Cronin Engineering, PE, PC
2 John Walsh Blvd
Peekskill, NY 10566
(T) (914) 736-3664
(F) (914) 736-3693
email: civil@croninengineering.net

VILLAGE OF BUCHANAN
Wastewater Treatment Plant Rehab
10 Greentown Road
Buchanan, NY 10511

VILLAGE OF BUCHANAN

WASTEWATER TREATMENT PLANT

REHABILITATION PROJECT

UNDER THE AUSPICES OF THE

NEW YORK STATE ENVIRONMENTAL FACILITIES CORPORATION

NEW YORK CLEAN WATER STATE REVOLVING FUND

VILLAGE OF BUCHANAN
VILLAGE HALL
236 TATE AVENUE, BUCHANAN,
WESTCHESTER COUNTY, NEW YORK 10511

Date: September 1, 2009

PROJECT DESCRIPTION

The Village of Buchanan was incorporated in 1928. It encompasses an area of approximately 1.48 square miles located along the Hudson River in the Town of Cortlandt, south of the City of Peekskill in northern Westchester. It has a population of approximately 2,200 residents (from approximately 912 dwelling units). There are currently 761 acres utilized of the 814 total acres. Of the 53 acres of undeveloped land some is not developable due to existing wetlands or other site constraints.

The residential breakdown is approximately 194 acres of single-family residential, 25 acres of two-family residential, 1 acre of three-family residential and 2 acres listed as other residential. More than 50% of the houses in the Village are greater than 45 years old. Approximately 471 acres are in use for business, light industrial, and heavy industrial (primarily Entergy/Indian

Point and Lafarge). Twenty-three (23) acres are used for parks and recreation and 45 acres for community services.

The Village's Wastewater Treatment Plant (WWTP) is in need of extensive rehabilitation. Although the WWTP currently meet's the conditions of its SPDES Permit, the current condition of the majority of the Plant could, at any moment, cause the Plant to be in non-compliance with its SPDES Permit. Currently surface water and/or ground water quality is not being negatively impacted, however this could change at any moment with a failure of equipment at the WWTP impacting the Hudson River. Similar situations exist at two (2) of the Village's six (6) sanitary sewer pump stations. Specifically, the Albany Post Road Pump Station and the 4th Street Pump Station, where failures could potentially impact the Dickey Brook and Lake Meahagh. See **APPENDIX A** for a map of the Village and an aerial photo of the WWTP.

WASTEWATER TREATMENT PLANT

The Village of Buchanan Wastewater Treatment Plant (WWTP) is located at 10 Greentown Road. The WWTP is approximately 50 years old. It was constructed in 1960 and has a design capacity of 500,000 gpd. The WWTP was designed to have two (2) treatment trains operating in order to ensure uninterrupted treatment of the permitted flow under normal conditions and during both planned maintenance and/or emergency conditions. Currently, treatment train number 1 (south side) is not operating nor is it capable of operating due to failed equipment and structures in disrepair. The current condition of treatment train number 1 requires treatment train number 2 (north side) to handle 100% of the flow the WWTP receives, which is approximately 250,000 to 300,000 gpd. Overhauling and rehabilitating treatment train number 1 is critical as it would allow for it to be placed in service and subsequently allow for the rehabilitation of treatment train number 2. The operation of treatment train number 2 is generally at its design flow limit. The WWTP discharges from outfall 001 to the Hudson River.

The Westchester County Department of Health (WCDH) is an interested agency that oversees the WWTP. The WCDH performs a yearly inspection and issue their findings in a Report and Sanitary Survey letter. The 2008 report of the inspection stated the Village must overhaul and rehabilitate treatment train number 1. In addition, the comminutor must be repaired and the back-up emergency generator for the Albany Post Road pump station must be replaced. Operation of the WWTP other than in accordance with its SPDES discharge limits, is in noncompliance with the Laws of Westchester County Sanitary Code. See **APPENDIX B** for a copy of the WCDH Inspection Report and Sanitary Survey Letter, dated September 9, 2008.

The New York State Department of Environmental Conservation (NYSDEC) is a second agency that oversees the WWTP. The NYSDEC performs a yearly inspection and issue their findings in a Report and Letter. The 2008 report and letter stated the Village must address the issue of the weirs in the secondary settling tanks since they are uneven, which decreases the effluent quality. The 2009 inspection report and letter states treatment train units #1 and #2 shall be on line for proper treatment of wastewater, the comminutor and the grit removal unit must be

placed in service. See **APPENDIX C** for a copy of the NYSDEC Inspection Report and Letter, dated June 13, 2008 and the Report and Letter dated August 28, 2009.

The United States Environmental Protection Agency (USEPA) is a third interested agency that oversees the WWTP. The USEPA performs a yearly inspection and issue their findings and conclusions in a Report. Item #7 of the 2008 findings and conclusions stated the flow over the weirs in the final clarifiers is not uniform. See **APPENDIX D** for a copy of the USEPA Inspection Report, dated June 10, 2008, and Letter, dated August 21, 2008.

The Village recently retained Rapid Pump & Meter Service Co., Inc. to conduct an inspection of treatment train number 1 Aerator Tank, 1st Aerator, Center Aerator, End Aerator, Scum Trough & Tank and Comminutor. Although an inspection of treatment train number 2 could not be done due to the need for it to be in use, the report expects the condition of the tanks and equipment would be in similar, or worse, condition than side 1 since it has been in continued operation for 15 years. The Report can be found in **APPENDIX E.**

Miscellaneous photographs of the WWTP can be found in **APPENDIX F**. These photos show various levels of equipment decline due to age, use and exposure to the environment as well as those components mentioned in the WCDH, DEC & USEPA inspection reports.

ALBANY POST ROAD SEWAGE PUMP STATION

The Albany Post Road Sewage Pump Station is located on the east side of Albany Post Road (New York State Route 9A) at the intersection with Bleakley Avenue (see Map located in **APPENDIX A**). The pump station is located in close proximity to the Dickey Brook, which flows into the Hudson River. This pump station was constructed in 1963. It has an average daily flow of 40,000 gpd. The pump station is equipped with two (2) submersible ABS Model #AF90/4 pumps that each have a rated capacity of 454 gpm at 52' TDH. The pumps discharge into an 8-inch diameter force main for a length of 931 LF. Although the pumps were replaced in 2000, the emergency generator is 46 years old and the pump control equipment is outdated. According to Cain Control Systems, replacement/repair parts have not been available for the emergency generator for the past 20 years and replacement/repair parts are no longer available for the pump controls (see **APPENDIX G** for service reports from Cain Control Systems and see **APPENDIX J** for photographs of the pump station and equipment).

4TH STREET SEWAGE PUMP STATION

The 4th Street Sewage Pump Station is located on the west side of 4th Street approximately 300 LF north of the intersection with Center Street (see Map located in **APPENDIX A**). The pump station is located in close proximity to Lake Meahagh, which flows into the Hudson River. This pump station was constructed in 1965. It has an average daily flow of 25,000 gpd. The pump station is equipped with two (2) centrifugal pumps that each have a rated capacity of 307 gpm

at 52' TDH. The pumps discharge into a 6-inch diameter force main for a length of 778 LF. Prior to 1976 an emergency generator was not required. In 1976 it became necessary to have an emergency generator and an International Diesel, emergency generator was installed. The emergency generator is 33 years old and the pump control equipment is outdated. Replacement/repair parts each are no longer available for the emergency generator or the pump controls. Ground water is also an issue at the pump station. Ground water is seeping in through the precast manhole joint and is corroding the electrical conduits and pump rails. (See **APPENDIX H** for service reports from Cain Control Systems and see **APPENDIX K** for photographs of the pump station and equipment)

PROPOSED CONSTRUCTION/REHABILITATION

WASTEWATER TREATMENT PLANT

It is proposed to rehabilitate the Village of Buchanan Wastewater Treatment Plant with financing obtained through the New York State Environmental Facilities Corporation's New York Clean Water State Revolving Fund (CWSRF) program. It is the Village's intention to implement the latest technology in wastewater treatment into the rehabilitation of the WWTP.

This will require the construction of an approximately 20-ft x 20-ft air compressor building. It is proposed to perform operation upgrades to the existing WWTP in order to insure the long-term viability and function of the plant. In addition, due to changes in technology, it is proposed to replace the existing draft tube aeration system (which would require significant costs to maintain, regardless) with a coarse bubble air diffuser system. This will allow a more thorough treatment of the waste stream and also provide a higher dissolved oxygen level in the aeration tanks. In addition it is also proposed to replace the comminutor as required by the inspection report as well as repair the probes necessary to insure proper operation of the plant.

ALBANY POST ROAD PUMP STATION

It is proposed to replace the existing emergency generator at the Albany Post Road Pump Station. This generator is 46 years old and replacement and repair parts have not been available for 20 years according to Cain Control Systems. It is also proposed to replace the existing pump controls. Although the existing pumps (2) were replaced in 2000, it is proposed to purchase a backup pump for emergency purposes.

4TH STREET PUMP STATION

It is proposed to replace the existing emergency generator at the 4th Street Pump Station. This generator is 33 years old and replacement and repair parts have not been available for 20 years according to Cain Control Systems. It is also proposed to replace the existing pump controls. It is proposed to purchase a backup pump for emergency purposes.

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ESTIMATED PROJECT COSTS

The estimated cost of the WWTP rehabilitation is approximately $1,461,900. See **APPENDIX L** for a more detailed cost estimate for the Village of Buchanan Wastewater Treatment Plant Rehabilitation Project, which includes upgrades to the Albany Post Road Pump Station, 4th Street Pump Station, Bleakley Avenue Pump Station and the Valerie Court Pump Station.

CRONIN ENGINEERING, P.E., P.C.

_____ Date: _____
James C. Annicchiarico
Project Engineer

_____ Date: _____
Timothy L. Cronin III, P.E.
License # 062980

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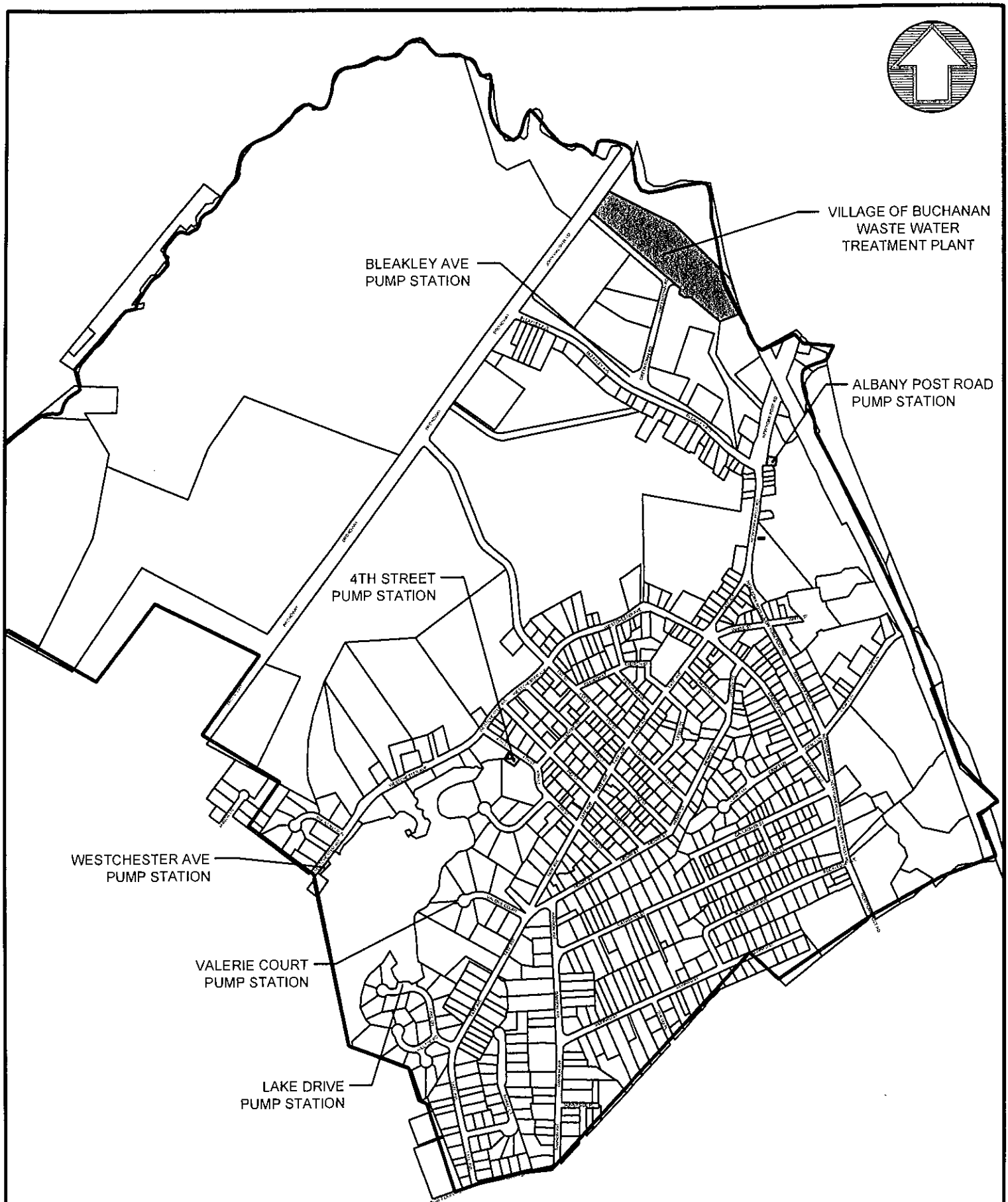
VILLAGE OF BUCHANAN
WASTE WATER TREATMENT PLANT REHAB
10 GREENTOWN ROAD
BUCHANAN, NEW YORK

APPENDIX A

MISCELLANEOUS MAPS



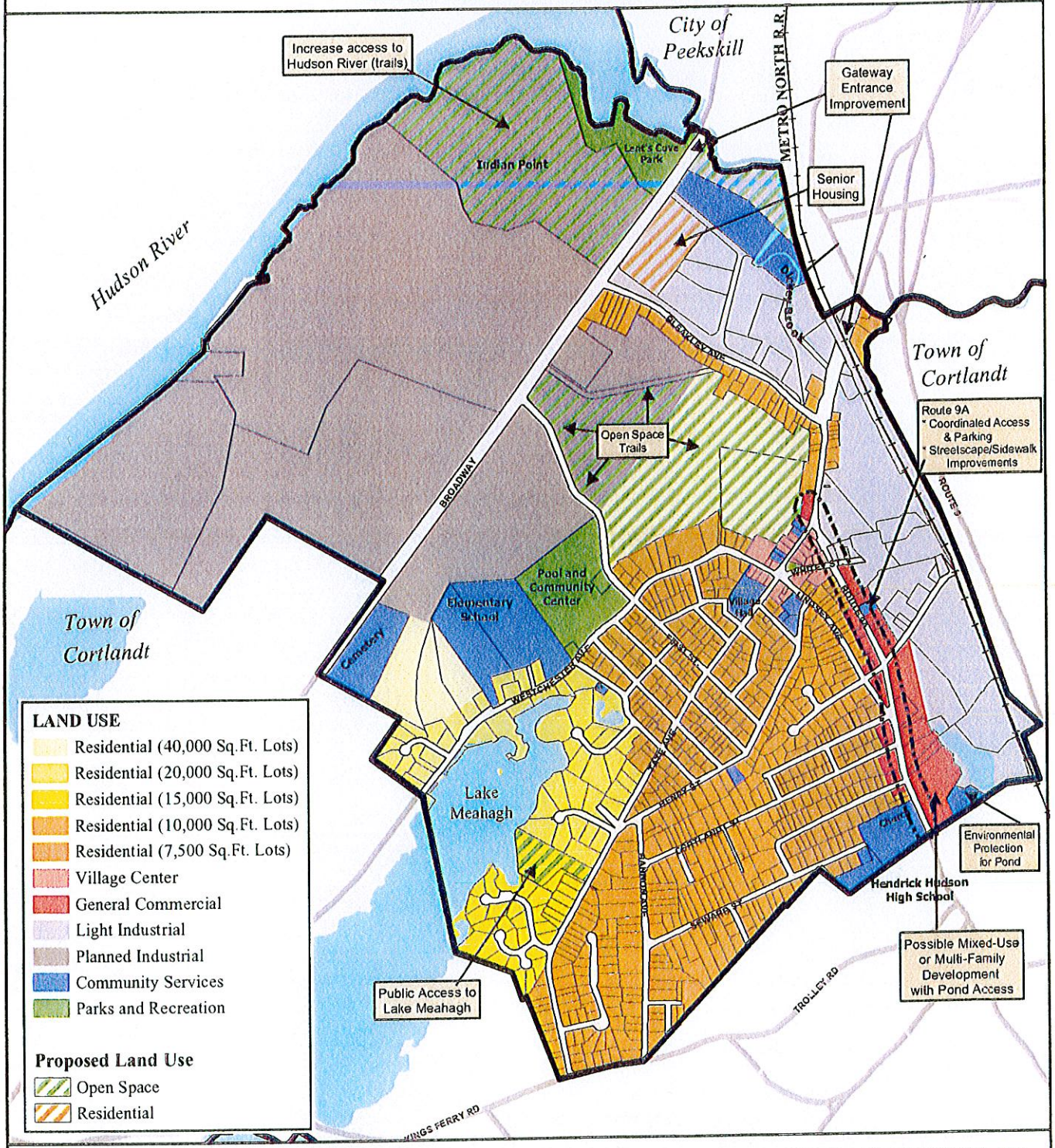
VILLAGE OF BUCHANAN
WESTCHESTER COUNTY, NEW YORK

NEW YORK STATE ENVIRONMENTAL FACILITIES CORPORATION
NEW YORK CLEAN WATER STATE REVOLVING FUND APPLICATION

DATE:SEPT. 1, 2009

SCALE: 1" = ±1,000'

LAND USE PLAN



COMPREHENSIVE MASTER PLAN

Village of Buchanan, Westchester County, NY

FREDERICK P. CLARK ASSOCIATES, INC.
Planning/Development/Environment/Transportation

N

1200 600 0 1200 Feet

Note: Tax parcel data obtained from the Town of Cortlandt.
Map created in ArcView software and is intended to be used for GENERAL PLANNING PURPOSES ONLY.

March 2004

p: projects 100 buchanan_village gis production projects LandUsePlan.mxd

Figure III-4

VILLAGE OF BUCHANAN WASTE WATER TREATMENT PLANT
WESTCHESTER COUNTY, NEW YORK

NEW YORK STATE ENVIRONMENTAL FACILITIES CORPORATION
NEW YORK CLEAN WATER STATE REVOLVING FUND APPLICATION

DATE: SEPT. 1, 2009

SCALE: 1" = ±50'

Westchester gov.com

Andrew J. Spano
County Executive

Department of Health

Joshua Lipsman, M.D., J.D., M.P.H.
Commissioner

September 9, 2008

Thomas J. Jankowski, Village Administrator
Village of Buchanan
236 Tate Avenue
Buchanan, NY 10511

RE: Buchanan
Sewage Treatment Facility
Buchanan (V)

Dear Mr. Jankowski:

Attached is a report of an inspection performed by this writer at the above referenced facility on September 3, 2008.

Please note the ratings given and any comments that were made on the inspection form. Specifically, please be aware that the above captioned treatment facility was designed for both treatment trains to be operational in order to ensure continuous treatment of the permitted flow during planned maintenance or emergency conditions.

During the above mentioned inspection, this writer observed and was informed by the operator that one of the two wastewater treatment trains is not operating nor is it capable of operating as designed due to failed equipment and rusting structures. Overhauling and repair of the out-of-service wastewater treatment train must be achieved so operators can perform periodic preventative maintenance work on the only treatment train available for operation therefore preventing service disruption due to equipment failure.

Please be aware that operation of the above mentioned wastewater treatment facility other than in accordance with its design is in noncompliance with Chapter 873, Article XXII, Section 873.22074.1 of the Laws of Westchester County Sanitary Code.

In addition, the following concerns must be addressed:

- The automatic temperature analyzer must be repaired
- The automatic pit analyzer must be calibrated
- Existing comminutor must be repaired

- An assistant wastewater treatment facility plant operator must be obtained as per New York State Department of Environmental Conservation (NYSDEC) & Environmental Protection Agency requirements
- The failed back-up emergency generator for the Post Road pump station must be replaced as recommended as a corrective action in the report on NYSDEC Non Compliance Event dated March 11, 2008.

Should you have any questions regarding this report, please contact the undersigned at (914) 813-5153.

Very truly yours,

Michael Estremera
Assistant Engineer
Bureau of Environmental Quality

ME:jlp

Enclosure

cc: Timothy L. Cronin, III, P.E.-Village Engineer ✓
Howard Golub, P.E. – Interstate Environmental Commission
Meena George, P.E.- NYSDEC
George Smith-Operator
File

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APPENDIX B

WESTCHESTER COUNTY DEPARTMENT OF HEALTH ANNUAL INSPECTION REPORT

SEPTEMBER 9, 2008

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF WATER

MUNICIPAL WASTEWATER FACILITY INSPECTION REPORT - ~~RECONNAISSANCE~~ COMPREHENSIVE (Part I)

Purpose of Inspection: ANNUAL		DEC Region	Date of Inspection: 9/3/08
SPDES No: NY 0029971	Facility Name: Buchanan WWTF		Location (C,T,V): Buchanan
County: Westchester	Name of Inspector: Michael Estremera		Part II Attached? ✓ Yes ___ No

Summary Rating:

Weather Conditions:

Rating Codes: S = Satisfactory U = Unsatisfactory M = Marginal NI = Not Inspected NA = Not Applicable

Items	Rating	Comments (Note units out of operation/outstanding operation/etc.)
A. General 1. Buildings/Grounds/Housekeeping	S	& Facility Grounds kept very clean
2. Flow Metering		0.193 MGD @ 12:10 pm.
3. Stand-by Power	S	Runs weekly automatically - Last ran 9/2/08, 7 hour
4. Alarm Systems	S	Sludge high level
5. Odors/Odor Control	S	No odors detected offsite
6. Influent Impact on Operations	S	Normal influent observed
7. Preventive Maintenance	U	Temp Analyzer (24hr) & pH recorder (24hr) not
8.		working properly.
B. Preliminary/Primary 1. Influent Pumps	NA	No primary
2. Bar Screen/Comminutor	M	Bar screen used-manually cleaned; Comminutor still not
3. Disposal of Grit/Screenings	S	Manual clean & dispose into dumpster repaired since last yea
4. Grit Removal	S	
5. Settling Tanks	NA	
6. Scum/Sludge Removal	NA	
7. Effluent	NA	
8.	/	
C. Secondary/Tertiary 1. CLARIFIER	M	ONE (1) TRAIN NOT OPERATIONAL, 1 on line
2.		manual skim surface; clear effluent. Weirs
3.		are not level some short circuiting occurring
4.		
5. AERATION	M	Mechanical C1 train operational, 1 train not
6.		maintained & cannot operate at time of inspection.
7.		
8.		
D. Effluent 1. Disinfection	U	Chlorine Gas Cl2 residual @ 11:55 a.m >2.2 mg/l, 1.92 mg/l @ 2:30 p.m.
2. Effluent Condition	S	Clear effluent
3. Receiving Water Condition	NI	Hudson River
4.		
E. Sludge Handling/Disposal 1. Digesters	/	
2. Sludge Pumps		
3. Sludge Dewatering		
4. Sludge Disposal	S	Holding tank
5.		

Signature of Inspector: [signature]	Title: Assistant Engineer	Date: 9/03/08
Name of Facility Representative: [signature]	Title: Chief operator	Date: 9/03/08

MUNICIPAL WASTEWATER FACILITY INSPECTION REPORT - COMPREHENSIVE (Part II)

Facility Name	SPDES Number	Comments
BUCHANAN (V) WWTF	NY 0029971	

A. Collection System

(1) 100 % Separate _____ % Combined

(2) Did sewer overflows occur upstream of the plant in the past year? __Yes X No __N/A

(3) Reason for overflow(s).

(4) Was overflow sewage chlorinated? __Yes __No X N/A

(5) Were there any unpermitted overflows/bypasses? __Yes __No X N/A

(6) Were appropriate agencies notified promptly, when required, of each overflow? __Yes __No X N/A

(7) Is the capability for bypass designed into the plant? __Yes __No X N/A

If so, list units which can be bypassed.

(8) Does sewage by-pass the plant? __Yes X No __N/A

Define conditions under which bypass occurs (e.g. what flow):

Bypass frequency (times per year): _____

Average duration of bypass (hours): _____

(9) Infiltration/Inflow problems, e.g., is sewage ordinance enforced with respect to illegal stormwater connections? Explain as needed (include reference to corrective action or lack thereof).

I/I problems exist

(10) Is there a BMP/Wet Weather Operations Plan? __Yes __No __N/A

(11) Number of pump stations in system: 6

Number inspected this inspection: 0

Comments (consider access, ventilation, lighting, emergency power, safety, etc):

B. Industrial Waste

(1) Are industrial waste loadings causing problems at this facility? __Yes X No __N/A

Explain as needed (describe nature of problem an extent and adequacy of measures to address the problem):

Past problems corrected by industrial user.

(2) Is there a sewer use ordinance? X Yes __No __N/A

Date: 1960's

Based on Model: _____

Is it being enforced to control Industrial Waste? X Yes __No __N/A

(3) Does this facility accept septage? __Yes X No __N/A

How much?

How is it introduced?

C. Laboratory Information

(1) Is the permittee using an ELAP certified laboratory? X Yes __ No __ N/A
Details: YML

(2) Is a commercial laboratory used? X Yes __ No __ N/A
Lab Name: YML
Lab Address: Yorktown N.Y.

(3) Pertaining to SPDES Self-Monitoring:
(a) Does the permittee have a written sampling plan? X Yes __ No __ N/A
If yes, are they following their plan? X Yes __ No __ N/A
(b) Is testing done for all parameters at required frequency and punctually reported? X Yes __ No __ N/A
(c) Do sampling techniques meet requirements and intent of permit? X Yes __ No __ N/A
(d) Are EPA-approved procedures used? X Yes __ No __ N/A
(e) Is calibration and maintenance of instrumentation and equipment satisfactory? X Yes X No __ N/A
(f) Is quality control used? (Spiked/duplicate samples) X Yes __ No __ N/A
(g) Should sampling frequencies/types be modified? __ Yes X No __ N/A
If yes, please explain: Temp & pH recorder (Cankmatic) Must be repaired/calibrated

(h) Are lab records satisfactory? X Yes __ No __ N/A
(i) Is a minimum of 3 years data kept? X Yes __ No __ N/A

(4) Pertaining to Process Control:
(a) Is testing performed for all necessary parameters? X Yes __ No __ N/A
(b) Is testing performed at necessary frequencies? X Yes __ No __ N/A
(c) Are procedures technically sound? X Yes __ No __ N/A
(d) Is sampling adequate? X Yes __ No __ N/A
Activated Sludge Facility:
(e) Does the facility operator test for the following:
MLSS? X Yes __ No __ N/A
Dissolved Oxygen? X Yes __ No __ N/A
Settleability? X Yes __ No __ N/A
Microscopic Analysis of Sludge? X Yes __ No __ N/A
Final Clarifier Sludge Blanket Depth? X Yes __ No __ N/A
Process Control "Target Values"? X Yes __ No __ N/A
(f) Does the facility operator calculate the following process control parameters:
MCRT? __ Yes X No __ N/A
Sludge Age? __ Yes X No __ N/A
(g) Is the testing applied towards process control adjustments? __ Yes __ No X N/A
(h) What approach (if any) is used to determine changes in:
Sludge Age?
Solids & Settleability (SVI)
Waste Sludge Flow?

(i) Was laboratory information used to prepare the DMR and Monthly Operating Report properly? X Yes __ No __ N/A

(5) Explanation as needed for any of the above:

D. Personnel Information

(1) Is staffing and training adequate? (Consider all aspects, including management/supervision, operations, laboratory, maintenance, safety, availability of training, development of staff, etc). __Yes X No __N/A

(2) Certified Operators:

Chief Operator - Name, Certificate Number, Grade, Renewal Date:
George Smith Grade IIA
CERT # 8790

There are NO other CERTIFIED OPERATORS Available When Chief operator is on Vacation.

Assistant Operator - Name, Certificate Number, Grade, Renewal Date:
NOT Available

(3) Is operational staff certified at the appropriate level(s)? X Yes __No __N/A
Explain if needed: SEE COMMENT ABOVE

(4) Do facility operators have renewal certification and/or training records? X Yes __No __N/A

(5) Plant Classification: _____

(6) Plant Score: _____

(7) Explain as needed for any of the above:

E. Additional Information

(1) Is treatment facility properly operated and maintained? __Yes __No __N/A
Details:

(2) Check Adequate/Inadequate as appropriate:

(a) Preventive maintenance schedules exist and are followed?	✓ Adequate	__Inadequate
(b) Records are kept for maintenance, repairs and replacement?	✓ Adequate	__Inadequate
(c) Spare parts inventory is maintained?	__Adequate	✓ Inadequate
(d) O&M Manual exists and is available?	__Adequate	✓ Inadequate
(e) O&M Manual kept up-to-date?	__Adequate	✓ Inadequate
(f) As-built plans and specifications exist and are available?	✓ Adequate	__Inadequate
(g) Manufacturers' O&M specifications exist and are available?	✓ Adequate	__Inadequate
(h) Other records kept as needed (e.g. flow recorder charts)?	✓ Adequate	__Inadequate
(i) Alarm system for power or equipment failures is properly maintained and tested?	✓ Adequate	__Inadequate
(j) Standby power system exists and is routinely tested?	✓ Adequate	__Inadequate

(3) Current copy of Part I and Part II of SPDES permit on premises? ✓ Yes __No __N/A

(4) Has facility been subject of complaints (odors, others)? __Yes ✓ No __N/A
If yes, describe:

(5) Is sludge disposal satisfactory and are required permits in force? ✓ Yes __No __N/A
(a) Name and location of sludge disposal site (and/or name and permit number of scavenger):

Fred Cook, Buchanan sludge to N.J.

(b) Is there an alternate sludge disposal site or contingency plan? __Yes ✓ No __N/A
If yes, please describe:

(6) Does facility have effective administrative structure and adequate financial systems (e.g. Repair Reserve Fund, Uniform Accounting System)? ✓Yes __No __N/A

(7) Is progress on compliance schedule(s) (e.g. Upgrading, CSO, Pretreatment) satisfactory? __Yes ✓No __N/A

(8) Explanation as needed for any of the above:

SEE All items Below - Most are repeat over past years.

F. Inspector Comments

Repair temp. analyzer, calibrate pH analyzer, secondary/backup WWTF train must be brought online, Communitor must be repaired (Facility was designed and built w/ communitor), Assistant operator per DEC & EPA Requirements ~~is~~ is reavired, generator for the Post Road Pump Station must be repaired or replaced to answer Noncompliance which occurred on 3/11/08.

Signature of Inspector:	Title: Assistant Engineer	Date: 9/03/08
Name of Facility Representative:	Title: Chief operator	Date: 9/03/08

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VILLAGE OF BUCHANAN
WASTE WATER TREATMENT PLANT REHAB
10 GREENTOWN ROAD
BUCHANAN, NEW YORK

APPENDIX C

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ANNUAL INSPECTION REPORT

JUNE 13, 2008
AND
AUGUST 28, 2009

September 1, 2009

New York State Department of Environmental Conservation
Division of Water, Region 3
100 Hillside Avenue Suite 1W White Plains, New York 10603-2860
Phone: (914) 428-2505 • FAX: (914) 428-0323
Website: www.dec.ny.gov

Alexander B. Grannis
Commissioner

June 13, 2008

Mayor and Village Trustees
Village of Buchanan
236 Tate Ave
Buchanan
NY 10511

Re: Annual Inspection Village of Buchanan WWTP
SPDES # NY 0029971

Dear Village Officials:

On June 10, 2008, an annual inspection of the referenced facility was performed for the purpose of evaluating compliance with the State Pollutant Discharge Elimination System (SPDES) Permit and the Article 17 of the Environmental Conservation Law. (ECL). Following deficiencies were noted at the time of the inspection

- The ultra sonic sensor is not installed in the correct location of the Parshall flume.It should be located at a point 2/3 of the length of the converging section upstream from the throat section. This should be relocated to the correct position and calibrated immediately.
- All parameters should be collected/reported as per your SPDES permit.
- Fecal Coliform samples should be collected in the sterilized bottles and preserved at 4 °C. The maximum holding time for fecal sample is 6 hours.
- The in house lab should use proper calibration methods for measuring temperature, pH, and chlorine.
- The weirs in the secondary settling tank should be even. Uneven weirs will decrease the effluent quality.
- SPDES discharge sign is missing. As per 6NYCRR 750-1.12 all SPDES permittees who discharge to surface waters shall erect or post a conspicuous and legible sign. Please refer to the regulation for more details.
- As per 6NYCRR Part 650.12 an activated plant with, a plant score of 31-55 points require a chief operator of grade 2A and an assistant operator of grade 1A.

Please refer to the attached inspection report for more details. Operational deficiencies should be addressed now. Your cooperation in complying with your SPDES Permit and protection of New York's waters will be appreciated. Should you have any questions regarding this report, please contact me at the above number extn 356.

Sincerely,

Meena George, P.E.
Environmental Engineer 2

cc: J. Hahn, Water District Engineer
Westchester County Health
T. Rudolph, RWE

BWCP - 5.1 (7/2001) Version 1.0

MUNICIPAL WASTEWATER FACILITY INSPECTION REPORT - COMPREHENSIVE (Part II)

Facility Name	SPDES Number	Comments
Buchanan WWTP	NY-0029971	Marginal

A. Collection System

(1) 100 % Separate _____% Combined

(2) Did sewer overflows occur upstream of the plant in the past year? __Yes ✓No __N/A

(3) Reason for overflow(s).

(4) Was overflow sewage chlorinated? __Yes __No ✓N/A

(5) Were there any unpermitted overflows/bypasses? __Yes ✓No __N/A

(6) Were appropriate agencies notified promptly, when required, of each overflow? __Yes __No ✓N/A

(7) Is the capability for bypass designed into the plant? __Yes ✓No __N/A
If so, list units which can be bypassed.

(8) Does sewage by-pass the plant? __Yes ✓No __N/A
Define conditions under which bypass occurs (e.g. what flow):

Bypass frequency (times per year): _____

Average duration of bypass (hours): _____

(9) Infiltration/Inflow problems, e.g., is sewage ordinance enforced with respect to illegal stormwater connections? Explain as needed (include reference to corrective action or lack thereof).

(10) Is there a BMP/Wet Weather Operations Plan? __Yes __No __N/A

(11) Number of pump stations in system: _____
Number inspected this inspection: none
Comments (consider access, ventilation, lighting, emergency power, safety, etc):

B. Industrial Waste

(1) Are industrial waste loadings causing problems at this facility? __Yes ✓No __N/A
Explain as needed (describe nature of problem an extent and adequacy of measures to address the problem):
Indian point sanitary waste is treated at this facility

(2) Is there a sewer use ordinance? __Yes __No __N/A

Date: _____

Based on Model: _____
Is it being enforced to control Industrial Waste? __Yes __No __N/A

(3) Does this facility accept septage? __Yes ✓No __N/A
How much?

How is it introduced?

C. Laboratory Information

(1) Is the permittee using an ELAP certified laboratory?	✓Yes	__No	__N/A
Details: York Town Labs , Yorktown heights, ELAP# 10323			
(2) Is a commercial laboratory used?	__Yes	✓No	__N/A
Lab Name: _____			
Lab Address: _____			
(3) Pertaining to SPDES Self-Monitoring:			
(a) Does the permittee have a written sampling plan?	✓Yes	__No	__N/A
If yes, are they following their plan?	✓Yes	__No	__N/A
(b) Is testing done for all parameters at required frequency and punctually reported?	✓Yes	__No	__N/A
(c) Do sampling techniques meet requirements and intent of permit?	✓Yes	__No	__N/A
(d) Are EPA-approved procedures used?	✓Yes	__No	__N/A
(e) Is calibration and maintenance of instrumentation and equipment satisfactory?	__Yes	✓No	__N/A
(f) Is quality control used? (Spiked/duplicate samples)	__Yes	✓No	__N/A
(g) Should sampling frequencies/types be modified?	__Yes	✓No	__N/A
If yes, please explain:			
(h) Are lab records satisfactory?	✓Yes	__No	__N/A
(i) Is a minimum of 3 years data kept?	✓Yes	__No	__N/A
(4) Pertaining to Process Control:			
(a) Is testing performed for all necessary parameters?	✓Yes	__No	__N/A
(b) Is testing performed at necessary frequencies?	✓Yes	__No	__N/A
(c) Are procedures technically sound?	__Yes	✓No	__N/A
(d) Is sampling adequate?	✓Yes	__No	__N/A
Activated Sludge Facility:			
(e) Does the facility operator test for the following:			
MLSS?	✓Yes	__No	__N/A
Dissolved Oxygen?	✓Yes	__No	__N/A
Settleability?	✓Yes	__No	__N/A
Microscopic Analysis of Sludge?	✓Yes	__No	__N/A
Final Clarifier Sludge Blanket Depth?	✓Yes	__No	__N/A
Process Control "Target Values"?	__Yes	✓No	__N/A
(f) Does the facility operator calculate the following process control parameters:			
MCRT?	__Yes	✓No	__N/A
Sludge Age?	__Yes	✓No	__N/A
(g) Is the testing applied towards process control adjustments?	__Yes	__No	__N/A
(h) What approach (if any) is used to determine changes in:			
Sludge Age?			
Waste Sludge Flow?			
(i) Was laboratory information used to prepare the DMR and Monthly Operating Report properly?	✓Yes	__No	__N/A

(5) Explanation as needed for any of the above:

D. Personnel Information

(1) Is staffing and training adequate? (Consider all aspects, including management/supervision, operations, laboratory, maintenance, safety, availability of training, development of staff, etc). __Yes __No __N/A

(2) Certified Operators:

Chief Operator - Name, Certificate Number, Grade, Renewal Date:

Assistant Operator - Name, Certificate Number, Grade, Renewal Date:

(3) Is operational staff certified at the appropriate level(s)? __Yes __No __N/A
Explain if needed:

(4) Do facility operators have renewal certification and/or training records? __Yes ✓No __N/A

(5) Plant Classification: 2A

(6) Plant Score: 39

(7) Explain as needed for any of the above:

A WWTP with score points 31-50 should be 2A chief operator and an assistant 1A operator

E. Additional Information

(1) Is treatment facility properly operated and maintained? ✓Yes __No __N/A
Details:

(2) Check Adequate/Inadequate as appropriate:

(a) Preventive maintenance schedules exist and are followed?	✓Adequate __Inadequate
(b) Records are kept for maintenance, repairs and replacement?	✓Adequate __Inadequate
(c) Spare parts inventory is maintained?	✓Adequate __Inadequate
(d) O&M Manual exists and is available?	✓Adequate __Inadequate
(e) O&M Manual kept up-to-date?	✓Adequate __Inadequate
(f) As-built plans and specifications exist and are available?	✓Adequate __Inadequate
(g) Manufacturers' O&M specifications exist and are available?	✓Adequate __Inadequate
(h) Other records kept as needed (e.g. flow recorder charts)?	✓Adequate __Inadequate
(i) Alarm system for power or equipment failures is properly maintained and tested?	✓Adequate __Inadequate
(j) Standby power system exists and is routinely tested?	✓Adequate __Inadequate

(3) Current copy of Part I and Part II of SPDES permit on premises? ✓Yes __No __N/A

(4) Has facility been subject of complaints (odors, others)? __Yes ✓No __N/A
If yes, describe:

(5) Is sludge disposal satisfactory and are required permits in force? __Yes __No __N/A

(a) Name and location of sludge disposal site (and/or name and permit number of scavenger):
Fred Cook , NJ

(b) Is there an alternate sludge disposal site or contingency plan? __Yes ✓No __N/A
If yes, please describe:

(6) Does facility have effective administrative structure and adequate financial systems (e.g. Repair Reserve Fund, Uniform Accounting System)? __Yes ✓No __N/A

(7) Is progress on compliance schedule(s) (e.g. Upgrading, CSO, Pretreatment) satisfactory? __Yes ✓No __N/A

(8) Explanation as needed for any of the above:

F. Inspector Comments

At the time of the inspection the facility appeared to be in satisfactory manner. EPA was at the site performing a sampling inspection. Some operational and sampling problems noted: the fecal bottle used by the facility is not sterlized. Temperature, pH, chlorine instruments calibrated not properly. Settleable solids sampling run is not proper. The flow meter is not located properly.

Signature of Inspector: [signature]	Title: Environmental Engineer 2	Date: 6/10/08
Name of Facility Representative: George Smith	Title: Plant operator	Date: 6/10/08

New York State Department of Environmental Conservation
Division of Water, Region 3
100 Hillside Avenue – Suite 1W, White Plains, New York 10603-2860
Phone: (914) 428-2505 • Fax: (914) 428-0323
Website: www.dec.ny.gov

Alexander B. Grannis
Commissioner

August 28, 2009

Mayor and Villages Trustees
Village of Buchanan
236 Tate Avenue
Buchanan, NY 10511

Re: Comprehensive Inspection, Buchanan Waste Water Treatment Plant
Village of Buchanan, Westchester County, SPDES Permit No. NY 002 9971

Dear Village Officials:

On August 14, 2009, an annual inspection of the above referenced facility was performed for the purpose of evaluating compliance with the State's Pollutant Discharge Elimination System (SPDES) Permit and Article 17 of the Environmental Conservation Law. A copy of the inspection report is enclosed for your information.

At the time of inspection, it appeared that the influent bypassed the grit removal unit without treatment and no influent flow was measured. Non-monitoring the influent flow is a permit violation and therefore the violation of Article 6NYCRR Article 2 Part 750-2.5. During inspection, it was noted that flowmeter calibration date was past due and the facility didn't obtain assistant plant operator which was requested by New York State Department of Environmental Conservation during the last annual inspection dated on June 10, 2008. The facility didn't submit the letter to this Department notifying if there was a new discharge added to the facility which was requested by NYSDEC on February 27, 2009.

All the treatment units shall be on line for proper treatment of wastewater. The existing comminutor and grit removal unit must be placed in service by September 15, 2009. The flow meter shall be installed and calibrated as soon as possible. An assistant plant operator & written sampling plan shall be obtained and the letter regarding the new discharge notification be submitted by September 30, 2009. Please be reminded that any permit noncompliance constitutes a violation of the Environmental Conservation Law and the Clean Water Act and is grounds for: enforcement action; for permit suspension, revocation or modification; and for denial of a permit renewal application.

A follow up inspection will be conducted after October 1, 2009. Continuing the aforementioned violations will cause further enforcement action. Your cooperation in complying with your SPDES Permit and protection of New York's waters will be appreciated. If you should have any questions, please contact me at (914) 428-2505, Ext. 362.

Very truly yours,

Aparna Roy

Aparna Roy
Environmental Engineer 1

cc: Thomas Rudolph, PE, Regional Water Engineer
Westchester County Department of Health
J.Hahn, Water District Engineer
George Smith, Chief Operator, Buchanan WWTP

BWCP - 8 (7/2001) Version 1.0

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF WATER

MUNICIPAL WASTEWATER FACILITY INSPECTION REPORT - COMPREHENSIVE (Part I)

Purpose of Inspection: Comprehensive	DEC Region: 3	Date of Inspection: 08/14/2009
SPDES No.: NY 002 9971	Facility Name: Village of Buchanan WWTP	Location (C,T,V): Buchanan (V)
County: Westchester	Name of Inspector: Aparna Roy	Part II Attached? ☑ Yes ☐ No
Summary Rating: Unatisfactory		
Weather Conditions: 82 F, Partly Cloudy		

Rating Codes: S = Satisfactory U = Unsatisfactory M = Marginal NI = Not Inspected NA = Not Applicable

Items	Rating	Comments (Note units out of operation/outstanding operation/etc.)
A. General 1. Buildings/Grounds/Housekeeping	S	
2. Flow Metering	U	Effluent flow 0.453 mgd.Influent meter offline.Calibration due on 8/12/09
3. Stand-by Power	S	Runs weekly automatically
4. Alarm Systems	S	High level alarm for sludge
5. Odors/Odor Control	S	
6. Influent Impact on Operations	S	
7. Preventive Maintenance	S	Log book maintained on site. Daily facility inspection. Emergency
8.		power tested weekly. Oil change for blowers every 5 to 6 months
B. Preliminary/Primary 1. Influent Pumps	NA	
2. Bar Screen/Comminutor	U	1 Bar screen and comminutor which are out of order due to leaking in
3.		the blower. Bypasses the influent to the aeration system
4. Disposal of Grit/Screenings	NA	
5. Grit Removal	U	Aerated tank. Hand removal of grit to the dumpster. Offline
6. Settling Tanks	NA	
7. Scum/Sludge Removal	NA	
8. Effluent		
C. Secondary/Tertiary 1. Aeration Tank	S	2 Aeration Tanks. Back up aeration tank is offline. Filamentous
2.		bulk problem. Adding chlorine. Consulted with NYSDEC (Timothy Miller)
3. Clarifier	S	2 Clarifier. Stand by Clarifier is off line. Water color is green due to dye
4.		test conducted in the neighboring Power Plant. Manual skim the surface
5.		
6.		
7.		
8.		
D. Effluent 1. Disinfection	S	Sodium Hypochlorite is updated by Gas Chlorine system
2. Effluent Condition	S	Clear. Sample taken from the detention tank
3. Receiving Water Condition	NI	Hudson River
4.		
E. Sludge Handling/Disposal 1. Digesters	NA	Sludge Holding Tank
2. Sludge Pumps	NA	
3. Sludge Dewatering	NA	
4. Sludge Disposal	S	Pumped out by Fred Cook, NJ as needed
5.		

Signature of Inspector: Aparna Roy	Title: Environmental Engineer 1	Date: 08/14/2009
Name of Facility Representative: George Smith	Title: Chief Operator	Date: 08/14/2009

BWCP - 5-1 (7/2001) Version 1.0

MUNICIPAL WASTEWATER FACILITY INSPECTION REPORT - COMPREHENSIVE (Part II)

Facility Name	SPDES Number	Comments
Village of Buchanan WWTP	NY 002 9971	

A. Collection System

(1) 100 % Separate _____% Combined

(2) Did sewer overflows occur upstream of the plant in the past year? _Yes x No _N/A

(3) Reason for overflow(s).

(4) Was overflow sewage chlorinated? _Yes _No x N/A

(5) Were there any unpermitted overflows/bypasses? _Yes _No x N/A

(6) Were appropriate agencies notified promptly, when required, of each overflow? _Yes _No x N/A

(7) Is the capability for bypass designed into the plant? x Yes _No _N/A

If so, list units which can be bypassed.

Grit chamber

(8) Does sewage by-pass the plant? _Yes x No _N/A

Define conditions under which bypass occurs (e.g. what flow):

Bypass frequency (times per year): _____

Average duration of bypass (hours): _____

(9) Infiltration/Inflow problems, e.g., is sewage ordinance enforced with respect to illegal stormwater connections? Explain as needed (include reference to corrective action or lack thereof).

No recent I/I problem

(10) Is there a BMP/Wet Weather Operations Plan? _Yes x No _N/A

(11) Number of pump stations in system: 6

Number inspected this inspection: 0

Comments (consider access, ventilation, lighting, emergency power, safety, etc):

B. Industrial Waste

(1) Are industrial waste loadings causing problems at this facility? _Yes _No x N/A

Explain as needed (describe nature of problem an extent and adequacy of measures to address the problem):

(2) Is there a sewer use ordinance? x Yes _No _N/A

Date: November 12,1980

Based on Model: _____

Is it being enforced to control Industrial Waste? x Yes _No _N/A

(3) Does this facility accept septage? See Inspector Comments on page 5 _Yes _No _N/A

How much?

How is it introduced?

C. Laboratory Information

(1) Is the permittee using an ELAP certified laboratory? x Yes __No __N/A

Details:

ELAP #10323

(2) Is a commercial laboratory used? x Yes __No __N/A

Lab Name: YML Environmental Services

Lab Address: 321 Kear Street, Yorktown Heights, NY 10598

(3) Pertaining to SPDES Self-Monitoring:

(a) Does the permittee have a written sampling plan? __Yes xNo __N/A

If yes, are they following their plan? __Yes __No x N/A

(b) Is testing done for all parameters at required frequency and punctually reported? x Yes __No __N/A

(c) Do sampling techniques meet requirements and intent of permit? x Yes __No __N/A

(d) Are EPA-approved procedures used? x Yes __No __N/A

(e) Is calibration and maintenance of instrumentation and equipment satisfactory? 1/week x Yes __No __N/A

(f) Is quality control used? (Spiked/duplicate samples) __Yes x No __N/A

(g) Should sampling frequencies/types be modified? __Yes x No __N/A

If yes, please explain:

(h) Are lab records satisfactory? x Yes __No __N/A

(i) Is a minimum of 3 years data kept? x Yes __No __N/A

(4) Pertaining to Process Control:

(a) Is testing performed for all necessary parameters? x Yes __No __N/A

(b) Is testing performed at necessary frequencies? x Yes __No __N/A

(c) Are procedures technically sound? x Yes __No __N/A

(d) Is sampling adequate? x Yes __No __N/A

Activated Sludge Facility:

(e) Does the facility operator test for the following:

MLSS? x Yes __No __N/A

Dissolved Oxygen? __Yes x No __N/A

Settleability? x Yes __No __N/A

Microscopic Analysis of Sludge? x Yes __No __N/A

Final Clarifier Sludge Blanket Depth? Around 4 feet during inspection x Yes __No __N/A

Process Control "Target Values"? __Yes __No __N/A

(f) Does the facility operator calculate the following process control parameters:

MCRT? __Yes x No __N/A

Sludge Age? __Yes x No __N/A

(g) Is the testing applied towards process control adjustments? x Yes __No __N/A

(h) What approach (if any) is used to determine changes in:

Sludge Age?

Solids and Settleability

Waste Sludge Flow?

(i) Was laboratory information used to prepare the DMR and Monthly Operating Report properly? x Yes __No __N/A

(5) Explanation as needed for any of the above:

D. Personnel Information

(1) Is staffing and training adequate? (Consider all aspects, including management/supervision, operations, laboratory, maintenance, safety, availability of training, development of staff, etc). __Yes x No __N/A

(2) Certified Operators:

Chief Operator - Name, Certificate Number, Grade, Renewal Date:

George Smith, #8790,IIA, 10/1/2014

Assistant Operator - Name, Certificate Number, Grade, Renewal Date:

No Assistant Operator

(3) Is operational staff certified at the appropriate level(s)? x Yes __No __N/A

Explain if needed:

No assistant operator available in absence of chief operator

(4) Do facility operators have renewal certification and/or training records? x Yes __No __N/A

(5) Plant Classification: 03

(6) Plant Score: 56

(7) Explain as needed for any of the above:

The facility need to have an licenced Assistant Operator

E. Additional Information

(1) Is treatment facility properly operated and maintained? __Yes x No __N/A

Details:

(2) Check Adequate/Inadequate as appropriate:

(a) Preventive maintenance schedules exist and are followed? x Adequate __Inadequate

(b) Records are kept for maintenance, repairs and replacement? x Adequate __Inadequate

(c) Spare parts inventory is maintained? __Adequate x Inadequate

(d) O&M Manual exists and is available? __Adequate x Inadequate

(e) O&M Manual kept up-to-date? __Adequate x Inadequate

(f) As-built plans and specifications exist and are available? __Adequate __Inadequate

(g) Manufacturers' O&M specifications exist and are available? x Adequate __Inadequate

(h) Other records kept as needed (e.g. flow recorder charts)? x Adequate __Inadequate

(i) Alarm system for power or equipment failures is properly maintained and tested? x Adequate __Inadequate

(j) Standby power system exists and is routinely tested? x Adequate __Inadequate

(3) Current copy of Part I and Part II of SPDES permit on premises? x Yes __No __N/A

(4) Has facility been subject of complaints (odors, others)? __Yes x No __N/A

If yes, describe:

(5) Is sludge disposal satisfactory and are required permits in force? x Yes __No __N/A

(a) Name and location of sludge disposal site (and/or name and permit number of scavenger):

Fred Cook, NJ

(b) Is there an alternate sludge disposal site or contingency plan? x Yes __No __N/A

If yes, please describe:

Spectro Serve

(6) Does facility have effective administrative structure and adequate financial systems (e.g. Repair Reserve, Uniform Accounting System)? x Yes __No __N/A
(7) Is progress on compliance schedule(s) (e.g. Upgrading, CSO, Pretreatment) satisfactory? __Yes __No x N/A
(8) Explanation as needed for any of the above:

F. Inspector Comments

There is filamentous bulking issue for several months. Chlorine is added to the Aeration Tank to handle the bulking problem. The inhouse testing results are improving and samples are sending every day to Timothy Miller, NYSDEC, Albany.
Process Control Parameter: pH, SS, Settleability (SVI) for influent and for Mix Liquor, Clarifier Sludge Blanket Depth and Microscopic analysis of Sludge

The comminutor and the aerated grit removal unit are not in service. They must be on line as soon as possible.
Although as per the chief operator, the facility is not taking septage at the plant , but WCDOH reported that the facility was receiving septage at a manhole which ultimately discharged to the plant.
The facility doesn't have a licensed assistant operator.
The facility doesn't have written sampling plan.

Signature of Inspector: Aparna Roy	Title: Environmental Engineer 1	Date: 08/14/2009
Name of Facility Representative: George Smith	Title: Chief Operator	Date: 08/14/2009

Cronin Engineering, PE, PC
2 John Walsh Blvd
Peekskill, NY 10566
(T) (914) 736-3664
(F) (914) 736-3693
email: civil@croninengineering.net

VILLAGE OF BUCHANAN
WASTE WATER TREATMENT PLANT REHAB
10 GREENTOWN ROAD
BUCHANAN, NEW YORK

APPENDIX D

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY NPDES COMPLIANCE SAMPLING INSPECTION

JUNE 10, 2008

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
2890 WOODBRIDGE AVENUE
EDISON, NEW JERSEY 08837-3679

AUG 21 2008

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

George Smith, Chief Plant Supervisor
Village of Buchanan Wastewater Treatment Plant (WWTP)
10 Greentown Road
Buchanan, New York 10511

RE: NPDES Compliance Sampling Inspection, June 10, 2008
NPDES Permit No.: NY 002 9971

Dear Mr. Smith,

The United States Environmental Protection Agency's (USEPA) NPDES Compliance Sampling Inspection at the Village of Buchanan Wastewater Treatment Plant (WWTP) revealed deficiencies at your facility as set forth in the accompanying Deficiency Notice.

Within 45 calendar days upon receipt of this letter, please correct the deficiencies and notify the USEPA of such corrections. Notification should be addressed to John S. Kushwara, Chief, Monitoring and Assessment Branch, Division of Environmental Science and Assessment, United States Environmental Protection Agency - Region II, Building 209 (MS-220), 2890 Woodbridge Avenue, Edison, New Jersey 08837-3679. A copy of this notification should be sent to Doughlas McKenna, Chief, Water Compliance Branch, US Environmental Protection Agency - Region II, 20th Floor, 290 Broadway, New York, New York 10007.

Please be advised that these deficiencies may be violations of your NPDES Permit.

Sincerely,

John S. Kushwara, Chief
Monitoring and Assessment Branch

Enclosure

cc: Doughlas McKenna, 2-DECA-WCB
Alfred Donahue, Buchanan (V) Mayor
James Hahn, Buchanan (V) Engineer
Meena George, NYSDEC
Thomas Jankowski, Buchanan (V) Administrator

DEFICIENCY NOTICE **National Pollution Discharge Elimination System (NPDES)** (Read instructions on back of last part before completing)	**Permittee: (Facility) Name and Address** Village of Buchanan Wastewater Treatment Plant 10 Greentown Road Buchanan, New York 10511
Permittee Representative (Receiving the Notice)/Title George Smith, Chief Plant Operator	**NPDES PERMIT NO.** NY 002 9971

During the compliance inspection carried out on (date) **June 10, 2008**, the deficiencies noted below were found. Additional areas of deficiency may be brought to your attention following a complete review of the Inspection Report and other information on file with the REGULATORY AUTHORITY administering your NPDES PERMIT.

DEFICIENCIES

NON-COMPLIANCE ISSUE (S) (Describe)

FLOW MEASUREMENT (Describe)

See item #9 on attached Findings and Conclusions of Report.

SAMPLE COLLECTION/HOLDING TIME (Describe)

See item #5 on attached Findings and Conclusions of Report

SAMPLE PRESERVATION (Describe)

TEST PROCEDURES, SECTION 304(H), 40 CFR 136 (Describe)

See item #4 on attached Findings and Conclusions of Report.

RECORD KEEPING (Describe)

See items #1, #2, and #3 on attached Findings and Conclusions of Report.

MONITORING LOCATION (Describe)

See item #8 on attached Findings and Conclusions of Report.

ADDITIONAL COMMENTS

See items #6, and #7 on attached Findings and Conclusions of Report.

REQUESTED ACTION- Your attention to the correction of the deficiencies noted above is requested. Receipt of a description of the correction actions taken will be considered in the determination of the need for further Administrative or Legal Action. Your response is to be **(Inspector lines our inappropriate response method)**: *(1) included with your next NPDES Discharge Monitoring Report (DMR), or (2) ~~submitted as directed by the inspector~~*. Questions regarding possible follow-up action can be answered by the REGULATORY AUTHORITY to which your DMRs are submitted and which administers your NPDES permit.

INSPECTOR'S SIGNATURE	INSPECTOR'S ADDRESS/PHONE NO.	REGULATORY AUTHORITY/ADDRESS	DATE
INSPECTOR'S PRINTED NAME Thuan Tran	732-321-4455	US EPA – Region 2 2890 Woodbridge Ave., Bldg 209 Edison, New Jersey, 08837-3679	8/24/08

DEFICIENCY NOTICE **National Pollution Discharge Elimination System (NPDES)** (Read instructions on back of last part before completing)	**Permittee: (Facility) Name and Address** Village of Buchanan Wastewater Treatment Plant 10 Greentown Road Buchanan, New York 10511
Permittee Representative (Receiving the Notice)/Title George Smith, Chief Plant Operator	**NPDES PERMIT NO.** NY 002 9971

During the compliance inspection carried out on (date) **June 10, 2008**, the deficiencies noted below were found. Additional areas of deficiency may be brought to your attention following a complete review of the Inspection Report and other information on file with the REGULATORY AUTHORITY administering your NPDES PERMIT.

DEFICIENCIES

NON-COMPLIANCE ISSUE (S) (Describe)

FLOW MEASUREMENT (Describe)
EFF. Meter moved to Correct Position & Calibrated.
See item #9 on attached Findings and Conclusions of Report.
INF Flow meter Calibrated.

SAMPLE COLLECTION/HOLDING TIME (Describe)
Sample Collected directly into F. Coli. Bottle (Cont. tank or EFF Discharge ? Pipe
See item #5 on attached Findings and Conclusions of Report

SAMPLE PRESERVATION (Describe)
All Samples refigerated and transported to lab in Cooler

TEST PROCEDURES, SECTION 304(H), 40 CFR 136 (Describe)
Corrected testing Procedure, Readings reported as required.
See item #4 on attached Findings and Conclusions of Report.

RECORD KEEPING (Describe)
New Hach HQ40D meter IN Use. Calibration log book for Ph Meter and Chlorine meter recorded
See items #1, #2, and #3 on attached Findings and Conclusions of Report.

MONITORING LOCATION (Describe)
See item #8 on attached Findings and Conclusions of Report.
Presently EFF Reported Permit States INF to be Reported ?

ADDITIONAL COMMENTS #7 Weirs have to be Leveld
See items #6, and #7 on attached Findings and Conclusions of Report.
#6 Statment from Yorktown Med. Lab

REQUESTED ACTION- Your attention to the correction of the deficiencies noted above is requested. Receipt of a description of the correction actions taken will be considered in the determination of the need for further Administrative or Legal Action. Your response is to be **(Inspector lines our inappropriate response method)**: *(1) included with your next NPDES Discharge Monitoring Report (DMR), or (2) ~~submitted as directed by the inspector~~*. Questions regarding possible follow-up action can be answered by the REGULATORY AUTHORITY to which your DMRs are submitted and which administers your NPDES permit.

INSPECTOR'S SIGNATURE	INSPECTOR'S ADDRESS/PHONE NO.	REGULATORY AUTHORITY/ADDRESS	DATE
INSPECTOR'S PRINTED NAME Thuan Tran	732-321-4455	US EPA – Region 2 2890 Woodbridge Ave., Bldg 209 Edison, New Jersey, 08837-3679	8/20/08

Findings and Conclusions

Based on the June 10, 2008 NPDES compliance sampling inspection of the Village of Buchanan WWTP, the facility is not in compliance with all requirements of their NPDES Discharge permit. Table 1 provides a comparison of the NPDES permit limitations with the EPA sampling results from outfall 001.

Table 1: Outfall 001

A Comparison of the Village of Buchanan WWTP Permit Limits with EPA Sampling Results from Outfall 001			
Parameters	**Permit Limits**	**Sample Type**	**EPA Results**
Flow (MGD)	0.5 MGD	Record	0.16 MGD (Influent)
5-day BOD - Effluent	30 – 45 mg/l	6-hr Composite	21 mg/l
TSS – Effluent	30 – 45 mg/l	6-hr Composite	14 mg/l
5-day BOD - Influent	Monitor	6-hr Composite	300 mg/l
TSS – Influent	Monitor	6-hr Composite	500 mg/l
Fecal Coliform*	200 – 400 col/100 ml	Grab	3.40 col./100ml
TRC*	0.5 – 2.0 mg/l	Grab	1.05 mg/l
SS – Effluent	0.3 ml/l (daily max.)	Grab	Zero
SS – Influent	Monitor	Grab	17 ml/l
pH – Effluent	6.0 – 9.0 SU	Grab	6.97 SU
pH – Influent	Monitor	Grab	7.48 SU
Temp. - Effluent	Monitor	Grab	21.1 ° C
Temp. - Influent	Monitor	Grab	17.9 ° C
% BOD Removal	85% (min)	Calculated	93%
% TSS Removal	85% (min)	Calculated	97%

Note: Fecal Coliform*:Seasonal from May 15 to October 15
TRC* : Seasonal from May 15 to October 15
: Range in contact tank

Areas of concern that were addressed to Mr. George Smith, Chief Plant Operator, during the inspection are as followed:

1) Temperature is being analyzed in-house with an Oaklan pH Testr 30. The temperature sensor on the pH Testr 30 is not calibrated. A calibration log for the temperature sensor is not maintained nor is one used for the other operating thermometers at the treatment plant. The temperature sensor on the pH Testr 30 and the thermometers should be calibrated. A correction factor tag should accompany the instrument with the correction factor, date of calibration, and the analyst who calibrated the thermometers.

2) Analysis for pH is being conducted with the Oaklan pH Testr 30. A two-point calibration is performed on the Oaklan pH Testr 30. The facility calibrates the pH meter starting with the four (4) buffer, then followed with the seven (7) buffer. The Oaklan pH Testr 30 meter did not calibrate accurately and the four (4) buffer calibrated at 3.5 standard units (SU) and the seven (7) buffer at 7.6 SU. An EPA pH meter was utilized to check the facility's buffers and meter. The

readings from the EPA pH meter indicated the facility pH buffer solutions are within the expected pH range. In addition, the facility does not keep a calibration logbook for the pH meter. It was suggested to the facility to create a calibration logbook for pH.

3) Total Residual Chlorine (TRC) is conducted using the HACH portable TRC pocket kit. The facility does not calibrate or check the portable TRC colorimeter. The facility does not calibrate/standardize the meter with chlorine standards to make sure the meter is operating within acceptable range. In addtion, the facility does not have a logbook for the meter. It was suggested to the facility to keep a calibration logbook.

4) The Settleable solids (SS) test is performed in-house by pouring a 1-liter volume of sample into an Imhoff cone. The sample is allowed to settle for one hour before the result is read. This is incorrect. The proper procedure is to pour a well mixed sample into an Imhoff cone to the 1-liter mark. The sample is allowed to settle for forty-five (45) minutes. After 45-minutes, the sample is gently agitated near the side of the Imhoff cone with a rod or by spinning. The sample is allowed to settle another 15 minutes; a total of one hour, then the result is recorded.

5) Sample for fecal coliform is taken at the end of the chlorine contact chamber with an unsterilized plastic bucket. A portion of the sample is transferred into the fecal coliform sample container. This is incorrect. Sample for fecal coliform must be taken directly from the effluent discharge to prevent contamination and/or bias to the result.

6) Sample containers for fecal coliform are provided by Yorktown Medical and Environmental Laboratory Services. It could not be determined if the containers are sterilized or not. Sample containers for fecal coliform must be sterilized to prevent contamination of the sample.

7) Flow over the weirs in the final clarifiers is not uniform. It was observed on the day of the inspection that some areas of the weir have no, little, and/or high discharge flow. The weirs should be corrected to prevent uneven sludge settling, discharge of solids due to high discharge flow, and possible short circuitring of the wastewater treatment plant.

8) At the facility, flow is being monitored at the effluent. According to the permit, flow monitoring should be performed at the influent. If the facility decides to continue using the flow monitoring at the effluent, the facility must request a permit modification with the NYSDEC to reflected the change.

9) Flow monitoring at the effluent is performed with an ultrasonic flow measuring device that has been set-up in the wrong location. Based on field observations, measurements, and references for Parshall flume devices and set-up, the ultrasonic flow meter should be positioned 2/3 upstream of the converging section of the Parshall flume. It was determined that the ultrasonic flow meter is positioned too far upstream of the Parshall flume. As a result, the ultrasonic flow meter is recording a greater discharge volume from the wastewater treatment plant.

NPDES Compliance Sampling Inspection Report

Village of Buchanan WWTP
10 Greentown Road
Buchanan, New York 10511

NPDES/SPDES Permit #: NY0029971

Inspection Date: June 10, 2008

Participating Personnel:

United States Environmental Protection Agency
Thuan Tran, Environmental Scientist
Michael Glogower, Life Scientist

NYS Department of Environmental Conservation
Meena George, Environmental Engineer 2

Village of Buchanan WWTP
George Smith, Chief Plant Operator

Report Prepared by:

Thuan Tran, Environmental Scientist

Approved for the Director by:

John S. Kushwara, Chief
Monitoring & Assessment Branch

NPDES Compliance Sampling Inspection

Objective

On June 10, 2008, the United Stated Environmental Protection Agency (USEPA) conducted a NPDES compliance sampling inspection at the Village of Buchanan Wastewater Treatment Plant (WWTP) in Buchanan, New York. The inspection was to determine if the permittee is in compliance with the requirements and limitations of NPDES permit NY 002 9971. The permit became effective October 01, 2003 and will expire on October 01, 2008.

Facility Background

The Village of Buchanan WWTP came on-line in 1961 as an activated sludge treatment plant. The facility receives domestic wastewater from the Village of Buchanan and sanitary wastewater from Indian Point Nuclear Power Plant. Wastewater is treated with a bar screen to remove large objects and rags, followed by pre-aeration. The purpose of pre-aeration is to keep solids suspended in the water column, while allowing heavy matters to settle-out, such as grits. The wastewater continues to the activated sludge process for biological treatment. The mixed liquor generated in the activated sludge process flows to the final clarifiers. Retention time is allowed in the clarifiers to settle out solids from the mixed liquor. The treated effluent flow is monitored by a Parshall flume with an ultrasonic flow sensor. Once the flow has been recorded, the effluent is disinfected with chlorine gas in the pipeline leading to the chlorine contact chamber. Samples for fecal coliform are collected in the chlorine contact chamber before the effluent discharges to the Hudson River via outfall 001.

A percentage of sludge from the final clarifier is returned to the head of the activated sludge treatment process and the rest is wasted to the sludge holding tank. The returned activated sludge (RAS) provides biological activity to clean the incoming wastewater to the activated sludge process. The wasted activated sludge (WAS) is collected in the sludge holding tank to be trucked to Passaic Valley Sewer Authority for further treatment. Solids from the bar screens and grit from the pre-aeration chamber are placed into 55-gallon drums and are disposed of at Charles Point Incineration.

Sampling Event

A composite sample from outfall 001 was collected over a 6-hour sampling period using an ISCO automatic sampler that was programmed to take a sample every 15 minutes. During the 6-hour composite sampling period, 24 sample aliquots were taken. The effluent composite sample from outfall 001was analyzed for 5-day biochemical oxygen demand (5-day BOD), and total suspended solids (TSS). Grab samples were collected for fecal coliform. Temperature, total residual chlorine (TRC), pH, and settleable solids (SS) were collected and analyzed on-site. In addition, an ISCO automatic sampler was set up to take a 6-hour composite of the influent for 5-day BOD, and TSS.

All sample containers, preservation techniques and holding times conform to USEPA requirements specified in 40 CFR Part 136. All samples were delivered to the USEPA laboratory in Edison, New Jersey for analysis by USEPA personnel. Chain-of-Custody was maintained for all samples. On-site analyses were performed by USEPA personnel using approved methods. The laboratory data package is attached at the end of this report.

Findings and Conclusions

Based on the June 10, 2008 NPDES compliance sampling inspection of the Village of Buchanan WWTP, the facility is not in compliance with all requirements of their NPDES Discharge permit. Table 1 provides a comparison of the NPDES permit limitations with the EPA sampling results from outfall 001.

Table 1: Outfall 001

A Comparison of the Village of Buchanan WWTP Permit Limits with EPA Sampling Results from Outfall 001			
Parameters	**Permit Limits**	**Sample Type**	**EPA Results**
Flow (MGD)	0.5 MGD	Record	0.16 MGD (Influent)
5-day BOD - Effluent	30 – 45 mg/l	6-hr Composite	21 mg/l
TSS – Effluent	30 – 45 mg/l	6-hr Composite	14 mg/l
5-day BOD - Influent	Monitor	6-hr Composite	300 mg/l
TSS – Influent	Monitor	6-hr Composite	500 mg/l
Fecal Coliform*	200 – 400 col/100 ml	Grab	3.40 col./100ml
TRC*	0.5 – 2.0 mg/l	Grab	1.05 mg/l
SS – Effluent	0.3 ml/l (daily max.)	Grab	Zero
SS – Influent	Monitor	Grab	17 ml/l
pH – Effluent	6.0 – 9.0 SU	Grab	6.97 SU
pH – Influent	Monitor	Grab	7.48 SU
Temp. - Effluent	Monitor	Grab	21.1 ° C
Temp. - Influent	Monitor	Grab	17.9 ° C
% BOD Removal	85% (min)	Calculated	93%
% TSS Removal	85% (min)	Calculated	97%

Note: Fecal Coliform*:Seasonal from May 15 to October 15
TRC* : Seasonal from May 15 to October 15
: Range in contact tank

Areas of concern that were addressed to Mr. George Smith, Chief Plant Operator, during the inspection are as followed:

1) Temperature is being analyzed in-house with an Oaklan pH Testr 30. The temperature sensor on the pH Testr 30 is not calibrated. A calibration log for the temperature sensor is not maintained nor is one used for the other operating thermometers at the treatment plant. The temperature sensor on the pH Testr 30, and the thermometers should be calibrated. A correction factor tag should accompany the instrument with the correction factor, date of calibration, and the analyst who calibrated the thermometers.

2) Analysis for pH is being conducted with the Oaklan pH Testr 30. A two-point calibration is performed on the Oaklan pH Testr 30. The facility calibrates the pH meter starting with the four (4) buffer, then followed with the seven (7) buffer. The Oaklan pH Testr 30 meter did not calibrate accurately. The four (4) buffer calibrated at 3.5 standard units (SU) and the seven (7) buffer at 7.6 SU. An EPA pH meter was utilized to check the facility's buffers and meter. The readings from the EPA pH meter indicated the facility pH buffer solutions are within the expected pH range. In addition, the facility does not keep a calibration logbook for the pH meter. It was suggested to the facility to create a calibration logbook for pH.

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4) The Settleable solids (SS) test is performed in-house by pouring a 1-liter volume of sample into an Imhoff cone. The sample is allowed to settle for one hour before the result is read. This is incorrect. The proper procedure is to pour a well mixed sample into an Imhoff cone to the 1-liter mark. The sample is allowed to settle for forty-five (45) minutes. After 45-minutes, the sample is gently agitated near the side of the Imhoff cone with a rod or by spinning. The sample is allowed to settle another 15 minutes; a total of one hour, then the result is recorded.

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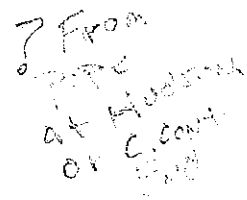

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Recommendations

At the time of EPA inspection, the Village of Buchanan WWTP was not in compliance with the requirements of their NPDES Permit NY 002 9971. The facility has been sent a Deficiency Notice (copy attached) requesting that the areas of concern found be corrected, and the USEPA be informed of the specific corrective measures taken. Appropriate action to ensure compliance with permit conditions is recommended.

Village of Buchanan WWTP Sampling Photos
Inspection Date: June 10, 2008

Photo #1: Influent sampling point at the treatment plant.

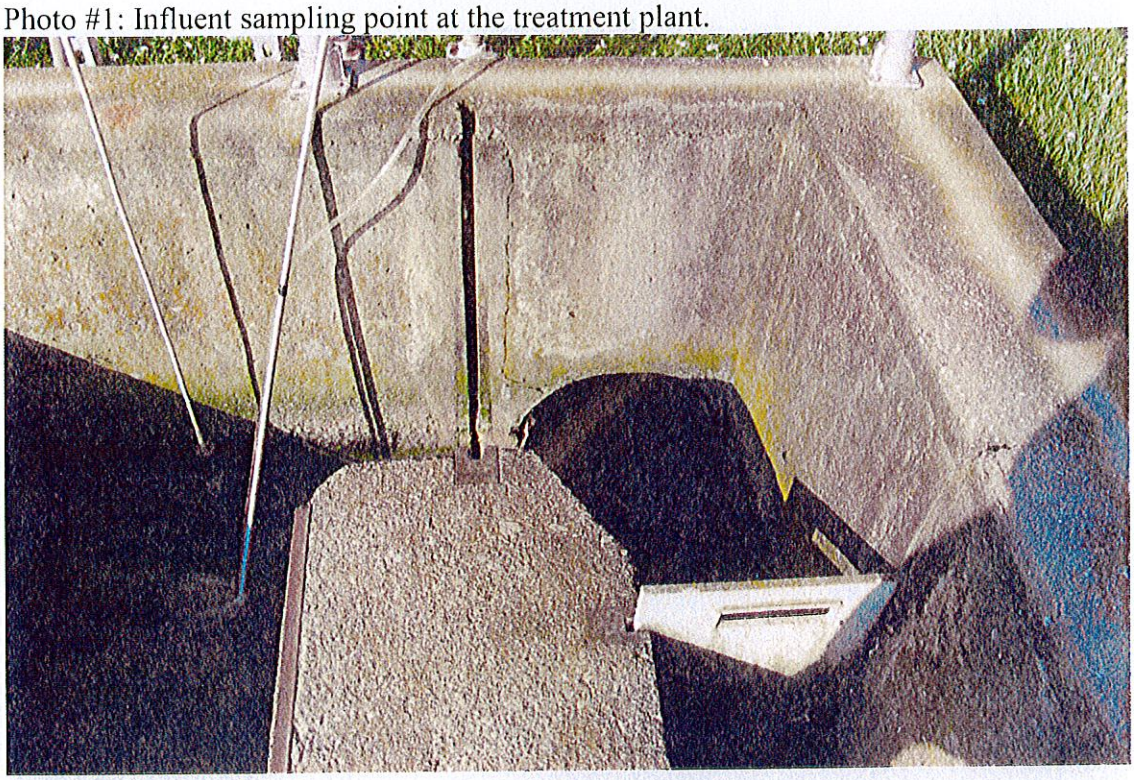


Photo #2: Effluent sampling point at the treatment plant.

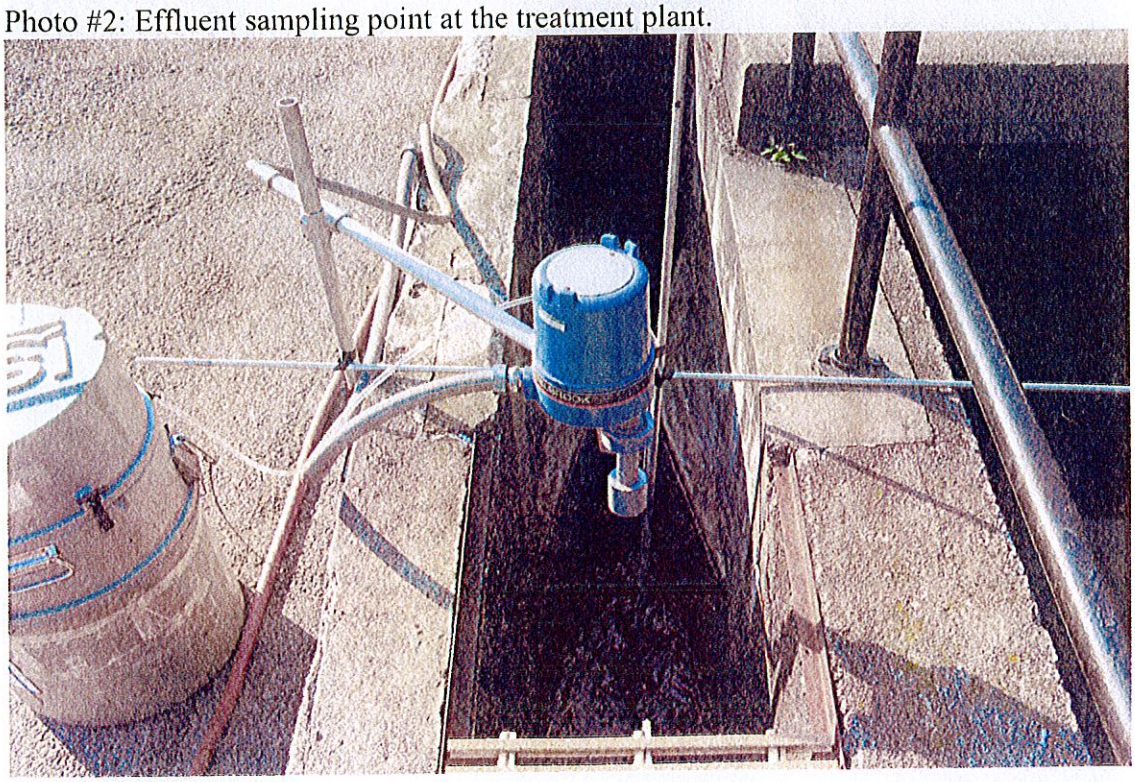
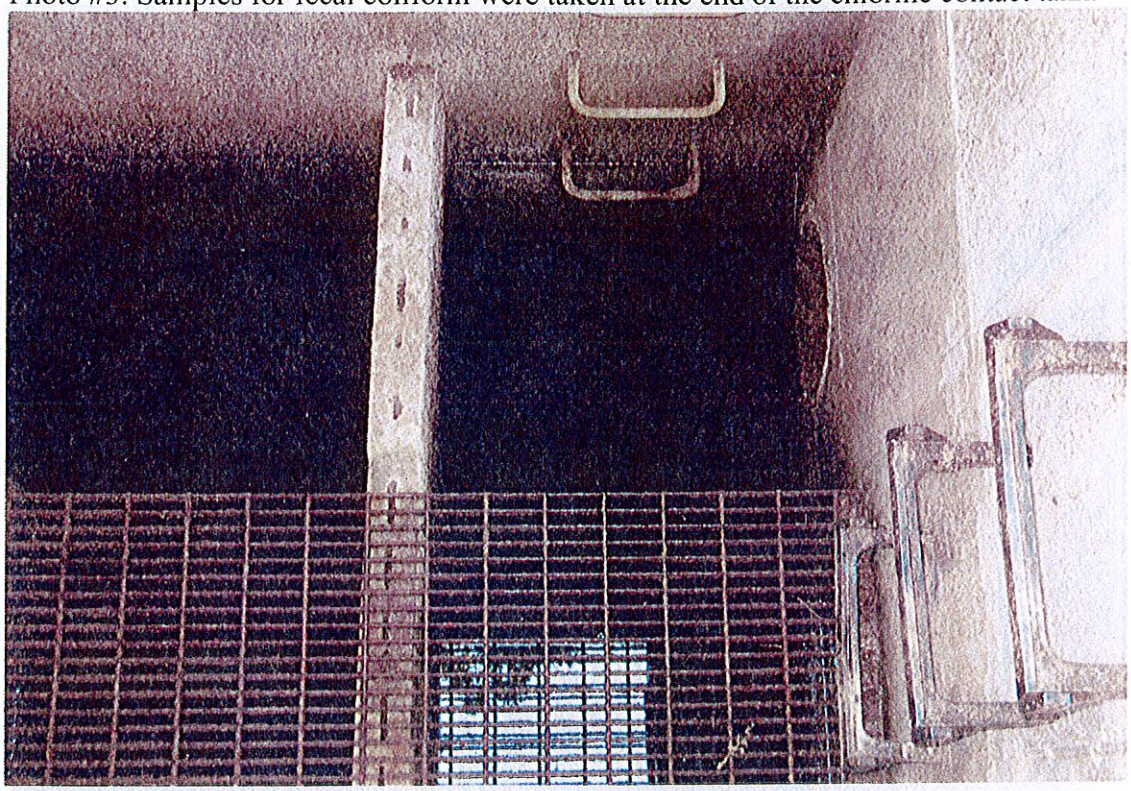


Photo #3: Samples for fecal coliform were taken at the end of the chlorine contact tank.



Photo#4: Buchanan (V) WWTP discharges from outfall 001 to the Hudson River.

Section A: National Data System Coding *(i.e., PCS)*

Column 1: Transaction Code: Use N, C, or D for New, Change, or Delete. All inspections will be *new* unless there is an error in the data entered.

Columns 3-11: NPDES Permit No. Enter the facility's NPDES permit number - third character in permit number indicates permit type for U=unpermitted, G=general permit, etc.. *(Use the Remarks columns to record the State permit number, if necessary.)*

Columns 12-17: Inspection Date. Insert the date entry was made into the facility. Use the year/month/day format (e.g., 04/10/01 = October 01, 2004).

Column 18: Inspection Type*. Use one of the codes listed below to describe the type of inspection:

- A Performance Audit
- B Compliance Biomonitoring
- C Compliance Evaluation (non-sampling)
- D Diagnostic
- F Pretreatment (Follow-up)
- G Pretreatment (Audit)
- I Industrial User (IU) Inspection
- J Complaints
- M Multimedia
- N Spill
- O Compliance Evaluation (Oversight)
- P Pretreatment Compliance Inspection
- R Reconnaissance
- S Compliance Sampling
- U IU Inspection with Pretreatment Audit
- X Toxics Inspection
- Z Sludge - Biosolids
- # Combined Sewer Overflow-Sampling
- $ Combined Sewer Overflow-Non-Sampling
- + Sanitary Sewer Overflow-Sampling
- & Sanitary Sewer Overflow-Non-Sampling
- ^ CAFO-Sampling
- = CAFO-Non-Sampling
- 2 IU Sampling Inspection
- 3 IU Non-Sampling Inspection
- 4 IU Toxics Inspection
- 5 IU Sampling Inspection with Pretreatment
- 6 IU Non-Sampling Inspection with Pretreatment
- 7 IU Toxics with Pretreatment
- ! Pretreatment Compliance (Oversight)
- @ Follow-up (enforcement)
- [Storm Water-Construction-Sampling
-] Storm Water-Construction-Non-Sampling
- : Storm Water-Non-Construction-Sampling
- ~ Storm Water-Non-Construction-Non-Sampling
- Storm Water-MS4-Sampling
- Storm Water-MS4-Non-Sampling
- > Storm Water-MS4-Audit

Column 19: Inspector Code. Use one of the codes listed below to describe the *lead agency* in the inspection.

- A — State (Contractor)
- B — EPA (Contractor)
- E — Corps of Engineers
- J — Joint EPA/State Inspectors—EPA Lead
- L — Local Health Department (State)
- N — NEIC Inspectors
- O— Other Inspectors, Federal/EPA (Specify in Remarks columns)
- P— Other Inspectors, State (Specify in Remarks columns)
- R — EPA Regional Inspector
- S — State Inspector
- T — Joint State/EPA Inspectors—State lead

Column 20: Facility Type. Use one of the codes below to describe the facility.

1 — Municipal. Publicly Owned Treatment Works (POTWs) with 1987 Standard Industrial Code (SIC) 4952.
2 — Industrial. Other than municipal, agricultural, and Federal facilities.
3 — Agricultural. Facilities classified with 1987 SIC 0111 to 0971.
4 — Federal. Facilities identified as Federal by the EPA Regional Office.
5 — Oil & Gas. Facilities classified with 1987 SIC 1311 to 1389.

Columns 21-66: Remarks. These columns are reserved for remarks at the discretion of the Region.

Columns 67-69: Inspection Work Days. Estimate the total work effort (to the nearest 0.1 work day), up to 99.9 days, that were used to complete the inspection and submit a QA reviewed report of findings. This estimate includes the accumulative effort of all participating inspectors; any effort for laboratory analyses, testing, and remote sensing; and the billed payroll time for travel and pre and post inspection preparation. This estimate does not require detailed documentation.

Column 70: Facility Evaluation Rating. Use information gathered during the inspection (regardless of inspection type) to evaluate the quality of the facility self-monitoring program. Grade the program using a scale of 1 to 5 with a score of 5 being used for very reliable self-monitoring programs, 3 being satisfactory, and 1 being used for very unreliable programs.

Column 71: Biomonitoring Information. Enter D for static testing. Enter F for flow through testing. Enter N for no biomonitoring.

Column 72: Quality Assurance Data Inspection. Enter Q if the inspection was conducted as followup on quality assurance sample results. Enter N otherwise.

Columns 73-80: These columns are reserved for regionally defined information.

Section B: Facility Data

This section is self-explanatory except for "Other Facility Data," which may include new information not in the permit or PCS (e.g., new outfalls, names of receiving waters, new ownership, other updates to the record, SIC/NAICS Codes, Latitude/Longitude).

Section C: Areas Evaluated During Inspection

Check only those areas evaluated by marking the appropriate box. Use Section D and additional sheets as necessary. Support the findings, as necessary, in a brief narrative report. Use the headings given on the report form (e.g., Permit, Records/Reports) when discussing the areas evaluated during the inspection. The heading marked "Multimedia" may indicate medias such as CAA, RCRA, and TSCA.

Section D: Summary of Findings/Comments

Briefly summarize the inspection findings. This summary should abstract the pertinent inspection findings, not replace the narrative report. Reference a list of attachments, such as completed checklists taken from the NPDES Compliance Inspection Manuals and pretreatment guidance documents, including effluent data when sampling has been done. Use extra sheets as necessary.

*Footnote: In addition to the inspection types listed above under column 18, a state may continue to use the following wet weather and CAFO inspection types until the state is brought into ICIS-NPDES: K: CAFO, V: SSO, Y: CSO, W: Storm Water 9: MS4. States may also use the new wet weather, CAFO and MS4 inspections types shown in column 18 of this form. The EPA regions are required to use the new wet weather, CAFO, and MS4 inspection types for inspections with an inspection date (DTIN) on or after July 1, 2005.

Sections F thru L: Complete on all inspections, as appropriate. N/A = Not Applicable

PERMIT NO. *NY 002 9971*

SECTION F - Facility and Permit Background

ADDRESS OF PERMITTEE IF DIFFERENT FROM FACILITY *(Including City, County and ZIP code)*

DATE OF LAST PREVIOUS INVESTIGATION BY EPA/STATE

FINDINGS

SECTION G - Records and Reports

RECORDS AND REPORTS MAINTAINED AS REQUIRED BY PERMIT. [ ] YES [x] NO [ ] N/A *(Further explanation attached ______)*

DETAILS:

(a) ADEQUATE RECORDS MAINTAINED OF:

(i) SAMPLING DATE, TIME, EXACT LOCATION	[x] YES	[ ] NO	[ ] N/A
(ii) ANALYSES DATES, TIMES	[x] YES	[ ] NO	[ ] N/A
(iii) INDIVIDUAL PERFORMING ANALYSIS	[x] YES	[ ] NO	[ ] N/A
(iv) ANALYTICAL METHODS/TECHNIQUES USED	[ ] YES	[x] NO	[ ] N/A
(v) ANALYTICAL RESULTS *(e.g., consistent with self-monitoring report data)*	[x] YES	[ ] NO	[ ] N/A
(b) MONITORING RECORDS *(e.g., flow, pH, D.O., etc.)* MAINTAINED FOR A MINIMUM OF THREE YEARS INCLUDING ALL ORIGINAL STRIP CHART RECORDINGS *(e.g. continuous monitoring instrumentation, calibration and maintenance records).*	[x] YES	[ ] NO	[ ] N/A
(c) LAB EQUIPMENT CALIBRATION AND MAINTENANCE RECORDS KEPT.	[ ] YES	[x] NO	[ ] N/A
(d) FACILITY OPERATING RECORDS KEPT INCLUDING OPERATING LOGS FOR EACH TREATMENT UNIT.	[x] YES	[ ] NO	[ ] N/A
(e) QUALITY ASSURANCE RECORDS KEPT.	[ ] YES	[x] NO	[ ] N/A
(f) RECORDS MAINTAINED OF MAJOR CONTRIBUTING INDUSTRIES *(and their compliance status)* USING PUBLICLY OWNED TREATMENT WORKS.	[ ] YES	[ ] NO	[x] N/A

SECTION H - Permit Verification

INSPECTION OBSERVATIONS VERIFY THE PERMIT. [x] YES [ ] NO [ ] N/A *(Further explanation attached ______)*

DETAILS:

(a) CORRECT NAME AND MAILING ADDRESS OF PERMITTEE. *10 Greentown Road*	[x] YES	[ ] NO	[ ] N/A
(b) FACILITY IS AS DESCRIBED IN PERMIT. *Activated Sludge Process*	[x] YES	[ ] NO	[ ] N/A
(c) PRINCIPAL PRODUCT(S) AND PRODUCTION RATES CONFORM WITH THOSE SET FORTH IN PERMIT APPLICATION.	[ ] YES	[ ] NO	[x] N/A
(d) TREATMENT PROCESSES ARE AS DESCRIBED IN PERMIT APPLICATION.	[x] YES	[ ] NO	[ ] N/A
(e) NOTIFICATION GIVEN TO EPA/STATE OF NEW, DIFFERENT OR INCREASED DISCHARGES.	[x] YES	[ ] NO	[ ] N/A
(f) ACCURATE RECORDS OF RAW WATER VOLUME MAINTAINED.	[ ] YES	[ ] NO	[x] N/A
(g) NUMBER AND LOCATION OF DISCHARGE POINTS ARE AS DESCRIBED IN PERMIT. *1 Discharge*	[x] YES	[ ] NO	[ ] N/A
(h) CORRECT NAME AND LOCATION OF RECEIVING WATERS. *Hudson River*	[x] YES	[ ] NO	[ ] N/A
(i) ALL DISCHARGES ARE PERMITTED. *Outfall 001 - No sign @ Discharge Pt.*	[x] YES	[ ] NO	[ ] N/A

SECTION I - Operation and Maintenance

TREATMENT FACILITY PROPERLY OPERATED AND MAINTAINED. [x] YES [ ] NO [ ] N/A *(Further explanation attached ______)*

DETAILS:

(a) STANDBY POWER OR OTHER EQUIVALENT PROVISIONS PROVIDED. *[illegible]*	[ ] YES	[ ] NO	[ ] N/A
(b) ADEQUATE ALARM SYSTEM FOR POWER OR EQUIPMENT FAILURES AVAILABLE.	[x] YES	[ ] NO	[ ] N/A
(c) REPORTS ON ALTERNATE SOURCE OF POWER SENT TO EPA/STATE AS REQUIRED BY PERMIT.	[ ] YES	[x] NO	[ ] N/A
(d) SLUDGES AND SOLIDS ADEQUATELY DISPOSED. *Passaic Valley Sewer Authority*	[x] YES	[ ] NO	[ ] N/A
(e) ALL TREATMENT UNITS IN SERVICE.	[x] YES	[ ] NO	[ ] N/A
(f) CONSULTING ENGINEER RETAINED OR AVAILABLE FOR CONSULTATION ON OPERATION AND MAINTENANCE PROBLEMS. *Hahn Engineering*	[x] YES	[ ] NO	[ ] N/A
(g) QUALIFIED OPERATING STAFF PROVIDED. *2 employees [illegible] operator*	[ ] YES	[ ] NO	[ ] N/A
(h) ESTABLISHED PROCEDURES AVAILABLE FOR TRAINING NEW OPERATORS.	[x] YES	[ ] NO	[ ] N/A
(i) FILES MAINTAINED ON SPARE PARTS INVENTORY, MAJOR EQUIPMENT SPECIFICATIONS, AND PARTS AND EQUIPMENT SUPPLIERS.	[x] YES	[ ] NO	[ ] N/A
(j) INSTRUCTIONS FILES KEPT FOR OPERATION AND MAINTENANCE OF EACH ITEM OF MAJOR EQUIPMENT.	[x] YES	[ ] NO	[ ] N/A
(k) OPERATION AND MAINTENANCE MANUAL MAINTAINED.	[x] YES	[ ] NO	[ ] N/A
(l) SPCC PLAN AVAILABLE.	[ ] YES	[ ] NO	[x] N/A
(m) REGULATORY AGENCY NOTIFIED OF BY PASSING. *(Dates ______)*	[ ] YES	[x] NO	[ ] N/A
(n) ANY BY-PASSING SINCE LAST INSPECTION.	[ ] YES	[x] NO	[ ] N/A
(o) ANY HYDRAULIC AND/OR ORGANIC OVERLOADS EXPERIENCED.	[ ] YES	[x] NO	[ ] N/A

PERMIT NO. UT 0022 307

SECTION J - Compliance Schedules

PERMITTEE IS MEETING COMPLIANCE SCHEDULE. ☐ YES ☐ NO ☑ N/A *(Further explanation attached _____)*

CHECK APPROPRIATE PHASE(S):

- ☐ (a) THE PERMITTEE HAS OBTAINED THE NECESSARY APPROVALS FROM THE APPROPRIATE AUTHORITIES TO BEGIN CONSTRUCTION.
- ☐ (b) PROPER ARRANGEMENT HAS BEEN MADE FOR FINANCING *(mortgage commitments, grants, etc.)*.
- ☐ (c) CONTRACTS FOR ENGINEERING SERVICES HAVE BEEN EXECUTED.
- ☐ (d) DESIGN PLANS AND SPECIFICATIONS HAVE BEEN COMPLETED.
- ☐ (e) CONSTRUCTION HAS COMMENCED.
- ☐ (f) CONSTRUCTION AND/OR EQUIPMENT ACQUISITION IS ON SCHEDULE.
- ☐ (g) CONSTRUCTION HAS BEEN COMPLETED.
- ☐ (h) START-UP HAS COMMENCED.
- ☐ (i) THE PERMITTEE HAS REQUESTED AN EXTENSION OF TIME.

SECTION K - Self-Monitoring Program

Part 1 – Flow measurement *(Further explanation attached _____)*			
PERMITTEE FLOW MEASUREMENT MEETS THE REQUIREMENTS AND INTENT OF THE PERMIT.	☑ YES	☐ NO	☐ N/A
DETAILS:			
(a) PRIMARY MEASURING DEVICE PROPERLY INSTALLED.	☑ YES	☐ NO	☐ N/A
TYPE OF DEVICE: ☐ WEIR ☑ PARSHALL FLUME ☐ MAGMETER ☐ VENTURI METER ☐ OTHER *(Specify _____)*			
(b) CALIBRATION FREQUENCY ADEQUATE. *(Date of last calibration August 02)*	☑ YES	☐ NO	☐ N/A
(c) PRIMARY FLOW MEASURING DEVICE PROPERLY OPERATED AND MAINTAINED.	☐ YES	☐ NO	☐ N/A
(d) SECONDARY INSTRUMENTS *(totalizers, recorders, etc.)* PROPERLY OPERATED AND MAINTAINED.	☑ YES	☐ NO	☐ N/A
(e) FLOW MEASUREMENT EQUIPMENT ADEQUATE TO HANDLE EXPECTED RANGES OF FLOW RATES.	☑ YES	☐ NO	☐ N/A
Part 2 – Sampling *(Further explanation attached _____)*			
PERMITTEE SAMPLING MEETS THE REQUIREMENTS AND INTENT OF THE PERMIT.	☑ YES	☐ NO	☐ N/A
DETAILS:			
(a) LOCATIONS ADEQUATE FOR REPRESENTATIVE SAMPLES.	☑ YES	☐ NO	☐ N/A
(b) PARAMETERS AND SAMPLING FREQUENCY AGREE WITH PERMIT.	☑ YES	☐ NO	☐ N/A
(c) PERMITTEE IS USING METHOD OF SAMPLE COLLECTION REQUIRED BY PERMIT.	☑ YES	☐ NO	☐ N/A
IF NO, ☐ GRAB ☐ MANUAL COMPOSITE ☐ AUTOMATIC COMPOSITE FREQUENCY _____			
(d) SAMPLE COLLECTION PROCEDURES ARE ADEQUATE.	☑ YES	☐ NO	☐ N/A
(i) SAMPLES REFRIGERATED DURING COMPOSITING Cont. Composite	☑ YES	☐ NO	☐ N/A
(ii) PROPER PRESERVATION TECHNIQUES USED	☑ YES	☐ NO	☐ N/A
(iii) FLOW PROPORTIONED SAMPLES OBTAINED WHERE REQUIRED BY PERMIT	☐ YES	☐ NO	☑ N/A
(iv) SAMPLE HOLDING TIMES PRIOR TO ANALYSES IN CONFORMANCE WITH 40 CFR 136.3	☑ YES	☐ NO	☐ N/A
(e) MONITORING AND ANALYSES BEING PERFORMED MORE FREQUENTLY THAN REQUIRED BY PERMIT.	☐ YES	☑ NO	☐ N/A
(f) IF (e) IS YES, RESULTS ARE REPORTED IN PERMITTEE'S SELF-MONITORING REPORT.	☐ YES	☐ NO	☑ N/A
Part 3 – Laboratory *(Further explanation attached _____)*			
PERMITTEE LABORATORY PROCEDURES MEET THE REQUIREMENTS AND INTENT OF THE PERMIT.	☐ YES	☑ NO	☐ N/A
DETAILS:			
(a) EPA APPROVED ANALYTICAL TESTING PROCEDURES USED. *(40 CFR 136.3)*	☑ YES	☐ NO	☐ N/A
(b) IF ALTERNATE ANALYTICAL PROCEDURES ARE USED, PROPER APPROVAL HAS BEEN OBTAINED.	☐ YES	☐ NO	☑ N/A
(c) PARAMETERS OTHER THAN THOSE REQUIRED BY THE PERMIT ARE ANALYZED.	☐ YES	☑ NO	☐ N/A
(d) SATISFACTORY CALIBRATION AND MAINTENANCE OF INSTRUMENTS AND EQUIPMENT.	☐ YES	☑ NO	☐ N/A
(e) QUALITY CONTROL PROCEDURES USED.	☐ YES	☐ NO	☐ N/A
(f) DUPLICATE SAMPLES ARE ANALYZED. _____ % OF TIME.	☐ YES	☑ NO	☐ N/A
(g) SPIKED SAMPLES ARE USED. _____ % OF TIME.	☐ YES	☐ NO	☑ N/A
(h) COMMERCIAL LABORATORY USED.	☐ YES	☐ NO	☐ N/A
(i) COMMERCIAL LABORATORY STATE CERTIFIED.	☐ YES	☐ NO	☐ N/A

LAB NAME [illegible]

LAB ADDRESS [illegible]

Form Approved
OMB No. 158 - R0073

PERMIT NO. NY 002 8971

SECTION L - Effluent/Receiving Water Observations *(Further explanation attached ____)*

OUTFALL NO.	OIL SHEEN	GREASE	TURBIDITY	VISIBLE FOAM	VISIBLE FLOAT SOL	COLOR	OTHER
001						→	Clear

(Sections M and N: Complete as appropriate for sampling inspections)

SECTION M - Sampling Inspection Procedures and Observations *(Further explanation attached ____)*

- ☑ GRAB SAMPLES OBTAINED
- ☑ COMPOSITE OBTAINED
- ☐ FLOW PROPORTIONED SAMPLE
- ☑ AUTOMATIC SAMPLER USED
- ☐ SAMPLE SPLIT WITH PERMITTEE
- ☐ CHAIN OF CUSTODY EMPLOYED
- ☐ SAMPLE OBTAINED FROM FACILITY SAMPLING DEVICE

COMPOSITING FREQUENCY Minimum 2 hrs 15 minutes PRESERVATION Yes, wet ice

SAMPLE REFRIGERATED DURING COMPOSITING: ☑ YES ☐ NO

SAMPLE REPRESENTATIVE OF VOLUME AND NATURE OF DISCHARGE Yes

SECTION N - Analytical Results *(Attach report if necessary)*

See Attached Findings + Conclusions in Report

EPA Form 3560-3 (9-77)

US EPA REGION 2 LABORATORY

Page 1 of 1 pages

CHAIN OF CUSTODY/ FIELD DATA FORM

SURVEY NAME & LOCALITY ___ **Buchanan (V) Wastewater Treatment Plant**

PROJECT LEADER _____ **Thuan Tran**

PROGRAM: SF ☐ : SITE ID _____ OPERABLE UNIT _____ PROGRAM RESULTS CODE _____

Decision	RCRA ☐	RCRA ENF ☐	NPDES ☒	SDWA ☐	AM ☐	CAA ☐	TSCA ☐	OD ☐	FIFRA ☐	CRIMINAL ENF ☐
Unit Code Y206	D210	D307	B304	C215	B224	A305	L306	B253		

Permit #: NY 002 9971

LAB ID/ FIELD ID	# OF CONTERS	MATRIX	CHECK IF SPLIT SAMPLE	DESCRIPTION & INSTRUCTIONS INCLUDING LOCATION, ESTIMATED CONCENTRATIONS, SPECIAL REPORTING LIMITS,	Res CL Checked	Preservative (circle)	Collection Time (24hr clock) Begin	Collection Time (24hr clock) End	Collection Date mm/dd/yy
DSN001-Composite	3	A	☐	2, 1-liter plastic container: **5-day BOD** = 6-hr Composite	☐	0	8:00am	2:00pm	6/10/2008
		A	☐	1, 500-ml plastic container: **TSS** = 6-hr Composite	☐	0	8:00am	2:00pm	6/10/2008
			☐		☐	0 1 2 3 4 5 6 7 8 9 10			
DSN001-Grab	5	B	☐	1, 250-ml sterilized plastic: **Fecal Coliform** = Grab # 1	☐	0, 4		1:15pm	6/10/2008
		B	☐	1, 250-ml sterilized plastic: **Fecal Coliform** = Grab # 2	☐	0, 4		1:30pm	6/10/2008
		B	☐	1, 250-ml sterilized plastic: **Fecal Coliform** = Grab # 3	☐	0, 4		1:45pm	6/10/2008
		B	☐	1, 250-ml sterilized plastic: **Fecal Coliform** = Grab # 4	☐	0, 4		2:00pm	6/10/2008
		B	☐	1, 250-ml sterilized plastic: **Fecal Coliform** = Grab # 5	☐	0, 4		2:15pm	6/10/2008
			☐		☐	0 1 2 3 4 5 6 7 8 9 10			
			☐		☐	0 1 2 3 4 5 6 7 8 9 10			

COMMENTS & SPECIAL REQUIREMENTS:

Preservative Added & Checked

0=ice
1=H2SO4 pH<2
2=HNO3 pH<2
3=HCl pH<2
4=Na2S2O3
5=NaOH pH>9
6=Ascorbic Acid
7=FAS
8=ZnAc
9=NaOH pH>12
10=NH4Cl

	Time	Date
Person Assuming Responsibility for Sample(s):		
Received By:	16:20	6/10/08
Received By:		
Received By:		

Matrix:

A=aqueous
B=aqueous (chlorinated)
C=soil
D=sediment
E=sludge
F=multiphasic
G=solvent
H=biota
I=oil
J=other

Relinquished By:

Relinquished By:

Relinquished By:

Survey Complete? Y ☒ N ☐

revised 10/25/2004

US EPA REGION 2 LABORATORY

Page ____ of ____ pages

CHAIN OF CUSTODY/ FIELD DATA FORM

SURVEY NAME & LOCALITY **Buchanan (V) Wastewater Treatment Plant**

PROJECT LEADER **Thuan Tran**

PROGRAM: SF ☐ SITE ID ______ OPERABLE UNIT ________

PROGRAM RESULTS CODE __________

Decision Unit Code Y206	RCRA ☐ D210	RCRA ENF ☐ D307	NPDES ☒ B304	SDWA ☐ C215	AM ☐ B224	CAA ☐ A305	TSCA ☐ L306	OD ☐ B253	FIFRA ☐	CRIMINAL ENF ☐

Permit #: **NY 002 9971**

LAB ID/ FIELD ID	# OF CONT'ERS	MATRIX	CHECK IF SPLIT SAMPLE	DESCRIPTION & INSTRUCTIONS INCLUDING LOCATION, ESTIMATED CONCENTRATIONS, SPECIAL REPORTING LIMITS.	Res CL Checked	Preservative (circle)	Collection Time (24hr clock) Begin	Collection Time (24hr clock) End	Collection Date mm/dd/yy
Influent-Composite	2	A	☐	1, 1-liter plastic container: **5-day BOD** = 6-hr Composite	☐	0	8:00am	2:00pm	6/10/2008
		A	☐	1, 250-ml plastic container: **TSS** = 6-hr Composite	☐	0	8:00am	2:00pm	6/10/2008
			☐		☐	0 1 2 3 4 5 6 7 8 9 10			
			☐		☐	0 1 2 3 4 5 6 7 8 9 10			
			☐		☐	0 1 2 3 4 5 6 7 8 9 10			
			☐		☐	0 1 2 3 4 5 6 7 8 9 10			
			☐		☐	0 1 2 3 4 5 6 7 8 9 10			
			☐		☐	0 1 2 3 4 5 6 7 8 9 10			
			☐		☐	0 1 2 3 4 5 6 7 8 9 10			
			☐		☐	0 1 2 3 4 5 6 7 8 9 10			

COMMENTS & SPECIAL REQUIREMENTS:

Preservative Added & Checked

0=ice	7=FAS
1=H2SO4 pH<2	8=ZnAc
2=HNO3 pH<2	9=NaOH pH>12
3=HCl pH<2	10=NH4Cl
4=Na2S2O3	
5=NaOH pH>9	
6=Ascorbic Acid	

		Time	Date
	Person Assuming Responsibility for Sample(s):		
Relinquished By:	Received By: Michelle J. Piña	16-26	6/10/08
Relinquished By:	Received By:		
Relinquished By:	Received By:		

Matrix:

A=aqueous	F=multiphasic
B=aqueous (chlorinated)	G=solvent
C=soil	H=biota
D=sediment	I=oil
E=sludge	J=other

Survey Complete? Y ☑ N ☐

revised 10/25/2004

Case Narrative:
Buchanan WWTP #08060021

The National Environmental Laboratory Accreditation Conference (NELAC) is a voluntary environmental laboratory accreditation association of State and Federal agencies. NELAC established and promoted a national accreditation program that provides a uniform set of standards for the generation of environmental data that are of known and defensible quality. The EPA Region 2 Laboratory is NELAC accredited. The Laboratory tests that are accredited have met all the requirements established under the NELAC Standards.

Comment(s):

None.

Data Qualifier(s):

U- The analyte was not detected at or above the Reporting Limit.
J- The identification of the analyte is acceptable; the reported value is an estimate.
K- The identification of the analyte is acceptable; the reported value may be biased high.
L- The identification of the analyte is acceptable; the reported value may be biased low.
NJ- There is presumptive evidence that the analyte is present; the analyte is reported as a tentative identification. The reported value is an estimate.

Reporting Limit(s):

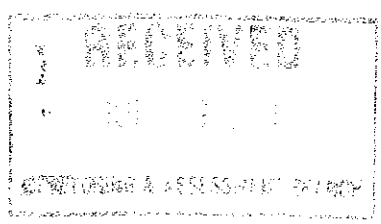
The Laboratory was able to achieve the appropriate limits for each analyte requested.

Method(s):

All methods that are NELAC accredited in the Laboratory are noted with "NELAC" at the end of the method reference.

- Biochemical Oxygen Demand, SM 5210 B, 1999 20th Ed. (SOP C-21 (5 Days, 20°C Method) (NELAC)
- Fecal Coliform Analysis, SM 9221 E & SM 9221 C (SOP B-8; MPN) (NELAC)
- Residue, Non-Filterable (TSS), SM 2540 D, 1999 20th Ed. (SOP C-33; Gravimetric Method) (NELAC)

Approval: _____ Date: 7-7-08



U.S. Environmental Protection Agency
Region 2 Laboratory
2890 Woodbridge Avenue
Edison, NJ 08837

Data Report: BUCHANAN (V) WWTP

Project Number: 08060021

Program: B304

Project Leader: THUAN TRAN

Remark Codes	Explanation
U	THE ANALYTE WAS NOT DETECTED AT OR ABOVE THE REPORTING LIMIT.
J	THE IDENTIFICATION OF THE ANALYTE IS ACCEPTABLE; THE REPORTED VALUE IS AN ESTIMATE.
UJ	THE ANALYTE WAS NOT DETECTED AT OR ABOVE THE REPORTING LIMIT. THE REPORTING LIMIT IS AN ESTIMATE.
N	THERE IS PRESUMPTIVE EVIDENCE THAT THE ANALYTE IS PRESENT; THE ANALYTE IS REPORTED AS A TENTATIVE IDENTIFICATION.
NJ	THERE IS PRESUMPTIVE EVIDENCE THAT THE ANALYTE IS PRESENT; THE ANALYTE IS REPORTED AS A TENTATIVE IDENTIFICATION. THE REPORTED VALUE IS AN ESTIMATE.
R	THE PRESENCE OR ABSENCE OF THE ANALYTE CANNOT BE DETERMINED FROM THE DATA DUE TO SEVERE QUALITY CONTROL PROBLEMS. THE DATA ARE REJECTED AND CONSIDERED UNUSABLE.
K	THE IDENTIFICATION OF THE ANALYTE IS ACCEPTABLE; THE REPORTED VALUE MAY BE BIASED HIGH. THE ACTUAL VALUE IS EXPECTED TO BE LESS THAN THE REPORTED VALUE.
L	THE IDENTIFICATION OF THE ANALYTE IS ACCEPTABLE; THE REPORTED VALUE MAY BE BIASED LOW. THE ACTUAL VALUE IS EXPECTED TO BE GREATER THAN THE REPORTED VALUE.
NV	NOT VALIDATED
INC	RESULT NOT ENTERED

Survey Name: BUCHANAN (V) WWTP

Project Number: 08060021

*Sorted By Sample ID

AK02717 Field/Station ID: DSN001-COMPOSITE Date Received: 6/10/2008
Matrix: Aqueous

Sample Description:

Single Component Analyses

CAS Number	Analyte Name	Result	Remark Codes	Units
E1640606	BOD 5DAY	21		mg/L
010-17-3	RESIDUE, NON-FILTERABLE	14		mg/L

AK02718 Field/Station ID: DSN001-GRAB #1 Date Received: 6/10/2008
Matrix: Aqueous(chlor.)

Sample Description:

Single Component Analyses

CAS Number	Analyte Name	Result	Remark Codes	Units
E761692	FECAL COLIFORM, MPN	4.0		MPN/100ml

AK02719 Field/Station ID: INFLUENT-COMPOSITE Date Received: 6/10/2008
Matrix: Aqueous

Sample Description:

Single Component Analyses

CAS Number	Analyte Name	Result	Remark Codes	Units
E1640606	BOD 5DAY	300		mg/L
010-17-3	RESIDUE, NON-FILTERABLE	500		mg/L

AK02720 Field/Station ID: DSN001- GRAB # 2 Date Received: 6/11/2008
Matrix: Aqueous(chlor.)

Sample Description:

Single Component Analyses

CAS Number	Analyte Name	Result	Remark Codes	Units
E761692	FECAL COLIFORM, MPN	---	2.0U	MPN/100ml

U.S. EPA Region 2 Laboratory
Data Report

Survey Name: BUCHANAN (V) WWTP

Project Number: 08060021

*Sorted By Sample ID

AK02721 Field/Station ID: DSN001- GRAB # 3 Date Received: 6/11/2008
Matrix: Aqueous(chlor.)

Sample Description:

Single Component Analyses

CAS Number	Analyte Name	Result	Remark Codes	Units
E761692	FECAL COLIFORM, MPN	7.0		MPN/100ml

AK02722 Field/Station ID: DSN001- GRAB # 4 Date Received: 6/11/2008
Matrix: Aqueous(chlor.)

Sample Description:

Single Component Analyses

CAS Number	Analyte Name	Result	Remark Codes	Units
E761692	FECAL COLIFORM, MPN	4.0		MPN/100ml

AK02723 Field/Station ID: DSN001- GRAB # 5 Date Received: 6/11/2008
Matrix: Aqueous(chlor.)

Sample Description:

Single Component Analyses

CAS Number	Analyte Name	Result	Remark Codes	Units
E761692	FECAL COLIFORM, MPN	---	2.0U	MPN/100ml

Project Approval: _____ **Date:** 7-7-08

Refer to Page 1 for an explanation of Remark Codes

Report Date: 7/1/2008 2:52PM

Cronin Engineering, PE, PC
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APPENDIX E

RAPID PUMP & METER SERVICE CO., INC.
INSPECTION REPORT
FOR
VILLAGE OF BUCHANAN
WASTE WATER TREATMENT PLAN

AUGUST 18, 2009

Rapid Pump &
Meter Service Co., Inc.

August 18, 2009

Mr. George Smith
Village of Buchanan
10 Greentown Road
Buchanan, NY 10511

Reference: **Inspection of Side One Tank and Equipment**

Dear Mr. Smith,

The following are the conditions found during the coarse of our inspection, the tank was pumped down to approximately one-foot (1') of liquid / sludge remaining.

ITEM 1. AERATOR TANK

- Tank walls have previously repaired cracks that are leaking through from the adjacent tanks and new cracks have formed since the prior repairs were performed.
  * * Old Grout / Caulking needs to be removed and all cracks repaired.

- Aerator Draft Tube cable tie mounts are deteriorated and loose where mounted on the sides of the tanks.
  * *Replace tie cable mounts and anchors on tank walls in new undisturbed locations.

- End weirs and supports are rotted away and loose where mounted to the tank walls
  * * Replace brackets and hardware with stainless steel and re-anchor to tank wall and replace weir boards.

- Expansion joint leaking between Tanks.
  * * Replace expansion joint.

- Railings have deteriorated paint.
  * * Test existing paint for lead, sandblast/repaint or replace with maintenance free aluminum or stainless steel railings.

- Aerator Bridgework supporting the three (3) aerators and spanning the aerator tank is rusted and deteriorated.
  * * Test existing paint for lead. Sandblast, inspect, and repair deterioration and repaint.

- Aerator Bridgework mounting pads have sunk and worn into the concrete sides of the aerator tank resulting in an out-of-level and unsecured condition.
  * * Raise bridgework, remove loose concrete and existing shims/ mounting plates, re-grout mounting surfaces on tank wall, replace mounting plates / shims with stainless steel, reset bridgework, level and secure.

285 STRAIGHT STREET, PO BOX AY • PATERSON, NJ 07509 • FAX (973) 345-0301 • **PHONE (973) 345-5600**

- Three (3) Aerators, Gear Boxes and Motors.
  * * Remove, inspect overhaul / replace.

ITEM II. 1ST AERATOR

- Draft tube has extensive rust and deterioration especially on lower portion of tube.
  * * Sandblast, inspect thickness, repair/repaint or replace.

- Turnbuckles and Tie Cables are rotted away and deteriorated and the Turnbuckles mounting ring on Draft Tube is deteriorated.
  * * Replace Turnbuckles and Tie Cables with new stainless steel. Draft Tube Turnbuckle mounting ring to be repaired/ replaced.

- Draft Tube is not plumb with Impeller – (See Below)

- Draft Tube foot mounting condition on tank floor needs to be further investigated (sludge at bottom of tank would have to be vactored out and cleaned to expose the existing mounting condition and inspect).
  * * Remount, level and plumb.

- Aerator Impeller is rusted and worn.
  * * Replace with new Impeller.

- Cross-Tank support beams are rusted.
  * * Sandblast and repaint with epoxy paint.

ITEM III. CENTER AERATOR

- Draft Tube extensive rust over 75% of Tube.
  * * Sandblast and inspect for holes and thickness – repair/replacement to be determined after inspection.

- Turnbuckles and tie cables rotted and deteriorated and the Turnbuckle mounting ring on Draft Tube is rotted away.
  * * Replace Turnbuckles and Tie Cables with new stainless steel. Draft Tube Turnbuckle mounting ring to be repaired / replaced.

- Aerator Impeller not centered in Draft Tube (See Below)
  * * Relocate Aerator to proper position after Draft Tube is plumbed and remounted.

- Draft Tube not plumb (See Below)

- Obstruction under Draft Tube.
  * * Vactor Tank and clean bottom of Tank to expose obstruction and inspect foot mounting of Draft Tube and Tank Floor. Remount, level and plumb.

- Aerator Impeller is rusted and deteriorated to the point that it is paper-thin and perforated.
  * * Replace Impeller.

ITEM IV. END AEARATOR

- Draft Tube has extensive rust.
  * * Sandblast, inspect thickness, repair/repaint or replace.

- Turnbuckles and tie cables are rotted and deteriorated and the Turnbuckle mounting ring on Draft Tube is rotted away.
  * * Replace Turnbuckles and Tie Cables with new stainless steel. Turnbuckle mounting ring on Draft Tube to be repaired/ replaced.

- Draft Tube is not plumb and is loose (See Below).

- Draft Tube foot mounting condition on tank floor needs to be further investigated.
  * * Vactor Tank and clean bottom of Tank to expose the existing mounting condition and inspection. Remount, level and plumb.

- Aerator Impeller is rusted and deteriorated to the point that it is perforated.
  * * Replace with new Impeller

ITEM V. SCUM TROUGH AND TANK

- Troughs bent and out of level.

* * Replace all Troughs, adjustable mounts and re-level.

- Concrete broken and cracked where Trough adjustment mounts are secured and all around the exterior of Tank.
  * * Repair all broken concrete and cracks.

- Skimmer Bar chain jumps.
  * * Vactor tank and inspect to determine cause of problem.

- Pumps removed, air piping deteriorated.
  * * Replace Pumps and air piping.

- Chain idlers not turning free.
  * * Repair / replace.

ITEM VI. COMMINUTOR

- Existing Comminutor is out of service and needs to be repaired / replace.

The above inspection was performed on the Side One (West Side) Tanks and does not include the Side Two (East Side) Tanks. Due to the water / sludge remaining in the bottom of the Tanks we were unable to inspect below the water line (Draft Tube mounting and Tank floor). The Tanks will have to be vactored out and cleaned prior to any further inspection, repairs or replacements.

*** * * Due to the poor condition of the Side One Tanks and Equipment, it would be anticipated that the general condition of the Side Two Tanks and Equipment would be similar conditions.**

If I can be of any further assistance, please do not hesitate to call me.

Sincerely,

Les Bell

Les Bell
Account Representative
Rapid Pump & Meter Service Co., Inc.

Cronin Engineering, PE, PC
2 John Walsh Blvd
Peekskill, NY 10566
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email: civil@croninengineering.net

APPENDIX F

WASTE WATER TREATMENT PLANT PHOTOGRAPHS

September 1, 2009

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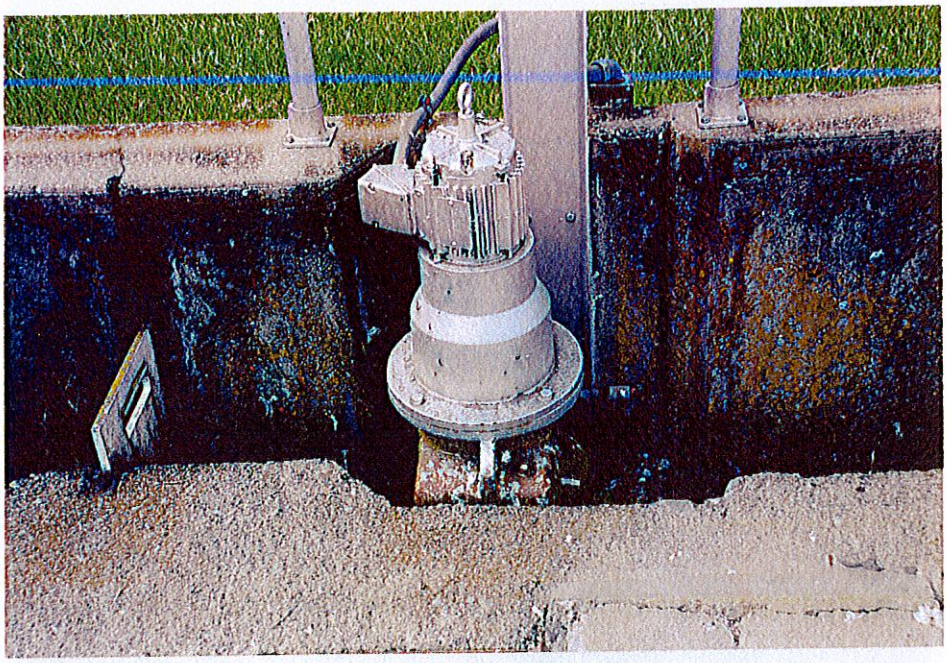

Appendix F - Figure 1 – Comminutor (Out of Service for Past 25 years)

Appendix F - Figure 2 – Holes in Grit Chamber Air Pipe

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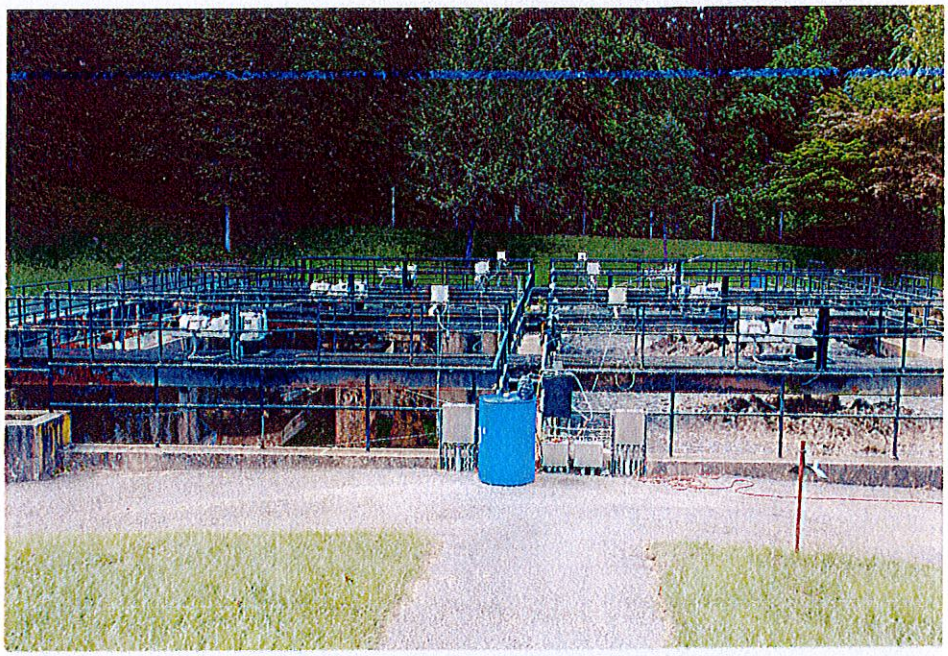

Appendix F - Figure 3 – Aeration & Settling Tanks & Clarifiers

Left Side - Treatment Train 1 (South)
Right Side - Treatment Train 2 (North)

Appendix F - Figure 4 – Catwalk I-Beam Rusted w/Hole

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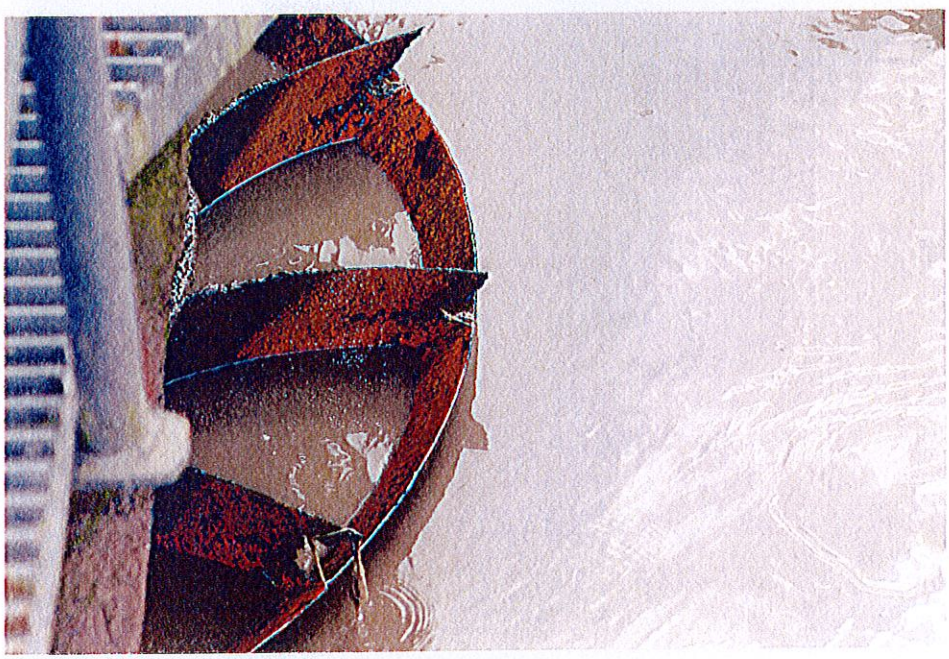
Appendix F- Figure 5 – Rusted Aerator/Draft Tube
Treatment Train #1 (South Side)



Appendix F- Figure 6 – Rusted Aerator w/Broken/Worn Fins
Treatment Train #2 (North Side)

Cronin Engineering, PE, PC
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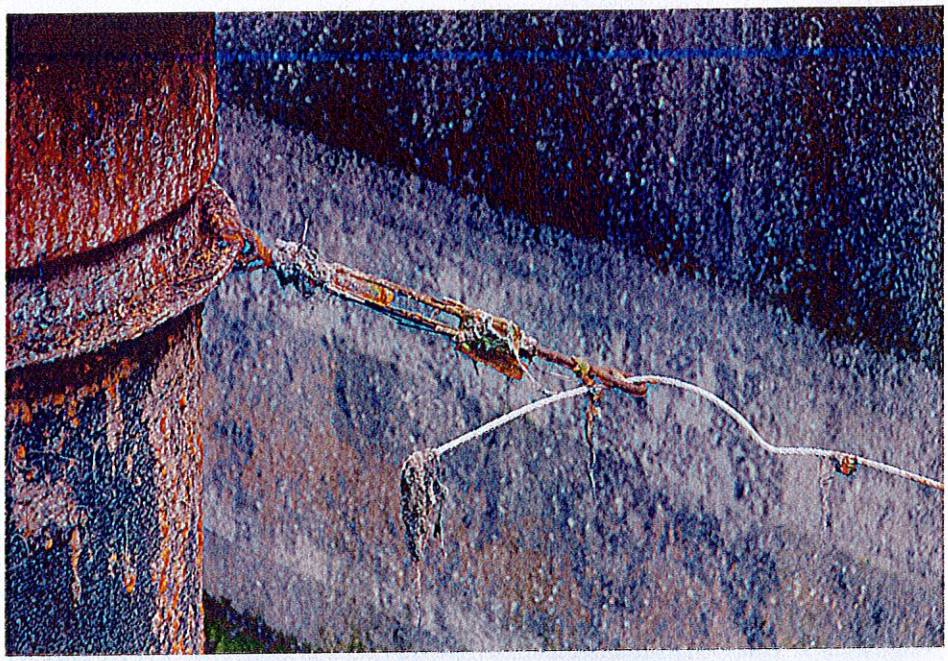

Appendix F - Figure 7 – Aerator Draft Tube Cable Tie

Appendix F - Figure 8 – Hole in Catwalk I-Beam
Treatment Train #2 (North Side)

Cronin Engineering, PE, PC
2 John Walsh Blvd
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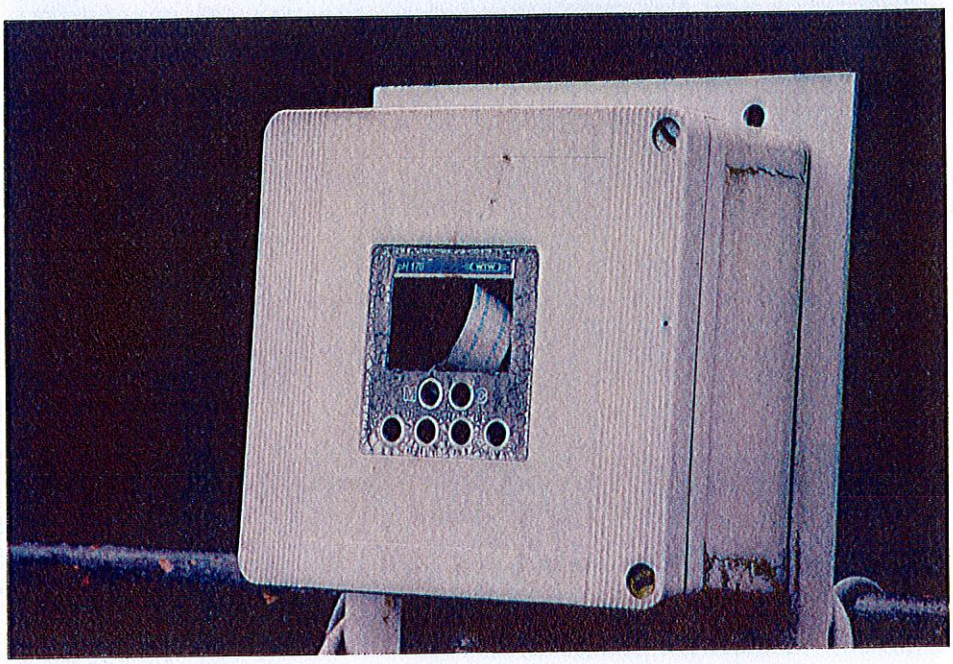
Appendix F - Figure 9 – Holes in Catwalk I-Beam Over Treatment Train #2 (North Side)



Appendix F - Figure 10 – Ph Meter in Disrepair

Cronin Engineering, PE, PC
2 John Walsh Blvd
Peekskill, NY 10566
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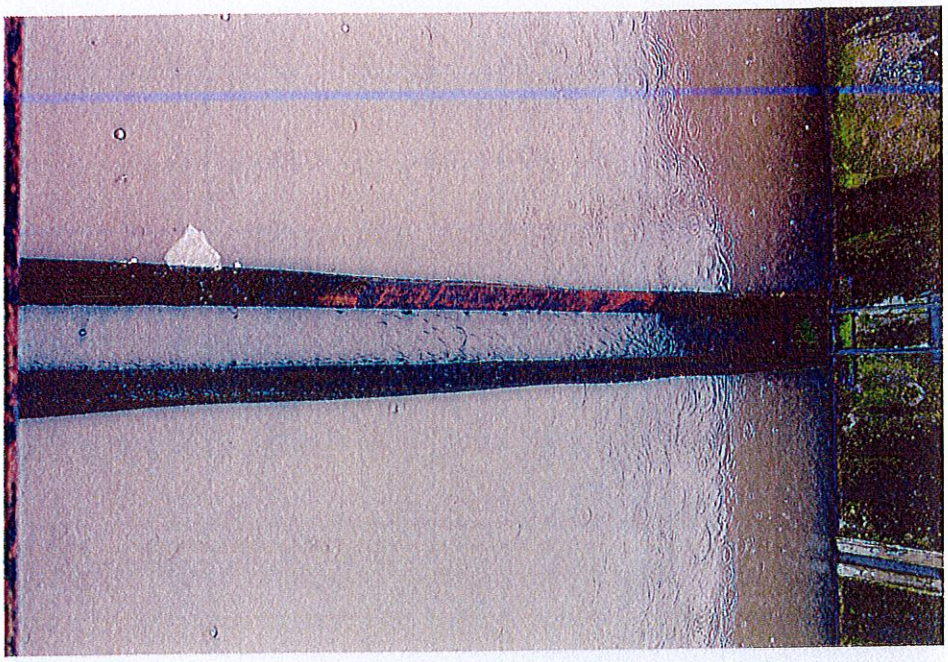
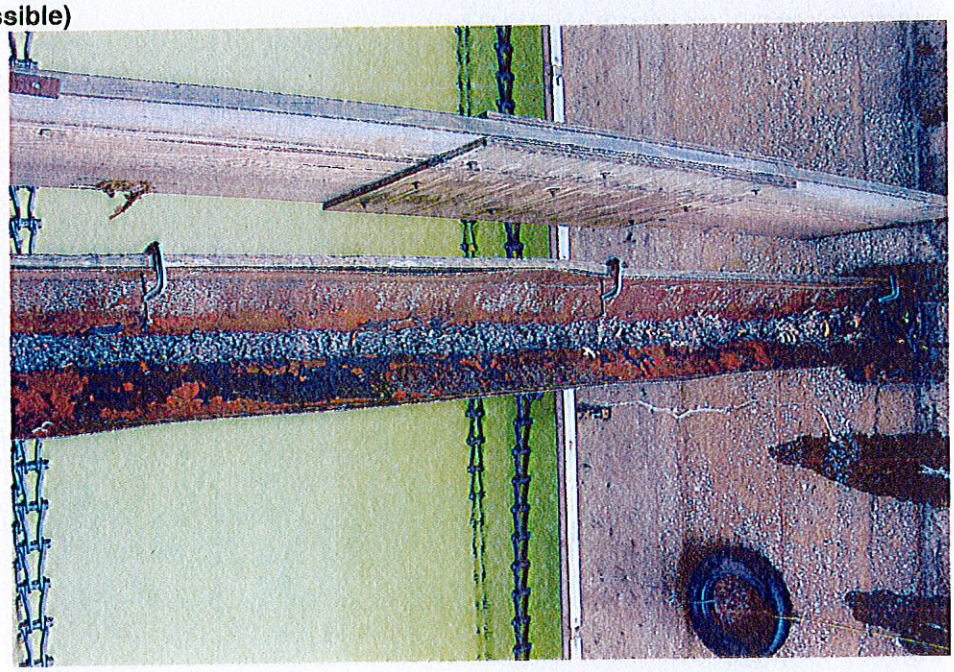


Appendix F - Figure 11 – Weir at Treatment Train #2 (North Side)

(Note rust colored area of weir where no flow occurs due to unevenness. Due to their condition adjustments to level them, which is necessary to obtain even flow over the entire edge of the weir, are virtually impossible)



Appendix F - Figure 12 – Weir at Treatment Train #1 (South Side)

(Note weirs on the south side have not been utilized in approx. 15 years. All 6 weirs are in similar condition – rusted, bent & uneven. Due to their condition adjustments to level them, which is necessary to obtain even flow over the entire edge of the weir, are virtually impossible)

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email: civil@croninengineering.net

APPENDIX G

CAIN CONTROL SYSTEMS SERVICE REPORT FOR ALBANY POST ROAD PUMP STATION

September 1, 2009

VOUCHER

VILLAGE OF BUCHANAN
BUCHANAN, NEW YORK

PARTMENT

AIMANT'S NAME AND DDRESS

CAIN CONTROL SYSTEMS
PO BOX335
WESTTOWN,NEW YORK 10998

Exempt # 13-6007287

DO NOT WRITE IN THIS BOX

FUND - APPROPRIATION	AMOUNT
001-8130-480	$ 375.30
TOTAL	$ 375.30
ENTERED ON ABSTRACT NO.	

Vender's Ref. No. 578 Invoice #

DATE	VENDOR'S INVOICE NO.	QUANTITY	DESCRIPTION OF MATERIALS OR SERVICES	UNIT PRICE	AMOUNT
7/24/09	10165		AS PER ATTACHED INVOICE FOR SERVICE OF PUMP STATION CONTROLS LOCATION: ALBANY POST ROAD STATION		$ 375.30
			(SEE INSTRUCTIONS ON REVERSE SIDE)	TOTAL	$ 375.30

CLAIMANT'S CERTIFICATION

I, _____, certify that the above account in the amount of $ _____ is true and correct; that the items, services and disbursements charged were rendered to or for the municipality on the dates stated, that no part has been paid or satisfied; that taxes, from which the municipality is exempt, are not included; and that the amount claimed is actually due.

DATE SIGNATURE TITLE

(SPACE BELOW FOR MUNICIPAL USE)

DEPARTMENT APPROVAL

The above services or materials were rendered or furnished to the municipality on the dates stated and the charges are correct.

7/30/09 DATE

AUTHORIZED OFFICIAL

APPROVAL FOR PAYMENT

This claim is approved and ordered paid from the appropriations indicated above

DATE AUDITING BOARD

ONTROL SYSTEMS

WN, NEW YORK 10998 TELE/FAX 845-726-3887

INVOICE

INVOICE NO	10165
INVOICE DATE	07/24/2009
CUST. NO:	0105
CUSTOMER ORDER NO.	VERBAL
TERMS	NET 30

LL TO:

VILLAGE OF BUCHANAN
218 WESTCHESTER AVE
BUCHANAN, NEW YORK 10510

JOB LOCATION

VILLAGE OF BUCHANAN WWTP
BUCHANAN, NEW YORK

QUANTITY		DESCRIPTION	SERVICE DATE	M/T/E	PRICE/UNIT	MATERIAL	LABOR	AMOUNT
			07/17/2009					
3.5	WORK HRS	SERVICE ON PUMP STATION CONTROLS			50.00		175.00	175.00
2.5	TVL HOURS	AT POST RD. PUMP STA.			50.00		125.00	125.00
104	MILES			72.80	0.70			72.80
1	TOLLS			2.50	2.50			2.50
0	MATERIAL				0.00	0.00		0.00

FED ID # 14 - 1697236	PLEASE INCLUDE INVOICE NO. ON ALL CORRESPONDENCE	SUBTOTAL	75.30		0.00	300.00	375.30
		FREIGHT					
		TAX	NY		NJ		
		TOTAL					375.30

QUESTIONS CONCERNING THIS INVOICE?
CALL JOHN ROSCHER
845-726-3887

LABOR IS BILLED @ 50.00/HR PORTAL TO PORTAL
PLUS MILAGE AND EXPENSES

MAKE ALL CHECKS PAYABLE TO
CAIN CONTROL SYSTEMS
PO BOX 335
WESTTOWN, NEW YORK 10998

JAN	FEB	MAR	APR	MAY	JUNE	NY NJ
JULY	AUGUST	SEPT	OCT	NOV	DEC	NY NJ

SERVICE REPORT

CONTROL SYSTEMS
X 335
TOWN, NEW YORK 10998

BILL TO:
VILLAGE OF BUCHANAN
218 WESTCHESTER AVE
BUCHANAN, NEW YORK 10510

JOB:
VILLAGE OF BUCHANAN WWTP
BUCHANAN, NEW YORK

DATE	07/17/2009
CUST #	0105
PO #	VERBAL
JCN #	SERVICE
INV DATE	07/24/2009
INV NO	10165

QUAN	DESCRIPTION	UNIT COST	PRICE
3.5	WORK HRS	50.00	175.00
2.5	TVL HRS	50.00	125.00

MILES END	43222			MILAGE @ .70/MILE	104	72.80
MILE START	43118			TOLLS	2.50	2.50
TOTAL MILES	104	# JOBS	1	EXPENSES		
WORK PERFORMED					TOTAL	375.30

SERVICE ON POST RD. PUMP STATION PUMP CONTROLS

BROKEN CABLE AND MISSING FLOAT ON LEVEL TRANSMITTER
MADE UP TEMPORARY FLOAT FROM 1 QT CONTAINER, ADDED SAND FOR COUNTER WEIGHT
RECABLED TRANSMITTER AND RESET CONTROL LEVELS

RAN CONTROLS THRU AUTOMATIC CYCLE SEVERAL TIMES, TO CHECK OPERATION

NOTE: PARTS FOR REPAIR OF THIS EQUIPMENT HAVE NOT BEEN AVAILABLE FOR 20 YEARS
IT WOULD BE ADVISEABLE TO UP GRADE EQUIPMENT AS SOON AS POSSIBLE TO
AVOID MAJOR PROBLEM UPON FAILURE IN FUTURE

Cronin Engineering, PE, PC
2 John Walsh Blvd
Peekskill, NY 10566
(T) (914) 736-3664
(F) (914) 736-3693
email: civil@croninengineering.net

APPENDIX H

CAIN CONTROL SYSTEMS SERVICE REPORT FOR 4TH STREET PUMP STATION

September 1, 2009

VOUCHER

VILLAGE OF BUCHANAN
BUCHANAN, NEW YORK

'ARTMENT WASTEWATER TREATMENT PLANT

IMANT'S
IAME
AND
DRESS

CAIN CONTROL SYSTEMS
PO BOX 335
WESTTOWN, NEW YORK' 10998

Exempt # 13-6007287

DO NOT WRITE IN THIS BOX

FUND - APPROPRIATION	AMOUNT
001-8130-480	389.30
TOTAL	$ 389.30
ENTERED ON ABSTRACT NO.	

Vender's
Ref. No. 578 Invoice # _____

DATE	VENDOR'S INVOICE NO.	QUANTITY	DESCRIPTION OF MATERIALS OR SERVICES	UNIT PRICE	AMOUNT
/22/09	10154		AS PER ATTACHED INVOICE FOR SERVICE ON 4TH STREET PUMP STATION		$389.30
			(SEE INSTRUCTIONS ON REVERSE SIDE)	TOTAL	$ 389.30

CLAIMANT'S CERTIFICATION

_____, certify that the above account in the amount of $ _____ is true and correct; that the items, services and disbursements charged were rendered to or for the municipality on the dates stated; that no art has been paid or satisfied; that taxes, from which the municipality is exempt, are not included; and that the amount claimed is tually due.

DATE _____ SIGNATURE _____ TITLE _____

(SPACE BELOW FOR MUNICIPAL USE)

DEPARTMENT APPROVAL

The above services or materials were rendered or furnished to the municipality on the dates stated and the charges are correct.

3/26/09 _____
DATE AUTHORIZED OFFICIAL

APPROVAL FOR PAYMENT

This claim is approved and ordered paid from the appropriations indicated above.

_____ _____
_____ _____
DATE AUDITING BOARD

TROL SYSTEMS

NEW YORK 10998 TELE/FAX 845-726-3887

INVOICE

INVOICE NO: 10154
INVOICE DATE: 03/22/2009
CUST. NO: 0105
CUSTOMER ORDER NO: VERBAL
TERMS: NET 30

TO:

VILLAGE OF BUCHANAN
218 WESTCHESTER AVE
BUCHANAN, NEW YORK 10510

JOB LOCATION:

VILLAGE OF BUCHANAN WWTP
BUCHANAN, NEW YORK

QUANTITY	DESCRIPTION	SERVICE DATE	RATE	OVERTIME	DOUBLE TIME	TAXABLE	NON-TAXABLE
4.0	WORK HRS	SERVICE ON 4 th ST. PUMP STA.	02/26/2009		50.00		200.00	200.00
2.0	TVL HOURS				50.00		100.00	100.00
124	MILES			86.80	0.70			86.80
1	TOLLS			2.50	2.50			2.50
								389.30

ID # 14 - 1697236

PLEASE INCLUDE INVOICE NO. ON ALL CORRESPONDENCE

SUBTOTAL	89.30	0.00	300.00	389.30
FREIGHT				
TAX	NY	NJ		
TOTAL				389.30

STIONS CONCERNING THIS INVOICE?

JOHN ROSCHER
845-726-3887

LABOR IS BILLED @ 50.00/HR PORTAL TO PORTAL PLUS MILAGE AND EXPENSES.

MAKE ALL CHECKS PAYABLE TO:

CAIN CONTROL SYSTEMS
PO BOX 335
WESTTOWN, NEW YORK 10998

JAN	FEB	MAR	APR	MAY	JUNE
JULY	AUGUST	SEPT	OCT	NOV	DEC

NY
NJ
NY
NJ

NTROL SYSTEMS
5
NN, NEW YORK 10998

SERVICE REPORT

TO:	JOB:	
VILLAGE OF BUCHANAN 218 WESTCHESTER AVE BUCHANAN, NEW YORK 10510	VILLAGE OF BUCHANAN WWTP BUCHANAN, NEW YORK	DATE: 02/26/2009 CUST # 0105 PO # VERBAL JCN # SERVICE INV DATE: 03/22/2009 INV NO. 10154

QUAN	DESCRIPTION	UNIT COST	PRICE
4	WORK HRS	50.00	200.00
2	TVL HRS	50.00	100.00

MILES END 33055 MILE START 32931 TOTAL MILES 124	# JOBS 1	MILAGE @ .70/MILE TOLLS EXPENSES	124 2.50 TOTAL	86.80 2.50 389.30

WORK PERFORMED

SERVICE ON 4 TH ST. PUMP STATION PUMP CONTROLS

PUMP START/STOP & LEAD/LAG OUT OF SYNC. RECALIBRATED LEVEL CONTROL SWITCHES IN LEVEL RECORDER.

RAN PUMPS THRU SEVERAL CYCLES TO CHECK OPERATION.

NOTE: CONTROL SWITCHES ARE WORN. SHOULD BE REPLACED BUT SERVICE PARTS ARE NO LONGER AVAILABLE.

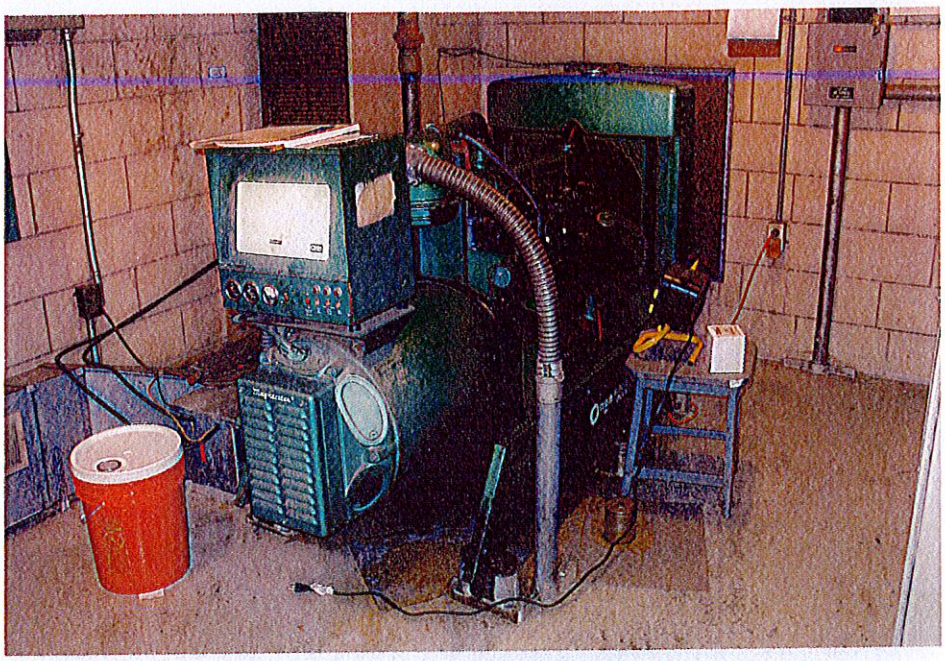
Cronin Engineering, PE, PC
2 John Walsh Blvd
Peekskill, NY 10566
(T) (914) 736-3664
(F) (914) 736-3693
email: civil@croninengineering.net

APPENDIX J

ALBANY POST ROAD PUMP STATION PHOTOGRAPHS

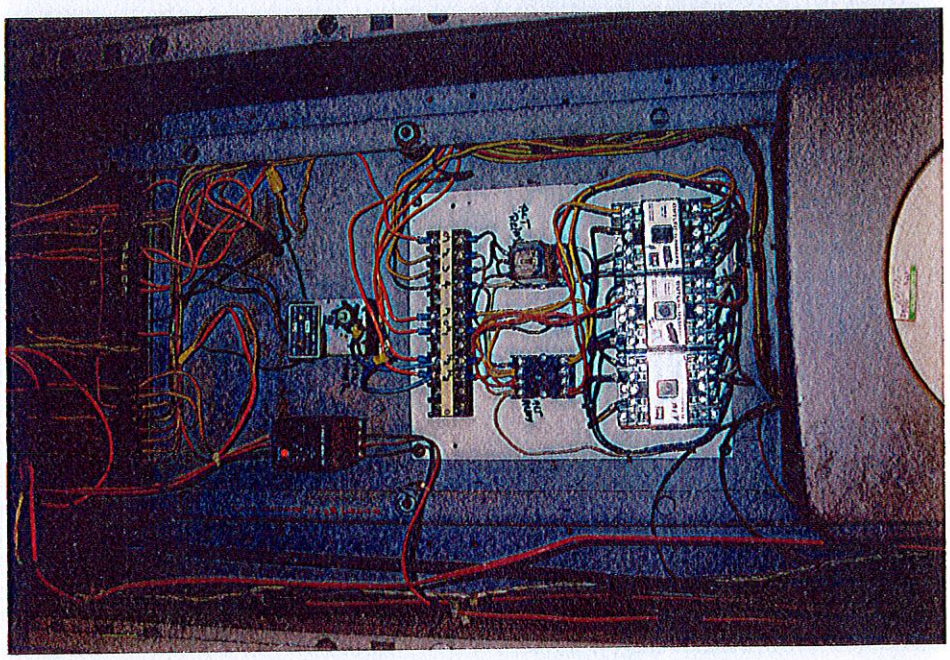
September 1, 2009

Cronin Engineering, PE, PC
2 John Walsh Blvd
Peekskill, NY 10566
(T) (914) 736-3664
(F) (914) 736-3693
email: civil@croninengineering.net



Appendix J - Figure 1 – Diesel Emergency Generator

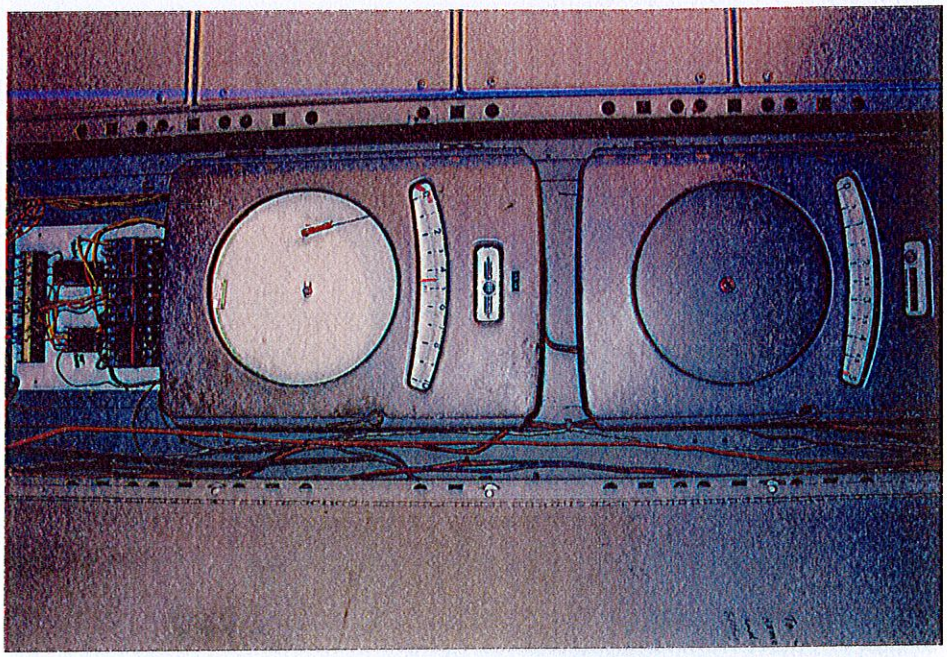
(Note Repair/Replacement parts have not been available for the past 20 years)



Appendix J - Figure 2 – Pump Controls

(Note Repair/Replacement parts have not been available for the past 20 years)

Cronin Engineering, PE, PC
2 John Walsh Blvd
Peekskill, NY 10566
(T) (914) 736-3664
(F) (914) 736-3693
email: civil@croninengineering.net



Appendix J - Figure 3 – Pump Control Chart Recorders

(Note Repair/Replacement parts have not been available for the past 20 years)

Cronin Engineering, PE, PC
2 John Walsh Blvd
Peekskill, NY 10566
(T) (914) 736-3664
(F) (914) 736-3693
email: civil@croninengineering.net

APPENDIX K

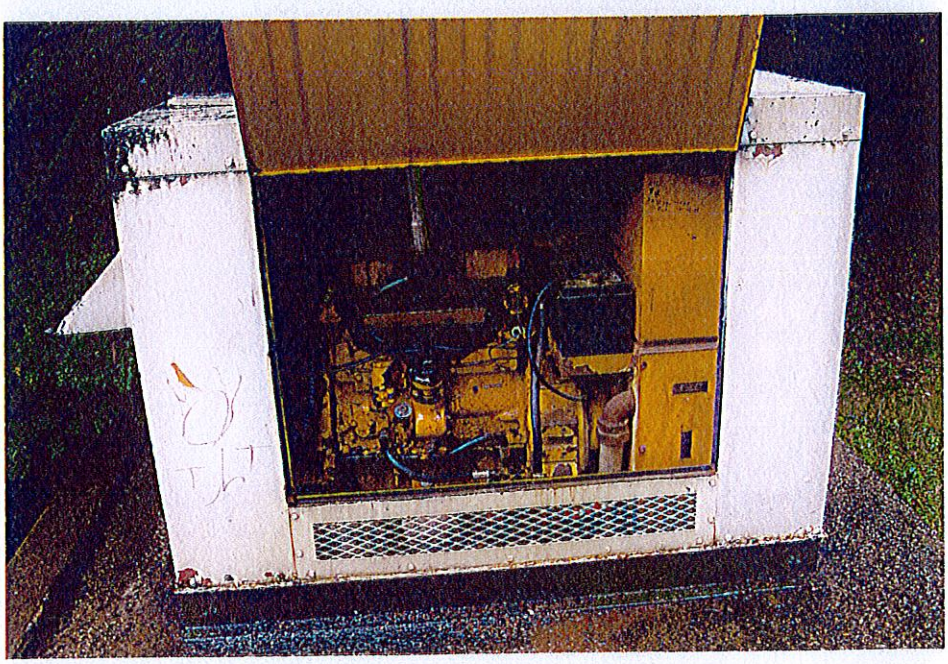
4TH STREET PUMP STATION PHOTOGRAPHS

September 1, 2009

Cronin Engineering, PE, PC
2 John Walsh Blvd
Peekskill, NY 10566
(T) (914) 736-3664
(F) (914) 736-3693
email: civil@croninengineering.net

Appendix K - Figure 1 – Emergency Generator (LP Gas)

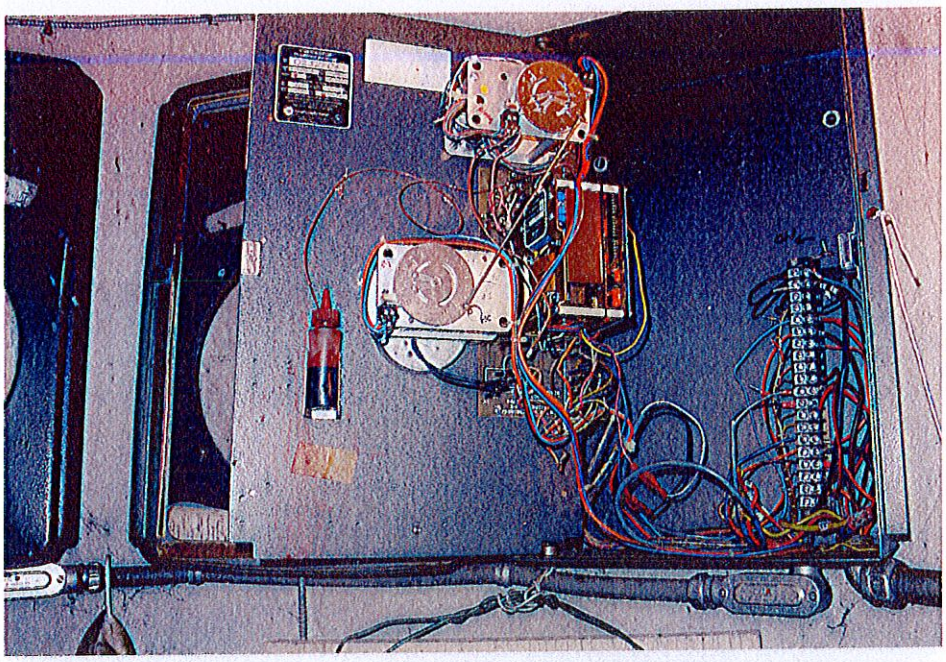
(Note Repair/Replacement parts are no longer available)



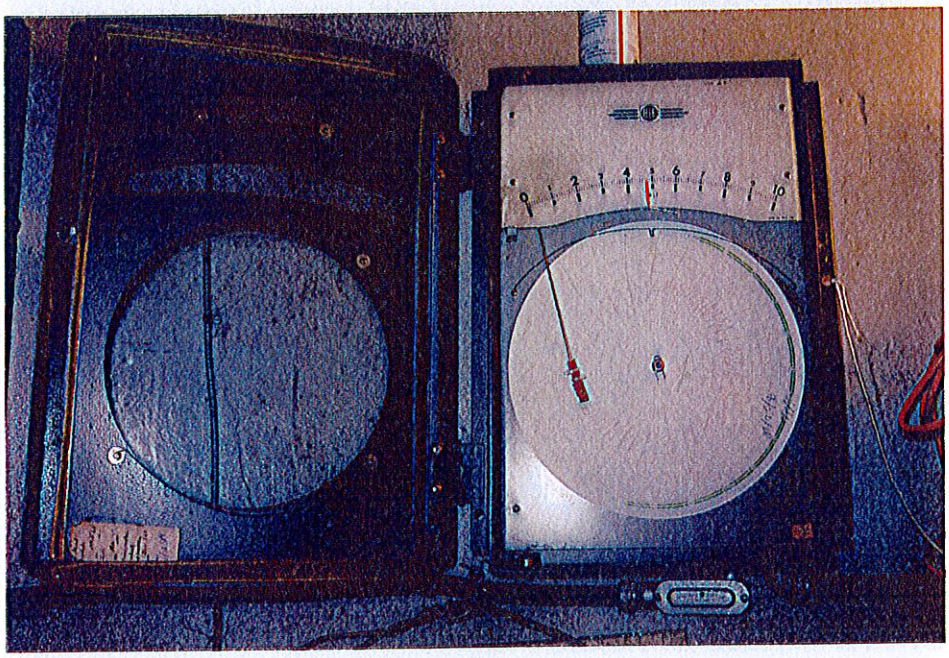
Appendix K - Figure 2 – Pump Controls

(Note Repair/Replacement parts are no longer available)

Cronin Engineering, PE, PC
2 John Walsh Blvd
Peekskill, NY 10566
(T) (914) 736-3664
(F) (914) 736-3693
email: civil@croninengineering.net

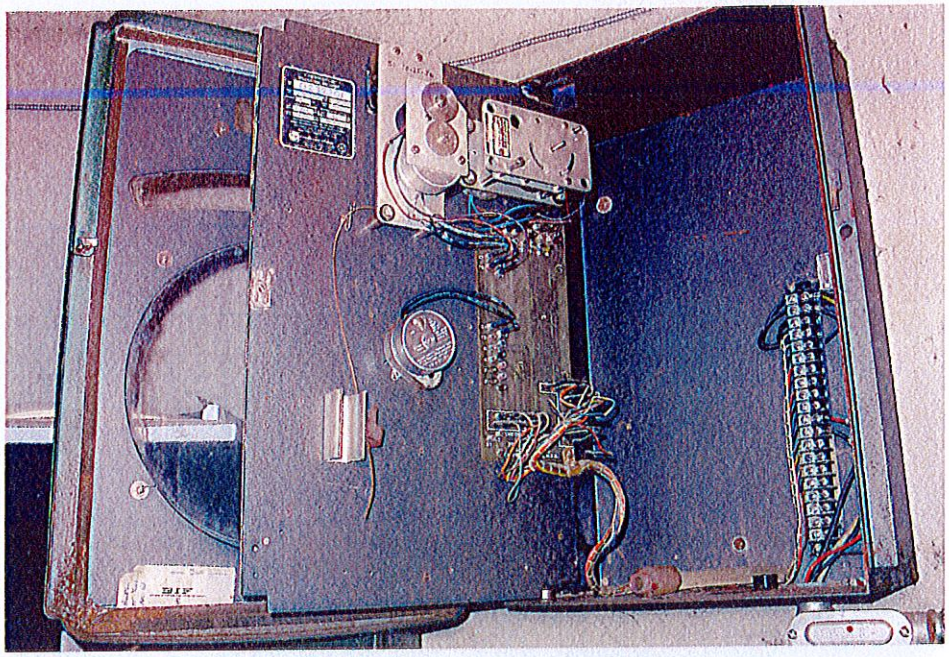


Appendix K - Figure 3 – Pump Control
(Note Repair/Replacement parts are no longer available)

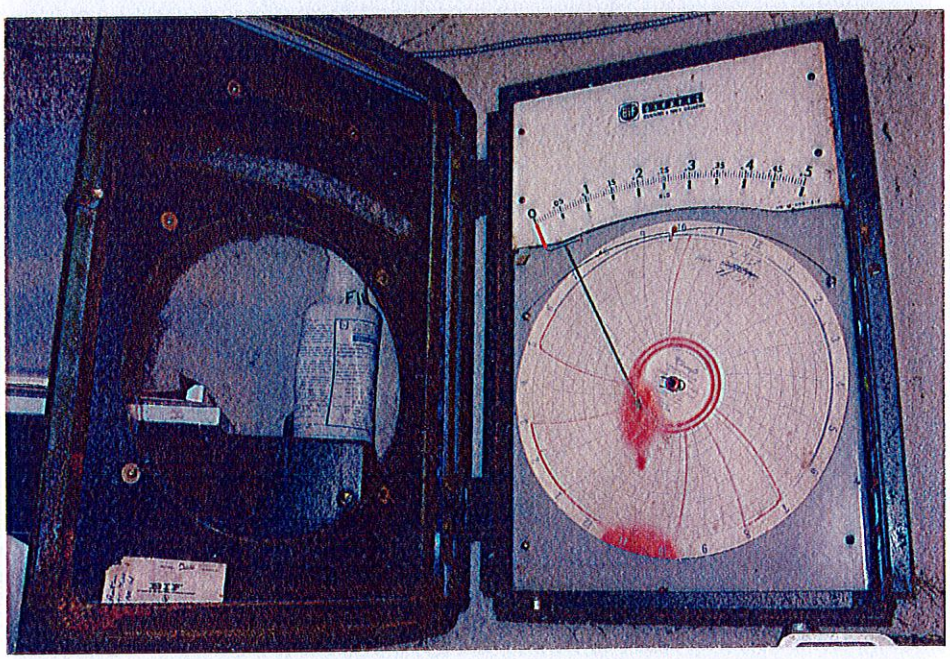


Appendix K - Figure 4 – Pump Control Chart Recorder
(Note Repair/Replacement parts are no longer available)

Cronin Engineering, PE, PC
2 John Walsh Blvd
Peekskill, NY 10566
(T) (914) 736-3664
(F) (914) 736-3693
email: civil@croninengineering.net

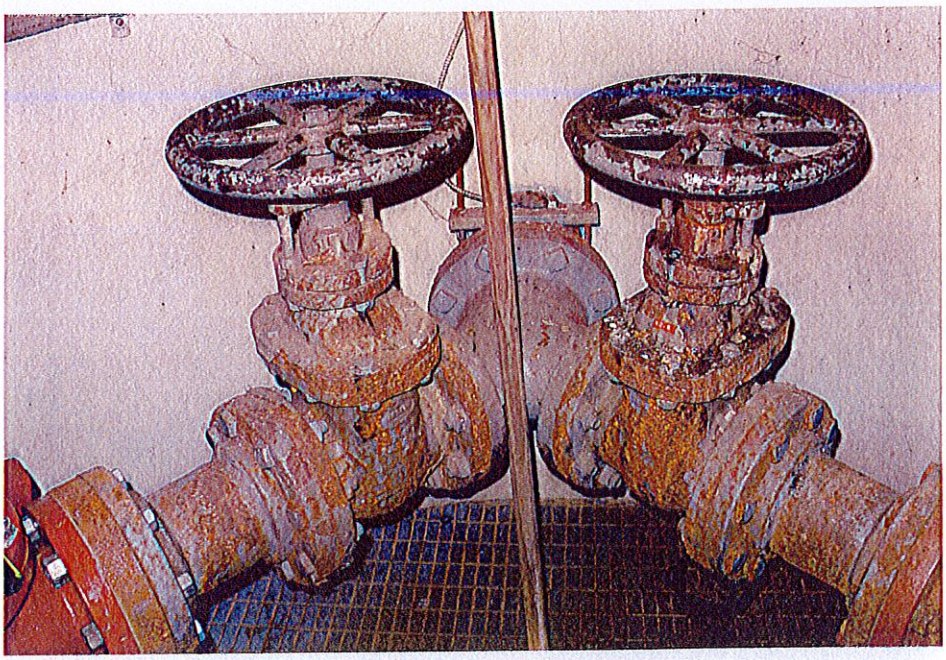


Appendix K - Figure 5 – Pump Control
(Note Repair/Replacement parts are no longer available. Parts have been removed to supplement parts for the Pump Control in Figure 3)



Appendix K - Figure 6 – Pump Control Chart Recorder
(Note Repair/Replacement parts are no longer available. Has not worked since 1968)

Cronin Engineering, PE, PC
2 John Walsh Blvd
Peekskill, NY 10566
(T) (914) 736-3664
(F) (914) 736-3693
email: civil@croninengineering.net



Appendix K - Figure 7 – Gate Valves at the Force Line

Appendix K - Figure 8 – Emergency Generator LP Gas Tank

Cronin Engineering, PE, PC
2 John Walsh Blvd
Peekskill, NY 10566
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(F) (914) 736-3693
email: civil@croninengineering.net

VILLAGE OF BUCHANAN
WASTE WATER TREATMENT PLANT REHAB
10 GREENTOWN ROAD
BUCHANAN, NEW YORK

APPENDIX L

WASTE WATER TREATMENT PLANT REHABILITATION PROJECT COST ESTIMATE

September 1, 2009

VILLAGE OF BUCHANAN
WASTE WATER TREATMENT PLANT REHABILITATION PROJECT
10 GREENTOWN ROAD, BUCHANAN, NEW YORK
COST ESTIMATE
CRONIN ENGINEERING, P.E., P.C.
DATE: SEPTEMBER 1, 2009

ITEM	ESTIMATED QUANTITY	UNIT	ESTIMATED UNIT COST	ESTIMATED EXTENSION
WASTE WATER TREATMENT PLANT				
Clean Aeration & Settling Tank	2	EA	$ 25,000.00	$ 50,000
Concrete Tank Repair	2	EA	$ 40,000.00	$ 80,000
Repair Tank Leaks	2	EA	$ 50,000.00	$ 100,000
Removal & Replacement of Railings	1	LS	$ 50,000.00	$ 50,000
Remediation of Lead Paint (Railings, Catwalks, I-Beams)	1	LS	$ 50,000.00	$ 50,000
Replacement of Weir Channels in Clarifiers	12	EA	$ 5,000.00	$ 60,000
Replace Clarifier Scum Baffles	2	EA	$ 5,000.00	$ 10,000
Replace Aerator Baffles	2	EA	$ 5,000.00	$ 10,000
Replacment of Pulley	2	EA	$ 1,000.00	$ 2,000
New Electric Motor for Return Sludge Blowers	1	EA	$ 12,000.00	$ 12,000
Replace Return Pipe for Sludge Blowers	2	EA	$ 2,500.00	$ 5,000
Replace Air Lift Return Pipe for Sludge Blowers	1	LS	$ 2,500.00	$ 2,500
New Grit Chamber Blower	1	EA	$ 3,500.00	$ 3,500
New Grit Chamber Motor	1	EA	$ 2,500.00	$ 2,500
New Gear Box & Motor for Flights	1	EA	$ 1,500.00	$ 1,500
New Dissolved Oxygen Monitors (Placed in Aeration Tanks)	4	EA	$ 2,500.00	$ 10,000
New Ph Monitors (Placed in Aeration Tanks)	6	EA	$ 2,500.00	$ 15,000
New Coarse Air Bubble Diffuser System	2	EA	$ 120,000.00	$ 240,000
Construction of 20' x 20' Air Compressor Building	1	LS	$ 100,000.00	$ 100,000
Furnish & Install Muffin Monster	1	LS	$ 35,000.00	$ 35,000
Crane Service	25	DAY	$ 5,000.00	$ 125,000
Electrical - Misc work	1	LS	$ 20,000.00	$ 20,000
Bypass Pumping or Waste Hauling	1	LS	$ 50,000.00	$ 50,000
Replace Garage Roof	1	LS	$ 10,000.00	$ 10,000
Utility Truck	1	EA	$ 32,000.00	$ 32,000
Pick-up Truck	1	EA	$ 27,000.00	$ 27,000
			Waste Water Treatment Plant Subtotal	**$ 1,103,000**
ALBANY POST ROAD PUMP STATION				
F/I Generator	1	LS	$ 35,000.00	$ 35,000
F/I Pump Controls	1	LS	$ 10,000.00	$ 10,000
Furnish Spare Pump	1	LS	$ 10,000.00	$ 10,000
			Albany Post Road Pump Station Subtotal	**$ 55,000**
4TH STREET PUMP STATION				
F/I Generator	1	LS	$ 30,000.00	$ 30,000
F/I Pump Controls	1	LS	$ 10,000.00	$ 10,000
Furnish Spare Pump	1	LS	$ 10,000.00	$ 10,000
Mitigate Ground Water Seepage	1	LS	$ 10,000.00	$ 10,000
			4th Street Pump Station Subtotal	**$ 60,000**
BLEAKLEY AVE PUMP STATION				
Furnish Spare Pump	1	LS	$ 10,000.00	$ 10,000
			Bleakley Avenue Pump Station Subtotal	**$ 10,000**

VILLAGE OF BUCHANAN
WASTE WATER TREATMENT PLANT REHABILITATION PROJECT
10 GREENTOWN ROAD, BUCHANAN, NEW YORK
COST ESTIMATE
CRONIN ENGINEERING, P.E., P.C.
DATE: SEPTEMBER 1, 2009

ITEM	ESTIMATED QUANTITY	UNIT	ESTIMATED UNIT COST	ESTIMATED EXTENSION
VALERIE COURT PUMP STATION				
Furnish Spare Pump	1	LS	$ 5,000.00	$ 5,000
			Valerie Court Pump Station Subtotal	**$ 5,000**
ENGINEERING				
Planning	1	LS	$ 10,000.00	10,000
Design	1	LS	$ 50,000.00	50,000
Construction	1	LS	$ 20,000.00	20,000
			Engineering Subtotal	**$ 80,000**
OTHER EXPENSES				
Force Account	1	LS	$ 10,000.00	10,000
Local Counsel	1	LS	$ -	-
Bond Counsel	1	LS	$ 6,000.00	6,000
Fiscal Services	1	LS	$ -	-
Miscellaneous	1	LS	$ -	-
			Other Expenses Subtotal	**$ 16,000**

PROJECT SUBTOTAL	**$ 1,329,000**
10% CONTINGENCY	**$ 132,900**
PROJECT TOTAL	**$ 1,461,900**

Notes:

1. This cost estimate is based on an engineering report prepared by Cronin Engineering, P.E., P.C., dated 09-01-2009 and is proposed for cost estimating purposes only. Actual costs may vary.