



**WASTEWATER LIFT STATION START-UP PROCEDURES
PRINCE WILLIAM COUNTY SERVICE AUTHORITY**

PUMP STATION: _____

DATE: _____ **TIME:** _____

ATTENDEES: _____

A. INFLUENT SEWERS

EXISTING SEWERS PLUGGED	ACCEPTABLE	YES	INITIAL	<input type="text"/>	NO	<input type="text"/>
NEW SEWERS FLOWING CORRECTLY	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>	

B. COMMINUTOR CHAMBER

COMMINUTOR DRUMS OPERATING IN PROPER DIRECTIONS	ACCEPTABLE	YES	INITIAL	<input type="text"/>	NO	<input type="text"/>
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COMMINUTOR CONTROLLER INDICATOR LIGHTS FUNCTIONING

POWER ON LIGHT	ACCEPTABLE	YES	INITIAL	<input type="text"/>	NO	<input type="text"/>
RUN LIGHT	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>	
GRINDER OVERLOAD LIGHT	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>	
MOTOR OVERLOAD LIGHT	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>	
OIL OVER TEMP LIGHT	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>	
LOW OIL LEVEL LIGHT	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>	

COMMINUTOR CONTROLLER SWITCH

HAND POSITION: MOTOR STARTS	ACCEPTABLE	YES	INITIAL	<input type="text"/>	NO	<input type="text"/>
OFF/RESET POSITION: MOTOR WILL NOT RUN	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>	
AUTO POSITION: GRINDER STARTS/STOPS BY REMOTE	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>	
EMERGENCY STOP SWITCH FUNCTIONS PROPERLY	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>	

COMMINUTOR OBSTRUCTION TEST

GRINDER STOPS & REVERSES	ACCEPTABLE	YES	INITIAL	<input type="text"/>	NO	<input type="text"/>
GRINDER RESTARTS AFTER OBSTRUCTION IS CLEARED	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>	
GRINDER REVERSES 8 TIMES WITH CONTINUOUS OBSTRUCTION AND THEN SHUTS DOWN WITH WARNING	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>	

COMMINUTOR CHAMBER

LIGHTS FUNCTIONING	ACCEPTABLE	YES	INITIAL	<input type="text"/>	NO	<input type="text"/>
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EXHAUST FAN FUNCTIONING & VERIFIED EXPLOSION PROOF	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
EQUIPMENT HOIST FUNCTIONS	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
VERIFY THAT ALL FASTENING DEVICES ARE STAINLESS STEEL	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
SLUICE GATES FUNCTIONING PROPERLY	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>

C. PUMP STATION / PUMP CONTROLS

PUMP OPERATIONS

PUMP 1

	TDH	ST. HD	
FLOW, GPM	FT.	FT.	COMMENTS
DESIGN	<input type="text"/>	<input type="text"/>	<input type="text"/>
ACTUAL	<input type="text"/>	<input type="text"/>	<input type="text"/>

DRAWDOWN TEST - FLOW DATA : GPM

ACCEPTABLE YES INITIAL NO INITIAL

PUMP 2

	TDH	ST. HD	
FLOW, GPM	FT.	FT.	COMMENTS
DESIGN	<input type="text"/>	<input type="text"/>	<input type="text"/>
ACTUAL	<input type="text"/>	<input type="text"/>	<input type="text"/>

DRAWDOWN TEST - FLOW DATA : GPM

ACCEPTABLE YES NO

PUMP 3

	TDH	ST. HD	
FLOW, GPM	FT.	FT.	COMMENTS
DESIGN	<input type="text"/>	<input type="text"/>	<input type="text"/>
ACTUAL	<input type="text"/>	<input type="text"/>	<input type="text"/>

DRAWDOWN TEST - FLOW DATA : GPM

ACCEPTABLE YES NO

PUMP 4

	TDH	ST. HD	
FLOW, GPM	FT.	FT.	COMMENTS
DESIGN	<input type="text"/>	<input type="text"/>	<input type="text"/>
ACTUAL	<input type="text"/>	<input type="text"/>	<input type="text"/>

DRAWDOWN TEST - FLOW DATA : GPM ACCEPTABLE YES NO

ALL PUMP DATA PLATE INFORMATION RECORDED YES NO

VERIFY PRIMARY AND SECONDARY LEVEL TRANSDUCER 4-20 mA MATCHES WITH SCADA AND ACTUAL WET WELL LEVEL. ACCEPTABLE YES NO

VERIFY PRIMARY AND SECONDARY LEVEL TRANSDUCER ARE WITH IN NORMAL DEVIATION RANGE. ACCEPTABLE YES NO

SIMULATE LAST RESORT PUMP RUN ON THE MAIN PLC CONTROLLER USING HI-HI FLOAT ACCEPTABLE YES NO

VERIFY PUMPS ALTERNATION WITH PUMPS OUT OF SERVICE. ACCEPTABLE YES NO

HIGH WET WELL LEVEL TRANSDUCER ALARMS, LOCAL/REMOTE SCADA ACCEPTABLE YES NO

HIGH WET WELL FLOAT ALARM, LOCAL/REMOTE SCADA ACCEPTABLE YES NO

HOA SWITCH OPERATIONAL	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
HOA OFF POSITION/OUT OF SERVICE ALARM, LOCAL/REMOTE SCADA	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>

	DESIGN SET POINT	ACTUAL SET POINT
LEAD PUMP ON ELEVATION	<input type="text"/>	<input type="text"/>
LEAD PUMP OFF ELEVATION	<input type="text"/>	<input type="text"/>
LAG PUMP ON ELEV.	<input type="text"/>	<input type="text"/>
LAG PUMP OFF ELEV.	<input type="text"/>	<input type="text"/>
PUMP #3 ON ELEV.	<input type="text"/>	<input type="text"/>
PUMP #3 OFF ELEV.	<input type="text"/>	<input type="text"/>
PUMP #4 ON ELEV.	<input type="text"/>	<input type="text"/>
PUMP #4 OFF ELEV.	<input type="text"/>	<input type="text"/>
HIGH WET WELL FLOAT ALARM ELEV.	<input type="text"/>	<input type="text"/>
HIGH WET WELL LEVEL TRANSDUCER ALARM ELEV.	<input type="text"/>	<input type="text"/>

	ACCEPTABLE	YES	INITIAL	NO	INITIAL
PUMP #1 RUN (GREEN)	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
PUMP #1 CHECK VALVE FAIL TO OPERATE/CLOSE (RED)	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
PUMP #1 OVER TEMP LIGHT (RED)	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
PUMP #1 SEAL LIGHT (AMBER)	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
VERIFY PUMP FAIL AND LOCAL/SCADA ALARM SOUNDS	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
VFD PROGRAM (CHECK ALL THE APPLICABLE PERAMETER)	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
SIMULATING NO FLOW	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>

	ACCEPTABLE	YES	INITIAL	NO	INITIAL
PUMP #2 RUN (GREEN)	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
PUMP #2 CHECK VALVE FAIL TO OPERATE/CLOSE (RED)	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
PUMP #2 OVER TEMP LIGHT (RED)	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
PUMP #2 SEAL LIGHT (AMBER)	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
VERIFY PUMP FAIL AND LOCAL/SCADA ALARM SOUNDS	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
VFD PROGRAM (CHECK ALL THE APPLICABLE PERAMETER)	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
SIMULATING NO FLOW	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>

	ACCEPTABLE	YES	INITIAL	NO	INITIAL
PUMP #3 RUN (GREEN)	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
PUMP #3 CHECK VALVE FAIL TO OPERATE/CLOSE (RED)	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
PUMP #3 OVER TEMP LIGHT (RED)	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
PUMP #3 SEAL LIGHT (AMBER)	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
VERIFY PUMP FAIL AND LOCAL/SCADA ALARM SOUNDS	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
VFD PROGRAM (CHECK ALL THE APPLICABLE PERAMETER)	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
SIMULATING NO FLOW	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>

	ACCEPTABLE	YES	INITIAL	NO	INITIAL
PUMP #4 RUN (GREEN)	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
PUMP #4 CHECK VALVE FAIL TO OPERATE/CLOSE (RED)	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
PUMP #4 OVER TEMP LIGHT (RED)	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
PUMP #4 SEAL LIGHT (AMBER)	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>

VERIFY PUMP FAIL AND LOCAL/SCADA ALARM SOUNDS	ACCEPTABLE	YES		NO	
VFD PROGRAM (CHECK ALL THE APPLICABLE PARAMETER)	ACCEPTABLE	YES		NO	
SIMULATING NO FLOW	ACCEPTABLE	YES		NO	

SCADA

D. OIT DISPLAY

			INITIAL		INITIAL
PUMP RUN STATUS -ON/OFF DISPLAYED	ACCEPTABLE	YES		NO	
PUMP RUN TIMES	ACCEPTABLE	YES		NO	
VFD STATUS-% OF SPEED	ACCEPTABLE	YES		NO	
PUMP FLOW	ACCEPTABLE	YES		NO	
TOTALIZER FOR FLOW	ACCEPTABLE	YES		NO	
MANUAL OPERATION OF PUMPS	ACCEPTABLE	YES		NO	
MANUAL OPERATION OF STATION	ACCEPTABLE	YES		NO	
WET WELL LEVEL CONTROL/GRAPHIC PAGE	ACCEPTABLE	YES		NO	
WETWELL LEVEL TREND ON OIT	ACCEPTABLE	YES		NO	
CHANNEL GRINDER RUN STATUS	ACCEPTABLE	YES		NO	
GENERATOR RUN STATUS	ACCEPTABLE	YES		NO	
GENERATOR FUEL LEVEL	ACCEPTABLE	YES		NO	
POWER MONITORING	ACCEPTABLE	YES		NO	
ROOM TEMPERTURE	ACCEPTABLE	YES		NO	
SUCTION AND DISCHARE PRESSURES	ACCEPTABLE	YES		NO	
CHECK COMMUNICATION STATUS	ACCEPTABLE	YES		NO	
CHECK FAIL OVER ON THE PRIMARY DC POWER SUPPLY	ACCEPTABLE	YES		NO	
VERIFY REMOTE SCADA AND LOCAL OIT ALARM ARE THE SAME	ACCEPTABLE	YES		NO	
CHECK FAIL OVER ON THE PRIMARY LEVEL TRANSDUCER	ACCEPTABLE	YES		NO	
SIMULATE LAST RESORT PUMP RUN ON THE PRIMARY PLC CONTROLLER USING HI-HI FLOAT	ACCEPTABLE	YES		NO	

E. BACKUP CONTROLS

			INITIAL		INITIAL
MAIN PLC FAILURE-DOES BACK UP PLC TAKE CONTROL	ACCEPTABLE	YES		NO	
BACK UP CONTROLLER LEVEL TRANSDUCER WORKING PROPERLY	ACCEPTABLE	YES		NO	
VERIFY PUMPS OPERATION ON BACK-UP CONTROLLER	ACCEPTABLE	YES		NO	
SIMULATE LAST RESORT PUMP RUN ON THE BACK-UP CONTROLLER USING HI-HI FLOAT	ACCEPTABLE	YES		NO	

F. ALARMS AT OIT AND REMOTE CLEAR SCADA

			INITIAL		INITIAL
PUMP FAIL FOR ALL PUMPS	ACCEPTABLE	YES		NO	
POWER FAIL	ACCEPTABLE	YES		NO	
GENERATOR FAIL	ACCEPTABLE	YES		NO	
GENERATOR LOW FUEL	ACCEPTABLE	YES		NO	
ATS STATUS/ NORMAL TO EMERGENCY ALARM	ACCEPTABLE	YES		NO	
CHANNEL GRINDER FAIL	ACCEPTABLE	YES		NO	
HIGH BAR LEVEL ALARM	ACCEPTABLE	YES		NO	
HIGH PUMP ROOM ALARM	ACCEPTABLE	YES		NO	
INTRUSION ALARM	ACCEPTABLE	YES		NO	

INTRUSION HORN WORKING	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
REQUEST TO EXIT CLEAR ALARM	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
PLC FAILURE ALARM	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
UPS FAILURE ALARM	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
LEVEL TRANSDUCER FAIL ALARM	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
WETWELL LEVEL- DEVIATION ALARM	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
HIGH WETWELL FLOAT LEVEL ALARM	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
COMMUNICATION FAILURE ALARM	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>

G. SCADA GENERAL

			INITIAL		INITIAL
PUMP ALTERNATION SEQUENCE AUTO ROTATE AND RUN TIME	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
CHLORINE ANALYZER ACCURATE	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
CAMERA WORKING/ DISPLAYING ON CLEARSCADA	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
UPS WORKED PROPERLY DURING POWER OUTAGE	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
ANY FAILURES DURING POWER INTERRUPTION	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
SUCTION AND DISCHARGE PRESSURES ACCURATE	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
VERIFY SMOKE DETECTOR WORKS	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>

H. VALVE VAULT

VALVE OPERATIONS

			INITIAL		INITIAL
PUMP 1					
ISOLATION VALVE	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
CHECK VALVE	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
CHECK VALVE LIMIT SWITCH	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
PUMP 2					
ISOLATION VALVE	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
CHECK VALVE	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
CHECK VALVE LIMIT SWITCH	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
PUMP 3					
ISOLATION VALVE	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
CHECK VALVE	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
CHECK VALVE LIMIT SWITCH	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
PUMP 4					
ISOLATION VALVE	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
CHECK VALVE	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
CHECK VALVE LIMIT SWITCH	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
SURGE VALVE FUNCTIONING PROPERLY	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
FLOW METER OPERATIONAL	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
FLOW RANGE: _____					
DRAW DOWN TEST VERIFIED AGAINST FLOW READINGS	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
FLOW RECORDER FUNCTIONAL	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>

EMERGENCY BY-PASS VALVE OPERATIONAL	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
VAULT LIGHTS FUNCTIONS	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
VAULT SUMP PUMP FUNCTIONS	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
VAULT EXHAUST FAN FUNCTIONS	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
EXHAUST FAN VERIFIED EXPLOSION PROOF	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
EQUIPMENT HOIST FUNCTIONS	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>

I. GENERATOR / ATS

			INITIAL		INITIAL
PROGRAM ATS PHASE ROTATION SENSOR	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
PROGRAM ATS LOSS OF SINGLE PHASE SENSOR	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
PROGRAM ATS UNDER AND OVER VOLTAGE SENSOR	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
GENERATOR WEEKLY EXERCISER FUNCTIONING PROPERLY	ACCEPTABLE	YES	<input type="text"/>		<input type="text"/>
AUTOMATIC TRANSFER SWITCH ENGAGES WITH MAIN POWER OUTAGE.	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
SCADA GENERATOR RUN ALARM	ACCEPTABLE	YES	<input type="text"/>		<input type="text"/>
SCADA GENERATOR OUT OF SERVICE ALARM	ACCEPTABLE	YES	<input type="text"/>		<input type="text"/>

J. GENERATOR FIELD TEST

CRANKCASE HEATER FUNCTIONING PROPERLY	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
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AT NORMAL OPERATING LEVELS WITH PUMPS, GRINDER AND LIGHTS ON

TIME MAIN POWER DISCONTINUED _____ AM _____ PM

CRANKING TIME _____

OPERATING SPEED TIME _____

TIME TO AUTOMATIC TRANSFER _____

VOLTAGE LEVEL _____

FREQUENCY LEVEL _____

FULL LOAD CURR. (OUT. AMPS) _____

OIL PRESSURE _____

AMBIENT AIR TEMP. _____

COOLANT TEMP _____

KILOWATTS _____

POWER FACTOR _____

BATTERY CHARGING RATE

@ 5 MINUTES _____

@ 30 MINUTES _____

@ 60 MINUTES _____

@ 2 HOURS _____

FULL RATED LOAD OPERATION	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
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FUEL TANK FULL AFTER ALL TESTING COMPLETED	ACCEPTABLE	YES	<input type="text"/>	NO	<input type="text"/>
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K. ELECTRICAL SYSTEMS

INITIAL

INITIAL

BUILDING LIGHTING FUNCTIONING
 EXHAUST FANS FUNCTIONING
 ELECTRIC HEATERS FUNCTIONING
 EXTERIOR LIGHTING FUNCTIONING
 BUILDING AND EQUIPMENT BONDED PER CODE

ACCEPTABLE	YES		NO	
ACCEPTABLE	YES		NO	
ACCEPTABLE	YES		NO	
ACCEPTABLE	YES		NO	
ACCEPTABLE	YES		NO	

L. WELL

WELL OPERATING PROPERLY
 BACKFLOW PREVENTERS INSTALLED AND TEST PERFORMED
 YARD HYDRANTS AND SPIGOTS FUNCTIONAL AND VERIFIED FROST PROOF

		INITIAL		INITIAL
ACCEPTABLE	YES		NO	
ACCEPTABLE	YES		NO	
ACCEPTABLE	YES		NO	

M. PUMP STATION GENERAL

SPARE PARTS SUPPLIED AS INDICATED IN SPECIFICATIONS
 SPECIAL TOOLS SUPPLIED AS INDICATED IN SPECIFICATIONS
 FINAL GRADING, SEEDING, PLANTING, AND PAVING COMPLETE
 FENCING COMPLETED
 THREE (3) COPIES OF EQUIPMENT MANUALS RECEIVED
 THREE (3) COPIES OF FACILITY OPERATIONS MANUALS RECEIVED
 CERTIFICATE TO OPERATE RECEIVED
 FINAL COUNTY INSPECTION/CERTIFICATE OF OCCUPANCY RECEIVED
 ALL SPECIFIED EQUIPMENT TRAINING RECEIVED AS REQUIRED

		INITIAL		INITIAL
ACCEPTABLE	YES		NO	
ACCEPTABLE	YES		NO	
ACCEPTABLE	YES		NO	
ACCEPTABLE	YES		NO	
ACCEPTABLE	YES		NO	
ACCEPTABLE	YES		NO	
ACCEPTABLE	YES		NO	
ACCEPTABLE	YES		NO	

COMMENTS