PLOTTED BY: AOLIVAREZ ON 11/6/2008
PLOT STYLE: 11x17.ctb
PLOT SCALE: 1:20
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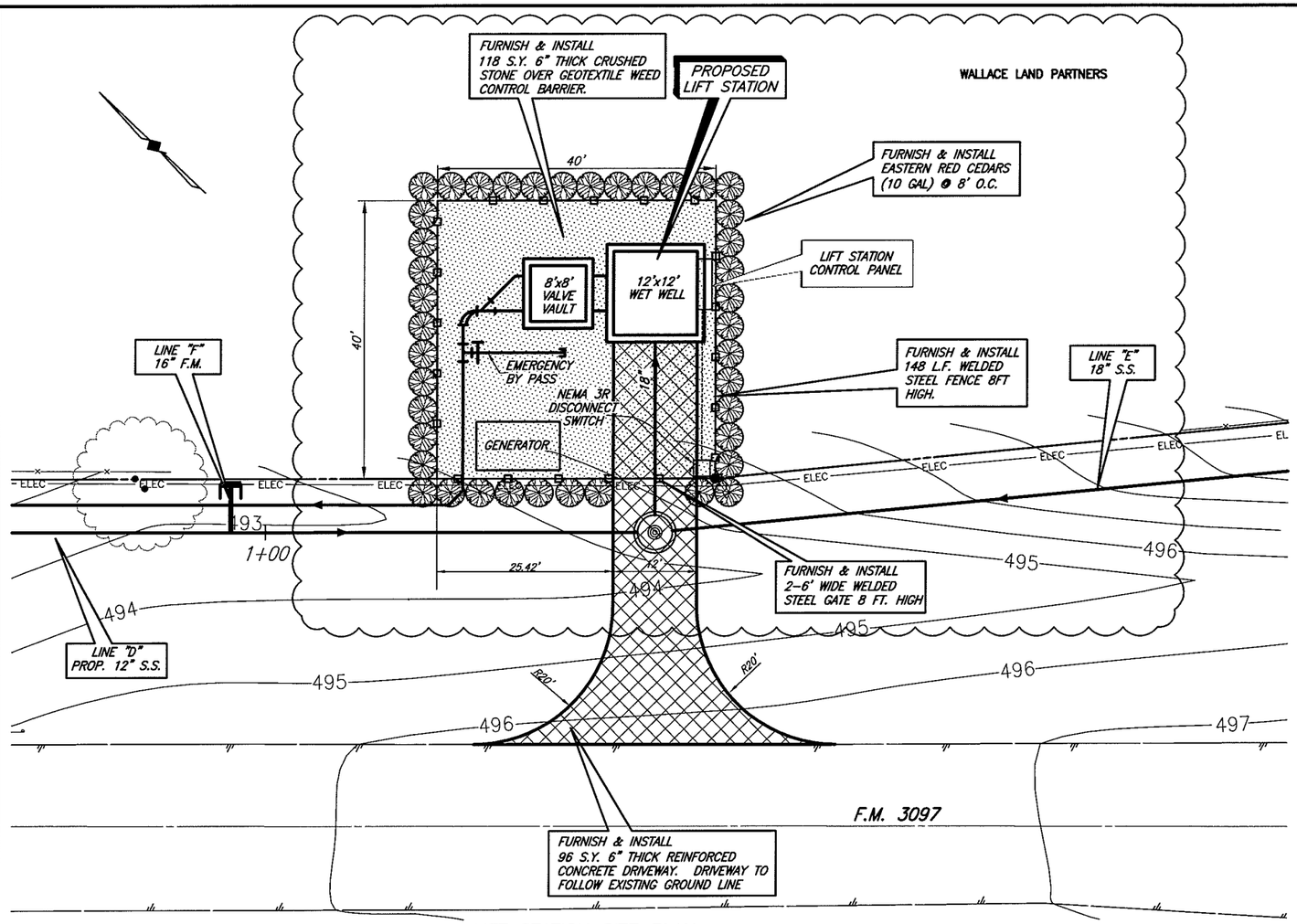
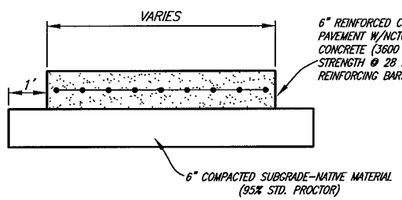
REVISED: 11/6/08 - AOLIVAREZ



LIFT STATION SITE PLAN



CONCRETE PAVEMENT DETAIL

GENERAL NOTES

1. IN ORDER TO PREVENT SHEARING WITHIN THE BACKFILL AREAS, THE DISCHARGE PIPING SHELL BE DUCTILE IRON FROM THE LIFT STATION, THROUGH THE VALVE VAULT.
2. ALL DUCTILE IRON PIPING SHALL BE ANSI/AWWA C115. FITTINGS SHALL BE ANSI/AWWA C110 DUCTILE IRON, FLANGED, STANDARD THICKNESS. JOINTS SHALL BE ANSI/AWWA C111, MECHANICAL JOINT. PIPE AND FITTINGS SHALL HAVE INTERNAL AND EXTERNAL EPOXY COATINGS. ALL BURIED DUCTILE IRON PIPING SHALL ALSO BE POLYETHELENE ENCASED IN ACCORDANCE WITH AWWA C105.
3. ALL DUCTILE IRON PIPING SHALL BE LINED WITH TWO 8.0 MIL COATS (16 MIL TOTAL DFT) OF TNEMEC SERIES 164 COLOR EPOXOLINE 80 OR APPROVED EQUAL.
4. ALL EXPOSED METALLIC PIPE (NON-GALVANIZED, NON-STAINLESS STEEL OR NON-ALUMINUM) AND FITTINGS WITHIN THE WET WELL AND VALVE VAULT SHALL BE COATED WITH A MINIMUM OF TWO 6.0 MIL COATS (12 MILS TOTAL DFT) OF DEVOE BAR-RUST 233H HIGH PERFORMANCE EPOXY COATING OR APPROVED EQUAL.
5. ALL ELECTRCAL JUNCTION BOXES SHALL BE LOCATED OUTSIDE OF THE WET WELL BETWEEN THE CONTROL PANEL AND THE WET WELL. A SEAL COUPLING MAY BE USED IN LIEU OF A JUNCTION BOX, HOWEVER IT MUST BE LOCATED BETWEEN THE CONTROL PANEL AND WET WELL. ALL COMPONENTS WITHIN THE WET WELL SHALL BE EXPLOSION-PROOF.
6. WHERE PIPES OR CONDUIT PASS THROUGH THE WALL OF THE WET WELL, THE SPACE BETWEEN THE WET WELL AND THE PIPE SHALL BE SEALED WITH LINK SEALS.
7. THE FOUNDATION OF THE WET WELL SHALL REST ON UNDISTURBED SOIL. OVER EXCAVATION OF THE WET WELL FOUNDATION SHALL BE FILLED WITH 2,500 PSI CONCRETE TO THE ELEVATION SHOWN ON THE PLANS FOR THE BOTTOM OF THE WET WELL FOUNDATION.
8. CONTRACTOR SHALL GROUT OPENINGS FOR ACCESS FRAMES AND WET WELL BOTTOM AS SHOWN. ALL GROUT SHALL BE NON-SHRINK AND BE COMPATIBLE WITH SPECIFIED COATINGS. CONFIGURE GROUT IN WET WELL BOTTOM PER PUMP MANUFACTURERS RECOMMENDATION.
9. COMPLETELY RESTRAIN ALL JOINTS FOR PIPE, BENDS, TEES AND FITTINGS ON THE FORCE MAIN PIPING WITHIN THE LIFT STATION SITE AND WITHIN 100 FEET OUTSIDE OF THE LIFT STATION FENCE.
10. NEMA 4X DUPLEX PUMP CONTROL PANEL SHALL ALTERNATE PUMP STARTING SEQUENCE, INTERFACE WITH LIQUID LEVEL SENSORS, CONTAIN MAIN DISCONNECT SWITCH, PILOT LIGHTS, RUN TIME METERS, HIGH LEVEL/PUMP FAIL ALARM HORN, BATTERY BACK-UP, PLC AND UNDERWRITERS LABORATORY APPROVAL LABEL. PUMP PANEL SHALL BE "CITY OF ROCKWALL STANDARD" AS MANUFACTURED BY STA-CON, INC. COMPONENTS OF CONTROL PANEL SHALL BE SIZED TO HANDLE PHASE I AND PHASE II PUMPS.
11. PRECAST WET-WELL AND VALVE VAULT SHALL BE A MINIMUM OF 4,000 PSI CONCRETE. WALL THICKNESS SHALL MEET OR EXCEED THE MINIMUMS SHOWN. MANUFACTURER SHALL VERIFY WALL THICKNESSES AND PROVIDE ADEQUATE REINFORCING FOR PROPOSED DEPTHS. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF THE PROPOSED STRUCTURES SEALED AND SIGNED BY A TEXAS LICENSED PROFESSIONAL ENGINEER TO BIRKHOFF, HENDRICKS & CONWAY, L.L.P. FOR REVIEW.
12. BACKFILL AROUND THE WET WELL AND VALVE VAULT SHALL BE COMPACTED TO 95% STANDARD PROCTOR AT +/-3% OF OPTIMUM MOISTURE.
13. ALL CONCRETE AND GROUT SURFACES INSIDE THE WET WELL SHALL BE COATED WITH A 6.0 MIL DFT PRIME COAT OF TNEMECSERIES 201 EPOXOPRIME, 125 MIL DFT COAT OF TNEMEC SERIES 434 CHEMBLOCK H2S, AND A 16 MIL DFT TOP COAT OF TNEMEC 435 CHEMGEL. ALL CONCRETE AND GROUT SHALL HAVE A MINIMUM OF 28 DAYS CURE TIME PRIOR TO COATING APPLICATION. ABRASIVE BLAST ALL SURFACES TO SSPC-SP13/NACE 6 PRIOR TO COATING APPLICATION. FOLLOW MANUFACTURERS PUBLISHED APPLICATION INSTRUCTIONS INCLUDING THOSE FOR SURFACE REPAIR PRIOR TO COATING.
14. WET WELL AND VALVE VAULT SHALL HAVE WATER TIGHT JOINTS (O-RING OR APPROVED EQUAL). INTERIOR AND EXTERIOR SIDES OF JOINTS SHALL BE SEALED WITH NON-SHRINK GROUT.
15. LUMP SUM BID ITEM FOR LIFT STATION IN BID SCHEDULE SHALL INCLUDE ALL LIFT STATION EQUIPMENT, MATERIALS, LABOR, ELECTRICAL WORK, ETC. IN FENCED AREA SHOWN ON LIFT STATION SITE PLAN. THIS INCLUDES THE FENCE, GATES, CONCRETE PAVEMENT, ETC. LUMP SUM BID ITEM INCLUDES A COMPLETE OPERATIONAL LIFT STATION AS SPECIFIED IN THESE PLANS AND SPECIFICATIONS.
16. CONTRACTOR SHALL COORDINATE LOCATION OF PUMPS, BASE ANCHORS, HATCHES AND ALL APPURTENANCES WITH PUMP MANUFACTURER.
17. CONTRACTOR SHALL USE BASE ELBOW ANCHORS RECOMMENDED BY ITT FLYGT. ANCHORS SHALL BE PRE-CAST INTO WET WELL.
18. BASE ELBOWS SHALL ACCOMODATE PHASE I & PHASE II PUMPS.
19. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH NEC, LOCAL AND NATIONAL CODES.

PHASE I PUMP SCHEDULE (THIS CONTRACT)

PUMP NO.	MIN. PUMP EFFICIENCY (%)	G.P.M. (EA)	PRESSURE (FT. HD.)	DISCHARGE SIZE (IN.)	VOLTS	PHASE	RPM	HP (EA.)
1	67	1500	68	6	460	3	1775	45
2	67	1500	68	6	460	3	1775	45

* PUMP SCHEDULE BASED ON FLYGT NP3202, 462 IMPELLER PUMP.

PHASE II PUMP SCHEDULE (FUTURE BY OTHERS)

PUMP NO.	MIN. PUMP EFFICIENCY (%)	G.P.M. (EA)	PRESSURE (FT. HD.)	DISCHARGE SIZE (IN.)	VOLTS	PHASE	RPM	HP (EA.)
1	79	3000	76	8	460	3	1185	90
2	79	3000	76	8	460	3	1185	90

* PUMP SCHEDULE BASED ON FLYGT CP 3231, 630 IMPELLER PUMP.

1. SUBMERSIBLE SEWAGE TYPE w/RAIL RETRIEVAL SYSTEM AND FLOAT CONTROL.
2. SCHEDULED NUMBERS FOR PUMP EFFICIENCY, G.P.M. AND PRESSURE REFLECT ONE PUMP IN OPERATION.
3. PUMPS AND MOTORS SHALL BE EXPLOSION PROOF.
4. PUMPS SHALL BE MANUFACTURED BY ITT FLYGT OR EBARA INTERNATIONAL CORPORATION
5. PUMPS SHALL HAVE MIX FLUSH VALVES TO KEEP MATERIAL IN WET WELL IN SUSPENSION.

HORIZONTAL 0 10 20 30
SCALE IN FEET

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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 11/06/08

THESE DOCUMENTS ARE FOR BIDDING, CONSTRUCTION, AND PERMIT PURPOSES
DATE: 12/7/05

STATE OF TEXAS
PAUL A. CARLINE
85400
LICENSED PROFESSIONAL ENGINEER

CITY OF ROCKWALL, TEXAS

F.M. 3097 SAN. SEW. IMPROVEMENTS
LIFT STATION
MISCELLANEOUS DETAILS

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

DESIGNED BY: P.A.C.	PROJECT: 2004-147	SHEET NO. 31
DRAWN BY: B.H.C.	DATE: DECEMBER, 2005	OF 35 SHEETS