Inspection / Testing Summary

As the Engineer of Record for the _____ project, I have reviewed and concur with the test results of that attached inspection testing reports that were performed under my supervision. It is my opinion these reports meet the City of Port St. Lucie Utility Systems Department standard for passing test results.

(Check all applicable reports and attach the original Inspection Testing Report.)

Water:

- ☐ Flushing
- ☐ Pressure testing
- ☐ Chlorination
- ☐ Disinfection
- ☐ Fire Hydrant Flow Test
- ☐ Wire trace continuity and EMS marker verification
- ☐ Final Deficiency Inspection
- ☐ Final Inspection
- ☐ Density testing

Wastewater:

- ☐ Flushing
- ☐ Pressure testing
- ☐ Tele-inspections
- ☐ Infiltration/exfiltration testing
- ☐ Deflection testing
- ☐ Pump station start up
- ☐ Wire trace continuity and EMS marker verification
- ☐ Final Deficiency Inspection
- ☐ Final Inspection
- ☐ Density testing

Re-claimed Water:

- ☐ Flushing
- ☐ Pressure testing
- ☐ Chlorination
- ☐ Wire trace continuity and EMS marker verification
- ☐ Final Deficiency Inspection
- ☐ Final Inspection
- ☐ Density testing

Interceptors:

- ☐ Infiltration/Exfiltration testing

Other:

- ☐ _____
- ☐ _____

_____
Signature and Seal of Engineer

Date _____

PORT ST. LUCIE UTILITY SYSTEMS DEPARTMENT
FLUSHING REPORT

Project Name: _____

PSLUSD Project Number: _____

Engineer of Record: _____

Project Contractor _____

Date of Inspection: _____

Date	Location of Test	Gallons Per Minute	Minutes Flushed	Gallons Flushed
			Total Gallons Flushed	

Number of pigs used:_____.

Number of pigs retreived:_____.

Water_____

Sewer____

Residue in bucket: Yes No

Reclaimed_____

Engineer _____

Signature Date

Effective Date 10/01/2010

PSLUSD Doc No. 48

PORT ST. LUCIE UTILITY SYSTEM DEPARTMENT
PRESSURE TEST REPORT

Project Name: _____

PSLUSD Project Number: _____

Engineer of Record: _____

Project Contractor: _____

Test Date: _____

Allowable Leakage Formula: (AWWA C600 / C605) $L = \frac{S \times D \times \sqrt{P}}{148000}$

S = Length Pipe Feet	D = Pipe Diameter Inches	P = Test Pressure psi	$\sqrt{P}$ (square root of P)	Allowable Leakage 1 hour	Allowable Leakage 2 hours
			Total Allowable Leakage		
			Actual Leakage		

Location / Limits of Test: _____

Water ☐ Wastewater ☐ Re-claimed ☐ Failed ☐

Passed ☐

Start Time: _____ End Time: _____

Engineer _____
Signature Date

PORT ST. LUCIE UTILITY SYSTEMS DEPARTMENT
CHLORINATION TEST REPORT

Project Name _____

PSLUSD Project Number _____

Engineer of Record _____

Project Contractor _____

Test Date: _____

Description of disinfectant: _____

_____

Disinfectant meets AWWA criteria: Yes ☐ No ☐

All sample point locations have been verified
to match the approved plans prior to chlorination: Yes ☐ No ☐

Sample points meet spacing requirements: Yes ☐ No ☐

Limits of test: _____

_____

_____

_____

_____

_____

_____

_____

_____

All services, fire hydrants, blow-offs,
and sample points chlorinated per specifications: Yes ☐ No ☐

Chlorination completed for entire project: Yes ☐ No ☐

Engineer: _____
Signature Date

PORT ST. LUCIE UTILITY SYSTEMS DEPARTMENT
DISINFECTION TEST RESULTS REPORT

Project Name _____

PSLUSD Project Number _____

Engineer of Record _____

Project Contractor _____

Test Locations (sample points)	Description of sample point	Initial residual after injection of chlorine in ppm (minimum of 25 ppm)	24 hour chlorine residual (minimum of 10 ppm)	Chlorine residual after flushing in (ppm)	Pass/Fail	Comments

Chlorine injection Start Time _____ Chlorine injection End Time _____ Date: _____

Chlorine flush Start Time _____ Chlorine flush End Time _____ Date: _____

Engineer: _____

Signature Date

PORT ST. LUCIE UTILITY SYSTEMS DEPARTMENT
FIRE HYDRANT FLOW TEST

PSL Project No.: _____ Project Name: _____

Engineer: _____ Contractor: _____

Project Hydrant #: _____ PSL Hyd. #: _____

Date Tested:_____

Coefficient Number (CN) * 0.88

** CN = 0.88 unless PSLUSD approves otherwise*

Diameter (D) in inches 2.5

Diameter of Hydrant Discharge (Typically 2.5")

Static Pressure (SP) in psi _____

Enter pressure prior to flushing Hydrant (psi)

Residual Pressure (RP) in psi _____

Enter pressure during flushing of Hydrant (psi)

Pitot Pressure (PP) in psi _____

Enter pressure reading on Pitot Guage (psi)

Residual Flow (RF) in gpm at Residual Pressure ☐

Calculate $RF=29.83 \times CN \times D^2 \times (PP)^{0.5}$

Fire Flow in gpm at 20 psi ☐

Calculate $FF=RF \times [(SP-20)\div(SP-RP)]^{0.54}$

CN = Coefficient Number *Coefficient number is based on sharp square edge inlet types

D = Diameter PP = Pitot Pressure SP = Static Pressure RF = Residual Flow

RP = Residual Pressure FF = Fire Flow

Comments: (Include location of residual pressure and pitot pressure. Attach map if necessary)

Hydrant Repair Kit Received? YES NO

TEST FAILS UNTIL KIT RECEIVED Pass_____ Fail_____

Engineer: _____

Signature Date

PORT ST. LUCIE UTILITY SYSTEMS DEPARTMENT
WIRE CONTINUITY & ELECTRONIC MARKER
VERIFICATION TEST REPORT

Project Name _____

PSLUSD Project Number _____

Engineer of Record _____

Project Contractor _____

Date Tested: _____

Length/size of WM tested: _____

Length/size of FM tested: _____

Length/size of Re-Claimed tested: _____

All trace wire tested: Yes ☐ No ☐ Pass ☐ Fail ☐

All electronic markers verified: Yes ☐ No ☐ Pass ☐ Fail ☐

If not completed, list limits of test: _____

_____

_____

_____

_____

Problem(s) found: _____

_____

_____

_____

_____

Engineer _____
Signature Date:

PORT ST. LUCIE UTILITY SYSTEMS DEPARTMENT
TELESPECTION TEST REPORT

Project Name _____ Date Tested: _____

PSLUSD Project Number _____

Engineer of Record _____

Project Contractor _____

Telespection Company: _____

Verified running water downstream for each test Yes ☐ No ☐

Beginning MH #	End MH #	SVC L/R FT	SVC L/R FT	SVC L/R FT	SVC L/R FT	SVC L/R FT	SVC L/R FT	SVC L/R FT	SVC L/R FT	SVC L/R FT	DIP	Footage	Other Problem	Pass	Fail

Other Problem(s):

A Excessive Sand/Silt
B Leaking Service
C Damaged Pipe
D Bad Joint

Engineer _____
Signature Date

PORT ST. LUCIE UTILITY SYSTEMS DEPARTMENT
DEFLECTION TEST REPORT

Equipment Used

Mandrel ☐

Calibrated Laser Camera ☐ Date Calibrated: _____

Project Name _____

PSLUSD Project Number _____

Engineer of Record _____

Project Contractor _____

Date Tested _____

Main Diameter	Main Length	From Structure	To Structure	Pass or Fail

30 Days after backfill? _____

Start Time: _____ End Time: _____

Engineer _____

Signature Date

PORT ST. LUCIE UTILITY SYSTEMS DEPARTMENT
GRAVITY SEWER / INTERCEPTOR / WET WELL
INFIL / EXFIL TEST REPORT

Project Name _____

PSLUSD Project Number _____

Engineer of Record _____

Project Contractor _____

Date Tested _____

Allowable Leakage Formula:

Gravity Sewer - 50 Gallons / per day (24 hours) / per inch diameter / per mile (5280 feet)

Wet Well & Interceptor - 0 loss

Structures Tested	Structure Diameter	Structure Depth	Allowable Per Hour	Test Allowable

Main Tested	Main Diameter	Main Length	Allowable Per Hour	Test Allowable

Services Tested	Service Diameter	Service Length	Allowable Per Hour	Test Allowable

Infil ___ Total Test Allowable _____

Exfil ___ Actual Leakage _____

Start Time: _____ End Time: _____

Passed ___ Failed ___

Engineer _____

Signature Date

PORT ST. LUCIE UTILITY SYSTEM DEPARTMENT
PUMP STATION START UP TEST REPORT

Project Name _____

PSLUSD Project Number _____

Engineer of Record _____

Project Contractor _____

Date Tested: _____

Diameter _____

Depth _____

Voltage _____

Phasing _____

Full Load Amps _____

Pump HP _____

FPL Meter _____

Design GPM _____

Design TDH _____

	PUMP # 1	PUMP # 2
Actual GPM		
Actual TDH		

Pump Manf/Model _____

Generator on site	YES	☐	NO	☐	
Repair Kit turned over	YES	☐	NO	☐	Start Up Fails until Kit turned over
Plant able to communicate	YES	☐	NO	☐	
Plant can read guages	YES	☐	NO	☐	

Attendees: _____

Deficiencies: _____

Passed ☐ Failed ☐

Engineer: _____
Signature Date

PUMP STATION START-UP WORKSHEET

A = The measurement from the top of the water to the rim of the station after ending the pump draw down test.

B = The measurement from the top of the water to the rim of the station before starting the pump draw down test.

C = The measurement from the rim of the station to the center of the pressure gauge.

D = The diameter of the station.

PSI = Reading of pressure gauge.

Formula: 1. (A ft – B ft) x (D ft x D ft) x 7.481 x 0.7854 = Volume Displaced in gallons
2. A ft – C ft = Total Static Lift (TSL)
3. PSI x 2.31 = Dynamic Head Pressure (DHP)
4. TSL + DHP = Total Dynamic Head Pressure (TDHP)

Pump #1

A = _____inches _____feet

B = _____inches _____feet

C = _____inches _____feet

D = _____inches _____feet

PSI = _____

Pump #2

A = _____inches _____feet

B = _____inches _____feet

C = _____inches _____feet

D = _____inches _____feet

PSI = _____

PUMP #1

1.((A ft)_____ – (B ft)_____) x (D ft)_____ x (D ft)_____) x 7.481 x 0.7854 = Volume Displaced

(A-B ft)_____ x (DxD ft) _____ x 7.481 x 0.7854 = _____ Volume Displaced

2. (A ft)_____ –/+ (C ft)_____ = _____Total Static Lift (A-C if pressure gauge is below rim, A+C if pressure gauge is above rim.)

3. (PSI) _____ x 2.31 = _____ Dynamic Head Pressure

4. (TSL)_____ + (DHP) _____ = _____Total Dynamic Head Pressure

5. (PSI) _____ x 2.31 =_____ + Static Lift _____ = _____ Shutoff Head (Not for low pressure)
(after start up, close valves in valve pit and pump against them for PSI)

PUMP #2

1.((A ft)_____ – (B ft)_____) x (D ft)_____ x (D ft)_____) x 7.481 x 0.7854 = Volume Displaced

(A-B ft)_____ x (DxD ft) _____ x 7.481 x 0.7854 = _____ Volume Displaced

2. (A ft)_____ –/+ (C ft)_____ = _____Total Static Lift (A-C if pressure gauge is below rim, A+C if pressure gauge is is above rim.)

3. (PSI) _____ x 2.31 = _____ Dynamic Head Pressure

4. (TSL)_____ + (DHP) _____ = _____Total Dynamic Head Pressure

5. (PSI) _____ x 2.31 =_____ + Static Lift _____ = _____ Shutoff Head (Not for low pressure)

(after start up, close valves in valve pit and pump against them for PSI)

PORT ST. LUCIE UTILITY SYSTEMS DEPARTMENT
FINAL INSPECTION REPORT - DEFICIENCY LIST

Project Name: _____

PSLUSD Project Number: _____

Engineer of Record: _____

Project Contractor _____

Date of Inspection: _____

Deficiency:

_____

_____

_____

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Engineer _____

Signature Date

PORT ST. LUCIE UTILITY SYSTEMS DEPARTMENT
FINAL INSPECTION REPORT

Project Name: _____ Engineer: _____

Project #: _____ Utility Contractor: _____

Initial Inspection Date: _____ Reinspection Date: _____

	Y	N	N/A		Y	N	N/A
All grading complete				RPZ plumb and stable			
Valve pads are level				Meters set			
Discs are correct				Meters locked			
Valve lids painted correct color				All meters have separate curb stop			
Valves turn freely				Meters over 3" have hi/lo flow setup			
Electronic Marker System balls in place				Blow off assemblies correct			
Sample points removed and plugged				Fire hydrants paint not scufffed			
Fire Service has hi/lo flow setup				Fire hydrant meets clearances			
Fire service has chains and locks				Hydrant chains intact			
Mains have cover in swale areas				Air Release Valve (ARV)			
Reflective PavementMarker's in place				ARV lid painted correct color			
All necessary valves opened or closed				ARV lid doesn't hit valve			
Pumpstation fence has no damage				Landscape/Tree issues			
Fence Gates open/close smoothly				Concrete work has no damage			
All pad locks in place				Manholes at correct elevation			
Interceptors at grade				Manholes are clean			
Interceptors have correct lids				Manholes have correct lids			
Interceptor lids are labeled correctly				Clean outs in place with covers			
_____				_____			
_____				_____			

Final Inspection Pass _____ Final Re-Inspection Pass _____

Comments _____

_____

Attendees _____

_____

Engineer _____

Signature Date