POST-CLOSURE MONITORING AND MAINTENANCE OPERATIONS MANUAL WEILAND ROAD LANDFILL ROCHESTER, NY

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1.0 POST CLOSURE MONITORING AND MAINTENANCE OPERATIONS MANUAL

This document describes the monitoring and maintenance and inspection requirements for the Weiland Road Landfill during the post-closure period. A separate section is provided for each of the following components:

- Landfill Cover;
- Surface Water Management System;
- Landfill Gas Collection and Venting System;
- Leachate Collection System; and
- M-7 Pump Station.

The Weiland Road Landfill Groundwater Monitoring System will be addressed by a separate Environmental Monitoring Plan that is currently being finalized with the New York State Department of Environmental Conservation (NYSDEC).

2.0 LANDFILL COVER

2.1 Description

A multi-layer cover has been designed for the landfill. To provide long-term performance and reduce maintenance, the cap is designed to promote drainage, reduce erosion, avoid the accumulation of gas, and accommodate settlement and subsidence. The cover section includes, from top to bottom, 6 inches of topsoil, 12 inches of cover soil, a 12-inch thick sand drainage layer or a geocomposite drainage layer, a flexible membrane liner (FML) consisting of either 40-mil LLDPE or 60 mil HDPE (textured or smooth depending on slope), and a gas venting layer consisting of geocomposite with textile bonded to both sides or sand.

In addition to the cover section, this section also discusses the following:

- security fencing;
- access roads on top of the landfill; and
- the vegetative layer of the cover.

2.2 Operations and Maintenance Plan

2.2.1 Normal Operations and Maintenance

Normal Operations

The landfill shall be maintained during the closure period to minimize unauthorized access to the cover and limit activities on the cover to inspection and maintenance. Normal operations include performing routine inspections and maintenance.

Normal Maintenance

Normal (preventive) maintenance will be performed to protect the integrity of the cover and help ensure its continued effectiveness. Preventive maintenance will entail mowing of the vegetative cover to a height of 6 to 12 inches. Mowing will be performed annually or as needed.

During the course of the mowing maintenance, the mowing contractor will have on-hand equipment to cut or dig shallow rooted large weeds and woody plant species from the vegetative layer. In addition, the mowing contractor shall also carry pin flags to locate certain potential problems which may have occurred on the cap such as ponded water, animal burrows, erosion or other items. Mowing provides a unique opportunity to inspect a large portion of the landfill cap surface.

All preventive maintenance tasks performed for the protective cover systems will be documented on field maintenance forms.

2.2.2 Potential Operating Problems

Potential problems with the operation of the landfill include:

- Site security fencing: breaks/damage to fence, erosion of earth below fence and posts, broken or corroded conditions of locks and gates, and damaged or missing posted signs;
- access roads: excessive wear, washouts, vegetation encroachment, and obstructions;
- vegetation: invasion by weeds and/or woody plant species and stresses by natural phenomena (e.g., disease, draught, fungus), stresses by saturated soil, or soil erosion;
- potential damage to cover: animal burrows, excessive erosion, and accumulated debris (vegetation, windblown), vandalism (trespassers);
- cover settlement/stability: excessive differential settlement, localized subsidence (depressions), settlement in the central portion of landfill, grade reversal, and slope instability as evidenced by cover/soil movement, buckling and/or surface sloughing;
- drainage: ponded water, saturated cover soils, and rain water seepages;
- damage to survey benchmarks; and
- damage from vandalism or on-site personnel.

Section 2.3 presents contingency operation and maintenance procedures (repair maintenance) which would be implemented to address the potential operating problems listed above. Section 2.4 presents inspection procedures which will be used to identify potential problems.

2.3 Contingency Operations and Maintenance

This section presents procedures to be implemented to repair and, to the extent possible, prevent the potential problems listed in Section 2.2.2 from recurring. The routine process inspections (Section 4.1.4) would identify the items requiring repair. Repairs would be made as soon as practicable following the discovery of the problem and would be performed in a manner consistent with the intent of the design and as-built conditions. If necessary, as-built drawings would be modified to reflect the repairs made if they result in a configuration substantially different from the as-built conditions.

Anticipated repair tasks which may be necessary to ensure the continued effectiveness of the cover are listed below:

- Site security fencing:
  - repair/replace damaged fencing, posts, gates, or locks;
  - replace earth eroded from below fence and/or around posts, compact and reseed;
  - replace posted signs;
- access roads:
  - fill work areas or washouts and compact;
  - remove obstructions;
  - remove vegetation encroachment;
- vegetation:
  - removal of large weeds or woody plants;
  - reseeding;
  - condition soil if necessary by application of additional vegetative layer soil fertilizer and/or lime;
- cover damage:
  - remove burrowing animals from Site;
  - fill animal burrows;
  - fill excessive erosion or damaged areas, compact and reseed;
  - remove debris if accumulated;
- poor drainage: placement of fill to establish proper grades, compact and reseed; and
- repair/replace survey benchmarks.

Problems related to cover stability, excessive settlement, or failure of drainage facilities have a much higher degree of concern associated with them than other more routine maintenance problems, excessive differential settlement, slope or cover instability and/or localized subsidence may occur to the extent where grade reversal occurs or the integrity of the cover is jeopardized. In these instances, a non-routine repair inspection would be made of the affected area to determine the need for corrective action. The repair inspection report would note the location and approximate dimensions of the area of concern, provide a description of the area and the vertical extent of any settlement/instability. The level of (degree of) inspection (i.e., visual vs. intrusive) would be determined on a case-by-case basis. In general, minor repairs to the cover would be made at first which may include filling or regrading depressions, instabilities, or depressions to prevent ponding. Should the conditions continue, a more in-depth repair inspection by a geotechnical specialist would be performed to determine if the recurring problem has damaged the integrity of the cover. If the cover is determined to be damaged, then it will be repaired in accordance with the as-built conditions or design specification and the area disturbed by the construction activities will be revegetated.

2.4 Routine Inspection Plan

Routine inspection of the landfill cover is needed to identify possible problems early enough to prevent large repair efforts. The following subsections present the inspection items and frequency of inspection for the landfill cover.

Inspection Items

Reasonably anticipated items which could impact the effectiveness of the landfill cover include:

- site security fencing, gates, locks, posted signs, and soil beneath fence;
- access road erosion, washouts, vegetation encroachment;
- areas of insufficient, damaged, or stressed vegetation and large weeds or woody species;
- cracks, depressions, ponded water, saturated soil, or animal burrows in the cover;
- leachate seeps;
- signs of instability in the landfill side slopes (e.g., buckling, surface sloughing, movement, cracking, etc.);

- drainage conditions; and
- survey benchmarks.

In addition to the formal annual inspection, informal inspection of the landfill cap and security fencing will be conducted frequently throughout the year during maintenance mowing, monitoring (landfill gas and groundwater wells), and other personnel Site visits.

Frequency of Inspection

The landfill cover will be inspected quarterly for the first year, annually thereafter. Additional inspections will be performed following heavy rainfall events at other times during the year.

2.5 Recordkeeping and Reporting

Records of routine preventive maintenance and inspection will be maintained on forms shown as Figures 1 and 2, respectively. For each occurrence where contingency repairs need to be implemented, the repairs will be documented on the Repair Maintenance Form presented on Figure 3. These records will be available on site for NYSDEC review.

2.6 Available On-Site Equipment

Common hand tools (e.g., rake, shovel, scythe) will be used for minor erosion repairs and vegetation maintenance. Equipment needed for more significant routine maintenance (mowing the cover) and contingency maintenance (cover repair) will be brought onto the Site by Kodak's landscaping personnel or suitable subcontractor.

2.7 O&M Costs

Inspection and maintenance costs for the landfill cover are as follows:

Items	Cost Per Year
Inspection	$4,000.00
Mowing	$5,000.00
Cover Repair	$10,000.00 first year $5,000 thereafter.

3.0 SURFACE WATER MANAGEMENT SYSTEM

3.1 Description

Surface water management at the Site consists of a system of swales, channels and diversion berms, which convey runoff to drop boxes, manholes and culverts, which ultimately discharge to a sedimentation basin located north of Weiland Road. The sedimentation basin in turn discharges runoff to an on-site stream via primary and emergency spillways. The cover area below the lower diversion berm will drain to existing surface water structures adjacent to the landfill.

The surface water management system layout is shown on Drawing 2-2 which shows the location of channels, diversion berms, culverts, and sedimentation basins. The details for specific surface water management system components are shown on Drawings 2-6 and 2-7.

Control Structures

The surface water drainage system promotes runoff and provides for collection, sedimentation and discharge of surface water drainage from the Site. The surface water drainage system consists of grass lined swales and diversion berms and rip rap-lined drainage channels.

Design Flows

The channels have design capacity for the 25-year 24-hour storm event. The sedimentation basins have a design capacity for the 25-year 24-hour storm event.

3.2 Operations and Maintenance Plan

3.2.1 Normal Operations and Maintenance

Normal Operation

As the surface water management system is a gravity flow system, operation other than preventive maintenance, inspections, and prevention of unauthorized access is not required.

Normal Maintenance

Preventive maintenance tasks for the surface water drainage system includes at a minimum the following:

1. Dredging of sediments from the sedimentation basin. The need for dredging will be determined by surveying the bottom of the sedimentation basin annually. Sediments will be dredged if the elevation of the sediment in the sedimentation basin is greater than the sediment storage elevation shown on Drawings 2-7 (ER-240.5).

2. Annual removal of leaves, grass clippings, or any other debris from the sedimentation basins;

3. Annual mowing of the sedimentation basin side slopes and removal of large weeds and woody plants; and

4. Annual removal of leaves, grass clippings, excessive silt deposits, excessive vegetative growth, or any other debris from the swales, diversion berms, channels, and drop boxes.

In addition, the preventive maintenance items presented above will be performed, if necessary, following the post-25-year storm inspection (see Section 3.2.4).

Dredged sediments from the sedimentation basin may be spread over the existing cover and vegetated or stockpiled on-site in a designated area for potential future use in any grading or revegetation activities. If stockpiled, proper erosion control must be implemented which includes, but is not limited to, silt fences, hay bales and temporary vegetation.

3.2.2 Potential Operating Problems

Potential operating problems with the surface water management system at the Site include:

- excessive erosion and washouts of drainage channels, benches, ditches, check dam, berms of the sedimentation basin, and discharge apron from the sedimentation basin principle spillway;

- excessive erosion below and around the drop boxes, culverts, and the principle and emergency sedimentation basin spillways;

- blockages of the drop boxes, culverts, and principle spillways;
- differential settlement or landfill subsidence which may effect positive drainage and cause ponding;
- excessive sediment build-up in the sedimentation basin;
- deterioration of concrete control structures such as cracking, scaling, frost heaves;
- excessive vegetative growth in channels, benches, ditches, and control structures and sedimentation basin side slopes;
- animal burrows in channels, benches, ditches, and sedimentation basin side slopes;
- large weeds and woody plants; and
- damage due to vandalism and/or on-site personnel.

3.2.3 Contingency Operations and Maintenance

Should any of the above potential operating problems arise as identified by routine inspections, the following contingency operation and maintenance (item) may be necessary to ensure the continued effectiveness of the surface water drainage systems:

- unclogging of control structures;
- dredging of the sedimentation basin;
- removal of excessive vegetative growth; and
- repair of concrete drainage structures.

Repairs to damage resulting from excessive erosion, animal burrows, and settlement/subsidence can generally be accomplished by regrading, replacement/addition of materials, compaction, reseeding and/or implementation of temporary sedimentation control measures (silt fence, hay bales, etc.);

The extent of any repair would be based on the severity of the damage observed. The overall intent of the repairs would be to restore the surface water management system to function as per the as-built and/or design condition. Should similar problems be encountered frequently and require repair,

additional inspections/analyses will be conducted to determine the cause and develop long-term solutions to the problem.

3.2.4 Routine Process Inspection Plan

Inspection Items

Reasonably anticipated items which could impact the effectiveness of the surface water drainage system include:

- excessive erosion;
- animal burrows;
- differential settlement/subsidence/grade reversal/ponded water in channels;
- excessive accumulation of silt and sediment;
- excessive encroachment of vegetation;
- blockages from accumulated debris;
- deteriorated condition of headwalls, drop inlets, spillways, aprons, and culverts; and
- damage from trespassers or on-site personnel.

These items will be considered during inspection of the surface water drainage system as described below.

Requirements

The inspection will involve a Site walk-over, with special emphasis as described below.

Drainage swales, diversion berms, and channels:

These drainageways will be inspected for blockages caused by leaves, grass clippings, silt deposits, or excessive vegetative growth which could impede or change the course of flow and cause erosion along the edges of the drainageway lining. Erosion or potential areas of erosion, animal burrows within the drainageways, or settlement/subsidence of any areas which would result in ponding or grade reversal will be evaluated. Excessive encroachment of vegetation which could modify the flow capacity of the drainageway will be recorded. Other damage from vandalism or disturbances by on-site personnel could decrease the effectiveness of the drainageways.

Control Structures (drop boxes, manholes, and culverts):

Control structures will be inspected for structural integrity, deterioration, blockages, erosion around and below the structures, and damage due to vandalism and/or on-site personnel.

Sedimentation Basin

The sedimentation basin will be inspected for erosion of the side slopes and clogging of spillways from debris, silt or vegetation. The principle and emergency spillways will also be inspected for structural integrity. Damage to the basin as a result of vandalism or disturbances by on-site personnel which could affect the overall performance of the sedimentation basin will be recorded.

Sediment accumulation will be evaluated by surveying the bottom of the sedimentation basin annually to determine if dredging is necessary. Dredging will be conducted if the volume of storage is equal to or less than the minimum design capacity of the basin.

The surface water drainage system will be inspected annually in the spring to assess any damages from the freeze-thaw cycle or significant storm events. Additional inspections will be performed following the occurrence of each 25-year frequency 24-hour storm event (4 inches).

3.2.5 Recordkeeping and Reporting

Records of routine preventive maintenance and inspection will be recorded on forms presented on Figures 1 and 4, respectively. For each occurrence where contingency repairs need to be implemented, the repairs will be documented on the Repair Maintenance Form presented on Figure 3. These records will be available on site for NYSDEC review.

3.2.6 Available On-Site Equipment

Common hand tools (e.g., rake, shovel, scythe) will be maintained on-site at Kodak Park to be used in minor erosion repairs and vegetation maintenance. Equipment needed for more significant routine maintenance (mowing the side slopes of the sedimentation basins) and contingency maintenance (repairing excessive erosion damage) will be maintained on-site at Kodak Park or brought in by a subcontractor.

3.2.7 O&M Costs

Inspection and maintenance costs for the surface water management facilities are as follows:

Item	Cost Per Year
Inspection	$4,000.00
Dredging Sedimentation Basin	$10,000.00 first year and every fifth yr. thereafter
Clearing swales and channels	$4,000.000

4.0 LANDFILL GAS COLLECTION AND VENTING SYSTEM

This section addresses the standard practices associated with operating the landfill gas (LFG) passive venting system. The general arrangement and operating characteristics of the LFG venting system and the location and construction details of the gas vents are discussed.

A low permeability cover system (see Section 2.0) will reduce surface water infiltration and atmospheric air intrusion into the landfill reducing the decomposition of waste in the landfill and the generation of LFG. Venting of the LFG will reduce the LFG pressures beneath the cover system which will, in turn, control off-site migration of LFG.

4.1 Description

The arrangement of the LFG collection and venting system is shown on Drawing 2-2, and the design details are provided on Drawing 2-5. The passive gas collection and venting system consists of a gas collection layer (a 12-inch thick layer of sand or geocomposite) beneath the landfill cover which vents to the atmosphere through 30 shallow gas vents. The gas collection layer is designed to allow LFG to vent to the atmosphere without creating excessive pressure below the cover system. The release of LFG pressure within the landfill will reduce the potential for LFG migration through the soil adjacent to the landfill. A total of seven (7) gas migration monitoring wells are located on the west, north, and east sides of the landfill to allow monitoring for subsurface migration of LFG.

4.2 Operations and Maintenance Plan

4.2.1 Normal Operations

The passive gas venting system is designed to be free of operational requirements. The system has no flow control or other mechanical devices that would require operation or maintenance. Therefore, O&M requirements are limited to routine inspections and repair of damaged gas vents as described below. Maintenance requirements are limited to inspection and repair of the

gas vents. Damage to the gas vents may include damage to the riser pipes and fittings possibly due to vehicle impact or vandalism.

4.2.2 Potential Operating Problems

Potential operating problems associated with the passive gas venting system are limited to the following:

- Insufficient venting of LFG from beneath the interim cover resulting in excess gas pressures beneath the cover;
- Monitoring at gas migration wells indicates unacceptable levels of gas migration; and
- Results of gas vent monitoring indicate the presence of nuisance odors.

The passive gas venting system has been designed to reduce the potential for any of these operational problems. However, if routine inspection indicates any of these conditions has occurred an engineering assessment will be completed to determine an appropriate corrective action. In the case of insufficient venting capacity additional gas vents can be designed and installed. However, considering that the WRL has been primarily an inorganic industrial landfill, the gas generation rate and volume are not expected to be significant.

If monitoring at the gas migration monitoring wells indicates soil gas methane concentrations in excess of 25% of the lower explosive limit (LEL) or ambient air monitoring at the property boundary indicates methane concentrations in the ambient air in excess of the LEL then gas monitoring in all occupied dwellings within 1,000 feet of the landfill shall be completed to ensure the health and safety of the public. Short term gas migration remedies include installation of a gas migration interceptor trench(es) between the landfill and affected dwellings. Long term remedies include design and installation of additional gas vents or permanent gas migration interceptor trenches.

4.3 Inspection and Monitoring Plan

The percent of the lower explosive limit (% LEL) will be measured quarterly at the three gas migration monitoring wells located on the west side of the landfill. The locations of gas migration wells are shown in Drawing 2-2. This monitoring will be completed to ensure that migration of LFG through the soil does not exceed the permissible limit of 25% LEL in off-site structures. Ambient air quality will be monitored at the property boundary adjacent to the gas migration monitoring wells. The gas monitoring wells and ambient air quality on the north and east side of the landfill will be monitored only for Kodak's requirements.

4.4 Recordkeeping and Reporting

The results of any significant LFG venting system modification and or significant contingency repairs will be recorded upon completion and reported to the NYSDEC on an annual basis.

Site records for the LFG passive venting system will be maintained and will include quarterly inspection log sheets summarizing the inspector's observations and monitoring results. A summary of the landfill gas quarterly monitoring results for the three gas monitoring wells located on the west side of the landfill and ambient air monitoring results at these locations will be reported annually to the NYSDEC. Should the monitoring results at these locations indicate exceedances of the specified limits, the NYSDEC will be notified. Equipment files detailing system repairs, upgrades and other modifications will be maintained.

4.5 Available On-Site Equipment

The following equipment will be maintained on-site at Kodak Park to perform routine maintenance and monitoring activities as well as minor contingency maintenance activities.

- LFG field monitoring equipment such as a combustible gas meter (O_2, CH_4, H_2S) and LFG component analyzer (CH_4, CO_2, O_2); and
- tools for making necessary repairs, modifications or adjustments.

4.6 O&M Costs

Inspection and maintenance cost for the LFG venting system are as follows:

Items	Cost Per Year
Inspection	$4,000.00
Miscellaneous	$1,000.00

5.0 LEACHATE COLLECTION SYSTEM

5.1 Description

The leachate collection system for the portion of the WRL that is being closed under this Final Engineering Plan consists of approximately 3,300 linear feet of perforated drainage pipe. Seven manholes allow access to the drainage piping of the system. Leachate and groundwater collected by the drainage pipes is conveyed by gravity to the M-7 Pump Station for eventual discharge to the Kings Landing Wastewater Treatment Plant.

5.2 Operation and Maintenance Plan

5.2.1 Normal Operations and Maintenance

Normal Operation

As the leachate collection system is a gravity flow system, operation other than preventative maintenance, inspections, and prevention of unauthorized access is not required. The system has no flow control or other mechanical devices that would require operation or maintenance.

Normal Maintenance

Preventive maintenance tasks for the leachate collection system include at a minimum the following:

1. Annual flushing of drainage piping and manholes of the system. The southern section of the leachate collection system extending a distance of approximately 700 feet east from the most upgradient manhole of this section shall also be included in the annual flushing program.

Note: Standard flushing equipment limitations and a minor dip in the pipe wall at approximately 700 feet east of the most upgradient manhole of this southern drainage pipe prevents flushing beyond this point.

5.2.2 Potential Operating Problems

Potential operating problems with the leachate collection system at the site include:

- Accumulation of sediment within the drainage piping;
- Accumulation of sediment within the manholes of the system;
- Collapse of piping and/or manholes of the system; and
- Damage due to vandalism and/or on-site personnel or equipment.

5.2.3 Contingency Operations and Maintenance

Should any of the above potential operating problems arise as identified by routine inspections, the following contingency operation and maintenance (item) may be necessary to ensure the continued effectiveness of the leachate collection system:

- Unclogging/flushing/removal of sediment or obstructions from within the drainage piping and manholes;
- Repair of collapsed or damaged piping and/or manholes.

The extent of any repair would be based on the severity of the damage observed. The overall intent of the repairs would be to restore the leachate collection system to function as per the pre-damaged operating condition.

5.3 Inspection and Monitoring Plan

Annual inspection of the drainage piping and manholes of the leachate collection system shall be performed. The annual inspection shall include the southern section of the leachate collection system extending a distance of approximately 700 feet east from the most upgradient manhole of this section.

The objective of the inspection of the leachate collection system will be to demonstrate that non-restricted flow through the system piping is occurring.

Note: A minor lip in the pipe wall at approximately 700 feet east of the most upgradient manhole of the southern drainage pipe prevents inspection beyond this point.

5.4 Recordkeeping and Reporting

The results of any significant leachate collection system modification and/or significant contingency repairs will be recorded upon completion and reported to the NYSDEC on an annual basis.

Site maintenance records for the leachate collection system will be prepared and will include log sheets summarizing the systems' maintenance activities and inspection observations. The maintenance and inspection log sheets will be available on site for NYSDEC review.

5.5 Available On-Site Equipment

Available on-site equipment at Kodak Park for routine maintenance and inspection of the leachate collection system as well as minor contingency activities will include:

- Shallow excavating equipment; and
- Remote operating cameras.

Vacuum and flushing heavy equipment as well as deep excavation equipment will be available by Kodak or outside vendors capable of responding on short notification.

5.6 O&M Costs

Inspection and maintenance cost for the leachate collection system are as follows:

Items	Cost Per Year
Inspection	$10,000.00
Maintenance	$20,000.00

6.0 M-7 PUMP STATION

6.1 Description

The M-7 Pump Station conveys leachate collected from the WRL to the Kings Landing Wastewater Treatment Plant, via the Kodak Park Industrial Sewer System. As part of the closure of the WRL it will be necessary to continue to collect and properly dispose of the leachate.

Leachate and groundwater collected in drainage pipes of the WRL and groundwater from an Interim Remedial Measure (IRM) pumping well system drain into the M-7 Pump Station collection sump. The leachate collection sump is constructed of coal-tar-epoxy coated concrete. The sump is approximately 13.5 feet deep with a holding volume of 9,000 gallons. The top of the leachate collection sump is flush with the ground forming a concrete slab. Two centrifugal pumps are mounted at one end of the concrete slab. The centrifugal pumps discharge into above-ground single wall stainless steel piping that connects to an underground forcemain. The pump discharge piping is heat traced and insulated. The self-priming centrifugal pumps are constructed of stainless steel wetted parts. Motors are Totally Enclosed Fan Cooled (TEFC) design in accordance with NEMA and NEC standards and requirements. The suction piping for each pump is equipped with a strainer and the discharge piping is equipped with a check valve and manual gate valve for isolation purposes. The pumps and equipment have been sized to provide a maximum pump discharge flow rate of 350 gallons per minute.

The underground forcemain conveying discharge from the M-7 Pump Station is a 6-inch diameter fuse-welded High Density Polyethylene (HDPE) single wall forcemain approximately 915 feet long. The forcemain discharges to an industrial sewer manhole located on the southwest side of B-333. The flow from the discharge line is measured by a Rosemount Magnetic Flowmeter, located within a nearby manhole. The manhole is equipped with a sump pump that discharges back to the leachate collection sump.

The flow from the leachate collection sump is level controlled by a Miltronics Ultrasonic Level Controller. The controller turns the pumps on and off when the level reaches adjustable setpoints.

The M-7 Pump Station is controlled locally by a control panel and remotely monitored at the Kings Landing Wastewater Treatment Plant. The control system has the following capabilities:

- The control panel operates with a lead and lag pump control logic.;
- The level controller is wired to the control panel and provides the necessary inputs (low level, high level and high high level) to start and stop the pumps; and
- The existing flow meter and modem transmit operational data (pump status, level data, and flowmeter data) from the M-7 pump station to the Kings Landing Wastewater Treatment Plant.

The source of power for operation of the M-7 pumps and controls comes from a Rochester Gas and Electric (RG&E) overhead electric service located along Weiland Road. The power is 208-volt, three-phase power.

A pre-fabricated fiberglass enclosure houses the pumps and their related electrical and controls equipment. The enclosure has two sets of double doors to provide access to the pumps and a single mandoor for access to the control and electrical panels. The enclosure is equipped with the following accessories:

- A thermostat controlled heater designed to maintain temperatures in the enclosure above freezing, approximately 35 degree F;
- A thermostat controlled ventilation fan designed to operate when temperatures in the enclosure exceed 100 degrees F;
- Louvers equipped with bird screen for allowing cooling air to enter the enclosure;
- Interior lights for operation and maintenance;
- A single exterior light with a photocell for providing light at night; and

- Interior receptacles for powering maintenance equipment.

6.2 Operations and Maintenance Plan

6.2.1 Normal Operations and Maintenance

Normal Operations

The M-7 pumps can be operated either in an automatic or manual mode. Normally, the pumps are operated in the automatic mode allowing the pump to be controlled by the level controller. The manual mode is to be used when testing the pump system or when the automatic level control system has failed. Each pump is equipped with a hand-off-automatic switch for selecting the desired operating mode.

Routine monitoring of the system is conducted as described elsewhere to ensure proper system operation.

Start-Up

To start-up a pump, the following steps shall be taken:

- Thoroughly inspect the pump, wet well, and enclosure area to ensure all piping and electrical wiring is properly connected;
- verify the main panel feeder breakers, pump disconnect/breaker, and control panel disconnect are in the energized or closed position;
- verify the pump discharge disconnect valve is closed and the quick connect cap is in-place;
- verify any sampling valves are closed;
- move the pump selector switch to the automatic mode. The pump should start, provided there is sufficient liquid level in the sump;
- check the flow meter for the proper flow; and,
- visually check the piping for leaks. If leaks are found, shut down the pump and repair.

Repeat the above steps for the other pump. Note that unless the collection sump level is at high high conditions, the control panel will not allow both pumps to operate in the automatic mode.

Shut-Down

To shut-down a pump, the following steps should be taken:

- move the pump selector switch to the OFF mode; and
- close the pump discharge valve.

If repairs are to be performed to a pump, the following additional steps should be taken:

- de-energize or open the pump disconnect switch and lock into position; and
- lockout the pump discharge valve.

Normal Maintenance

The M-7 Pump Station collection system is straightforward and consists of very few items requiring routine preventive maintenance. The in-line screens located on the pump suctions should be cleaned, or backflushed, to prevent buildup of solids that can restrict flow. The frequency that the in-line screens are cleaned will be selected by the operator once normal operating conditions have been established. Observed reduction in flow rates will indicate that the screens need to be cleaned. Forcemain lines will be inspected by standard methods of practice for under ground piping.

Solids and other sediments will collect in the M-7 Pump Station collection sump minimizing the sump capacity. The collection sump will be periodically cleaned, approximately once a year, to remove accumulated sediments.

Pump electrical controls (switches, breakers, starters) should be lubricated annually. Flow meters should be serviced in accordance with the manufacturer's recommendations. Valves should be operated on a semi-annual basis to prevent rusting.

Routine maintenance of the pumps, replacement and/or inspection of seals, lubricants, belts, and other items, will be performed in accordance with the manufacturer's recommendations. Other maintenance items, such as replacement or repair of the pumps, will be performed on an as-required basis. Routine inspections of the pumping systems, as discussed elsewhere, will include monitoring each pump for parameters that indicate the need to replace or repair the pump. These parameters will include items such as:

- excessive pump noise or vibration;
- low pump discharge pressures and/or flow rates;
- unexplained tripping of motor starter breakers or fuses; and,
- failure of the pump to operate in the automatic or manual mode.

Spare pump parts will be supplied by a Kodak vendor on call with short term turn-around to reduce the time to repair/replace a pump.

6.2.2 Potential Operating Problems

The mechanical and electrical parts of the M-7 Pump Station are standard pieces of equipment that have been used as part of similar pumping systems. The vendor or equipment manuals shall be consulted to when troubleshooting or repairing a specific component. The following is a list of potential system problems and potential solutions:

Pump does not operate in the Manual Mode:

- verify main disconnect is energized;
- check and replace circuit breakers as required;
- check and reset pump overloads;
- verify pump is properly wired and check electrical continuity;
- replace/repair pump; and
- verify there is sufficient level in the collection sump to activate the level control system.

Pump operates but not in Automatic Mode:

- verify there is sufficient level in the collection sump to activate the level control system; and
- check level control system.

Insufficient Flow from Pump:

- verify flowmeter is operating properly;
- clean in-line screens;
- clean conveyance piping, valves, flow meters, etc.;
- in cold weather verify operation of heat tracing; and
- check water level.

6.2.3 Contingency Operations and Maintenance

To ensure proper operation of the M-7 Pump Station, the following contingencies are provided for:

- spare pumps, fuses, and critical equipment, as discussed elsewhere, will be kept on-site; and

- procedures are established for temporary operations in the event of complete failure of the pumping system or the loss of electricity. These procedures include the use of temporary diesel driven pumps and flexible hosing.

6.3 Routine Process Inspection Plan

The M-7 Pump Station will be monitored continuously by the computer system at the Kings Landing Wastewater Treatment Plant. In addition to remote monitoring, the M-7 Pump Station will be inspected weekly. The weekly inspection will include the following:

- monitoring individual pump flow rates and pressures;
- checking lubricating oil levels;
- visually inspecting piping for leaks;
- visually verifying agreement of liquid levels with level control equipment;
- checking pumps for abnormal noise or vibrations; and
- scheduling preventive maintenance and repairs as necessary.

6.4 Reporting and Recordkeeping

System problems that result in a shut-down of the M-7 Pump Station and/or the release of leachate to the environment will be reported to the appropriate Agencies in accordance with federal, state, and local regulations. Records will be maintained in accordance with these regulations.

6.5 Available On-Site Equipment

Critical repair equipment and spare parts will be kept on-site at Kodak Park or supplied by a Kodak Park vendor on call with short term turn-around to reduce the amount of downtime of the M-7 Pump Station for maintenance and repairs. These items will include;

- one spare motor, impeller, drive assembly for each pump;
- spare common connection and fittings;
- spare fuses; and,
- normally wearing pump spare parts such as lubricants, oils, seals, and belts.

Other critical items, such as diesel driven pumps, will be made available by Kodak Park personnel or subcontractors on an as-needed basis.

6.6 O&M Costs

Maintenance items and costs for annual operation of the M-7 Pump Station include:

Items	Cost Per Year
Electricity	$5,600.00
Supervisor/Inspection	$8,000.00
Maintenance of Equipment	$5,000.00
Total Per Year	$18,600.00

Maintenance of equipment includes repair of pumps, calibration of equipment, and maintenance of the enclosure and accessories.

7.0 KODAK CONTACT PERSON

The following individual will be Kodak's contact on post-closure monitoring and maintenance and potential corrective measure concerns during the post-closure period.

Mr. Peter E. Loberg
Utilities Division Manager
Eastman Kodak Company
1669 Lake Avenue
Rochester, New York 14652-3709
Telephone No. (716) 722-2311

8.0 FINANCIAL ASSURANCES

Actual costs for completing the operation maintenance activities will be recorded by Kodak. In the event additional activities are determined necessary to operate or maintain the closed landfill, Kodak will advise NYSDEC and provide an estimate of costs to complete additional activities.

9.0 PLANNED USES

Other than the activities required to operate and maintain the landfill as described herein, no re-use is currently planned.

FIGURE 1
PREVENTIVE MAINTENANCE FORM
LANDFILL COVER AND SURFACE WATER MANAGEMENT SYSTEM
WEILAND ROAD LANDFILL

Inspector:_____

ITEM	MAINTENANCE REQUIRED	COMMENTS	DATE OF MAINTENANCE
I. PROTECTIVE COVER SYSTEM			
A. Mowing of vegetative cover			
B. Removal of debris from cover area			
II. SURFACE WATER MANAGEMENT SYSTEM			
A. Dredging of sediments in sedimentation basin (as required)			
B. Removal of leaves, grass clippings, or other debris from sedimentation basin spillway structures and discharge aprons			
C. Removal of leaves, grass clippings excessive silt deposits, excess vegetation, or other debris from drainage channels and control structures			
D. Mowing of basin side slopes and vegetation lined drainageways			

FIGURE 2
INSPECTION FORM
LANDFILL COVER
WEILAND ROAD LANDFILL

DATE _____ INSPECTION (Circle one): ANNUAL
OTHER _____

INSPECTOR _____

ITEM	ADEQUATE	NEEDS ATTENTION	COMMENTS (NOTE IF REPAIR MAINTENANCE REQUIRED)
A. General condition of cover material	_____	_____	_____
B. Settlement/subsidence control	_____	_____	_____
C. Erosion control	_____	_____	_____
D. Animal burrows	_____	_____	_____
E. Large weeds or woody species	_____	_____	_____
F. Vegetation	_____	_____	_____
G. General conditions of roads	_____	_____	_____
H. Vegetation control	_____	_____	_____
I. Security Fence	_____	_____	_____

Please Clearly Identify Areas Needing Attention (Reference Item No.) on the Site Plan.

FIGURE 3
REPAIR MAINTENANCE FORM
WEILAND ROAD LANDFILL

DESCRIPTION OF PROBLEM: _____

_____

_____

DATE PROBLEM IDENTIFIED: _____

REPAIR MAINTENANCE TAKEN TO RESOLVE PROBLEM (Identify Locations of Maintenance on Site Plan):

_____

_____

_____

_____

_____

_____

DATE RESOLVED: _____

INSPECTOR: _____

FIGU_ 4
INSPECTION FORM
SURFACE WATER AND LANDFILL GAS MANAGEMENT SYSTEMS
WEILAND ROAD LANDFILL

DATE _____ INSPECTION (Circle one): ANNUAL
OTHER _____

INSPECTOR _____

ITEM	ADEQUATE	NEEDS ATTENTION	COMMENTS (NOTE IF REPAIR MAINTENANCE REQUIRED)
A. Drainageways			
1. General condition of drainageways	_____	_____	_____
2. Settlement/subsidence	_____	_____	_____
3. Erosion control	_____	_____	_____
4. Blockages	_____	_____	_____
5. Animal burrowing	_____	_____	_____
6. Flow capability	_____	_____	_____
7. Rip rap/channel liner	_____	_____	_____
8. Vegetation control	_____	_____	_____
B. Control Structures			
1. General condition of structures	_____	_____	_____
2. Settlement/subsidence	_____	_____	_____
3. Blockages	_____	_____	_____
4. Erosion control	_____	_____	_____
5. Structural Integrity	_____	_____	_____
C. Sedimentation basins			
1. General condition of basins	_____	_____	_____
2. Blockages	_____	_____	_____
3. Erosion control	_____	_____	_____
4. Animal burrowing	_____	_____	_____
5. Outlet structures	_____	_____	_____
- Structural Integrity	_____	_____	_____
- Flow capacity	_____	_____	_____
6. Sediment accumulation (bi-annual)	_____	_____	_____
D. Passive Gas Venting System			
1. General Condition of Gas Vents	_____	_____	_____
2. General Condition of Gas Wells	_____	_____	_____

Please Clearly Identify Areas Needing Attention (Reference Item No.) on the Site Plan.