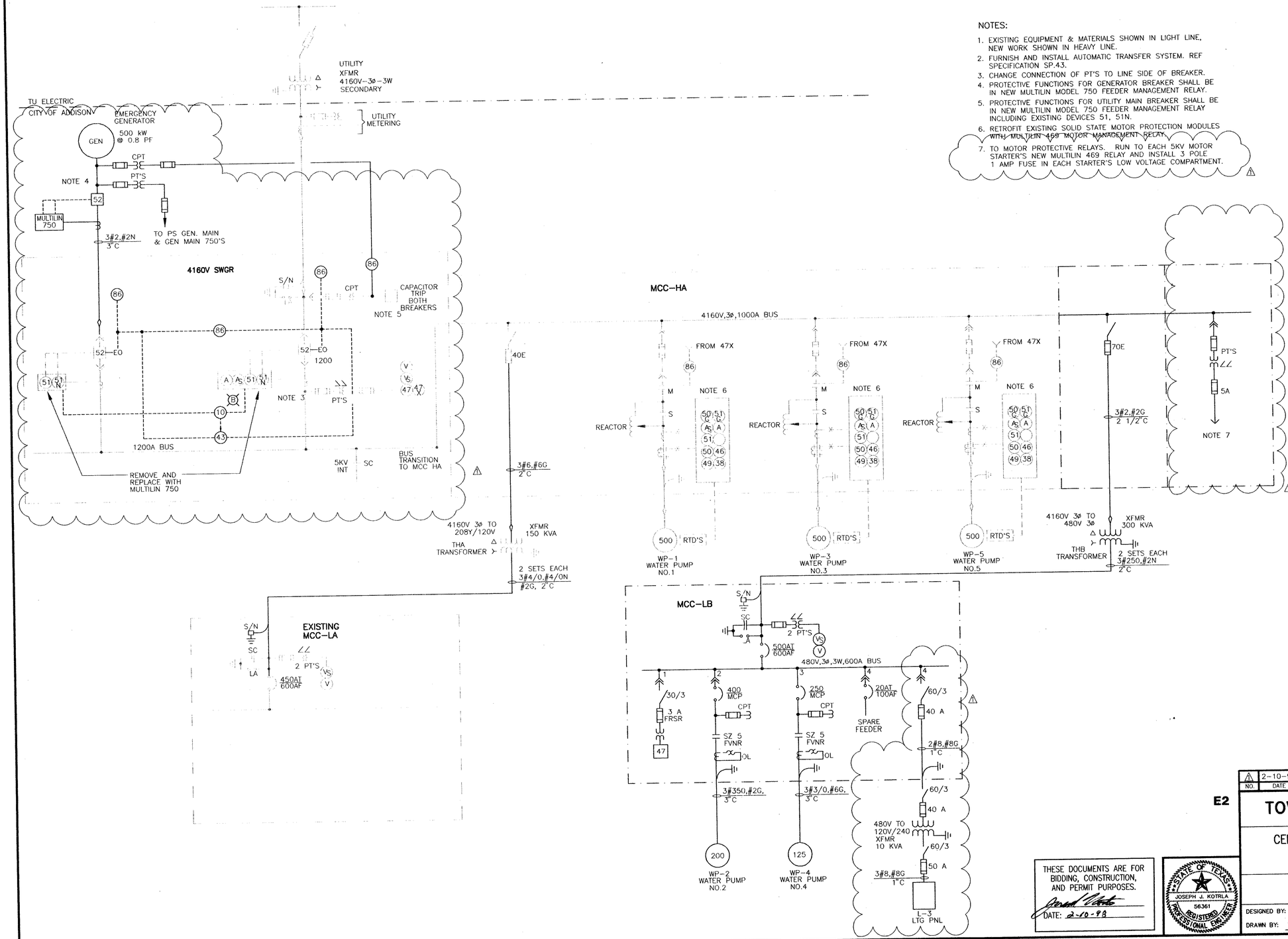
STATE OF TEXAS
JOSEPH J. KOTRLA
56361
REGISTERED PROFESSIONAL ENGINEER

TOWN OF ADDISON, TEXAS

CELESTIAL ROAD PUMP STATION ADDITIONS
ELECTRICAL SITE PLAN

SHIMEK, JACOBS & FINKLEA, L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

DESIGNED BY:	J.J.K	PROJECT:	97 180	SHEET NO.	6
DRAWN BY:	C.C.C.	DATE:	JANUARY, 1998	OF	SHEETS



NOTES:

1. EXISTING EQUIPMENT & MATERIALS SHOWN IN LIGHT LINE, NEW WORK SHOWN IN HEAVY LINE.
2. FURNISH AND INSTALL AUTOMATIC TRANSFER SYSTEM. REF SPECIFICATION SP.43.
3. CHANGE CONNECTION OF PT'S TO LINE SIDE OF BREAKER.
4. PROTECTIVE FUNCTIONS FOR GENERATOR BREAKER SHALL BE IN NEW MULTILIN MODEL 750 FEEDER MANAGEMENT RELAY.
5. PROTECTIVE FUNCTIONS FOR UTILITY MAIN BREAKER SHALL BE IN NEW MULTILIN MODEL 750 FEEDER MANAGEMENT RELAY INCLUDING EXISTING DEVICES 51, 51N.
6. RETROFIT EXISTING SOLID STATE MOTOR PROTECTION MODULES WITH MULTILIN 469 MOTOR MANAGEMENT RELAY.
7. TO MOTOR PROTECTIVE RELAYS. RUN TO EACH 5KV MOTOR STARTER'S NEW MULTILIN 469 RELAY AND INSTALL 3 POLE 1 AMP FUSE IN EACH STARTER'S LOW VOLTAGE COMPARTMENT. ⚠

ONE LINE DIAGRAM LEGEND

	POWER TRANSFORMER
52	5 KV VACUUM POWER CIRCUIT BREAKER
	CONTROL POWER (CPT) OR POTENTIAL (PT) TRANSFORMER
20AT 100AF	THERMAL MAGNETIC CIRCUIT BREAKER AF=FRAME SIZE, AT=AMP TRIP
3 MCP	MAGNETIC ONLY CIRCUIT BREAKER, NUMBER INDICATES CONTINUOUS CURRENT RATING
	FUSE
	FUSED SWITCH
SZ3	FULL VOLTAGE, NON-REVERSING STARTER, WITH OVERLOAD RELAY, NUMBER INDICATES NEMA SIZE
SZ3	FULL VOLTAGE, REVERSING STARTER, WITH OVERLOAD RELAY, NUMBER INDICATES NEMA SIZE
	CONNECTION TO GROUND
5	STAB-IN CONNECTION, NUMBER INDICATES MCC UNIT DESIGNATION
	CURRENT TRANSFORMER
	DELTA CONNECTED TRANSFORMER WINDINGS
	WYE CONNECTED TRANSFORMER WINDINGS
(1122)	CONDUIT AND CABLE TAG NUMBER
S/N	SOLID NEUTRAL
SC	SURGE CAPACITOR
LA	LIGHTNING ARRESTER
Vs	VOLTMETER SWITCH
V	VOLTMETER
2S1W	TWO SPEED ONE WINDING MOTOR STARTER
	5 KV STRESS CONE
K	KIRK-KEY INTERLOCK
INTL	INTERLOCK

NO.	DATE	REVISION	BY
⚠	2-10-98	ADDENDUM 2	JJK

E2

TOWN OF ADDISON, TEXAS

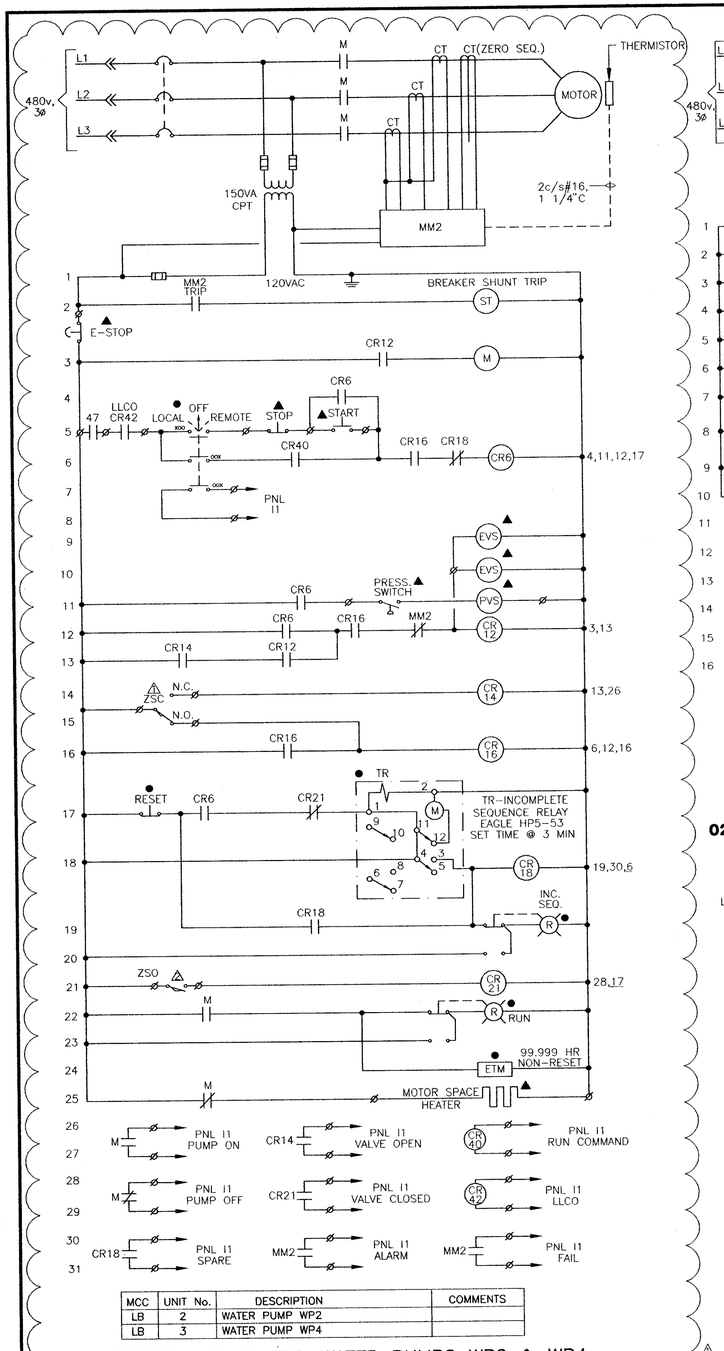
CELESTIAL ROAD PUMP STATION ADDITIONS
ONE LINE DIAGRAM

THESE DOCUMENTS ARE FOR BIDDING, CONSTRUCTION, AND PERMIT PURPOSES.
DATE: 2-10-98

STATE OF TEXAS
JOSEPH J. KOTRLA
56361
REGISTERED PROFESSIONAL ENGINEER

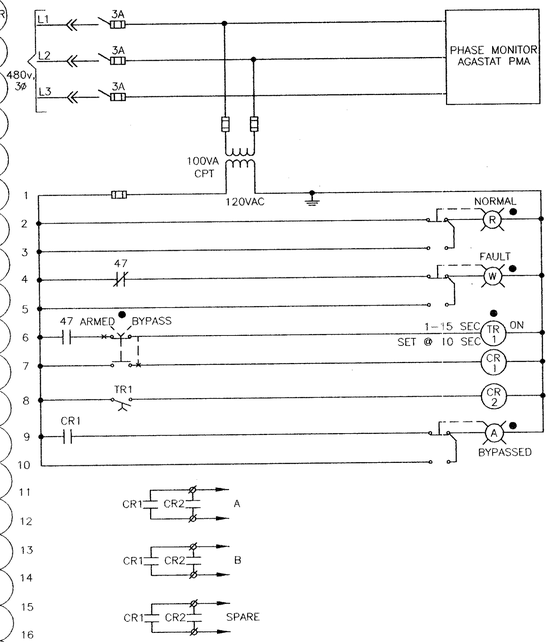
SHIMEK, JACOBS & FINKLEA, L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

DESIGNED BY: J.J.K.
DRAWN BY: C.C.C.
PROJECT: 97 180
DATE: JANUARY, 1998
SHEET NO. 7 OF ⚠ SHEETS



MCC	UNIT No.	DESCRIPTION	COMMENTS
LB	2	WATER PUMP WP2	
LB	3	WATER PUMP WP4	

01 CONTROL SCHEMATIC–WATER PUMPS WP2 & WP4



NOTES:

1. TIMING RELAY TR1 SHALL HAVE AN UNBALANCE SET AT 3% AND THE UNDERVOLTAGE THRESHOLD SHALL BE SET AT 14%.

MCC	UNIT No.	DESCRIPTION	COMMENTS
LB	2	DEVICE 47	
LB	3	DEVICE 47	

02 CONTROL SCHEMATIC – MCC PHASE FAILURE

LEGEND

PVS –PUMP CONTROL VALVE SOLENOID

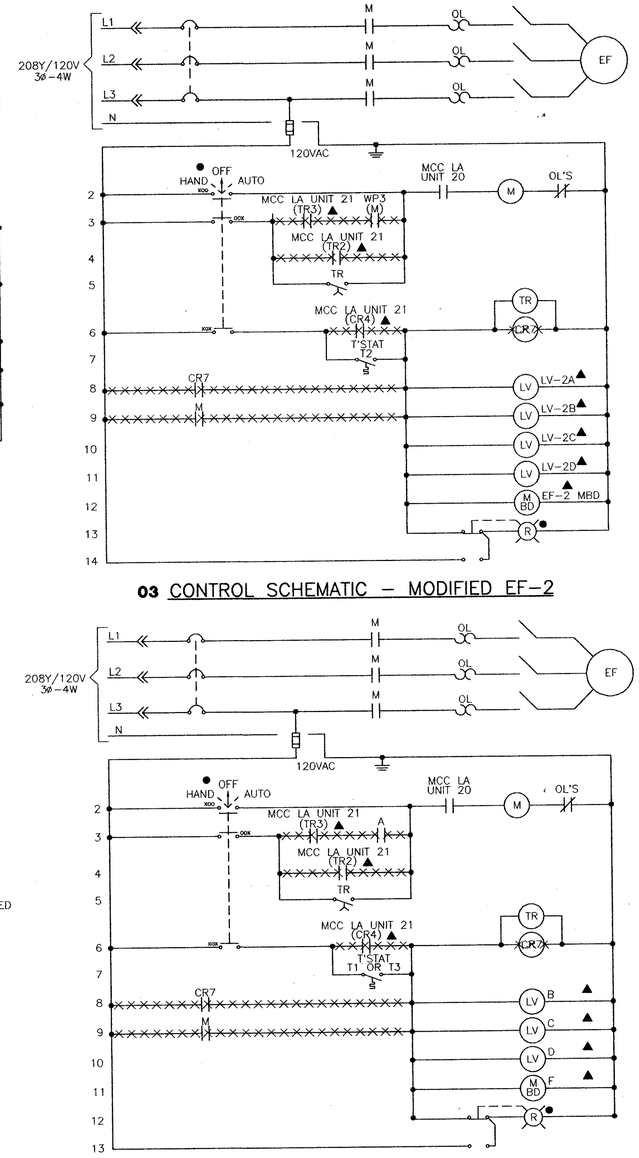
⚠ –PUMP CONTROL VALVE LIMIT SWITCH (LOWER) CLOSED WHEN VALVE IS FULL CLOSED

⚠ –PUMP CONTROL VALVE LIMIT SWITCH (UPPER) CLOSES WHEN VALVE IS FULL OPEN

INDICATES CLOSED CONTACT

INDICATES OPEN CONTACT

POSITION SWITCH		VALVE POSITION FULLY OPEN	FULLY CLOSED	FUNCTION
ZSC–1	1	■		NC
ZSC–2	2		■	NO
ZSO–1	3	■		NC
ZSO–2	4		■	NO



03 CONTROL SCHEMATIC – MODIFIED EF–2

EXHAUST FAN	A	B	C	D	F
EF–1	WP1(M)	LV–1A	LV–1B	LV–1C	EF–1 MBD
EF–2	WP5(M)	LV–3A	LV–3B	LV–3C	EF–3 MBD

04 CONTROL SCHEMATIC – MODIFIED EF–1 & EF–3

CONTROL DIAGRAM LEGEND

- ● DOOR MOUNTED DEVICE IN MCC
- ▲ DEVICE MOUNTED REMOTE FROM MCC
- ø TERMINAL IN MCC STARTER UNIT FOR CONNECTION OF EXTERNAL CIRCUITS
- GFP — CIRCUIT BREAKER WITH GROUND FAULT PROTECTION DEVICE
- NORMALLY CLOSED CONTACTS
- NORMALLY OPEN CONTACTS
- FUSE
- 100VA CPT — CONTROL POWER TRANSFORMER
- G — PUSH–TO–TEST PILOT LIGHT LETTER INDICATES COLOR
- STOP — "STOP" PUSH BUTTON
- START — "START" PUSH BUTTON
- STOP — EMERGENCY "STOP" MUSHROOM BUTTON
- M — MOTOR CONTACTOR
- CR — CONTROL RELAY
- TR — TIMING RELAY
- MOTOR SPACE HEATER
- TR1 — TIMED CONTACTS
- T'STAT — THERMOSTAT
- LS — LIMIT SWITCH
- ETM — ELAPSED TIME METER
- OFF HAND AUTO — 3 POSITION SELECTOR SWITCH

NOTES:

1. MODIFY CONTROL CIRCUITS FOR EF–1,2&3. STARTER UNTIS ARE LOCATED IN MCC–LA. ADD THERMOSTATS AND WIRING AS SHOWN ON PLAN VIEW.

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

DATE: 2-10-98

STATE OF TEXAS — JOSEPH J. KOTRLA — 56361 — REGISTERED PROFESSIONAL ENGINEER

E3

NO.	DATE	REVISION	BY
⚠	2-10-98	ADDENDUM 2	JJK

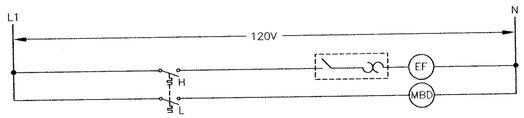
TOWN OF ADDISON, TEXAS

CELESTIAL ROAD PUMP STATION ADDITIONS
ELECTRICAL SCHEMATICS I

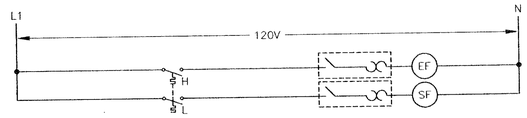
SHIMEK, JACOBS & FINKLEA, L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

DESIGNED BY: J.J.K. | PROJECT: 97 180 | SHEET NO. 8 OF SHEETS

DRAWN BY: C.C.C. | DATE: JANUARY, 1998

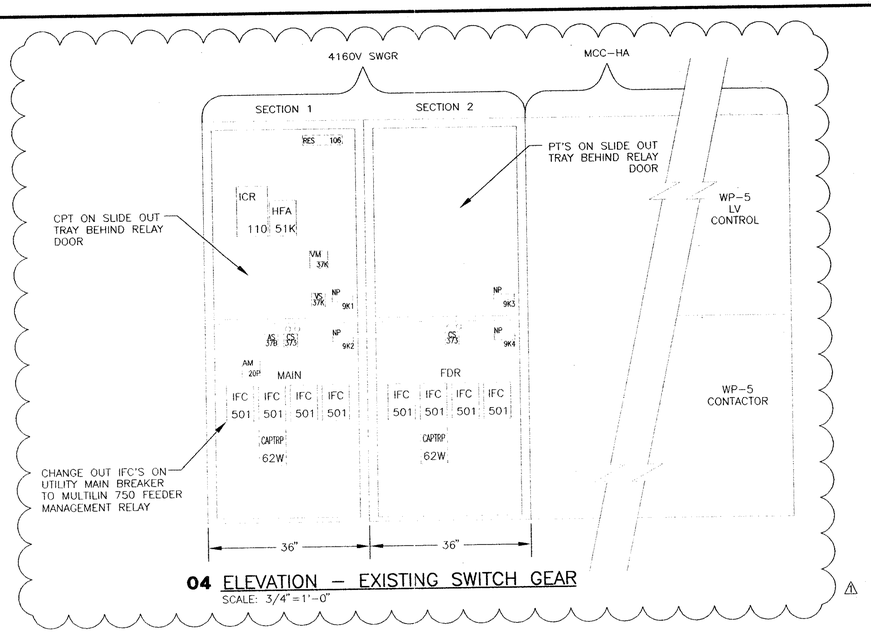


01 CONTROL SCHEMATIC – EXISTING EF-8

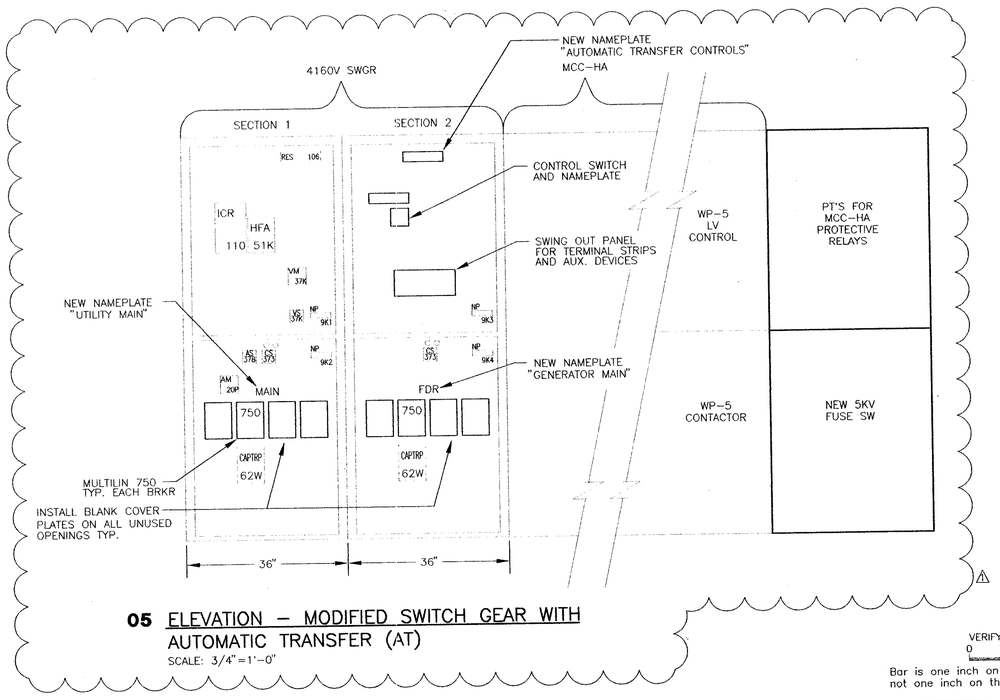


NOTES:
1. REPLACE MOTORIZED BACKDRAFT DAMPER WITH NEW SUPPLY FAN. FURNISH AND INSTALL NEW MANUAL MOTOR STARTER WITH HEATER.

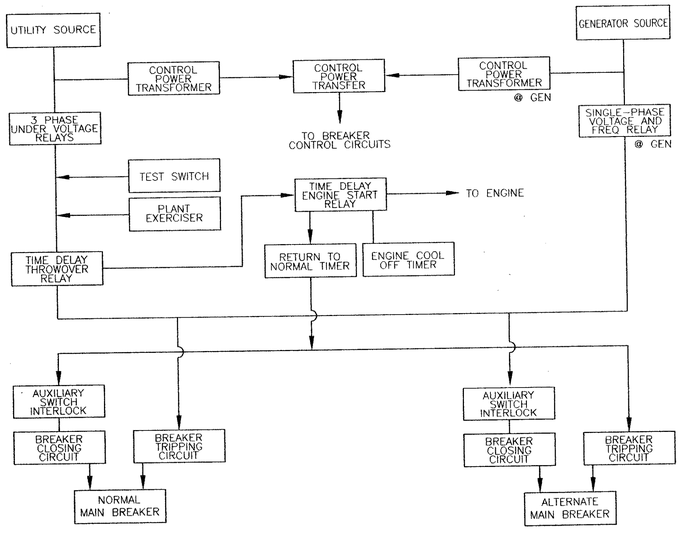
02 CONTROL SCHEMATIC – MODIFIED EF-8



04 ELEVATION – EXISTING SWITCH GEAR
SCALE: 3/4" = 1'-0"



05 ELEVATION – MODIFIED SWITCH GEAR WITH AUTOMATIC TRANSFER (AT)
SCALE: 3/4" = 1'-0"



NOTES:
1. PLANT EXERCISER FUNCTION SHALL BE INITIATED FROM FUTURE SCADA RTU TO ENSURE ADEQUATE LOADING FOR EXERCISE CYCLE.

03 AUTOMATIC TRANSFER (A.T.) BLOCK DIAGRAM

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

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DATE: 2-10-98

STATE OF TEXAS
JOSEPH J. KOTRLA
56361
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	BY
1	2-10-98	ADDENDUM 2	JJK

E4

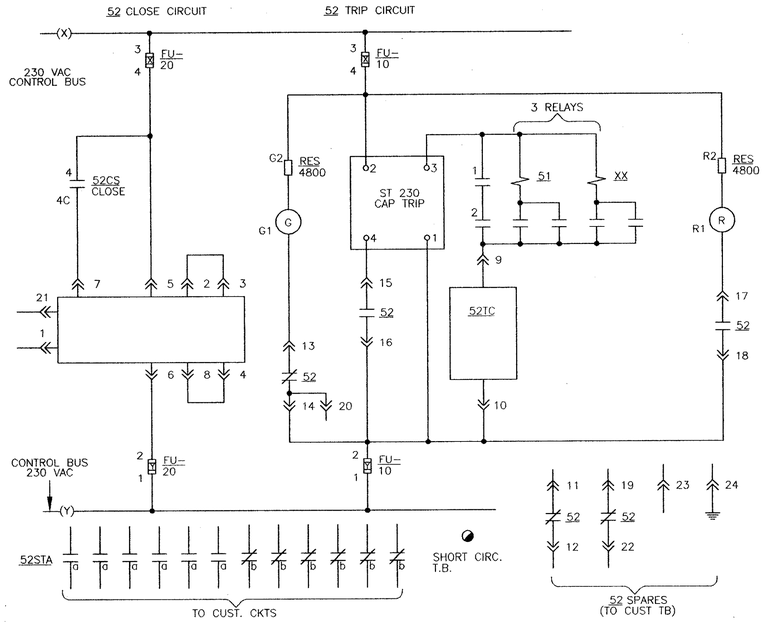
TOWN OF ADDISON, TEXAS

CELESTIAL ROAD PUMP STATION ADDITIONS
ELECTRICAL SCHEMATICS II

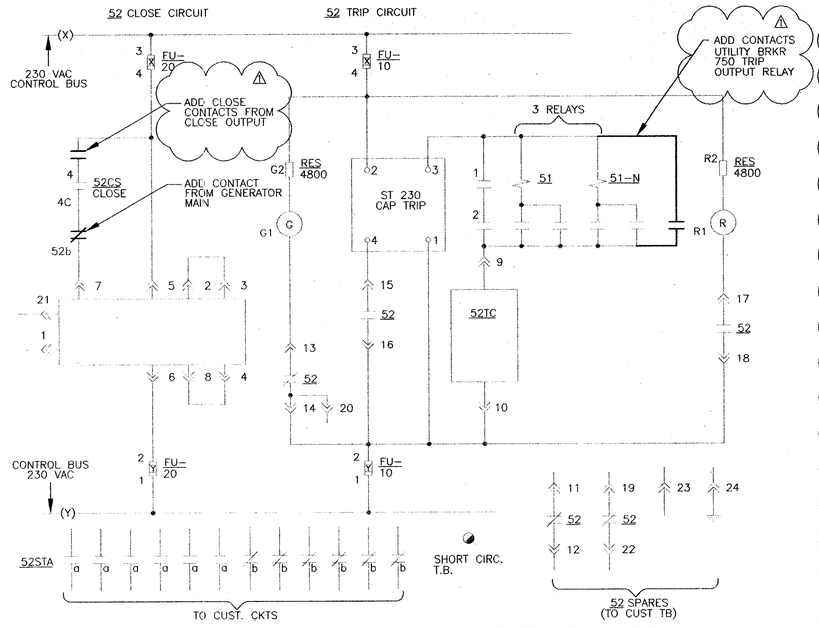
SHIMEK, JACOBS & FINKLEA, L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

DESIGNED BY:	J.J.K.	PROJECT:	97 180
DRAWN BY:	C.C.C.	DATE:	JANUARY, 1998

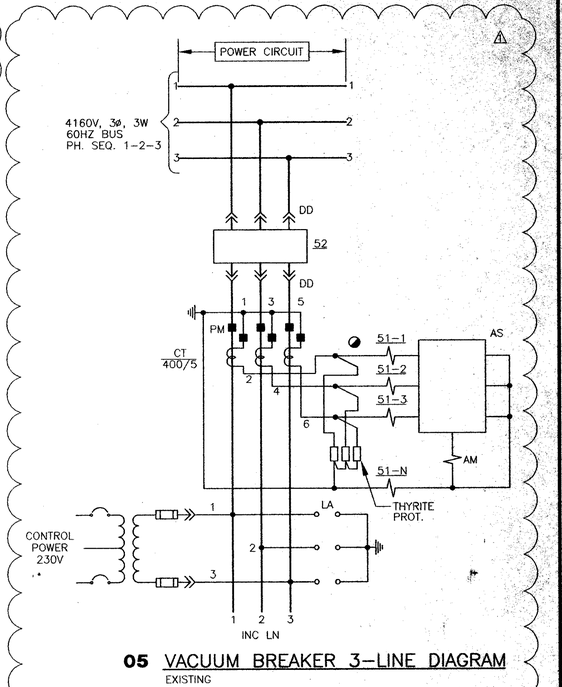
SHEET NO. 9A OF SHEETS



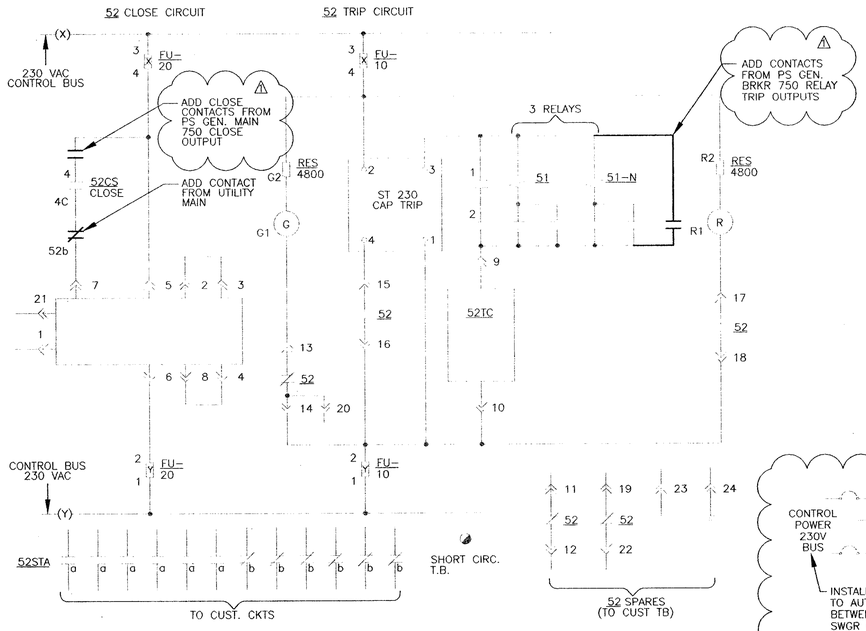
01 CONTROL SCHEMATIC–EXISTING MAIN AND FEEDER BREAKER



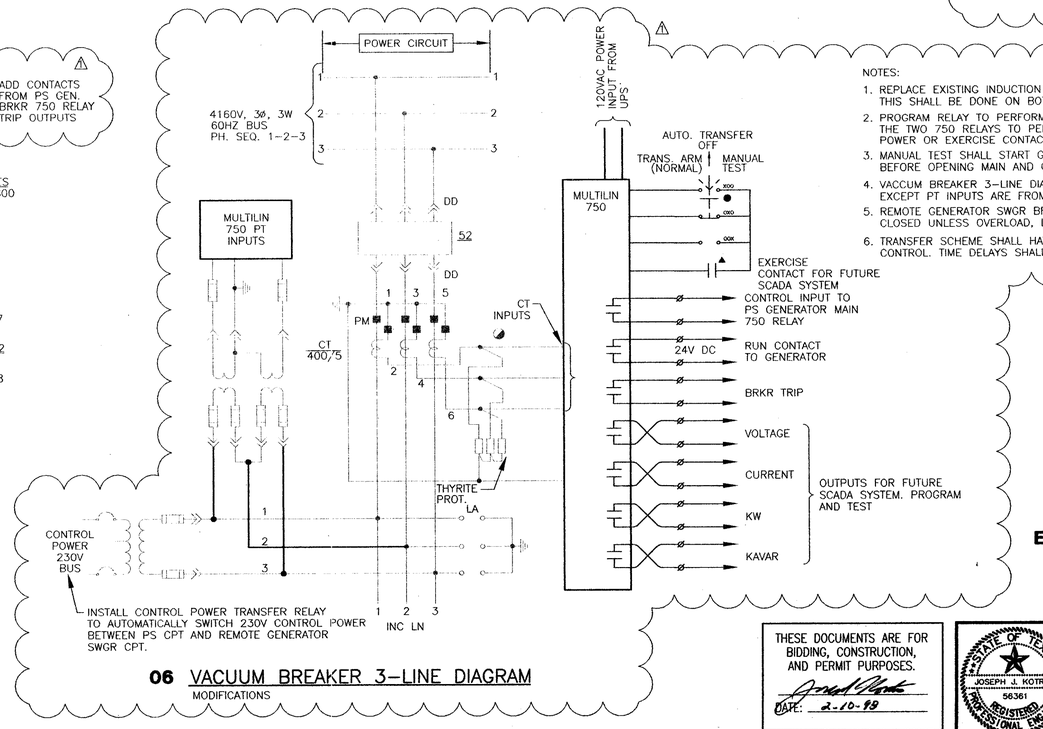
02 CONTROL SCHEMATIC–MODIFIED MAIN BREAKER–UTILITY MAIN



05 VACUUM BREAKER 3–LINE DIAGRAM
EXISTING



03 CONTROL SCHEMATIC–MODIFIED FEEDER BREAKER–GENERATOR MAIN



06 VACUUM BREAKER 3–LINE DIAGRAM
MODIFICATIONS

NOTES:

1. REPLACE EXISTING INDUCTION DISK RELAYS WITH MULTILIN 750 SOLID STATE RELAYS. THIS SHALL BE DONE ON BOTH EXIST. 5KV BREAKERS.
2. PROGRAM RELAY TO PERFORM PROTECTIVE FUNCTIONS FOR FEEDER AND PROGRAM THE TWO 750 RELAYS TO PERFORM A DEAD BUS TRANSFER UPON LOSS OF UTILITY POWER OR EXERCISE CONTACT CLOSURE FROM SCADA SYSTEM.
3. MANUAL TEST SHALL START GENERATOR AND ALLOW WARM UP AND VOLTAGE STABILIZATION BEFORE OPENING MAIN AND CLOSING PS GENERATOR BREAKER.
4. VACCUM BREAKER 3–LINE DIAGRAM FOR PS GENERATOR BREAKER SHALL BE SIMILIAR EXCEPT PT INPUTS ARE FROM REMOTE SWGR AT GENERATOR.
5. REMOTE GENERATOR SWGR BREAKER IS NOT PART OF TRANSFER SCHEME. IT SHALL REMAIN CLOSED UNLESS OVERLOAD, LOSS OF PHASE, OR OVERCURRENT TRIP FUNCTIONS ARE ACTIVATED.
6. TRANSFER SCHEME SHALL HAVE ADJUSTABLE TIME DELAYS FOR GENERATOR START AND BREAKER CONTROL. TIME DELAYS SHALL BE ADJUSTABLE THROUGH KEYPAD OR 750'S.

NO.	DATE	REVISION	BY
1	2-10-98	ADDENDUM 2	JJK

E5

TOWN OF ADDISON, TEXAS

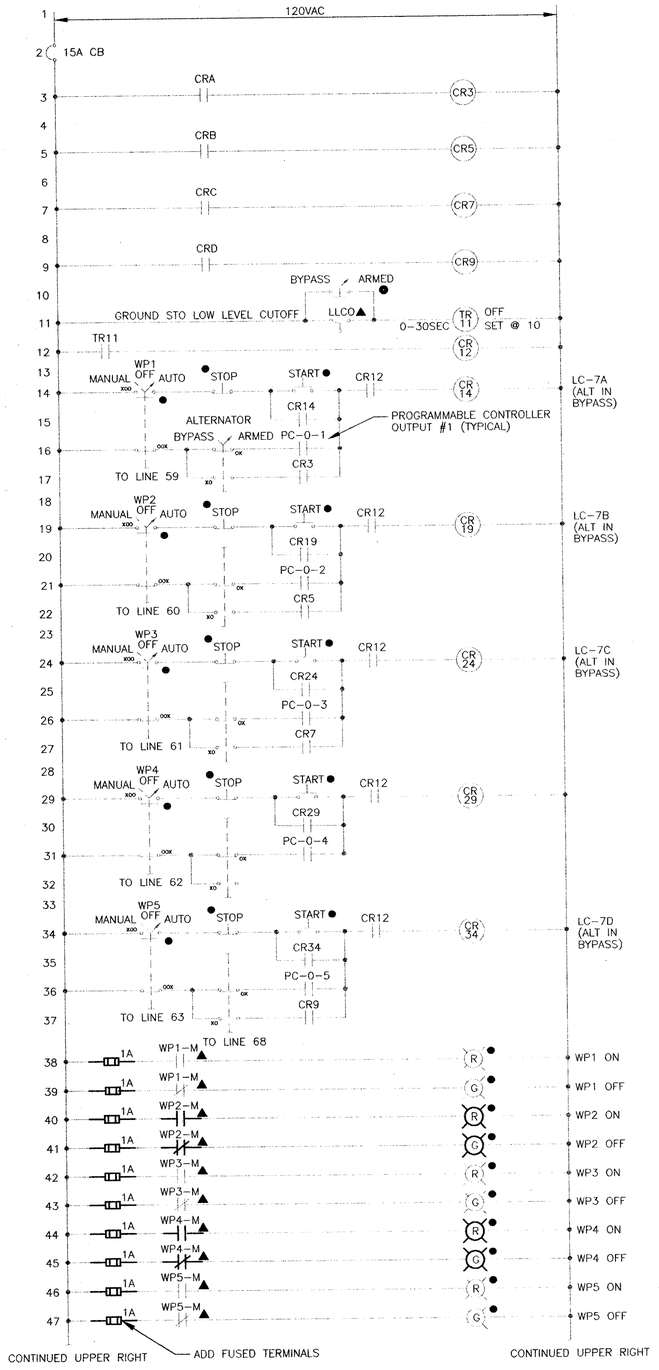
CELESTIAL ROAD PUMP STATION ADDITIONS
ELECTRICAL SCHEMATICS III

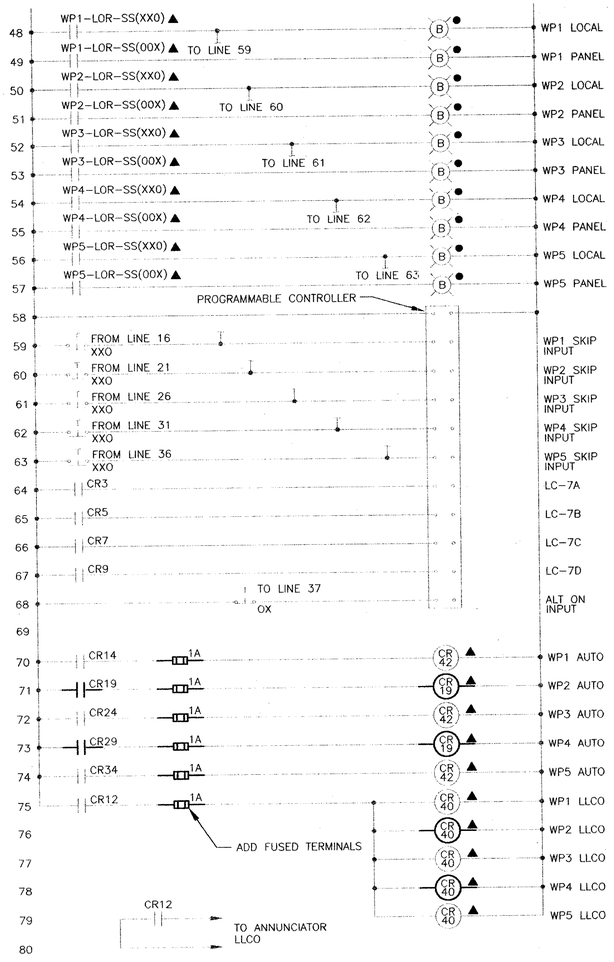
SHIMEK, JACOBS & FINKLEA, L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

THESE DOCUMENTS ARE FOR BIDDING, CONSTRUCTION, AND PERMIT PURPOSES.
DATE: 2-10-98

STATE OF TEXAS — JOSEPH J. KOTRLA — 56361 — REGISTERED PROFESSIONAL ENGINEER

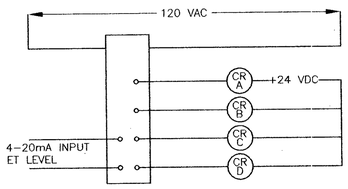
DESIGNED BY:	J.J.K.	PROJECT:	97 180	SHEET NO. 10
DRAWN BY:	C.C.C.	DATE:	JANUARY, 1998	OF SHEETS



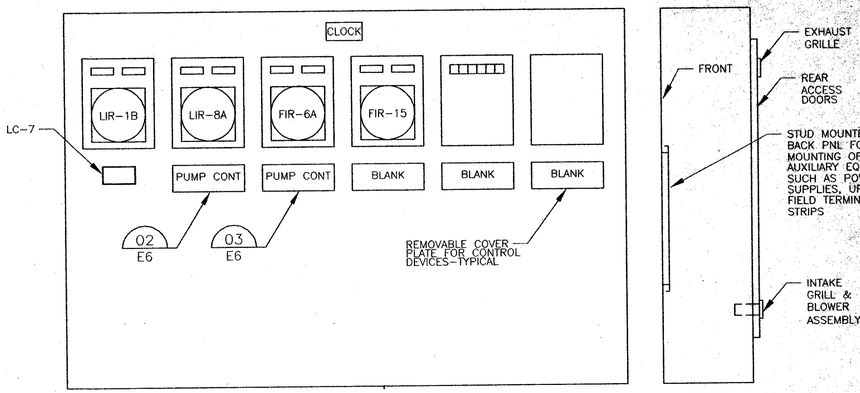


NOTE: ADD RELAYS AND CONTACTS SHOWN DARK.

04 CONTROL SCHEMATIC – INSTRUMENTATION CONTROL PANEL

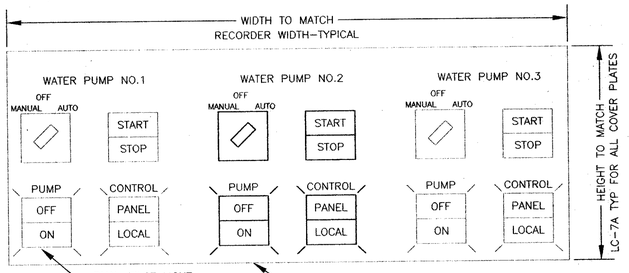


05 CONTROL SCHEMATIC – EXISTING LEVEL CONTROL



01 MAIN INSTRUMENT CONTROL PANEL–CELESTIAL ROAD PUMP STATION – EXISTING

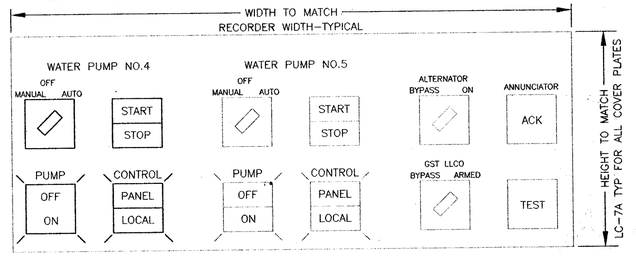
SCALE: 3/4" = 1'-0"



NOTES:
1. PILOT DEVICES ARE EXISTING FOR PUMPS 2 AND 4. ACTIVATE UNDER THIS WORK.

02 CONTROL DEVICE LAYOUT

NOT TO SCALE



03 CONTROL DEVICE LAYOUT

NOT TO SCALE

NO.	DATE	REVISION	BY
2	2-10-98	ADDENDUM 2	JJK

E6

TOWN OF ADDISON, TEXAS

CELESTIAL ROAD PUMP STATION ADDITIONS

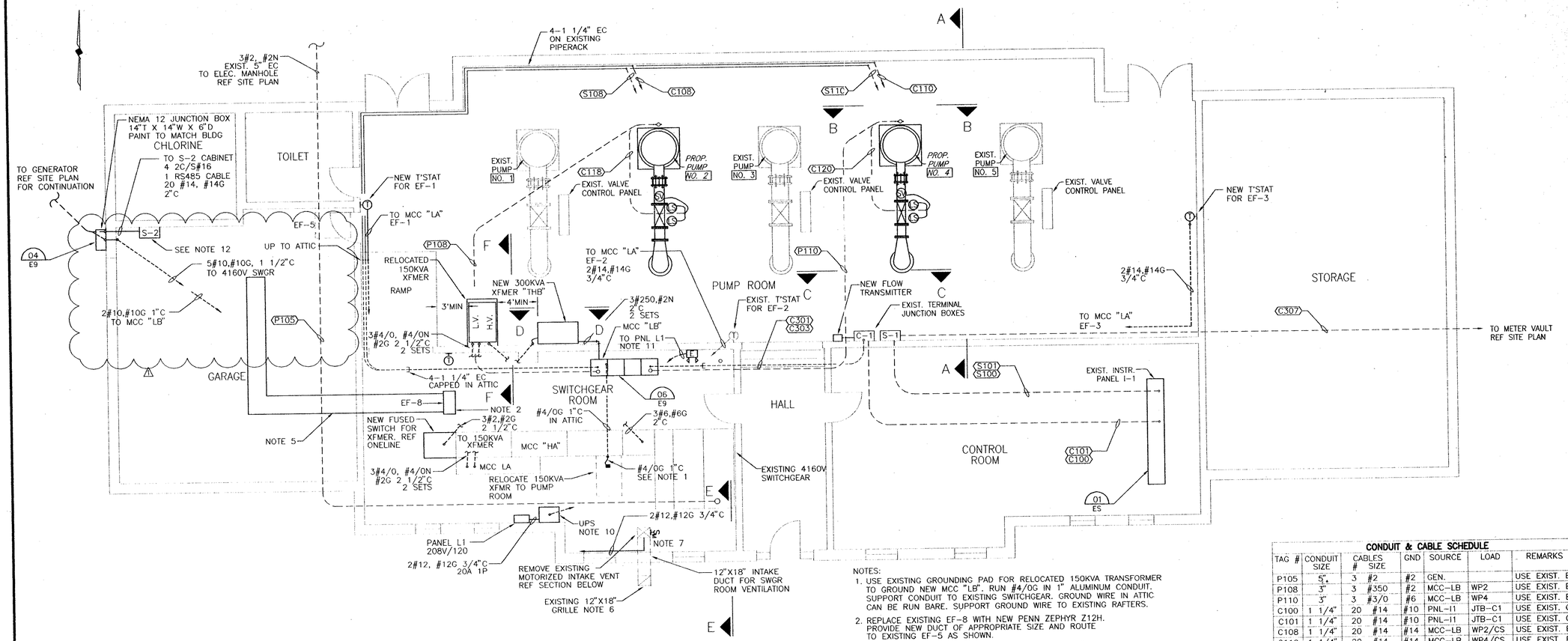
ELECTRICAL SCHEMATICS IV

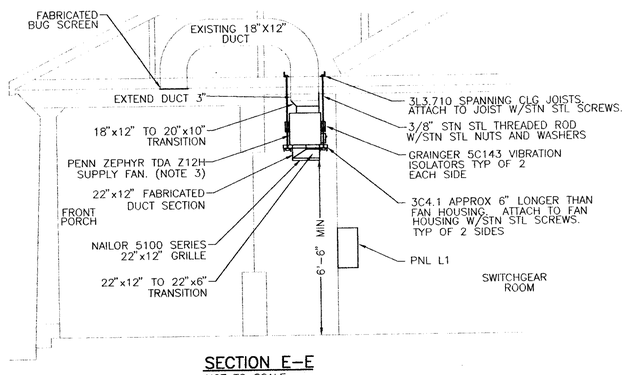
SHIMEK, JACOBS & FINKLEA, L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

THESE DOCUMENTS ARE FOR BIDDING, CONSTRUCTION, AND PERMIT PURPOSES.
DATE: 2-10-98

STATE OF TEXAS
JOSEPH J. KOTRLA
56361
REGISTERED PROFESSIONAL ENGINEER

DESIGNED BY: J.J.K.
DRAWN BY: C.C.C.
PROJECT: 97 180
DATE: JANUARY, 1998
SHEET NO. 11 OF SHEETS





SECTION E-E
NOT TO SCALE

NOTES:

1. USE EXISTING GROUNDING PAD FOR RELOCATED 150KVA TRANSFORMER TO GROUND NEW MCC "LB". RUN #4/0G IN 1" ALUMINUM CONDUIT. SUPPORT CONDUIT TO EXISTING SWITCHGEAR. GROUND WIRE IN ATTIC CAN BE RUN BARE. SUPPORT GROUND WIRE TO EXISTING RAFTERS.
2. REPLACE EXISTING EF-8 WITH NEW PENN ZEPHYR Z12H. PROVIDE NEW DUCT OF APPROPRIATE SIZE AND ROUTE TO EXISTING EF-5 AS SHOWN.
3. PROVIDE PENN ZEPHYR TDA Z12H INLINE SUPPLY FAN. ATTACH TO DUCT AND SUPPORT FROM CEILING AS SHOWN IN DETAIL.
4. ALL CONDUITS RUN IN ATTIC SHALL BE INSTALLED IN ORDER NOT TO OBSTRUCT WALKWAY ABOVE. ALLOW ROOM IN ATTIC FOR FUTURE AIR CONDITIONING EQUIP. AND DUCT SIMILAR TO THAT ABOVE CONTROL ROOM.
5. ALL NEW DUCTWORK SHALL BE MINIMUM 20 GAGE GALVANIZED STEEL WITH INTERLOCKING CONSTRUCTION. TRANSITION TO 22"x12" FROM NEW ZEPHYR FAN TO END OF DUCT.
6. REMOVE FILTER FROM BEHIND EXISTING GRILLE AND REPLACE WITH FABRICATED INSECT SCREEN. REPLACE ORIGINAL GRILLE.
7. FURNISH AND INSTALL NEW MANUAL MOTOR STARTER FOR NEW SUPPLY FAN. MOUNT STARTER ON SIDE OF SUPPLY FAN.
8. ALL CONDUITS FOR SWITCH GEAR ROOM SHALL BE RUN IN ATTIC. NEW EXPOSED CONDUITS IN SWITCH GEAR ROOM SHALL BE MOUNTED ON WALL AND PAINTED TO MATCH.
9. NEW SUPPLY FAN EQUIPMENT AND ACCESSORIES SHALL BE PAINTED TO MATCH EXISTING WALLS.
10. NEW 1500VA, 120V UPS FOR GENERATOR PROTECTIVE RELAYING AND PLC. RUN 2#12, #12G 3/4"C TO GENERATOR CONTROLS IN SWITCHGEAR. FURNISH AND INSTALL NEW 20A 1P BREAKER IN PNL L1.
11. NEW EMERGENCY LIGHT, HOLOPHANE DM6C50TNS2F1, MOUNT 7'AFF. RUN 2#12, #12G 3/4"C TO PNL L1. FURNISH AND INSTALL 20A 1P BREAKER.
12. NEW SIGNAL TERMINAL CABINET. TERMINATE ALL SIGNAL WIRING FROM GENERATOR IN NEW CABINET. FURNISH AND INSTALL HOFFMAN 24"T X 20"W X 8"D NEMA 12 W/ SUBPANEL. PAINT TO MATCH BLDG.

ELECTRICAL PLAN
SCALE: 3/16" = 1'-0"

CONDUIT & CABLE SCHEDULE

TAG #	CONDUIT SIZE	CABLES #	SIZE	GND	SOURCE	LOAD	REMARKS
P105	5"	3	#2	#2	GEN.		USE EXIST. EC/NEW WIRING
P108	3"	3	#350	#2	MCC-LB	WP2	USE EXIST. EC/NEW WIRING
P110	3"	3	#3/0	#6	MCC-LB	WP4	USE EXIST. EC/NEW WIRING
C100	1 1/4"	20	#14	#10	PNL-I1	JTB-C1	USE EXIST. COND. & WIRING
C101	1 1/4"	20	#14	#10	PNL-I1	JTB-C1	USE EXIST. COND. & WIRING
C108	1 1/4"	20	#14	#14	MCC-LB	WP2/CS	USE EXIST. EC/NEW WIRING
C110	1 1/4"	20	#14	#14	MCC-LB	WP4/CS	USE EXIST. EC/NEW WIRING
C118	3/4"	8	#14	#14	WP2/CS	VLV CTRL	USE EXIST. EC/NEW WIRING
C120	3/4"	8	#14	#14	WP4/CS	VLV CTRL	USE EXIST. EC/NEW WIRING
C301	3/4"	20	#14	#14	MCC-LB	JTB-C1	USE EXIST. EC/NEW WIRING
C303	3/4"	20	#14	#14	MCC-LB	JTB-C1	USE EXIST. EC/NEW WIRING
C307	3/4"	MFG'S CABLE				JTB-C1	USE EXIST. EC/NEW WIRING
		2	#14			JTB-C1	USE EXIST. COND. & WIRING
S108	1 1/4"	1	2C/S 16		MCC-LB	WP2/CS	USE EXIST. EC/NEW WIRING
S110	1 1/4"	1	2C/S 16		MCC-LB	WP4/CS	USE EXIST. EC/NEW WIRING
S100	1 1/4"	14	#14		PNL-I1	JTB-S1	USE EXIST. COND. & SPARE WIRING
S101	1 1/4"	14	#14		PNL-I1	JTB-S1	USE EXIST. COND. & SPARE WIRING
S301	3/4"	1	2C/S 18		FT-6A	JTB-S1	EXIST. COND. & WIRING

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DATE: 2-10-98

STATE OF TEXAS
JOSEPH J. KOTRLA
56361
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	BY
2	2-10-98	ADDENDUM 2.	JJK

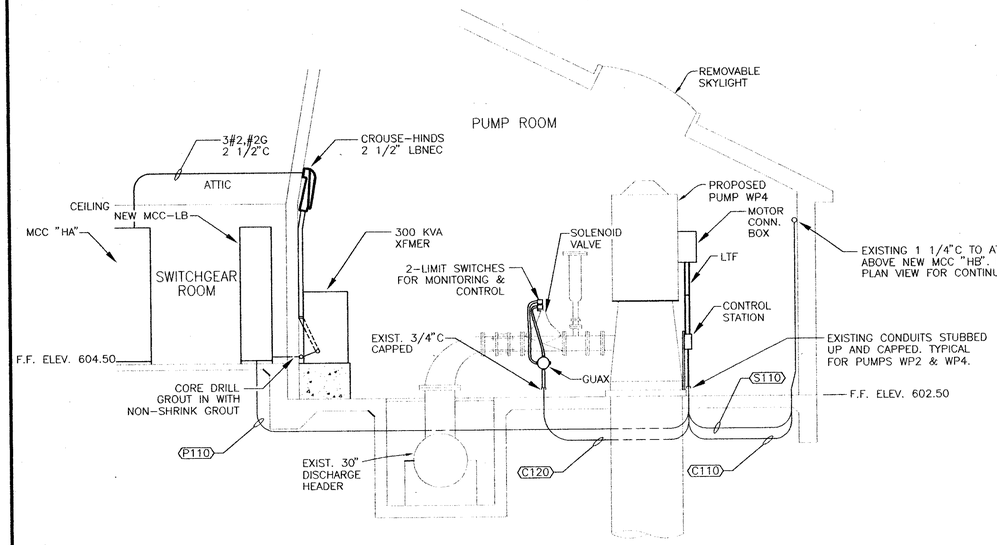
E7

TOWN OF ADDISON, TEXAS

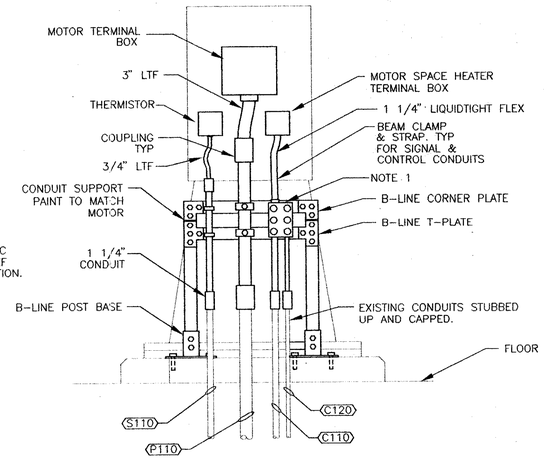
CELESTIAL ROAD PUMP STATION ADDITIONS
PUMP STATION PLAN

SHIMEK, JACOBS & FINKLEA, L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

DESIGNED BY: J.J.K.
DRAWN BY: C.C.C.
PROJECT: 97 180
DATE: JANUARY, 1998
SHEET NO. 12
OF SHEETS

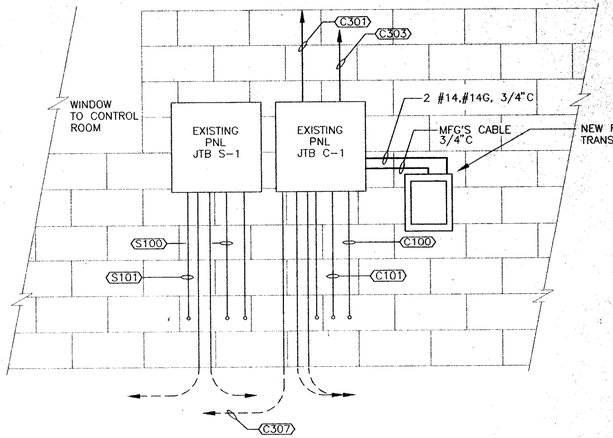


SECTION A-A
SCALE: 1/4" = 1'-0"



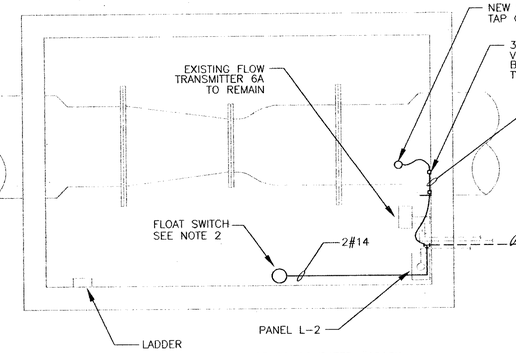
NOTES:
1. NEMA 4X CONTROL STATION. 9 1/2"x6 1/4"x4 3/4". INSTALL CONTROL DEVICES AS FOLLOWS:
   LEFT COLUMN TOP TO BOTTOM.
   LOCAL-OFF-REMOTE
   EMERGENCY STOP
   PUMP FAULT LOCKOUT
   RIGHT COLUMN TOP TO BOTTOM.
   START
   STOP
2. TYPICAL FOR WP2 AND WP4.

SECTION B-B
NOT TO SCALE



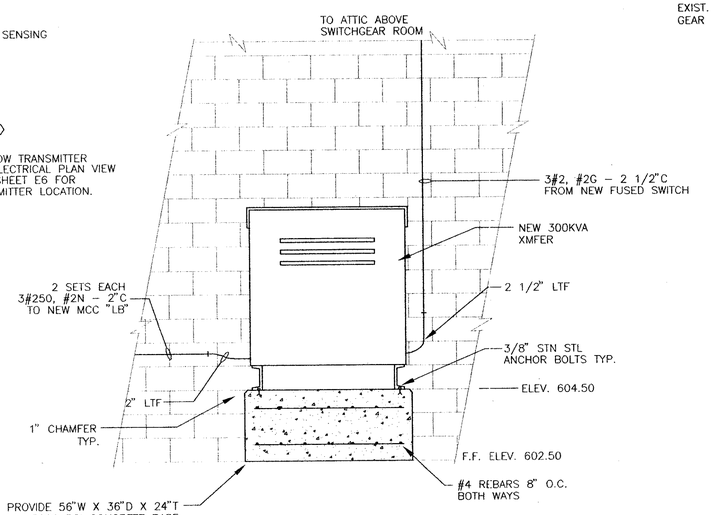
NOTES:
1. RUN MFG'S SENSOR CABLE IN EXISTING EMPTY CONDUIT (C307) TO THE METER VAULT FOR NEW FLOW METER. EXISTING FLOW METER TO REMAIN.
2. REF METER VAULT PLAN VIEW THIS SHEET FOR LOCATION OF FLOW SENSOR.

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



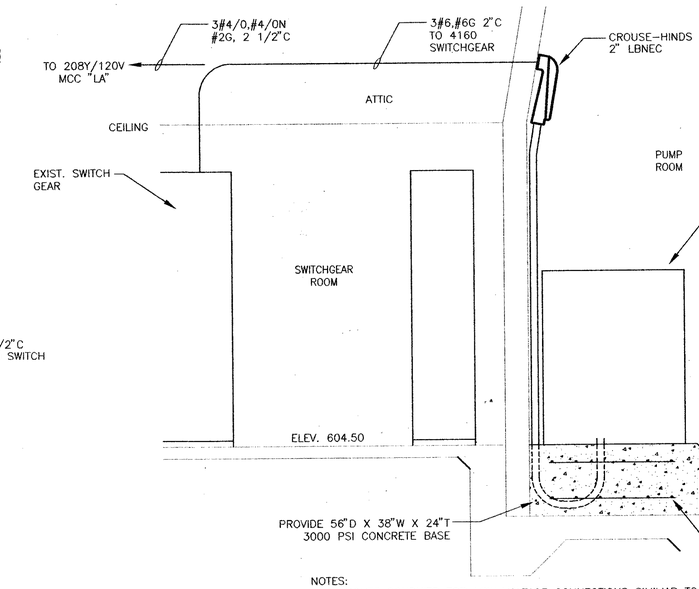
1. FLOAT SWITCH SHALL BE CONSOLIDATED #101GX, SET AT 6" ABOVE FLOOR
2. RUN FLOAT SWITCH (HIGH SUMP ALARM) TO INSTRUMENT PANEL I-1. RUN 2#14 WITH SENSOR CABLE FOR NEW FLOWMETER IN SAME CONDUIT.

PLAN VIEW-EXISTING METER VAULT
NOT TO SCALE



NOTES:
1. PAINT NEW CONDUITS TO MATCH EXISTING WALLS.
2. GROUND SECONDARY OF NEW TRANSFORMER TO NEW MCC "LB".

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



NOTES:
1. ROUTE CONDUITS FOR LOW VOLTAGE CONNECTIONS SIMILIAR TO HIGH VOLTAGE.

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

E8

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

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DATE: 2-10-98

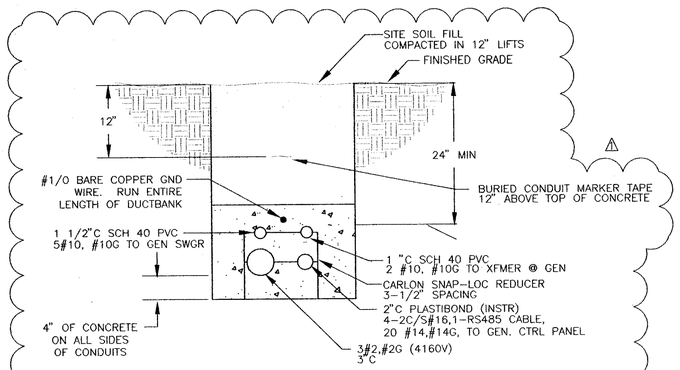
STATE OF TEXAS
JOSEPH J. KOTRLA
56361
REGISTERED PROFESSIONAL ENGINEER

TOWN OF ADDISON, TEXAS

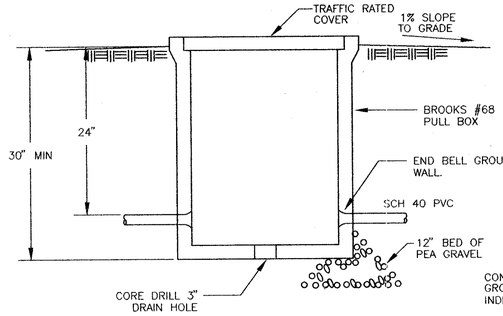
CELESTIAL ROAD PUMP STATION ADDITIONS
SECTIONS & DETAILS

SHIMEK, JACOBS & FINKLEA, L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

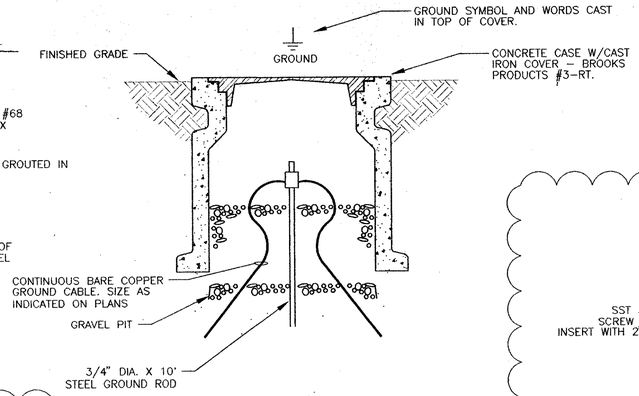
DESIGNED BY: J.J.K.	PROJECT: 97 180	SHEET NO. 13
DRAWN BY: C.C.C.	DATE: JANUARY, 1998	OF 13 SHEETS



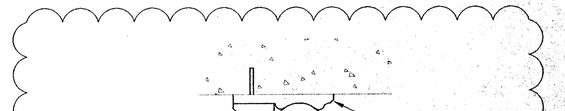
01 CONCRETE ENCASED UNDERGROUND DUCT BANK
NOT TO SCALE



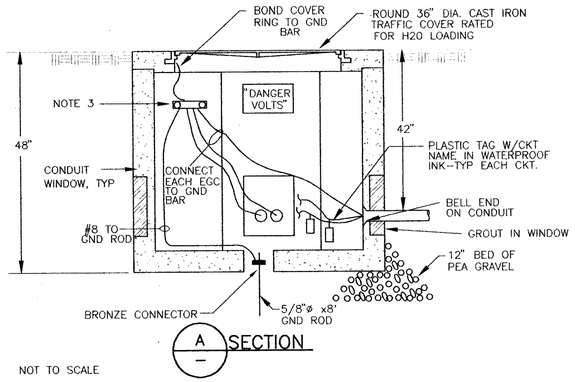
02 DETAIL HANDHOLE
SCALE: NOT TO SCALE



03 GROUND ROD & WELL
SCALE: NOT TO SCALE

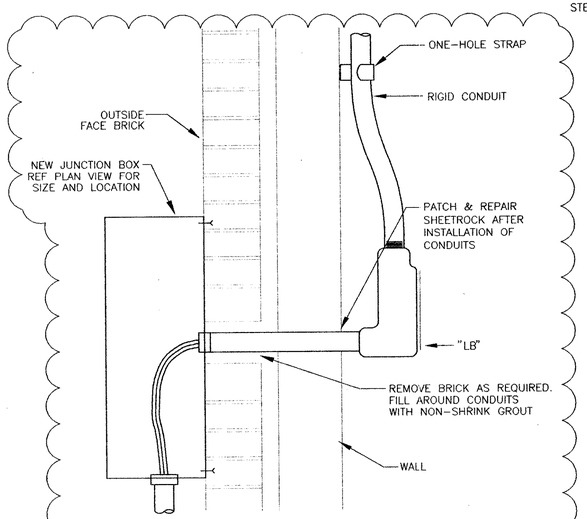


09 TYPICAL CONDUIT SUPPORT ON CONCRETE STRUCTURES FOR SINGLE CONDUIT RUNS
NOT TO SCALE



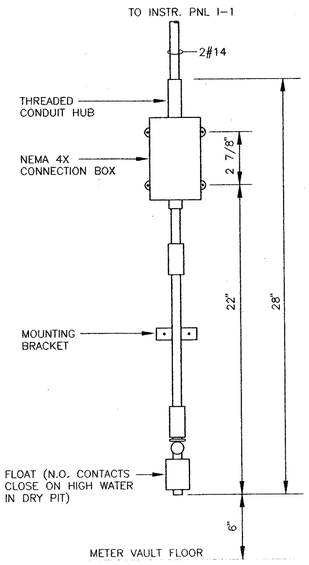
NOT TO SCALE

NOTES:
1. CONDUIT & WIRING ARRANGEMENTS VARY ACCORDING TO SITE WIRING REQUIREMENTS.
2. BLACKBURN "WGB" GND BAR. ATTACH TO WALL WITH STAINLESS STEEL ANCHORS.
3. PULLING IRONS SHALL BE EMBEDDED IN AT LEAST TWO WALLS AND SHALL BE OPPOSITE CONDUIT ENTRIES. FLOOR SHALL HAVE 12" DIAMETER HOLE FOR DRAINAGE.

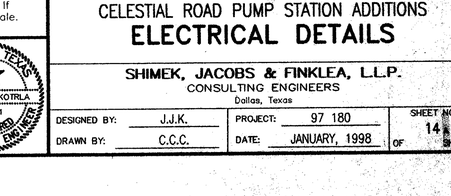


NOTES:
1. REPAIR ALL BRICK DAMAGED BY INSTALLATION.
2. REF PLAN VIEWS FOR NUMBER AND SIZE OF CONDUITS.

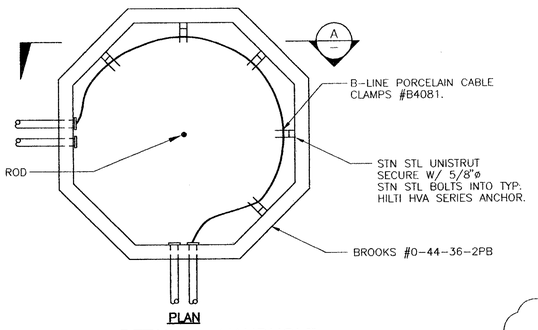
04 CONDUIT PENETRATIONS



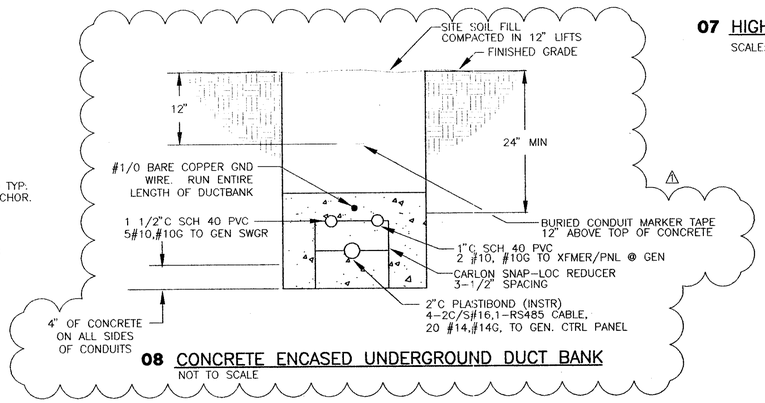
07 HIGH SUMP WATER ALARM DETAIL
SCALE: NOT TO SCALE



06 MCC "LB" ELEVATION
SCALE: 3/4" = 1'-0"



05 DETAIL - HANDHOLE
SCALE: NOT TO SCALE



08 CONCRETE ENCASED UNDERGROUND DUCT BANK
NOT TO SCALE

NO.	DATE	REVISION	BY
2	2-10-98	ADDENDUM 2	JJK

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

THESE DOCUMENTS ARE FOR BIDDING, CONSTRUCTION, AND PERMIT PURPOSES.
DATE: 2-10-98

STATE OF TEXAS
JOSEPH J. KOTRLA
56361
REGISTERED PROFESSIONAL ENGINEER

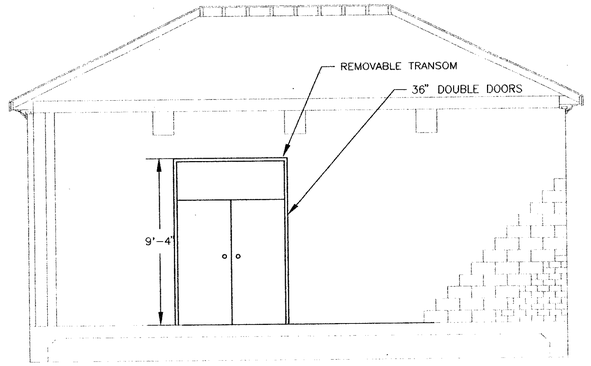
E9

TOWN OF ADDISON, TEXAS

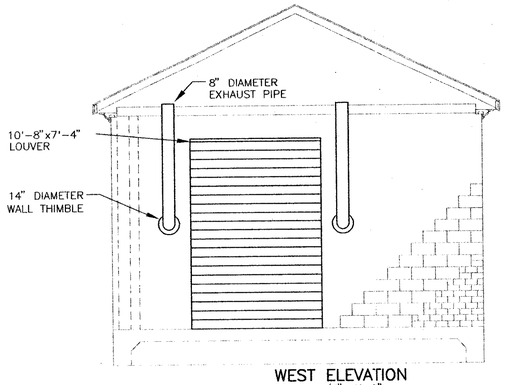
CELESTIAL ROAD PUMP STATION ADDITIONS
ELECTRICAL DETAILS

SHIMEK, JACOBS & FINKLEA, L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

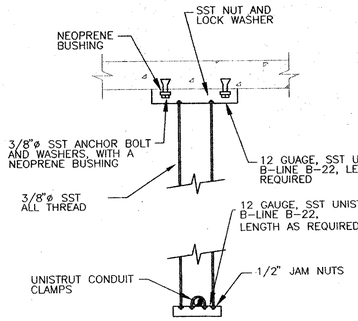
DESIGNED BY: J.J.K.
DRAWN BY: C.C.C.
PROJECT: 97 180
DATE: JANUARY, 1998
SHEET NO. 14 OF 14 SHEETS



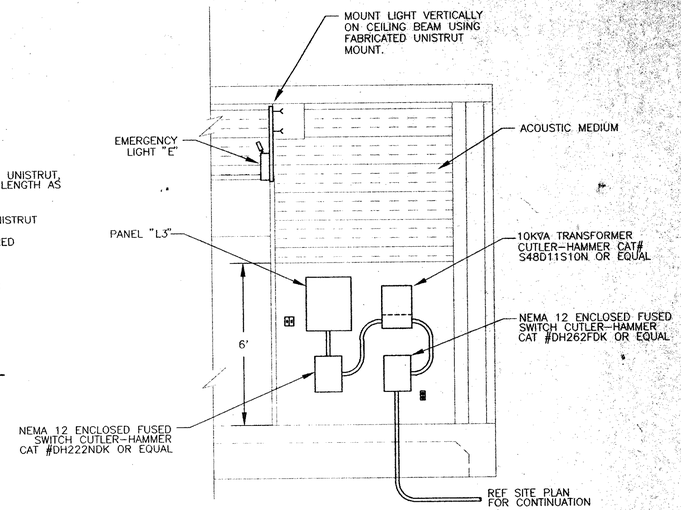
SOUTH ELEVATION
SCALE: 1/4"=1'-0"



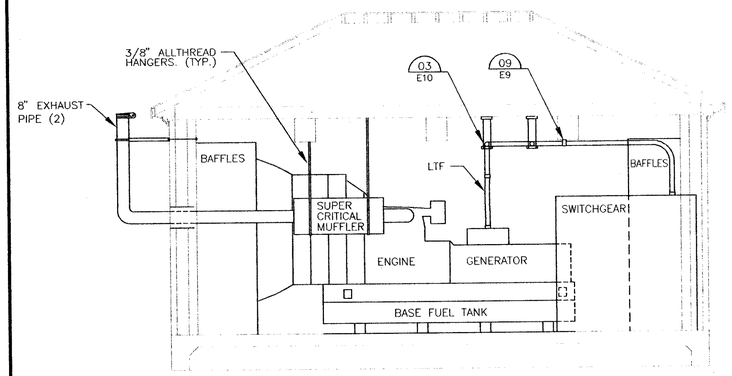
WEST ELEVATION
SCALE: 1/4"=1'-0"



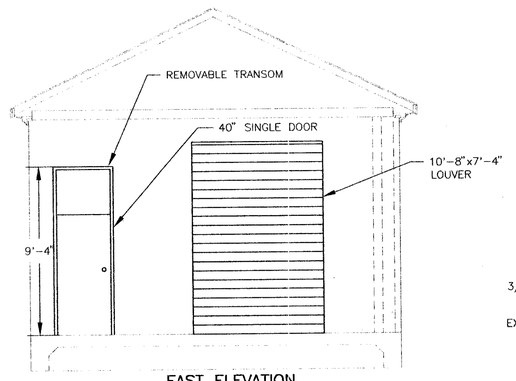
03 CONDUIT TRAPEZE SUPPORT
NOT TO SCALE



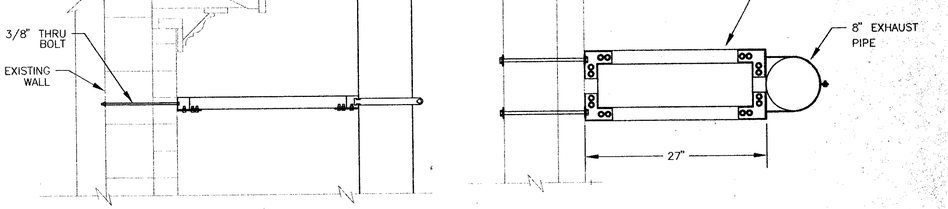
01 ELEVATION
SCALE: 3/8"=1'-0"



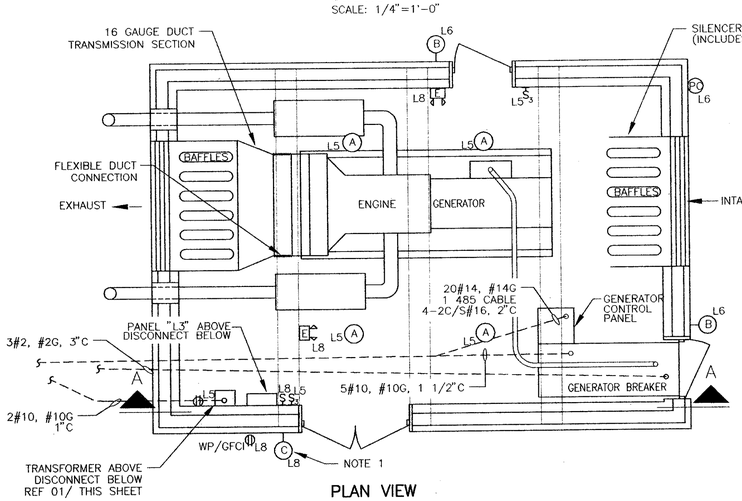
SECTION A-A
SCALE: 1/4"=1'-0"



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



02 EXHAUST PIPE SUPPORT BRACKET
NOT TO SCALE



PLAN VIEW
GENERATOR
SCALE: 1/4"=1'-0"

NOTES:
1. PROVIDE A PHOTOCELL MOUNTED 10'AFF FLUSH WITH WALL. THE PHOTOCELL SHALL BE CROUSE-HINDS #D2520 MOUNTED IN A FLUSH MOUNTED MASONARY BOX.
2. A NUMBER BESIDE A CIRCUIT OUTLET INDICATES A PANELBOARD BRANCH CIRCUIT CONNECTON. WHERE CONDUIT AND WIRE HAVE NOT BEEN SHOWN, THE CONTRACTOR SHALL FURNISH AND INSTALL WIRE AND CONDUIT AS REQUIRED AND MATERIALS AND INSTALLATION SHALL BE PER THE SPECIFICATIONS. CONDUIT SHALL BE CODE SIZED PER THE NEC, 3/4" MINIMUM, MINIMUM SIZE WIRE #12 UNLESS OTHERWISE NOTED.
3. INSULATE MUFFLERS AND INTERIOR EXHAUST PIPING.
4. 100W 20,000HR LAMP (#100A/IF/20M) BY SUPREME LIGHTING (800-922-6693) IS AVAILABLE FROM LIGHT BULB SOLUTIONS (214-651-9386).

PANEL "L-3" — 240/120VAC 1ø — 100A MLO — NEMA 12

WIRE	LOAD SERVED	BRKR	CKT	CKT	BRKR	LOAD SERVED	WIRE
2#12 #12G	CONTROL PNL/SPACE HTR	20/1	1	2	30/2	WATER JACKET FOR GEN	2#8 #8G
2#12 #12G	BATTERY CHGR FOR GEN	15/1	3	4			
2#12 #12G	INTERIOR LIGHTS	15/1	5	6	20/1	OUTDOOR LIGHTING	2#12 #12G
2#12 #12G	GENERATOR HEATER	20/2	7	8	20/1	OUTDOOR LTG/EMERGENCY	2#12 #12G
			9	10	20/1	SPARE	
	SPARE	20/1	11	12			
	SPARE	20/1	13	14			
			15	16			
			17	18			
			NEUTRAL	GROUND			

NOTES:
1. FURNISH AND INSTALL CUTLER-HAMMER BOX #YS2024 WITH TRIM #LT2024 OR EQUAL.
2. RUN ALL CIRCUITS FOR THE GENERATOR IN ONE 1 1/2"C.

LIGHT FIXTURE SCHEDULE

MARK	DESCRIPTION	VOLTS	LAMPS	MANUFACTURER	CATALOG NUMBER	COMMENTS
A	INTERIOR LIGHT	120	175W MH	HOLOPHANE	BA17DMH12PUF1	
B	WALL MOUNT	120	100W	SUPREME	100A/IF/20M	
C	WALL MOUNT	120	100W MV	HOLOPHANE	WL2K100MV12B7F1	PROVIDE PHOTOCELL
E	EMGCY LT, SEALED BATTERY	12	50W TUN	HOLOPHANE	DM6C50TNS2F1	

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DATE: 2-10-98

STATE OF TEXAS
JOSEPH J. KOTRLA
56361
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	BY
2	2-10-98	ADDENDUM 2	JJK

E10

TOWN OF ADDISON, TEXAS

CELESTIAL ROAD PUMP STATION ADDITIONS
GENERATOR BUILDING

SHIMEK, JACOBS & FINKLEA, L.L.P.
CONSULTING ENGINEERS
Dallas, Texas

DESIGNED BY: J.J.K
DRAWN BY: C.C.C.
PROJECT: 97 180
DATE: JANUARY, 1998
SHEET NO. 15 OF SHEETS