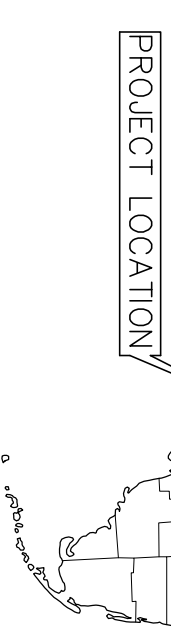


REHABILITATION OF LIFT STATION D THE TOWN OF LONGBOAT KEY PUBLIC WORKS LONGBOAT KEY, FLORIDA

DMK PROJECT NUMBER: 08-0309-D



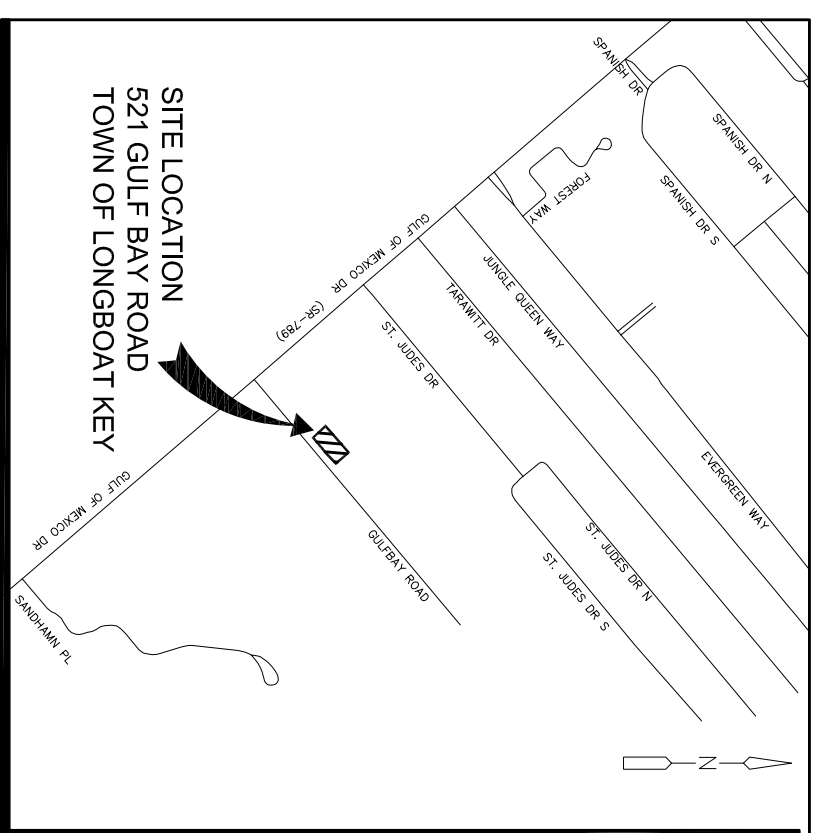
GENERAL NOTES

- All construction shall be in accordance with Manatee County, the Town of Longboat Key Public Works Department, the Manatee County Health Department, the Florida Department of Environmental Protection, the Florida Department of Transportation and the State of Florida as applicable.
- Prior to commencing any excavation, the Contractor shall comply with the "Underground Facility Damage Prevention and Safety Act," effective October 1, 2002 and as amended Chapter 556, Florida Statutes (F.S.), regarding underground utilities, as amended.
- The Contractor shall call SUNSHINE STATE ONE (www.callsunshine.com) at 811 two business days before digging, but no more than five days. The Contractor shall have all information ready when calling. SUNSHINE ONE will help locate buried facilities, including but not limited to electric, gas, telephone, cable, water, etc. and others. Dig safely, using extreme caution when digging to avoid hitting the buried utility lines.
- The Contractor shall be responsible for any and all damage to underground utilities. The Contractor shall exercise extreme caution in areas of buried utility cables, sanitary sewer lines, storm sewer lines, reclaimed water lines, water lines, and sprinkler lines, overhead utilities and applicable appurtenances. Utilities include utilities shown on the plan, but in no way are utilities limited to those shown on the plan. DMK Associates does not issue any guarantee that all the utilities are shown on the plans.

Possible Utility Companies within project limits:

- Verizon Florida (336) 992-6100
- Florida Power & Light (David Alvarez (941) 927-4260)
- Comcast Cable Vision of Florida (800) 778-9140
- Tecor Peoples Gas (Pothia S. Johnson (954) 453-0825
- The Town of Longboat Key Public Works (Juan J. Florensa (941) 316-1956)
- (others not listed - contractor to contact)

- NO CONSTRUCTION shall begin until the Contractor receives his "Notice to Proceed" and obtains all permits.
- The locations of the existing utilities as shown on the plans are approximate only. The exact utilities and locations of utilities shall be determined by the Contractor prior to construction. The Contractor is responsible for confirming if "OTHER UTILITIES" not shown on the plans, exist within the area of construction. Should "OTHER UTILITIES" exist, the Contractor shall notify the respective utility owner(s) and resolve utility conflicts and make utility adjustments at no cost to the Owner.
- Existing property corners, legal section corners, and other Land Markers or Monuments located within the proposed project are to be "witnessed" prior to construction and reset if disturbed, after construction by a "Florida Licensed Professional Land Surveyor."
- All proposed utilities will be located within easements.
- All soil erosion and sediment control constraints as mandated must be complied with by the Contractor.
- The Contractor shall provide, install, and maintain temporary signage in accordance with the current Florida DOT Standards, the Manual on Uniform Traffic Control Devices as amended and shall maintain local traffic at all times.
- A separate right of way use permit will be required for all utility work within the public right of way. Specific stipulations or conditions will be imposed at the time of the permit application.
- Construction and materials shall be in accordance with The Town of Longboat Key Public Works Standards and Specifications and the Specifications for the product as of November 10, 2009. Record Drawings shall be prepared in State Plane Coordinates secure by the contractor.
- No company logo decals or signs allowed on aboveground equipment.
- The emergency generator shall be installed in compliance with NFPA110, 2005 Edition.



SECTION 25, TOWNSHIP 35 S., RANGE 16 E.
RECORD DRAWING

OWNERSHIP AND UNIFIED CONTROL STATEMENT

THE TOWN OF LONGBOAT KEY
HAS OWNERSHIP - UNIFIED CONTROL
OF ALL PROPERTIES DESCRIBED HEREIN

ENGINEER:

DMK ASSOCIATES
435 COMMERCIAL COURT, SUITE 200
VENICE, FLORIDA 34292
(941) 412-1293
C.A. NO. 3943



PREPARED FOR:

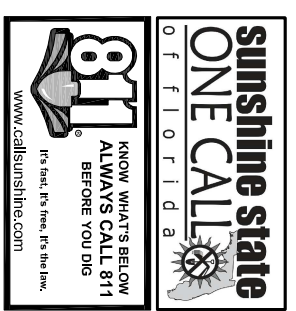
THE TOWN OF LONGBOAT KEY
501 BAY ISLES ROAD
LONGBOAT KEY, FLORIDA 34228
(941) 316-1958

INDEX OF DRAWINGS

SHEET NO.	TITLE
01	COVER
02	EXISTING CONDITIONS
03	EXISTING UTILITY PLAN
04	LANDSCAPE AND FINAL SITE PLAN
05	DEMOLITION SITE PLAN PHASE 1
06	DEMOLITION SITE PLAN PHASE 2
07	STRUCTURAL NOTES
08	WET WELL STRUCTURAL PLAN
09	CONTROL BUILDING STRUCTURAL PLAN
10	CONTROL BUILDING STRUCTURAL PLAN
11	PROPOSED CONTROL BUILDING SECTIONS
12	PROPOSED SITE PLAN
13	PROPOSED PIPING LAYOUT
14	PROPOSED LIFT STATION PLAN AND SECTIONS
15	PROPOSED PIPING LAYOUT
16	PROPOSED LIFT STATION PLAN AND SECTIONS
17	LIST OF MATERIALS AND TABLES
18	GRAVITY SEWER RECONNECTION PLAN
19	DETAILS
20	DETAILS
21	HORIZONTAL CONTROL PLAN
22 (E-S-R1)	SITE ELECTRIC PLAN
23 (E-R1)	BUILDING TERMINAL BOX & CONDUIT LAYOUT
24 (E-R2)	CONTROL RISER DIAGRAM REVISIONS
25 (E-R3)	ELECTRICAL RISER DIAGRAM REVISIONS
26	SITE LIGHTING PHOTOMETRIC PLAN
27	M.O.T. DETAILS
28	M.O.T. DETAILS
29	M.O.T. DETAILS

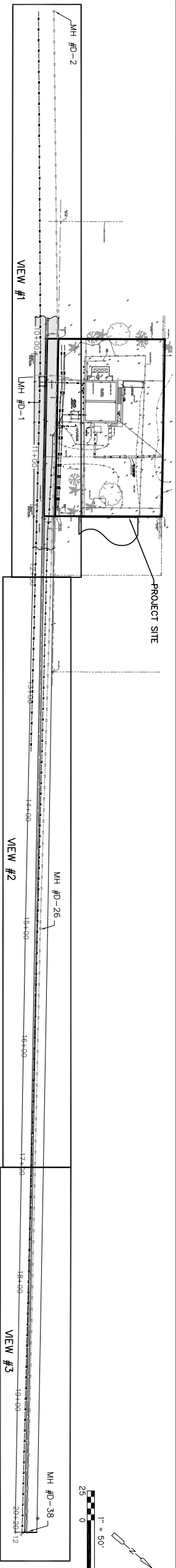
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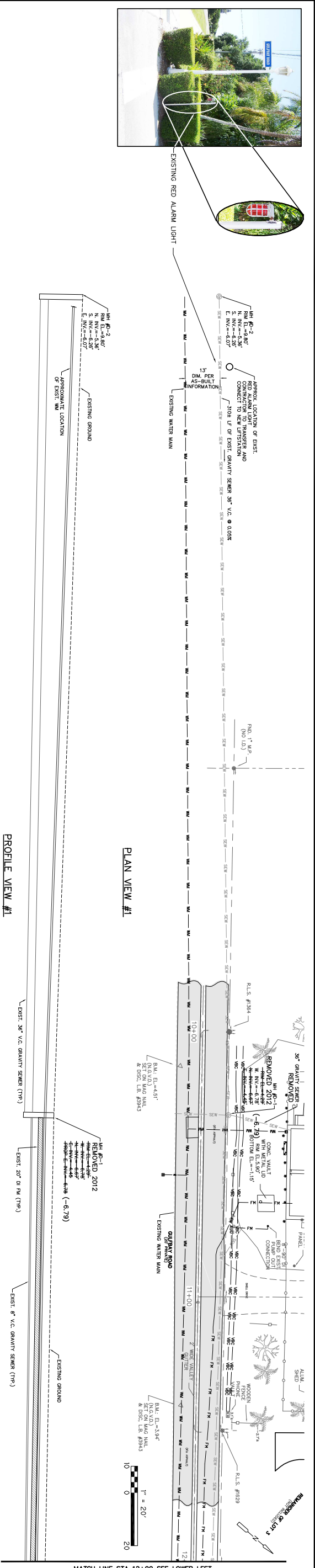
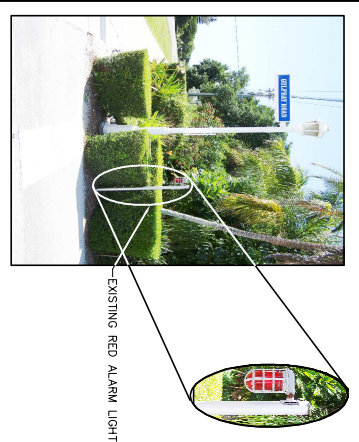


ENGINEER OF RECORD
ROBERT C. STANLEY, P.E.
STATE OF FLORIDA No. 62502
C.A. No. 3943

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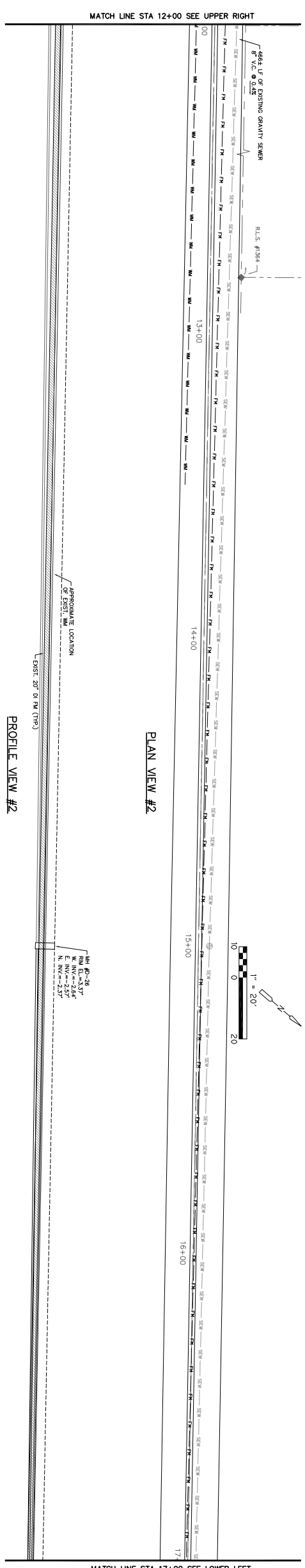


OVERVIEW



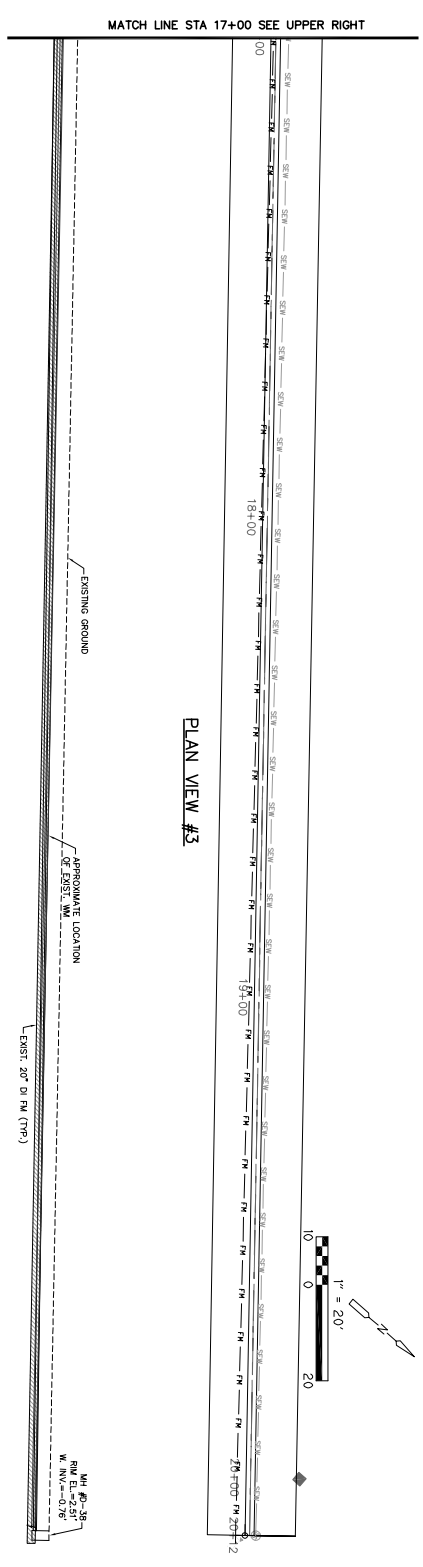
PLAN VIEW #1

MATCH LINE STA 12+00 SEE LOWER LEFT



PROFILE VIEW #1

MATCH LINE STA 17+00 SEE LOWER LEFT



PLAN VIEW #2

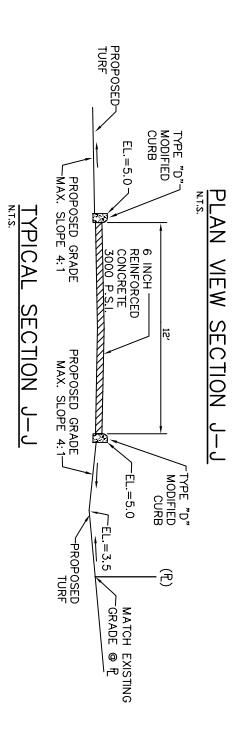
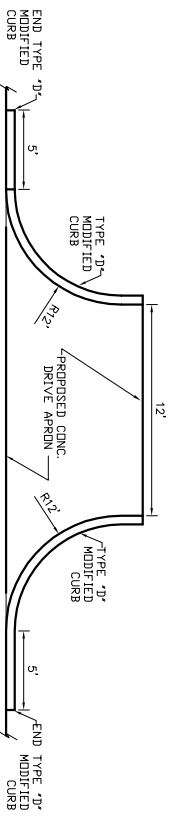
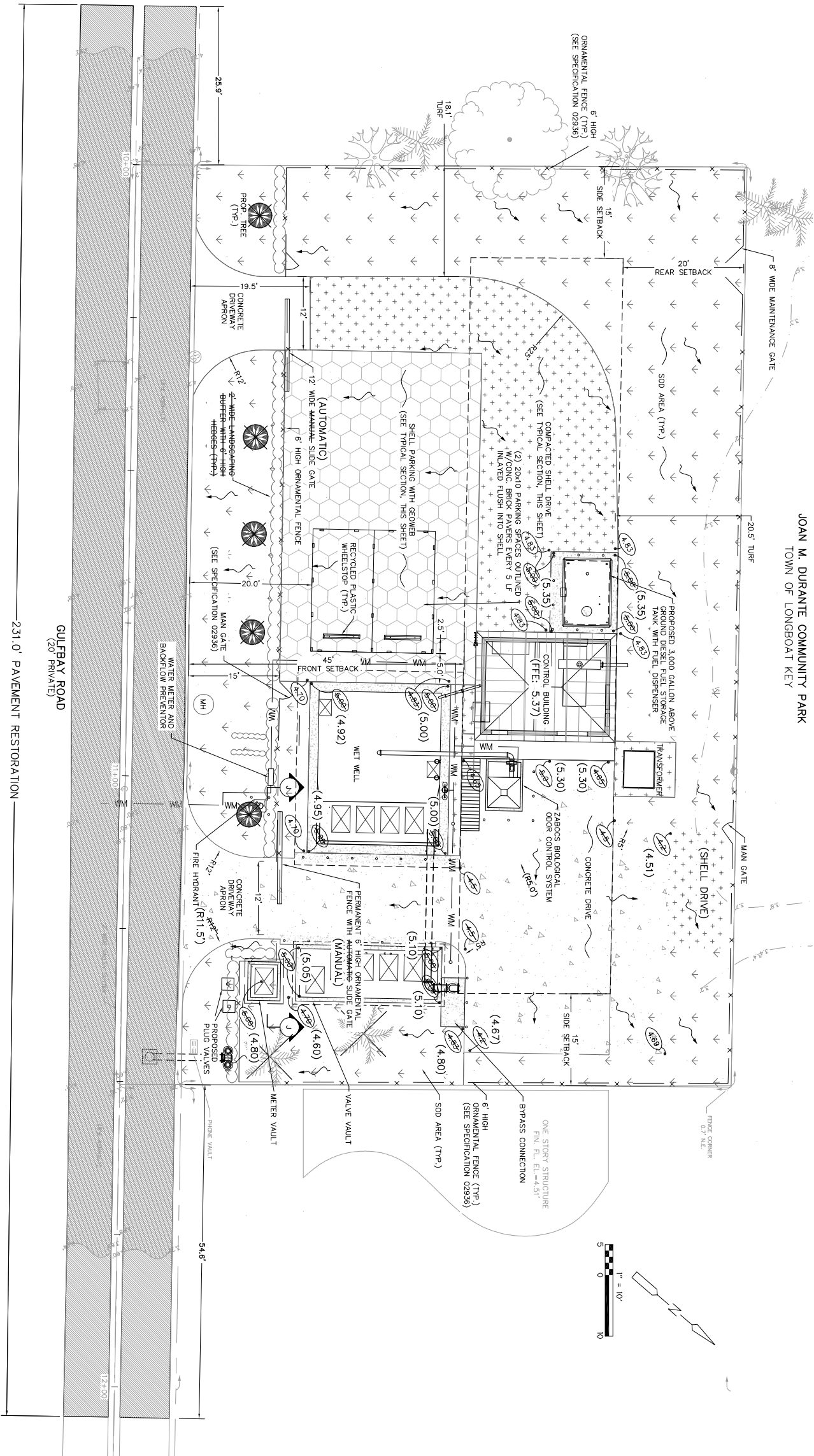
PROFILE VIEW #2

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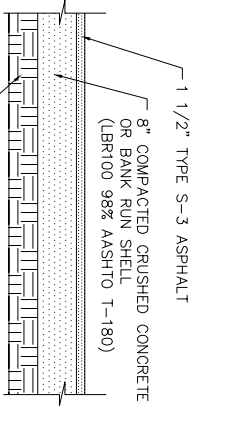
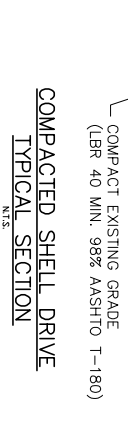
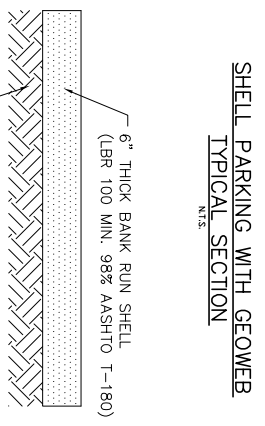
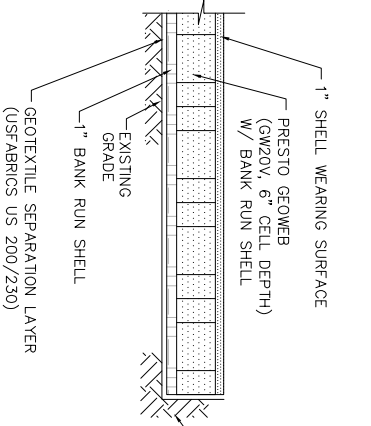
PROFILE VIEW #2

SITE COVERAGE						
PHASE OF PROJECT	DRIVEWAYS	BUILDINGS	CONC. SLABS	TOTAL IMPERVIOUS	TOTAL PERVIOUS	TOTAL LOT AREA
EXISTING	2463 S.F.	1093 S.F.	581 S.F.	4137 S.F.	9386 S.F.	13523 S.F.
INTERMITTENT	3369 S.F.	1516 S.F.	1244 S.F.	6129 S.F.	7394 S.F.	13523 S.F.
PROPOSED	5494 S.F.	504 S.F.	1200 S.F.	7198 S.F.	6325 S.F.	13523 S.F.

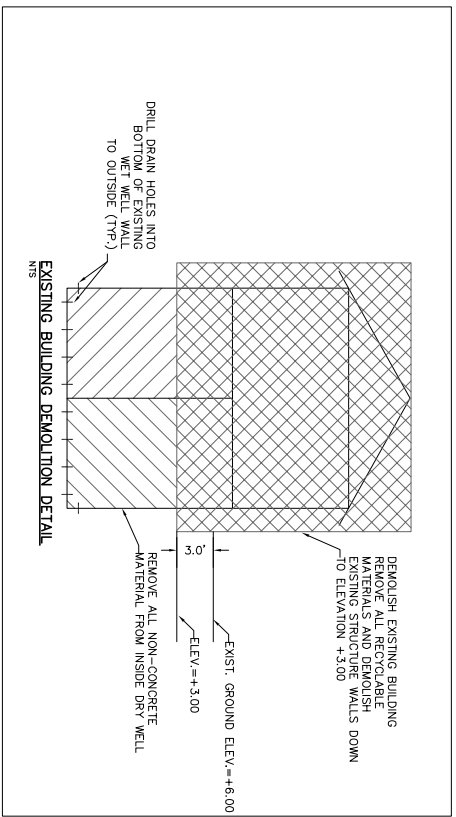
COVERAGE				
BUILDING COVERAGE (AS PERCENTAGE OF PROPERTY BOUNDARY)				
	EXISTING	INTERMITTENT	PROPOSED	MAXIMUM ALLOWABLE COVERAGE
TOTAL IMPERVIOUS COVERAGE	31%	45%	53%	80%
TOTAL PERVIOUS COVERAGE	69%	55%	47%	NA



- LEGEND**
- SOD SURFACE
 - COMPACTED SHELL DRIVE
 - SHELL PARKING W/GEOWEB
 - CONCRETE SURFACE
 - EXISTING ASPHALT

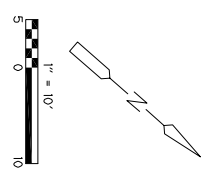
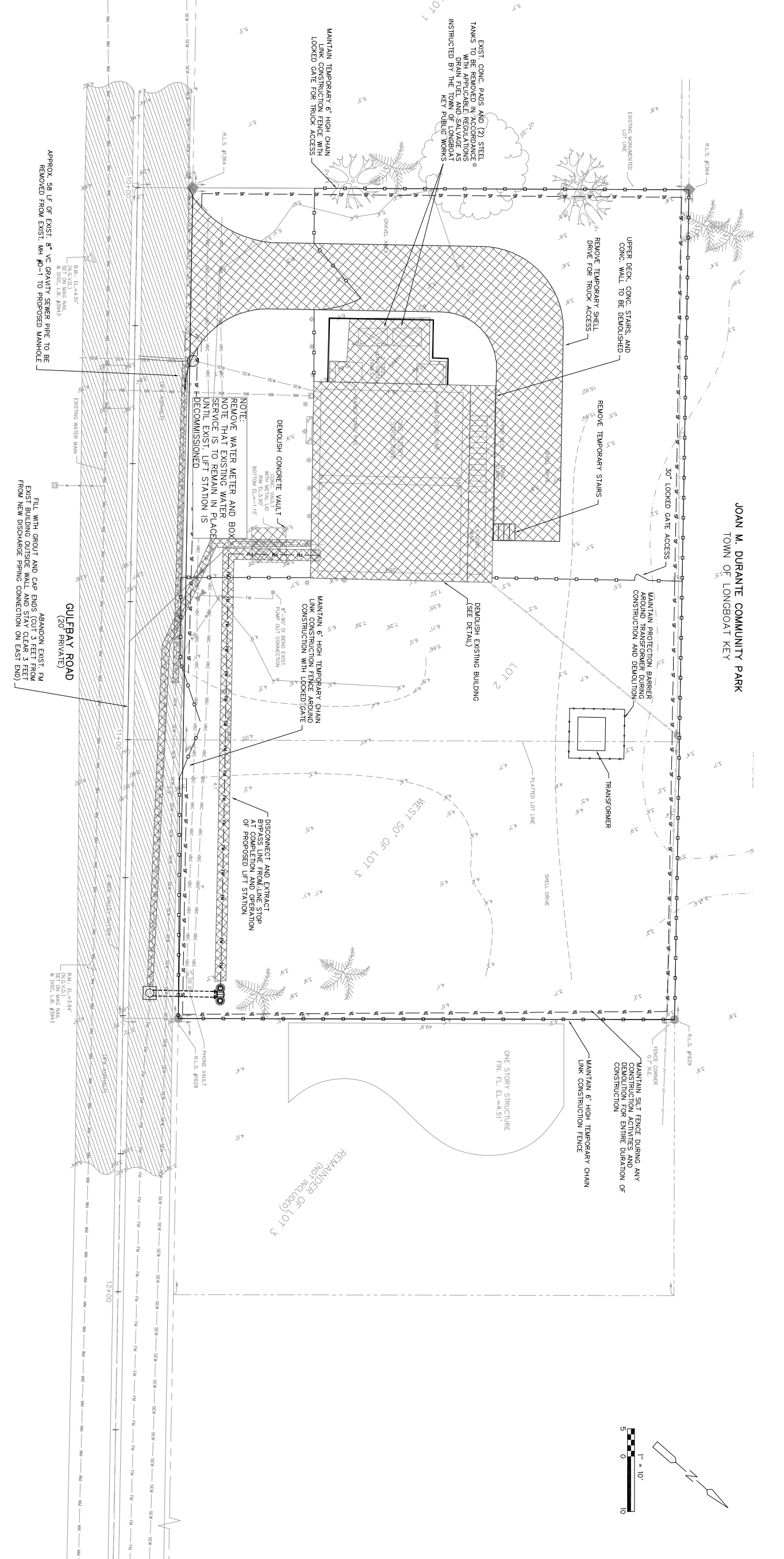


RECORD DRAWING



LEGEND
 [Hatched Box] AREA TO BE DEMOLISHED

NOTE:
 1. ALL DEMOLISHED MATERIAL BECOMES THE PROPERTY OF THE SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER STORAGE AND DISPOSAL OF ALL DEMOLITION MATERIAL IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL LAWS AT THE CONTRACTORS EXPENSE.
 2. THE WETWELL/BROWELL IS TO BE BACKFILLED WITH EXCAVATABLE FLOWABLE FILL PER FOOT SECTION 121.



RECORD DRAWING

FOR: THE TOWN OF LONGBOAT KEY PUBLIC WORKS
TITLE: REHABILITATION OF LIFTSTATION D
DESC: DEMOLITION SITE PLAN PHASE 2

ROBERT C. STANLEY P.E.
 F.L.A. LIC. NO. 62502
 C.A. NO. 3943
 Date:

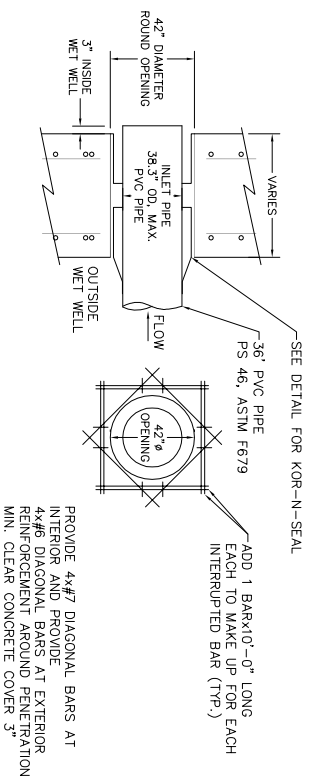
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NO.	REVISION	DATE	BY

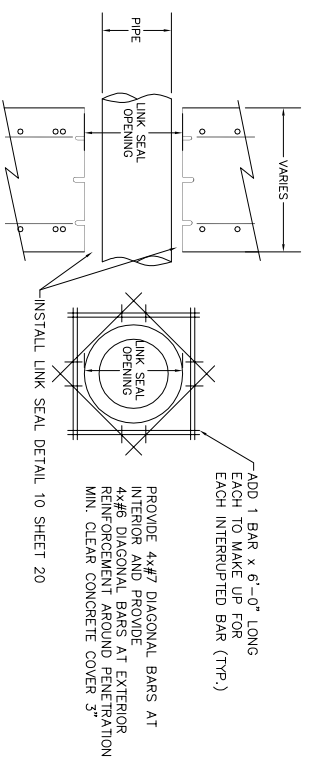
DMK ASSOCIATES
 ENGINEERS & SURVEYORS
 435 Commercial Ct., Ste. 200
 Venice, Florida 34292
 TEL: (841)412-1293 FAX: (841)412-1043
 Engineering Business No. 3943

Checked By: RS Date: 04-23-12
 SCALE: AS SHOWN Proj. No.: 08-0309

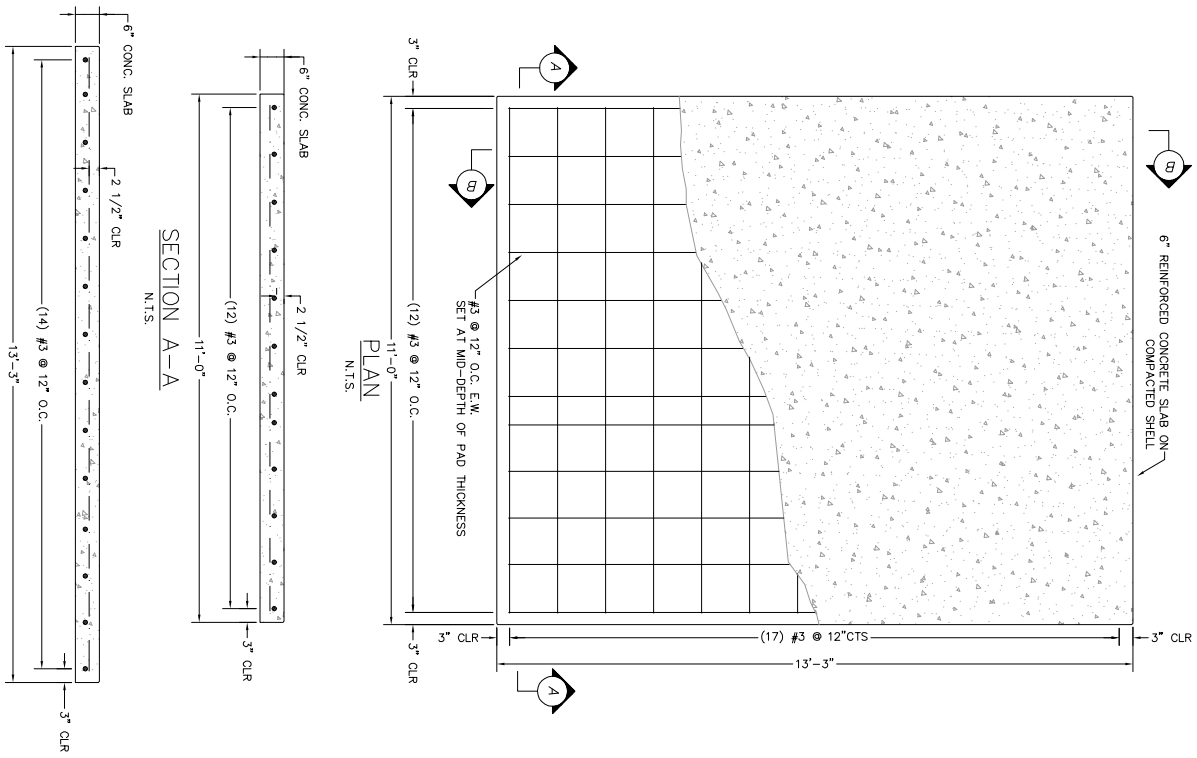
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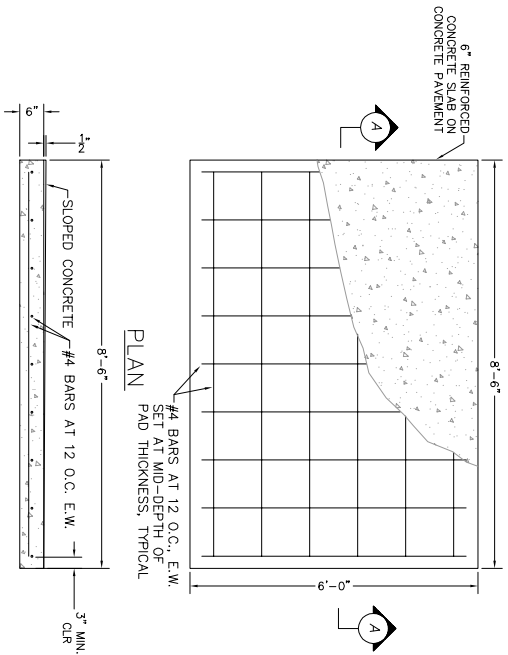
WALL PENETRATION DETAIL FOR 36" PVC INLET PIPE (1)
N.T.S.



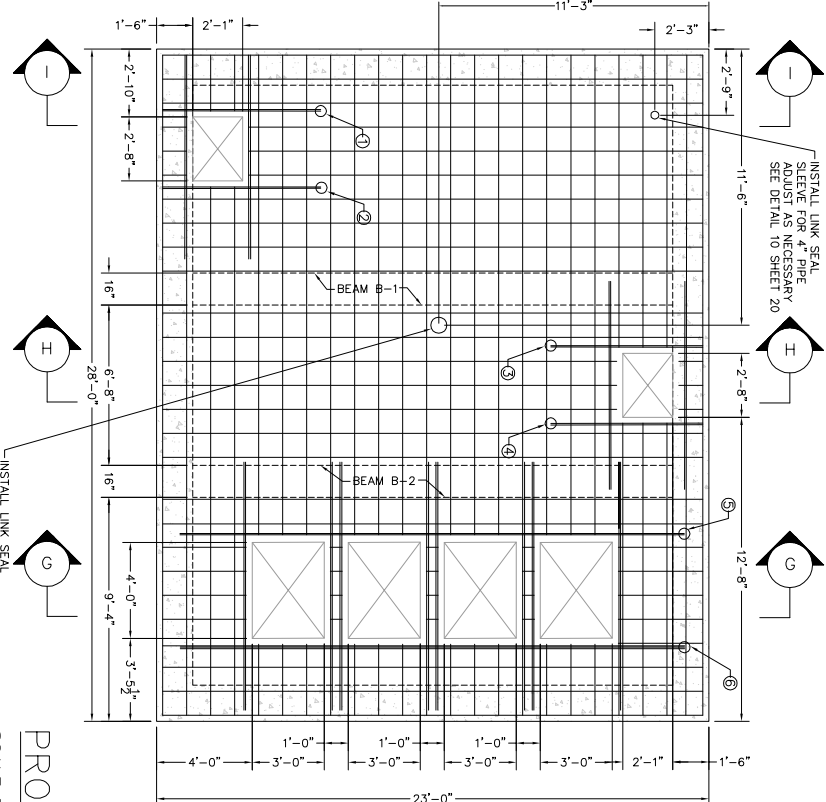
WALL PENETRATION DETAIL FOR 8" & 12" STAINLESS STEEL PIPES (2)
N.T.S.



PROPOSED FUEL TANK PAD
SCALE FOR 24x36 SIZE SHEETS: 1/2"=1'
SCALE FOR 11x17 SHEETS: 1/4"=1'



PROPOSED ZABOCS PAD
SCALE FOR 24x36 SIZE SHEETS: 1/2"=1'
SCALE FOR 11x17 SHEETS: 1/4"=1'



PROPOSED WET WELL REINFORCEMENT PLAN
SCALE FOR 24x36 SIZE SHEETS: 1/4"=1'
SCALE FOR 11x17 SHEETS: 1/8"=1'

GENERAL NOTES - STRUCTURAL

- CONCRETE:**
- GOVERNING CODE: THE FLORIDA BUILDING CODE 2007 WITH LATEST REVISIONS.
 - ENGINEERING STANDARDS: ACI 318-09 (BUILDING CODE REQUIREMENTS), ACI 315 (DETAILING MANUAL), AND ACI 301 (SPECIFICATIONS).
 - TESTING (REQUIRED):
 - TEST SPECIMENS: TEST SPECIMENS SHALL BE TAKEN BY THE TESTING AGENCY AT LEAST THREE (3) CYLINDERS SHALL BE TAKEN FOR EACH FOUR OR 20 CUBIC YARDS, WHICHEVER IS SMALLER IN CONFORMANCE WITH AS 201.1, (PREPARE FOR MAKING AND CURING CONFORMANCE TESTS SHALL BE TAKEN AT 3, 7, 14, AND 28 DAY INTERVALS. TESTS SHALL CONFORM WITH ASTM C39 COMPRESSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMENS), WITH RESULTS SENT TO ENGINEER FOR REVIEW.
 - SHOP DRAWINGS: CONTRACTOR SUBMIT REINFORCING SHOP DRAWINGS SHOWING ALL BAR JOINTS TO THE ENGINEER FOR REVIEW AND APPROVAL BEFORE CASTING. ALL SHOP DRAWINGS AT LEAST TWO WEEKS BEFORE APPROVAL IS REQUIRED.
 - CONCRETE: ASTM C94 READY-MIX CONCRETE (WITH 28-DAY STRENGTH AS NOTED BELOW), 4" MAXIMUM SLUMP, REGULAR WEIGHT (140 PCF), MAXIMUM ALLOWABLE CHLORIDE ION CONTENT IN MIX SHALL BE 0.15 (% BY WGT. OF CEMENT), AND THE W/C RATIO SHALL BE LESS THAN 0.4 BY WEIGHT. PROVIDE CORROSION INHIBITOR AND SUBMIT MIX FOR APPROVAL.
 - REINFORCING: ASTM A615, GRADE 60, FREE OF RUST, GREASE OR SCALE. FOR EACH HORIZONTAL BAR WHERE ALL BEAMS, WALLS OR FOOTINGS TERMINATE AT OTHER BEAMS, WALLS, FOOTINGS OR COLUMNS.
 - CONSTRUCTION JOINTS: SEE PLANS.
 - OTHER NOTES NOTED ON PLANS.
 - MINIMUM CONCRETE COVER REQUIRED OVER REINFORCING: CONCRETE CAST AGAINST EARTH: 3" CONCRETE EXPOSED TO EARTH, WEATHER OR WATER: #3 BAR OR LARGER: 3" #3 BAR OR SMALLER: 3"
 - BAR JOINTS: BAR JOINTS NOTED ON PLANS SHALL CONFORM WITH ACI 318-09 AND DETAILS FOR GENERAL DIMENSIONS.
 - WALL FORM CURTAINS WITH A 4" DIA. HOSE, SO THAT THE CONCRETE WILL NOT FREE-FALL GREATER THAN 2 FEET DURING INSTALLATION. CONCRETE SHALL BE MECHANICALLY CONSOLIDATED TO INSURE THAT ALL Voids ARE ELIMINATED AND TO PREVENT SEGREGATION. CONCRETE SHALL NOT BE PLACED WHEN TEMPERATURE OF AMBIENT AIR OR CONCRETE IS LESS THAN 50 DEG. F. OR GREATER THAN 80 DEG. F.
 - WATER SHALL NOT BE ADDED TO READY-MIX CONCRETE AT ANY TIME AFTER PICK-UP AT THE CEMENT PLANT.
 - FINISH SLAB SURFACES SHALL BE STRUCK OFF, BULL-FLOATED AND FINISHED TO APPROPRIATE FINISH AND ACCEPTABLE SURFACE TOLERANCE (PER PAR 2 AS MEASURED WITH A 2' LONG STRAIGHT EDGE) BEFORE PROCEEDING TO THE NEXT COURSE.
 - MECHANICALLY FINISH SURFACE AND FINISH TO A BROOM SWEEP TEXTURE.
 - INCIDENTAL STRUCTURAL STEEL:
 - GOVERNING STANDARD: AISC-A36 NIGHT EDITION
 - STRUCTURAL SHAPES: ASTM A36, GRADE 36, SHOP PRIMED WITH A RUST PREVENTATIVE PAINT
 - PASIVENESS: PER AISC CERTIFIED WELDERS USING E 70 XX ELECTRODES.
 - SHOP DRAWINGS: CONTRACTOR SUBMIT FABRICATORS SHOP DRAWINGS TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
- CONCRETE INSTALLATION:**
- REMOVE ALL ORGANIC SOILS, ROOTS, SLUDGE OR OTHER DELETERIOUS AND/OR COMPRESSIBLE MATERIALS FROM AN AREA WITHIN THE FOOTPRINT PLUS 5 FEET OUTSIDE THE PERIMETER.
 - GRADE THE EXCAVATED AREA TO AN EVEN, LEVEL SURFACE AND COMPACT THE WEIGHT OF 20 TONS UNTIL THE SOIL HAS ACHIEVED A MAXIMUM DENSITY OF 100 PERCENT UNDER OPTIMUM DENSITY AS DETERMINED BY ASTM D-2922 AND ASTM D-6988.
 - ADDITIONAL FILL, IF REQUIRED, SHALL BE INSTALLED IN MAXIMUM 12" HIGH LIFTS WITH EACH LIFT TO BE COMPACTED AND TESTED AS NOTED ABOVE UNTIL AN ELEVATION OF FINISHED FLOOR MINUS THE SLAB THICKNESS HAS BEEN ACHIEVED.
 - THE EXCAVATION SHALL BE EXCAVATED USING APPROPRIATE SHEET PILE SHIELDING SUPPLIED BY THE CONTRACTOR TO A DEPTH OF 22.5' BELOW THE TOP OF THE PERIMETER OF THE EXCAVATED PIT AND SHALL REMAIN UNTIL THE TANK HAS BEEN COMPLETED AND BACKFILLED. ALL WORK SHALL BE DONE IN ACCORDANCE WITH OSHA REQUIREMENTS.
 - CONCRETE INSTALLATION: THE DESIGN SOIL BEARING PRESSURE FOR THE TANK SLAB FOUNDATION HAS BEEN TAKEN TO BE 2000 PSF. TO BE VERIFIED BY TESTING AS NOTED ABOVE.
 - AFTER THE UNDERLYING SOIL HAS BEEN GRADED AND COMPACTED AS NOTED ABOVE, A 10 MIL. POLYURETHANE MEMBRANE SHALL BE LAID ON TOP OF THE SOIL, AND TWO LAYERS OF MAT REINFORCING SHALL BE PLACED AS SHOWN ON THE PLANS.
 - WALLS SHALL BE FORMED AND POURED WITH VERTICAL AND HORIZONTAL CONSTRUCTION JOINTS PLACE AS NOTED ON THE PLANS. FORMS SHALL REMAIN IN PLACE FOR AT LEAST 7 DAYS BEFORE BEING REMOVED, TO ALLOW FOR CURING.

MATERIAL SPECIFICATIONS

- CONCRETE:**
- GOVERNING STANDARDS: ACI 318-09 (BUILDING CODE REQUIREMENTS), ACI 315 (DETAILING MANUAL), AND ACI 301 (SPECIFICATIONS).
 - TESTING (REQUIRED):
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NO.	REVISION	DATE	BY

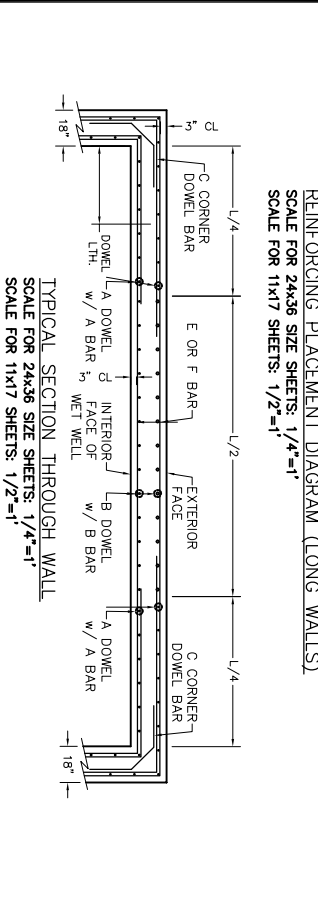
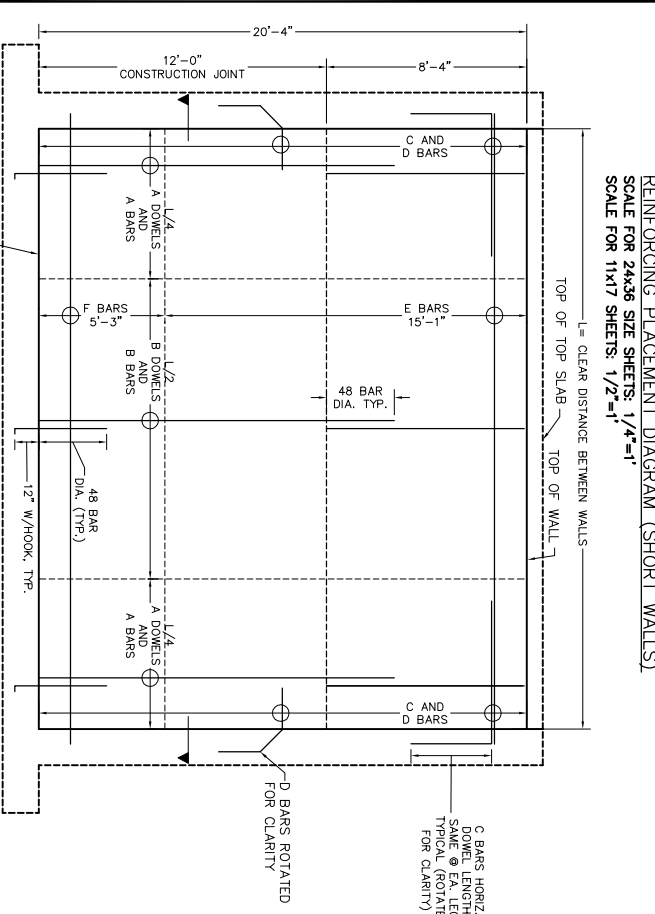
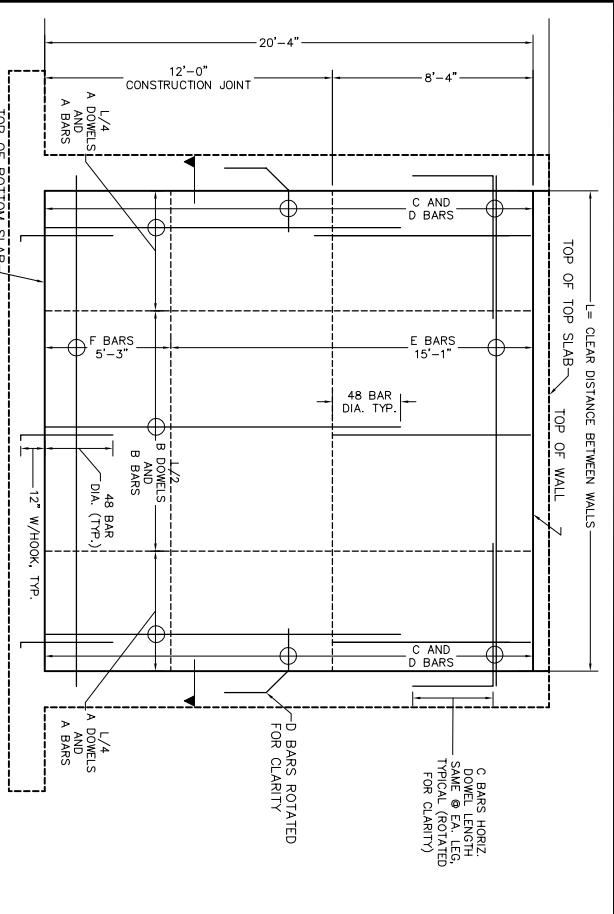
FOR: **THE TOWN OF LONGBOAT KEY PUBLIC WORKS**
 TITLE: **REHABILITATION OF LIFTSTATION D**
 DESC: **STRUCTURAL NOTES**

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KARL W. KOKOMOOR, P.E.
 F.L.A. LIC. NO. 34861
 C.A. NO. 3943
 Date: _____

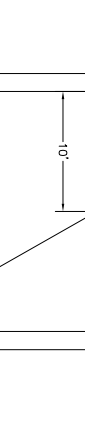
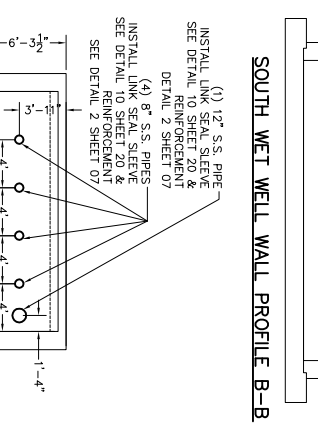
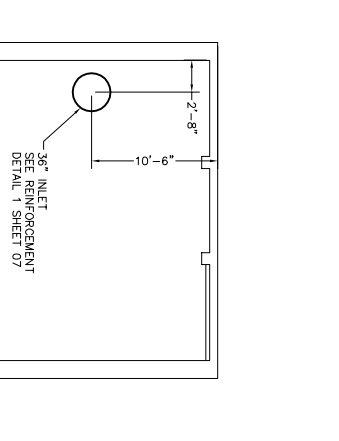
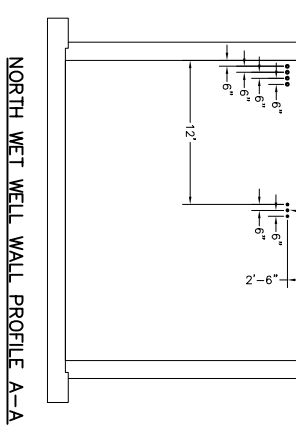
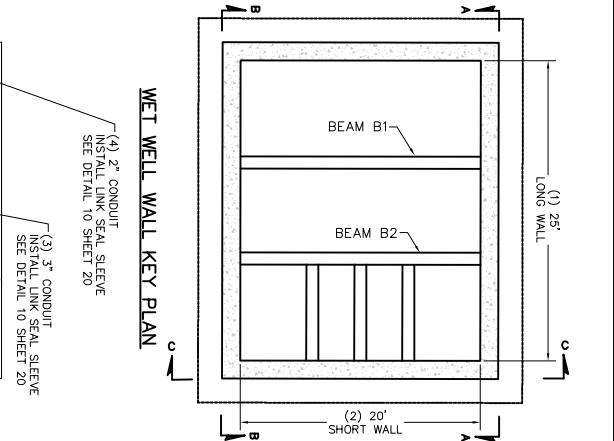
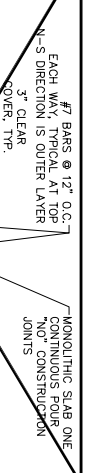
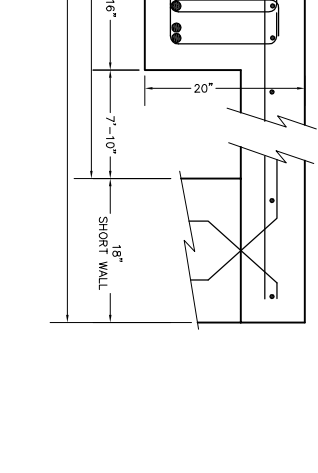
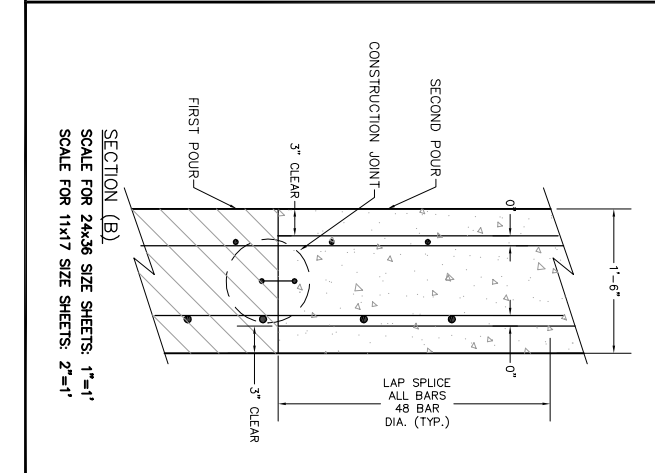
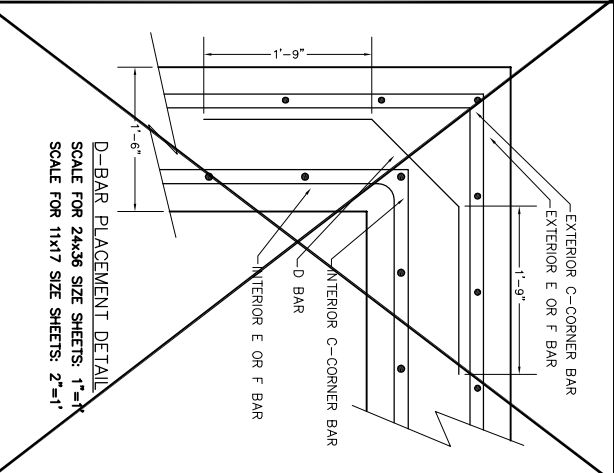
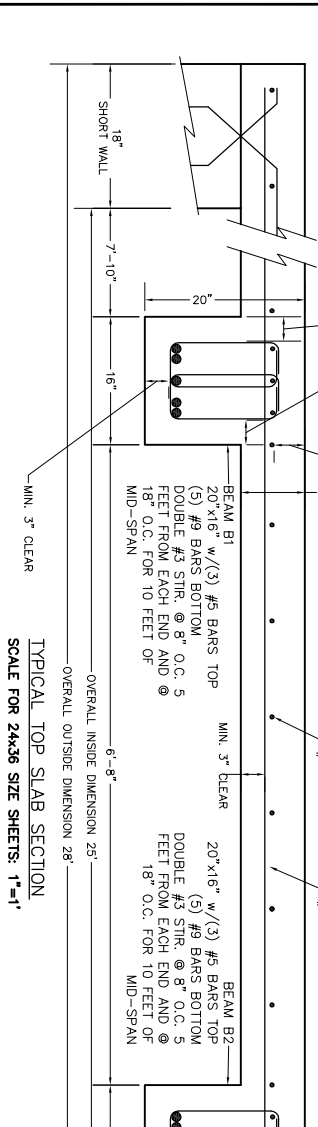
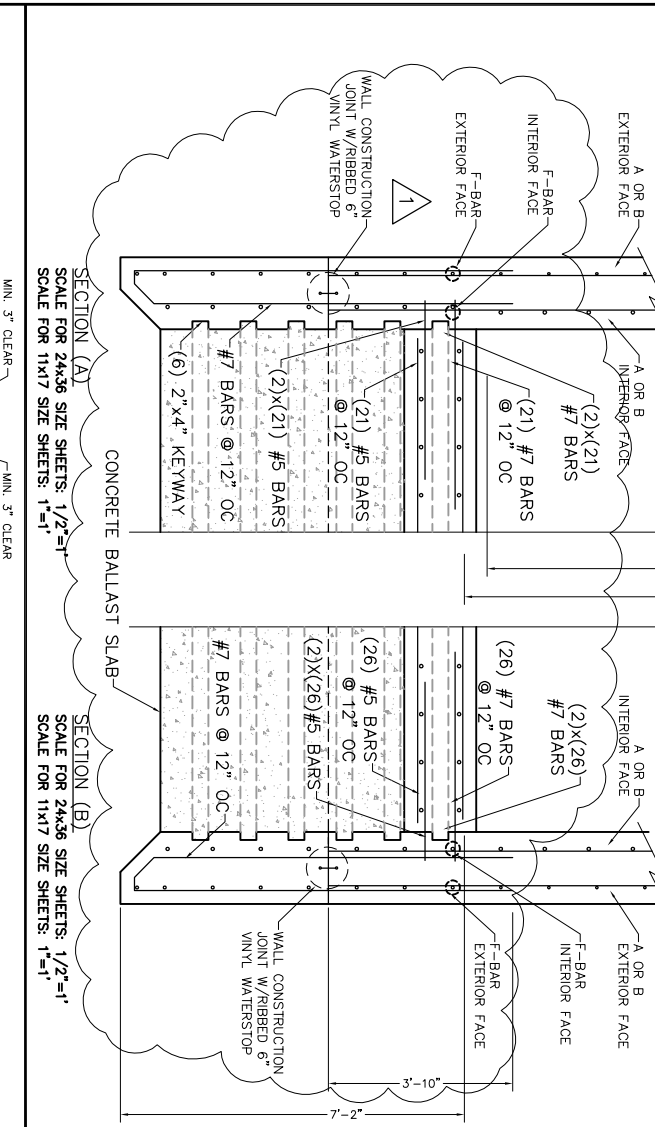
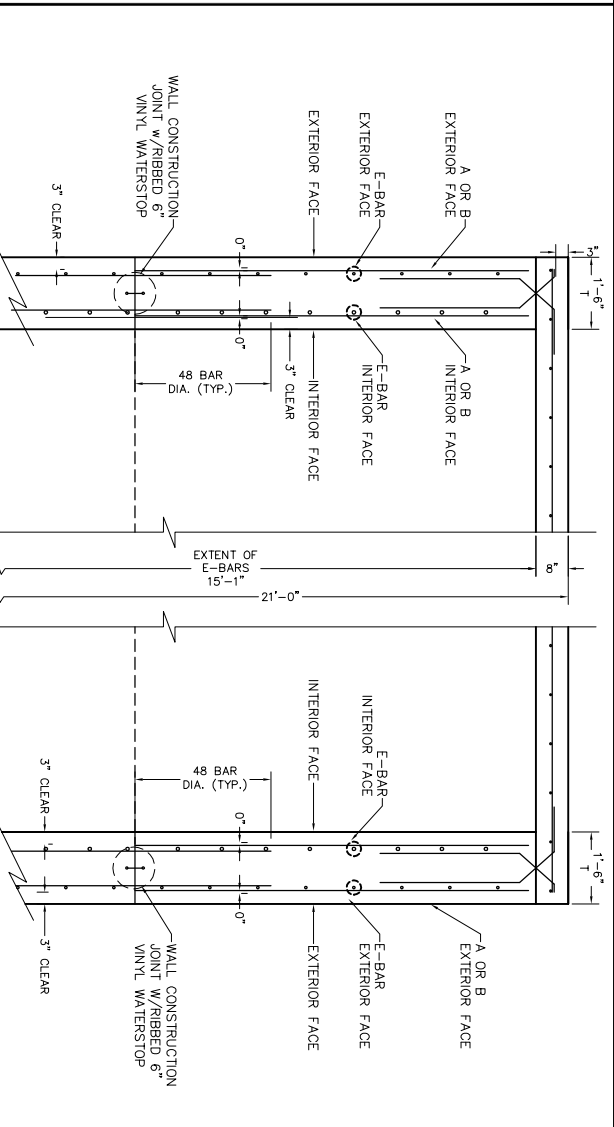
DMK ASSOCIATES
 ENGINEERS & SURVEYORS
 436 Commercial Ct., Ste. 200
 Venice, Florida 34292
 TEL: (841)412-1293 FAX: (841)412-1043
 Engineering Business No. 3943

Checked By: RS Date: 04-23-12
 SCALE: AS SHOWN Proj. No.: 08-0309



WALL REINFORCING SCHEDULE

MARK	T	H	FACE	A-BAR	B-BAR	C-CORNER	D-BAR	E-BAR	F-BAR
(1)	18"	20'-4"	EXTERIOR	#6 @ 12" O.C.	#6 @ 12" O.C.	#6 @ 6" O.C. x 9' LONG	N.A.	#6 @ 9" O.C.	#6 @ 9" O.C.
	18"	20'-4"	INTERIOR	#7 @ 12" O.C.	#7 @ 12" O.C.	#7 @ 9" O.C. x 7' LONG	N.A.	#9 @ 9" O.C.	#9 @ 9" O.C.
	18"	20'-4"	EXTERIOR	#5 @ 12" O.C.	#5 @ 12" O.C.	#5 @ 6" O.C. x 9' LONG	N.A.	#9 @ 9" O.C.	#9 @ 9" O.C.
(2)	18"	20'-4"	INTERIOR	#6 @ 12" O.C.	#7 @ 12" O.C.	#7 @ 9" O.C. x 7' LONG	#9 @ 9" O.C.	#9 @ 9" O.C.	#9 @ 9" O.C.



RECORD DRAWING

NO.	REVISION	DATE	BY
1	AS-BUILT	05-25-12	RMS

FOR: THE TOWN OF LONGBOAT KEY
PUBLIC WORKS
TITLE: WET WELL STRUCTURAL PLAN
DESC: WET WELL STRUCTURAL PLAN

INSTALL LINK SEAL SLEEVE AND REINFORCEMENT SEE DETAIL 10 SHEET 20
INSTALL LINK SEAL SLEEVE AND REINFORCEMENT SEE DETAIL 10 SHEET 20
INSTALL LINK SEAL SLEEVE AND REINFORCEMENT SEE DETAIL 10 SHEET 20
INSTALL LINK SEAL SLEEVE AND REINFORCEMENT SEE DETAIL 10 SHEET 20

DMK ASSOCIATES
ENGINEERS & SURVEYORS
436 Commercial Ct., Ste. 200
Venice, Florida 34292
TEL: (841)412-1293 FAX: (841)412-1043
Engineering Business No. 3945

Checked By: RS Date: 04-23-12
SCALE: AS SHOWN Proj. No.: 08-0309

Design By: SOT Drawn By: RMS

GENERAL NOTES - STRUCTURAL

- GOVERNING CODE: FLORIDA BUILDING CODE 2007, WITH 2009 SUPPLEMENT.
- PRECEDENCE: INFORMATION ON PLANS SUPERSEDES DATA CONTAINED IN NOTES.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL SHORING, BRACING & SUPERVISION.
- DIMENSIONS: CONTRACTOR VERIFY AND COORDINATE WITH OTHER DRAWINGS.
- PROJECT DESIGN LIVE LOADS:

PROJECT DESIGN LOADS			
LOCATION	LIVE	DEAD	OTHER
ROOF	16	31	-
ELEVATED FLOOR	128	75	-
BLOCK WALLS	-	55	-

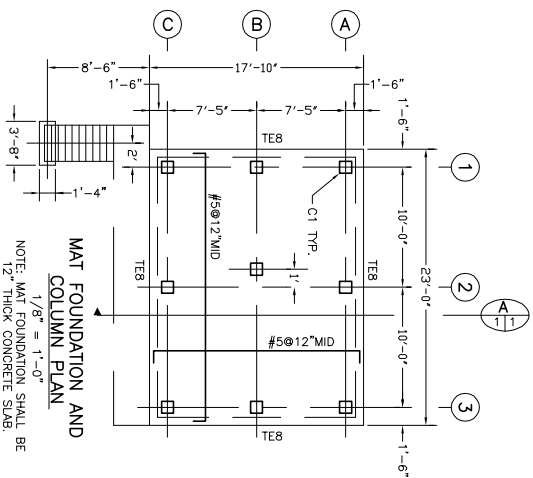
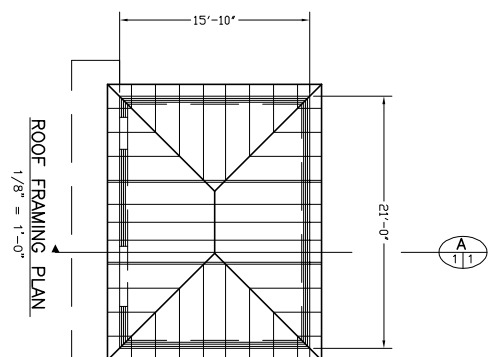
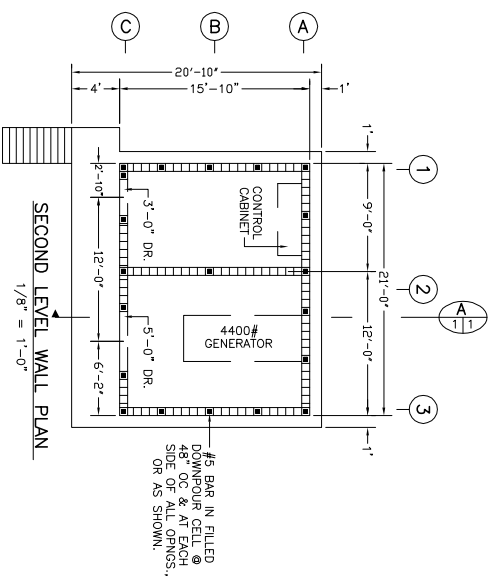
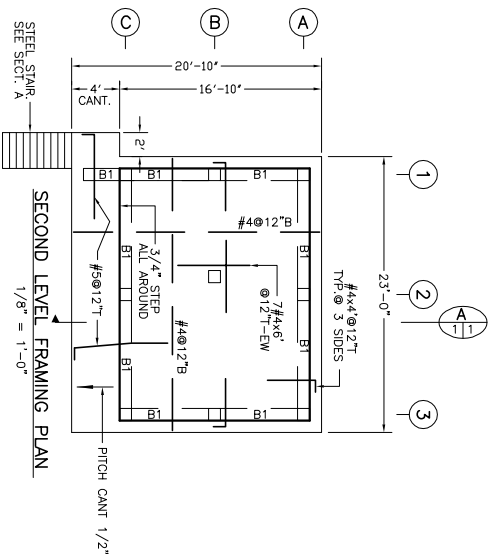
ASSET-05 MAXIMUM WIND LOADS			
WIND DESIGN VARIABLES			
Velocity	130 mph	EndZone-d	3 feet
BldgClass	C	Roofing	18.4 deg.
ExposureCat	C	Hurricane	yes
EnclosureCat	Enclosed	Impact/Glass	NA
BldgHgt	20 feet	VEL PRESS	33 psf

PROJECT WIND DESIGN LOADS	
COMB. WALL OVERTURNING PRESSURE =	43 PSF
C & C - ALL WALLS =	45 PSF
C & C - ALL ROOF =	40 PSF

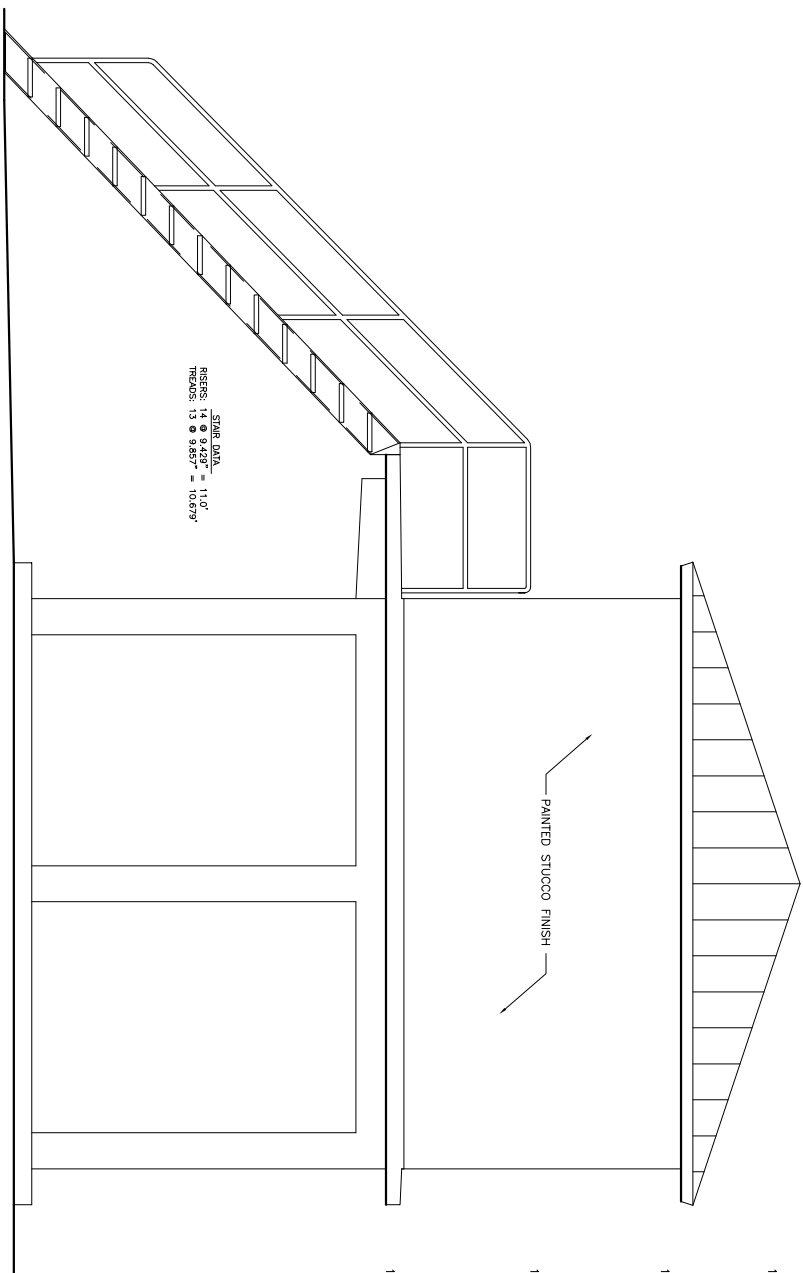
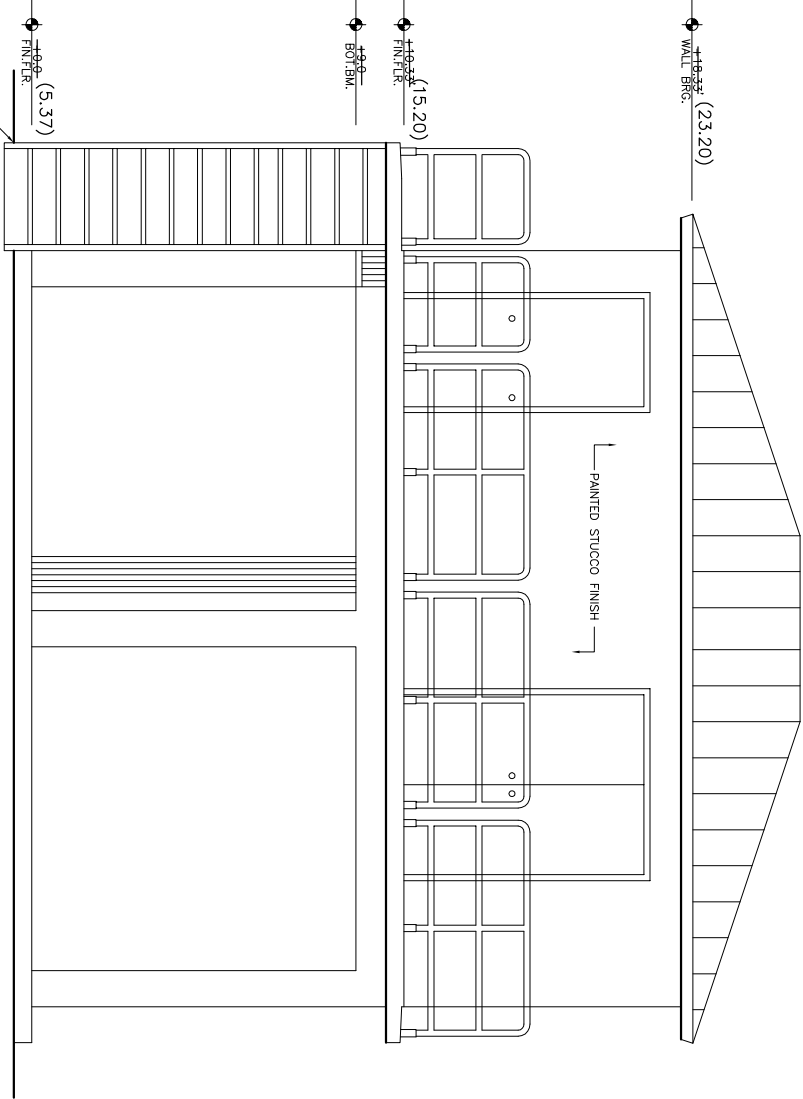
- PRECEDING SITE WORK: RELOCATE UTILITIES & NOTIFY COMPANIES BEFORE EXCAVATION.
- SITE PREPARATION WORK: REMOVE ALL ORGANIC/UNDESIRABLE MATERIAL WITHIN 5' OF CONSTRUCTION PERIMETER. GROUND TO SOFT SURFACE. REMOVE ALL EXISTING CONCRETE AND MORTAR. RE-EXCAVATE TO FLOORING BASES.
- FOUNDATIONS: DESIGN BEARING CAPACITY: 2000 PSF.
- CONCRETE MAT/SLAB ON GROUND: MINIMUM OF 12" THICK, INSTALLED OVER MAT/SLAB SHALL BE INSTALLED OVER POSITIVE SLOPE WITH A 6" MIN. POLYURETHANE VAPOR BARRIER. SPECIAL CARE SHALL BE TAKEN TO INSURE THAT NO TRUCKS OR UNWEIGHTS EXISTS ON THE UNDERLYING SURFACE PRIOR TO INSTALLING THE CONCRETE. FLOORS SHALL BE REINFORCED WITH WATERS WITHIN FOUR HOURS OF INSTALLATION (KEEP WET FOR 7 DAYS).

MATERIAL SPECIFICATIONS

- CONCRETE: ASTM C94 READY-MIX CONCRETE, 4000 PSI, 140 PCF, 4" SLUMP. MAINTAIN WET SURFACE FOR 7 DAYS. FINISH SLAB SURFACES TO A 1/8" PER 12" TOLERANCE WITH A BROOM SWEEP TEXTURE. FREE OF RUST, GREASE OR SCALE. REINFORCING BARS: TESTED TO ASTM SPEC. 60,000 PSI, 11.8% ELONGATION. CORNER BARS AT ALL INTERSECTING WALLS AND BEAMS REQUIRED. PROVIDE CONCRETE COVER OVER REINFORCING AS FOLLOWS:
CONCRETE CAST AGAINST EARTH: 3" MIN. THICKER.
SLABS NOT EXPOSED TO WEATHER: 5/4" MIN.
BEAMS & COLUMNS NOT EXPOSED TO WEATHER: 1-1/2" MIN.
- MASONRY: ASTM C90-85, GRADE N, TYPE 2, 1500 PSI, 8x16, HOLLOW, TWO CELL UNITS. LAY IN A RUNNING BOND, WITH ASTM D270-86B, TYPE S, MORTAR. GRADE AGGREGATE, VERTICAL CONTROL JOINTS RECOMMENDED AT 20 FEET ON CENTER OR AS NOTED ON PLAN. PRECAST, PRESTRESSED UNITS APPROVED BY ENGR.
- STRUCTURAL STEEL: ASTM A36, SHOP PRIMED WITH RUST PROOF PRIMER. WELDING: PER AWS CERTIFIED WELDER USING E 70 XX ELECTRODES. THREADS: PER ASTM A449. GALVANNEAL: PER ASTM A956. WOOD: FRAMING SHALL BE SPRUCE PINE FIR, OR EQUIVALENT WITH 2 1/4" DIA, 1307 GRADE. WOOD SHEATHING/DECKING: APA STRUCTURAL 1 RATED PLYWOOD, 4x8" PANELS, WITH THICKNESS AS NOTED BELOW.
ROOF DECKS: 5/8" THICK, INSTALLED PERPENDICULAR TO ROOF FRAMING MEMBERS. FASTEN WITH 8d NAILS AT 6" OC AT EDGES AND 12" OC AT INTERMEDIATE MEMBER SUPPORTS. STRADDLE JOINTS.
- ENGINEERED WOOD TRUSSES:
WOOD TRUSS FRAMING LAYOUTS AS NOTED ON THESE STRUCTURAL PLANS HAVE BEEN PREPARED BY THE ENGINEER OF RECORD TO REFLECT SPECIFIC BUILDING CODES AND REGULATIONS. THE CONTRACTOR SHALL VERIFY THE TRUSS MANUFACTURER'S SHOP DRAWINGS ARE NOT ALLOWED. ALL WOOD TRUSSES SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER, REGISTERED TO THE ENGINEER OF RECORD FOR REVIEW AND WRITTEN APPROVAL BEFORE ANY WOOD TRUSSES ARE MANUFACTURED, DELIVERED OR INSTALLED.
- CLADDING:
A) DOORS: FIBERGLASS, RATED R-40. (SUBMIT FOR APPROVAL).
OC MAX. SPACING STARTING 6" IN FROM EACH CORNER, FASTEN WOOD BLOCKS TO BLOCK WALL WITH 1/4" DIA. TAPSCONS AT 12" OC, MAX.
B) ROOFING: SILVER GALVALUME, STANDING SEAM STEEL ROOF (ATTACHED TO ROOF SHEATHING WITH 12-GAUGE RING SHANKED NAILS WITH 20 RINGS PER INCH AND 3/8" DIA. HEADS PENETRATING THE DECK BY 3/16" AND NAILED THROUGH 3/2 GAUGE x 1-5/4" DIA. TIN-COPE. NAILING SHALL BE 12" OC IN BOTH DIRECTIONS.
- STUCCO: REQUIRING EXTERIOR FACES OF MASONRY WALLS, BEAMS AND COLUMNS. APPLY 1/4" FIBER COAT AND 1/8" SECOND COAT IN ACCORDANCE WITH PROVISIONS SPECIFIED IN FBEC2007, SECTION 2512, AND ASTM G926 (APPLICATION OF FORTLAND CEMENT BASED PLASTER SAMPLES AND COORDINATE WITH THE TOWN PRIOR TO COMMENCEMENT OF CONSTRUCTION).



- NOTES:
1. SECOND LEVEL SLAB SHALL BE 6" THICK @ INTERIOR WALLS; AS EDGES, WITH 3/4" STEEL DOWN AT EXTERIOR FACE OF BLOCK WALLS, AS SHOWN.
2. ALL FRAMING SHOWN IS DESIGNED FOR LIGHT INDUSTRIAL LOADING = 125 PSF



RECORD DRAWING

FOR: **THE TOWN OF LONGBOAT KEY PUBLIC WORKS**
TITLE: **REHABILITATION OF LIFTSTATION D**
DESC: **CONTROL BUILDING STRUCTURAL PLAN**

BEN MILLS, FL P.E.
FLA. LIC. NO. 27718
C.A. NO. 3943
Date:

In accordance with 61015-30.003 (5) F.A.C., these preliminary engineering documents are not in final form, but are being transmitted to the public agency to receive agency reviews, comments and interpretations. The documents may subsequently be revised by the Engineer to reflect resolution of issues with public agency prior to final action by the agency. Changes, revisions and modifications to a project may prompt additional document submitted for agency approval action on the same project.

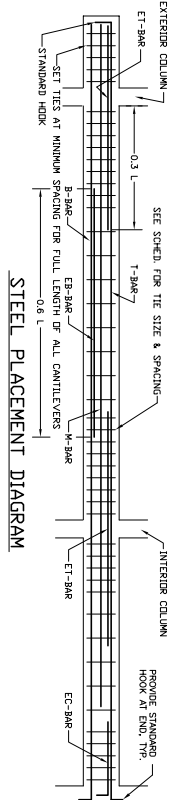
NO.	REVISION	DATE	BY

DMK ASSOCIATES
ENGINEERS & SURVEYORS
435 Commercial Ct., Ste. 200
Venice, Florida 34292
TEL: (841)412-1293 FAX: (841)412-1043
Engineering Business No. 3943

Checked By: RS Date: 04-23-12
SCALE: AS SHOWN Proj. No.: 08-0309

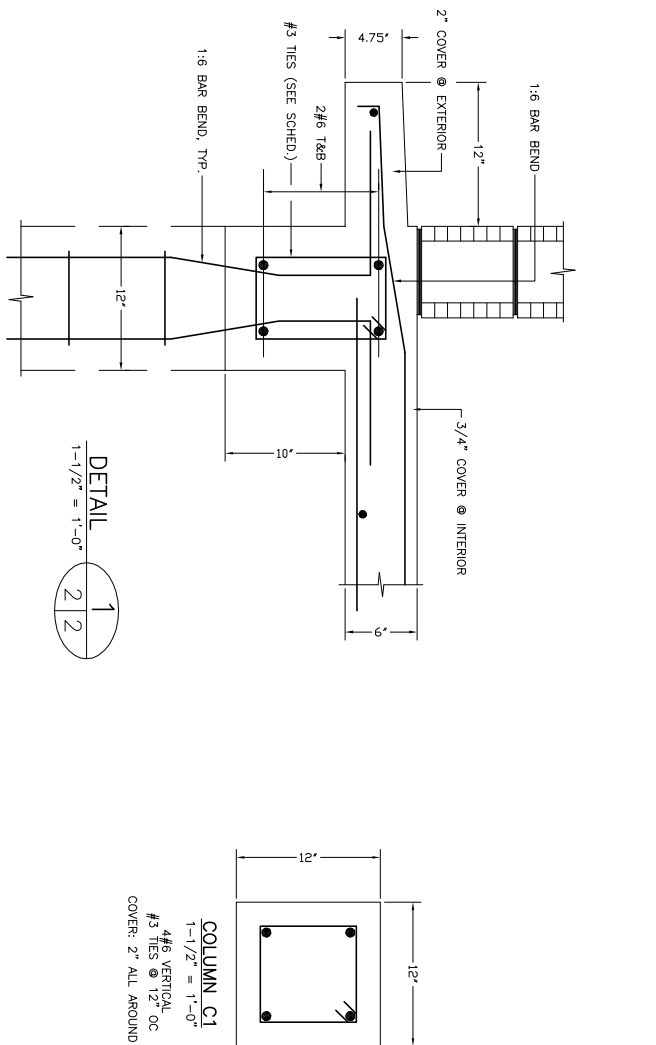
Design By: R.S. Drawn By: RMS

MARK	SIZE ' W x D	TOP ELEV.	T-BAR	ET	M-BAR	EB	B-BAR	EC	TIES	REMARKS
B1	12x16	+13.17'	2#6			2#6		#3	506' BAL@12"	TYPICAL UNDER PERIMETER WALLS

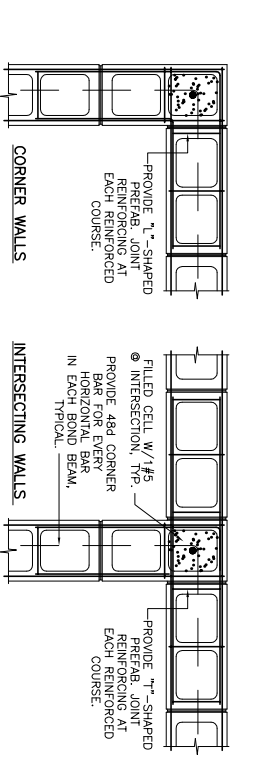
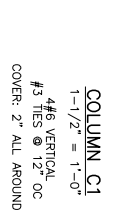


- WHERE BEAMS TERMINATE AT A BEAM INTERSECTION, PROVIDE TOP AND BOTTOM BARS WITH CORNER DOCKETS. CORNER DOCKETS SHALL BE THE SAME SIZE AS THE BEAM BARS AND SHALL LAB BARS 5 X THE BAR NUMBER UNLESS OTHERWISE NOTED ON PLANS.
- ALL CONTINUOUS HORIZONTAL REINFORCING SHALL BE LAB 5 X THE BAR NUMBER UNLESS OTHERWISE NOTED. MAKE TIE BAR SPLICES CONCRETE CONSTRUCTION JOINTS COULD ADVERSELY AFFECT BEAM STRENGTH. ONLY BE MADE WITH VERTICAL STEES AT NON-SUPPORT UNLESS OTHERWISE NOTED.
- BEAMS SHALL HAVE 2'-0" CLEAR CONCRETE COVER FOR TIES ON EXPOSED FACES AND 1'-0" COVER ON NON-EXPOSED FACES.
- SEE GENERAL NOTES FOR ADDITIONAL INFORMATION.

BEAM SCHEDULE

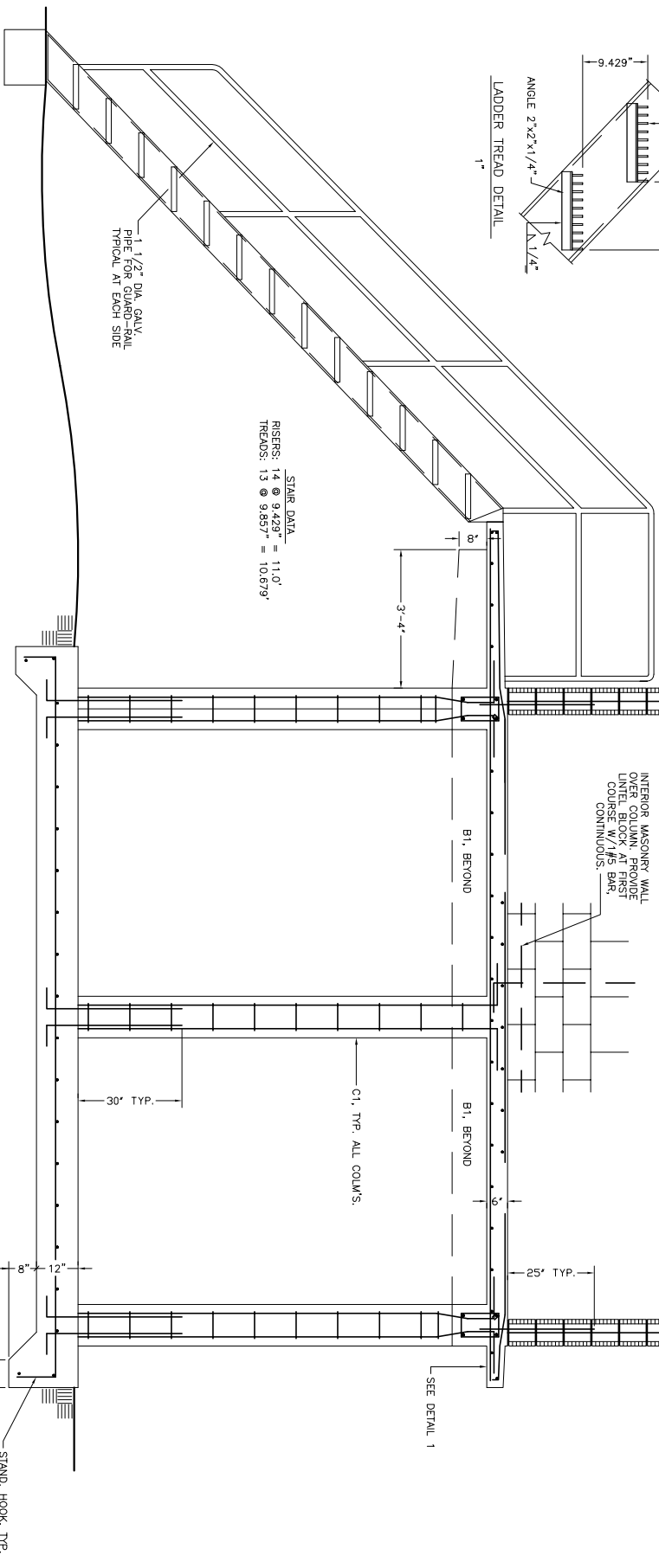


DETAIL 2: 1'-0" SECTION THROUGH BUILDING

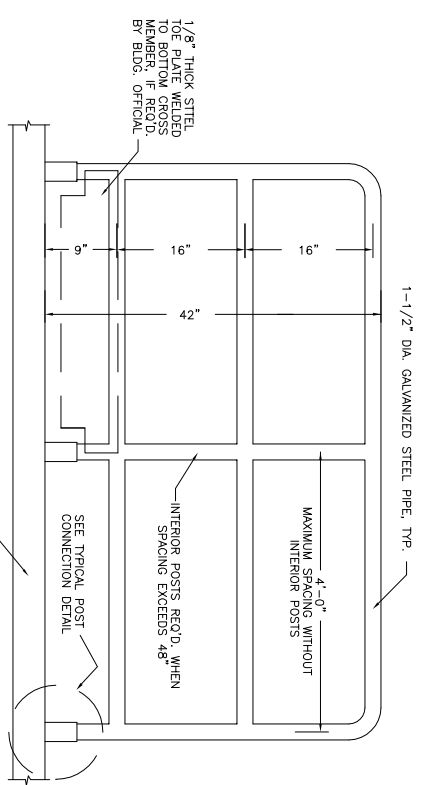


TYPICAL MASONRY WALL PLAN VIEW TIE-IN DETAILS

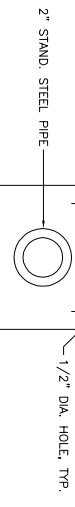
NOTE: PROVIDE 9 GAUGE, LADDER TYPE WIRE REINFORCING AT EVERY SECOND VERTICAL COURSE, UNLESS OTHERWISE NOTED ON PLANS.



SECTION A: 1'-0" SECTION THROUGH BUILDING

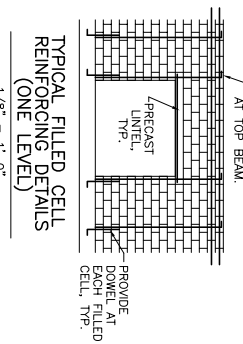


TYPICAL REMOVABLE GUARDRAIL ELEVATION



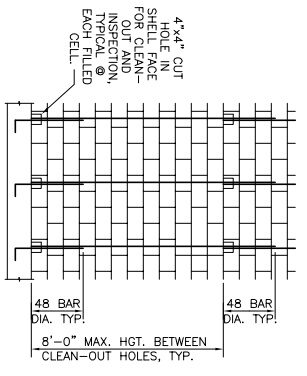
TYPICAL BASE PLATE DETAIL

POST BASE PLATE: 6"x6"x3/16" W/ FOUR 3/8" DIA. x 4" LONG EPOXY ANCHOR BOLTS, ONE EACH CORNER.

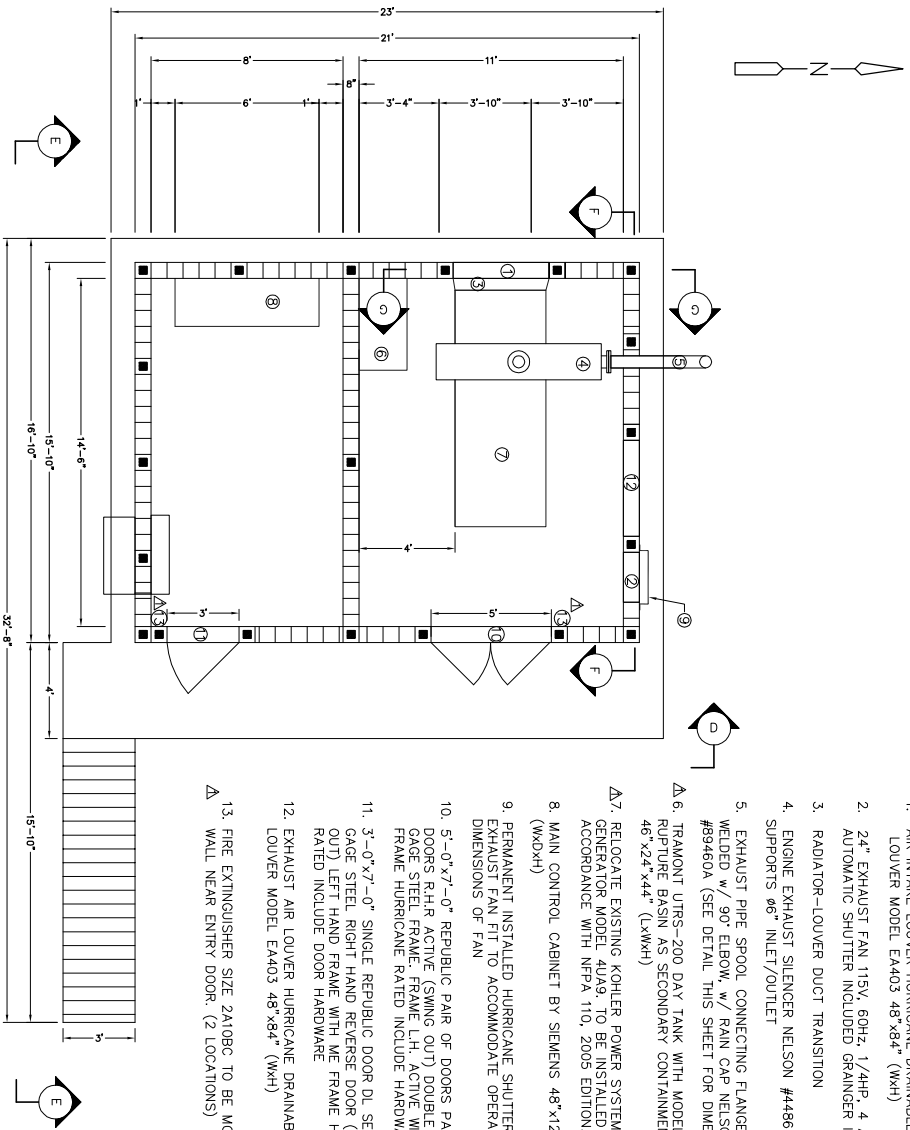


TYPICAL FILLED CELL REINFORCING DETAILS (ONE LEVEL)

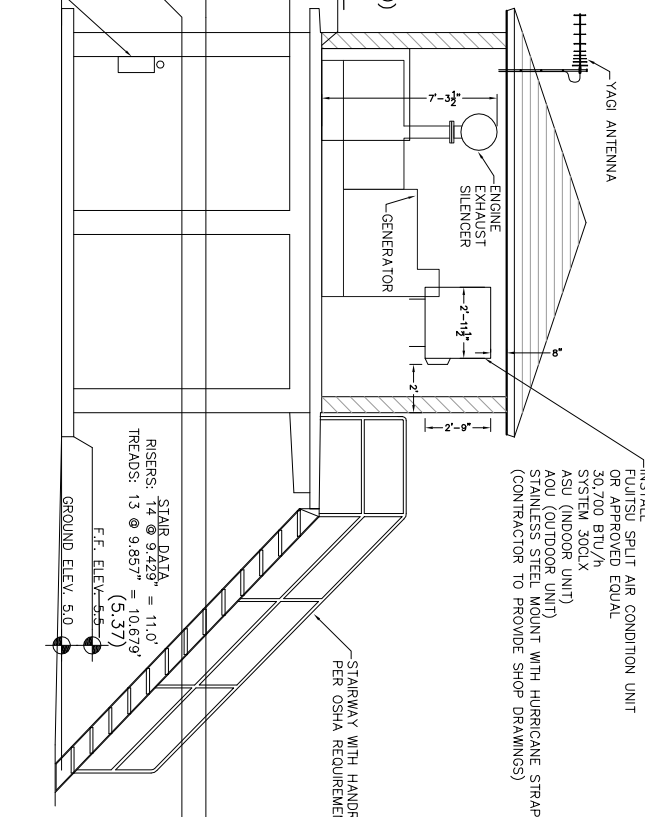
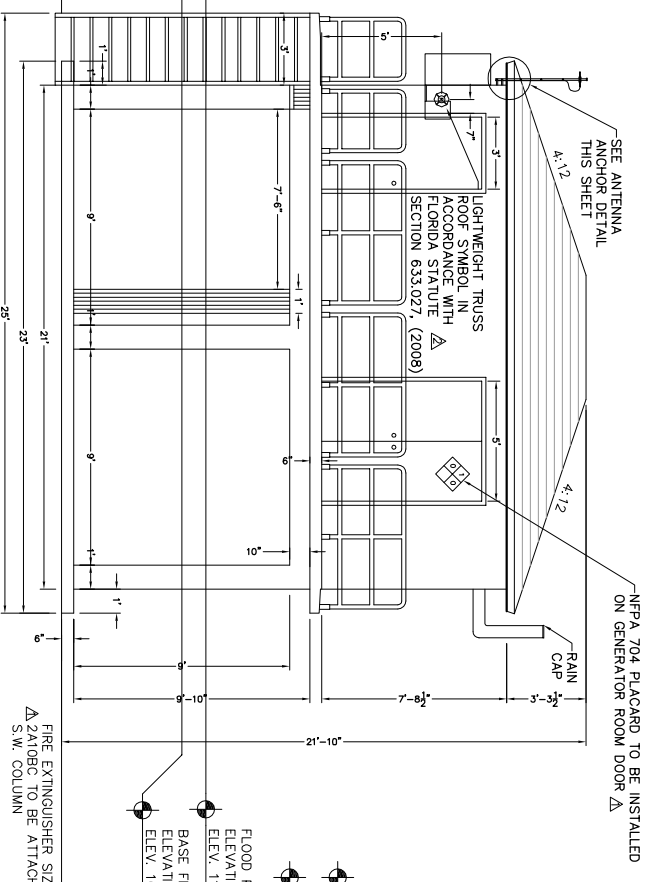
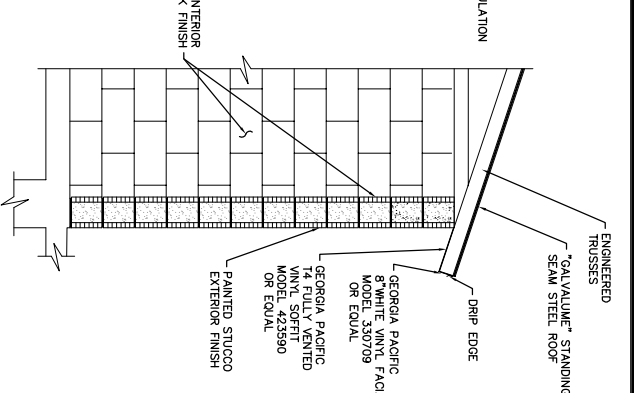
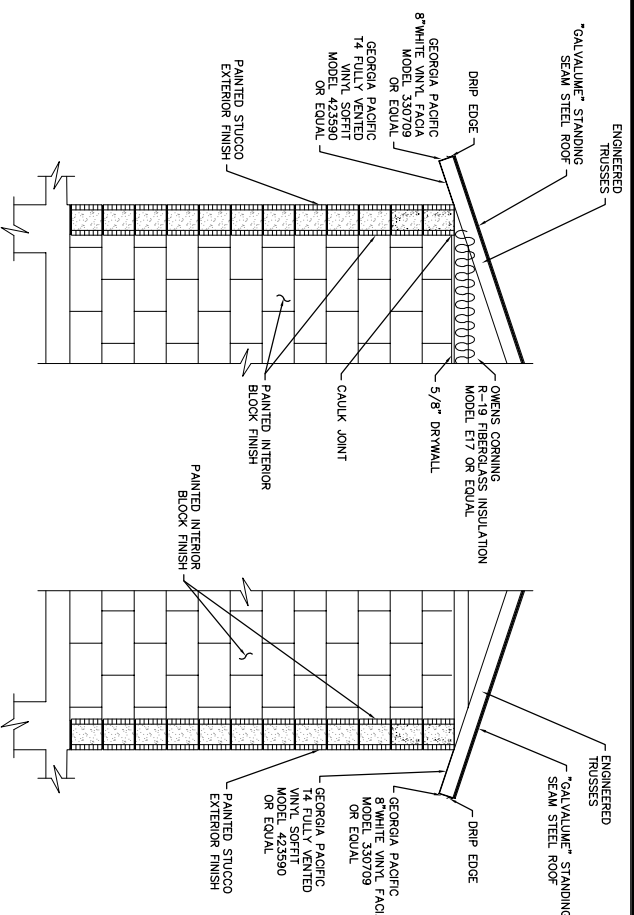
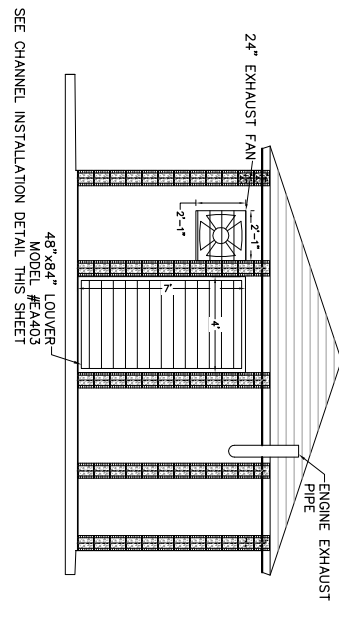
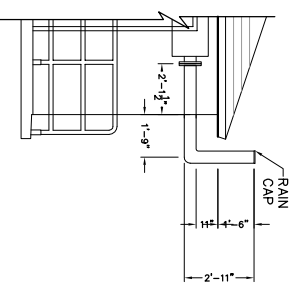
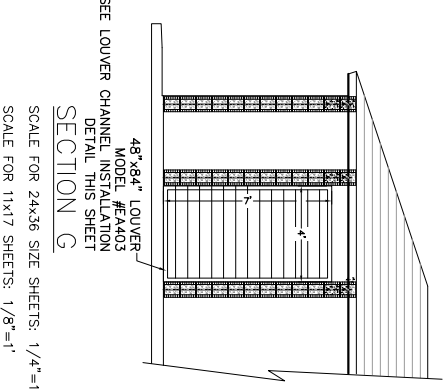
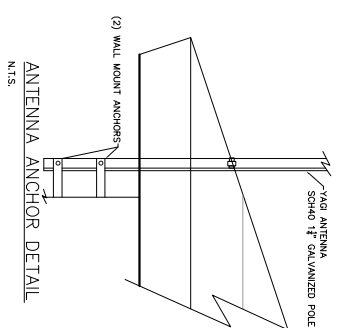
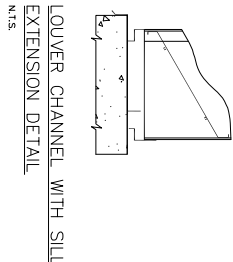
NOTE: SEE SHEAR-WALL PLANS FOR FILLED CELL LOCATIONS AND REINFORCING BAR SIZES.



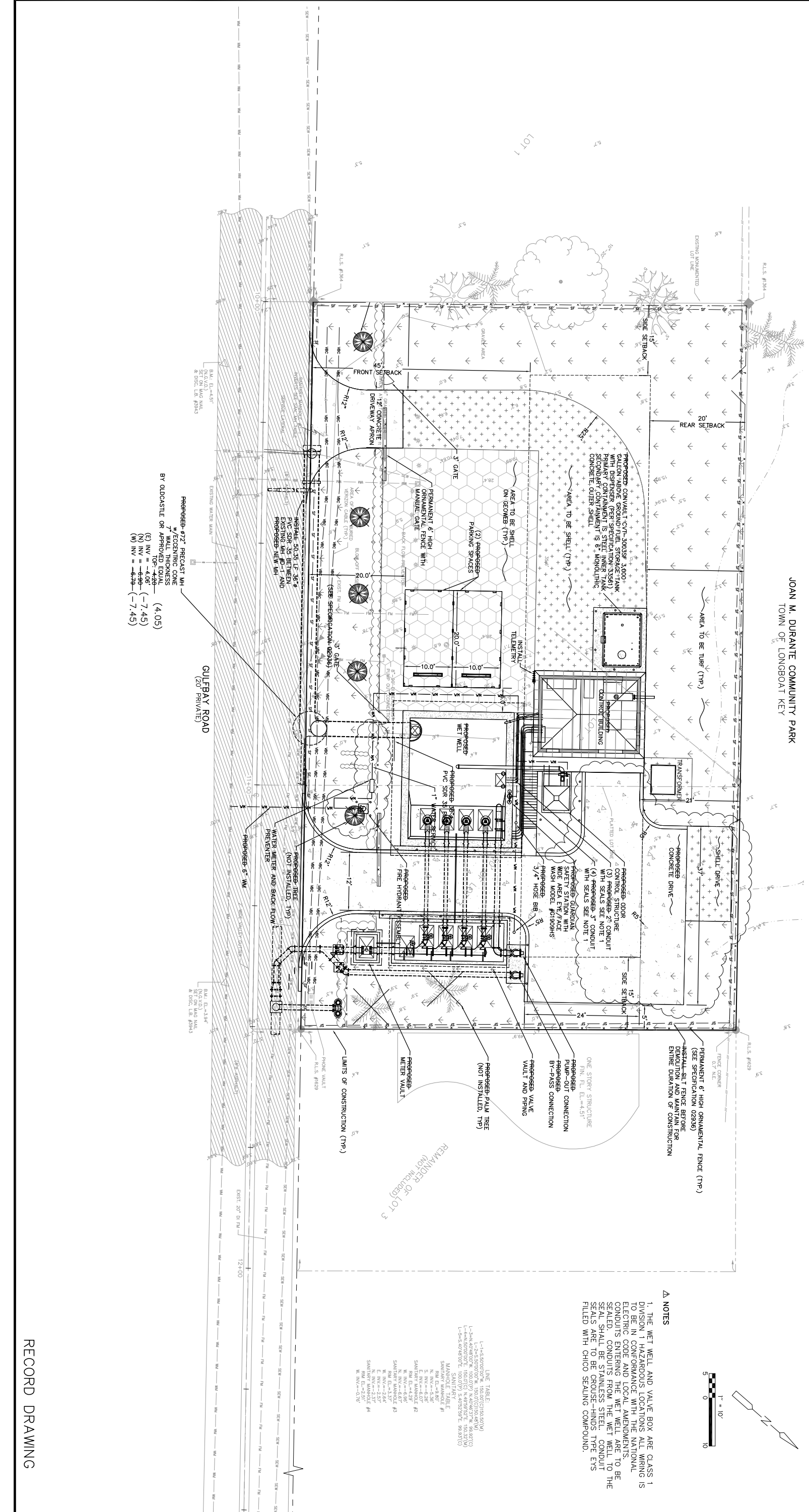
TYPICAL FILLED CELL INSPECTION DETAIL



1. AIR INTAKE LOUVER HURRICANE DRAINABLE BLADE LOUVER MODEL EA403 48"x84" (WxH)
2. 24" EXHAUST FAN 115V, 60Hz, 1/4HP, 4 AMP, MAX. AUTOMATIC SHUTTER INCLUDED GRANGER ITEM 1HLB3
3. RADIATOR-LOUVER DUCT TRANSITION
4. ENGINE EXHAUST SILENCER NELSON #44860F WITH SUPPORTS #6" INLET/OUTLET
5. EXHAUST PIPE SPOOL CONNECTING FLANGED PIPE, WELDED w/ 90° ELBOW, w/ RAIN CAP NELSON #89460A (SEE DETAIL THIS SHEET FOR DIMENSIONS)
6. TRAMONT UTRS-200 DAY TANK WITH MODEL 2970 RUPTURE BASIN AS SECONDARY CONTAINMENT 46"x24"x44" (LxWxH)
7. RELOCATE EXISTING KOHLER POWER SYSTEMS GENERATOR MODEL #4403 TO BE INSTALLED IN ACCORDANCE WITH NFPA 110, 2005 EDITION.
8. MAIN CONTROL CABINET BY SIEMENS 48"x12"x36" (WxDxH)
9. PERMANENT INSTALLED HURRICANE SHUTTER FOR EXHAUST FAN FIT TO ACCOMMODATE OPERATING DIMENSIONS OF FAN
10. 5'-0"x7'-0" REPUBLIC PAIR OF DOORS PAIR OF DOORS R.H.R ACTIVE (SWING OUT) DOUBLE DOOR 16 GAGE STEEL FRAME L.H. ACTIVE WITH WE FRAME HURRICANE RATED INCLUDE HARDWARE
11. 3'-0"x7'-0" SINGLE REPUBLIC DOOR DL SERIES 16 GAGE STEEL RIGHT HAND REVERSE DOOR (SWING OUT) LEFT HAND FRAME WITH WE FRAME HURRICANE RATED INCLUDE DOOR HARDWARE
12. EXHAUST AIR LOUVER HURRICANE DRAINABLE BLADE LOUVER MODEL EA403 48"x84" (WxH)
13. FIRE EXTINGUISHER SIZE 2A10BC TO BE MOUNTED ON WALL NEAR ENTRY DOOR. (2 LOCATIONS)



RECORD DRAWING



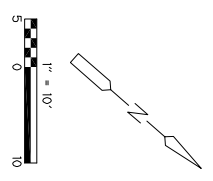
JOAN M. DURANTE COMMUNITY PARK
TOWN OF LONGBOAT KEY

PROPOSED #12" PRECAST MH
#7 ECCENTRIC CONE
WALL THICKNESS
BY OLDCASTLE OR APPROVED EQUAL
(E) INV = -4.05
(N) INV = -7.45
(W) INV = -7.45

GULFBAY ROAD
(20' PRIVATE)

LEGEND

	SOD SURFACE
	SHELL SURFACE
	CONCRETE SURFACE
	EXISTING ASPHALT



- NOTES**
1. THE WET WELL AND VALVE BOX ARE CLASS 1 DIVISION 1 HAZARDOUS LOCATIONS ALL WIRING IS TO BE IN CONFORMANCE WITH THE NATIONAL ELECTRIC CODE AND LOCAL AMENDMENTS. CONDUITS ENTERING THE WET WELL ARE TO BE SEALED. CONDUITS FROM THE WET WELL TO THE SEAL SHALL BE STAINLESS STEEL. CONDUIT SEALS ARE TO BE CROUSE-HINDS TYPE EYS FILLED WITH CHICO SEALING COMPOUND.

REMAINDER OF LOT 3
(NOT INCLUDED)

LINE TABLE

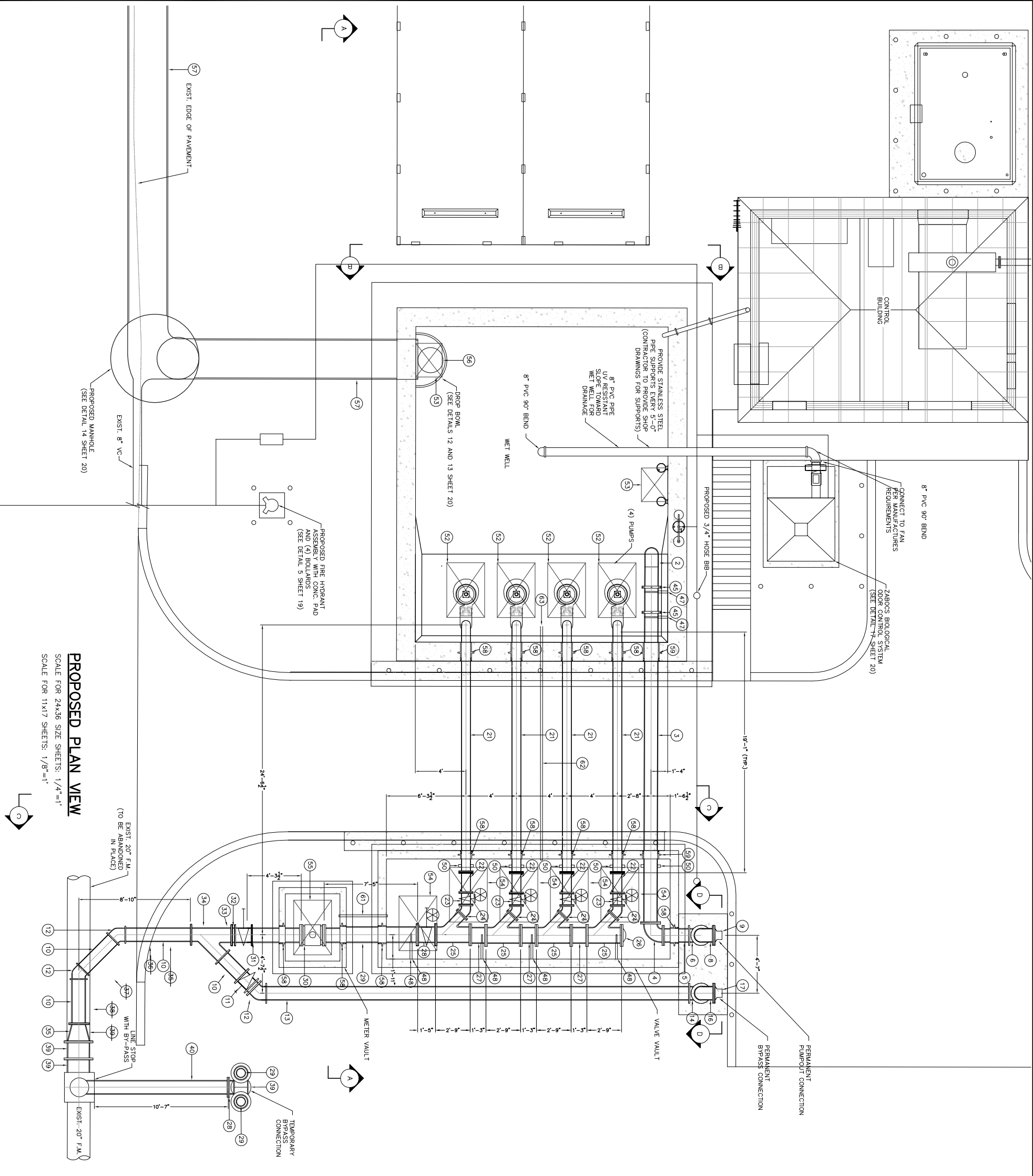
L-1=4.5000000'W, 150.000' (C1150.5000'W)
L-2=4.5000000'W, 150.000' (C1150.5000'W)
L-3=4.5000000'W, 150.000' (C1150.5000'W)
L-4=4.5000000'W, 150.000' (C1150.5000'W)
L-5=4.5000000'W, 150.000' (C1150.5000'W)

MANHOLE TABLE

MANHOLE NUMBER	INVERT ELEVATION	TYPE
SM-1	-4.05'	12"
SM-2	-7.45'	12"
SM-3	-7.45'	12"
SM-4	-7.45'	12"
SM-5	-7.45'	12"
SM-6	-7.45'	12"
SM-7	-7.45'	12"
SM-8	-7.45'	12"
SM-9	-7.45'	12"
SM-10	-7.45'	12"
SM-11	-7.45'	12"
SM-12	-7.45'	12"
SM-13	-7.45'	12"
SM-14	-7.45'	12"
SM-15	-7.45'	12"
SM-16	-7.45'	12"
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SM-18	-7.45'	12"
SM-19	-7.45'	12"
SM-20	-7.45'	12"

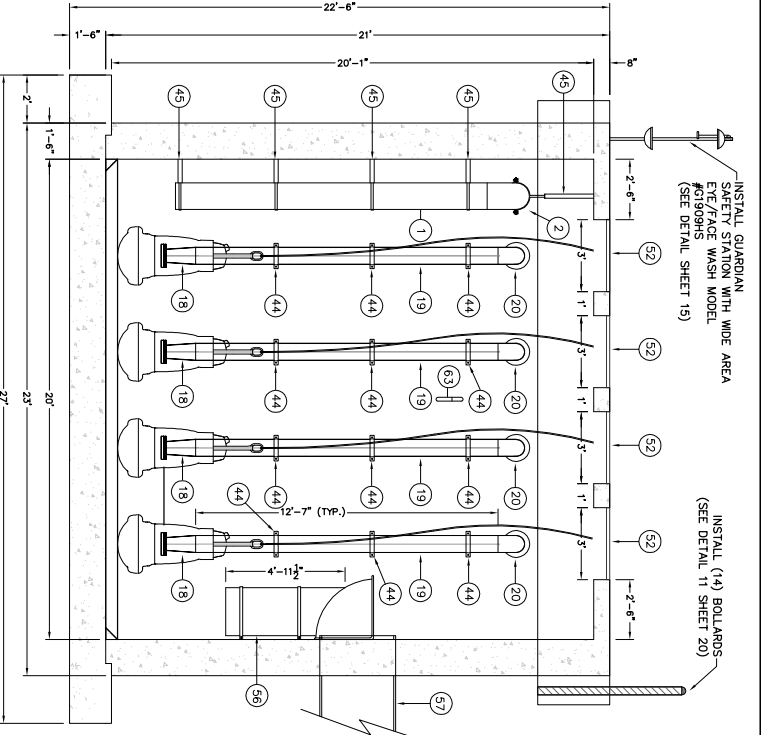
RECORD DRAWING

<p>12</p>	<p>FOR: THE TOWN OF LONGBOAT KEY PUBLIC WORKS TITLE: REHABILITATION OF LIFTSTATION D DESC: PROPOSED SITE PLAN</p>	<p>ROBERT C. STANLEY P.E. FLA. LIC. NO. 62502 C.A. NO. 3943 Date:</p>	<p>In accordance with 61015-30.003 (5) F.A.C., these preliminary engineering documents are not in final form, but are being transmitted to the public agency to receive agency reviews, comments and interpretations. The documents may subsequently be revised by the Engineer to reflect resolution of issues with public agency prior to final action by the agency. Changes, revisions and modifications to a project may prompt additional document submittal for agency approval action on the same project.</p>	<table border="1"> <tr> <th>NO.</th> <th>REVISION</th> <th>DATE</th> <th>BY</th> </tr> <tr> <td>1</td> <td>REVISED PLANS PER F.D. COMMENTS</td> <td>4/28/10</td> <td>RCS</td> </tr> </table>	NO.	REVISION	DATE	BY	1	REVISED PLANS PER F.D. COMMENTS	4/28/10	RCS	<p>DMK ASSOCIATES ENGINEERS & SURVEYORS 435 Commercial Ct., Ste. 200 Venice, Florida 34292 TEL: (841)412-1293 FAX: (841)412-1043 Engineering Business No. 3843</p>
	NO.	REVISION	DATE	BY									
1	REVISED PLANS PER F.D. COMMENTS	4/28/10	RCS										
<p>Design By: R.S.</p>	<p>Drawn By: RMS</p>	<p>Checked By: RS</p>	<p>Date: 04-23-12</p>	<p>SCALE: AS SHOWN</p>	<p>Proj. No.: 08-0309</p>								



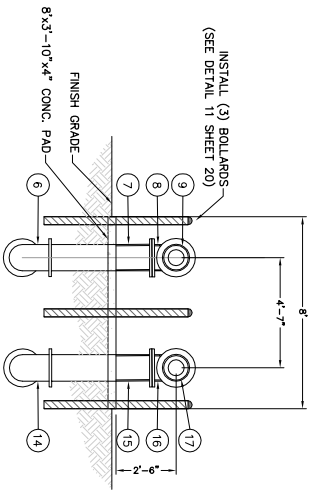
PROPOSED PLAN VIEW

SCALE FOR 24x36 SIZE SHEETS: 1/4"=1'
SCALE FOR 11x17 SHEETS: 1/8"=1'



PROPOSED SECTION B-B

SCALE FOR 24x36 SIZE SHEETS: 1/4"=1'
SCALE FOR 11x17 SHEETS: 1/8"=1'



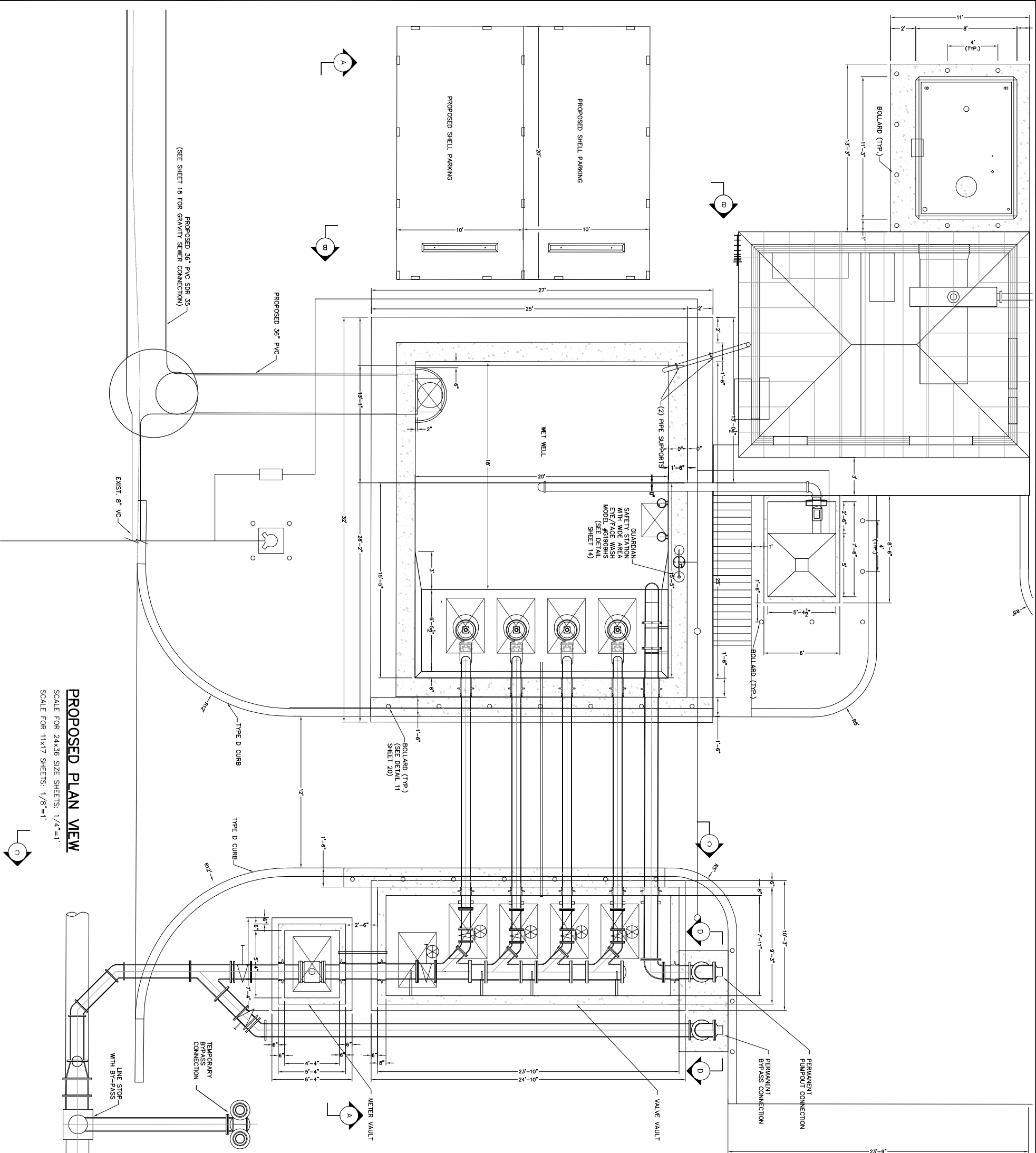
PROPOSED SECTION D-D

SCALE FOR 24x36 SIZE SHEETS: 1/4"=1'
SCALE FOR 11x17 SHEETS: 1/8"=1'

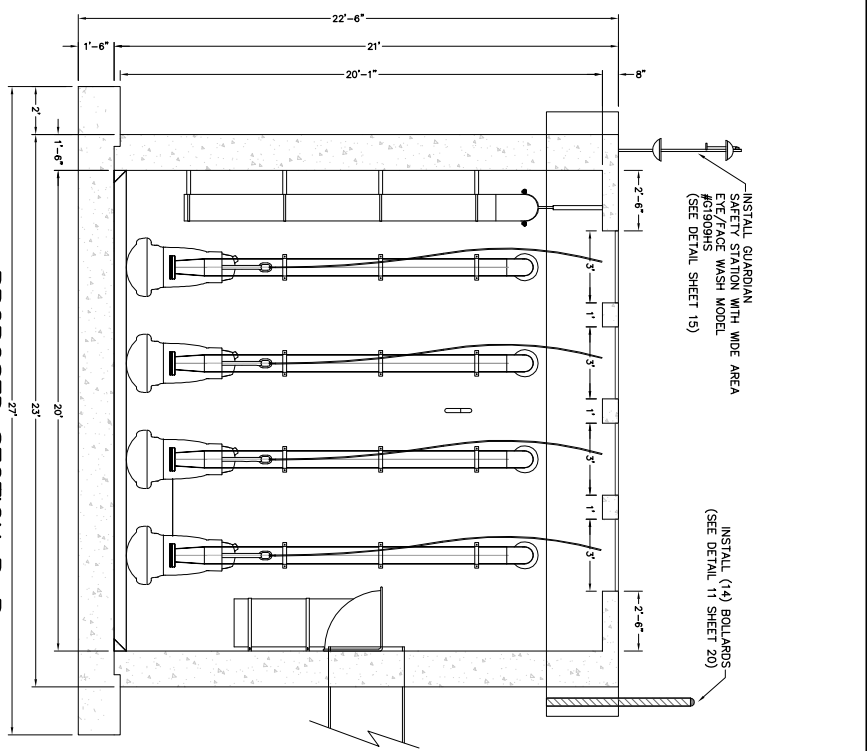
NOTES:

1. LIST OF MATERIALS IS ON SHEET 17.
2. VALVE VAULT AND VALVE VAULT TOP SLAB SHALL BE PRECAST REINFORCED CONCRETE. ALL PRECAST STRUCTURES TO CONFORM TO SPECIFICATIONS 2805.
3. ALL PUMPING STATION WORK SHALL CONFORM TO THE REQUIREMENTS TO THE APPROPRIATE SECTIONS OF THE SPECIFICATIONS.
4. ALL EQUIPMENT, ANCHOR BOLT SIZES, LOCATIONS, CLEARANCES, ETC., SHALL BE IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND THE APPROVED SHOP DRAWINGS.
5. SEE ELECTRICAL SHEETS FOR LOCATION OF CONTROL PANEL AND CONNECTING CONDUITS.
6. TYPE 316 STAINLESS STEEL SHALL BE USED INSIDE AND OUTSIDE OF WET WELL AND VALVE VAULT FOR FLANGE NUTS, BRACKETS, GUIDE RAILS AND ALL OTHER HARDWARE EXCEPT AS OTHERWISE SPECIFIED.
7. ALL PRESSURE PIPE JOINTS ARE TO BE RESTRAINED.
8. ALL PIPING TO BE TESTED AT 100 PSI FOR 2 HOURS PER SPECIFICATIONS 02600 SECTION 3.07.
9. WET WELL AND VALVE VAULT INTERIOR PROTECTIVE COATING TO BE APPLIED PER SPECIFICATION 09905.
10. PUMP ACCESS HATCH AND VALVE BOX ACCESS HATCH CONFIGURATIONS AND DIMENSIONS SHALL BE COMBINED WITH EQUIPMENT SUPPLIER. DIMENSIONS SHOWN ARE MINIMUM VALUES ONLY AND ARE FOR CLEAR OPENING.

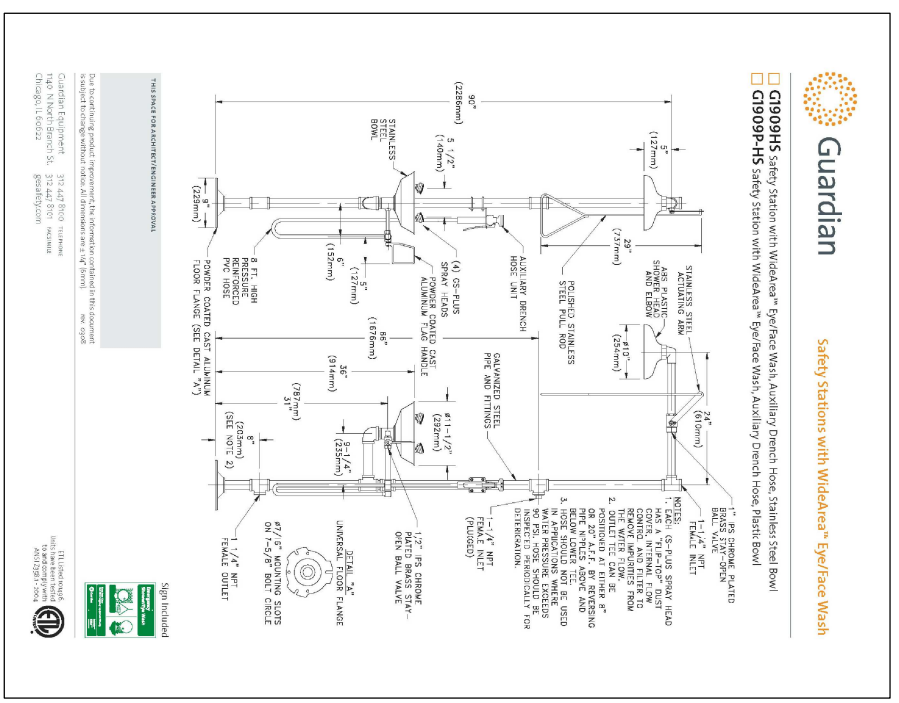
RECORD DRAWING



PROPOSED PLAN VIEW
 SCALE FOR 24x36 SIZE SHEETS: 1/4"=1'
 SCALE FOR 11x17 SHEETS: 1/8"=1'



PROPOSED SECTION B-B
 SCALE FOR 24x36 SIZE SHEETS: 1/4"=1'
 SCALE FOR 11x17 SHEETS: 1/8"=1'



Guardian
 Safety Stations with WideArea™ Eye/face Wash

- G1909H5 Safety Station with WideArea™ Eye/face Wash, Auxiliary Drench Hose, Stainless Steel Bowl
- G1909P-H5 Safety Station with WideArea™ Eye/face Wash, Auxiliary Drench Hose, Plastic Bowl

THIS SHEET FOR ARCHITECTURAL REVIEW ONLY
 THE TOWN OF LONGBOAT KEY
 PUBLIC WORKS
 REHABILITATION OF
 LIFTSTATION D

FOR: THE TOWN OF LONGBOAT KEY
 PUBLIC WORKS
 REHABILITATION OF
 LIFTSTATION D
 DESC: PROPOSED LIFT STATION
 PLAN AND SECTIONS

ROBERT C. STANLEY P.E.
 F.L.A. LIC. NO. 62502
 C.A. NO. 3943
 Date:

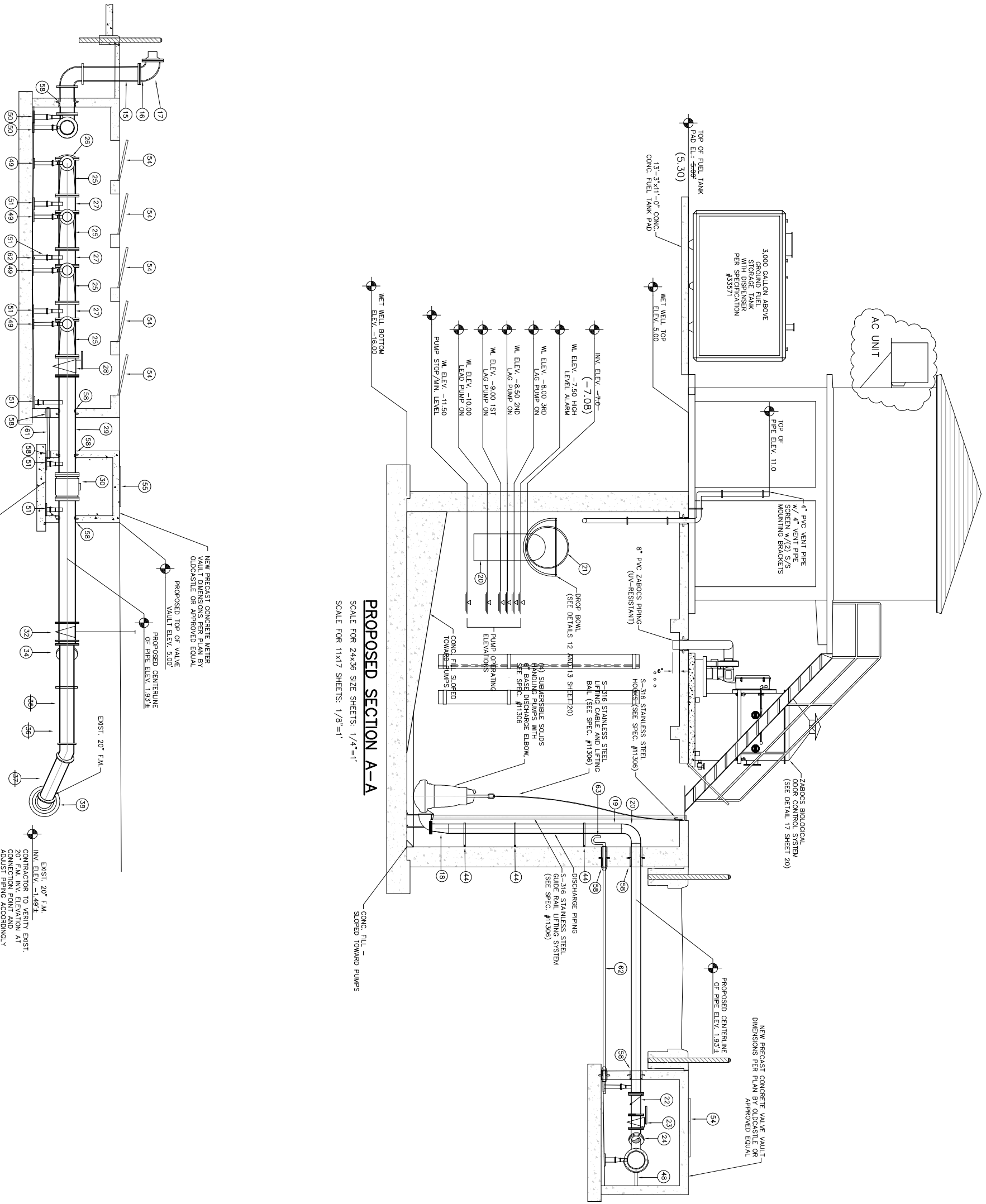
In accordance with 61G15-30.003 (5) F.A.C., these preliminary engineering documents are not in final form, but are being transmitted to the public agency to receive agency reviews, comments and interpretations. The documents may subsequently be revised by the Engineer to reflect resolution of issues with public agency prior to final action by the agency. Changes, revisions and modifications to a project may prompt additional document submittal for agency approval action on the same project.

NO.	REVISION	DATE	BY

DMK ASSOCIATES
 ENGINEERS & SURVEYORS
 435 Commercial Ct., Ste. 200
 Venice, Florida 34292
 TEL: (849)412-1293 FAX: (849)412-1043
 Engineering Business No. 3943

Checked By: RS Date: 04-23-12
 SCALE: AS SHOWN Proj. No.: 08-0309

Design By: R.S. Drawn By: RMS



PROPOSED SECTION A-A
SCALE FOR 24x36 SIZE SHEETS: 1/4"=1'
SCALE FOR 11x17 SHEETS: 1/8"=1'

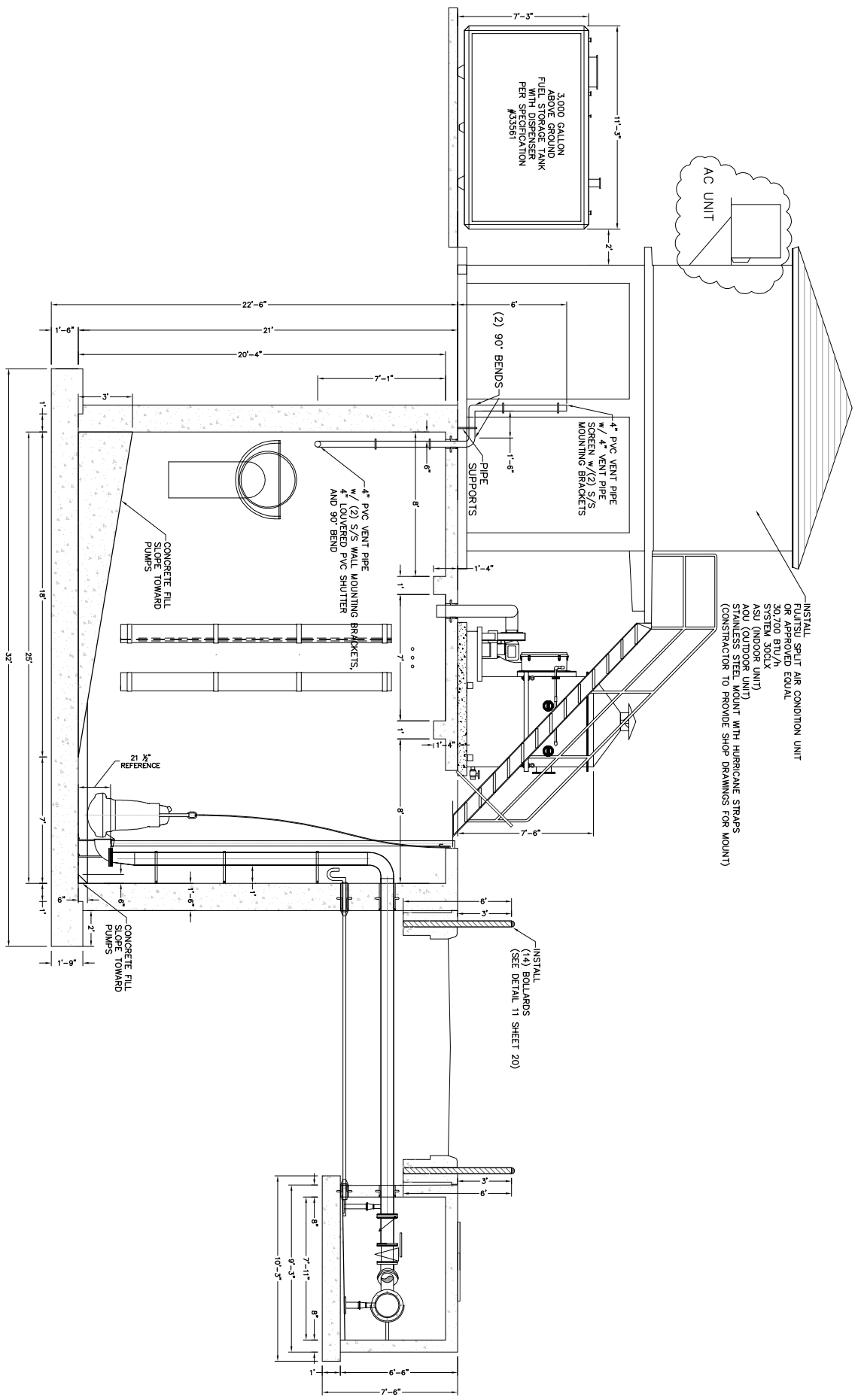
PROPOSED SECTION C-C
SCALE FOR 24x36 SIZE SHEETS: 1/4"=1'
SCALE FOR 11x17 SHEETS: 1/8"=1'

WET WELL LEVEL TABLE		
LEVEL ELEVATION	DISTANCE BETWEEN POINTS	SET POINT DESCRIPTION
+4.00		TOP OF TOP SLAB
+4.33	8'-0.67H	DISTANCE
+4.00	4'-0.33H	BOTTOM OF TOP SLAB (CEILING)
+4.00	40"-3.33H	DISTANCE
+4.67	56"-4.67H	INVERT OF DISCHARGE PIPE (TYPICAL OF 4)
-4.00	36"-3.0H	TOP OF INLET PIPE
-7.00	6'-0.50H	INVERT OF INLET PIPE
-7.50	6'-0.50H	HIGH LEVEL ALARM
-8.00	6'-0.50H	DISTANCE
-8.00	6'-0.50H	3RD LAG PUMP ON
-8.50	6'-0.50H	DISTANCE
-8.50	6'-0.50H	2ND LAG PUMP ON
-9.00	12'-1.00H	1ST LAG PUMP ON
-10.00	18"-1.50H	LEAD PUMP ON
-11.50	4.50	PUMP STOP/MIN. LEVEL
-16.00	18"-1.50H	DISTANCE
-17.50		WET WELL FLOOR ELEVATION
		DISTANCE
		BOTTOM OF BOTTOM SLAB

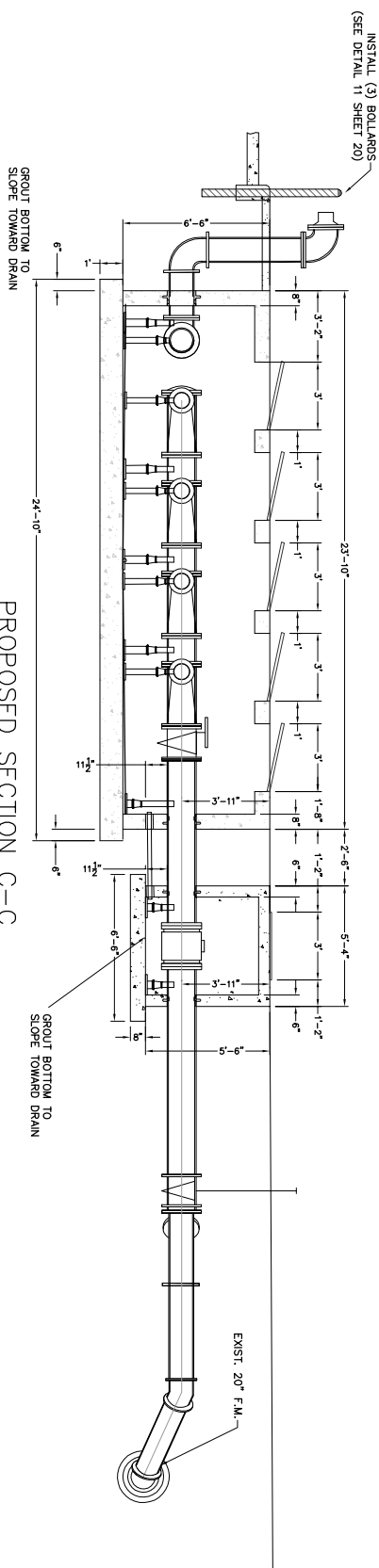
NOTES:
1. LIST OF MATERIALS ON SHEET 17

RECORD DRAWING

Drawing name: F:\Projects\2008\08-0309 LBK Lift Station D Rehab\DWG\RECORD DRAWINGS\PLAN SHEETS\PROP-LS-SECT.dwg Tab: 15 Date Printed: Thu, 19 Apr 2012 - 12:20pm	FOR: THE TOWN OF LONGBOAT KEY PUBLIC WORKS TITLE: REHABILITATION OF LIFTSTATION D DESC: PROPOSED PIPING LAYOUT	X ROBERT C. STANLEY P.E. FLA. LIC. NO. 62502 C.A. NO. 3943 Date:	In accordance with 61G15-30.003 (5) F.A.C., these preliminary engineering documents are not in final form, but are being transmitted to the public agency to receive agency reviews, comments and interpretations. The documents may be revised by the Engineer to reflect resolution of issues with public agency prior to final action by the agency. Changes, revisions and modifications to a project may prompt additional document submittal for agency approval action on the same project.	<table border="1"> <tr> <th>NO.</th> <th>REVISION</th> <th>DATE</th> <th>BY</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	NO.	REVISION	DATE	BY					<table border="1"> <tr> <td>Design By: R.S.</td> <td>Drawn By: RMS</td> <td>Checked By: RS</td> <td>Date: 04-23-12</td> </tr> <tr> <td colspan="2">SCALE: AS SHOWN</td> <td colspan="2">Proj. No.: 08-0309</td> </tr> </table>	Design By: R.S.	Drawn By: RMS	Checked By: RS	Date: 04-23-12	SCALE: AS SHOWN		Proj. No.: 08-0309	
	NO.	REVISION	DATE	BY																	
Design By: R.S.	Drawn By: RMS	Checked By: RS	Date: 04-23-12																		
SCALE: AS SHOWN		Proj. No.: 08-0309																			
<div style="font-size: 2em; font-weight: bold; text-align: center;">15</div>			435 Commercial Ct., Ste. 200 Venice, Florida 34292 TEL: (849)412-1293 FAX: (849)412-1043 Engineering Business No. 3943																		



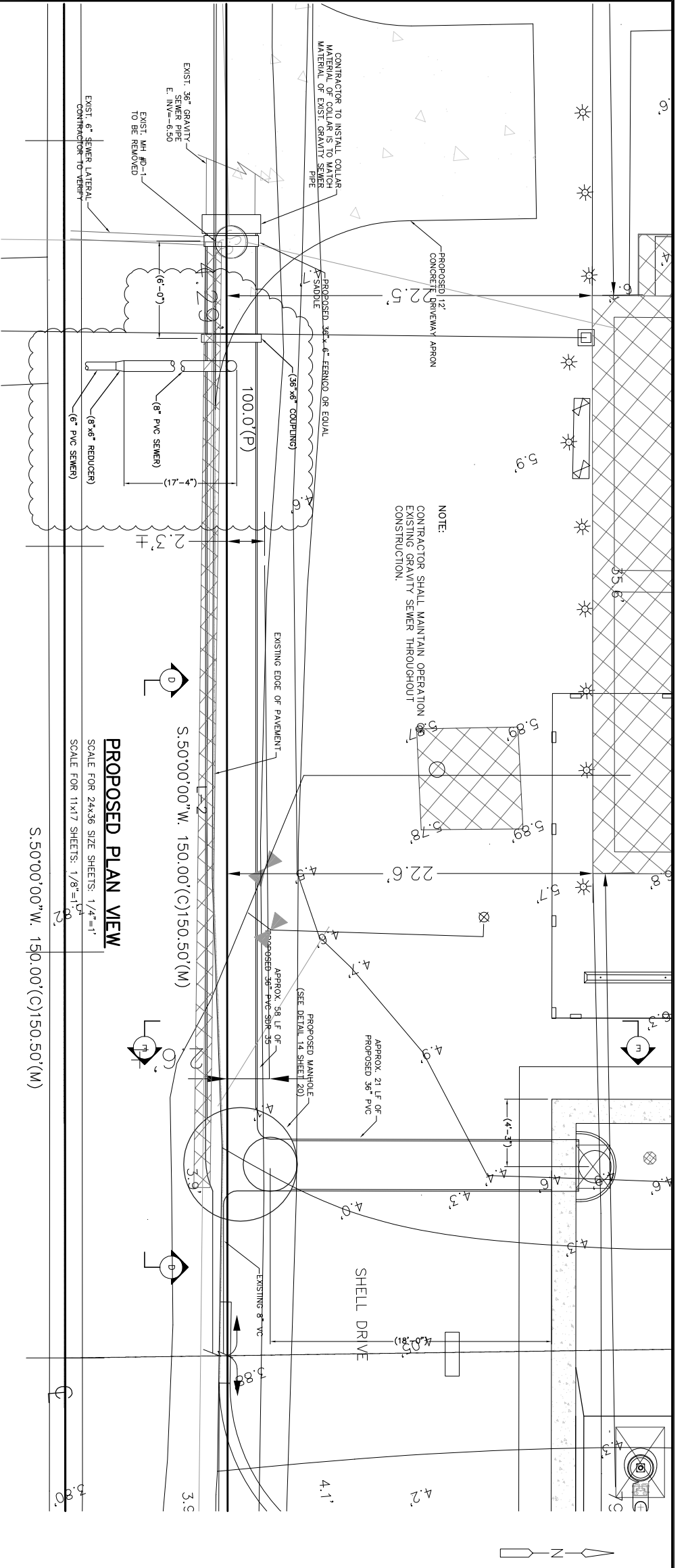
PROPOSED SECTION A-A
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 SCALE FOR 11x17 SHEETS: 1/8"=1'



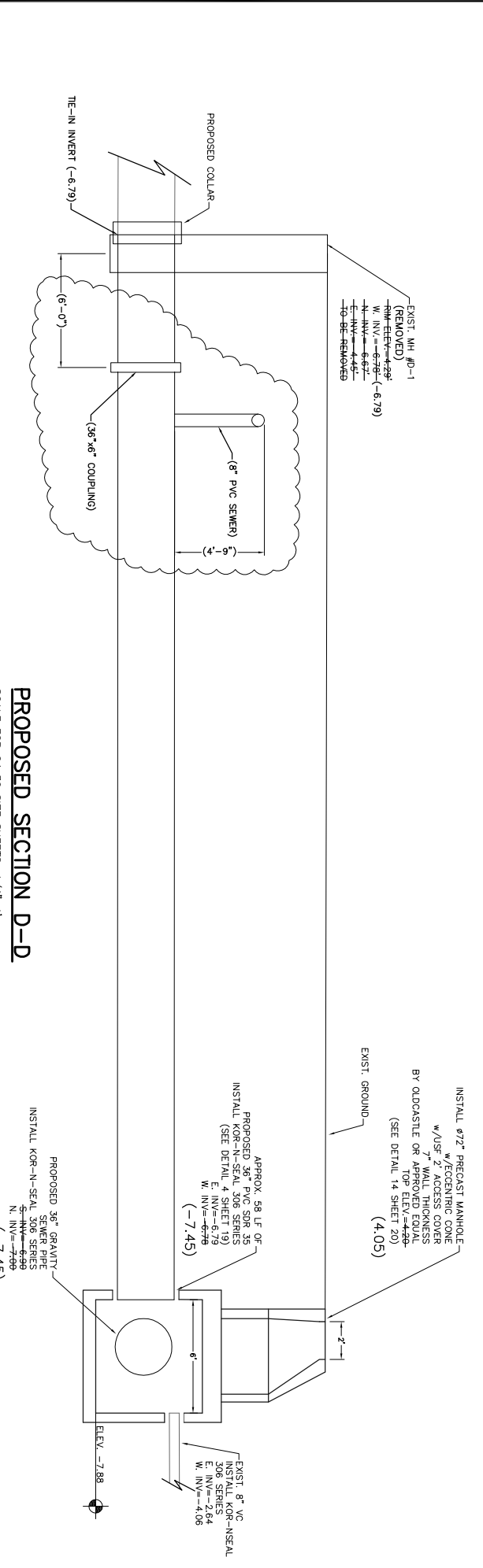
PROPOSED SECTION C-C
 SCALE FOR 24x36 SIZE SHEETS: 1/4"=1'
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RECORD DRAWING

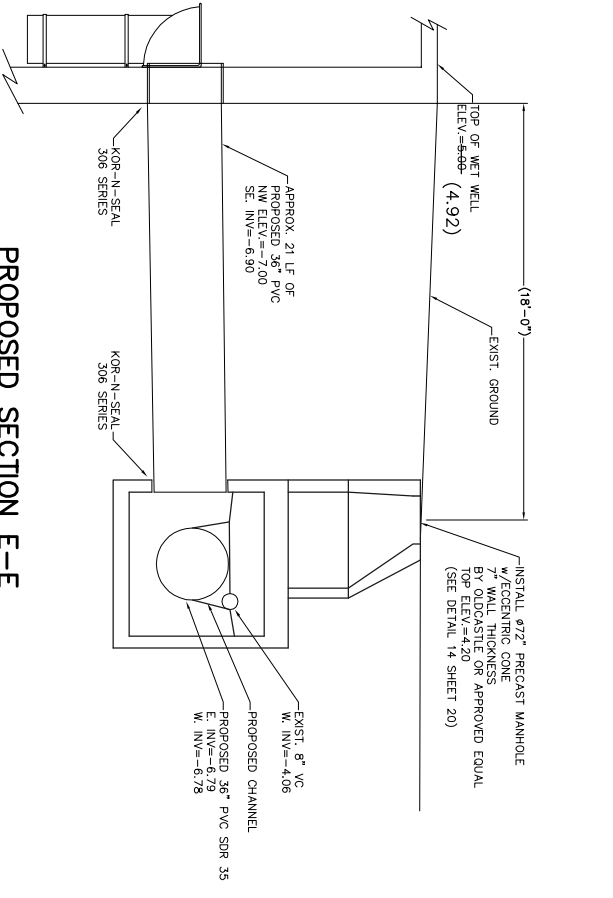
16	FOR: THE TOWN OF LONGBOAT KEY PUBLIC WORKS TITLE: REHABILITATION OF LIFTSTATION D DESC: PROPOSED LIFT STATION PLAN AND SECTIONS	X ROBERT C. STANLEY P.E. F.L.A. LIC. NO. 62502 C.A. NO. 3943 Date:	In accordance with 61G15-30.003 (5) F.A.C., these preliminary engineering documents are not in final form, but are being transmitted to the public agency to receive agency reviews, comments and interpretations. The documents may subsequently be revised by the Engineer to reflect resolution of issues with public agency prior to final action by the agency. Changes, revisions and modifications to a project may prompt additional document submittal for agency approval action on the same project.	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">NO.</th> <th style="width: 45%;">REVISION</th> <th style="width: 15%;">DATE</th> <th style="width: 35%;">BY</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	NO.	REVISION	DATE	BY													<p>DMK ASSOCIATES ENGINEERS & SURVEYORS 435 Commercial Ct., Ste. 200 Venice, Florida 34292 TEL: (941)412-1293 FAX: (941)412-1043 Engineering Business No. 3943</p>	Design By: R.S. Drawn By: RMS Checked By: RS Date: 04-23-12 SCALE: AS SHOWN Proj. No.: 08-0309
NO.	REVISION	DATE	BY																			



PROPOSED PLAN VIEW
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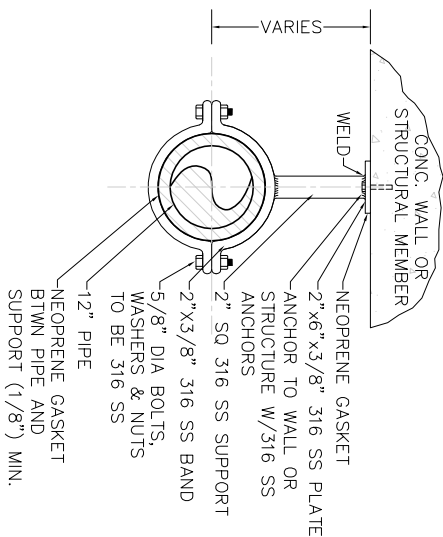


PROPOSED SECTION D-D
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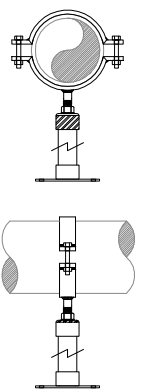


PROPOSED SECTION E-E
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 SCALE FOR 11x17 SHEETS: 1/8"=1'

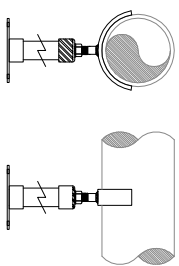
RECORD DRAWING



PIPE SUPPORT DETAIL 1
N.T.S.



FULL CIRCLE PIPE SUPPORT DETAIL FOR 2
HORIZONTAL INSTALLATION
N.T.S.



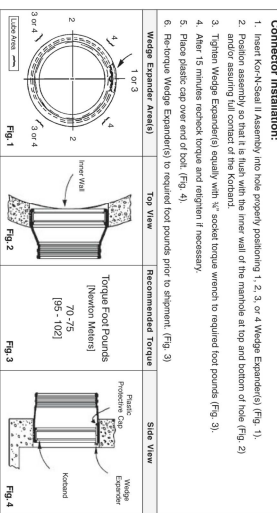
SADDLE PIPE SUPPORT DETAIL FOR 3
VERTICAL INSTALLATION
N.T.S.

DIMENSIONS						
SUPPORT SIZE	PIPE O.D.	STRAP SIZE	THREAD STUD	BASE PLATE	EXTENSION PIPE REQ'D	MINIMUM DIST. TO FLOOR
8"	9.05"	1/2" x 3"	1" x 6"	8" x 8" x 1/4"	2" SCH. 40	7"
12"	13.20"	1/2" x 3"	1" x 6"	8" x 8" x 1/4"	2" SCH. 40	7"
14"	15.30"	5/8" x 3"	1 1/2" x 6"	8" x 8" x 1/2"	3" SCH. 40	9 1/2"

Full Circle Clamp Supports are to be factory fabricated units. No contractor fabricated supports are allowed. Material to be A36 steel with a galvanized finish unless indicated otherwise in specifications. Upper and lower matching saddles are each to encompass 170° of pipe, and are to be formed to actual pipe diameter. Base is to be anchored to floor, and installer is to weld extension pipe to base and color after installation. A neoprene liner is to be used between pipe and support. Supports are to be made of 10,000 psi minimum tensile strength material. Supports shall be STANBON MODEL 592 as manufactured by MATERIAL RESOURCES INC., FOREST GROVE, OR. 503-533-5256p, 503-533-5501f

Saddle supports are to be factory fabricated units. No contractor fabricated supports are allowed. Material to be A36 steel with a galvanized finish unless indicated otherwise in specifications. Saddle to encompass 120° of pipe circumference. Saddle is to be formed to actual pipe diameter and include two centering tabs. A neoprene liner is required when supporting steel or cast iron pipe. Supports are to be made of 10,000 psi minimum tensile strength material. Supports shall be STANBON MODEL 596 as manufactured by MATERIAL RESOURCES INC., FOREST GROVE, OR. 503-533-5256p, 503-533-5501f

KOR-N-SEAL II - FLEXIBLE CONNECTOR
Recommended Installation Procedure

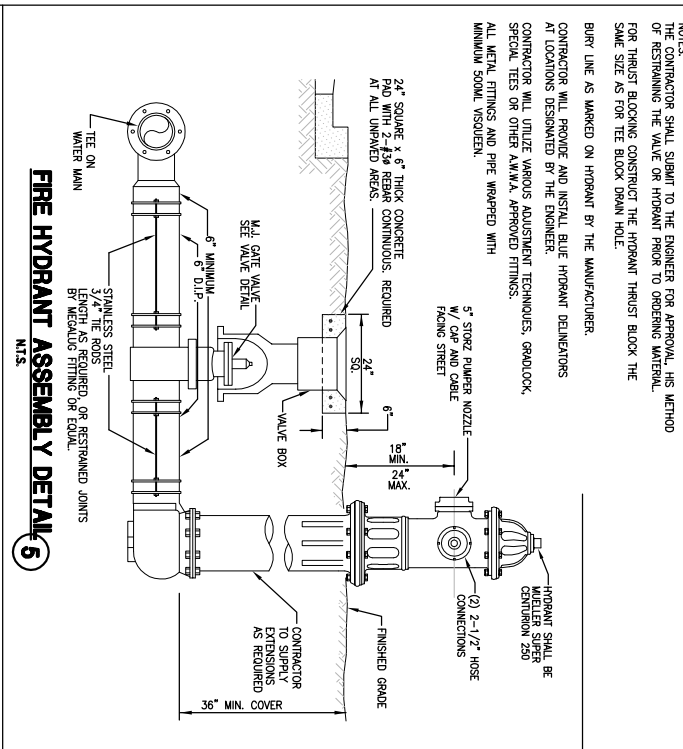


- Connector Installation:**
1. Insert Kor-N-Seal II assembly into hole prepared previously 1, 2, 3, or 4 (Wedge Expander) (Fig. 1)
 2. Insert Wedge Expander (Fig. 2) into hole and rotate until the end of the flange is at top and bottom of hole (Fig. 2)
 3. Tighten Wedge Expander(s) equally with "w" socket torque wrench to required foot pounds (Fig. 3)
 4. Allow 15 minutes rework torque and tighten if necessary.
 5. Place plastic cap over end of both (Fig. 4)
 6. Re-torque Wedge Expander(s) to required foot pounds prior to shipment. (Fig. 3)
- Wedge Expander Details:**
- | Wedge Expander Model | Top View | Recommended Torque | Side View |
|----------------------|----------|--------------------|-----------|
| 1 or 3 | Fig 1 | | Fig 3 |
| 2 | Fig 2 | | Fig 4 |
| 3 or 4 | Fig 3 | | Fig 4 |

KOR-N-SEAL DETAIL 4
N.T.S.

CONNECTORS FOR PIPE 1 1/2" OR GREATER		PIPE CLAMPS	
NOMINAL HOLE SIZE	MODEL NUMBER	PIPE O.D. RANGE	HOLE SIZE RANGE
4"	SK04-40	35.625 - 37.000	40.00 - 40.250
4 1/2"	SK04-42	37.000 - 38.000	42.00 - 42.250
4 3/4"	SK04-44	38.000 - 39.000	42.00 - 42.250
4"	SK04-44	39.000 - 41.000	44.00 - 44.250
4 1/2"	SK04-44	41.000 - 41.925	44.00 - 44.250

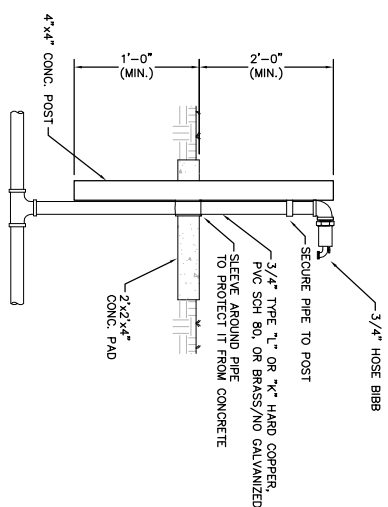
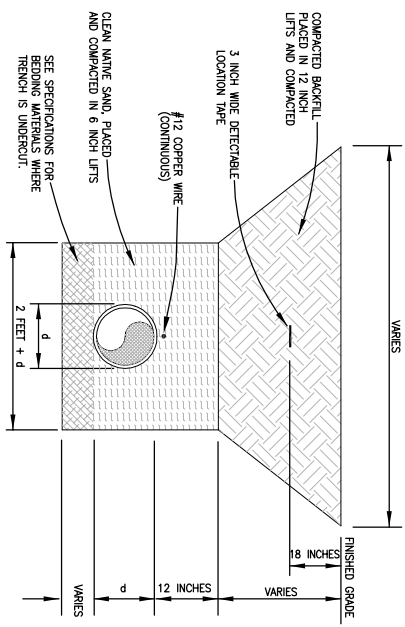
FIRE HYDRANT ASSEMBLY DETAIL 5
N.T.S.



NOTES:
THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL HIS METHOD OF RESTRAINING THE WALL OR HYDRANT FROM TO OVERTURN WINDLOAD FOR THRUST BLOCKING CONSTRUCT THE HYDRANT THRUST BLOCK THE SAME SIZE AS FOR THE BLOCK DRAIN HOLE.
BURY LINE AS MARKED ON HYDRANT BY THE MANUFACTURER.
CONTRACTOR WILL PROVIDE AND INSTALL BLUE HYDRANT DELINEATORS AT LOCATIONS DESIGNATED BY THE ENGINEER.
CONTRACTOR WILL UTILIZE VARIOUS ADJUSTMENT TECHNIQUES, GRADLOCK, SPECIAL TEES OR OTHER A.M.A. APPROVED FITTINGS.
ALL METAL FITTINGS AND PIPE WRAPPED WITH MINIMUM 500ML INSULATION.

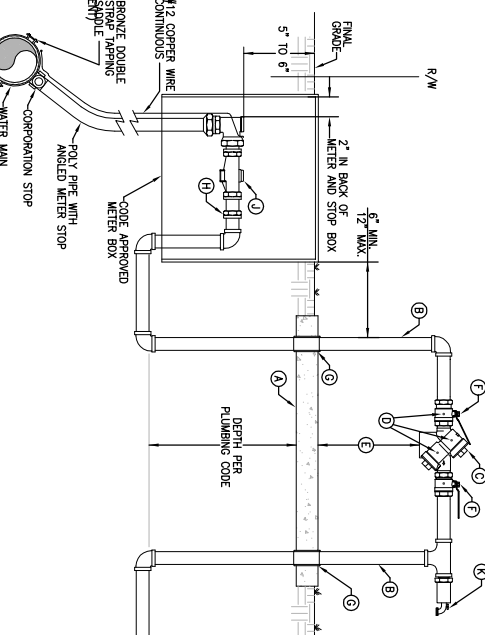
- NOTES:**
1. TRENCH WIDTH SHALL BE APPROX. EQUAL TO THE PIPE DIA. + 2 FEET OR AS PER A.M.A. AND THE MANUFACTURERS RECOMMENDATIONS.
 2. PROVIDE SHERING AND SHIRING AS NECESSARY FOR SAFETY.
 3. BACKFILL MATERIALS SHALL BE APPROVED BY THE ENGINEER WHERE THE PIPE IS UNDERBUILT.
 4. WATER, SEWER, AND REDUCED MAINS TO BE INSTALLED WITH A MINIMUM 36 INCHES OF COVER.
 5. REFER TO LAND DEVELOPMENT REGULATIONS FOR DENSITY REQUIREMENTS.

TRENCH DETAIL 6
N.T.S.

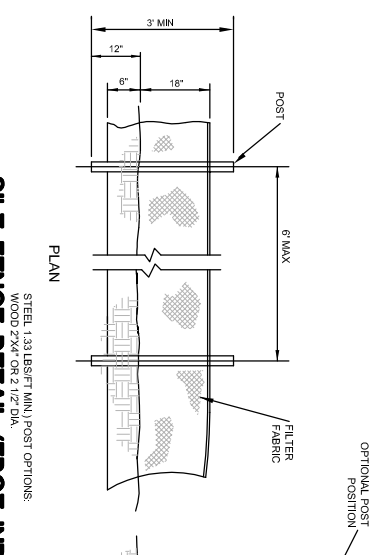


HOSE BIBB DETAIL 7
N.T.S.

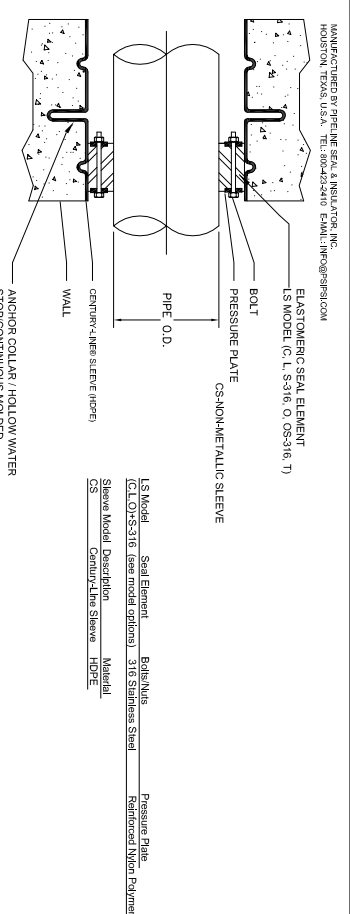
- MATERIALS**
- CONCRETE PAD 4 INCHES THICK AND 3 INCHES BEYOND ALL PIPES (OPTIONAL)
 - TYPE 1, 2, OR 3 HARD COPPER, P.C. SCH. 80, OR BRASS/NO GALVANIZED
 - APPROVED BACKFLOW PREVENTER ASSEMBLY
 - APPROPRIATE TEST COCKS
 - 12 INCHES MINIMUM - 18 INCHES MAXIMUM CLEARANCE
 - APPROVED RESILIENT SEAT BALL VALVE FOR SIZES LESS THAN 3 INCHES
 - SLEEVE AROUND PIPE TO PROTECT IT FROM CONCRETE
 - METER SHAD (SUPPLIED BY THE TOWN OF LONGBOAT KEY PUBLIC WORKS DEPARTMENT)
 - METER (SUPPLIED BY THE TOWN OF LONGBOAT KEY PUBLIC WORKS DEPARTMENT)
 - HOSE BIBB



METER WITH BACKFLOW PREVENTER (UP TO 1" DIA.)
N.T.S.



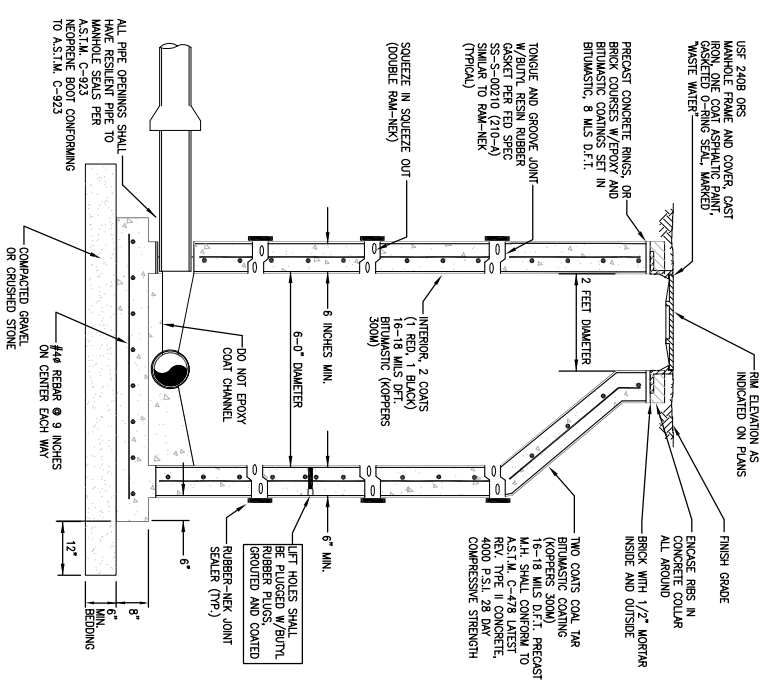
SILT FENCE DETAIL (FDOT INDEX NO. 1022)
N.T.S.



STRUCTURE WALL THICKNESS	PIPE MATERIAL	PIPE SIZE (INCHES)	ACTUAL O.D. (INCHES)	PIPE COUNT	MODEL NUMBER	LINK-SEAL SIZE	LINKS PER SEAL
18 INCHES	SS	12	12.750	1	CS-16-18-1	LS-47/5-S-316	17
18 INCHES	SS	8	8.625	4	CS-12-18-4	LS-47/5-S-316	12
18 INCHES	MC (METAL CONDUIT)	3	3.476	4	CS-5-19-4	LS-91/5-S-316	9
18 INCHES	PVC	2	2.500	1	CS-4-18-1	LS-30/5-S-316	6
8 INCHES	DI	14	13.300	1	CS-20-8-1	LS-47/5-S-316	20
8 INCHES	DI	12	13.200	1	CS-18-8-1	LS-47/5-S-316	15
8 INCHES	SS	12	12.750	1	CS-16-8-1	LS-47/5-S-316	17
8 INCHES	SS	8	8.625	4	CS-12-8-4	LS-47/5-S-316	12
8 INCHES	PVC	8	9.050	1	CS-12-8-1	LS-40/5-S-316	9
8 INCHES	PVC	4	4.800	1	CS-8-8-1	LS-47/5-S-316	8
8 INCHES	PVC	2	2.500	2	CS-4-8-1	LS-30/5-S-316	6
6 INCHES	DI	14	13.300	1	CS-20-6-1	LS-47/5-S-316	20
6 INCHES	PVC	2	2.500	1	CS-4-6-1	LS-30/5-S-316	6

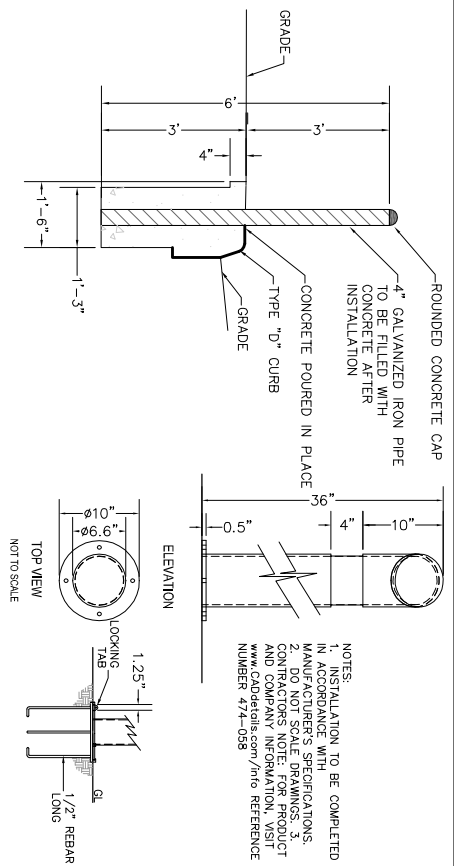
CONTRACTOR TO VERIFY FOR ALL PIPES THE SELECTED LINK SEAL AND SLEEVE MODELS WITH LINK SEAL MANUFACTURER. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR EACH PIPE-LINK SEAL APPLICATION FOR REVIEW BY OWNER PRIOR TO COMMENCEMENT OF CONSTRUCTION.

LINK SEAL DETAIL 10
N.T.S.

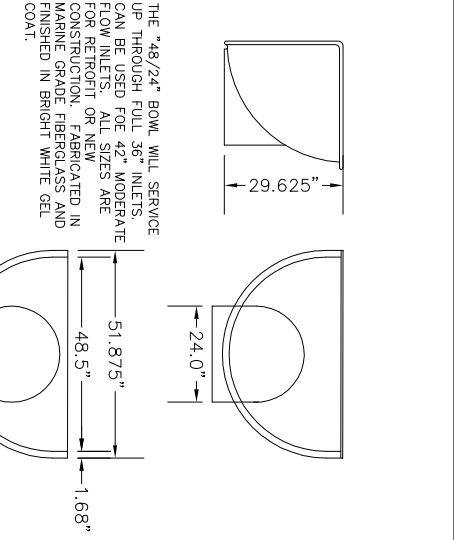


- NOTES:
- MANHOLE SHALL CONFORM TO A.S.T.M. C-919 LATEST REVISION TYPE I
 - TUBULE END MANHOLES DROP MANHOLES AND EXISTING MANHOLES RECEIVING TECHNOLOGICAL SYSTEMS, NO EQUAL.
 - ECCENTRIC CONE MANHOLES SHALL BE USED WHENEVER POSSIBLE, WHERE AN ECCENTRIC CONE MANHOLES DISH OR A CONCENTRIC CONE MAY BE USED IN lieu OF AN ECCENTRIC CONE.
 - FOR MANHOLES LESS THAN 5 FEET IN DEPTH, A SHALLOW MANHOLE DETAIL 17.
 - MONOLITHIC DUCTILE IRON ADJUSTMENT RINGS MAY ONLY BE USED FOR SURFACE OPENING PROJECTS, NOT FOR NEW CONSTRUCTION.

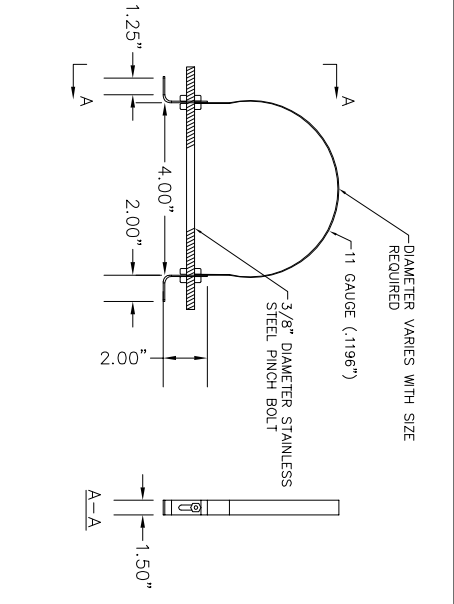
SANITARY SEWER MANHOLE DETAIL 14
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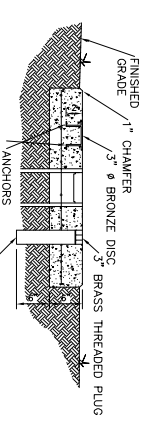
BOLLARD DETAIL 11
N.T.S.



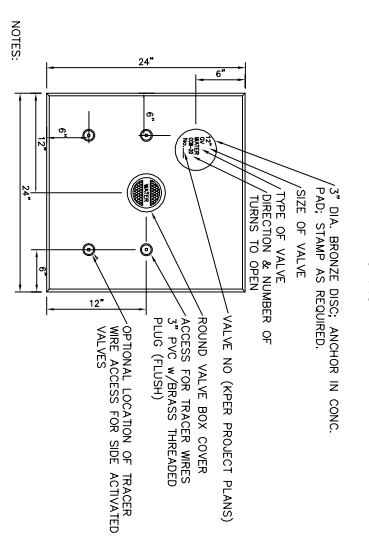
DROP BOWL DETAIL 12
N.T.S.



DROP BOWL BRACKET DETAIL 13
N.T.S.

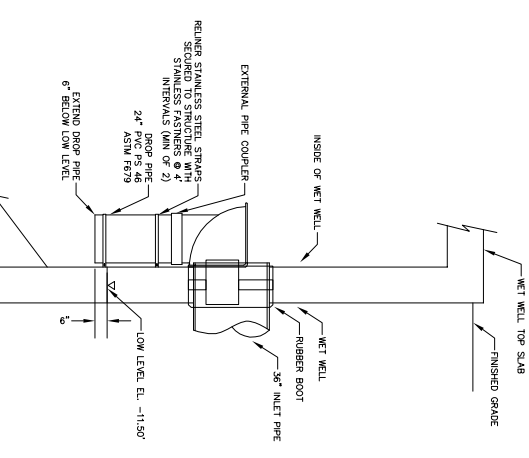


ALTERNATE REMOVEABLE BOLLARD DETAIL
N.T.S.

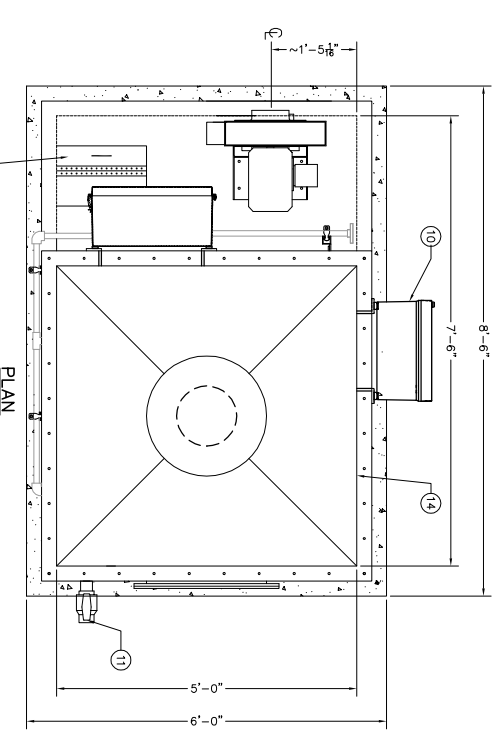


- NOTES:
- CONCRETE TO BE TYPE I GENERAL PORTLAND CEMENT WITH 3/4" TOP SIZE AGGREGATE AND SHALL DEVELOP A 28-DAY STRENGTH OF 3000 PSI
 - REINFORCING STEEL SHALL BE NO. 6#6 - W10#W10
 - CONCRETE VALVE PAD SHALL BE POURED IN PLACE AND SHALL BE SET 1/2" ABOVE FINISH GRADE.

CONCRETE VALVE PAD DETAIL 15
N.T.S.



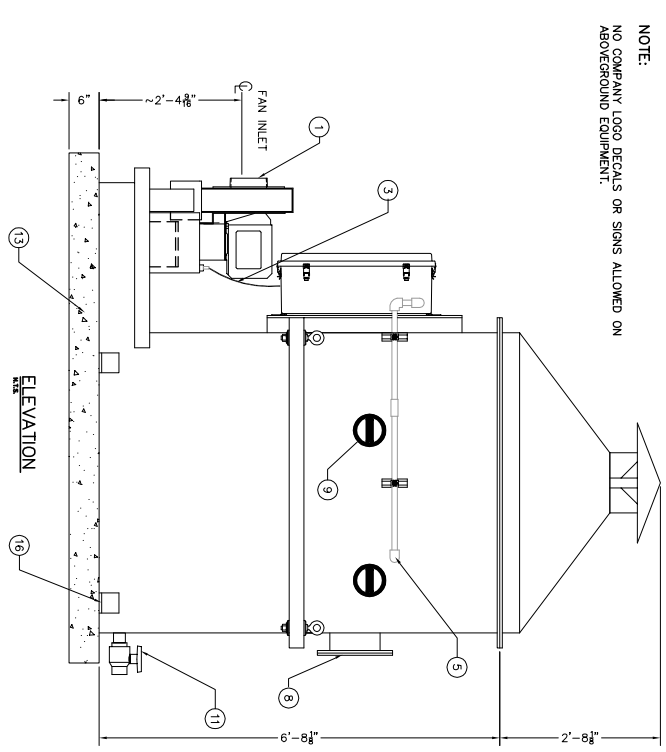
DROP INLET DETAIL 16
N.T.S.



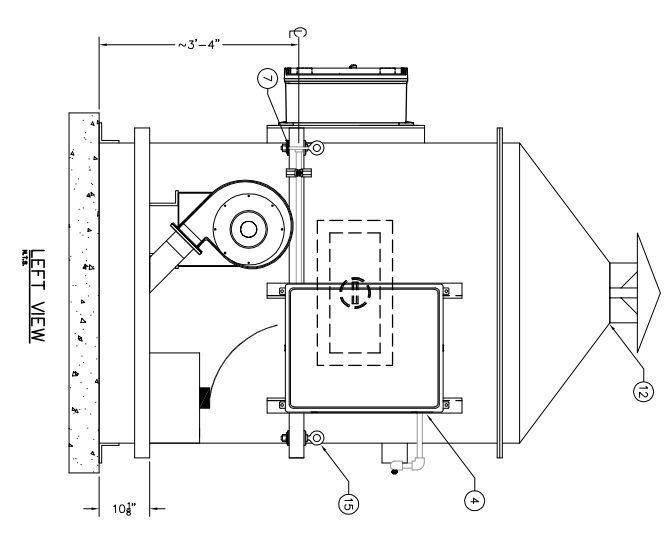
ZB-5000

SLOPED CONCRETE PAD

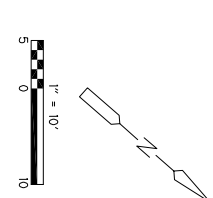
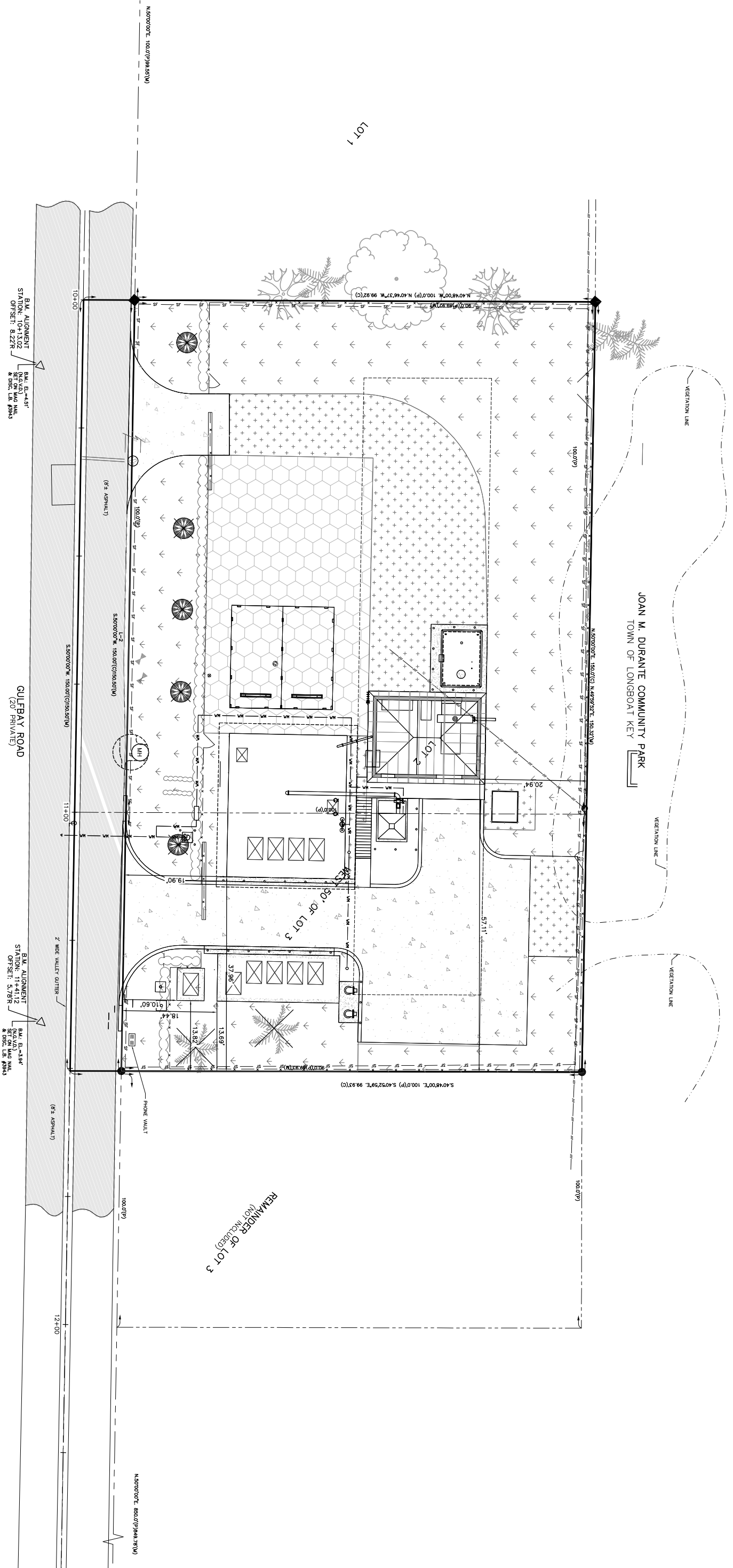
- NOMENCLATURE
- FAN (7.5" OD INLET)
 - NUTRIENT TANK
 - WATER FEED LINE
 - WATER FEED CABINET
 - WATER FEED CONNECTION (3/4" FLANGE)
 - WANT ACCESS FLANGE
 - ELECTRICAL CONTROL PANEL
 - SYSTEM DRAIN
 - SLOPED CONCRETE EQUIPMENT PAD
 - LIFTING EYES (TYP. OF 4)
 - ANCHOR LUGS (TYP. OF 4)
 - APPROX. OPERATING WEIGHT: 8,500 LBS (INCLUDES MEDIA)
 - PLACE ON SLOPED CONCRETE, 1/16" PER FOOT FROM FAN TO DRAIN
 - SERVICE REQUIREMENTS: 50 AMP, 60 HZ PORTABLE WATER, 3/4" LINE (20 PSI MIN.) BACKFLOW PREVENTER, IF REQUIRED, PROVIDED BY OTHERS.
 - 10" BAROMETRIC P-TRAP ON DRAIN, PROVIDED BY OTHERS.



ZABOGS BIOLOGICAL ODOR CONTROL SYSTEM DETAIL 17
N.T.S.



RECORD DRAWING



RECORD DRAWING

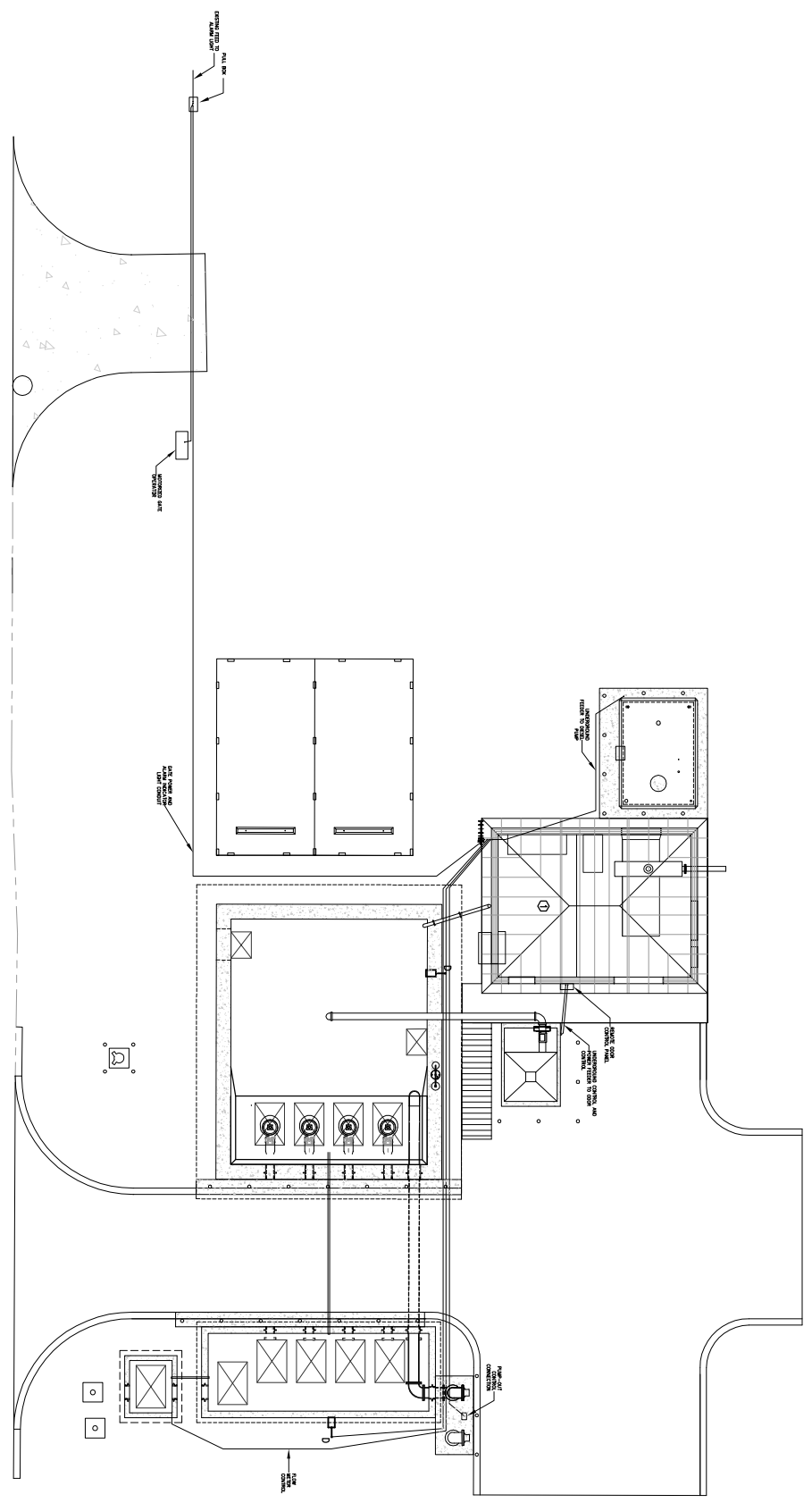
Bay Area Electric, Inc.
 Registered Professional Electrical Engineers
 1515 NE 17th Street, Suite 101
 Pompano Beach, Florida 33062
 Phone: (954) 964-1111
 Fax: (954) 964-1112
 Email: info@bayareaelectric.com

DESIGNED BY:	M.G.	NAME	DATE
CHECKED BY: <td>M.G. <td>NAME <td>DATE</td> </td></td>	M.G. <td>NAME <td>DATE</td> </td>	NAME <td>DATE</td>	DATE
DRAWN BY: <td>M.G. <td>NAME <td>DATE</td> </td></td>	M.G. <td>NAME <td>DATE</td> </td>	NAME <td>DATE</td>	DATE
SCALE: <td colspan="3">SCALE NONE</td>	SCALE NONE		
FILE NAME: <td colspan="3">FILE LOCATION</td>	FILE LOCATION		

THE TOWN OF LOANBOAT KEY PUBLIC WORKS
REHABILITATION OF LIFT STATION D
 FOR
TLC DIVERSIFIED

SITE ELECTRIC PLAN

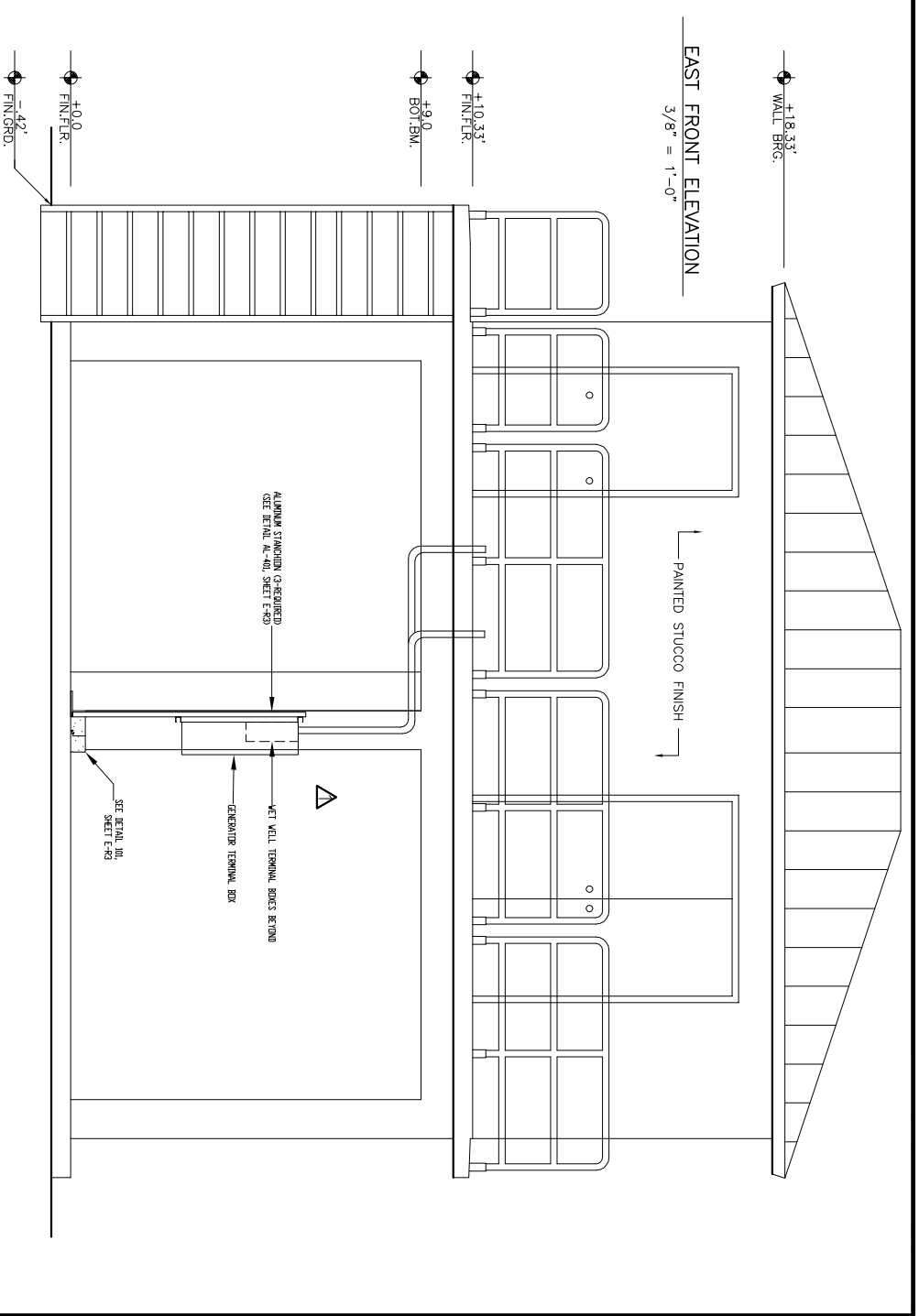
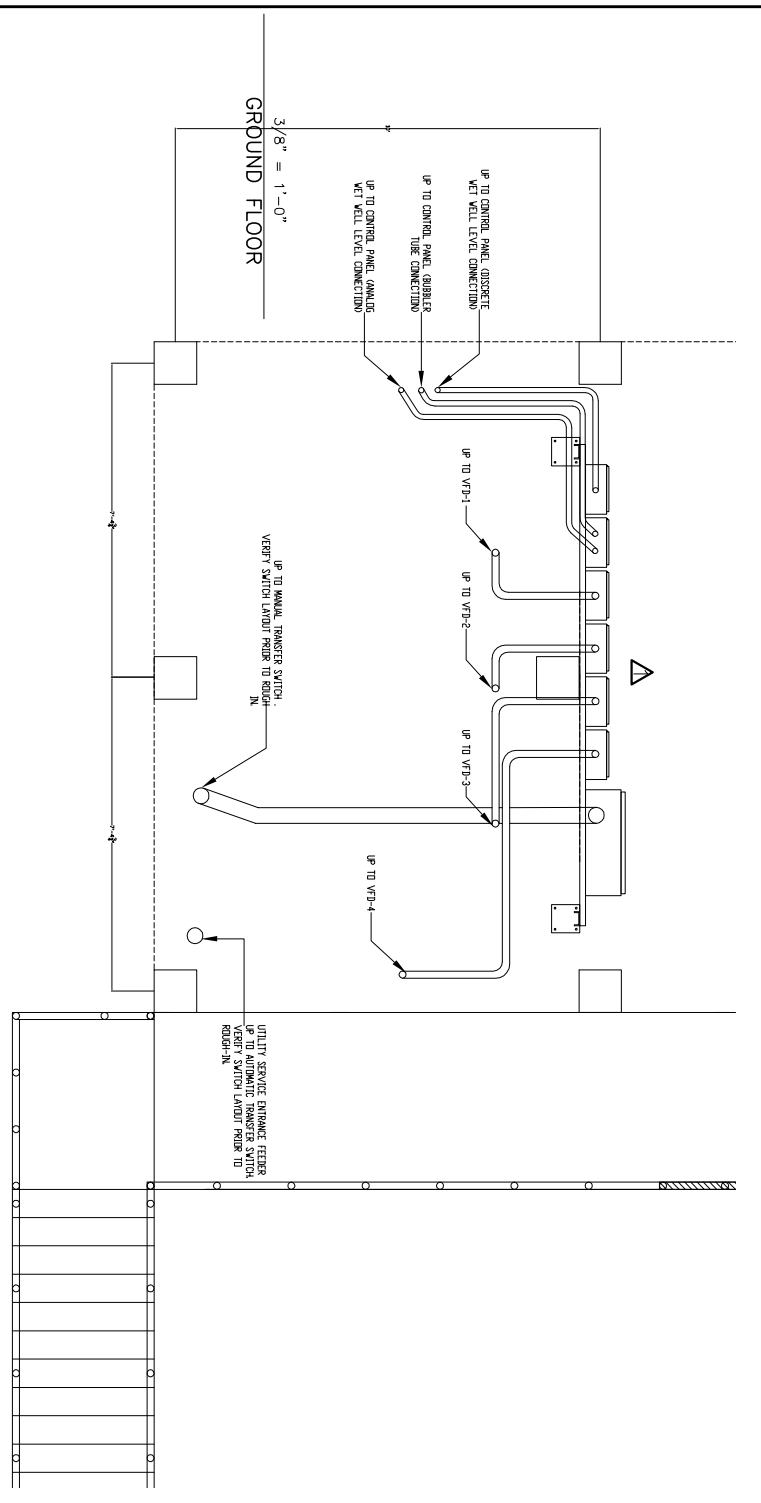
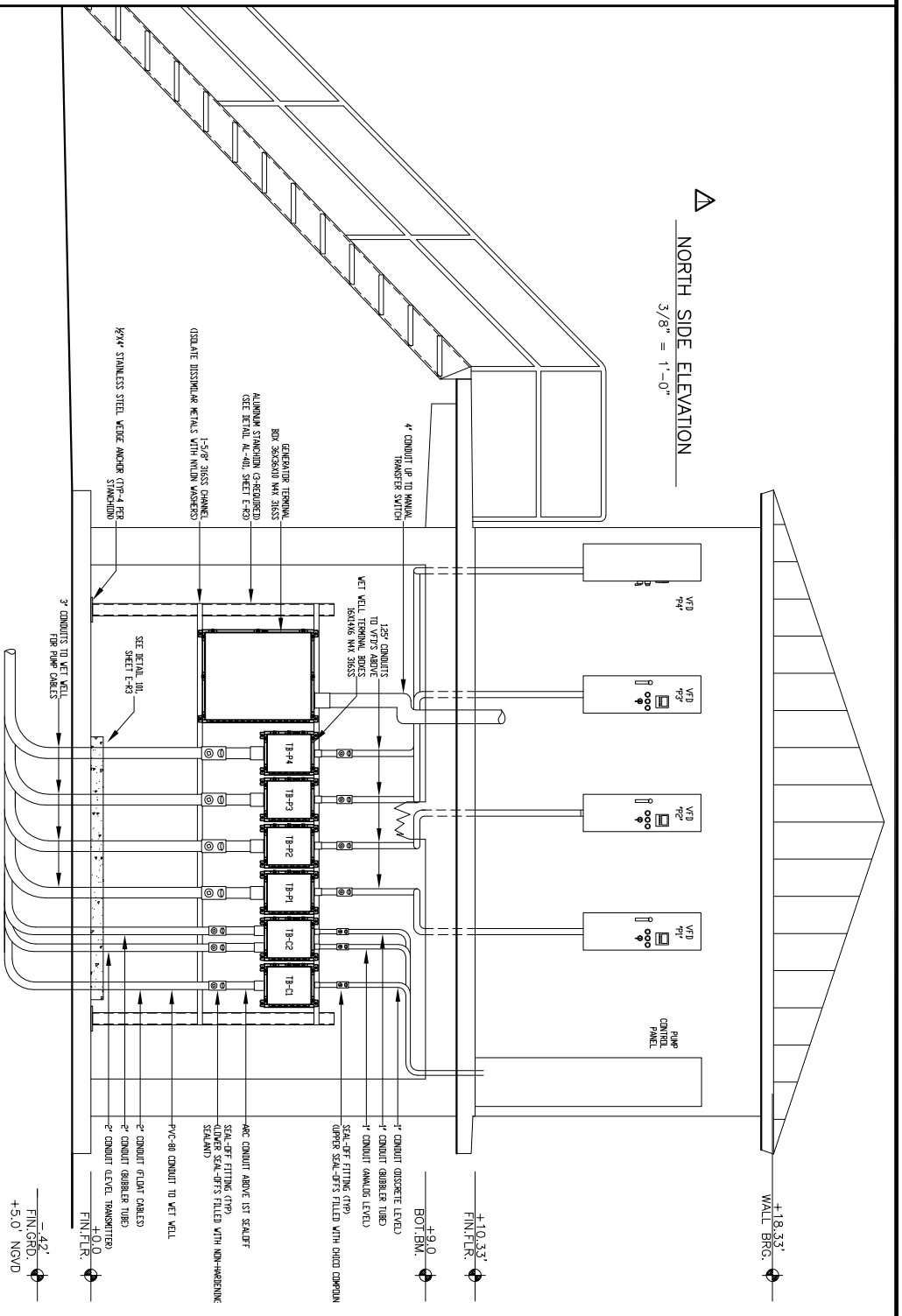
SITE ELECTRIC PLAN
 SCALE: 1/8" = 1'-0"



NO.	REVISION DESCRIPTION	BY	DATE	PROJ. NO.
1				E10009

DATE: 5/12/2010
 DRAWN BY: R.S.
 CHECKED BY: R.S.
 DESIGNER: R.S.
(ESL-RJ)

22	FOR: THE TOWN OF LOANBOAT KEY PUBLIC WORKS	X ROBERT C. STANLEY P.E. F.L.A. LIC. NO. 62502 C.A. NO. 3943 Date:	NO.	REVISION	DATE	BY	
	TITLE: REHABILITATION OF LIFTSTATION D		DESIGNER: R.S.	DRAWN BY: RMS	CHECKED BY: RS	DATE: 04-23-12	SCALE: AS SHOWN
DESC: SITE ELECTRIC PLAN				 DMK ASSOCIATES ENGINEERS ■ SURVEYORS 435 Commercial Ct., Ste. 200 Venice, Florida 34292 TEL: (941) 412-1293 FAX: (941) 412-1043 Engineering Business No. 3943			



- GENERAL NOTES:**
- ALL CONDUIT PENETRATIONS INTO NAX ENCLOSURES REQUIRE HUBS
 - ALL EXTERIOR TERMINAL BOXES AND JUNCTION BOXES TO BE NAX 316SS
 - ALL MOUNTING CHANNEL TO BE 1-5/8" 316SS
 - ALL FASTENERS TO BE 316SS

CONDUIT USAGE TABLE:

1. WET WELL CONDUIT FROM WET WELL TO 1ST SEALOFF TO BE "PVC-80"
2. BELOW GRADE CONDUIT INSTALLATIONS TO BE "PVC-40"
3. EXTERIOR EXPOSED CONDUIT TO BE "ARC" (EXCEPT WET WELL CONDUITS)
4. INTERIOR ELECTRICAL AND GENERATOR ROOM TO BE "EMT"
5. VIBRATING EQUIPMENT CONNECTION TO BE "TMC" (TYPE UA ALL LOCATIONS)

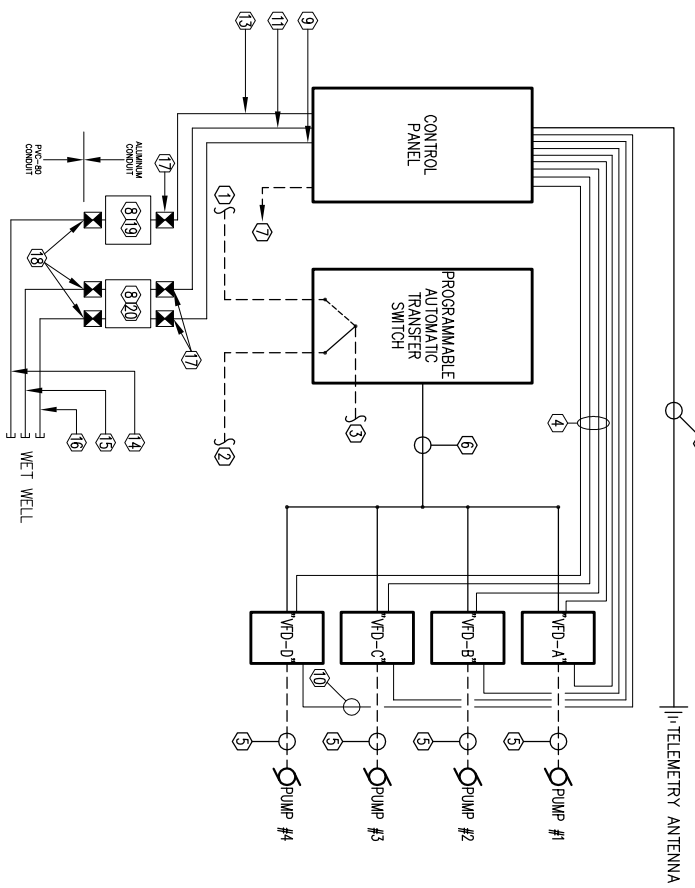


DESIGNED BY:	M.S.	DATE:	0/0/2010
CHECKED BY:	NAME	DATE:	0/0/2010
DRAWN BY:	M.G.	SCALE:	NONE
FILE NAME:	FILE LOCATION:		

**THE TOWN OF LOANBOAT KEY PUBLIC WORKS
REHABILITATION OF LIFT STATION D
FOR
TLC DIVERSIFIED**

BUILDING TERMINAL BOX & CONDUIT LAYOUT

NO.	REVISION DESCRIPTION	BY	DATE	PROJ. NO.
1	REVISED TERMINAL BOX ORIENTATION DATE TO STRUCTURAL COLUMN	MS	2/10/11	E100009
				DWG DATE: 5/12/2010
				DWG NO.: E100009/REVISED RECORD
				SHEET: (E-R1)

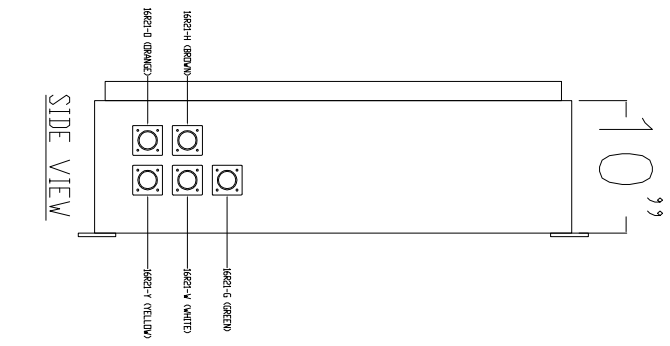
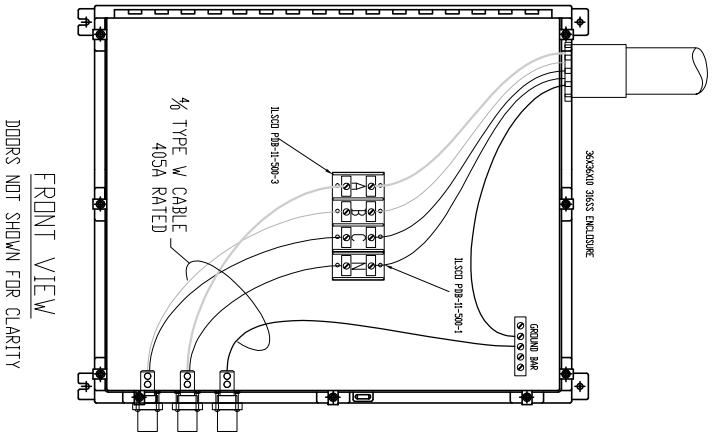


CONTROLS/COMMUNICATIONS RISER DIAGRAM
SCALE: NONE

- KEYED NOTES:**
- ① TO UTILITY TRANSFORMER
 - ② TO STANDBY GENERATOR SET
 - ③ TO PANELBOARD "P1"
 - ④ 3/4" CONDUIT 2-#6-1SP CABLES
 - ⑤ PHASE CONDUCTORS/CABLES
 - ⑥ ETHERNET/MODBUS COMMUNICATIONS CABLING PER MANUFACTURER'S RECOMMENDATIONS
 - ⑦ 120V, 1Ø CIRCUIT TO PANELBOARD "S1"
 - ⑧ 16"x14"x6" N-4X 316SS TERMINAL BOX WITH BACK PLATE & SQ-D 9080 LBA362101 DISTRIBUTION BLOCK
 - ⑨ 1" CONDUIT FOR BUBBLER TUBE
 - ⑩ 3/4" CONDUIT 12-#14 THHN CONDUCTORS
 - ⑪ 1" CONDUIT 1-#16TSP CABLE WET WELL ANALOG LEVEL CONTROL
 - ⑫ (1) 1" C. W/PULL WIRES
 - ⑬ 1" CONDUIT 15-#14, 1-#14G, WET WELL DISCRETE LEVEL CONTROL
 - ⑭ 2" CONDUIT FOR FLOAT CABLE INSTALLATION
 - ⑮ 2" CONDUIT FOR WET WELL LEVEL PROBE CABLE INSTALLATION
 - ⑯ 2" CONDUIT FOR BUBBLER TUBE INSTALLATION
 - ⑰ CONDUIT SEAL-OFF FITTINGS (SEAL WITH CHICO SEALING COMPOUND)
 - ⑱ CONDUIT SEAL-OFF FITTINGS (SEAL WITH NON HARDENING SEALING COMPOUND)
 - ⑲ PROVIDE 20 SQ-D 9080 GM6 TERMINAL BLOCKS AND REQUIRED MOUNTING TRACK
 - ⑳ PROVIDE 5 SQ-D 9080 GM6 TERMINAL BLOCKS AND REQUIRED MOUNTING TRACK

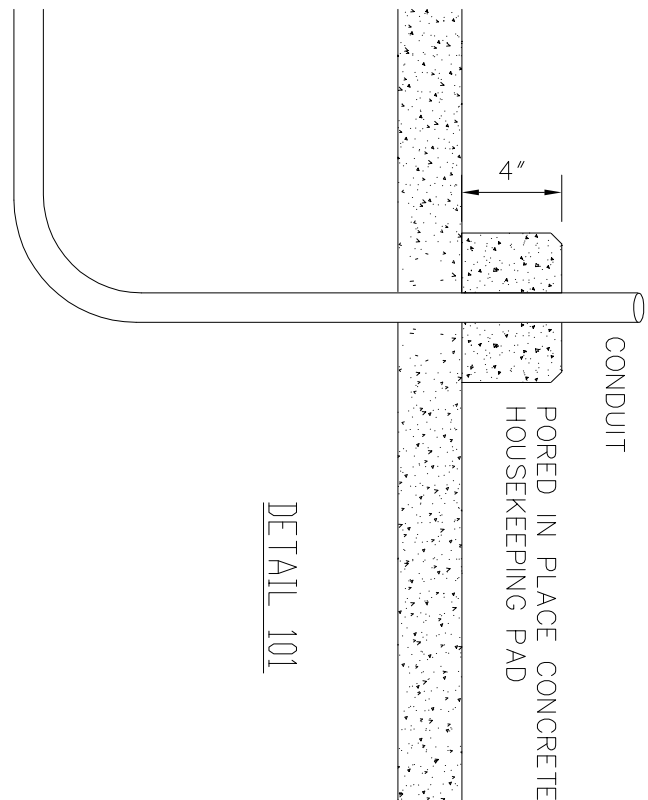
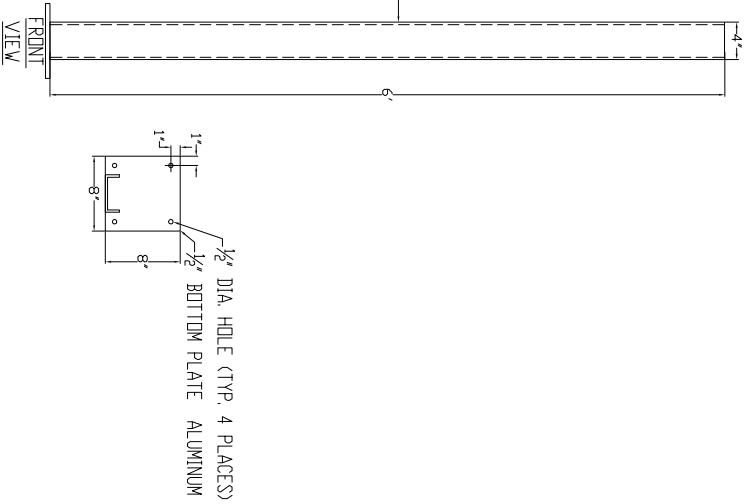
VFD SEQUENCE OF OPERATIONS

- UPON LOSS OF UTILITY POWER, THE FOLLOWING SEQUENCE OF OPERATIONS SHALL BE INITIATED:
1. THE AUTOMATIC TRANSFER SWITCH SHALL IMMEDIATELY INITIATE THE GENERATOR ENGINE STARTUP CIRCUIT.
 2. "VFD-A" SHALL ENERGIZE AND INCREASE ITS LOAD VOLTAGE AND/OR FREQUENCY AS REQUIRED, AFTER A TIME DELAY OF 10 SECONDS FROM INITIAL STARTUP OF THE GENERATOR SET.
 3. "VFD-B" SHALL ENERGIZE AND INCREASE ITS LOAD VOLTAGE AND/OR FREQUENCY AS REQUIRED, AFTER A TIME DELAY OF 10 SECONDS FROM INITIAL STARTUP OF "VFD-A".
 4. "VFD-C" SHALL ENERGIZE AND INCREASE ITS LOAD VOLTAGE AND/OR FREQUENCY AS REQUIRED, AFTER A TIME DELAY OF 10 SECONDS FROM INITIAL STARTUP OF "VFD-B".
 5. "VFD-D" SHALL REMAIN DE-ENERGIZED UNTIL RESTORATION OF UTILITY POWER.



DETAIL GTB-101

STANCHION DETAIL AL-401



DETAIL 101



ASSIGNED BY:	NAME:	DATE:
CHECKED BY:	M.G.:	DATE:
DRAWN BY:	NAME:	DATE:
SCALE:	M.G.:	DATE:
FILE NAME:	SCALE NONE:	DATE:
	FILE LOCATION:	

**THE TOWN OF LOANBOAT KEY PUBLIC WORKS
REHABILITATION OF LIFT STATION D
FOR
TLC DIVERSIFIED**

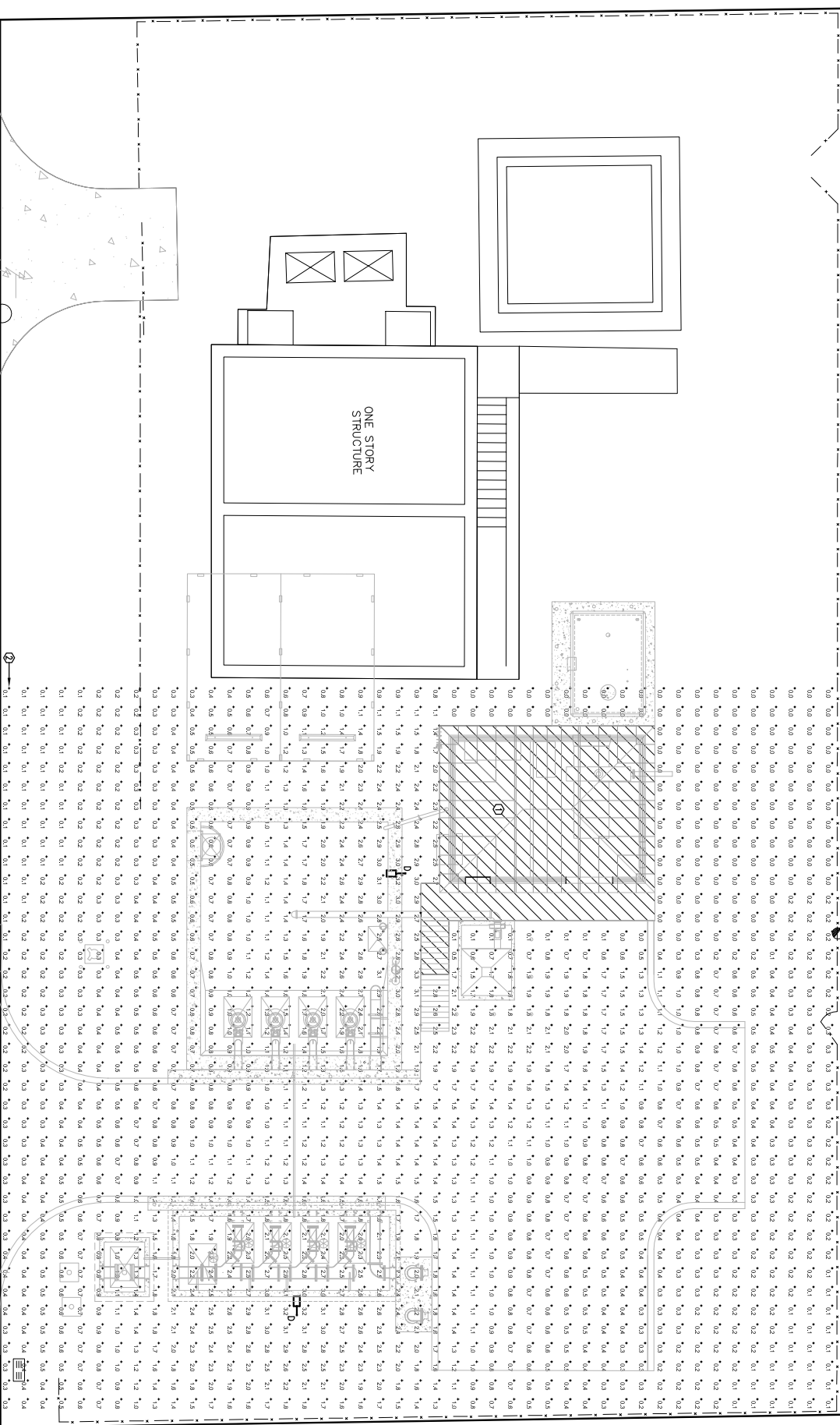
CONTROL RISER DIAGRAM REVISIONS

NO.	REVISION DESCRIPTION	BY	DATE	PROJECT NO.
1		MG	01/07/00	E100009
2				
3				
4				
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6				
7				
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9				
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17				
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19				
20				

RECORD DRAWING

JOAN M. DURANTE COMMUNITY PARK
TOWN OF LONGBOAT KEY

LUMINAIRE SCHEDULE		FILE	LUMENS	LF	WATTS
SYMBOL	LABEL	QTY	CATALOG NUMBER	DESCRIPTION	LAMP
0	2	LSM4-4-55SPS	FLAT GLASS LENS	LOW PRESSURE SODIUM TYPICAL	7800
STATISTICS					
DESCRIPTION	SYMBOL	AVG	MAX	MIN	MAX/MIN
AVG/MIN					
CALCULATION ZONE #1	+	0.5 FC	3.3 FC	0.0 FC	N/A
					N/A



ELECTRICAL CONTRACTOR SHALL VERIFY ACCEPTABILITY OF ILLUMINATION LEVELS AFTER INSTALLATION AND PROVIDE EXTERNALLY-MOUNTED FUTURE SHIELDS (AS REQUIRED).

- KEED NOTES.
- ① CONTR. BUILDING REFER TO SHEET E-1 FOR FURTHER INFORMATION.
- ② NUMBER VALUE INDICATES CALCULATED ILLUMINATION FOOTCANDLES (FC) TYPICAL

GULFBAY ROAD
(20' PRIVATE)

SITE LIGHTING PHOTOMETRIC PLAN
SCALE: 1/8" = 1'-0"

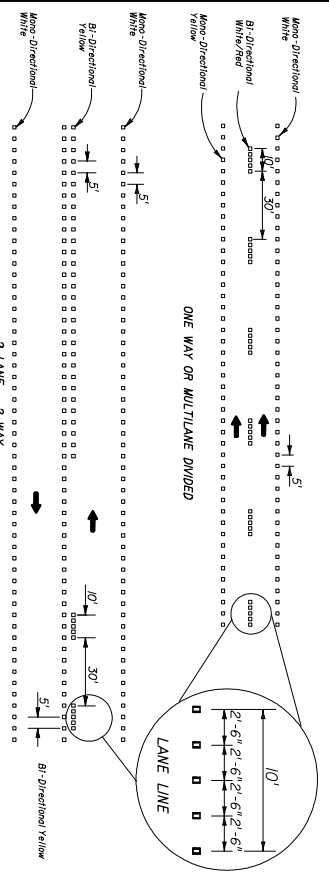


RECORD DRAWING

STEWART Engineering CONSULTANTS
 1850 Northgate Blvd Suite #1
 Sarasota, Florida 34234
 William J. Stewart
 Robert L. Cave
 Phone (941) 351-9896
 FAX (941) 351-9655
 P.E. 0037457
 P.E. 0048329
 E-mail Address: stewartengineering@usa.net
 E80006107

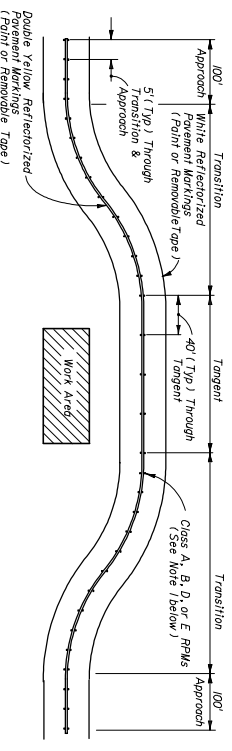
CONTRACTOR TO VERIFY ALL DETAILS, DIMENSIONS, AND FIELD CONDITIONS BEFORE PROCEEDING WITH CONSTRUCTION. WHERE NOT CLEARLY SHOWN, OBTAIN EXACT INFORMATION FROM ENGINEER. DO NOT SCALE DRAWING. USE ONLY MOST RECENTLY DATED DRAWINGS. NOTIFY ENGINEER OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK. ENGINEER RESERVES THE RIGHT TO MAKE CHANGES AS REQUIRED DUE TO JOB CONDITIONS. ENGINEER IS NOT RESPONSIBLE FOR CONSTRUCTION NOT CARRIED OUT IN ACCORDANCE WITH CONSTRUCTION DOCUMENTS. THESE PLANS SHALL NOT BE REPRODUCED OR COPIED IN PART OR WHOLE WITHOUT EXPRESSED WRITTEN PERMISSION FROM STEWART ENGINEERING CONSULTANTS, INC. © COPYRIGHT 2008

TO THE BEST OF THE ARCHITECT'S OR ENGINEER'S KNOWLEDGE, SAID PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE BUILDING CODES AND THE APPLICABLE MINIMUM LIFE SAFETY STANDARDS AS DETERMINED IN ACCORDANCE WITH CHAPTERS 503 AND 633, FLORIDA STATUTES, AND SARASOTA COUNTY ORDINANCE NO. 08-43, AS AMENDED.



USE OF RPPMS IN LANE OF PAINT OR REMOVABLE TAPE IN WORK ZONES

- In all transition areas point or removable tape shall be used in addition to RPPMs.
- The color of the RPPM body and the reflective face shall conform to the color of the marking for which they substitute.
- In work zones, CLASS A, B or D RPPMs may be used to form lane lines, edge lines and temporary gore areas, in lieu of point or removable tape of the specific shown above, where the RPPMs will be used for five (5) days or less. CLASS E RPPMs may be used to form lane or edge lines.



USE OF RPPMS TO SUPPLEMENT PAINT OR REMOVABLE TAPE IN WORK ZONES

- RPPMs shall be installed as a supplement to all lane lines and the edge lines of gore areas during construction. Placement of RPPMs should be as shown in index No. 17352 with the following exceptions:
 - RPPMs shall be placed at 5' feet center to center in approach and transition areas.
 - Class D markers be placed at a maximum spacing of 3' feet center to center.

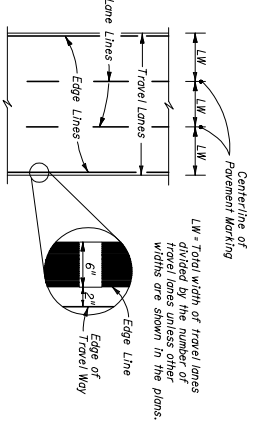
RPW APPLICATION FOR REFLECTIVE PAVEMENT MARKERS

CLASS

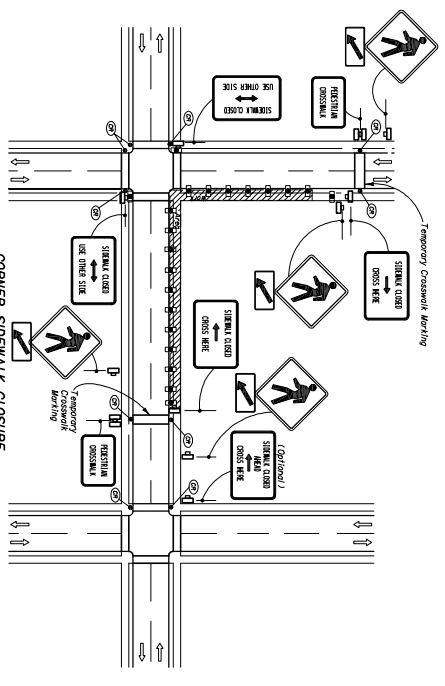
- A Permanent Applications In Non-Traffic Areas Or Can Be Used In Work Zone Applications For Traffic And Non-Traffic Areas.
- B Permanent Applications In Traffic And Non-Traffic Areas Or Can Be Used In Work Zone Applications For Traffic And Non-Traffic Areas.
- D Work Zone Application Only, For Traffic And Non-Traffic Areas.
- E Temporary Work Zone Application Only, Not Exceeding Five (5) Continuous Days, For Traffic And Non-Traffic Areas.

NOTES FOR REFLECTIVE PAVEMENT MARKERS

- The color of the raised pavement marker under both day and night conditions shall conform to the color of the marking for which they serve as a positioning guide, or for which they substitute.
- RPPMs shall be followed by five black RPPMs. The spacing between RPPMs shall be 2'-6". Black RPPMs will not be required for contrast with yellow RPPMs.
- It shall be the contractors responsibility to replace damaged or missing RPPMs.
- RPPMs used to supplement lane lines are to be used for as reflective pavement markers. RPPMs used to supplement lane lines are to be used for as reflective pavement markers (Temporary 1, EA).

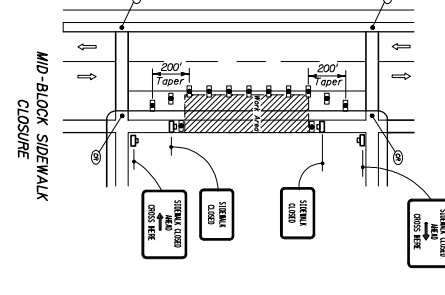


PLACEMENT OF PAVEMENT MARKINGS

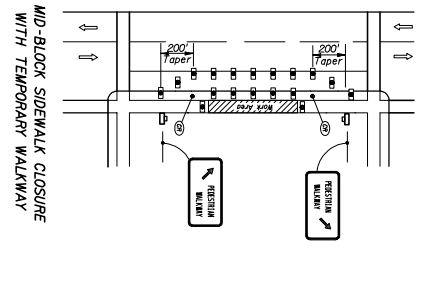


CORNER SIDEWALK CLOSURE WITH TEMPORARY CROSSWALKS

- GENERAL NOTES**
- Only the signs controlling pedestrian flows are shown. Other work zone signs will be needed to control traffic on the streets.
 - For spacing of traffic control devices and general TCZ between barricades, vertical panels, drums or tubular markers shall not be greater than 25'.
 - Street lighting should be considered.
 - For nighttime closures use Type A flashing warning lights on barricades supporting signs and closing sidewalks. Use Type C cones from vehicular traffic.
 - Precedence traffic signal displays controlling closed crosswalks shall be covered or deactivated.
 - Post Mounted Signs located near or adjacent to a sidewalk of Permanent Curb Ramps.
 - Lane Identification - Direction of Traffic



MID-BLOCK SIDEWALK CLOSURE



MID-BLOCK SIDEWALK CLOSURE WITH TEMPORARY WALKWAY

- GENERAL NOTES**
- When construction activities involve sidewalks on both sides of the street, the contractor shall provide a temporary walkway on the sidewalk so that both sidewalks are not out of service at the same time.
 - In the event that sidewalks on both sides of the street are closed, pedestrians shall be guided around the construction zone.
 - Temporary walkways shall be a minimum of 4' wide with a maximum 0.02 cross slope and a maximum 0.05 running slope provide for a 3' x 5' passing space of minimum not to exceed 200'. Temporary ramps shall meet the requirements for curb, temporary roadway surfaces and ramps shall be stable, firm, slip resistant, and kept free of any obstructions and hazards materials, etc.; and construction equipment, stored materials, etc.
 - Temporary ramps and temporary crosswalk markings shall be removed with requesting of the temporary, unless otherwise noted in the plans. All work and materials associated with constructing temporary sidewalk closures shall be removed from the work area and replaced to original condition as soon as possible. Temporary crosswalk markings, and other signs, shall be removed as soon as possible.

CONDITIONS

WHERE ANY VEHICLE EQUIPMENT WORKERS OR THEIR ACTIVITIES ENOUGH ON THE SIDEWALK FOR A PERIOD OF MORE THAN 60 MINUTES.

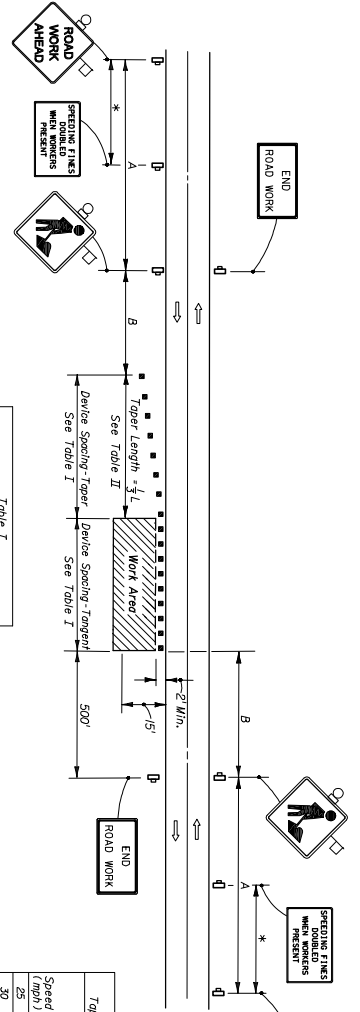


Table I

Speed (mph)	Spacing (ft)
40 mph or less	500
45 mph	550
50 mph or greater	500

Table II

Speed (mph)	Spacing (ft)
25	25
30 to 45	25
50	25
55	50
60	50
65	50
70	50

GENERAL NOTES

- All vehicles, equipment, workers (except flaggers), and their activities are restricted to one side of the roadway.
- When four or more work vehicles enter the through traffic lane in a one hour period or less (excluding emergency vehicles), the contractor shall be responsible for the flaggers and flasher signs, see index No. 603.
- WORKERS sign to be removed or fully covered when no work is being performed.
- SHOULDER WORK sign may be used as an alternate to the WORKERS sign on the side where the work is being performed.
- When a shd and shoulder taper is being used, the TTC zone additional TTC devices shall be placed in accordance with other applicable TCZ indexes.
- For general TCZ requirements and additional information refer to index No. 600.

DURATION NOTES

- Signs and channelizing devices may be omitted if all of the following conditions are met:
 - a) Vehicles in the work area have right-of-way.
 - b) Flashing, oscillating, or strobe lights operating.

CONDITIONS

WHERE ANY VEHICLE EQUIPMENT WORKERS OR THEIR ACTIVITIES ENOUGH ON THE SHOULDER FOR A PERIOD OF MORE THAN 270 THE EDGE OF TRAVEL WAY.

TWO-LANE TWO-WAY, WORK ON SHOULDER

PEDESTRIAN CONTROL FOR CLOSURE OF SIDEWALKS