COMPONENTS OF CONTRACT PLANS SET

SANITARY SEWER RELOCATION (ADJUSTMENT) PLANS

INDEX OF PLANS

1 2

CITY OF FT. MYERS

PUBLIC WORKS ADMINISTRATION DEPARTMENT OF TRANSPORTATION SANITARY SEWER RELOCATION (ADJUSTMENT) PLANS

PLANS OF PROPOSED



SHEET DATE BY

SANITARY SEWER SHOP DRAWINGS TO BE SUBMITTED TO: AIM Engineering & Surveying, Inc. 5802 BRECKENRIDGE PARKWAY, SUITE 100 TAMPA, FLORIDA 33610 TELEPHONE (888) 627–4144 FAX (813) 664–1899 PLANS PREPARED BY: AIM Engineering & Surveying, Inc. 5802 BRECKENRIDGE PARKWAY, SUITE 100 TAMPA FLODICY SUITE 100

TAMPA, FLORIDA 33610 TELEPHONE (888) 627–4144 FAX (813) 664–1899 Certificate of Authorization No. 3114

SANITARY SEWER PLANS ENGINEER OF RECORD:	DEVELOPMENT ORDER APPROVED: CITY OF FT. MYERS PUBLIC WORKS DIRECTOR
RONALD KERFOOT, P.E. DATE P.E. NO.: <u>20768</u>	DIRECTOR OF PUBLIC WORKS. DATE
REVISIONS DESCRIPTION	
	SHEET NO.
	1

NO.	DATE	BY	REVISIONS - DESCRIPTION



approved by: RONALD KERFOOT, P.E. REGISTERED PROFESSIONAL ENGINEER FLORIDA CERTIFICATE NO. 20768

ITEM DESCRIPTION

24" PVC FM

1



CITY OF FORT MYERS PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION 2200 SECOND STREET FORT WHEES, FLORIDA 339002 239–332–6820

QUANTITY UNIT

LF

4313

2	16" PVC FM	100	LF
3	8" PVC FM	903	LF
4	AARV ON 24" FM	10	EA
5	AARV ON 16" FM	1	EA
6 <i>i</i>	AARV ON 8" FM	2	EA
7	36" HDPE FM CASING	110	LF
8 2	24" HDPE FM	120	LF
9	16" HDPE FM CASING	135	LF
10	8" HDPE FM	145	LF
11 ⁴	42" STEEL CASING	140	LF
12 2	20" STEEL CASING	60	LF
13	24" FM VALVE	2	EA
14	16" FM VALVE	1	EA
15	8" FM VALVE	1	EA
16 2	24"X24"X8" TEE	1	EA
17	24"X16" REDUCER	2	EA
18	24" 90° BEND	2	EA
19	24" 45° BEND	33	EA
20 2	24" 221⁄2° BEND	6	EA
21	24" SOLID SLEEVE REPAIR COUPLING	2	EA
22	16" 45° BEND	8	EA
23	16" SOLID SLEEVE REPAIR COUPLING	3	EA
24	8" 45° BEND	7	EA
25	8" 221/2° BEND	2	EA
26	8" SOLID SLEEVE REPAIR COUPLING	2	EA
27	FLUSH VALVE ASSY FOR TESTING	3	EA
28	16" FM CONN TO EX	2	EA
29	8" FM CONN TO EX	1	EA
30	MOBILIZATION	1	LS
31	SURVEY LAY-OUT	1	LS
32	TESTING - PRESSURE	1	LS
33	TESTING - MATERIALS & DENSITY	1	LS
34	RESTORATION	1	LS
35	REMOVE & DISPOSE OF ABANDONED UTILITIES	1	LS
36	REC DRAWINGS (ACAD) TO LCU REQ.	1	LS

CITY OF FORT MYERS SEWER QUANTITIES

STANDARD PLAN NOTES GENERAL

- AT THE SITE KEEP AND MAINTAIN ONE RECORD COPY OF ALL CONTRACT DOCUMENTS, REFERENCE DOCUMENTS AND ALL TECHNICAL DOCUMENTS SUBMITTED IN GOOD ORDER. AS THE WORK PROGRESSES THE ENGINEER OR HIS DESIGNATED REPRESENTATIVE SHALL RECORD ON ONE SET OF REPRODUCIBLE DRAWINGS ALL CHANGES AND DEVIATIONS FROM THE ORIGINAL PLANS. HE SHALL RECORD THE EXACT LOCATION OF ALL CHANGES IN VERTICAL AND HORIZONTAL ALIGNMENT BY OFFSETS AND TIES AT EACH; SEWER, WATER, ELECTRIC, GAS, COMMUNICATION AND OTHER SERVICES BY OFF-SET DISTANCE TO PERMANENT IMPROVEMENTS SUCH AS BUILDING AND CURBS. THESE RECORD DRAWINGS MUST BE CERTIFIED BY THE FLORIDA REGISTERED PROFESSIONAL ENGINEER, WHO PREPARED THE PLANS AND SIGNS AND SEALS THESE PLANS. THE RECORD DRAWINGS SHALL INCLUDE VERTICAL AND HORIZONTAL ALIGNMENT OF ALL WATER, SEWER, AND EFFLUENT REUSE LINES, VALVES, TEES, BENDS, REDUCERS, HYDRANTS, PUMP STATIONS, SERVICE CONNECTIONS, METER BOXES AND/OR PADS, AND OTHER PERTINENT STRUCTURES. PIPELINE RUNS IN EXCESS OF 152.4M, (500'), WITHOUT FITTINGS SHALL INCLUDE VERTICAL ALIGNMENT INFORMATION AT 152.4M, (500') INTERVALS. SAID ALIGNMENT SHALL BE TIED TO PERMANENT IMPROVEMENTS, SUCH AS ROADWAY AND/OR RAILROAD CENTERLINES AND RIGHTS-OF-WAY, BUILDING AND PROPERTY CORNERS, AND SHALL BE CERTIFIED BY A PROFESSIONAL LAND SURVEYOR. LICENSED IN THE STATE OF FLORIDA. THE PROFESSIONAL LAND SURVEYOR CAN COORDINATE WITH THE CONTRACTOR TO INSTALL THE NECESSARY APPURTENANCES ON BURIED UTILITIES TO FACILITATE THE SURVEY AFTER CONSTRUCTION IS COMPLETED. IN ADDITION, PROPERTY STRAP NUMBERS AND STREET NAMES SHALL BE SHOWN ON THE PLAN. ON A CASE BY CASE BASIS, CITY OF FORT MYERS MAY WAIVE THE REQUIREMENT FOR CERTIFICATION BY A PROFESSIONAL LAND SURVEYOR, LICENSED IN THE STATE OF FLORIDA. HOWEVER, PRIOR CONSENT MUST FIRST BE OBTAINED FROM CITY OF FORT MYERS. THEY SHALL WITHHOLD FINAL ACCEPTANCE OF THE PROJECT UNTIL THE REQUIREMENT FOR RECORD DRAWINGS AND RELATED RECORDS HAS BEEN MET. RECORD DRAWINGS WITHOUT DETAILED FIELD VERIFIED HORIZONTAL AND VERTICAL LOCATIONS OF ALL FACILITIES SHOWN WILL BE REJECTED.
- 2. A PRE-CONSTRUCTION MEETING IS REQUIRED BEFORE WORK MAY BEGIN. CITY OF FORT MYERS SHALL BE NOTIFIED 48 HOURS PRIOR TO PROJECT MOBILIZATION.
- 3. APPROPRIATE TURBIDITY CONTROL DEVICES (E.G. SILT FENCES, HAY BAILS) WILL BE UTILIZED DURING ALL PHASES OF INSTALLATION AND GRADING. CONTRACTOR IS RESPONSIBLE FOR SUBMITTING THE NOTICE OF INTENT AND NOTICE OF TERMINATION TO THE EPA IN COMPLIANCE WITH THE NPDES PERMIT. CONTRACTOR IS RESPONSIBLE FOR DEVELOPING AND MAINTAINING AN EFFECTIVE STORM WATER POLLUTION PREVENTION PLAN.
- 4. IN THE EVENT THAT HARD LIMESTONE FORMATION IS ENCOUNTERED, MAKING IT IMPOSSIBLE TO EXCAVATE TO THE DEPTH REQUIRED UNDER THIS CONTRACT, THE CONTRACTOR MAY BE ALLOWED TO REDUCE THE PIPE COVER TO NOT LESS THAN TWO (2) FEET WHILE MAINTAINING THE CFM REQUIRED THICKNESS OF BEDDING UNDER THE PIPE. SUCH DEVIATION FROM THE PLANS MUST BE FIRST BE APPROVED BY CFM AND THE ENGINEER PRIOR TO THE PIPE LAYING. IF TWO FEET OF COVER OR MORE CAN NOT BE ATTAINED, THE CONTRACTOR SHALL PROVIDE OTHER METHOD OF CONSTRUCTION OR PIPE PROTECTION WHICH SHALL FIRST BE APPROVED BY CFM AND THE ENGINEER, AT NO ADDITIONAL COST.

<u>NOTES:</u>

(1) FORCE MAIN TO BE PVC PIPE PER AWWA C 900 AND SHALL BE A MINIMUM CLASS OF 150, DR 18 (6"-12" PIPE) AND A MINIMUM OF CLASS 165, DR 25 (14"-36" PIPE) AND SHALL MEET OR EXCEED UN: -BELL B-11.

(2) THE RELOCATION OF THE FORCE MAIN SHALL CONFORM TO THE CITY OF FT. MYERS TECHNICAL SPECIFICATIONS.

(3) CONTRACTOR TO MAINTAIN A FINAL COVER OF 30" MINIMUM TO 48" MAXIMUM ON ALL RELOCATED/NEW WATERMAIN. CROSSINGS AND CONFLICTS MAY HAVE A GREATER DEPTH AND MUST MAINTAIN A MINIMUM VERTICAL SEPARATION OF 18".

(4) CONTRACTOR SHALL ALLOW FOR THE SOD THICKNESS IN THE DEPTH OF COVER. TYPICAL SOD THICKNESS IS APPROXIMATELY 3".

(5) CONNECTIONS TO EXISTING MAINS SHALL BE WITH SOLID SLEEVE REPAIR COUPLINGS AND APPROPRIATE FITTINGS TO ADJUST FOR LINE AND GRADE.

<u>NOTES</u>

- 1. THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
- 2. ALL WORK SHALL CONFORM TO CITY OF FORT MYERS STANDARDS AND SPECIFICATIONS.
- 3. ALL FRAMES, COVERS, VALVE BOXES AND MANHOLES SHALL BE ADJUSTED TO FINISHED GRADE UPON COMPLETION OF PAVING OR RELATED CONSTRUCTION.
- 4. THE CITY OF FORT MYERS SHALL BE NOTIFIED 72 HOURS PRIOR TO STARTING OF WORK AND PRIOR TO TESTING.
- 5. ALL WORK AND MATERIALS WHICH DO NOT CONFORM TO THE SPECIFICATIONS ARE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
- 6. THE CONTRACTOR SHALL UNCOVER ALL EXISTING LINES BEING TIED INTO AND VERIFY GRADES BEFORE ANY OTHER CONSTRUCTION.
- 7. THE CONTRACTOR SHALL COMPLY WITH ALL FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) AND LEE COUNTY PUBLIC HEALTH UNIT REQUIREMENTS.
- 8. THE CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL IN ACCORDANCE WITH MUTCD AND STANDARD INDEXES WITH WARNING SIGNS, BARRIERS AND DEVICES AS REQUIRED BY FDOT. REFER TO FDOT INDEX NO. 610 AND 611.
- 9. CONNECTION TO EXISTING MAINS SHALL BE COMPLETED BY THE CONTRACTOR AFTER LEE COUNTY HEALTH DEPT. OR FDEP CLEARANCE. APPROPRIATE NOTICES SHALL BE ISSUED TO UTILITY CUSTOMERS FOR MAIN SHUTDOWN AND CONNECTION SHALL BE MADE USING NECESSARY FITTINGS, PIPE AND SOLID SLEEVE REPAIR COUPLINGS.
- 10. DIRECTIONAL BORE AND/OR OPEN TRENCH HDPE PIPE SHALL BE CONNECTED TO PVC OR DIP PIPE USING APPROPRIATE FITTINGS, STAINLESS STEEL INSERTS AND SOLID SLEEVE REPAIR COUPLINGS WHEN REQUIRED. CASING PIPE SHALL HAVE A CASCADE WATERWORKS MFG. CO. MODEL CCES, OR APPROVED EQUAL, RUBBER SEAL CONNECTED WITH STAINLESS STEEL STRAPS AND INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

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	NO.	DATE	BY	REVISIONS - DESCRIPTION



APPROVED BY: <u>RONALD KERFOOT, P.E.</u> REGISTERED PROFESSIONAL ENGINEER FLORIDA CERTIFICATE NO. ____20768



CITY OF FORT MYERS PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION 2200 SECOND STREET FORT MYERS, FLORIDA 33002 239-332-6520 CTTY



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SSV

PROPOSED	SANITARY	PLUG	VALVE
PROPOSED	FIRE HYDF	RANT	
PROPOSED	GATE VAL	VE	
PROPOSED		VALVE	

	_
-8 SS	
10 FM	

20 W	20 W
4 FM	24 FM
16 W	16 W
12 W	12 W























GENERAL DETAIL G-16

TABLE OF RESTRAINED JOINTS FOR MEG-A-LUG TYPE JOINT RESTRAINTS DUCTILE IRON PIPE RESTRAINTS

	ŀ	IORIZO	NTAL BI	ENDS		VER'	TICLE BE	ENDS		TEE'	s			REDU	JCER
I PIPE	90 ⁰ BENDS	45 ⁰ BENDS	22.5 ⁰ BENDS	11.25 ⁰ BENDS	IPIPE ISIZE	45 ⁰ BENDS	22.5 ⁰ BENDS	11.25 ⁰ BENDS	TEE W/6" BRANCH	TEE W/8" BRANCH	TEE W/12" BRANCH	TEE W/16" BRANCH	END	SIZE	SEE NOTE L(B)
	REST	RAINED	LENGT	h ft.		RESTR/	AINED LE	ENGTH F	T.	-				6" X 4"	18'
4"	14'	6'	3'	2'	4"	LHS 10, LLS 2	LHS 5, LLS 1	LHS 3, LLS 1	20 RUN E.W., 3' BRANCH*	20 RUN E.W., 22' BRANCH*	20 RUN E.W., 52' BRANCH*	20 RUN E.W., 78' BRANCH*	24'	8" X 6"	19'
- "					- *	LHS 14,	LHS 7,	LHS 4,	20 RUN E.W.	20 RUN E.W.	20 RUN E.W.	20 RUN E.W.		8" X 4"	32'
6″	19'	8	4'	2'	6″	LLS 3	LLS 2	LLS 1	1' BRANCH*	9' BRANCH*	42' BRANCH*	71' BRANCH*	34'	10" X 8"	18'
8"	25'	11'	5'	3'	8"	LHS 19, LLS 4	LHS 9, LLS 2	LHS 5, LLS 1	20 RUN E.W., 1' BRANCH*	20 RUN E.W., 1' BRANCH*	20 RUN E.W., 33' BRANCH*	20 RUN E.W.,	45'	10" X 6"	33'
						LHS 22.	LHS 11.	LHS 6.	20 RUN E.W.		20 RUN FW	20 RUN FW		12" X 10"	19'
10"	30'	13'	6'	3'	10"	LLS 4	LLS 2	LLS 1	1' BRANCH*	1' BRANCH*	23' BRANCH*	55' BRANCH*	53'	12" X 8"	34'
12"	35'	15'	7'	4'	12"	LHS 26, LLS 5	LHS 13, LLS 3	LHS 7, LLS 2	20 RUN E.W., 1' BRANCH*	20 RUN E.W.,	20 RUN E.W.,	20 RUN E.W.,	63'LR**	16" X 12"	34'
						1HS 34	LHS 16.	LHS 8.	20 RUN F W					16" X 10"	48'
16"	44'	19'	9'	5'	16"		LLS 3	LLS 2	1' BRANCH*	1' BRANCH*	1' BRANCH*	30' BRANCH*	80'LR**	20" X 16"	34'
24"	61'	26'	13'	6'	24"	LHS 47,	LHS 23	LHS 12, LLS 3	20 RUN E.W.,	20 RUN E.W.,	20 RUN E.W.,	20 RUN E.W.,	113'LR**	20" X 12"	61'
				-		145.56	146.07	1110 14		1 BRANCH*	1 BRANCH+	1 BRANCH*		24" X 20"	34'
30"	72'	30'	15'	8'	30"	LLS 11	LLS 6	LLS 3	1' BRANCH*	1' BRANCH*	1' BRANCH*	1' BRANCH*	136'LR**	24" X 16"	62'

NOTES: 3 FT. PIPE COVER MIN., TEST PRESSURE 150 P.S.I., *RESTRAINED FITTING ONLY, **ALTERNATELY RESTRAIN BACK TO TEE AT BEGINNING OF BRANCH, #UNOBSTRUCTED LENGTH ON THE SMALLER SIDE OF REDUCER. LHS = LENGTH OF HIGH SIDE OF FITTING, LLS = LENGTH ON LOW SIDE OF RUDGEN. BIS - LENGTH OF RUN, EW = EACH WAY FROM FITTING, FACTOR OF SAFETY = 1.5.

FOR GREATER THAN 30" DIAMETER PIPE, PLEASE PROVIDE CALCULATIONS.

L(B) = RESTRAINED LENGTH OF LARGE SIDE OF REDUCER.

GENERAL DETAIL G-16A

TABLE OF RESTRAINED JOINTS FOR MEG-A-LUG TYPE JOINT RESTRAINTS P.V.C. PIPE RESTRAINTS

		HORIZON	NTAL BE	ENDS		VER	TICLE BE	INDS		TEE'	S			REDU	ICER
SIZE	90 ⁰ BENDS	45 ⁰ BENDS	22.5 ⁰ BENDS	11.25 ⁰ BENDS	IPIPE SIZE	45 ⁰ BENDS	22.5 ⁰ BENDS	11.25 ⁰ BENDS	TEE W/6" BRANCH	TEE W/8" BRANCH	TEE W/12" BRANCH	TEE W/16" BRANCH	END	SIZE	SEE NOTE
	REST	RAINED	LENGT	H FT.		RESTR	AINED LE	ENGTH F	Т.					6" X 4"	28'
4"	17'	8'	4'	2'	4"	LHS 16, LLS 3	LHS 8, LLS 2	LHS 4, LLS 1	20 RUN E.W., 4' BRANCH*	20 RUN E.W., 33' BRANCH*	20 RUN E.W., 78' BRANCH*	20 RUN E.W., 118' BRANCH*	38'	8" X 6"	30'
- "				-1	- "	LHS 22.	LHS 11.	LHS 6.	20 RUN E.W.	20 RUN E.W.	20 RUN F.W.	20 RUN F.W.		8" X 4"	50'
6″	24'	10'	5	3	6"	LLS 4	LLS 2	LLS 1	4' BRANCH*	13' BRANCH*	63' BRANCH*	106' BRANCH*	53'	10" X 8"	28'
8"	31'	13'	7'	4'	8"	LHS 29, LLS 5	LHS 14, LLS 2	LHS 7, LLS 1	20 RUN E.W., 1' BRANCH*	20 RUN E.W., 1' BRANCH*	20 RUN E.W., 50' BRANCH*	20 RUN E.W., 95' BRANCH*	70'	10" X 6"	52'
						LHS 35.	LHS 17.	LHS 9.	20 RUN F.W.	20 PUNEW				12" X 10"	29'
10"	37'	16'	8'	4'	10″	LLS 5	LLS 3	LLS 2	1' BRANCH*	1' BRANCH*	35' BRANCH*	83' BRANCH*	84'	12" X 8"	52'
12"	43'	18'	9'	5'	12"	LHS 41, LLS 6	LHS 20, LLS 3	LHS 10, LLS 2	20 RUN E.W., 1' BRANCH*	20 RUN E.W., 1' BRANCH*	20 RUN E.W., 21' BRANCH*	20 RUN E.W., 71' BRANCH*	99'LR**	16" X 12"	54'
						185 53	1HS 26	LHS 13	20 RUN F.W					16" X 10"	75'
16"	54'	23'	11'	6'	16"	LLS 8	LLS 4	LLS 2	1' BRANCH*	1' BRANCH*	1' BRANCH*	46' BRANCH*	127'LR**	20" X 16"	54'
24"	76'	32'	15'	8'	24"	LHS 74,	LHS 36	LHS 18, LLS 3	20 RUN E.W., 1' BRANCH*	20 RUN E.W.,	20 RUN E.W.,	20 RUN E.W.,	179'LR**	20" X 12"	96'
						1 45 89		1 116 22	20 BUN EW					24" X 20"	54'
30"	89'	37'	18'	9'	30"	LLS 14	LLS 7	LLS 4	1' BRANCH*	1' BRANCH*	1' BRANCH*	1' BRANCH*	214'LR**	24" X 16"	98'

NOTES: 3 FT. PIPE COVER MIN., TEST PRESSURE 150 P.S.I., *RESTRAINED FITTING ONLY, **ALTERNATELY RESTRAIN BACK TO TEE AT BEGINNING OF BRANCH, #UNOBSTRUCTED LENGTH ON THE SMALLER SIDE OF REDUCER. LHS = LENGTH OF HIGH SIDE OF FITTING, LLS = LENGTH ON LOW SIDE OF FITTING, LR = LENGTH OF RUN, EW = EACH WAY FROM FITTING, FACTOR OF SAFETY = 1.5.

FOR GREATER THAN 30" DIAMETER PIPE, PLEASE PROVIDE CALCULATIONS.

(SANITAR	Y SEWER/FORCE	Ν
OTHER PIPE	HORIZONTAL SEPARATION	
STORM SEWER, STORMWATER FORCE MAIN, RECLAIMED WATER (2)	WATER MAIN 3 FT. MIN.	
VACUUM SANITARY SEWER	WATER MAIN 10 FT. PREFERRED 3 FT. MIN.	(
GRAVITY OR PRESSURE SANITARY SEWER, SANITARY SEWER FORCE MAIN, RECLAIMED WATER (4)	WATER MAIN 10 FT. PREFERRED 6 FT. MIN. (3)	(
SANITARY SEWER FORCE MAIN, RECLAIMED WATER (4)	10 FT. MIN.	

PIPE, THE MIN. 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.

FOR ADDITIONAL CONSTRUCTION REQUIREMENTS.

NO.	DATE	BY	REVISIONS - DESCRIPTION
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		CERT	IFIC	FA. ATE	OF

eering & Surveying, Inc. APPROVED BY BRIDGE PARKWAY STE. 114 RAL, FLORIDA 33990 NE (239) 458–5544 (239) 458–2233 RONALD KERFOOT, P.E. REGISTERED PROFESSIONAL ENGINEER FLORIDA CERTIFICATE NO. 20768 AUTHORIZATION NO. 3114

L(B)= RESTRAINED LENGTH OF LARGE SIDE OF REDUCER.

ES City of Palms



C|TY









City of Ft. Myers					
SUE Point UBA	<u>Station</u>	<u>Offset</u>	Description	Top of Pipe Elevation	Ground Elevation
1	298+61.96 B/L BALLARD	21.36 RT	16" DIP FM	15.19	21.91
2	299+46.21 B/L BALLARD	21.36 RT	16" DIP FM	18.17	21.74
3	N/A				
4	198+35.25 B/L LAREDO	50.46 RT	16" PVC WM	17.54	20.25
5	198+95.93 B/L LAREDO	50.26 RT	16" PVC WM	17.09	20.09
6	206+90.23 B/L LAREDO	23.29 RT	8" PVC WM/THRUST BLK	17.20	20.25
7	206+99.29 B/L LAREDO	23.44 RT	6" PVC WM	16.30	19.93
8	193+17.45 B/L LAREDO	16.34 LT	4" PVC FM	17.94	19.83
9	193+70.86 B/L LAREDO	13.30 RT	10" PVC FM	17.68	19.89
10	1010+57.82 C/L CONST	80.91 RT	20" DIP WM	14.72	18.81
11	1013+33.65 C/L CONST	69.96 RT	20" DIP WM	18.00	20.89
12	1015+95.77 C/L CONST	66.75 RT	20" DIP WM	17.44	20.15
13	1021+16.66 C/L CONST	16.40 RT	12" DIP WM/THRUST BLK	17.59	20.58
14	1020+96.08 C/L CONST	49.23 RT	12" DIP WM	17.78	20.62
15	1021+51.87 C/L CONST	7.52 RT	16" PVC PIPE	17.36	20.18
16	N/A				
17	1021+50.15 C/L CONST	9.20 RT	16" PVC PIPE	17.54	20.42
18	1020+65.28 C/L CONST	165.80 RT	16" PVC PIPE	16.86	20.51
19	1030+99.25 C/L CONST	18.98 LT	16" DIP WM	17.54	19.74

City of Ft. Myers				
SUE Point TH	<u>Station</u>	<u>Offset</u>	Description	Ground Elevation
1	1145+76.34 C/L CONST	56.79 RT	30" CONC. RAW WATER	15.96
2	1139+41.63 C/L CONST	56.73 RT	30" CONC. RAW WATER	15.26
3	1138+69.41 C/L CONST	56.04 RT	30" CONC. RAW WATER	15.56
4	1134+84.44 C/L CONST	54.25 RT	30" CONC. RAW WATER	14.82
5	1133+86.63 C/L CONST	61.61 RT	30" CONC. RAW WATER	15.16
6	1127+38.98 C/L CONST	71.34 RT	30" CONC. RAW WATER	15.03
7	N/A			
8	1075+82.27 C/L CONST	52.50 RT	30" CONC. RAW WATER	20.96
9	1072+68.05 C/L CONST	39.60 RT	30" CONC. RAW WATER	20.91
10	1070+53.73 C/L CONST	4.90 RT	30" CONC. RAW WATER	21.07
11	1067+98.23 C/L CONST	20.86 LT	30" CONC. RAW WATER	20.52
12	1067+23.96 C/L CONST	22.55 LT	30" CONC. RAW WATER	20.30
13	1064+54.73 C/L CONST	13.53 RT	30" CONC. RAW WATER	21.15
14	1064+34.99 C/L CONST	16.82 RT	30" CONC. RAW WATER	21.30
15	1062+34.56 C/L CONST	46.77 RT	30" CONC. RAW WATER	21.42
16	1038+88.91 C/L CONST	51.61 RT	30" CONC. RAW WATER	22.16
17	1031+06.16 C/L CONST	53.62 RT	30" CONC. RAW WATER	21.79
18	1029+56.42 C/L CONST	53.69 RT	30" CONC. RAW WATER	21.19
19	1027+14.33 C/L CONST	34.33 RT	30" CONC. RAW WATER	18.73
20	1026+39.25 C/L CONST	18.96 RT	30" CONC. RAW WATER	21.27
21	1024+87.11 C/L CONST	3.00 RT	30" CONC. RAW WATER	21.74
22	1023+04.17 C/L CONST	7.53 LT	30" CONC. RAW WATER	21.88
23	1018+27.02 C/L CONST	7.24 LT	30" CONC. RAW WATER	22.27
24	1019+59.23 C/L CONST	7.47 LT	30" CONC. RAW WATER	21.68

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	NO.	DATE	BY	REVISIONS - DESCRIPTION
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AIM Engineering & Surveying, Inc. 2328 HANCOCK BRIDGE PARKWAY STE. 114 CAPE CORAL, FLORIDA 33990 TELEPHONE (239) 458–5544 FAX (239) 458–2233 CALLMI CERTIFICATE OF AUTHORIZATION NO. 3114

approved by: RONALD KERFOOT, P.E. REGISTERED PROFESSIONAL ENGINEER FLORIDA CERTIFICATE NO. 20768



CITY OF FORT MYERS PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION 2200 SECOND STREET FORT WHERS, FLORIDA 33902 239-332-6620

Pipe Cover	Comments
6.72	
3.57	
2 71	
3.00	
3.05	TOP OF CASING
3.63	
1.89	
2.21	
4.09	
2.89	
2.00	
2.09	TOP OF CASING
2.80	
2.04	
2.02	
2 88	
3.65	
2 20	
2.20	





COMPONENTS OF CONTRACT PLANS SET

WATER MAIN RELOCATION (ADJUSTMENT) PLANS

CITY OF FT. MYERS

PUBLIC WORKS ADMINISTRATION DEPARTMENT OF TRANSPORTATION WATER MAIN RELOCATION PLANS

ORTIZ AVENUE (CR 865)



	SH	ΗE
DATE	BY	
	DATE	SF DATE BY

INDEX OF PLANS

SHEET NO.	SHEET DESCRIPTION	
1 2 3 4 - 18 19 - 21 22	COVER SHEET WATER QUANTITIES GENERAL NOTES WATER MAIN ADJUSTMENT SH DETAIL SHEETS SUE LOCATES	IEETS



#	ITEM DESCRIPTION	QUANTITY	UNIT
1	20" DIP WM	400	LF
2	16" DIP WM	3603	LF
3	12" PVC WM	1978	LF
4	8" PVC WM	25	LF
5	4" PVC WM	25	LF
6	30" HDPE CASING	440	LF
7	20" HDPE CASING	470	LF
8		470	LF
q	12" HDPE WM	500	LF
10	30" STEEL CASING	105	
11	24" STEEL CASING	100	
12		100	
12		7	
10		5	
14		1	
10		10	
10		12	EA
17		10	EA
18		1	EA
19		/	EA
20		1	EA
21	20"X20"X12" IEE	2	EA
_ 22	20" 45º BEND	8	EA
23	20" SOLID SLEEVE REPAIR COUPLING	1	EA
24	20" TEMP END CAP	1	EA
25	20"X16" REDUCER	1	EA
26	16" TEE	2	EA
27	16"X 16"X12" TEE	1	EA
28	16"X 16"X6" TEE	4	EA
29	16" 90° BEND	1	EA
30	16" 45° BEND	30	EA
31	16" 221/2º BEND	8	EA
32	16" CROSS	1	EA
33	16"X12" REDUCER	2	EA
34	16" TEMP END CAP	7	EA
35	16" SOLID SLEEVE REPAIR COUPLING	12	EA
36	12"X12"X8" TEE	2	EA
37	12"X12"X6" TEE	3	EA
38	12"X12"X4" TEE	1	EA
39	12" 90º BEND	1	EA
40	12" 45° BEND	13	EA
41	12" 221/2° BEND	7	EA
42	12" SOLID SLEEVE REPAIR COUPLING	9	EA
43	12" TEMP END CAP	5	EA
44	8" TEMP END CAP	2	EA
45	6" 90° BEND		FA
46	4" 90° BEND	1	FA
47	4" TEMP END CAP	1	FA
48	FIRE HYD ASSY	7	FA
49		1	1.5
50		3	
51		3	
52		1	EA
52	2" BLOWOEE	13	
50		13	
54		1	10
55		1	
57		1	10
5/			
50			
59			
60		1	LS
61	REC DRAWINGS (ACAD) TO LCU REQ.	1	LS
62	ADJUST WM SERVICE - RES.	60	EA
63	ADJUST WM SERVICE - COMM.	10	ΕA

NO.	DATE	BY	REVISIONS - DESCRIPTION

	AIM	l Eng	ineer	ing 🕅	εł Sι	irvey	ing,	Inc.
	2328	HANCO CAPE (CK BF	RIDGE ., FLC	PARk RIDA	(WAY 3399	STE 90	. 114
Zày		TELEPH FA:	HONE X (23	(239 9) 45) 458 58-22	-554 33	14	
	CERTI	FICATE	OF A	UTHC	RIZAT	ION	NO.	3114

approved by: RONALD KERFOOT, P.E. REGISTERED PROFESSIONAL ENGINEER FLORIDA CERTIFICATE NO. ______20768



CITY OF FORT MYERS PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION 2200 SECOND STREET FORT WHERS, FLORDA 33902 239-332-6820

CITY OF FORT MYERS WATER QUANTITIES SHEET NO. 2

STANDARD PLAN NOTES GENERAL

NOTES

- 1. AT THE SITE KEEP AND MAINTAIN ONE RECORD COPY OF ALL CONTRACT DOCUMENTS, REFERENCE DOCUMENTS AND ALL TECHNICAL DOCUMENTS SUBMITTED IN GOOD ORDER. AS ALL PUBLIC WATER SYSTEM COMPONENTS, EXCLUDING FIRE HYDRANTS, THAT WILL BE INSTALLED UNDER THIS PROJECT THE WORK PROGRESSES THE ENGINEER OR HIS DESIGNATED REPRESENTATIVE SHALL AND THAT WILL COME INTO CONTACT WITH DRINKING WATER WILL CONFORM TO NSF INTERNATIONAL STANDARD 61. RECORD ON ONE SET OF REPRODUCIBLE DRAWINGS ALL CHANGES AND DEVIATIONS FROM D. ALL PIPE AND FITTINGS INSTALLED UNDER THIS PROJECT WILL CONTAIN NO MORE THAN 8.0% LEAD, AND ANY SOLDER THE ORIGINAL PLANS HE SHALL RECORD THE EXACT LOCATION OF ALL CHANGES IN OR FLUX USED IN THIS PROJECT WILL CONTAIN NO MORE THAN 0.2% LEAD. VERTICAL AND HORIZONTAL ALIGNMENT BY OFFSETS AND TIES AT EACH; SEWER, WATER, ELECTRIC, GAS, COMMUNICATION AND OTHER SERVICES BY OFF-SET DISTANCE TO PERMANENT IMPROVEMENTS SUCH AS BUILDING AND CURBS. THESE RECORD DRAWINGS MUST BE CERTIFIED BY THE FLORIDA REGISTERED PROFESSIONAL ENGINEER WHO PREPARED THE PLANS AND SIGNS AND SEALS THESE PLANS. THE RECORD DRAWINGS SHALL INCLUDE VERTICAL AND HORIZONTAL ALIGNMENT OF ALL WATER, SEWER, AND EFFLUENT REUSE LINES, VALVES, TEES, BENDS, REDUCERS, HYDRANTS, PUMP STATIONS, SERVICE CONNECTIONS, METER BOXES AND/OR PADS, AND OTHER PERTINENT STRUCTURES. PIPELINE RUNS IN EXCESS OF 152.4M, (500'), WITHOUT FITTINGS SHALL INCLUDE VERTICAL ALIGNMENT INFORMATION AT 152.4M, (500') INTERVALS. SAID ALIGNMENT NOT APPLICABLE. SHALL BE TIED TO PERMANENT IMPROVEMENTS, SUCH AS ROADWAY AND/OR RAILROAD CENTERLINES AND RIGHTS - OF - WAY, BUILDING AND PROPERTY CORNERS, AND SHALL BE CERTIFIED BY A PROFESSIONAL LAND SURVEYOR, LICENSED IN THE STATE OF FLORIDA. THE PROFESSIONAL LAND SURVETOR, LICENSED IN THE STATE OF FLORIDA. THE PROFESSIONAL LAND SURVEYOR CAN COORDINATE WITH THE CONTRACTOR TO INSTALL. New OR ALTERED WATER MAINS THAT ARE INCLUDED IN THIS PROJECT AND THAT ARE BEING DESIGNED TO CARRY FIRE FLOWS SHALL NOT HAVE FIRE HYDRANTS CONNECTED TO THEM. THE NECESSARY APPURTENANCES ON BURIED UTILITIES TO FACILITATE THE SURVEY AFTER CONSTRUCTION IS COMPLETED. IN ADDITION, PROPERTY STRAP NUMBERS AND STREET NAMES SHALL BE SHOWN ON THE PLAN. ON A CASE BY CASE BASIS, CITY OF FORT MYERS MAY WAIVE THE REQUIREMENT FOR CERTIFICATION BY A PROFESSIONAL LAND SURVEYOR, LICENSED IN THE STATE OF FLORIDA. HOWEVER, PRIOR CONSENT MUST FIRST K. SUFFICIENT VALVES SHALL BE PROVIDED ON NEW OR ALTERED WATER MAINS INCLUDED IN THIS PROJECT SO THAT BE OBTAINED FROM CITY OF FORT MYERS. THEY SHALL WITHHOLD FINAL ACCEPTANCE OF THE PROJECT UNTIL THE REQUIREMENT FOR RECORD DRAWINGS AND RELATED RECORDS L HAS BEEN MET. RECORD DRAWINGS WITHOUT DETAILED FIELD VERIFIED HORIZONTAL AND VERTICAL LOCATIONS OF ALL FACILITIES SHOWN WILL BE REJECTED.
- 2. A PRE-CONSTRUCTION MEETING IS REQUIRED BEFORE WORK MAY BEGIN. CITY OF FORT MYERS SHALL BE NOTIFIED 48 HOURS PRIOR TO PROJECT MOBILIZATION.
- 3. APPROPRIATE TURBIDITY CONTROL DEVICES (E.G. SILT FENCES, HAY BAILS) WILL BE UTILIZED DURING ALL PHASES OF INSTALLATION AND GRADING. CONTRACTOR IS RESPONSIBLE FOR SUBMITTING THE NOTICE OF INTENT AND NOTICE OF TERMINATION TO THE EPA IN COMPLIANCE WITH THE NPDES PERMIT. CONTRACTOR IS RESPONSIBLE FOR DEVELOPING AND MAINTAINING AN EFFECTIVE STORM WATER POLLUTION PREVENTION PLAN.

4. IN THE EVENT THAT HARD LIMESTONE FORMATION IS ENCOUNTERED, MAKING IT IMPOSSIBLE. New OR ALTERED CHAMBERS, PITS, OR MANHOLES THAT CONTAIN VALVES, BLOW-OFFS, METERS, OR OTHER SUCH TO EXCAVATE TO THE DEPTH REQUIRED UNDER THIS CONTRACT, THE CONTRACTOR MAY ALLOWED TO REDUCE THE PIPE COVER TO NOT LESS THAN TWO (2) FEET WHILE DIRECTLY TO ANY SANITARY OR STORM SEWER, AND BLOW-OFFS OR AIR RELIEF VALVES INSTALLED UNDER THIS PROJECT SHALL NOT BE CONNECTED DIRECTLY TO ANY SANITARY OR STORM SEWER. MAINTAINING THE CFM REQUIRED THICKNESS OF BEDDING UNDER THE PIPE. SUCH DEVIATION FROM THE PLANS MUST BE FIRST BE APPROVED BY CFM AND THE ENGINEER PRIOR TO THE PIPE LAYING. IF TWO FEET OF COVER OR MORE CAN NOT BE ATTAINED, The contractor shall provide other method of construction or pipe protection $\frac{1}{10}$ WHICH SHALL FIRST BE APPROVED BY CFM AND THE ENGINEER, AT NO ADDITIONAL COST.

THE	CONTRA	CTOR SH	ALL KEE	P EXIST	ING WATE	R MAINS	AND	SERVICE	LINES	IN	OPERATION	DURING	CONSTRUCTION	OR
TO I	MINIMIZE	INTERRUP	PTION OF	WATER	SERVICE	DURING	CON	STRUCTIO	N.					

B ALL PIPE PIPE FITTINGS PIPE IOINT PACKING AND IOINTING MATERIALS VALVES FIRE HYDRANTS AND METERS INSTALLED UNDER THIS PROJECT WILL CONFORM TO APPLICABLE AMERICAN WATER WORKS ASSOCIATION (AWWA) STANDARDS.

E. ALL WATERMAIN PIPE AND PIPE FITTINGS INSTALLED UNDER THIS PROJECT WILL BE COLOR CODED OR MARKED USING ALL WATERMAIN PIPE AND PIPE FITTINGS INSTALLED UNDER THIS PROJECT WILL BE COLOR CODED OR MARKED USING BLUE AS A PREDOMINANT COLOR. (UNDERGROUND PLASTIC PIPE WILL BE SOLID-WALL BLUE PIPE, WILL HAVE A CO-EXTRUDED BLUE EXTERNAL SKIN, OR WILL BE WHITE OR BLACK PIPE WILH BLUE STRIPES INCORPORATED INTO, OR APPLIED TO, THE PIPE WALL; AND UNDERGROUND METAL OR CONCRETE PIPE WILL HAVE BLUE STRIPES APPLIED TO THE PIPE WALL. PIPE STRIPED DURING MANUFACTURING OF THE PIPE WILL HAVE CONTINUOUS STRIPES THAT RUN PARALLEL TO THE AXIS OF THE PIPE, THAT ARE LOCATED AT NO GREATER THAN 90-DEGREE INTERVALS AROUND THE PIPE, ND THAT WILL REMAIN INTACT DURING AND AFTER INSTALLATION OF THE PIPE. IF TAPE OR PAINT IS USED TO STRIPE PIPE DURING INSTALLATION OF THE PIPE, THAT ARE LOCATED ALONG THE OPF THE PIPE. IN A CONTINUOUS LINE THAT RUNS PARALLEL TO THE AXIS OF THE PIPE AND AFTER INSTALLATION OF THE PIPE. IF APE OR PAINT IS USED TO STRIPE PIPE DURING INSTALLATION OF THE PIPE, THAT APE OR PAINT WILL BE APPLIED IN A CONTINUOUS LINE THAT RUNS PARALLEL TO THE AXIS OF THE PIPE AND AFTER INSTALLATION OF THE PIPE. IF APE OR PAINT SUBSED TO STRIPE AND ADDITION OF THE PIPE AND AFTER INSTALLATION OF THE PIPE. IN A CONTINUOUS LINE THAT RUNS PARALLEL TO THE AXIS OF THE PIPE AND AFTER INSTALLATION OF THE PIPE. IN A CONTINUOUS LINE THAT INTERNAL DIAMETER OF 24 INCHES OR GREATER, TAPE OR PAINT WILL BE APPLIED IN CONTINUOUS LINES ALONG EACH INTERNAL DIAMETER OF 24 INCHES OR GREATER, TAPE OR PAINT WILL BE APPLIED IN CONTINUOUS LINES ALONG EACH INDE OF THE PIPE AS WELL AS ALONG THE TOP OF THE PIPE. WILL BE ADDITED BULL OP WILL DIAMETER OF 24 INCHES OF OF THE PIPE AND THE ADDITION OF THE PIPE WILL BE ADDITED BULL OP WILL DIAMETER AS MODIL AS ALONG THE TOP OF THE PIPE WILL BE ADDITED BULL OP WILL DIAMETER AS MENUS AND AND ADDITED ADDITION OF THE PIPE AND THE DIVIDE AND ADDITION AD SIDE OF THE PIPE AS WELL AS ALONG THE TOP OF THE PIPE. ABOVEGROUND PIPE WILL BE PAINTED BLUE OR WILL BE COLOR CODED OR MARKED LIKE UNDERGROUND PIPE.)

WATER NOTES

- HE INSIDE DIAMETER OF NEW OR ALTERED WATER MAINS THAT ARE INCLUDED IN THIS PROJECT AND THAT ARE BEING DESIGNED TO PROVIDE FIRE PROTECTION AND SERVE FIRE HYDRANTS WILL BE AT LEAST SIX INCHES.
- THIS PROJECT SHALL MINIMIZE DEAD-END WATER MAINS BY MAKING APPROPRIATE TIE-INS WHERE PRACTICAL.
- NEW OR ALTERED DEAD-END WATER MAINS INCLUDED IN THIS PROJECT SHALL BE PROVIDED WITH A FIRE OR FLUSHING HYDRANT OR BLOW-OFF FOR FLUSHING PURPOSES.
- INCONVENIENCE AND SANITARY HAZARDS WILL BE MINIMIZED DURING REPAIRS.
- NEW OR ALTERED FIRE HYDRANT LEADS INCLUDED IN THIS PROJECT WILL HAVE AN INSIDE DIAMETER OF AT LEAST SIX INCHES AND WILL INCLUDE AN AUXILIARY VALVE.
- M ALL FIRE HYDRANTS THAT WILL BE INSTALLED LINDER THIS PROJECT AND THAT WILL HAVE LINPLUGGED. UNDERGROUND ALL FIRE HIDRANIS INAL WILL BE INSTALLED UNDER THIS PROJECT AND THAT WILL HAVE UNFLOGGED, UNDERGOU DRAINS WILL BE LOCATED AT LEAST THREE FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., OF VACUUM-TYPE SANITARY SEWER; AT LEAST SIX FEET FROM ANY EXISTING OR PROPOSED GRAVITY- OR PRESSURE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WARDER REGULATED UNDER PART OF CHAPTER 62-10, F.A.C.; AND AT LEAST TEN FEET FROM ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM.
- AT HIGH POINTS WHERE AIR CAN ACCUMULATE IN NEW OR ALTERED WATER MAINS INCLUDED IN THIS PROJECT, PROVISIONS SHALL BE MADE TO REMOVE THE AIR BY MEANS OF AIR RELIEF VALVES, AND AUTOMATIC AIR RELIEF VALVES SHALL<u>NOT</u> BE USED IN SITUATIONS WHERE FLOODING OF THE VALVE MANHOLE OR CHAMBER MAY OCCUR.
- THE OPEN END OF THE AIR RELIEF PIPE FROM ALL AUTOMATIC AIR RELIEF VALVES INSTALLED UNDER THIS PROJECT SHALL BE EXTENDED TO AT LEAST ONE FOOT ABOVE GRADE AND WILL BE PROVIDED WITH A SCREENED, DOWNWARD-FACING ELBOW.
- Q. NEW OR ALTERED WATER MAINS INCLUDED IN THIS PROJECT SHALL BE INSTALLED IN ACCORDANCE WITH APPLICABLE AWWA STANDARDS OR IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDED PROCEDURES.
- A CONTINUOUS AND UNIFORM BEDDING WILL BE PROVIDED IN TRENCHES FOR UNDERGROUND PIPE INSTALLED UNDER THIS PROJECT; BACKFILL MATERIAL SHALL BE TAMPED IN LAYERS AROUND UNDERGROUND PIPE INSTALLED UNDER PROJECT AND TO A SUFFICIENT HEIGHT ABOVE THE PIPE TO ADEQUATELY SUPPORT AND PROTECT THE PIPE; AND THIS UNSUITABLY SIZED STONES (AS DESCRIBED IN APPLICABLE AWWA STANDARDS OR MANUFACTURERS' RECOMMENDED. INSTALLATION PROCEDURES) FOUND IN TRENCHES SHALL BE REMOVED FOR A DEPTH OF AT LEAST SIX INCHES BELOW THE BOTTOM OF UNDERGROUND PIPE INSTALLED UNDER THIS PROJECT.
- S. ALL WATER MAIN TEES, BENDS, PLUGS, AND HYDRANTS INSTALLED UNDER THIS PROJECT SHALL BE PROVIDED WITH THRUST BLOCKS OR RESTRAINED JOINTS TO PREVENT MOVEMENT
- T. NEW OR ALTERED WATER MAINS THAT ARE INCLUDED IN THIS PROJECT AND THAT WILL BE CONSTRUCTED OF POLYVINYL CHLORIDE PIPE WILL BE PRESSURE AND LEAKAGE TESTED IN ACCORDANCE WITH AWWA STANDARD C603 OR C605, 6 RESPECTIVELY, AND ALL OTHER NEW OR ALTERED WATER MAINS INCLUDED IN THIS PROJECT WILL BE PRESSURE AND LEAKAGE TESTED IN ACCORDANCE WITH AWWA STANDARD C600.
- NEW OR ALTERED WATER MAINS, INCLUDING FIRE HYDRANT LEADS AND INCLUDING SERVICE LINES THAT WILL BE UNDER THE CONTROL OF A PUBLIC WATER SYSTEM AND THAT HAVE AN INSIDE DIAMETER OF THREE INCHES OR GREATER, WILL BE DISINFECTED AND BACTERIOLOGICALLY EVALUATED.

(1) WATER MAIN TO BE PVC PIPE PER AWWA C 900 AND SHALL BE A MINIMUM CLASS OF 150, DR 18 (6"-12" PIPE) AND A MINIMUM OF CLASS 165, DR 25 (14"-36" PIPE) AND SHALL MEETHEW OR ALTERED WATER MAINS THAT ARE INCLUDED IN THIS PROJECT AND THAT WILL BE INSTALLED IN AREAS WHERE EXCEPT UNIT PELL R = 11 MAIN MATERIALS, THROUGH ENCASEMENT OF THE WATER MAINS IN POLYETHYLENE, OR THROUGH PROVISION OF 9

(2) THE RELOCATION OF THE WATER MAIN SHALL CONFORM TO THE CITY OF FT. MYERS
(3) CONTRACTOR TO MAINTAIN A FINAL COVER OF 30" MINIMUM TO 48" MAXIMUM ON ALL RELOCATED/NEW WATER MAIN SHALL COVER OF 30" MINIMUM TO 48" MAXIMUM ON ALL RELOCATED/NEW WATER MAIN AND THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED ANY EXISTING

TREATMENT AND DISPOSAL SYSTEM. (5) CONNECTIONS TO EXISTING MAINS SHALL BE WITH SOLID SLEEVE REPAIR COUPLINGS AND APPROPRIATE FITTINGS TO ADJUST FOR LINE AND GRADE.

NEW OR RELOCATED, UNDERGROUND WATER MAINS THAT ARE INCLUDED IN THIS PROJECT AND THAT WILL CROSS ANY EXISTING OR PROPOSED GRAVITY - OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES ABOVE THE OTHER PIPELINE OR AT LEAST 12 INCHES BELOW THE OTHER PIPELINE; AND NEW OR RELOCATED, UNDERGROUND WATER MAINS THAT ARE INCLUDED IN THIS PROJECT AND THAT WILL CROSS ANY EXISTING OR PROPOSED PRESSURE TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OTHER PIPELINE.

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NO	DATE	BY	REVISIONS - DESCRIPTION		AIM Engineering & Surveying, Inc. 2328 HANCOCK BRIDGE PARKWAY STE. 11- CAPE CORAL, FLORIDA TELEPHONE (239) 458-5544	APPROVED BY: RONALD KERFOOT, P.E. REGISTERED PROFESSIONAL ENGINEER FLORIDA CERTIFICATE NO. 20768	The second secon	CITY OF FORT MYERS PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION	
Ξ				Л	FAX (239) 458-2233 CALM CERTIFICATE OF AUTHORIZATION NO. 3114		City of Palms	2200 SECOND STREET FORT MYERS, FLORIDA 33902 239-332-6820	

WATER NOTES CONT

- WILL HAVE A MINIMUM COVER OF TWO FEET.
- UNDERWATER MAIN

- - - PAVING OR RELATED CONSTRUCTION

 - REPLACEMENT AT THE CONTRACTOR'S EXPENSE.

 - CONSTRUCTION

	<u>LEGEND</u>	
- 12 w - 12 w - 30 - Rw - 30 - Rw - 24 - FM - 24 - FM - 18 - 33 - 18 - 55	= =	WATERMAIN (12" SHOWN) RAW WATERMAIN (30" SHOWN) FORCEMAIN (24" SHOWN) SANITARY SEWER (18" SHOWN) FVISTING STORMWATER DRAINAGE
	ssv	PROPOSED SANITARY PLUG VALVE
	۲	PROPOSED FIRE HYDRANT
	WV	PROPOSED GATE VALVE
	$\overline{\overline{\mathbf{Q}}}$	PROPOSED TAPPING VALVE
	\square	PROPOSED REDUCER

Y. AT THE UTILITY CROSSINGS DESCRIBED IN PART II.C.1.W ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE WILL BE AT THE ONLITE CROSSINGS DESCRIBED IN FARTHELL, WABOVE, ONE FOLE LENGTH OF WALLE MAILE PLE ULE BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM OTHER PIPELINE <u>OR</u> THE PIPES WILL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORWWATER FORCE MAINS, OR PIPELINES CONVEXI RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINT IN GRAVITY- OR PRESSURE -TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER <u>NOT</u> REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

7 NEW OR ALTERED WATER MAINS THAT ARE INCLUDED IN THIS PROJECT AND THAT WILL CROSS ABOVE SUBFACE WATER WILL BE ADEQUATELY SUPPORTED AND ANCHORED, PROTECTED FROM DAMAGE AND FREEZING, AND ACCESSIBLE FOR REPAIR OR REPLACEMENT.

AA.NEW OR ALTERED WATER MAINS THAT ARE INCLUDED IN THIS PROJECT AND THAT WILL CROSS UNDER SURFACE WATER

AB.NEW OR ALTERED WATER MAINS THAT ARE INCLUDED IN THIS PROJECT AND THAT WILL CROSS UNDER SURFACE WATER COURSES GREATER THAN 15 FEET IN WIDTH SHALL HAVE FLEXIBLE OR RESTRAINED, WATERTIGHT PIPE JOINTS AND WILL INCLUDE VALVES AT BOTH ENDS OF THE WATER CROSSING SO THE UNDERWATER MAIN CAN BE ISOLATED FOR TESTING AND REPAIR; THE AFOREMENTIONED ISOLATION VALVES WILL BE EASILY ACCESSIBLE AND SHMAIL BE SUBJECT TO FLOODING; THE ISOLATION VALVE CLOSEST TO THE WATER SUPPLY SOURCE SHALL BE IN A MANHOLE; AND PERMANENT TAPS WILL BE PROVIDED ON EACH SIDE OF THE ISOLATION VALVE WITHIN THE MANHOLE TO ALLOW FOR INSERTION OF A SMALL METER TO DETERMINE LEAKAGE FROM THE UNDERWATER MAIN AND TO ALLOW FOR SAMPLING OF WATER FROM THE UNDERWATER MAIN

AC.THIS PROJECT SHALL HAVE PROPER BACKFLOW PROTECTION AT THOSE NEW OR ALTERED SERVICE CONNECTIONS WHER THIS PROJECT SHALL HAVE PROPER BACKFLOW PROTECTION AT HOSE NEW OR ALTERED SERVICE CONNECTIONS WHE BACKFLOW PROTECTION IS REQUIRED OR RECOMMENDED UNDER RULE 62-555.360, F.A.C., OR MACOMMENDED PRACTICE FOR BACKFLOW PREVENTION AND CROSS-CONNECTION CONTROL, AWWA MANUAL M14, AS INCORPORATED INTO RULE 62-555.330, F.A.C., OR THE PUBLIC WATER SYSTEM THAT WILL OWN THIS PROJECT AFTER IT IS PLACED IN OPERATION HAS A CROSS-CONNECTION CONTROL PROGRAM REQUIRING WATER CUSTOMERS TO INSTALL PROPER BACK PROTECTION AT THOSE SERVICE CONNECTIONS WHERE BACKFLOW PROTECTION IS REQUIRED OR RECOMMENDED UNDER DUBLE OF CONSTANT AND AND AND AND AND CROSS-CONNECTION IS REQUIRED OR RECOMMENDED UNDER RULE 62-555.360, F.A.C., OR IN AWWA MANUAL M14.

AD. NEITHER STEAM CONDENSATE, COOLING WATER FROM ENGINE JACKETS, NOR WATER USED IN CONJUNCTION WITH HEAT EXCHANGERS WILL BE ALLOWED TO BE RETURNED TO THE NEW OR ALTERED WATER MAINS INCLUDED IN THIS PROJECT

 THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATION AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

ALL WORK SHALL CONFORM TO CITY OF FORT MYERS STANDARDS AND SPECIFICATIONS.

3 ALL FRAMES, COVERS, VALVE BOXES AND MANHOLES SHALL BE ADJUSTED TO FINISHED GRADE UPON COMPLETION OF

4. THE CITY OF FORT MYERS SHALL BE NOTIFIED 72 HOURS PRIOR TO STARTING OF WORK AND PRIOR TO TESTING.

WORK AND MATERIALS WHICH DO NOT CONFORM TO THE SPECIFICATIONS ARE SUBJECT TO REMOVAL AND

THE CONTRACTOR SHALL UNCOVER ALL EXISTING LINES BEING TIED INTO AND VERIFY GRADES BEFORE ANY OTHER

THE CONTRACTOR SHALL COMPLY WITH ALL FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) AND LEE COUNTY PUBLIC HEALTH UNIT REQUIREMENTS.

THE CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL IN ACCORDANCE WITH MUTCD AND STANDARD INDEXES WITH WAR SIGNS, BARRIERS AND DEVICES AS REQUIRED BY FDOT. REFER TO FDOT INDEX NO. 610 AND 611.

CONNECTION TO EXISTING MAINS SHALL BE COMPLETED BY THE CONTRACTOR AFTER LEE COUNTY HEALTH DEPT. OR CLEARANCE. APPROPRIATE NOTICES SHALL BE ISSUED TO UTILITY CUSTOMERS FOR MAIN SHUTDOWN AND CONNECTION SHALL BE MADE USING NECESSARY FITTINGS, PIPE AND SOLID SLEEVE REPAIR COUPLINGS.

10 DIRECTIONAL BORE AND/OR OPEN TRENCH HDPE PIPE SHALL BE CONNECTED TO PVC OR DIP PIPE USING APPROPRIA FITTINGS, STAINLESS STEEL INSERTS AND SOLID SLEEVE REPAIR COUPLINGS WHEN REQUIRED. CASING PIPE SHALL HAVE CASCADE WATERWORKS MFG. CO. MODEL CCES, OR APPROVED EQUAL, RUBBER SEAL CONNECTED WITH STAINLESS STE STRAPS AND INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

11. FIRE HYDRANT ASSEMBLIES SHALL BE CONNECTED TO THE WATERMAIN PER THE DETAIL AND INCLUDE THE INLINE TEE, GATE VALVE, FIRE HYDRANT, PIPE, THRUST BLOCKS AND BOLLARDS WHEN REQUIRED.

12. AFTER MAIN CLEARANCE, SERVICES ON THE OLD MAIN SHALL BE RECONNECTED TO THE NEW MAIN PER THE DETAIL. CONDUITS SHALL BE INCLUDED FOR SERVICES EXTENDING ACROSS THE ROAD PAVEMENT

13. SERVICES NO LONGER REQUIRED DUE TO DEMOLITION OF EXISTING STRUCTURES SHALL BE PROPERLY ABANDONED.

14. ALL SERVICES SHALL BE ADJUSTED TO AVOID CONFLICTS WITH HIGHWAY CONSTRUCTION STRUCTURES, GRADING AND F

IIS PROJECT STORMWATER MAIN IS AT AMAIN IS AT STORTWATER WILL SERVE THESE NEIGHBORHOODS, LCU WATERMAIN EXTENSIONS WILL NOT BE NEEDED. MYFRS WILL SERVE THESE NEIGHBORHOODS, LCU WATERMAIN EXTENSIONS WILL NOT BE NEEDED.

OF FORT MYERS WATER	sheet no.
GENERAL NOTES	3
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<u>GENERAL DETAIL G-16</u>

TABLE OF RESTRAINED JOINTS FOR MEG-A-LUG TYPE JOINT RESTRAINTS DUCTILE IRON PIPE RESTRAINTS

	H	HORIZOI	NTAL B	BENDS		VER	TICLE E	BENDS		TEE'	S			REDU	JCER
SIZE	90 0 Bends	45 0 BENDS	22.5 0 BENDS	11.25 0 BENDS	PIPE	45 0 Bends	22.5 0 BENDS	11.25 0 BENDS	TEE W/6" BRANCH	TEE W/8" BRANCH	TEE W/12" BRANCH	TEE W/16" BRANCH	END	SIZE	SEE NOTE L(b)
_	REST	RAINED	LENG	TH FT.		RESTR	ained l	ENGTH	FT.					6" X 4"	18'
4 "	14'	6'	3'	2'	4"	LHS 10, LLS 2	LHS 5, LLS 1	LHS 3, LLS 1	20 RUN E.W., 3' BRANCH*	20 RUN E.W., 22' BRANCH*	20 RUN E.W., 52' BRANCH*	20 RUN E.W., 78' BRANCH*	24'	8" X 6"	19'
6."	1.01	01	41	21	C."	LHS 14,	LHS 7,	LHS 4,	20 RUN E.W.,	20 RUN E.W.,	20 RUN E.W.,	20 RUN E.W.,		8" X 4"	32'
0	19	8	4	2	0	LLS 3	LLS 2	LLS 1	1' BRANCH*	9' BRANCH*	42' BRANCH*	71' BRANCH*	34'	10" X 8"	18'
8"	25'	11'	5'	3'	8"	LHS 19, LLS 4	LHS 9, LLS 2	LHS 5, LLS 1	20 RUN E.W., 1' BRANCH*	20 RUN E.W., 1' BRANCH*	20 RUN E.W., 33' BRANCH*	20 RUN E.W., 63' BRANCH*	45'	10" X 6"	33'
						LHS 22.	LHS 11.	LHS 6.	20 RUN EW.	20 RUN EW	20 RUN EW	20 BLIN F.W		12" X 10"	19'
10"	30'	13'	6'	3'	10"	LLS 4	LLS 2	LLS 1	1' BRANCH*	1' BRANCH*	23' BRANCH*	55' BRANCH*	53'	12" X 8"	34'
12"	35'	15'	7'	4'	12"	LHS 26, LLS 5	LHS 13, LLS 3	LHS 7, LLS 2	20 RUN E.W., 1' BRANCH*	20 RUN E.W., 1' BRANCH*	20 RUN E.W., 14' BRANCH*	20 RUN E.W., 47' BRANCH*	63'LR**	16" X 12"	34'
						145.34	LHS 16	THS 8	20 BLIN E.W					16" X 10"	48'
16"	44'	19'	9'	5'	16"	LLS 7	LLS 3	LLS 2	1' BRANCH*	1' BRANCH*	1' BRANCH*	20 RUN E.W., 30' BRANCH*	80'LR**	20" X 16"	34'
24"	61'	26'	13'	6'	24"	LHS 47, LLS 9	LHS 23	LHS 12, LLS 3	20 RUN E.W., 1' BRANCH*	20 RUN E.W.,	20 RUN E.W.,	20 RUN E.W.,	113'LR**	20" X 12"	61'
						1 11 5 5 6	146.37	146 14		I BRANCH	I BRANCH			24" X 20"	34'
30"	72'	30'	15'	8'	30"	LLS 11	LLS 6	LLS 3	1' BRANCH*	20 KUN E.W., 1' BRANCH*	20 RUN E.W., 1' BRANCH*	20 RUN E.W., 1' BRANCH*	136'LR**	24" X 16"	62'

NOTES: 3 FT. PIPE COVER MIN., TEST PRESSURE 150 P.S.I., *RESTRAINED FITTING ONLY, **ALTERNATELY RESTRAIN BACK TO TEE AT BEGINNING OF BRANCH, #UNOBSTRUCTED LENGTH ON THE SMALLER SIDE OF REDUCER. LHS = LENGTH OF HIGH SIDE OF FITTING, LLS = LENGTH ON LOW SIDE OF FITTING, LR = LENGTH OF RUN, EW = EACH WAY FROM FITTING, FACTOR OF SAFETY = 1.5.

FOR GREATER THAN 30" DIAMETER PIPE, PLEASE PROVIDE CALCULATIONS.

GENERAL DETAIL G-16A

TABLE OF RESTRAINED JOINTS FOR MEG-A-LUG TYPE JOINT RESTRAINTS P.V.C. PIPE RESTRAINTS

Γ			HORIZO	NTAL B	ENDS		VER	TICLE B	ENDS		TEE'	S		DEAD	REDU	JCER
	SIZE	90 0 BENDS	45 0 Bends	22.5 0 BENDS	11.25 0 BENDS	PIPE SIZE	45 0 BENDS	22.5 0 BENDS	11.25 0 BENDS	TEE W/6" Branch	TEE W/8" BRANCH	TEE W/12" BRANCH	TEE W/16" BRANCH	END	SIZE	SEE NOTE L(B)
L		REST	RAINED) LENGT	TH FT.		RESTR	AINED L	ENGTH I	FT.					6" X 4"	28'
	4"	17'	8'	4'	2'	4"	LHS 16, LLS 3	LHS 8, LLS 2	LHS 4, LLS 1	20 RUN E.W., 4' BRANCH*	20 RUN E.W., 33' BRANCH*	20 RUN E.W., 78' BRANCH*	20 RUN E.W., 118' BRANCH*	38'	8" X 6"	30'
h	۶"	24'	10'	E '	2'	6 "	LHS 22,	LHS 11,	LHS 6,	20 RUN E.W.,	20 RUN E.W.,	20 RUN E.W.,	20 RUN E.W.,	531	8" X 4"	50'
L	0	24	10	S	3	0	LLS 4	LLS 2	LLS 1	4' BRANCH*	13' BRANCH*	63' BRANCH*	106' BRANCH*	53	10" X 8"	28'
	8"	31'	13'	7'	4'	8"	LHS 29, LLS 5	LHS 14, LLS 2	LHS 7, LLS 1	20 RUN E.W., 1' BRANCH*	20 RUN E.W., 1' BRANCH*	20 RUN E.W., 50' BRANCH*	20 RUN E.W., 95' BRANCH*	70'	10" X 6"	52'
ŀ							145.35	145 17	IHS Q	20 RUN EW	DO BUN EW		DO BUN EW		12" X 10"	29'
	10"	37'	16'	8'	4'	10"	LLS 5	LHS 17, LLS 3	LLS 2	1' BRANCH*	1' BRANCH*	20 RUN E.W., 35' BRANCH*	83' BRANCH*	84'	12" X 8"	52'
Γ	12"	43'	18'	9'	5'	12"	LHS 41, LLS 6	LHS 20, LLS 3	LHS 10, LLS 2	20 RUN E.W., 1' BRANCH*	20 RUN E.W.,	20 RUN E.W.,	20 RUN E.W., 71' BRANCH*	99'LR**	16" X 12"	54'
ŀ							1110 50	1110.00	146.15		I BRANCH	21 BRANCH	71 BRANCH		16" X 10"	75'
	16"	54'	23'	11'	6'	16"	LHS 53, LLS 8	LHS 26, LLS 4	LHS 13, LLS 2	20 RUN E.W., 1' BRANCH*	20 RUN E.W., 1' BRANCH*	20 RUN E.W., 1' BRANCH*	20 RUN E.W., 46' BRANCH*	127'LR**	20" X 16"	54'
Γ	24"	76'	32'	15'	8'	24"	LHS 74,	LHS 36	LHS 18,	20 RUN E.W., 1' BRANCH*	20 RUN E.W.,	20 RUN E.W.,	20 RUN E.W.,	179'LR**	20" X 12"	96'
ł							146.80	1110 43			I BRANCH*	I BRANCH*	I BRANCH*		24" X 20"	54'
	30"	89'	37'	18'	9'	30"	LLS 14	LHS 43 LLS 7	LHS 22, LLS 4	1' BRANCH*	20 RUN E.W., 1' BRANCH*	20 RUN E.W., 1' BRANCH*	20 RUN E.W., 1' BRANCH*	214'LR**	24" X 16"	98'

NOTES: 3 FT. PIPE COVER MIN., TEST PRESSURE 150 P.S.I., *RESTRAINED FITTING ONLY, **ALTERNATELY RESTRAIN BACK TO TEE AT BEGINNING OF BRANCH, #UNOBSTRUCTED LENGTH ON THE SMALLER SIDE OF REDUCER. LHS = LENGTH OF HIGH SIDE OF FITTING, LLS = LENGTH ON LOW SIDE OF FITTING, LR = LENGTH OF RUN, EW = EACH WAY FROM FITTING, FACTOR OF SAFETY = 1.5.

FOR GREATER THAN 30" DIAMETER PIPE, PLEASE PROVIDE CALCULATIONS.

REVISIONS - DESCRIPTION

DATE ΒY

NO.

OTHER PIPE	HORIZONTAL SEPARATION
STORM SEWER, STORMWATER FORCE MAIN, RECLAIMED WATER (2)	3 FT. MIN.
VACUUM SANITARY SEWER	WATER MAIN 10 FT. PREFERR 3 FT. MIN.
GRAVITY OR PRESSURE SANITARY SEWER, SANITARY SEWER FORCE MAIN, RECLAIMED WATER (4)	WATER MAIN 10 FT. PREFERR 6 FT. MIN. (3)
SANITARY SEWER FORCE MAIN, RECLAIMED WATER (4)	10 FT. MIN.
 WATER MAIN SHOULD CROS PIPE, THE MIN. SEPARATION RECLAIMED WATER REGULAT 3 FT. FOR GRAVITY SANITAL LEAST 6 INCHES ABOVE TH (4) RECLAIMED WATER NOT REC 	S ABOVE OTHER PIPI IS 12 INCHES. ED UNDER PART III C RY SEWER WHERE TH IE TOP OF THE GRAV GULATED UNDER PAR

PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION

AIM	I	Engi	inee	ring	&	Sui	eveyir	ng, Ind
2328	HAN Car Tel	NCO PE (CK COR IONI	BRI AL, E (2	DGE FLO 39)	PAR RIDA 458	KWAY 3399 - 5544	STE. 10 4

CERTIFICATE OF AUTHORIZATION NO. 311

RONALD KERFOOT, P.E. REGISTERED PROFESSIONAL ENGINEER FLORIDA CERTIFICATE NO. 20768

L(B) RESTRAINED LENGTH OF LARGE SIDE OF REDUCER.

 $L_{(B)} =$ RESTRAINED LENGTH OF LARGE SIDE

OF REDUCER.

SHEET NO.

21

City of Ft. Myers					
SUE Point UBA	Station	<u>Offset</u>	Description	Top of Pipe Elevation	Ground Elevation
1	298+61.96 B/L BALLARD	21.36 RT	16" DIP FM	15.19	21.91
2	299+46.21 B/L BALLARD	21.36 RT	16" DIP FM	18.17	21.74
3	N/A				
4	198+35.25 B/L LAREDO	50.46 RT	16" PVC WM	17.54	20.25
5	198+95.93 B/L LAREDO	50.26 RT	16" PVC WM	17.09	20.09
6	206+90.23 B/L LAREDO	23.29 RT	8" PVC WM/THRUST BLK	17.20	20.25
7	206+99.29 B/L LAREDO	23.44 RT	6" PVC WM	16.30	19.93
8	193+17.45 B/L LAREDO	16.34 LT	4" PVC FM	17.94	19.83
9	193+70.86 B/L LAREDO	13.30 RT	10" PVC FM	17.68	19.89
10	1010+57.82 C/L CONST	80.91 RT	20" DIP WM	14.72	18.81
11	1013+33.65 C/L CONST	69.96 RT	20" DIP WM	18.00	20.89
12	1015+95.77 C/L CONST	66.75 RT	20" DIP WM	17.44	20.15
13	1021+16.66 C/L CONST	16.40 RT	12" DIP WM/THRUST BLK	17.59	20.58
14	1020+96.08 C/L CONST	49.23 RT	12" DIP WM	17.78	20.62
15	1021+51.87 C/L CONST	7.52 RT	16" PVC PIPE	17.36	20.18
16	N/A				
17	1021+50.15 C/L CONST	9.20 RT	16" PVC PIPE	17.54	20.42
18	1020+65.28 C/L CONST	165.80 RT	16" PVC PIPE	16.86	20.51
19	1030+99.25 C/L CONST	18.98 LT	16" DIP WM	17.54	19.74

City of Ft. Myers				
SUE Point TH	<u>Station</u>	<u>Offset</u>	Description	Ground Elevation
1	1145+76.34 C/L CONST	56.79 RT	30" CONC. RAW WATER	15.96
2	1139+41.63 C/L CONST	56.73 RT	30" CONC. RAW WATER	15.26
3	1138+69.41 C/L CONST	56.04 RT	30" CONC. RAW WATER	15.56
4	1134+84.44 C/L CONST	54.25 RT	30" CONC. RAW WATER	14.82
5	1133+86.63 C/L CONST	61.61 RT	30" CONC. RAW WATER	15.16
6	1127+38.98 C/L CONST	71.34 RT	30" CONC. RAW WATER	15.03
7	N/A			
8	1075+82.27 C/L CONST	52.50 RT	30" CONC. RAW WATER	20.96
9	1072+68.05 C/L CONST	39.60 RT	30" CONC. RAW WATER	20.91
10	1070+53.73 C/L CONST	4.90 RT	30" CONC. RAW WATER	21.07
11	1067+98.23 C/L CONST	20.86 LT	30" CONC. RAW WATER	20.52
12	1067+23.96 C/L CONST	22.55 LT	30" CONC. RAW WATER	20.30
13	1064+54.73 C/L CONST	13.53 RT	30" CONC. RAW WATER	21.15
14	1064+34.99 C/L CONST	16.82 RT	30" CONC. RAW WATER	21.30
15	1062+34.56 C/L CONST	46.77 RT	30" CONC. RAW WATER	21.42
16	1038+88.91 C/L CONST	51.61 RT	30" CONC. RAW WATER	22.16
17	1031+06.16 C/L CONST	53.62 RT	30" CONC. RAW WATER	21.79
18	1029+56.42 C/L CONST	53.69 RT	30" CONC. RAW WATER	21.19
19	1027+14.33 C/L CONST	34.33 RT	30" CONC. RAW WATER	18.73
20	1026+39.25 C/L CONST	18.96 RT	30" CONC. RAW WATER	21.27
21	1024+87.11 C/L CONST	3.00 RT	30" CONC. RAW WATER	21.74
22	1023+04.17 C/L CONST	7.53 LT	30" CONC. RAW WATER	21.88
23	1018+27.02 C/L CONST	7.24 LT	30" CONC. RAW WATER	22.27
24	1019+59.23 C/L CONST	7.47 LT	30" CONC. RAW WATER	21.68

(NO.	DATE	BY	REVISIONS - DESCRIPTION

AIM Engineering & Surveying, Inc. 2328 HANCOCK BRIDGE PARKWAY STE. 114 CAPE CORAL, FLORIDA 33990 TELEPHONE (239) 458–5544 FAX (239) 458–2233 CERTIFICATE OF AUTHORIZATION NO. 3114

approved by: RONALD KERFOOT, P.E. REGISTERED PROFESSIONAL ENGINEER FLORIDA CERTIFICATE NO. 20768

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Pipe Cover 6.72 3.57	<u>Comments</u>	
2.71 3.00 3.05 3.63	TOP OF CASING	
1.89 2.21 4.09 2.89 2.71		
2.99 2.84 2.82	TOP OF CASING	
2.88 3.65 2.20		

