Survey Sheet of Pump Station

Survey Date: 25/08/09 **Surveyor:** Mr. Odean Samuels, Mr. Kristoffer Henry

Items		Specification
Name of Pump Station		**Marine Park Pump Station**
Construction Year / Month		year : month :
Location (name of street / avenue)		**Aegean Ave.**
Design capacity		m3/min
Amount of electricity consumption		kWh/day
Inlet Sewer	Diamete of inlet pipe	**152.4** mm by Gravity / Pressure
	Material of pipe	Reinfroced Concrete / **Steel** / Cast Iron / PVC / GRP / PE(HDPE)
	Invert level of inlet pipe	m MSL
Pump Unit	Number of units 1 units in service **1**	
	1 Units out of service	
	Type of pump	**Self Priming Centrifugal Pump**
	Manufacturer of pump / Model	
	Bore diameter of pump unit	
	Design capacity per unit (m3/min)	
	Design head of pump (m)	
	Back up generator	☑ Yes ☐ No
Pump Operation	Operation Hour	**24** hours
	Control Method	☑ by Unit / ☐ by Speed
	Mode of control	☑ Automatic level switch / ☐ Other method
	On - Off level 1st pump start level	m MSL
	2nd pump start level	m MSL
	3rd pump start level	m MSL
	Pump stop level	m MSL
Maintenance Record	Regular Maintenance / Inspection	☑ Yes ☐ No
		(If yes, how frequency:)
	Repair / replacement of pump unit	☑ Yes ☐ No
		(If yes, in which year: 2009)
	Replacement of consumable parts	☑ Yes ☐ No
		(If yes, how frequency monthly)

Present Issue

As with many other facilities only Maintenance poses a real problem where it is seen that only one pumping unit is in operable conditi and the electricals concerning the generator needs a thourough inspection.

Photographs

General view of PS (2~3 shots)

Pump unit (general, front view, side view, tag)

Control panel (general view of control room, front view on panal)

Other (generator etc)

General over view of the facility at Marine Park

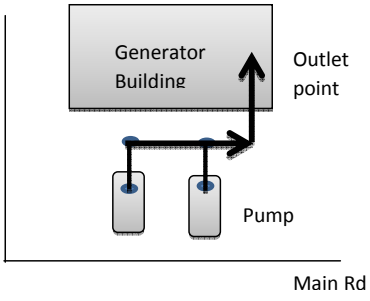
Building which houses the electrical facilities

Picture dispalying the general piping network at

Picture diepicts that actual electrical wiring and instruments are in place and in operable condition at the marine park

The facilities for the back up generator

inlet pipe takes up waste from outside well directly below



Survey Sheet of Pump Station

Survey Date: 25/08/09 **Surveyor:** Mr. Odean Samuels, Mr. Kristoffer Henry

Items		Specification
Name of Pump Station		**Marine Park Pump Station**
Construction Year / Month		year : month :
Location (name of street / avenue)		**Aegean Ave.**
Design capacity		m3/min
Amount of electricity consumption		kWh/day
Inlet Sewer	Diamete of inlet pipe	**152.4** mm by Gravity / Pressure
	Material of pipe	Reinfroced Concrete / **Steel** / Cast Iron / PVC / GRP / PE(HDPE)
	Invert level of inlet pipe	m MSL
Pump Unit	Number of units 1 units in service **1**	
	1 Units out of service	
	Type of pump	**Self Priming Centrifugal Pump**
	Manufacturer of pump / Model	
	Bore diameter of pump unit	
	Design capacity per unit (m3/min)	
	Design head of pump (m)	
	Back up generator	☑ Yes ☐ No
Pump Operation	Operation Hour	**24** hours
	Control Method	☑ by Unit / ☐ by Speed
	Mode of control	☑ Automatic level switch / ☐ Other method
	On - Off level 1st pump start level	m MSL
	2nd pump start level	m MSL
	3rd pump start level	m MSL
	Pump stop level	m MSL
Maintenance Record	Regular Maintenance / Inspection	☑ Yes ☐ No
		(If yes, how frequency:)
	Repair / replacement of pump unit	☑ Yes ☐ No
		(If yes, in which year: 2009)
	Replacement of consumable parts	☑ Yes ☐ No
		(If yes, how frequency monthly)

Present Issue

As with many other facilities only Maintenance poses a real problem where it is seen that only one pumping unit is in operable conditi and the electricals concerning the generator needs a thourough inspection.

Photographs

General view of PS (2~3 shots)

Pump unit (general, front view, side view, tag)

Control panel (general view of control room, front view on panal)

Other (generator etc)

General over view of the facility at Marine Park

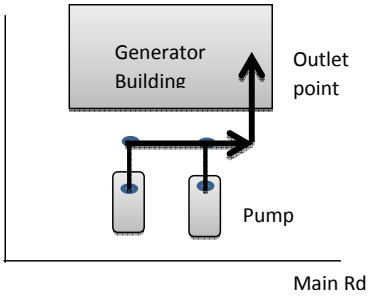
Building which houses the electrical facilities

Picture dispalying the general piping network at

Picture diepicts that actual electrical wiring and instruments are in place and in operable condition at the marine park

The facilities for the back up generator

inlet pipe takes up waste from outside well directly below



Survey Sheet of Pump Station

Survey Date: 25/08/2009 **Surveyor:** Mr. Odean Samuels, Mr. Kristoffer Henry

Items			Specification
Name of Pump Station			**Caymanas Garden D Pump Station**
Construction Year / Month			year : month :
Location (name of street / avenue)			**Ironside Drive**
Design capacity			m3/min
Amount of electricity consumption			kWh/day
Inlet Sewer	Diamete of inlet pi		**101.6** mm by Gravity / Pressure
	Material of pipe		Reinfroced Concrete / **Steel** / Cast Iron / PVC / GRP / PE(HDPE)
	Invert level of inlet pipe		m MSL
Pump Unit	Number of units **2** units in service **1**		
	1 Units out of service		
	Type of pump		**Self Priming Centrifugal Pump**
	Manufacturer of pump / Model		**(Name: Gorman Rupp)**
	Bore diameter of pump unit		**101.6**
	Design capacity per unit (m3/min)		
	Design head of pump (m)		
	Back up generator		☐ Yes ☐ No
Pump Operation	Operation Hour		**24** hours
	Control Method		☑ by Unit / ☐ by Speed
	Mode of control		☑ Automatic level switch / ☐ Other method
	On - Off level	1st pump start level	m MSL
		2nd pump start level	m MSL
		3rd pump start level	m MSL
		Pump stop level	m MSL
Maintenance Record	Regular Maintenance / Inspection		☑ Yes ☐ No **Out of Service**
			(If yes, how frequency **inspected daily by NWC's mobile maintenance team**
	Repair / replacement of pump unit		☐ Yes ☑ No
			(If yes, in which year:)
	Replacement of consumable parts		☑ Yes ☐ No
			(If yes, how frequency **Monthly**)

Present Issue

General issues as with all pumping station is that a lack of electrical maintenance is carried out hence there is currently n rator, eventhough the necessary facilities are in placed for the standby generator.

The level of security at the site can be improved, also the general condition of the compound can be improved .

Photographs

General view of PS (2~3 shots)

Pump unit (general, front view, side view, tag)

Control panel (general view of control room, front view on panal)

Other (generator etc)

General building containing the electricals and the generator

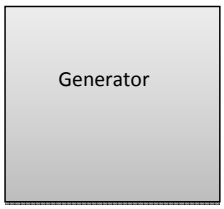
Electrical panels and controls

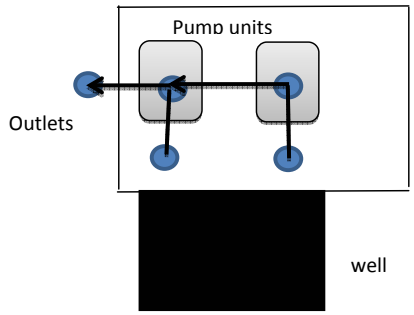
this depicts the back up generator and its physical

picture depicting the wet well and its screens which are currently bolcked and is in need

Eastern view of the piping network and the general environs

western view





Survey Sheet of Pump Station

Survey Date: 25/08/2009 **Surveyor:** Mr. Odean Samuels, Mr. Kristoffer Henry

Items		Specification
Name of Pump Station		**West Bay A Pump Station**
Construction Year / Month		year : month :
Location (name of street / avenue)		**Coral Way**
Design capacity		m3/min
Amount of electricity consumption		kWh/day
Inlet Sewer	Diamete of inlet pipe	**101.6** mm by **Gravity** / Pressure
	Material of pipe	Reinfroced Concrete / **Steel** / Cast Iron / PVC / GRP / PE(HDPE)
	Invert level of inlet pipe	m MSL
Pump Unit	Number of units 1units in service **1**	
	1 Units out of service	
	Type of pump	**Self Priming Centrifugal Pump**
	Manufacturer of pump / Model	**(Name: Gorman Rupp)**
	Bore diameter of pump unit	**101.6**
	Design capacity per unit (m3/min)	
	Design head of pump (m)	
	Back up generator	☐ Yes ☑ No
Pump Operation	Operation Hour	**24** hours
	Control Method	☑ by Unit / ☐ by Speed
	Mode of control	☑ Automatic level switch / ☐ Other method
	On - Off level 1st pump start level	m MSL
	2nd pump start level	m MSL
	3rd pump start level	m MSL
	Pump stop level	m MSL
Maintenance Record	Regular Maintenance / Inspection	☑ Yes ☐ No
		(If yes, how frequency **inspected daily by NWC's mobile maintenance team**
	Repair / replacement of pump unit	☑ Yes ☐ No
		(If yes, in which year: 2009)
	Replacement of consumable parts	☑ Yes ☐ No
		(If yes, how frequency **Monthly**)

Present Issue

General issues as with all pumping station is that a lack of electrical maintenance is carried out hence there is currently rator, eventhough the necessary facilities are in placed for the standby generator. Also the motor of the pump is due for

Photographs

General view of PS (2~3 shots)

Pump unit (general, front view, side view, tag)

Control panel (general view of control room, front view on panal)

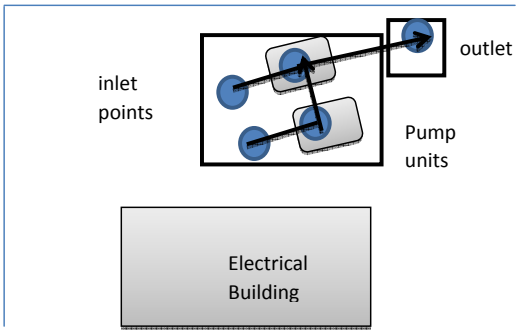
Other (generator etc)

West Bay pumping station general over view.

pumping units at the station

covered well which contains the automatic level switch

pumping units inlet



Survey Sheet of Pump Station

Survey Date: 25/08/2009 **Surveyor:** Mr. Odean Samuels, Mr. Kristoffer Henry

Items		Specification
Name of Pump Station		**Edgewater Pump Station 2**
Construction Year / Month		year : month :
Location (name of street / avenue)		**Debbie Avenue/ N.Edgewater Avenue**
Design capacity		m3/min
Amount of electricity consumption		kWh/day
Inlet Sewer	Diamete of inlet pipe	**152.4** mm by Gravity / Pressure
	Material of pipe	Reinfroced Concrete / Steel / Cast Iron / PVC / GRP / PE(HDPE)
	Invert level of inlet pipe	m MSL
Pump Unit	Number of units 2 units in service **2**	
	0 Units out of service	
	Type of pump	**Self Priming Centrifugal Pump**
	Manufacturer of pump / Model	**(name: Gorman Rupp)**
	Bore diameter of pump unit	**152.4**
	Design capacity per unit (m3/min)	
	Design head of pump (m)	
	Back up generator	☑ Yes ☐ No **(Out of Service)**
Pump Operation	Operation Hour	**24** hours
	Control Method	☑ by Unit / ☐ by Speed
	Mode of control	☑ Automatic level switch / ☐ Other method
	On - Off level 1st pump start level	m MSL
	2nd pump start level	m MSL
	3rd pump start level	m MSL
	Pump stop level	m MSL
Maintenance Record	Regular Maintenance / Inspection	☑ Yes ☐ No
		(If yes, how frequency **inspected daily by NWC's mobile maintenance team**
	Repair / replacement of pump unit	☑ Yes ☐ No
		(If yes, in which year: 2008)
	Replacement of consumable parts	☑ Yes ☐ No
		(If yes, how frequency **approximately twice every month.**)

Present Issue

General issues as with all pumping station is that a lack of electrical maintenance is carried out hence there is currently rator, eventhough the necessary facilities are in placed for the standby generator.

Photographs

General view of PS (2~3 shots)

Pump unit (general, front view, side view, tag)

Control panel (general view of control room, front view on panal)

Other (generator etc)

General over view at the Edgewater Pumping Station

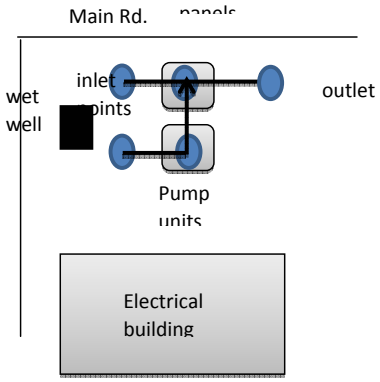
General piping network at the pumping facilities

well and the automatic level switchs

Access way to the wet well and vents at the Edgewater pump station

general over view of the condition of the back up generator and the electrical panels

Picture depicting the general condition of the pump driving motor



Survey Sheet of Pump Station

Survey Date: 24-Aug-09 **Surveyor:** K.Henry, A.Acosta, O.Samuel

Items		Specification
Name of Pump Station		**Bridgeport Pump Station**
Construction Year / Month		year : month :
Location (name of street / avenue)		**Eberle Drive/Gibson Road**
Design capacity		m3/min
Amount of electricity consumption		kWh/day
Inlet Sewer	Diamete of inlet pipe	**150mm** by **Gravity** / Pressure
	Material of pipe	Reinfroced Concrete / **Steel** / Cast Iron / PVC / GRP / PE(HDPE)
	Invert level of inlet pipe	m MSL
Pump Unit	Number of units / units in service	**One**
	Units out of service	**One**
	Type of pump	**Self Priming Centrifugal Pump**
	Manufacturer of pump / Model	**Gorman Rupp**
	Bore diameter of pump unit	**6"**
	Design capacity per unit (m3/min)	
	Design head of pump (m)	
	Back up generator	☑ Yes ☐ No **Out of Service**
Pump Operation	Operation Hour	**24 hrs**
	Control Method	☑ by Unit / ☐ by Speed
	Mode of control	☑ Automatic level switch / ☐ Other method
	On - Off level 1st pump start level	m MSL
	2nd pump start level	m MSL
	3rd pump start level	m MSL
	Pump stop level	m MSL
Maintenance Record	Regular Maintenance / Inspection	☑ Yes ☐ No
		(If yes, how frequency) **Daily**
	Repair / replacement of pump unit	☐ Yes ☑ No
		(If yes, in which year:
	Replacement of consumable parts	☑ Yes ☐ No
		(If yes, how frequency) **Three times per year.**

Present Issue

Photographs

General view of PS (2~3 shots)

Pump unit (general, front view, side view, tag)

Control panel (general view of control room, front view on panal)

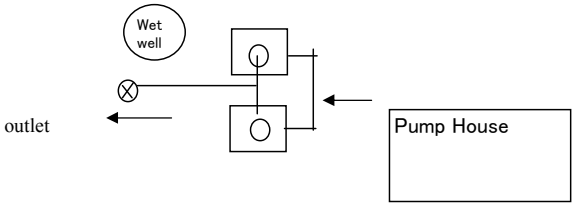
Other (generator etc)

general over view at the
Bridge Port station

the wet well condition
(showing the type of influent)

The motor that drives the
Pump at the B.port Lift
station

general piping network at the
facility



Survey Sheet of Pump Station

Survey Date: 24-Aug-09 **Surveyor:** K.Henry, A.Acosta, O.Samuel

Items			Specification
Name of Pump Station			**Portmore Mall Pump Station**
Construction Year / Month			year : month :
Location (name of street / avenue)			**Portmore Parkway**
Design capacity			m3/min
Amount of electricity consumption			kWh/day
Inlet Sewer	Diamete of inlet pipe		**150mm** by **Gravity** / Pressure
	Material of pipe		Reinfroced Concrete / **Steel** / Cast Iron / PVC / GRP / PE(HDPE)
	Invert level of inlet pipe		m MSL
Pump Unit	Number of units / units in service		**One**
	Units out of service		**One**
	Type of pump		**Self Priming Centrifugal Pump**
	Manufacturer of pump / Model		**Gorman Rupp**
	Bore diameter of pump unit		**6"**
	Design capacity per unit (m3/min)		
	Design head of pump (m)		
	Back up generator		☑ Yes ☐ No **Out of Service**
Pump Operation	Operation Hour		**24 hrs**
	Control Method		☑ by Unit / ☐ by Speed
	Mode of control		☑ Automatic level switch / ☐ Other method
	On - Off level	1st pump start level	m MSL
		2nd pump start level	m MSL
		3rd pump start level	m MSL
		Pump stop level	m MSL
Maintenance Record	Regular Maintenance / Inspection		☑ Yes ☐ No
			(If yes, how frequency) **Daily**
	Repair / replacement of pump unit		☐ Yes ☑ No
			(If yes, in which year:
	Replacement of consumable parts		☑ Yes ☐ No
			(If yes, how frequency) **Three times per year.**

Present Issue

The actual inlet pipe diameter at the facility is to small for the quanitity and type of waste that this stat
The Portmore mall area beign many a comercial area where lots of oils and grease are deposited into tl
it poses lot of maintenance problem seeign that when the grease solidifies this reduces the effective dian
pipes, which intern reduces the intake rate of the pump forcing the pump to work for longer periods.

Photographs

General view of PS (2~3 shots)

Pump unit (general, front view, side view, tag)

Control panel (general view of control room, front view on panal)

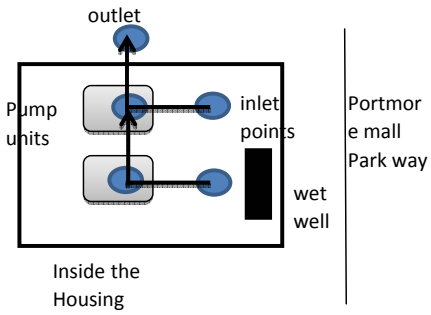
Other (generator etc)

general over-view of the Portmore mall facility.

general layout and condition of the piping network at this station

Motor condition at the station that drive the pump

wet well at the facility covered with solidified grease



Survey Sheet of Pump Station

Survey Date: 25/08/2009 **Surveyor:** Mr. Odean Samuels, Mr. Kristoffer Henry

Items		Specification
Name of Pump Station		**Cumberland Pump Station**
Construction Year / Month		year : month :
Location (name of street / avenue)		**Portmore Lane/Farm Way**
Design capacity		m3/min
Amount of electricity consumption		kWh/day
Inlet Sewer	Diamete of inlet pipe	**76.2** mm by **Gravity** / Pressure
	Material of pipe	Reinfroced Concrete / **Steel** / Cast Iron / PVC / GRP / PE(HDPE)
	Invert level of inlet pipe	m MSL
Pump Unit	Number of units 1units in service **1**	
	0 Units out of service	
	Type of pump	**Self Priming Centrifugal Pump**
	Manufacturer of pump / Model	**(Name: Gorman Rupp)**
	Bore diameter of pump unit	**76.2**
	Design capacity per unit (m3/min)	
	Design head of pump (m)	
	Back up generator	☑ Yes ☐ No **(Out of Service)**
Pump Operation	Operation Hour	**24** hours
	Control Method	☑ by Unit / ☐ by Speed
	Mode of control	☑ Automatic level switch / ☐ Other method
	On - Off level 1st pump start level	m MSL
	2nd pump start level	m MSL
	3rd pump start level	m MSL
	Pump stop level	m MSL
Maintenance Record	Regular Maintenance / Inspection	☑ Yes ☐ No
		(If yes, how frequency **inspected daily by NWC's mobile maintenance team**
	Repair / replacement of pump unit	☐ Yes ☑ No
		(If yes, in which year:)
	Replacement of consumable parts	☑ Yes ☐ No
		(If yes, how frequency **Monthly**)

Present Issue

The present issue that this pump station faces is its lack of a back-up generator facility.

Also the screen that should be associated with the pump is currently out of service.

Photographs

General view of PS (2~3 shots)

Pump unit (general, front view, side view, tag)

Control panel (general view of control room, front view on panal)

Other (generator etc)

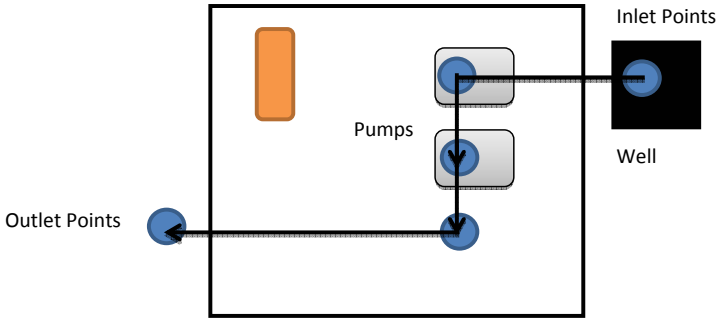
Building housing all the electrical, which should facilitate the back up generator

Condition of Back up generator and the other electrical facilities

Piping leaving out the Cumberland pumping station building

General piping layout at the Cumberland pumping station

Outside cover to wet well of the Cumberland Pumping



Survey Sheet of Pump Station

Survey Date: 25-Aug-09 **Surveyor:** K.Henry, A.Acosta, O.Samuel

Items			Specification
Name of Pump Station			**Passagefort # 3 Pump Station**
Construction Year / Month			year : month :
Location (name of street / avenue)			**London Avenue**
Design capacity			m3/min
Amount of electricity consumption			kWh/day
Inlet Sewer	Diamete of inlet pipe		**152.4 mm** by **Gravity** / Pressure
	Material of pipe		Reinfroced Concrete / **Steel** / Cast Iron / PVC / GRP / PE(HDPE)
	Invert level of inlet pipe		m MSL
Pump Unit	Number of units	units in service	**One**
		Units out of service	**One**
	Type of pump		**Self Priming Centrifugal Pump**
	Manufacturer of pump / Model		**Gorman Rupp**
	Bore diameter of pump unit		
	Design capacity per unit (m3/min)		
	Design head of pump (m)		
	Back up generator		☑ Yes ☐ No **Out of Service**
Pump Operation	Operation Hour		**24 hrs**
	Control Method		☑ by Unit / ☐ by Speed
	Mode of control		☑ Automatic level switch / ☐ Other method
	On - Off level	1st pump start level	m MSL
		2nd pump start level	m MSL
		3rd pump start level	m MSL
		Pump stop level	m MSL
Maintenance Record	Regular Maintenance / Inspection		☑ Yes ☐ No
			(If yes, how frequency **Daily**
	Repair / replacement of pump unit		☐ Yes ☑ No
			(If yes, in which year:
	Replacement of consumable parts		☑ Yes ☐ No
			(If yes, how frequency **Monthly**

Present Issue

The major issue that this pump station faces is the fact there is the necessary infrastructure in place for a stand by g
however the unit is out of service.

Photographs

General view of PS (2~3 shots)

Pump unit (general, front view, side view, tag)

Control panel (general view of control room, front view on panal)

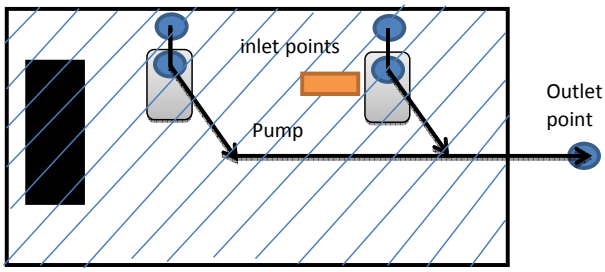
Other (generator etc)

General over view of the facility at Passage fort 3

The facilities for the back up generator

Picture dispalying the general piping network at the pumping station below the entrance level

Picture dispalying the Pumping unit at the pumping station below the entrance level



outside the electrical

Survey Sheet of Pump Station

Survey Date: 25-Aug-09 **Surveyor:** K.Henry, A.Acosta, O.Samuel

Items		Specification
Name of Pump Station		**Passagefort # 2 Pump Station**
Construction Year / Month		year : month :
Location (name of street / avenue)		**Palmetto West**
Design capacity		m3/min
Amount of electricity consumption		kWh/day
Inlet Sewer	Diamete of inlet pipe	**76.2 mm** by **Gravity** / Pressure
	Material of pipe	Reinfroced Concrete / **Steel** / Cast Iron / PVC / GRP / PE(HDPE)
	Invert level of inlet pipe	m MSL
Pump Unit	Number of units units in service **1**	**One**
	0 Units out of service	**One**
	Type of pump	**Self Priming Centrifugal Pump**
	Manufacturer of pump / Model	**Gorman Rupp**
	Bore diameter of pump unit	
	Design capacity per unit (m3/min)	
	Design head of pump (m)	
	Back up generator	☐ Yes ☑ No
Pump Operation	Operation Hour	**24 hrs**
	Control Method	☑ by Unit / ☐ by Speed
	Mode of control	☑ Automatic level switch / ☐ Other method
	On - Off level 1st pump start level	m MSL
	2nd pump start level	m MSL
	3rd pump start level	m MSL
	Pump stop level	m MSL
Maintenance Record	Regular Maintenance / Inspection	☑ Yes ☐ No
		(If yes, how frequency **Daily**
	Repair / replacement of pump unit	☐ Yes ☑ No
		(If yes, in which year:
	Replacement of consumable parts	☑ Yes ☐ No
		(If yes, how frequency **Monthly**

Present Issue

The major issue that this pump station faces is the fact there isn't necessary infrastructure in place for a stand-by ge

Photographs

General view of PS (2~3 shots)

Pump unit (general, front view, side view, tag)

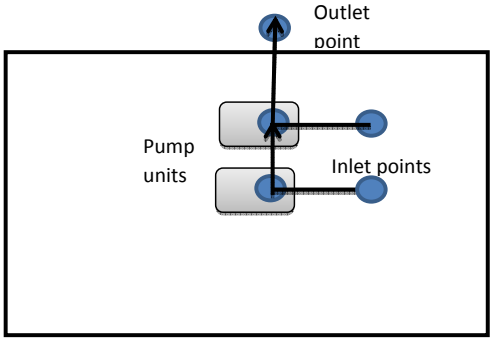
Control panel (general view of control room, front view on panal)

Other (generator etc)

General over view of the facility at Passage Fort 2

Picture diepicts that actual electrical wiring and instruments are in place and in operable condition

Both pictures dispalying the general piping network at the pumping station

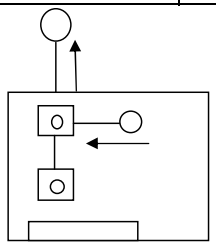


Survey Sheet of Pump Station

Survey Date: 25-Aug-09 **Surveyor:** K.Henry, A.Acosta, O.Samuel

Items			Specification
Name of Pump Station			**Passagefort # 1 Pump Station**
Construction Year / Month			year : month :
Location (name of street / avenue)			**Palmetto West/ Dawkins Drive**
Design capacity			m3/min
Amount of electricity consumption			kWh/day
Inlet Sewer	Diamete of inlet pipe		**100mm** by **Gravity** / Pressure
	Material of pipe		Reinfroced Concrete / **Steel** / Cast Iron / PVC / GRP / PE(HDPE)
	Invert level of inlet pipe		m MSL
Pump Unit	Number of units	units in service	**One**
		Units out of service	**One**
	Type of pump		**Self Priming Centrifugal Pump**
	Manufacturer of pump / Model		**Gorman Rupp**
	Bore diameter of pump unit		
	Design capacity per unit (m3/min)		
	Design head of pump (m)		
	Back up generator		☑ Yes ☐ No **Out of Service**
Pump Operation	Operation Hour		**24 hrs**
	Control Method		☑ by Unit / ☐ by Speed
	Mode of control		☑ Automatic level switch / ☐ Other method
	On - Off level	1st pump start level	m MSL
		2nd pump start level	m MSL
		3rd pump start level	m MSL
		Pump stop level	m MSL
Maintenance Record	Regular Maintenance / Inspection		☑ Yes ☐ No
			(If yes, how frequency) **Daily**
	Repair / replacement of pump unit		☐ Yes ☑ No
			(If yes, in which year:
	Replacement of consumable parts		☑ Yes ☐ No
			(If yes, how frequency) **Monthly**

Present Issue



Photographs

General view of PS (2~3 shots)

Pump unit (general, front view, side view, tag)

Control panel (general view of control room, front view on panal)

Other (generator etc)

General over view of the facility at Passage fort 1

Picture dispalying the general piping network at the pumping station

The motor which drives the pump unit

The facilities for the back up generator