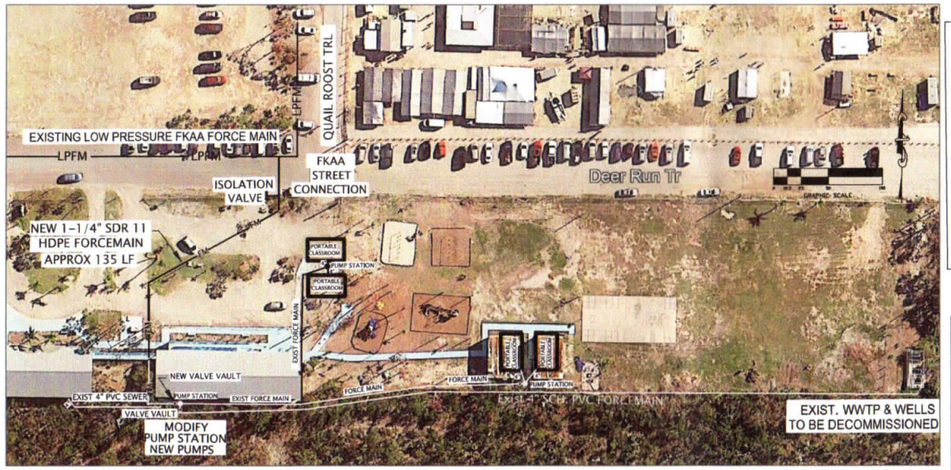
CONSTRUCTION NOTES

1. THE REQUIREMENTS OF THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION , DOH, MONROE COUNTY, & THE FKAA REGULATIONS SHALL GOVERN ALL UTILITY WORK. WHERE A CONFLICT EXISTS IN THE REQUIREMENTS OF A REFERENCED MATERIAL OR INSTALLATION STANDARD, THE REQUIREMENTS OF THE MORE STRINGENT REGULATION SHALL HAVE PRECEDENCE.
2. UTILITY LOCATIONS ARE APPROXIMATE AND BASED ON AVAILABLE INFORMATION. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING & MARKING LIMITS OF CONSTRUCTION USING THE SERVICE OF A LOCATING COMPANY & CONTACTING THE UTILITY COMPANIES AS NECESSARY PRIOR TO THE START OF CONSTRUCTION.
3. CONTRACTOR SHALL PROVIDE ACCURATE AS-BUILT OF PROJECT.
4. ALL PIPE SHALL BE BACK FILLED TO MINIMUM SPECIFICATION COVER AND DEPTH BEFORE IT SHALL BE PLACED INTO SERVICE BY THE OWNER.
5. ALL POTABLE WATER REQUIRED FOR CONSTRUCTION PURPOSES SHALL BE METERED BY APPROVED METER WITH APPROVED BACK FLOW-PREVENTION DEVICES.
6. FORCE MAINS MUST BE IN SEPARATE TRENCHES FROM POTABLE WATER AND RECLAIMED WATER MAINS WITH A MINIMUM HORIZONTAL SEPARATION OF TEN (10) FEET CLEAR (EDGE TO EDGE) TO POTABLE WATER MAINS. AT CROSSINGS A VERTICAL SEPARATION OF NOT LESS THAN 1.5 FEET (18 INCHES) FROM THE CROWN OF THE SEWER OR FORCE MAIN TO THE INVERT OF THE WATER MAIN. IF LESS, OR IF THE WATER MAIN PASSES UNDER THE SEWER OR FORCE MAIN, THE SEWER OR FORCE MAIN SHALL BE ENCASED IN CONCRETE OR PLACED ON A PVC SLEEVE FOR 20 FEET CENTERED ON THE CROSSING.
7. FORCE MAINS SHALL BE TESTED IN ACCORDANCE WITH AWWA C600 (LATEST EDITION) WITH A TEST PRESSURE OF 150 PSI MAXIMUM LEAKAGE SHALL NOT EXCEED L=(SxD/13.320 WHERE L=LEAKAGE IN GALLONS PER HOUR, S=LENGTH OF TEST SEGMENT IN FEET, D=PIPE DIAMETER IN INCHES. TEST DURATION SHALL BE TWO (2) HOUR NO INTERCONNECTIONS BETWEEN THE POTABLE WATER SYSTEM & FORCE MAIN SYSTEMS SHALL BE ALLOWED.
FORCE MAINS SHALL PASS LEAKAGE TEST PRIOR TO THE SYSTEM BEING PLACED INTO SERVICE.
8. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE COMMENCING WORK.
9. CONTRACTOR SHALL OBTAIN ALL APPLICABLE PERMITS PRIOR TO COMMENCING WORK.
10. THE CONTRACTOR SHALL CONTACT ALL CONCERNED UTILITIES, FKAA AND THE ENGINEER AT LEAST 72 HOURS IN ADVANCE OF CONSTRUCTION OPERATIONS.
11. 2" FORCE MAINS SHALL BE SCHEDULE 80 SEWER PIPE.
12. THE CONTRACTOR SHALL COMPLY WITH ALL RULES AND REGULATIONS OF THE STATE, COUNTY, VILLAGE OF ISLAMORADA AUTHORITIES REGARDING CLOSING OR RESTRICTING THE USE OF PUBLIC STREETS OR HIGHWAYS.
13. NO SEWER SHALL BE CLOSER THAN 5 FT. TO AN EXISTING FKEC POWER POLE WITHOUT AUTHORIZATION FROM THE FLORIDA KEYS ELECTRIC COOPERATIVE ASSOCIATION, INC.
14. ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED ABOVE THE 100 YEAR FLOOD ELEVATION.
15. CONTRACTOR SHALL RESTORE ALL STRUCTURES, INCLUDING BUT NOT LIMITED TO PAVEMENT, PLANTERS AND CONCRETE TO PRECONSTRUCTION CONDITIONS.
16. ALL FINAL TESTING SHALL BE MADE IN THE PRESENCE OF A REPRESENTATIVE FROM THE VILLAGE. A MINIMUM OF 72 HOURS NOTICE SHALL BE PROVIDED TO THE FKAA AND THE ENGINEER PRIOR TO THE INITIATION OF ALL FINAL SYSTEM TESTING.
17. ALL GRASS AREAS DISTURBED BY CONSTRUCTION SHALL RECEIVE SOD.
18. OPEN CUT TRENCHES MAY BE SUBSTITUTED WITH DIRECTIONAL DRILLING.
19. COORDINATE WORK WITH OWNER TO MINIMIZE DISRUPTION TO THE SANITARY SEWER SERVICE. SANITARY SEWER SHALL REMAIN IN SERVICE THROUGHOUT THE CONSTRUCTION PROJECT.
20. PUMP STATION WET WELL SHALL BE PHYSICALLY INSPECTED AND STATIC HEAD TESTED TO ENSURE THE ABSENCE OF LEAKS PRIOR TO CONSTRUCTION.
21. ALL WASTEWATER WITHIN PROPERTY LIMITS SHALL BE DIRECTED TO THE PROPOSED SANITARY SEWER COLLECTION SYSTEM. THE EXISTING WASTEWATER TREATMENT SYSTEMS SHALL BE ABANDONED PER THE DEPARTMENT OF ENVIRONMENTAL PROTECTION REGULATIONS.
22. CONTRACTOR SHALL COORDINATE TESTING WITH ENGINEER & FKAA FOR TESTING OF SYSTEM. NO SEWAGE SHALL ENTER THE PROPOSED SYSTEM UNTIL CLEARED FOR USE BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
23. ALL NEW MANHOLES AND REFURBISHED MANHOLES SHALL BE CONSTRUCTED UTILIZING WATER PROOF MANHOLE COVERS.
24. WHERE CLEANOUTS AND BACKFLOW PREVENTERS ARE NOT SHOWN ON THE PLANS FOR BUILDING CONNECTIONS, THE CONTRACTOR SHALL VERIFY & INSTALL NEW COs & BFPs.

LEGEND

EXISTING	PROPOSED	
—FM—	—FM—	FORCE MAIN
----FM----	—FM—	
	—8" SAN—	SANITARY SEWER
----8" SAN----	—8" SAN—	
○	●	MANHOLE
—6" WM—	—PROP. 6" WM—	POTABLE WATER
—12" SS— LATERAL (TYP)	—PROP. 8" SS—	STORM SEWER
EXISTING STORM MH (TYP)	PROPOSED STORM MH (TYP)	STORM MANHOLE
⊕	⋈	WATER VALVE
⊗	⊖	SEWER VALVE
□	■	CATCH BASIN
○	◉	CLEANOUT
		SERVICE LATERAL



PLAN-GENERAL LOCATION

SCOPE OF WORK- REPAIRS,REPLACEMENT & RETESTING

1. Perform sanitary system leak testing & repairs in accordance with FKAA "Minimum Design & Construction Standards & Connection Requirements," January 16, 2016.
2. Perform repairs at spot locations, manhole rehabilitation/replacements and manhole coatings, sewer lining and/or replacement, manhole cover replacements, sewer lateral replacement, final hydrostatic, smoke, and salinity testing;
3. All defects in piping systems, manholes, wet wells and grease traps shall be repaired and/or replaced and retested until acceptable to FKAA inspector and the Engineer:
4. Provide final report of repairs and final testing (including salinity test results) for approval by FKAA, Engineer, and MCSD; Report shall include: Original logs, reports, tables, figures, photographs and exhibits showing repair and/or replacement, locations, manhole repair/replacement inventory, profile drawings of existing or new manholes showing invert elevations in Feet NGVD msl;
5. Provide Record (as-built) redline markup drawings of the collection system and force main repairs and/or replacements including pipe lengths, diameters, repair and replacement locations, tabulation of items repaired or replaced with sizes, lengths, quantities;
6. Repair, Replacement and Retesting Report shall identify personnel present at the time of retesting, signatures, times and results of the tests; any calculations for pipe leakage testing, weather conditions, salinity test results at the time of high tide;

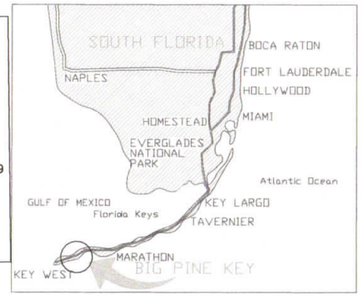
SCOPE OF WORK- PUMP STATION, FORCE MAIN, PLANT & INJECTION WELLS

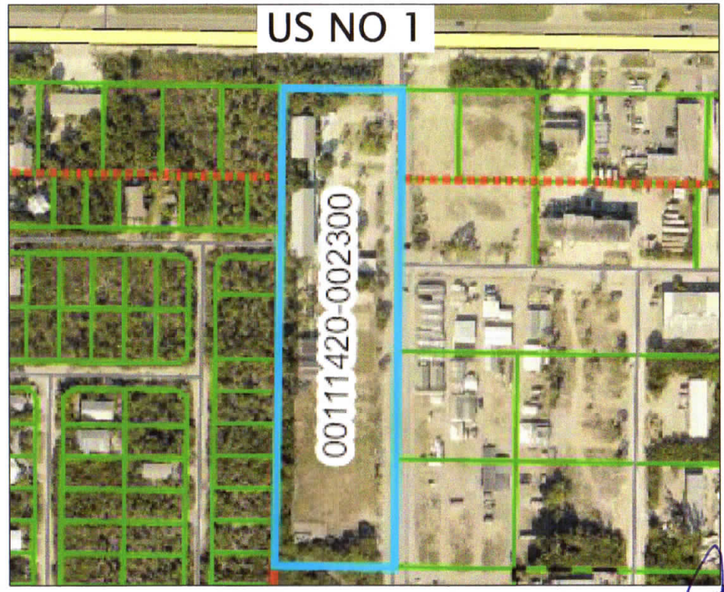
1. AFTER FKAA LEAK TESTING & REPAIRS APPROVAL : CONSTRUCT +/- 135 LIN. FT. OF 1-1/4" Ø HDPE FORCEMAIN TO FKAA STREET CONNECTION.
2. REMOVE EXISTING PUMPS AND INSTALL NEW DUPLEX PUMPS INTO EXISTING WET WELL , INSTALL NEW VALVE VAULT, AND INSTALL NEW CONTROL PANEL AS DETAILED;
3. UPGRADE ELECTRICAL SERVICE TO NEW PUMP STATION SYSTEM(S) AS REQUIRED;
4. PROVIDE CONTROL / ALARM PANEL AS SPECIFIED; CONNECT TO EXIST. BACKUP POWER OR PROVIDE PANEL CONNECTION FOR PORTABLE GENERATOR HOOK-UP;
5. ABANDON & DECOMMSSION EXISTING TREATMENT FACILITIES AND. INJECTION WELLS.; PROVIDE DEMOLITION SURVEY; DEMOLISH PLANT AND REMOVE.

GENERAL NOTES

1. EXISTING AND NEW COLLECTOR SYSTEM INFRASTRUCTURE SHALL BE TESTED IN ACCORDANCE WITH FKAA MINIMUM DESIGN STANDARDS AND THE FKAA TESTING REQUIREMENTS
2. ALL FINAL TESTING SHALL BE MADE IN THE PRESENCE OF A REPRESENTATIVE OF THE FKAA. A MINIMUM 72-HOUR NOTICE SHALL BE PROVIDED TO THE FKAA AND THE ENGINEER PRIOR TO THE INITIATION OF ALL FINAL SYSTEM TESTING.
3. ALL TESTING REQUIRED BY THE FKAA & FDEP SHALL BE PAID FOR BY THE OWNER/CONTRACTOR.
4. COMMERCIAL SERVICE LATERALS WITH MULTIPLE CONNECTIONS SHALL BE GREEN 6-INCH DIAMETER OR LARGER.
5. ALL GRAVITY SANITARY SEWER LINES SHALL BE GREEN PVC SDR 26, ASTM D-3034. IN LOCATIONS WHERE A MINIMUM COVER OF 3.0 FEET CANNOT BE MAINTAINED, AWWA C-900 OR C-905 GREEN PVC DR-25, CLASS 100, OR CONCRETE ENCASEMENT SHALL BE USED.
6. MINIMUM SLOPE FOR GRAVITY LATERALS 4-6 INCHES IN DIAMETER SHALL BE 1/8- INCH PER FOOT (1.04%).
7. ALL GRINDER PUMP SERVICE LATERALS SHALL BE CONSTRUCTED WITH WITH A MINIMUM 24 INCHES OF COVER.
8. ALL EXISTING PUMP STATION WET-WELLS (IF NOT NEW RFP) AND MANHOLES SHALL BE COATED OR LINED USING AGRU AMERICAN SURE GRIP HDPE COATING, OR APPROVED EQUAL, IN ACCORDANCE WITH FKAA MINIMUM STANDARDS MANHOLES AND APPROVED BY THE FKAA.
9. ALL GRINDER PUMP SERVICE LATERALS SHALL BE TESTED AFTER THE GRINDER SYSTEM IS COMPLETELY INSTALLED. PRIOR TO COMMENCEMENT OF TESTING, SERVICE LATERAL PIPE SECTIONS SHALL BE FIRST FLUSHED TO REMOVE ANY DEBRIS THAT MAY REMAIN INSIDE THE LATERAL. THE FLUSHING PROCEDURE SHALL DEVELOP A WATER VELOCITY OF AT LEAST 2.5 FEET PER SECOND AND SHALL RESULT IN AT LEAST 100% TURNOVER OF THE WATER IN THE SERVICE LATERAL.
10. ALL GREASE INTERCEPTOR HYDROSTATIC TESTING SHALL BE CONDUCTED AT THE SAME TIME AS GRAVITY SEWER, PUMP STATION WET WELLS, AND FORCE MAINS WHICH ARE WITNESSED BY THE FKAA INSPECTOR AND DESCRIBED IN GREASE INTERCEPTOR POLICY OF VILLAGE MINIMUM DESIGN AND CONSTRUCTION STANDARDS.
11. ALL TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH FKAA *"MINIMUM DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS FOR WASTEWATER- FKAA "TESTING AND REPORTING REQUIREMENTS."*
12. ALL TESTING SHALL BE WITNESSED AND TESTING REPORTS SIGNED AND SEALED BY BY A FLORIDA PROFESSIONAL ENGINEER.

DRAWING INDEX





LOCATION MAP

Flood Zone= AE 8' FIRM PANEL NUMBER 1336K MAP NO. 12087C1336K
FEBRUARY 18, 2005

DESIGN SUMMARY - LIFT STATION NO. 1

LIFT STA. NO.	AK ID NO.	EDU'S	DESIGN FLOW (GPD)	DESIGN FLOW (GPM)	PEAK PEAK DAILY (GPD)	PEAK FLOW (GPM)	LOW PRESSURE (FEET)	AVG. PRESSURE (FEET)	HIGH PRESSURE (FEET)	FLOW AVG PRESSURE (GPM)
1	8642067	50	5,000	3.50	20,000	12.15	19.02	53.99	82.00	12.15

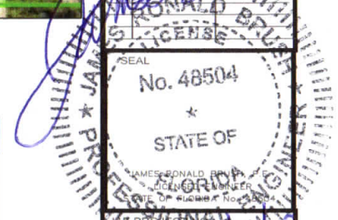
INDUSTRY & ENVIRONMENT
ENGINEERS/ CONSULTANTS
103650 O/S Hwy, #46
KEY LARGO, FL 33037
TELEPHONE (305) 395-8032
Certificate of Authorization # 8384

CONSULTANTS

BIG PINE ACADEMY
30220 OVERSEAS HIGHWAY
BIG PINE KEY, FLORIDA

SEWER SYTSTEM IMPROVEMENTS

REVISIONS	DATE:

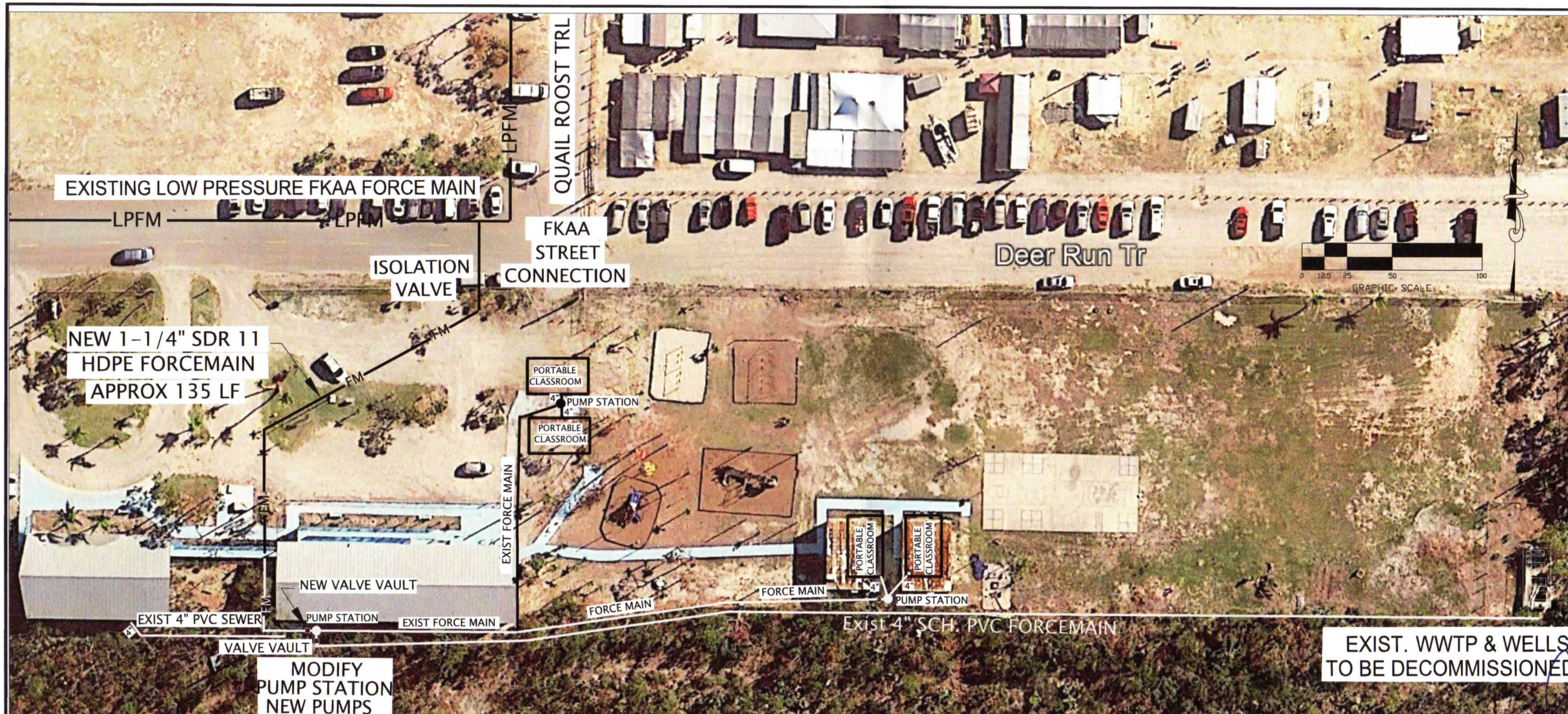


JOB PROJECT NO.
BPK-8228
CHECKED BY:
AM
DRAWN BY:
JB
ISSUE:
PERMIT REVIEW
DATE:
1-22-18 6-11-18
SHEET INDEX

GENERAL LOCATION MAP DESIGN SUMMARY AND NOTES

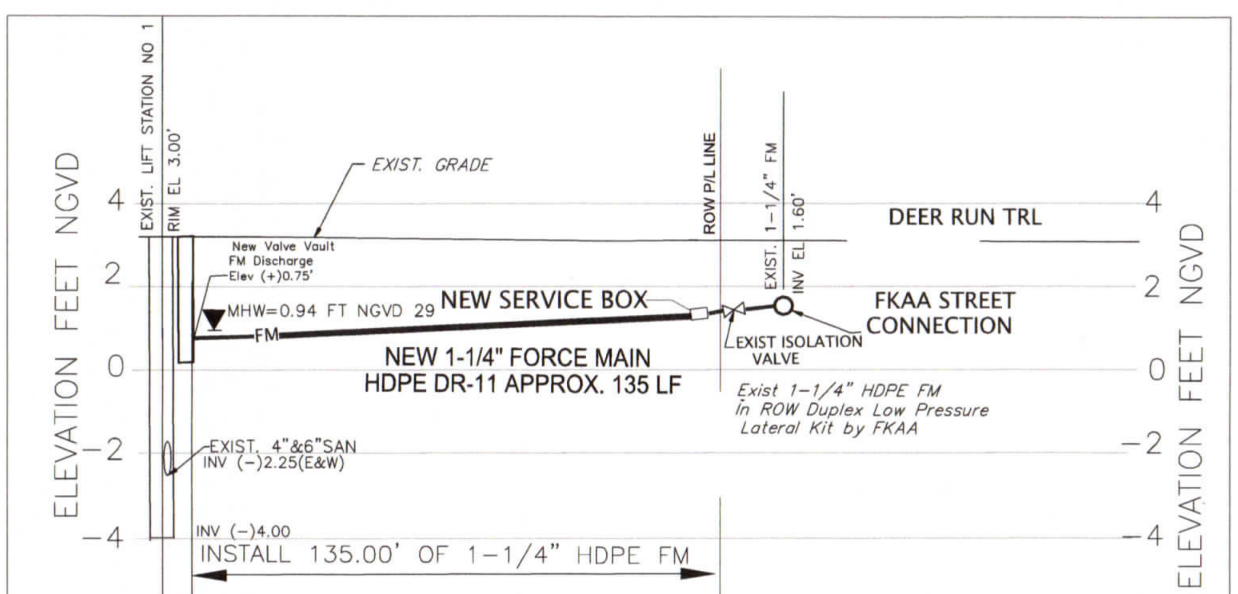
SHEET NUMBER

C-1



SITE PLAN

NOTE: THE CONTRACTOR SHALL VERIFY ALL SEWER LOCATIONS, SIZE, LENGTHS, INVERT ELEVATIONS AS SHOWN AND MODIFY AS REQ'D.



FORCE MAIN- PROFILE

0 10 20
SCALE IN FEET
1" = 20'

ie
INDUSTRY & ENVIRONMENT
ENGINEERS/ CONSULTANTS
103650 O/S Hwy, #46
KEY LARGO, FL 33037
TELEPHONE (305) 395-8032
Certificate of Authorization # 8384

CONSULTANTS

BIG PINE ACADEMY
30220 OVERSEAS HIGHWAY
BIG PINE KEY, FLORIDA

SEWER SYTSTEM IMPROVEMENTS

REVISIONS DATE:

No. 48504
STATE OF FLORIDA
JAMES RONALD BRUSH, P.E.
LICENSED ENGINEER
PROFESSIONAL ENGINEER
6/8/18

PROJECT NO.
BPK-2018
DESIGNED BY:
AM
DRAWN BY:
JB
ISSUE:
PERMIT REVIEW
DATE:
1-22-18
SHEET INDEX

SITE PLAN
FORCE MAIN
AND PROFILE

SHEET NUMBER
C-2

WG20 and WGX20 (EXPLOSION-PROOF)

Standard and Explosion-proof
2 HP Submersible Grinder Pumps

THE MYERS WG20 IS A RUGGED 2 HORSEPOWER SUBMERSIBLE CENTRIFUGAL GRINDER PUMP DESIGNED FOR RESIDENTIAL, LIGHT COMMERCIAL OR INDUSTRIAL APPLICATIONS. It is especially suited for use in pressure sewer applications or in systems with long discharge runs or high static heads. The WG20 features a patented cutter mechanism and recessed impeller design to efficiently grind typical domestic sewage solids into a fine slurry.

The WG20 grinder pump is available in standard and U.L. Listed explosion-proof (WGX20) construction for use in Class I, Group D hazardous locations.

The WG20 can be installed in a variety of packaged systems. Factory-assembled simplex or duplex packages with guide rail systems or suspended systems are available. Individual rail components are also available for installation in on-site concrete systems. F.E. Myers offers a complete line of submersible sump, sewage, effluent, grinder, non-clog wastewater pumps, controls, basins and accessories. For additional information, please contact your local Myers representative or the Myers Ashland, Ohio sales office at 419/289-1144.

ADVANTAGES BY DESIGN

IDEAL FOR USE IN PRESSURE SEWER SYSTEMS.
- Recessed impeller provides steep non-overloading operating curve.

DURABLE MOTOR WILL DELIVER MANY YEARS OF RELIABLE SERVICE.
- Oil-filled motor for maximum heat dissipation and constant bearing lubrication.
- Recessed impeller reduces radial bearing loads, increases bearing life.
- High-torque capacitor start single phase or three phase motors for assured starting under heavy load.
- Seal leak probes and on-winding heat sensors warn of seal leak condition, and stop motor if motor over heats. Helps prevent costly motor damage.

THE WG20 IS DESIGNED FOR EASY MAINTENANCE.
- Shredding ring and grinder impeller are replaceable without dismantling pump or motor.

PRODUCT CAPABILITIES

Capacities To	40 GPM	150 LPM
Heads To	105 ft	32 t m
Liquids Handling	domestic raw sewage	
Intermittent Liquid Temp.	up to 140°F	up to 60°C
Winding Insulation Temp (Class B)	266°F	130°C
Motor Electrical Data (Single phase motors are capacitor start type. Myers control panels or capacitor kits are required for proper operation and warranty.)	2 HP, 3450 RPM, 1 Ph capacitor start/run, 208 or 230 volts, 50 Hz 3 Ph induction run, 208, 230, 460, 575 volts, 60 Hz	
Std. Third Party Approvals Optional Approvals	CSA UL Class I, Group D (WGX20 only) file E68118	
Acceptable pH Range	6-9	
Specific Gravity	0-1.1	
Viscosity	28-35 SSU	
Discharge, NPT	1-1/4 in.	31.75 mm
Min. Sump Dia. (Simplex) (Duplex)	24 in. 36 in.	61 cm. 91.4 cm.

NOTE: Consult factory for applications outside of these recommendations.

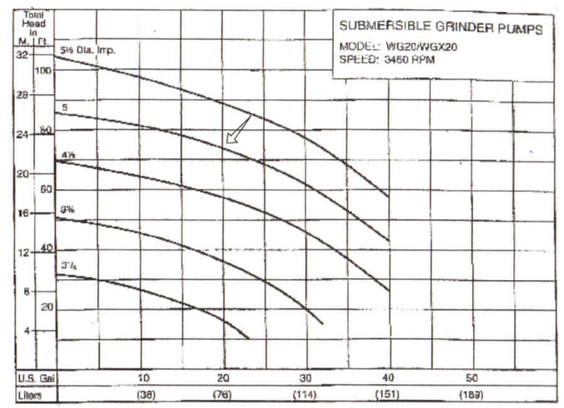
Construction Materials

Motor Housing, Seal Housing Cord Cap and Volute Case	cast iron, Class 30 ASTM A48-76
Impeller	recessed, bronze
Power Cord	15 ft. 14/4 SOW/SOW-A
Control Cord	15 ft. 18/5 SOW/SOWA
Mechanical Seals Standard Optional	double tandem, carbon and ceramic lower tungsten carbide
Pump, Motor Shaft	416 SST
Fasteners	300 Series SST
Shredding Ring and Grinder Impeller	440 SST, 58-60 Rockwell

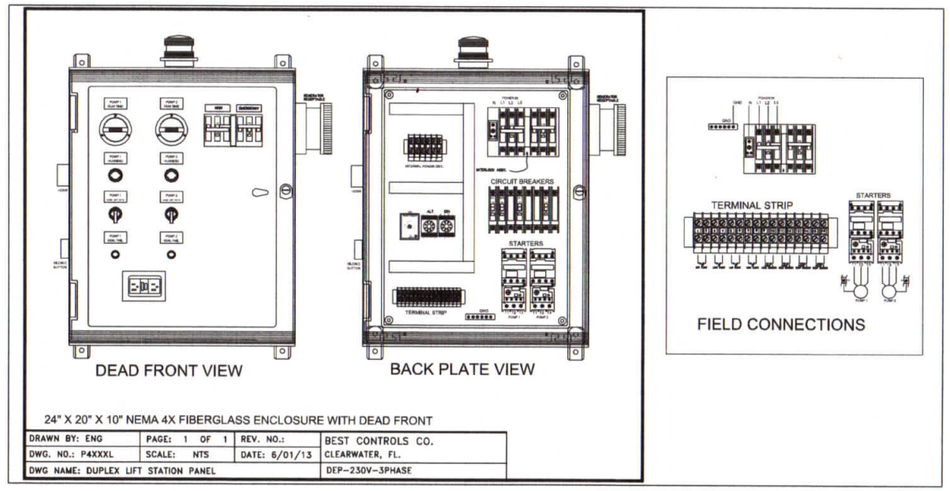
WHERE INNOVATION MEETS TRADITION

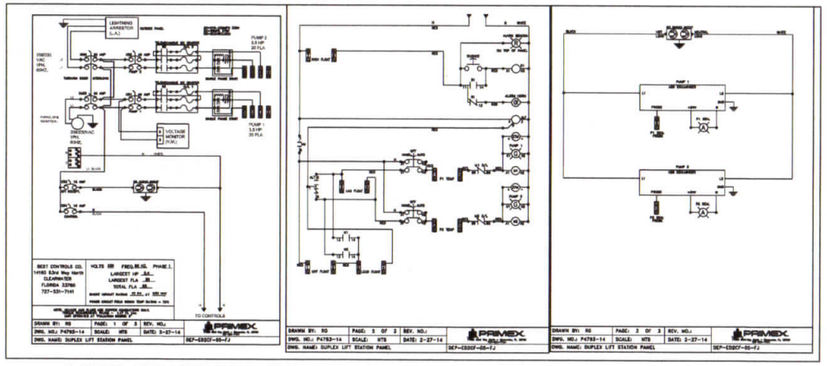
Myers

Pump Performance



SUBMERSIBLE GRINDER PUMPS
MODEL: WG20/WGX20
SPEED: 3450 RPM

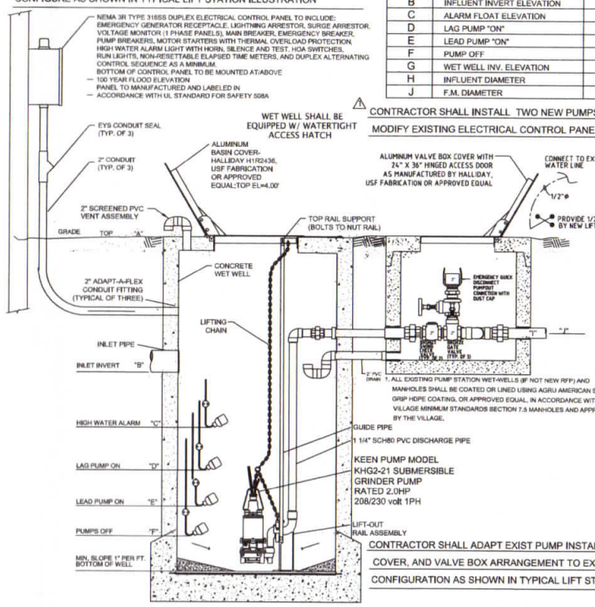




CONTRACTOR SHALL ADAPT EXIST PUMP INSTALLATION , WET WELL, ACCESS COVER, AND VALVE BOX ARRANGEMENT TO EXISTING SITE CONDITIONS. CONFIGURE AS SHOWN IN TYPICAL LIFT STATION ILLUSTRATION

LEGEND		FT NAVD
A	RIM ELEVATION	4.00
B	INFLUENT INVERT ELEVATION	(-)3.00
C	ALARM FLOAT ELEVATION	(+)3.00
D	LAG PUMP "ON"	(-)1.50
E	LEAD PUMP "ON"	(-)2.00
F	PUMP OFF	(-)3.00
G	WET WELL INV. ELEVATION	(-) 3.50
H	INFLUENT DIAMETER	6"
J	F.M. DIAMETER	1-1/4" Ø

LIFT STATIONS NO. 1 -SPECIFICATIONS	
PUMPS REQUIRED	2
PUMPS MODEL	MYERS PUMP WGX20
PUMP TYPE	GRINDER SUBMERSIBLE
CAPACITY EACH (GPM)	15 GPM @ 60 FT TDH
MOTOR H.P. REQUIRED	2.0
SPEED (RPM)	3450
100-YR FLOOD ELEVATION	8
25-YR FLOOD ELEVATION	5
10-YR FLOOD ELEVATION	3.9
ELECTRICAL REQUIREMENTS (CONTRACTOR TO VERIFY ELECTRICAL CONNECTION REQUIREMENTS BEFORE ORDERING PUMPS)	208/230V, 1PH



EXISTING CONCRETE WET WELL AND NEW VALVE PIT PLAN VIEW
NOT TO SCALE

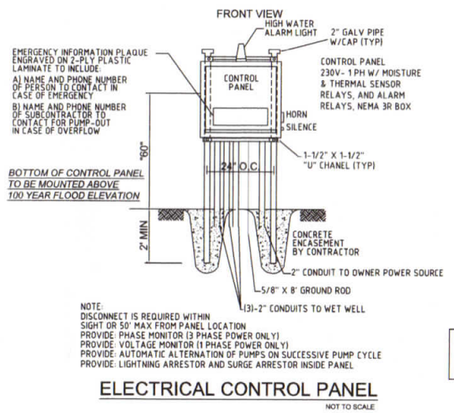
TYPICAL LIFT STATION & NEW VALVE BOX (TYPICAL- ILLUSTRATION) SECTION VIEW

NOT TO SCALE

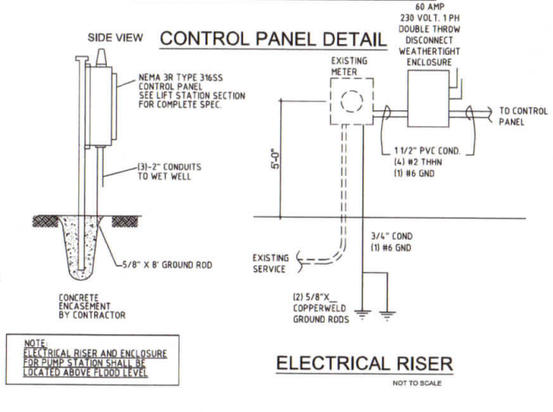
NOTES:
1. PLAN MAY VARY BASED UPON SPECIFIC SITE REQUIREMENTS UPON APPROVAL OF ENGINEER.
2. VALVE BOX SHALL HAVE SEALED FLOOR AND DRAIN TO THE WET WELL WITH A P-TRAP MINIMUM DRAIN SLOPE TO BE 0.5%.
3. ALL LOCATIONS WHERE PIPES ENTER OR LEAVE THE WET WELL OR VALVE BOX SHALL BE MADE WATER TIGHT WITH WALL SLEEVE OR TWO PART EPOXY.
4. WET WELL AND VALVE BOX ACCESS HATCHES SHALL BE HEAVY DUTY WATER TIGHT ALUMINUM COVER 316 SS HARDFRAME & WARE AND LOCK BRACKET. PROVIDE SLAM LOCKS EACH LID. EACH HATCH IS TO BE LEAK-PROOF AT A STATIC WATER HEIGHT OF 7 FEET ABOVE HATCH. ALL HATCH COVERS SHALL HAVE A HOLD OPEN HATCH.
5. ALL HARDWARE IN CONTROL PANEL, WET WELL, AND VALVE BOX TO BE 316 STAINLESS STEEL , FLANGED CONNECTIONS SHALL BE SPOOLED OR THREADED, CLASS 125#, UNI-FLANGE CONNECTIONS ARE NOT ACCEPTABLE. LIQUID LEVEL CONTROL CABLES TO BE IN ONE CONDUIT, POWER CABLES TO BE IN SEPARATE CONDUIT.

GENERAL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES IN THE PROPOSED AREA OF WORK PRIOR TO PROCEEDING BY CALLING SUNSHINE AT 1-800-432-4770.
2. UTILITY INFORMATION SHOWN ON THESE PLANS IS FROM THE BEST AVAILABLE SOURCES BUT IS NOT GUARANTEED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING LOCATION, CHARACTER, AND ELEVATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY CONFLICTS.
3. WET WELL, FORCE MAIN LEAK AND GRAVITY LINE TESTING SHALL BE PERFORMED AS PER VILLAGE MINIMUM DESIGN STANDARDS. THE VILLAGE MUST BE NOTIFIED 72 HOURS IN ADVANCE SO THAT TESTING MAY BE OBSERVED.
4. SEWAGE FLOWS, PUMPING, AND TREATMENT SHALL BE MAINTAINED DURING FORCE MAIN CONSTRUCTION AND TESTING.
5. CONTRACTOR SHALL ADAPT NEW PUMP INSTALLATION , WET WELL HATCH DIMENSIONS, AND VALVE VAULT ARRANGEMENT TO EXISTING LIFT STATION CONFIGURATION & NUMBER OF PUMPS REQ'D.
6. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR APPROVAL PRIOR TO ORDERING EQUIPMENT, DEVICES, AND APPURTENANCES.



ELECTRICAL CONTROL PANEL
NOT TO SCALE



ELECTRICAL RISER
NOT TO SCALE

LIFT STATION & ELEC. CTRL. PANEL SPECS.

VERIFY W/ LATEST MANUF. SPEC. GUIDE

INDUSTRY & ENVIRONMENT ENGINEERS/ CONSULTANTS
103650 O/S Hwy, #46
KEY LARGO, FL 33037
TELEPHONE (305) 395-8032
Certificate of Authorization # 8384

CONSULTANTS

BIG PINE ACADEMY
30220 OVERSEAS HIGHWAY
BIG PINE KEY, FLORIDA

SEWER SYTSTEM IMPROVEMENTS

REVISIONS	DATE:
1	
2	

SEAL
JAMES RONALD BRUSH
No. 48504
STATE OF FLORIDA
JAMES RONALD BRUSH, P.E.
LICENSED ENGINEER
STATE OF FLORIDA No. 48504
PROFESSIONAL ENGINEER

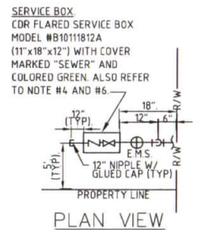
J&S PROJECT NO.
BPK-8-258
CHECKED BY:
AM
DRAWN BY:
JB
ISSUE:
PERMIT REVIEW
DATE:
1-22-18 (JUNE 7, 2018)

SHEET INDEX

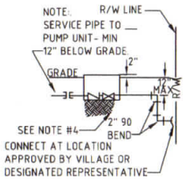
LIFT STATION NO 1 SPECIFICATIONS NOTES AND ELECTRICAL PANEL DETAILS

SHEET NUMBER

C-3



PLAN VIEW

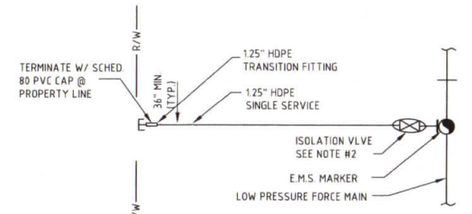


SECTION VIEW

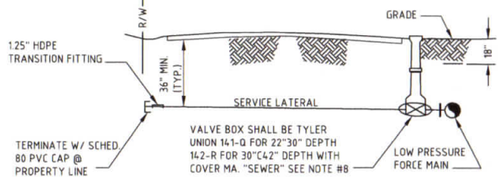
NOTES:
1. ACTUAL LOCATIONS OF SERVICES SHALL BE DETERMINED IN FIELD BY RESIDENT ENGINEER DEPENDING UPON EXISTING CONDITIONS & LOCATIONS OF ON-SITE FACILITIES..
2 SEE PLAN VIEW AND GENERAL LOCATION PLAN FOR LOCXATION OF SERVICES.
3. MIN 4" OF #57 ROCK BEDDING SHALL BE PLACED BELOW VALVE BOXES.
4 VALVES INSIDE SERVICE BOX SHALL BE SCH 80 2" PVC BALL VALVE, SPEARS MGF, OR APPROVED EQUAL. CHECK VALVE SHALL BE 2" FLOWMATIC PVC BALL CHECK VALVE, (MODEL-208S) SLIP xSLIP WITH 2"x2" BUSHINGS.
5. EMS MARKER SHALL BE #1258 ELECTRONIC MARKER SYSTEM AS MFG BY 3M TEST AND MEASUREMENT SYSTEM.
6. SERVICE BOXES LOCATED IN PAVEMENT SHALL BE TRAFFIC RATED.

TYPICAL SERVICE CONNECTION SCHEMATIC DETAIL – A

NOT TO SCALE



PLAN VIEW
NOT TO SCALE



TYPICAL ROAD CROSSING SECTION VIEW

NOTES:
1. ACTUAL LOCATIONS OF SERVICES SHALL BE DETERMINED IN FIELD BY RESIDENT ENGINEER DEPENDING UPON EXISTING CONDITIONS & LOCATIONS OF EXISTING SEPTIC TANK.
2. IN R.O.W. ALL BALL VALVES SHALL BE FORD BRASS BALL VALVE STOP#B11-886 FOR 1.25" W/FORD Q.T67 OPERATING NUT, USE BRASS NIPPLES EACH SIDE OF BRASS BALL VALVES.
3. SEE PLAN SHEET FOR LOCATION OF SERVICES.
4. MIN. 4" OF #57 ROCK BEDDING SHALL BE PLACED BELOW VALVE BOXES.
5. WHERE SERVICES ARE BORED UNDER A ROADWAY, A VALVE BOX SHALL BE CONSTRUCTED WITH THE ISOLATION VALVE (SEE DETAILS ABOVE).
6. EMS MARKER SHALL BE #1258 ELECTRONIC MARKER SYSTEM AS MFG BY 3M TEST AND MEASUREMENT SYSTEM.

TYPICAL SINGLE SERVICE SCHEMATIC DETAIL – A

NOT TO SCALE

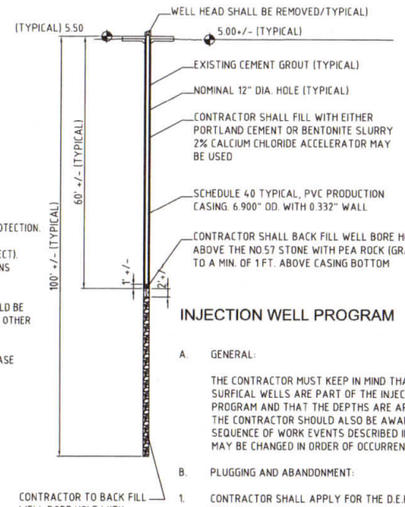
PROPOSED WELL AND WWTF PLANT ABANDONMENT PROCEDURE:

UPON CONNECTION TO THE MUNICIPAL SYSTEM THE WWTP IS PROPOSED TO BE ABANDONED AS FOLLOWS:

- THE CONTENTS OF ALL TANKS SHALL BE REMOVED BY A LICENSED SLUDGE HAULER. THE CONTENTS WILL BE HAULED TO ONE OF THE THREE MONROE COUNTY SLUDGE TRANSFER STATIONS. THESE ARE LOCATED AT THE CUDJOE KEY, LONG KEY AND KEY LARGO SOLID WASTE VOLUME REDUCTION/ TRANSFER STATION FACILITIES.
- ALL EQUIPMENT ON TOP OF THE PLANT AND PIPING SHALL BE REMOVED.
- THE TANKS SHALL BE CHLORINATED AND EMPTIED.
- REMOVE ENTIRE PLANT OFFSITE BY A LICENSED HAULER.
- THE TWO EXISTING INJECTION WELLS SHALL BE ABANDONED AS DESCRIBED IN THE WELL ABANDONMENT APPLICATION & PERMIT.
- THE INJECTION WELLS SHALL BE ABANDONED BY A CERTIFIED WELL DRILLER AS REQUIRED BY THE DEPT. OF ENVIRONMENTAL PROTECTION.
- PROVIDE A SEALED AND SIGNED LETTER FROM THE ENGINEER OF RECORD. (IF THERE IS AN ENGINEER ASSOCIATED WITH THE PROJECT). CERTIFYING THAT THE ABANDONMENT AND PLUGGING WORK WAS COMPLETED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS CONTAINED IN THE PERMIT APPLICATION FOR ABANDONMENT.
- PROVIDE DEP FORM 62-528.900(2), F.A.C. DOCUMENTING THE WELL ABANDONMENT WORK HAS BEEN COMPLETED. THIS FORM SHOULD BE COMPLETED BY THE FLORIDA LICENSED WATER WELL CONTRACTOR WHO PERFORMED THE WORK AND SUBMITTED ALONG WITH THE OTHER ITEMS CONTAINED IN THIS LIST. THIS FORM CAN BE ACCESSED ONLINE AT: http://www.dep.state.fl.us/water/uicforms/528(2).doc
- ONCE THE ABANDONMENT WORK HAS BEEN COMPLETED AND ALL THE INFORMATION AND DOCUMENTS HAVE BEEN PREPARED, PLEASE MAKE A COPY OF ALL THE DOCUMENTS FOR YOUR RECORDS AND SUBMIT THE ORIGINALS OF THESE REQUIRED DOCUMENTS TO:

UNDERGROUND INJECTION CONTROL PROGRAM C/O
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
SOUTH DISTRICT OFFICE 2295 VICTORIA AVENUE, SUITE 364 P.O. BOX 2549
FORT MYERS, FLORIDA 33902-2549
SUBMIT A COPY OF THESE SAME DOCUMENTS TO THE:
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARATHON REGIONAL SERVICE CENTER
2796 OVERSEAS HIGHWAY SUITE 221
MARATHON, FLORIDA 33050-2227

- THE CONTRACTOR SHALL BE RESPONSIBLE TO SUBMIT THE NOTICE OF DEMOLITION OR ASBESTOS RENOVATION TO THE DEP.



INJECTION WELL PROGRAM

A. GENERAL:

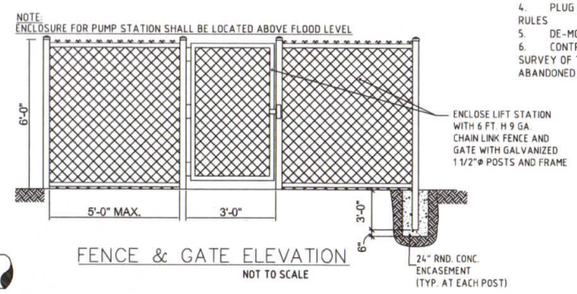
THE CONTRACTOR MUST KEEP IN MIND THAT THESE SURFICAL WELLS ARE PART OF THE INJECTION WELL PROGRAM AND THAT THE DEPTHS ARE APPROXIMATE. THE CONTRACTOR SHOULD ALSO BE AWARE THAT THE SEQUENCE OF WORK EVENTS DESCRIBED IN THIS OUTLINE MAY BE CHANGED IN ORDER OF OCCURRENCE OR DELETED.

B. PLUGGING AND ABANDONMENT:

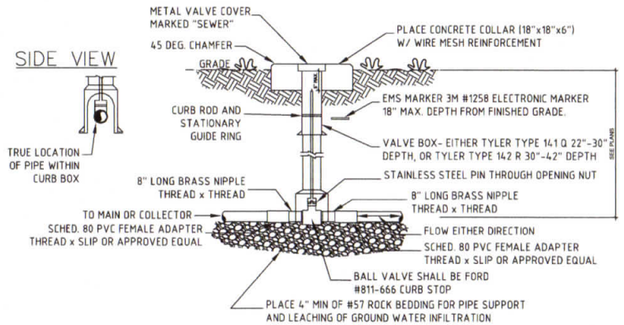
1. CONTRACTOR SHALL APPLY FOR THE D.E.P. WELL ABANDONMENT PERMIT IN COMPLIANCE WITH D.E.P. REGULATION.
2. CONTRACTOR SHALL SUPPLY A WRITTEN SEQUENCE FOR WELL PLUGGING TO THE ENGINEER OF RECORD FOR APPROVAL.
3. MOBILIZE ON-SITE, INSTALL TEMPORARY POWER, AND WATER SERVICE AS NECESSARY.
4. PLUG THE WELL(S) PER SPECIFICATIONS, F.A.C. STATUES AND RULES.
5. DE-MOBILIZE AND CLEAN SITE AS NECESSARY.
6. CONTRACTOR SHALL SUPPLY AN UPDATED BOUNDARY SURVEY OF THE PROPERTY INDICATING THE LOCATION OF THE ABANDONED WELL.

INJECTION WELL PLUGGING DETAIL

NOT TO SCALE

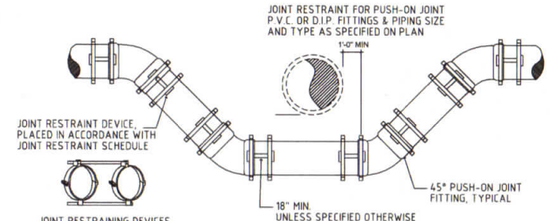


FENCE & GATE ELEVATION
NOT TO SCALE



LOW PRESSURE VALVE DETAIL – B

NOT TO SCALE



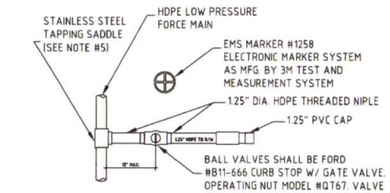
WASTE WATER FORCE MAIN VERTICAL OFFSET WITH FITTINGS, (P.V.C.)

NOT TO SCALE

LOCATION OF PUBLIC WATER SYSTEM MAINS IN ACCORDANCE WITH F.A.C. RULE 62-555.31

OTHER PIPE	HORIZONTAL SEPARATION	CROSSINGS (1)	JOINT SPACING @ CROSSING (FULL JOINT CENTERED)
STORM SEWER, STORMWATER FORCE MAIN, RECLAIMED WATER (2)	WATER MAIN — 3 FT. MINIMUM	WATER MAIN — 12 INCHES IS THE MINIMUM, EXCEPT FOR STORM SEWER, THEN 6 INCHES IS THE MINIMUM AND 12 INCHES IS PREFERRED	ALTERNATE 3 FT. MINIMUM — WATER MAIN
VACUUM SANITARY SEWER	WATER MAIN — 10 FT. PREFERRED, 3 FT. MINIMUM	WATER MAIN — 12 INCHES PREFERRED, 6 INCHES MINIMUM	ALTERNATE 3 FT. MINIMUM — WATER MAIN
GRAVITY OR PRESSURE SANITARY SEWER, SANITARY SEWER FORCE MAIN, RECLAIMED WATER (4)	WATER MAIN — 10 FT. PREFERRED, 6 FT. MINIMUM (3)	WATER MAIN — 12 INCHES IS THE MINIMUM, EXCEPT FOR GRAVITY SEWER, THEN 6 INCHES IS THE MINIMUM AND 12 INCHES IS PREFERRED	ALTERNATE 6 FT. MINIMUM — WATER MAIN
ON-SITE SEWAGE TREATMENT & DISPOSAL SYSTEM	10 FT. MINIMUM	--	--

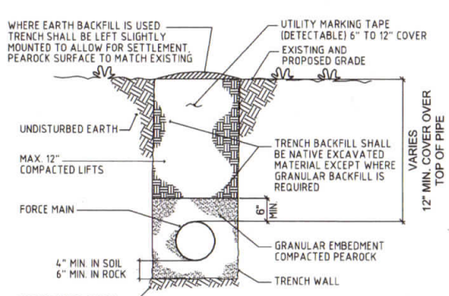
NOTES
(1) WATER MAIN SHOULD CROSS ABOVE OTHER PIPE. WHEN WATER MAIN MUST BE BELOW OTHER PIPE, THE MINIMUM SEPARATION IS 12 INCHES.
(2) RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
(3) 3 FT. FOR GRAVITY SANITARY SEWER WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST 6 INCHES ABOVE THE TOP OF THE GRAVITY SANITARY SEWER.
(4) RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
(5) ADDITIONAL INFORMATION UNDER PARAGRAPH 3g OF 62-604.600, F.A.C.



NOTES:
1. EMS SHALL BE INSTALLED ON STREET SIDE OF TEE AND VALVE.
2. VALVE BOX SHALL BE TYLER 142-R FOR 30"-42" DEPTH WITH CURB ROD TO WITHIN 6" OF FINISHED GRADE (SEE DETAIL B)
3. TAPPING SADDLE SHALL BE ROMAC MODEL 306 FOR CAST IRON, DIP, AND PVC PIPE. USE MODEL 306-H FOR HDPE PIPE.

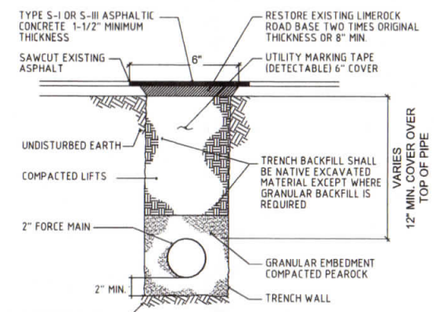
LOW PRESSURE TIE-IN DETAIL – C

NOT TO SCALE



TYPICAL TRENCH (NO PAVEMENT)

NOT TO SCALE



TYPICAL TRENCH (PAVEMENT)

NOT TO SCALE

DETAILS

SCALE AS NOTED

INDUSTRY & ENVIRONMENT
ENGINEERS/ CONSULTANTS
103650 O/S Hwy, #46
KEY LARGO, FL. 33037
TELEPHONE (305) 395-8032
Certificate of Authorization # 8384

CONSULTANTS

BIG PINE ACADEMY
30220 OVERSEAS HIGHWAY
BIG PINE KEY, FLORIDA

SEWER SYTSTEM IMPROVEMENTS

REVISIONS	DATE:

SEAL
No. 48504
STATE OF
JAMES RONALD BRUSH, P.E.
LICENSED ENGINEER
STATE OF FLORIDA NO. 48504

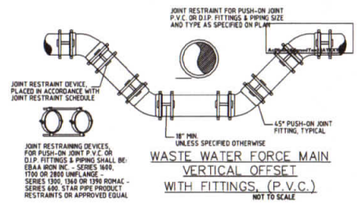
I HEREBY CERTIFY THAT THE ENGINEERING FEATURES CONTAINED IN THESE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE PROVISIONS OF CHAPTER 62-555, F.A.C.
1/22/18

I&E PROJECT NO.
BPK8-22
CHECKED BY:
AM
DRAWN BY:
JB
ISSUE:
PERMIT REVIEW
DATE:
1-22-18
SHEET INDEX

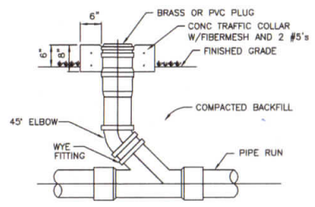
GENERAL DETAILS

SHEET NUMBER

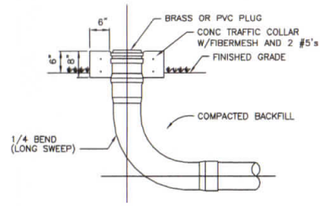
D-1



WASTE WATER FORCE MAIN
VERTICAL OFFSET
WITH FITTINGS, (P.V.C.)
NOT TO SCALE

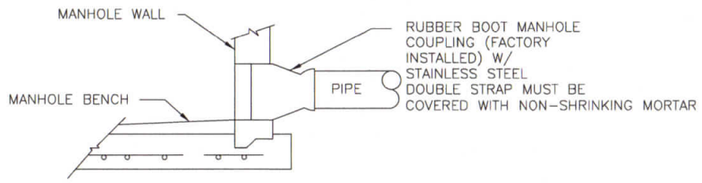


IN-LINE CLEAN OUT



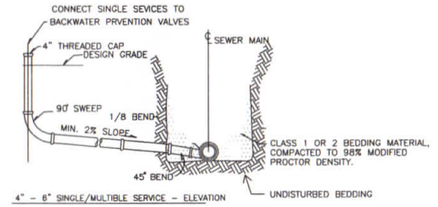
TERMINAL CLEAN OUT

CLEAN OUT DETAIL
NTS
REVISION 01/01



RUBBER BOOT CONNECTION DETAIL

USE FOR MANHOLES OF 5'-0" OR LESS IN DEPTH



SEWER LATERAL

NOTE: USE OF STYRENE MATERIAL WILL NOT BE PERMITTED.

LOCATION OF PUBLIC WATER SYSTEM MAINS IN ACCORDANCE WITH F.A.C. RULE 62-555.31

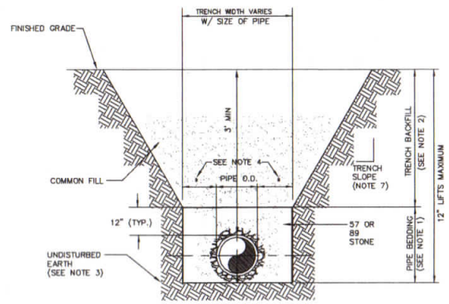
OTHER PIPE	HORIZONTAL SEPARATION	CROSSINGS (1)	JOINT SPACING @ CROSSING (FULL JOINT CENTERED)
STORM SEWER, STORMWATER FORCE MAIN, RECLAIMED WATER (2)	WATER MAIN 3 FT. MINIMUM	WATER MAIN 12 INCHES IS THE MINIMUM, EXCEPT FOR STORM SEWER, THEN 6 INCHES IS THE MINIMUM AND 12 INCHES IS PREFERRED	ALTERNATE 3 FT. MINIMUM WATER MAIN
VACUUM SANITARY SEWER	WATER MAIN 10 FT. PREFERRED 3 FT. MINIMUM	WATER MAIN 12 INCHES PREFERRED 6 INCHES MINIMUM	ALTERNATE 3 FT. MINIMUM WATER MAIN
GRAVITY OR PRESSURE SANITARY SEWER, SANITARY SEWER FORCE MAIN, RECLAIMED WATER (4)	WATER MAIN 10 FT. PREFERRED 6 FT. MINIMUM (3)	WATER MAIN 12 INCHES IS THE MINIMUM, EXCEPT FOR GRAVITY SEWER, THEN 6 INCHES IS THE MINIMUM AND 12 INCHES IS PREFERRED	ALTERNATE 6 FT. MINIMUM WATER MAIN
ON-SITE SEWAGE TREATMENT & DISPOSAL SYSTEM	10 FT. MINIMUM	--	--

NOTES
(1) WATER MAIN SHOULD CROSS ABOVE OTHER PIPE. WHEN WATER MAIN MUST BE BELOW OTHER PIPE, THE MINIMUM SEPARATION IS 12 INCHES.
(2) RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
(3) 3 FT. FOR GRAVITY SANITARY SEWER WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST 6 INCHES ABOVE THE TOP OF THE GRAVITY SANITARY SEWER.
(4) RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
(5) ADDITIONAL INFORMATION UNDER PARAGRAPH 3g OF 62-604.600, F.A.C.

DETAILS
SCALE AS NOTED

NTS

SEWER LATERAL DETAIL
NTS
REVISION 01/01

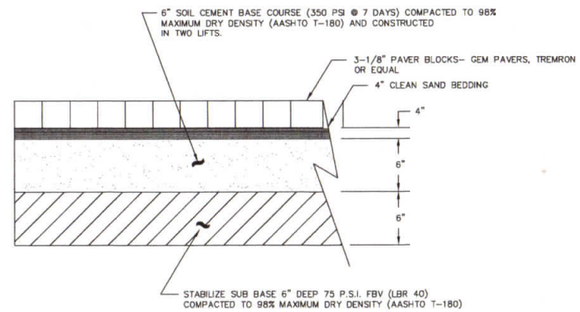


NOTES:
1. PIPE BEDDING: SELECT COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T-180. PIPE BEDDING AROUND ALL SEWER LATERALS AND PIPE (TOP, SIDES, AND BOTTOM) MUST HAVE 4" OF GRADE 57 OR GRADE 89 STONE.
2. TRENCH BACKFILL: COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T-180, (98% DENSITY REQUIRED UNDER DRIVEWAYS, PAVEMENT AND STRUCTURES).
3. PIPE BEDDING UTILIZING SELECT COMMON FILL OR BEDDING ROCK IN ACCORDANCE WITH TYPE "A" BEDDING AND TRENCHING DETAIL MAY BE REQUIRED AS DIRECTED BY THE KLWTD.
4. (*): 15" MAX. FOR PIPE DIAMETER LESS THAN 24", AND 24" MAX. FOR PIPE DIAMETER 24" AND LARGER.
5. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.
6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF FLOW.
7. REFER TO OSHA REQUIREMENTS FOR SLOPING, SHEETING AND BRACING IN EXCAVATIONS.
8. FINAL RESTORATION IN IMPROVED AREAS SHALL BE IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF GOVERNING AGENCIES. SURFACE RESTORATION WITHIN RIGHT-OF-WAY SHALL COMPLY WITH REQUIREMENTS OF RIGHT-OF-WAY UTILIZATION REGULATIONS AND ROAD CONSTRUCTION SPECIFICATIONS.

STANDARD CONSTRUCTION DETAIL
TYPE "B" BEDDING AND TRENCH DETAIL
(TYPICAL FOR WATER, SEWER, FORCE MAIN, STORM DRAIN AND RECLAIMED WATER MAIN INSTALLATIONS)

SANITARY SEWER CONSTRUCTION GENERAL NOTES

1. ALL SEWER MAINS AND SERVICES CONNECTING TO THE KEY LARGO WASTEWATER TREATMENT DISTRICT'S (KLWTD) WASTEWATER TREATMENT SYSTEM SHALL CONFORM TO INDUSTRY STANDARDS, CHAPTERS 62 AND 64E-6 OF THE FLORIDA ADMINISTRATIVE CODE, INTERNAL PLUMBING CODE 2000(IPC), FLORIDA BUILDING CODE, AND MONROE COUNTY PLUMBING CODE.
2. 4" SINGLE SERVICES MUST BE PVC SDR-26. 6" MAINS MUST BE PVC SDR 26. MINIMUM ALLOWABLE SANITARY SEWER SLOPE FOR 4" AND 6" PIPE IS 1.0%.
3. ALL COUPLINGS OF DISSIMILAR MATERIALS SHALL BE MADE PER ASTM SPECIFICATIONS.
4. AIR INTAKE, IF REQUIRED, MUST BE A MINIMUM OF 4" DIAMETER FITTED WITH A STAINLESS STEEL SCREEN AND BE A MINIMUM OF 4' ABOVE GRADE.
5. TRENCHING, BEDDING AND BACKFILLING SHALL CONFORM TO IPC SECTION 306. BEDDING AROUND ALL LATERALS AND PIPE (TOP, SIDES AND BOTTOM) MUST HAVE 4" OF GRADE 57 OR GRADE 89 STONE.
6. EXISTING PLUMBING MUST BE DEMONSTRATED TO BE WATER TIGHT IN ACCORDANCE WITH THE REQUIREMENTS OF THE IPC SECTION 3121 OR 3122.
7. ALL PIPE AND FITTINGS SHALL BE EXPOSED FOR INSPECTION. ANY PLUMBING THAT IS COVERED WITHOUT INSPECTION WILL HAVE TO BE COMPLETELY EXPOSED FOR INSPECTION.
8. PRIOR TO FINAL CONNECTION TO THE VACUUM SYSTEM, THE LATERAL PIPING MUST BE PLUGGED, JET-RODDED OR OTHERWISE FLUSHED OF ALL FOREIGN MATERIALS WITH A TEST BALL IN PLACE AT THE PIT. TEST BALLS MUST NOT BE REMOVED UNTIL PLUMBING INSPECTIONS AND HYDROSTATIC TESTS HAVE PASSED. PLUSHING A LINE INTO A PIT WITHOUT A TEST BALL IN PLACE, THE CONTRACTOR/OWNER WILL PAY A PUMP OUT AND CLEANING FEE OF $500 FOR ILLEGALLY DISCHARGING FOREIGN MATERIAL INTO THE KLWTD COLLECTION SYSTEM.
9. KLWTD WILL TELEVISION-INSPECT THE INTERIOR OF ALL LINES BEFORE THEY ARE PLACED INTO SERVICE.
10. DEFLECTION TESTING: GRAVITY LINES SHALL BE TESTED AS FOLLOWS:
    1. NO PIPE SHALL EXCEED A DEFLECTION OF 5%.
    2. PIPE SYSTEM SHALL PASS A RIGID BALL EQUAL TO 95% OF THE BASE INSIDE DIAMETER OF THE CARRIER PIPE.
    3. DEFLECTION TESTING SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES.
11. LEAK TESTING:
    1. GRAVITY PIPING LEAKAGE (EXFILTRATION OR INFILTRATION) SHALL NOT EXCEED 0.84 GAL/MILE FOR ALL 6" GRAVITY SEWER.
    2. TESTING SHALL BE PERFORMED USING A POSITIVE HEAD PRESSURE OF 2 FEET.
    3. AIR TEST SHALL CONFORM TO ASTM F-1417.
12. ALL MANHOLES SHALL BE INSPECTED FOR WATERTIGHTNESS AND DAMAGE PRIOR TO INSTALLATION AND PRIOR TO BEING PLACED INTO SERVICE.
13. SEE DETAILS FOR SEWER CONNECTION INFORMATION.
14. EXISTING COLLECTION SYSTEMS WILL BE ABANDONED PER THE REQUIREMENTS OF 64E-6011 FAC MONROE COUNTY HEALTH DEPARTMENT AND WILL REQUIRE A SEPERATE PERMIT.
15. THE KLWTD CONNECTION POINTS AND ANY EXISTING LANDSCAPING/DECKING/FENCING FEATURES WILL DETERMINE THE EXACT LOCATION OF SITE SPECIFIC LATERALS/SERVICES.
16. A BACKWATER (CHECK) VALVE IS REQUIRED FOR EACH INDIVIDUAL SERVICE. MAINLINE BRAND OR APPROVED EQUAL.
17. THE CONTRACTOR SHALL AT ALL TIMES, DURING PIPE LAYING, DEWATER THE GROUND (IF REQUIRED) SUFFICIENTLY TO KEEP THE GROUNDWATER ELEVATION A MINIMUM OF 6" BELOW THE PIPE BEING LAID WHTIN THE AREA OF THE TRENCH. DISPOSAL OF RUN-OFF REQUIRES A PERMIT.
18. ALL PIPES SHALL BE LAID ON A FIRM FOUNDATION. SOFT OR SPONGY BEDDING FOR PIPES WILL NOT BE ACCEPTED. ANY UNSUITABLE MATERIAL SHALL BE REMOVED AND REPLACED WITH A DRY, COMPACTED, GRANULAR MATERIAL SATISFACTORY TO KLWTD AND MONROE COUNTY.
19. EXCAVATION AND BACKFILL: THE CONTRACTOR SHALL PROVIDE ADEQUATE SHEETING AND BRACING OF THE EXCAVATION WORK IN ORDER TO PROVIDE FOR THE SAFETY OF WORKMEN.
20. ALL TRENCHLINES SHALL BE BACKFILLED WITH ACCEPTABLE MATERIALS AND COMPACTED TO THE SPECIFIED MINIMUM COMPACTION (95% IN UNPAVED AREAS AND 98% IN PAVED AREAS) OF THE OPTIMUM DENSITY OF THAT MATERIAL BASED ON THE AASHTO T-180 MODIFIED PROCTOR TEST.
21. RUBBER BOOTS AND STAINLESS STEEL BANDS SHALL BE UTILIZED IN THE CONNECTION OF THE SEWER MAIN TO THE MANHOLES (SEE DETAILS).
22. WHEN THE CONNECTION CONSTRUCTION IS COMPLETE, BUT NOT BACKFILLED, CONTACT MONROE COUNTY AND KLWTD TO WITNESS HYDRO TEST. AFTER MONROE COUNTY HAS INSPECTED THE CONSTRUCTION, FOUND THE WORK TO BE SATISFACTORY, AND SIGNED THE BUILDING PERMIT, TIE IN TO THE KLWTD SYSTEM MAY BE COMPLETED. CALL KLWTD INSPECTION DISPATCH AT (305) 942-1794 (48 HOURS IN ADVANCE) WHEN CONNECTION IS READY TO PROCEED. KLWTD IS REQUIRED TO BE ON-SITE AS THIS WORK PROGRESSES.
23. A FINAL TIE-IN INSPECTION IS REQUIRED BY KLWTD. AFTER THE TIE-IN IS COMPLETE, BUT NOT BACKFILLED, CONTACT MONROE COUNTY BUILDING DEPARTMENT FOR A FINAL INSPECTION. AFTER MONROE COUNTY HAS SIGNED THE BUILDING PERMIT, THE BACKFILL OF THE BALANCE MAY BE COMPLETED.
24. KLWTD WILL FURNISH A SIGNED AND SEALED COMPLETION LETTER DIRECTLY TO MONROE COUNTY.
25. CONTRACTOR IS TO KEEP RED-LINED RECORD DRAWINGS ON SITE AS THE WORK PROGRESSES.
26. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF MANHOLE STRUCTURES AND MATERIAL SPECIFICATIONS FOR PIPE AND FITTINGS TO THE PROJECT ENGINEER PRIOR TO ORDER.



ALTERNATE #3-PAVER BLOCK APRON
(OPTION BY OWNER)
NTS

INDUSTRY & ENVIRONMENT
ENGINEERS/ CONSULTANTS
103650 O/S Hwy, #46
KEY LARGO, FL 33037
TELEPHONE (305) 395-8032
Certificate of Authorization # 8384

CONSULTANTS

BIG PINE ACADEMY
30220 OVERSEAS HIGHWAY
BIG PINE KEY, FLORIDA

SEWER SYTSTEM IMPROVEMENTS

REVISIONS	DATE:

JAMES RONALD BRUSH * PROFESSIONAL ENGINEER * STATE OF FLORIDA

SEAL
No. 48504
STATE OF
JAMES RONALD BRUSH, P.E.
LICENSED ENGINEER
STATE OF FLORIDA NO. 48504

JOB/PROJECT NO:
#18-255
CHECKED BY:
AM
DRAWN BY:
JB
ISSUE:
PERMIT REVIEW
DATE:
1-22-18
SHEET INDEX

DETAILS AND NOTES

SHEET NUMBER
D-2

MATCHLINE – SEE CS-80

MATCHLINE – SEE CS-242

MATCHLINE – SEE BELOW

QUAIL ROOST TRL

DEER RUN TRL

STA. 14+21.74, -21.00 L
PROP. (2) 2" 45° BENDS

PROP. 110 LF OF 2" HDPE (SDR 11) LFPM

1-1/4" HDPE SDR-9 LATERAL & DUPLEX LOW PRESSURE LATERAL KIT (TYP)

ASPHALT

GRAVEL

OHE

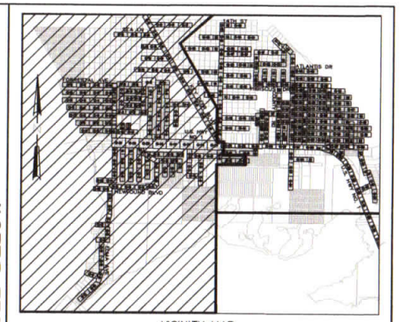
LFPM

30250

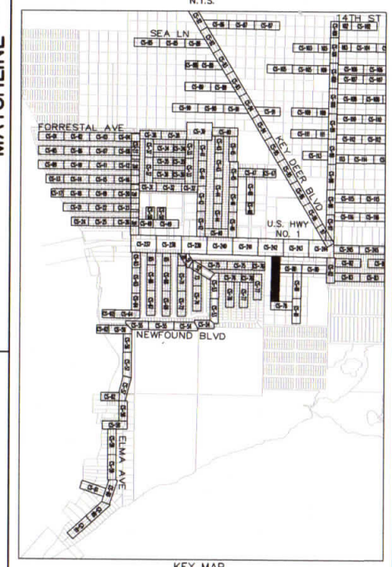
30220

12+00 13+00 14+00 15+00 16+00

1"=20'-0"



VICINITY MAP
N.T.S.



KEY MAP
N.T.S.

MATCHLINE – SEE ABOVE

MATCHLINE – SEE CS-78

DEER RUN TRL

N/A

18+00 19+00 20+00

NOTE:
ELEVATIONS SHOWN HEREON ARE IN FEET AND BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 1988).

RECORD DRAWINGS

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REVISIONS

DATE	MARK	BY	DESCRIPTION

DRAWN: TN DATE: 10/14
CHECKED: OB DATE: 10/14
DESIGN: AK DATE: 10/14
VERIFY SCALES
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

ENGINEER'S SEAL

JOSE L. ACOSTA
FL. REG. NO. 63827

ENGINEER:
CHEN·MOORE &ASSOCIATES
500 W. Cypress Creek Rd., Suite 630
Ft. Lauderdale, FL 33309
Tel: (954)730-0707
Fax: (954)730-2030
EB 0004593

DESIGN-BUILDER:
LAYNE HEAVY CIVIL, INC.

CUDJOE REGIONAL WASTEWATER COLLECTION SYSTEM - OUTER ISLANDS

FLORIDA KEYS AQUEDUCT AUTHORITY
1100 KENNEDY DRIVE
KEY WEST, FLORIDA

BIG PINE KEY - SOUTH

PLAN - DEER RUN TRAIL

FKAA PROJECT NO. 4053-12
FKAA FILE ID.
DRAWING NO. CS-79
SHEET 95 of 359