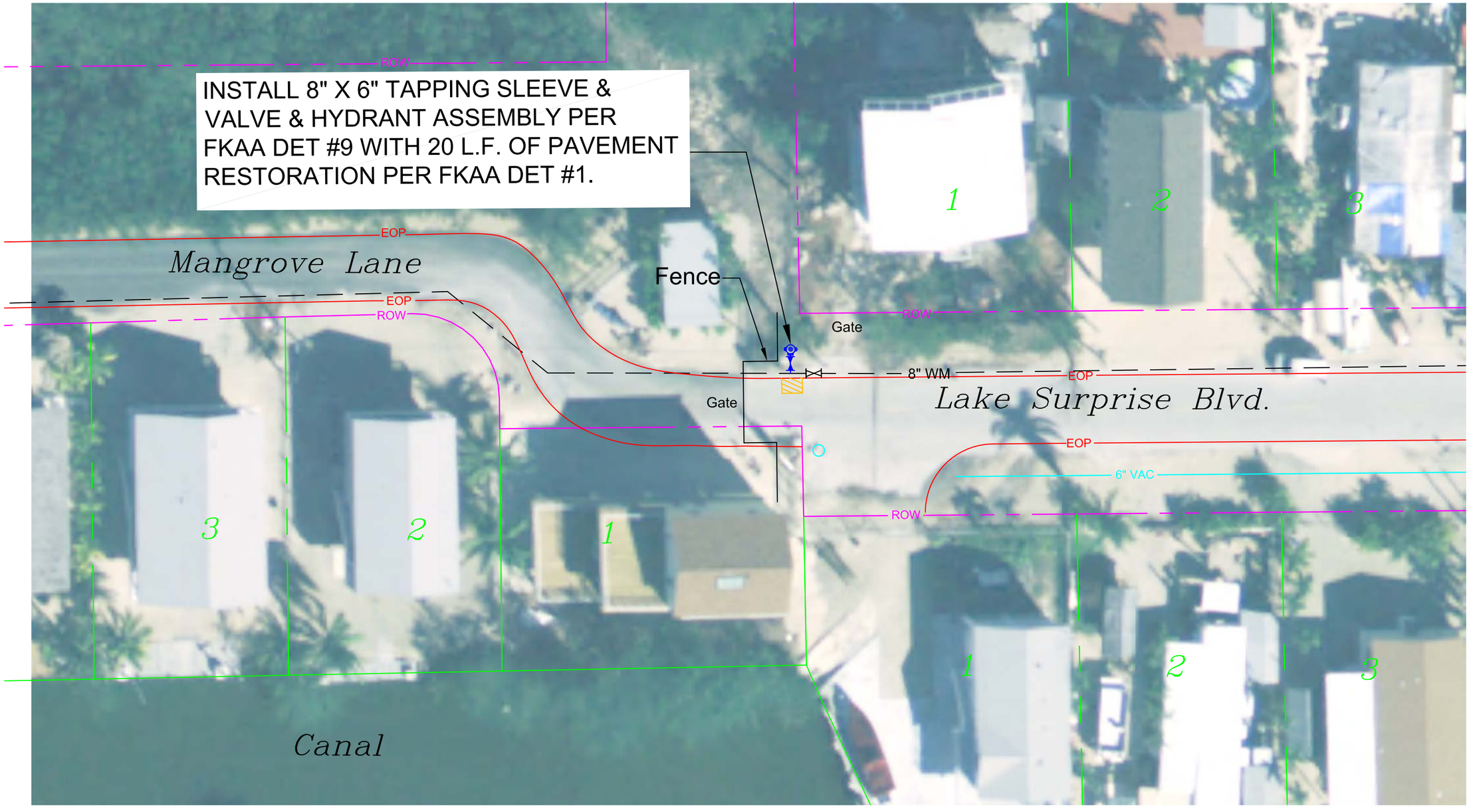


Scale: 1:30

DRAFT

Not for Construction

NOTE:
ALL WORK MUST CONFORM TO FKAA MINIMUM DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS.

Revisions:

James C. Reynolds, PE
Fl. License No. 46685

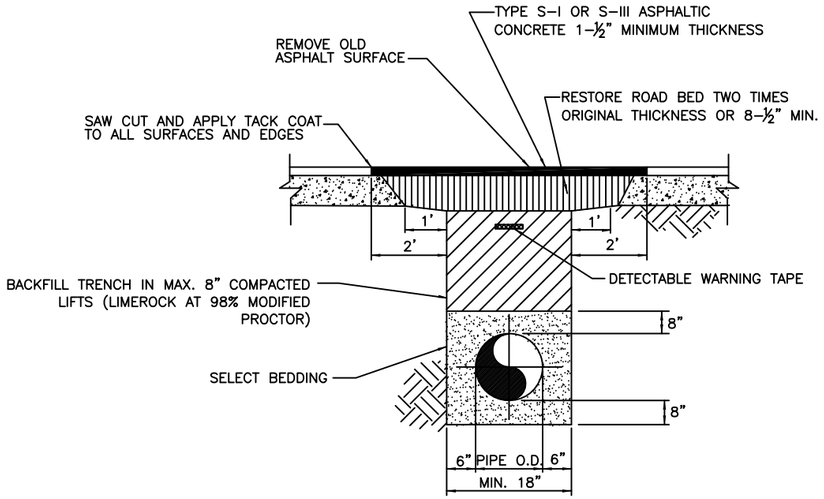
22972 Overseas Highway
Cudjoe Key, Fl. 33042
305-394-5987
Jim@Reynoldsengineeringservices.com

Reynolds Engineering Services, Inc.
FLCA No. 26597

TITLE: Paradise Point-Fire Hydrant-#16-16
Mangrove Lane
Key Largo, Florida

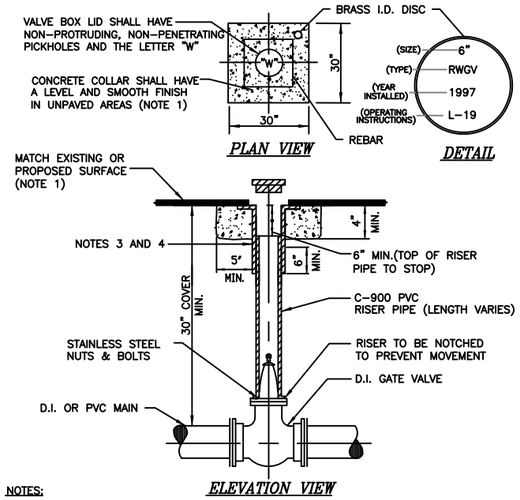
Date: 3/29/17

Page: 1 of 1



PAVEMENT RESTORATION WITH BACKFILL

STANDARD DETAIL DRAWING NO. 1a

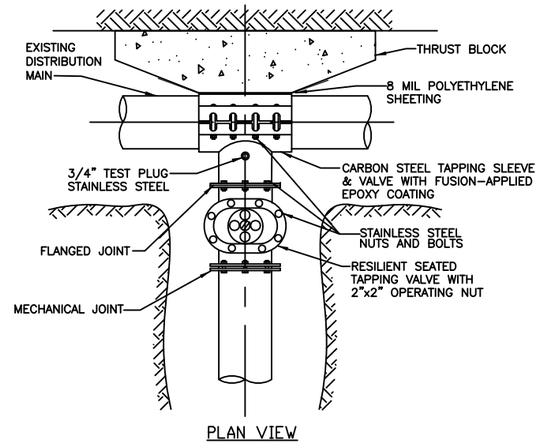


NOTES:

1. CONCRETE COLLAR ALSO MAY BE FORMED AS A 30" DIA. CIRCLE UNDER PAVEMENT.
2. IN UNPAVED AREA INSTALL VALVE BOX LID 1/2" ABOVE SURFACE. #5 REBAR SHALL BE REQUIRED.
3. U.S.F. No. 7615 OR APPROVED EQUAL WITH 6" DIA. RISER FOR VALVES 6" DIA. OR SMALLER.
4. U.S.F. No. 7630 OR APPROVED EQUAL WITH 10" DIA. RISER FOR VALVES 8" DIA. OR LARGER.
5. RESTRAIN AS REQUIRED PER DETAIL NO. 4.

GATE VALVE & BOX

STANDARD DETAIL DRAWING NO. 5

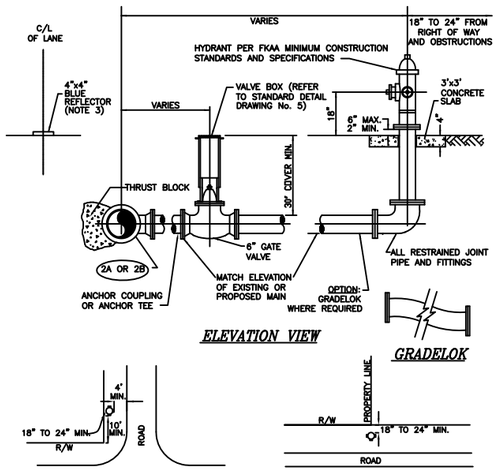


NOTES:

1. PRESSURE TEST INSTALLED TAPPING SLEEVE AND VALVE ASSEMBLY BEFORE TAPPING EXISTING MAIN. SEE FKAA MINIMUM CONSTRUCTION STANDARDS & SPECIFICATIONS.
2. SEE FKAA MINIMUM CONSTRUCTION STANDARDS & SPECIFICATIONS FOR LIST OF APPROVED TAPPING SLEEVES AND VALVES.
3. ALL TAPS SHALL BE MADE WITH AN APPROVED TAPPING DEVICE.

TAPPING SLEEVE & VALVE FOR DISTRIBUTION

STANDARD DETAIL DRAWING NO. 7



NOTES:

1. CONCRETE SLAB MAY BE ELIMINATED IN AREAS WHERE SIDEWALK IS INSTALLED PRIOR TO FINAL ACCEPTANCE OF THE HYDRANT.

2A. TAPPING SLEEVE AND VALVE USED WHEN EXISTING LINE IS HOT.

2B. TEE--USED WHEN LINE IS NEW.

3. INSTALL 2-SIDED BLUE REFLECTORS WITH BUTYL PADS. INSTALL IN THE CENTER OF THE LANE ON THE SIDE OF HYDRANT INSTALLATION.

FIRE HYDRANT ASSEMBLY

STANDARD DETAIL DRAWING NO. 9

PVC PIPE RESTRAINT JOINT SCHEDULE

LENGTH (L) TO BE RESTRAINED

NOMINAL PIPE SIZE (IN.)	HORIZONTAL BENDS 90° BENDS L(FT.)	45° BENDS L(FT.)	22.5° BENDS L(FT.)	11.25° BENDS LR(FT.)	VERTICAL OFFSETS 45° BENDS (SEE NOTE 4) LU(FT.)	LI(FT.)	VALVES OR DEAD-ENDS L(FT.)
4	20	8	4	2	20	3	50
6	28	10	5	2	28	4	70
8	36	14	6	3	36	5	90
10	40	18	8	4	45	6	110
12	50	20	9	4	52	8	120
14	56	23	10	5	60	9	140
16	60	26	11	6	67	10	160
18	69	29	12	6	74	12	180
20	75	32	13	7	80	13	195
24	76	33	15	7	81	14	200
30	88	36	18	9	97	16	235
36	100	40	20	10	110	20	270
42	115	48	23	11	125	24	300
48	125	52	25	12	140	30	340

(SIZE)	L FT.
6 X 4	35
8 X 6	35
8 X 4	65
10 X 8	35
10 X 6	65
12 X 10	35
12 X 8	65
16 X 12	65
16 X 10	95
20 X 18	35
20 X 16	65
20 X 12	120
24 X 20	65
24 X 18	95
24 X 16	120
30 X 24	80
30 X 20	150
36 X 30	80
36 X 24	150
42 X 36	80
42 X 30	150
48 X 42	80
48 X 36	150

RUN SIZE	BRANCH SIZE	L FT.
4"	4"	F.O.
6"	6"	10
	4"<LESS	F.O.
8"	8"	30
	6"<LESS	F.O.
10"	10"	48
	8"	14
	6"<LESS	F.O.
12"	12"	65
	10"	35
	8"<LESS	F.O.
16"	16"	100
	12"	40
	10"<LESS	F.O.
20"	20"	130
	16"	80
	12"<LESS	F.O.
24"	24"	130
	20"	90
	16"	40
	12"<LESS	F.O.
30"	30"	140
	24"	80
	20"	50
	16"<LESS	F.O.
36"	36"	180
	30"	120
	24"	50
	20"<LESS	F.O.
42"	42"	220
	36"	160
	30"	80
	24"	40
	20"<LESS	F.O.
48"	48"	250
	42"	180
	36"	90
	30"	40
	24"<LESS	F.O.

F.O. = FITTING ONLY

PVC PIPE RESTRAINT NOTES

1. THIS SCHEDULE SHALL BE UTILIZED ON ALL WATER, SEWER FORCE MAIN OR RECLAIMED WATER SYSTEMS. ALL FITTINGS SHALL BE RESTRAINED TO LENGTHS INDICATED ON THE ABOVE SCHEDULE, AT A MINIMUM.

2. ASSUMPTIONS: PVC PIPE, SAFETY FACTOR = 1.5, TEST PRESSURE = 150 PSI, SOIL = GM OR SM, TRENCH TYPE 3, DEPTH OF COVER = 36".

3. BENDS AND VALVES: SHALL BE RESTRAINED ON EACH SIDE OF FITTING.

4. VERTICAL OFFSETS: ARE APPROX. 3 FEET COVER ON TOP AND APPROX. 8 FEET COVER ON BOTTOM. PER THE DETAILS, LU IS THE RESTRAINED LENGTH FOR THE UPPER (TOP) LEVEL. LI IS THE RESTRAINED LENGTH FOR THE LOWER (DEEPER) LEVEL. ASSUME 45 DEGREE BENDS.

5. TEES: TOTAL LENGTH BETWEEN FIRST JOINTS OR RESTRAINED LENGTH ON EITHER SIDE OF TEE (RUN) SHALL BE A TOTAL DISTANCE OF 30 FEET (MIN) SEE SCHEDULE ABOVE FOR RESTRAINT LENGTH ON TEE "BRANCH" LINE.

6. HDPE TO PVC TRANSITIONS: THE PVC PIPE SIDE SHALL BE RESTRAINED 35 FEET (MIN.).

PVC PIPE RESTRAINT JOINT SCHEDULE

STANDARD DETAIL DRAWING NO. 4 (1 OF 2)

LOCATION OF PUBLIC WATER SYSYEM MAINS IN ACCORDANCE WITH F.A.C. RULE 62-555.314

Other Pipe	Horizontal Separation	Crossings (1)	Joint Spacing @ Crossings (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	---	---

(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.

Disclaimer – This document is provided for your convenience only. Please refer to F.A.C. Rule 62-555.314 for additional construction requirements.

DRAFT

Not for Construction

NOTE:
ALL WORK MUST CONFORM TO FKAA MINIMUM DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS.

Revisions:

James C. Reynolds, PE
Fl. License No. 46685
22972 Overseas Highway
Cudjoe Key, Fl. 33042
305-394-5987
Jim@Reynoldsengineeringservices.com

Reynolds Engineering Services, Inc.
FLCA No. 26597

TITLE:
Key Largo Fire Hydrants
Phase 6
Key Largo, Florida

Date:
3/29/2017

Page:
Details