SYOSSET LANDFILL

2016 ANNUAL POST-CLOSURE SUMMARY REPORT

Volume 1 of 2

TOWN OF OYSTER BAY

DEPARTMENT OF PUBLIC WORKS
SYOSSET, NEW YORK 11791

May 2017

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SUMMARY REPORT

Volume 1 of 2

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(Bound Separately as Volume 2 of 2)

INTRODUCTION

The Post-Closure Monitoring and Maintenance Operations Manual (O&M Manual) for the Syosset Landfill (LKB, 2003) requires the inspection, monitoring and maintenance of the various components of the capping and closure system on a regular basis throughout the post-closure period. The frequency and scope of the monitoring and maintenance tasks are generally based on the post-closure monitoring and maintenance requirements stipulated under 6 NYCRR Part 360. Specifically, for 2016 the tasks for this site included the following:

- Quarterly inspection of the landfill cover system;
- Quarterly inspection of the landfill drainage system;
- Quarterly inspection and monitoring of the landfill gas venting system; and
- Annual inspection, ground water-level monitoring and ground water-quality monitoring at selected ground water-monitoring wells.

The results of the monitoring and maintenance tasks performed each year are to be summarized in an Annual Summary Report that will be submitted to the United States Environmental Protection Agency (USEPA) and the New York State Department of Environmental Conservation (NYSDEC) in conformance with the provisions of 6 NYCRR Part 360-2.15(k)(4).

During 2016, four rounds of inspections were performed for the landfill cover system, drainage system and landfill gas venting system. The perimeter and property line gas vents were also monitored. The results of the inspection, monitoring, and maintenance tasks completed during 2016 for these components of the capping and closure system are discussed in the following sections. Summary tables and pictures taken during the inspections are provided in Appendices A through C.

This 2016 Annual Summary Report represents the twelfth report prepared during the Post-Closure period. The annual inspection and monitoring of the ground water-monitoring system was performed during the fourth quarter of 2016. The results of the annual ground water-monitoring program are discussed in Volume 2 of this Annual Summary Report which is bound separately and provided in Appendix D.

During 2016, the USEPA performed its fourth Five-Year Review at the site. The results of this inspection were summarized in the “Fourth Five-Year Review Report for the Syosset Landfill Superfund Site” prepared by the USEPA Region 2 Office and published in February 2017. This Five-Year Review is discussed further in Section 5 of this Report.

1.0 COVER SYSTEM

The cover system was constructed in accordance with 6 NYCRR Part 360 provisions to minimize stormwater infiltration, vent landfill gases passively, provide a permanent barrier between the site's fill material and the land surface, and provide surface cover material compatible with future site uses.

The capping system consists of three types of cap surface treatments over a 60-mil High Density Polyethylene (HDPE) geomembrane and gas venting layer. Specifically, the cap system contains the following layers (from top to bottom).

- 24-inch barrier protection layer
  - 2" asphalt concrete top course
  - 5" asphalt concrete base course
  - 17" clean fill

  Or
  - 6" recycled concrete
  - 18" clean fill

  Or
  - 6" topsoil with a vegetative cover
  - 18" clean fill

- 60-mil HDPE geomembrane
- 12-inch gas venting layer
- Geotextile filter fabric

The three types of surface treatments were designated for use in particular areas of the site based on the anticipated future site uses. The site was divided into five different facilities as shown on Figure 1, Syosset Landfill Cover System Location Plan. The recycled concrete surface treatment was utilized in both the Highway Department's Material Storage Facility and the Miscellaneous Equipment Storage Facility (Areas A and B, respectively, on Figure 1). The asphalt concrete surface treatment was utilized in the Highway Department's Salt Storage Facility and Vehicle Parking Facility as well as the Sanitation Division Vehicle Parking Facility (Areas C, D and E, respectively, on Figure 1). The vegetative cover surface treatment was utilized in a buffer area along the northern property line in Areas A, B and C.

The landfill cover system was inspected for asphalt pavement cracks, surface material erosion, insufficient vegetative cover growth, erosion of vegetative cover and areas of surface settlement, as appropriate for each area. The results of the inspections are discussed in Sections 1.1 through 1.7 of this Report. The defect descriptions and observed causes are identified in Appendix A, Tables A1-2, A2-1, A3-1 and A4-2, with their locations referenced to the areas designated on Figure 1. Pictures of typical defects are also included in Appendix A following each of the Inspection Report Tables. Where applicable, defects that may remain

from the previous year have been identified and further information can be found in the previous Annual Report. Repairs were made prior to the first and fourth inspection round and a copy of the "Cover System Repair Report" (e.g., Tables A1-1 and A4-1) are also included in Appendix A.

The following paragraphs discuss the conditions found in 2016.

1.1 Pavement and Surface Cracks

In general, the condition of the concrete and asphalt pavement located in the Highway Department's Salt Storage Facility and Vehicle Parking Facility (Areas C & D) as well as the TOBDPW Sanitation Division's Vehicle Parking Facility (Area E) continues to be good. Routine fracturing of pavement cracks occurs at construction joint locations and is likely occurring due to weathering. Some irregularly shaped pavement cracks also exist in Area E and are likely occurring due to a minor amount of settlement in the subsurface material in those areas. Minor cracks are inherent in these types of pavement materials. Their locations have been monitored and maintained throughout the post-closure period and are not necessarily attributable to the Landfill.

It is recommended that these areas continue to be repaired on a regular basis as part of routine yard maintenance. The joints should be cleaned and sealed to prevent further weathering damage in accordance with the New York State Department of Transportation (NYSDOT) Standard Specifications, Construction and Materials, Section 633-3.02, "Cleaning, Sealing and Filling Joints and Cracks". It is recommended that the settlement cracks in the asphalt pavement be cleaned and sealed as per the NYSDOT Pay Item for Cleaning and Sealing Cracks in Hot Mix Asphalt Pavement using Hot Applied Sealant, ITEM 402.7602 08. All settlement cracks in the concrete pavement should be cleaned and sealed as per the NYSDOT Pay Item for Crack Repair by Epoxy Injection (Restoration), ITEM 01555.8002 M.

Should these cracks worsen due to landfill related impacts in the future, they should be discussed in the Inspection Reports for these areas.

1.2 Recycled Concrete Aggregate Surface Material Erosion

Areas of surface material erosion (i.e., ruts) in the recycled concrete aggregate (RCA) were noticeable in the Highway Department Material Storage Facility (Area A) and the Miscellaneous Equipment Storage Facility (Area B) during the first three rounds of inspections and were repaired prior to the fourth round inspection.

Should these conditions recur in the future, it is recommended that ruts in the surface be filled with RCA material to prevent further erosion and to re-grade any uneven areas to maintain designed surface slopes. In addition, it is recommended that stockpiles be placed in configurations that are perpendicular to the perimeter ditches (i.e., parallel to the surface slope) with sufficient space in between piles so that stormwater can flow unimpeded to the perimeter drainage ditches.

1.3 Vegetative Cover Surface Material Erosion

Areas of surface material erosion (i.e., ruts) were found in the vegetative cover buffer area of the Highway Department Material Storage Facility (Area A), the Miscellaneous Equipment Storage Facility (Area B), and the Salt Storage Facility (Area C) during the first three rounds of inspections and were repaired prior to the fourth round inspection. These Areas are sloped toward the perimeter drainage ditches. The vegetative cover buffer area therefore receives runoff from both RCA and paved areas. Ruts form as a result of continued erosion of the surface material from stormwater runoff. Where necessary, hay bales were placed upslope of the locations repaired in Areas B and C.

Should these conditions recur in the future, it is recommended that ruts in the surface material be repaired by removing silt, filling/regrading the surface area to remove the ruts, replacing topsoil that may have eroded away and reseeding this area during the planting season to prevent further erosion problems.

1.4 Vegetative Growth

Areas within the vegetative buffer located along the northeastern property line of Areas A, B and C lacked vegetative growth in some locations during the first three inspection rounds, experiencing erosion/siltation problems. These areas were repaired prior to the fourth round inspection as identified in Section 1.3.

It is recommended that perimeter vegetation located around the gas vent wells and along the property line should be trimmed and maintained to a manageable level.

1.5 Settlement

There is one site location remaining where measurable potential settlement has occurred. As reported in the previous Annual Reports, it is located along the west face of the Salt Storage Facility (Area C). This area remains a minor 2-inch depression for which no other potential cause could be identified. A previous area where it appeared that minor

settlement of the corner of a concrete pad used for truck parking caused cracking was repaired prior to the first round inspection of this reporting period. There has been no measureable additional settlement of these areas during the past year.

The level of settlement is lower than the amount identified in the O&M Manual which would trigger a major repair (i.e., 16 inches). Therefore, in accordance with the requirements of the O&M Manual, it is recommended that the asphalt surface course in the remaining area be restored to its original surface slope as part of routine pavement repairs in the Salt Storage Facility to promote stormwater runoff. Both locations should continue to be monitored for future settlement. The pavement restoration work should be performed in accordance with the details and specifications for the Capping and Closure Program.

1.6 Ponding Areas

Ponding areas in the RCA within Areas A and B were observed during the first and third rounds of inspections and were repaired prior to the fourth round inspection when these areas were regraded. Minor ponding areas were also observed in the paved areas within Areas C and E during the first, third and fourth rounds of inspections during this reporting period due to uneven pavement and potholes.

Should ponding conditions recur in the future within the RCA material in Areas A and B, surface grading should be routinely adjusted to remove low points that occur. The asphalt section in the Areas C and E experiencing ponding should be restored in accordance with the original Capping Contract specifications as discussed in Section 1.5 when routine pavement repairs are performed in the future in these areas.

1.7 Burrowing Animals

There was no evidence of burrowing animals on the cap surface.

2.0 DRAINAGE SYSTEM

The stormwater drainage system consists of toe of slope perimeter drainage ditches which collect the site's stormwater runoff and convey it to storm drains that discharge into three Nassau County recharge basins. Two of the recharge basins (RB No. 284 and RB No. 571) are adjacent to the site, while the third basin (RB No. 358) is located approximately one-quarter mile west of the site.

The perimeter drainage ditches are composed of rip-rap lined and asphalt-lined perimeter collection ditches that intercept runoff along the toe of the landfill slopes. The ditches are trapezoidal in cross-section with a depth of 1.5 feet and an overall width of 10 feet. The majority of the ditches have a base width of four feet with a side slope of 2:1. The remaining ditches have a base width of 5.5 feet with 1-1/2:1 side slopes. The rip-rap lined ditches utilize 2"-4" stone with an overall depth of 6 inches overlying filter fabric. The asphalt-lined ditches have an asphalt top course depth of 3 inches over an asphalt base course depth of 3 inches.

The drainage ditches convey stormwater to catch basins (Nassau County Type IIIC-modified) connected to reinforced concrete storm drains which discharge through headwalls into the Nassau County Recharge Basins Nos. 284, 358 and 571.

The drainage system throughout the landfill was inspected. The ditch sections, catch basins, storm drainage pipes, manholes and recharge basin headwalls were inspected for defects. The defects encountered are identified on Tables B1-1, B2-1, B3-1 and B4-2, in Appendix B and their locations are identified by drainage ditch section number or drainage structure number on Figure 2, Drainage System Location Plan. Pictures of the defects follow the tables for each round of inspections. Repairs were performed prior to the fourth inspection round and a copy of the “Drainage System Repair Report” (e.g., Table B4-1) is also included in Appendix B.

The following paragraphs discuss the conditions found in 2016.

2.1 Ditch Sections

Varying amounts of siltation and vegetative growth occurs over time in the majority of the rip rap lined drainage ditches onsite. However, the total length of the drainage ditches that are impacted in each designated ditch section also varies. Drainage Ditch Sections #2 through #8 contained moderate silting which gradually worsened during the first three inspection rounds of 2016 leading to vegetation growth. Prior to the fourth inspection round, sediment and vegetative growth were removed and new rip rap was added, where necessary.

The apparent cause of most of the ditch siltation appears to be from the erosion of materials stored in stockpiles onsite. The majority of the site's stockpiles are located in the portion of Area A that drains to Ditch Section #6. Siltation of this ditch section has been a recurring condition. In the past, hay bales were used for silt protection in this area. However, the hay bales would eventually deteriorate. In an effort to provide a longer-term solution, a combination of hay bales and silt fence with shallow depth stakes were employed prior to the fourth inspection round to minimize future sediment transport to the Ditch Section #6. Hay bales were also placed along a portion of Ditch Section #3 following the repair of a washout adjacent to the ditch.

Also prior to the fourth inspection round, hay bales were placed around the catch basin inlets at the downstream end of the perimeter drainage ditches to prevent sediment transport into the subsurface drainage system. These hay bales should be replaced on a regular basis if deteriorated.

The drainage ditches should receive routine maintenance to prevent future sediment accumulation and vegetation growth conditions.

2.2 Catch Basins

All of the catch basins onsite were inspected during 2016. Debris and silting were detected at Catch Basins #2 through #5 in varying degrees in the first three rounds of inspections. Prior to the fourth inspection round, sediment and debris were removed from the catch basins and hay bales were placed around their inlets. However, during the fourth round inspection, it was noted that silt accumulation had recommenced at Catch Basin #5 due to a shift in the location of the hay bales. These hay bales should be repositioned.

It is recommended that the silt and sediment be removed on a regular basis from the area in the vicinity of the catch basin inlets and drainage ditches, and that hay bales be replaced when they deteriorate. The erosion control measures recommended in Section 2.1 should be implemented onsite to minimize the silt and sediment transport to the catch basin locations.

2.3 Storm Drainage Pipes

The storm drainage pipes were inspected at the drainage structure locations and only minimal sedimentation and heavy vegetative growth was noted at the entrance to the end section located adjacent to the Animal Shelter (ES #1, see Figure 2) during the first three rounds of inspections. The vegetative growth was cleared prior to the fourth inspection round.

2.4 Recharge Basin Headwalls

All four recharge basin headwalls discharging site stormwater runoff to three Nassau County Recharge Basins (#284, #358 and #571) were inspected and are operational. Each of the headwalls contain minor amounts of siltation and varying amounts of vegetation during the growing season. HW #1 experienced the densest vegetation during the third inspection round, inhibiting inspection access.

Although the silt/sediment deposits and vegetation are not impacting the performance of the headwalls, it is recommended that they be routinely removed. Routine maintenance of these Nassau County Basins is performed by Nassau County.

3.0 GAS VENTING SYSTEM

The landfill gas venting system consists of 38 property line gas vent wells, 16 perimeter gas vent wells and 26 landfill ridge gas vent wells as shown on Figure 3. Eight gas monitoring cluster wells and a gas venting trench located along the property line adjacent to the South Grove Elementary School were installed during previous work performed at the site. In addition, four six inch diameter PVC gas vent wells were installed over a gas venting trench during the Preload Program within the landfill limits in an area northeast of the Salt Storage Sheds. The vent wells were installed to allow the trench to continue venting, if necessary, following the placement of the cap and an earthen berm over the trench.

The perimeter gas vent wells are six-inch diameter PVC wells extending 52 feet below grade with a screen length of 40 feet. The landfill ridge gas vent wells are six-inch diameter PVC wells, extending 32 feet below the landfill cap surface with a screen length of 30 feet.

The Landfill Gas Venting System including the property line gas vent wells, the perimeter gas vent wells and the ridge vent wells were inspected and the property line wells, perimeter wells and Animal Shelter building were monitored for methane gas over four rounds in accordance with the requirements of the O&M Manual. The results of the inspections and monitoring are discussed in the following sections for all four rounds of 2016.

Section 3.1 discusses the gas vent well defects found during the four rounds of inspections performed in 2016. The defects are identified by gas vent well number. The defect descriptions and observed causes are identified in Appendix C in the “Gas Venting System Inspection Report” Table’s C1-1, C2-1, C-3-1 and C4-2 for the first, second, third and fourth round inspections, respectively. When defects are noted, typical pictures are included in Appendix C following the Inspection Report Tables. Where defects are the same as those identified in previous inspection reports, they are so noted. Pictures of these defects can be found in those reports. Repairs were made prior to the fourth monitoring/inspection round and a copy of the “Gas System Repair Report” (e.g., Table C4-1) is included in Appendix C.

Section 3.2 discusses the results of the four rounds of gas monitoring events. Table’s C1-2, C2-2, C3-2 and C4-3 tabulate the percent methane in air detected in the designated post-closure gas monitoring well network and the Animal Shelter building.

The following paragraphs discuss the conditions found in 2016.

3.1 Inspection

Inspection of each gas vent well was performed prior to each round of gas monitoring. Of the 54 property line and perimeter gas vent wells inspected in the first, second and third inspection rounds, only SW-3 was damaged (the upper section of the gas vent well was detached from the well casing pipe at grade). Well SW-3 was repaired prior to the fourth inspection round. However, during the fourth inspection round, Well NE-16 was found to be similarly damaged. Well NE-16 has since been secured with a protective cover. Machinery used in this area combined with overgrown vegetation may have been the cause of the damage. During the post-closure period to date, methane has not been detected at either of these two wells. While Well NE-16 is still capable of venting and being monitored in its current condition, when necessary, it is recommended that the upper and lower sections of the casing pipe be reattached and the well restored to its original configuration during the next well repair contract. It is recommended that vegetation near the gas vent wells be maintained on a regular basis to improve visibility and help prevent damage to vent wells in the future.

The twenty-six ridge vent wells onsite were inspected for damage before each of the four gas monitoring rounds. Each ridge vent is protected by either an eight or ten foot diameter concrete leaching ring. Eight foot diameter rings were installed at Vent Wells R-13 through R-26 located in the Highway Department's Salt Storage Area and Vehicle Storage Area. Ten foot diameter rings were installed at Vent Wells R-1 through R-12 located in the Highway Department's Material Storage Area. These protective concrete rings were placed last in 2011 and remain intact with the exception of the rings at Vent Wells R-1, R-8 and R-9 which have been replaced with smaller eight foot diameter rings which were stockpiled onsite.

The 2016 ridge vent well inspections conducted during the first, second and third inspection rounds showed only damage to the Well R-8 well casing and the Well R-1 ten foot diameter concrete ring. The well casing of Well R-8 was sheared off at/just below grade above the geomembrane cap. The well was repaired and a new geomembrane boot was installed prior to the fourth round inspection. The damaged ten foot diameter concrete ring at Well R-1 was replaced with an eight foot diameter ring which was stockpiled onsite. Historically, the leading cause of damage to the ridge vent well casings and protective concrete rings has been attributed to impact with trucks or other vehicles used onsite. It is recommended that stockpiles not be placed within 25 feet of the ridge vent wells to prevent trucks from damaging the wells in the future.

It should be noted that the site's passive gas venting system continues to operate properly preventing off-site gas migration at the property line as evidenced by the gas monitoring results discussed in Section 3.2 below.

3.2 Monitoring

The property line gas vent wells, perimeter vent wells and Animal Shelter building were monitored for methane gas over four rounds during falling barometric conditions in accordance with the requirements of the O&M Manual to determine compliance with 6 NYCRR Part 360 provisions for levels of combustible gas. Monitoring for methane was performed using a Combustible Gas Indicator.

The O&M Manual stipulates that if monitoring indicates the existence of combustible gas in excess of the lower explosive limit (i.e., 5% gas-in-air) within the property line gas vent wells, subsurface bar-hole monitoring for Methane must be conducted at the property line. The bar-hole monitoring should be performed along the adjacent site fence line, perpendicular to the vent well in question. If gas concentrations of 5% or greater are encountered, multiple bar-holes should be employed in order to define the lateral extent of gas detected.

During the 2016 Gas Monitoring Program, property line Gas Vent Wells NE-1 to NE-23, SW-1 to SW-9 and NW-1 to NW-6 and perimeter Gas Vent Wells SE-1 to SE-9 and AS-1 to AS-7 were monitored in accordance with the requirements of the O&M Manual. No methane was detected during the first to fourth monitoring events of 2016. The results are tabulated on Tables C1-2, C2-2, C3-2 and C4-3 in Appendix C.

The Animal Shelter was monitored for methane gas in six separate locations of the building and no methane was detected during the monitoring events performed in all four rounds of 2016. These results are also tabulated on Tables C1-2, C2-2, C3-2 and C4-3 in Appendix C.

In summary, the gas monitoring events conducted in 2016 compared to the results in 2015 indicate that the site is continuing to meet the regulatory requirements for levels of gas at the property line. Therefore, the passive gas venting system is operating successfully to prevent off-site gas migration. During 2005 through 2016, the only levels of methane in excess of the LEL were encountered at one perimeter gas vent well (AS-3) during one monitoring event in 2006, at three perimeter gas vent wells (AS-1, AS-3 & AS-4) during two monitoring events in 2007, at four perimeter gas vent wells (NE-7, AS-2, AS-3 and AS-4) during three monitoring events in 2008, at two perimeter gas vent wells (AS-2 and AS-4) during one monitoring event in 2009, and at one perimeter gas vent

wells (AS-4) during two monitoring events in 2010, and during no monitoring events from 2011 through 2016. During each historic occasion where methane was encountered above the LEL, a bar-hole survey was performed adjacent to the wells in the direction away from the landfill and no gas was detected in the bar-holes.

4.0 GROUND WATER-MONITORING PROGRAM

The annual inspection and monitoring of the ground water-monitoring system was performed in December 2016. The results of the annual ground water-monitoring program are discussed in Volume 2 of this Summary Report which is bound separately and provided in Appendix D.

5.0 USEPA FIVE-YEAR REVIEW REPORT

The USEPA conducted their most recent site inspection for a Five-Year Review in 2016 and issued their Five-Year Review Report in February 2017. The Report's Protectiveness Determination/Statement since the previous 2012 Five-Year Review Report stated:

> "The implemented remedy for the Syosset Landfill Superfund Site protects human health and the environment. There are no exposure pathways that could result in unacceptable risks and none are expected, as long as the Site use does not change and the implemented engineered and institutional controls are properly operated, monitored and maintained."

Section VI, Issues/Recommendations, of the USEPA Five-Year Review Report (February 2017) stated the following:

> "This report did not identify any issue or make any recommendation for the protection of public health or the environment which was not included or anticipated by the site decision documents. However, this report includes suggestions for improving, modifying, and/or adjusting some of these activities (see Other Findings, below).
>
> OTHER FINDINGS
>
> The Town submitted a letter to EPA and NYDEC requesting reductions in the frequencies of the post-closure inspection and monitoring. The following are recommendations that were identified during the FYR and may improve management of O&M activities, but do not affect current and/or future protectiveness:
>
> - Groundwater sampling and water level measurements will be performed every fifth quarter, instead of annually, which will provide monitoring once in each season/quarter during the Five Year Review period;
> - Landfill cover systems inspection will be reduced from quarterly to semi-annually;
> - Landfill drainage system inspection will be reduced from quarterly to semi-annually, with one inspection after a significant rainfall event (i.e., five-year frequency);
> - Landfill gas venting system inspection and perimeter/property line gas vent wells monitoring will be reduced from quarterly to semi-annually; and
> - O&M activities results will continue to be summarized and submitted in annual reports.
>
> As documented in the Annual Post-Closure Summary Reports, the landfill cover system over time can develop asphalt pavement cracks, surface

material erosion, insufficient vegetative cover growth, erosion of vegetative cover and areas of surface settlement. In addition, varying amounts of siltation and vegetative growth occurs over time in the majority of the rip rap lined drainage ditches. The following are additional recommendations that may improve management of the cover system and the drainage system, respectively, but do not affect current and/or future protectiveness:

- Pavement cracks and ruts caused by erosion should be periodically sealed and filled;
- Uneven areas should be re-graded to maintain designed surface slopes;
- Landfill surface slope should be maintained to promote stormwater runoff;
- Erosion control techniques should be implemented around the material stockpiles to prevent the transport of silt and sediment from the piles to the drainage ditches; and
- Silt and vegetation that accumulates in drainage ditches and other portions of the drainage system should be periodically removed"

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

The monitoring data collected during 2016 for both landfill gas and ground water indicate that the implemented remedy at the Syosset Landfill remains protective of public health and the environment.

More specifically, the post-closure monitoring of landfill gas during 2016 in the perimeter and property line gas vent wells continues to meet the requirements of 6NYCRR Part 360, confirming that the existing site-wide passive gas venting system continues to prevent off-site gas migration. In addition, the 2016 ground water-monitoring data compared to the data collected during the 1993 OU2 RI, and the 2003 and 2005 through 2015 ground water-monitoring events indicate that there have been no significant changes in ground-water flow or ground-water quality attributable to the Landfill.

These conclusions are consistent with those contained in the USEPA Five-Year Review Report (February 2017).

Furthermore, based on the results of the post-closure monitoring data obtained and reported since 2005, the Town transmitted a letter (dated March 11, 2016) to the USEPA requesting that the USEPA and the NYSDEC consider reductions in the frequencies of the post-closure inspections and monitoring at the former Syosset Landfill. In their letter, the Town stated that they understand any reductions may be contingent on maintaining the current site use. The USEPA granted a reduction in the post-closure inspection and monitoring frequency in their Fourth Five-Year Review Report as discussed in Section 5.0 of this Report. These reductions have been incorporated into the Recommendations listed in Section 6.2 below.

6.2 Recommendations

Detailed recommendations for continued post-closure maintenance and repairs are provided for each of the landfill capping and closure system elements in the previous sections of this Report. These recommendations are consistent with those contained in the USEPA Five-Year Review Report (February 2017).

In general, recommended routine maintenance, inspection and monitoring for each of these systems will include:

Cover System:

- Periodically seal pavement cracks, fill ruts caused by erosion, properly orient stockpiles, implement stockpile erosion control features, maintain landfill surface slope to promote stormwater runoff.
- Commencing in 2017, cover system inspections will be reduced from quarterly to semi-annually, as approved by the USEPA and NYSDEC.

Drainage System:

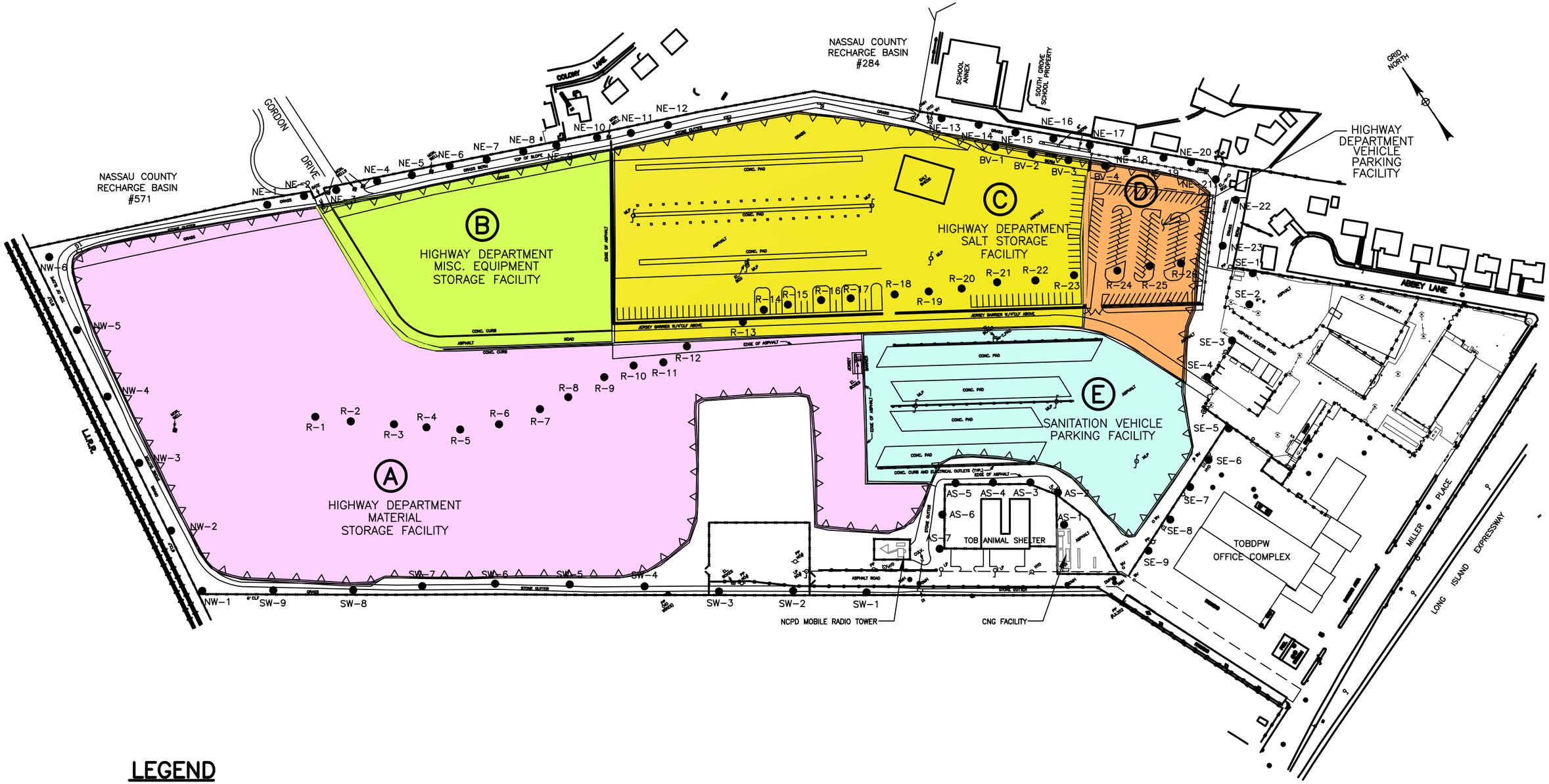
- Periodically remove silt and vegetation that accumulates in drainage ditches and other portions of the drainage system.
- Commencing in 2017, drainage system inspections will be reduced from quarterly to semi-annually, with one inspection after a significant rainfall event (i.e., five-year frequency), as approved by the USEPA and NYSDEC.

Gas Venting System:

- Recommended that stockpiles not be placed within 25 feet of the ridge vent wells to prevent trucks from damaging the wells in the future. Well NE-16 should be repaired during the next well repair contract.
- Commencing in 2017, gas venting system inspections and perimeter/property line gas vent wells monitoring will be reduced from quarterly to semi-annually, as approved by the USEPA and NYSDEC.

Ground Water-Monitoring System:

- Specific recommendations for the Ground Water-Monitoring Program are contained in Volume 2 of this Summary Report provided in Appendix D.
- Commencing in 2017, ground-water sampling and water-level measurements will be performed every fifth quarter, instead of annually, which will provide monitoring once in each season/quarter during the Five Year Review period, as approved by the USEPA and NYSDEC. Since the previous ground water-monitoring round was performed during the fourth quarter of 2016, the next ground water-monitoring round will occur during the first quarter of 2018 in accordance with the USEPA/NYSDEC-approved schedule.



LEGEND

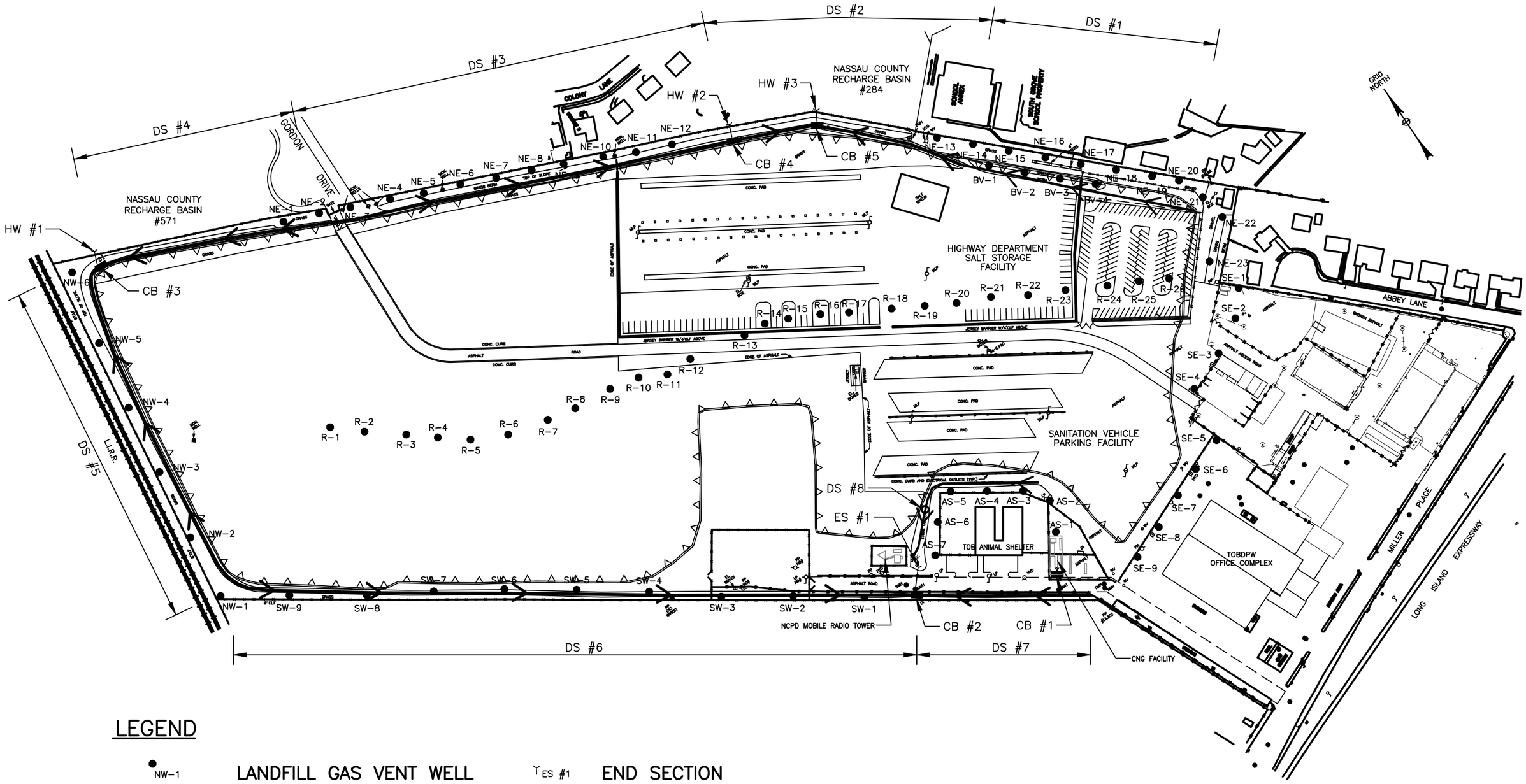
Ⓐ COVER SYSTEM AREA DESIGNATION

LANDFILL CAP LIMIT

FIGURE 1

SYOSSET LANDFILL
COVER SYSTEM LOCATION PLAN

LKB



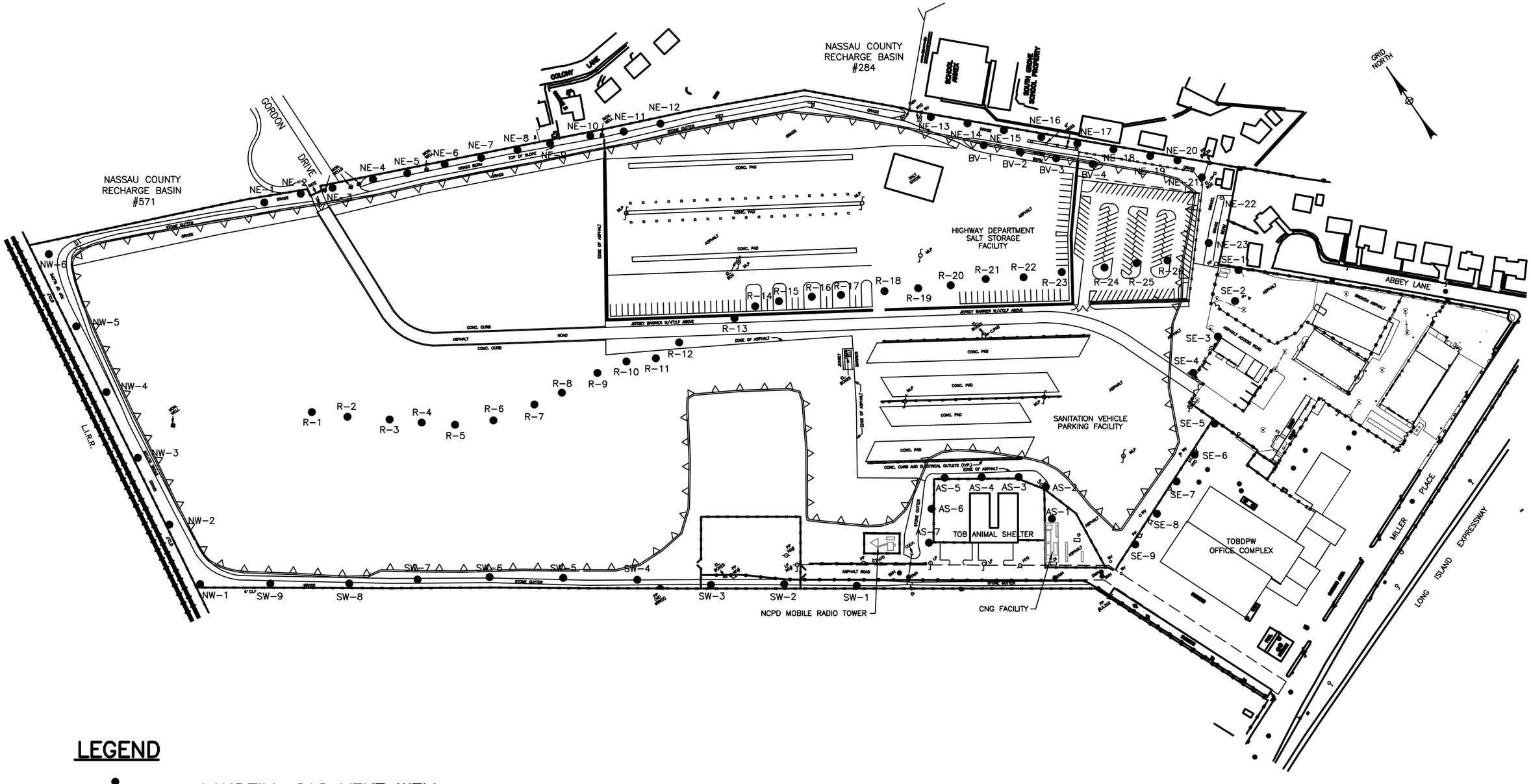
LEGEND

- NW-1 — LANDFILL GAS VENT WELL
- LANDFILL CAP LIMIT
- CB #1 — CATCH BASIN
- HW #1 — HEAD WALL
- ES #1 — END SECTION
- RIP RAP LINED DRAINAGE DITCH
- ASPHALT LINED DRAINAGE DITCH
- DS #1 — DRAINAGE DITCH SECTION DESIGNATION

FIGURE 2

SYOSSET LANDFILL
DRAINAGE SYSTEM LOCATION PLAN

LKB



LEGEND

NW-1 — LANDFILL GAS VENT WELL

LANDFILL CAP LIMIT

0 100 200 400

SCALE IN FEET

FIGURE 3

SYOSSET LANDFILL
GAS VENTING SYSTEM LOCATION PLAN

LKB

APPENDIX A

COVER SYSTEM

- **INSPECTION REPORTS**
- **PICTURES**

TABLE A1-1

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

COVER SYSTEM REPAIR REPORT

Inspection Date: 3/08/16

Inspection Personnel:
Rex Chen
Mike Geddish

ITEM	LOCATION	DESCRIPTION OF REPAIR
5. Settlement	Area E	Concrete Pad repaired

Cover System Repair Inspection

Area E Concrete Pad Repair

TABLE A1-2

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

COVER SYSTEM INSPECTION REPORT

Inspection Date: 3/08/16
Inspection Frequency:
☒ Quarterly
☐ Following 5-year Rainfall Event

Inspection Personnel:
Rex Chen, Mike Geddish

ITEM	DEFECT INFORMATION[1]		
	LOCATION	DESCRIPTION	OBSERVED CAUSE
1. Surface Cracks (Asphalt/Concrete)	None		
2. Surface Material Erosion (Recycled Concrete)	Area A, B	Along Perimeters.[2]	Stormwater runoff
	Area B	Washout along near DS-3.[2]	Stormwater runoff
3. Surface Material Erosion (Vegetative Cover)	Area A, B, C	Along perimeters in areas A, B & C.	Stormwater runoff
4. Vegetation Growth	Area A, B, C	Lack of vegetation in eroded areas.[2]	Stormwater runoff
5. Settlement	Area C	Minor settlement and low point on west face of Salt Shed Area C.[2]	Differential Settlement
6. Ponding Areas	Area A, C, E	Minor ponding in unevenly graded/ paved areas and potholes	Uneven grading/pave-ment/potholes
7. Burrowing Animals	None		

(1) - Defect locations are designated by Cover System Areas A through E identified on Figure 1 (scale: 1"=200'). If no defects are found, list “None” in the Location column. Utilize a separate sheet, if necessary, to further describe defects and observations of causes.

(2) – See previous report

Erosion in Area C

Minor Ponding in Area C

TABLE A2-1

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

COVER SYSTEM INSPECTION REPORT

Inspection Date: 6/14/16
Inspection Frequency:
☒ Quarterly
☐ Following 5-year Rainfall Event

Inspection Personnel:
Rex Chen, Joe Maggio

ITEM	DEFECT INFORMATION[1]		
	LOCATION	DESCRIPTION	OBSERVED CAUSE
1. Surface Cracks (Asphalt/Concrete)	None		
2. Surface Material Erosion (Recycled Concrete)	Area A, B	Along Perimeters.[2]	Stormwater runoff
	Area B	Washout along near DS-3.[2]	Stormwater runoff
3. Surface Material Erosion (Vegetative Cover)	Area A, B, C	Along perimeters in areas A, B & C.	Stormwater runoff
4. Vegetation Growth	Area A, B, C	Lack of vegetation in eroded areas.[2]	Stormwater runoff
5. Settlement	Area C	Minor settlement and low point on west face of Salt Shed Area C.[2]	Differential Settlement
6. Ponding Areas	None		
7. Burrowing Animals	None		

(1) - Defect locations are designated by Cover System Areas A through E identified on Figure 1 (scale: 1"=200'). If no defects are found, list “None” in the Location column. Utilize a separate sheet, if necessary, to further describe defects and observations of causes.

(2) – See previous report

Washout in Area B

Erosion in Area C

TABLE A3-1

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

COVER SYSTEM INSPECTION REPORT

Inspection Date: 9/28/16
Inspection Frequency:
☒ Quarterly
☐ Following 5-year Rainfall Event

Inspection Personnel:
Rex Chen, Joe Maggio

ITEM	DEFECT INFORMATION[1]		
	LOCATION	DESCRIPTION	OBSERVED CAUSE
1. Surface Cracks (Asphalt/Concrete)	None		
2. Surface Material Erosion (Recycled Concrete)	Area A, B	Along Perimeters.[2]	Stormwater runoff
	Area B	Washout along near DS-3.[2]	Stormwater runoff
3. Surface Material Erosion (Vegetative Cover)	Area A, B, C	Along perimeters in areas A, B & C.[2]	Stormwater runoff
4. Vegetation Growth	Area A, B, C	Lack of vegetation in eroded areas.[2]	Stormwater runoff
5. Settlement	Area C	Minor settlement and low point on west face of Salt Shed Area C.[2]	Differential Settlement
6. Ponding Areas	Area A, B, C, E	Minor ponding in unevenly graded/ paved areas and potholes	Uneven grading/pave-ment/potholes
7. Burrowing Animals	None		

(1) - Defect locations are designated by Cover System Areas A through E identified on Figure 1 (scale: 1"=200'). If no defects are found, list “None” in the Location column. Utilize a separate sheet, if necessary, to further describe defects and observations of causes.

(2) – See previous report

Ponding in Area B

Erosion in Area C

TABLE A4-1

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

COVER SYSTEM REPAIR REPORT

Inspection Date: 11/17/16

Inspection Personnel:
Rex Chen
Terry Heneveld

ITEM	Location	DESCRIPTION OF REPAIR
1. Surface Material Erosion (RCA)	Areas A	Area Regraded
	Area B	Area Regraded and Washout Repaired
2. Surface Material Erosion (Vegetative Cover)	Areas A, B	Area Regraded
	Area C	Area Regraded, Hay Bales and Rip Rap Installed
3. Vegetation Growth	Areas A, B, C	Area Regraded and Seeded where necessary. (Areas will be reseeded in spring, if required)
4. Ponding Areas	Area A, B	Areas Regraded

Cover System Repair Inspection

Area A Regraded

Area A Perimeter Regraded

Cover System Repair Inspection

Area B Regraded

Area B Washout Repaired

Cover System Repair Inspection

Area C Perimeter Regraded, Hay Bales and Rip Rap Installed

Area C Perimeter, Hay Bales and Rip Rap Installed

TABLE A4-2

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

COVER SYSTEM INSPECTION REPORT

Inspection Date: 12/9/16
Inspection Frequency:
☒ Quarterly
☐ Following 5-year Rainfall Event

Inspection Personnel:
Mike Geddish, Joe Maggio

ITEM	DEFECT INFORMATION[1]		
	LOCATION	DESCRIPTION	OBSERVED CAUSE
1. Surface Cracks (Asphalt/Concrete)	None		
2. Surface Material Erosion (Recycled Concrete)	None		
3. Surface Material Erosion (Vegetative Cover)	None		
4. Vegetation Growth	None		
5. Settlement	Area C	Minor settlement at low point on west face of Salt Shed Area C.[2]	Differential Settlement
6. Ponding Areas	Area C, E	Minor ponding in unevenly paved areas and potholes	Uneven pave-ment/ potholes
7. Burrowing Animals	None		

(1) - Defect locations are designated by Cover System Areas A through E identified on Figure 1 (scale: 1"=200'). If no defects are found, list “None” in the Location column. Utilize a separate sheet, if necessary, to further describe defects and observations of causes.

(2) – See previous report

Minor Ponding in Area E

APPENDIX B

DRAINAGE SYSTEM

- **INSPECTION REPORTS**
- **PICTURES**

TABLE B1-1

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

DRAINAGE SYSTEM INSPECTION REPORT

Inspection Date 3/08/2016
Inspection Frequency:
☒ Quarterly
☐ Following 5-year Rainfall Event

Inspection Personnel:
Rex Chen, Mike Geddish

ITEM	DEFECT INFORMATION[1]		
	LOCATION	DESCRIPTION	OBSERVED CAUSE
1. Ditch Section	DS #2,3,4,5,6, 7,8	Siltation at various locations. Erosion evident along the borders of the ditch sections.[2]	Stormwater runoff/ Sedimentation
	DS #2,5,6,7,8	Vegetative growth.[2]	Sedimentation
	DS #3	Requires silt protection[2].	Deterioration of hay bales
2. Catch Basins (Indicate Catch Basin #)	CB #2,3,4,5	Debris[2].	Stormwater runoff/ Sedimentation
	CB #2,3,4,5	Silting. Requires silt protection.[2]	Siltation and/or Deterioration of hay bales
3. Storm Drainage Pipes	ES #1	Siltation and Debris.[2]	Sedimentation
4. Recharge Basin Headwalls (Indicate Basin #)	RB #284	Minor siltation.[2]	Sedimentation
	RB # 358	Minor siltation .[2]	Sedimentation
	RB # 571	Minor siltation .[2]	Sedimentation

(1) - Defect locations (by Ditch Section #, Catch Basin # and Recharge Basin #) are identified on Figure 2 (scale: 1"=200'). If no defects are found, list “None” in the Location column. Utilize a separate sheet, if necessary, to further describe defects and observations of causes.
(2) – See previous report

Drainage System Inspection

Siltation – DS#3

Siltation – Catch Basin #5

Drainage System Inspection

Minor Siltation – RB #571 (HW #1)

TABLE B2-1

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

DRAINAGE SYSTEM INSPECTION REPORT

Inspection Date 6/14/2016
Inspection Frequency:
☒ Quarterly
☐ Following 5-year Rainfall Event

Inspection Personnel:
Rex Chen, Joe Maggio

ITEM	DEFECT INFORMATION[1]		
	LOCATION	DESCRIPTION	OBSERVED CAUSE
1. Ditch Section	DS #2,3,4,5,6, 7,8	Siltation at various locations. Erosion evident along the borders of the ditch sections.[2]	Stormwater runoff/ Sedimentation
	DS #2,3,4,5,6,7,8	Vegetative growth.[2]	Sedimentation
	DS #3	Requires silt protection[2].	Deterioration of hay bales
2. Catch Basins (Indicate Catch Basin #)	CB #2,3,4,5	Debris[2].	Stormwater runoff/ Sedimentation
	CB #4,5	Silting. Requires silt protection[2].	Siltation and/or Deterioration of hay bales
3. Storm Drainage Pipes	ES #1	Siltation and Debris.[2]	Sedimentation
4. Recharge Basin Headwalls (Indicate Basin #)	RB #284	Minor siltation and Vegetative Growth.[2]	Sedimentation
	RB # 358	Minor siltation and Vegetative Growth .[2]	Sedimentation
	RB # 571	Minor siltation and Vegetative Growth .[2]	Sedimentation

(1) - Defect locations (by Ditch Section #, Catch Basin # and Recharge Basin #) are identified on Figure 2 (scale: 1"=200'). If no defects are found, list “None” in the Location column. Utilize a separate sheet, if necessary, to further describe defects and observations of causes.
(2) – See previous report

Vegetation – DS#7

Debris – Catch Basin #2

Minor Siltation/ Vegetative Growth –RB #284 (HW #2)

TABLE B3-1

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

DRAINAGE SYSTEM INSPECTION REPORT

Inspection Date 9/28/2016
Inspection Frequency:
☒ Quarterly
☐ Following 5-year Rainfall Event

Inspection Personnel:
Rex Chen, Joe Maggio

ITEM	DEFECT INFORMATION[1]		
	LOCATION	DESCRIPTION	OBSERVED CAUSE
1. Ditch Section	DS #2,3,4,5,6,7,8	Siltation at various locations. Erosion evident along the borders of the ditch sections.[2]	Stormwater runoff/ Sedimentation
	DS #2,3,4,5,6,7,8	Vegetative growth.[2]	Sedimentation
	DS #3	Requires silt protection[2].	Siltation and/or Deterioration of hay bales
2. Catch Basins (Indicate Catch Basin #)	CB #2,3,4,5	Debris[2].	Stormwater runoff/ Sedimentation
	CB #4,5	Silting. Requires silt protection[2].	Siltation and/or Deterioration of hay bales
3. Storm Drainage Pipes	ES #1	Siltation and Debris.[2]	Sedimentation
4. Recharge Basin Headwalls (Indicate Basin #)	RB #284	Minor siltation and Vegetative Growth.[2]	Sedimentation
	RB # 358	Minor siltation and Vegetative Growth.[2]	Sedimentation
	RB # 571	Vegetative Growth. Unable to Access.	

(1) - Defect locations (by Ditch Section #, Catch Basin # and Recharge Basin #) are identified on Figure 2 (scale: 1"=200'). If no defects are found, list “None” in the Location column. Utilize a separate sheet, if necessary, to further describe defects and observations of causes.
(2) – See previous report

Drainage System Inspection

Siltation/Vegetation – DS#5

Siltation/Debris – Catch Basin #5

Drainage System Inspection

Minor Siltation/Vegetative growth – RB #358 (HW #4)

TABLE B4-1

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

DRAINAGE SYSTEM REPAIR REPORT

Inspection Date: 11/17/16

Inspection Personnel:
Rex Chen
Terry Heneveld

ITEM	Location	DESCRIPTION OF REPAIR
1. Ditch Sections	DS #1	Removed silt and debris
	DS #2	Removed silt, debris and vegetation. Installed rip rap and hay bales
	DS #3	Removed silt, debris and vegetation. Installed hay bales.
	DS #4	Removed silt, debris and vegetation
	DS #5	Removed silt, debris and vegetation
	DS #6	Removed silt, debris and vegetation. Installed hay bales & silt fence along ditch section.
	DS #7	Removed silt, debris and vegetation
	DS #8	Removed silt, debris and vegetation
2. Catch Basins	CB #2	Removed silt and debris. Installed hay bales.
	CB #3	Removed silt and debris. Installed hay bales.
	CB #4	Removed silt and debris. Installed hay bales.
	CB #5	Removed silt and debris. Installed hay bales.
3. Storm Drainage Pipes	ES #1	Removed silt, debris and vegetation

(1) - Ditch repair locations (by Ditch Section #), Recharge Basin repair locations (by Recharge Basin #) are identified on Figure 2 site plan (scale: 1"=200'). If no repairs are found, list “None” in the repair ID No. column. Utilize a separate sheet, if necessary; to further describe repairs.

Drainage System Repair Inspection

Ditch Section #1

Ditch Section #2

Drainage System Repair Inspection

Ditch Section #3

Ditch Section #3 Hay Bales Installed

Drainage System Repair Inspection

Ditch Section #4

Ditch Section #5

Drainage System Repair Inspection

Ditch Section #6

Hay Bales and Silt Fence along Ditch Section #6

Drainage System Repair Inspection

Ditch Section #7

Ditch Section #8

Drainage System Repair Inspection

Catch Basin #2 Hay Bales Installed

Catch Basin #3 Hay Bales Installed

Drainage System Repair Inspection

Catch Basin #4 Hay Bales Installed

Catch Basin #5 Hay Bales Installed

Drainage System Repair Inspection

Storm Drainage Pipe ES #1

TABLE B4-2

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

DRAINAGE SYSTEM INSPECTION REPORT

Inspection Date 12/9/2016
Inspection Frequency:
☒ Quarterly
☐ Following 5-year Rainfall Event

Inspection Personnel:
Mike Geddish, Joe Maggio

ITEM	DEFECT INFORMATION[1]		
	LOCATION	DESCRIPTION	OBSERVED CAUSE
1. Ditch Section	None		
2. Catch Basins (Indicate Catch Basin #)	CB #5	Silting[2].	Sedimentation. Hay Bales shifted.
3. Storm Drainage Pipes	None		
4. Recharge Basin Headwalls (Indicate Basin #)	RB #284	Minor siltation.[2]	Sedimentation
	RB # 358	Minor siltation.[2]	Sedimentation
	RB # 571	Minor siltation.[2]	Sedimentation

(1) - Defect locations (by Ditch Section #, Catch Basin # and Recharge Basin #) are identified on Figure 2 (scale: 1"=200'). If no defects are found, list “None” in the Location column. Utilize a separate sheet, if necessary, to further describe defects and observations of causes.
(2) – See previous report

Siltation – Catch Basin #5

Minor Siltation/Vegetative growth – RB #284 (HW #3)

APPENDIX C

GAS VENTING SYSTEM

- **INSPECTION REPORTS**
- **MONITORING DATA**
- **PICTURES**

TABLE C1-1

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

GAS VENTING SYSTEM
INSPECTION REPORT

Inspection Date: 3/08/2016
Inspection Frequency

☒ Quarterly
☐ Annually

Inspection Personnel:
Rex Chen, Mike Geddish

ITEM	WELL No.	DEFECT INFORMATION[1] DESCRIPTION	OBSERVED CAUSE
1. Property Line Gas Vent Wells	SW-3	Well casing broken at grade[2]	Possibly hit
2. Perimeter Gas Vent Wells	None		
3. Ridge Gas Vent Wells	R1	Protective ring damaged[2]	Possibly hit
	R8	Well casing broken at/just below grade[2]	Possibly hit
4. Cluster Monitoring Wells	None		

(1) - Defect locations (by well number) are identified on Figure 3 (scale: 1"=200'). If no defects are found, shade “None” in the Well No. column. Utilize a separate sheet, if necessary, to further describe defects and observations of causes.

(2) – See previous report

Gas Venting System Inspection

Protective Ring Damaged – R1

Well Casing Broken at Grade- R8

Well Casing Broken at Grade- SW3

TABLE C1-2
SYOSSET LANDFILL QUARTERLY GAS MONITORING DATA

Date: 3/10/2016
Time: 1:00 PM to 3:00 PM
Personnel: Joe Maggio
Rex Chen

Temperature: 70 ^{0}F
Barometric Pressure: 30 F
Wind Speed: 15 mph
Wind Direction: SW
Humidity: 46 %
Weather Data Measured at: Farmingdale NY

Property Line Gas Monitoring Data

Vent Number	Methane (% gas)	Notes	Vent Number	Methane (% gas)	Notes
NE1	0%		NE20	0%	
NE2	0%		NE21	0%	
NE3	0%		NE22	0%	
NE4	N/A	Can't Access, trees	NE23	0%	
NE5	0%		SW1	0%	
NE6	0%		SW2	0%	
NE7	0%		SW3	N/A	Well casing broken at grade
NE8	0%		SW4	0%	
NE9	0%		SW5	0%	
NE10	0%		SW6	0%	
NE11	0%		SW7	0%	
NE12	0%		SW8	0%	
NE13	0%		SW9	0%	
NE14	0%		NW1	0%	
NE15	0%		NW2	0%	
NE16	0%		NW3	0%	
NE17	0%		NW4	0%	
NE18	0%		NW5	0%	
NE19	0%		NW6	0%	

Perimeter Gas Monitoring Data

Vent Number	Methane (% gas)	Notes	Vent Number	Methane (% gas)	Notes
SE1	0%		SE9	0%	
SE2	0%		AS1	N/A	Inaccessible, locked gate
SE3	0%		AS2	0%	
SE4	0%		AS3	0%	
SE5	0%		AS4	0%	
SE6	0%		AS5	0%	
SE7	0%		AS6	0%	
SE8	0%		AS7	0%	

Animal Shelter Monitoring Data

Bldg. Location	Methane (% gas)	Notes	Bldg. Location	Methane (% gas)	Notes
1	0%		4	0%	
2	0%		5	0%	
3	0%		6	0%	

TABLE C2-1

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

GAS VENTING SYSTEM
INSPECTION REPORT

Inspection Date: 6/14/2016
Inspection Frequency

Inspection Personnel:
Rex Chen, Joe Maggio

☒ Quarterly
☐ Annually

ITEM	DEFECT INFORMATION[1]		
	WELL No.	DESCRIPTION	OBSERVED CAUSE
1. Property Line Gas Vent Wells	SW-3	Well casing broken at grade[2]	Possibly hit
2. Perimeter Gas Vent Wells	None		
3. Ridge Gas Vent Wells	R1	Protective ring damaged[2]	Possibly hit
	R8	Well casing broken at/just below grade[2]	Possibly hit
4. Cluster Monitoring Wells	None		

(1) - Defect locations (by well number) are identified on Figure 3 (scale: 1"=200'). If no defects are found, shade “None” in the Well No. column. Utilize a separate sheet, if necessary, to further describe defects and observations of causes.

(2) – See previous report

TABLE C2-2
SYOSSET LANDFILL QUARTERLY GAS MONITORING DATA

Date: 6/21/2016
Time: 9:00 AM to 12:00 PM
Personnel: Joe Maggio
Rex Chen

Temperature: 80 ^{0}F
Barometric Pressure: 29.78 F
Wind Speed: 8 mph
Wind Direction: W
Humidity: 40 %
Weather Data Measured at: Farmingdale NY

Property Line Gas Monitoring Data

Vent Number	Methane (% gas)	Notes	Vent Number	Methane (% gas)	Notes
NE1	0%		NE20	0%	
NE2	0%		NE21	0%	
NE3	0%		NE22	0%	
NE4	0%		NE23	0%	
NE5	0%		SW1	0%	
NE6	0%		SW2	0%	
NE7	0%		SW3	N/A	Well casing broken at grade. Sounded, 58.2 ft. deep from grade
NE8	0%		SW4	0%	
NE9	0%		SW5	0%	
NE10	0%		SW6	0%	
NE11	0%		SW7	0%	
NE12	0%		SW8	0%	
NE13	0%		SW9	0%	
NE14	0%		NW1	0%	
NE15	0%		NW2	0%	
NE16	0%		NW3	0%	
NE17	0%		NW4	0%	
NE18	0%		NW5	0%	
NE19	0%		NW6	0%	

Perimeter Gas Monitoring Data

Vent Number	Methane (% gas)	Notes	Vent Number	Methane (% gas)	Notes
SE1	0%		SE9	0%	
SE2	0%		AS1	0%	
SE3	0%		AS2	0%	
SE4	0%		AS3	0%	
SE5	0%		AS4	0%	
SE6	0%		AS5	0%	
SE7	0%		AS6	0%	
SE8	0%		AS7	0%	

Animal Shelter Monitoring Data

Bldg. Location	Methane (% gas)	Notes	Bldg. Location	Methane (% gas)	Notes
1	0%		4	0%	
2	0%		5	0%	
3	0%		6	0%	

TABLE C3-1

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

GAS VENTING SYSTEM
INSPECTION REPORT

Inspection Date: 9/28/2016
Inspection Frequency

☒ Quarterly
☐ Annually

Inspection Personnel:
Rex Chen, Joe Maggio

ITEM	WELL No.	DEFECT INFORMATION[1] DESCRIPTION	OBSERVED CAUSE
1. Property Line Gas Vent Wells	SW-3	Well casing broken at grade[2]	Possibly hit
2. Perimeter Gas Vent Wells	None		
3. Ridge Gas Vent Wells	R1	Protective ring damaged[2]	Possibly hit
	R8	Well casing broken at/just below grade[2]	Possibly hit
4. Cluster Monitoring Wells	None		

(1) - Defect locations (by well number) are identified on Figure 3 (scale: 1"=200'). If no defects are found, shade “None” in the Well No. column. Utilize a separate sheet, if necessary, to further describe defects and observations of causes.

(2) – See previous report

TABLE C3-2
SYOSSET LANDFILL QUARTERLY GAS MONITORING DATA

Date: 8/11/2016
Time: 11:00 AM to 2:00 PM
Personnel: Rex Chen

Temperature: 85 ^{0}F
Barometric Pressure: 30.03 F
Wind Speed: 0 mph
Wind Direction: S
Humidity: 76 %
Weather Data Measured at: Farmingdale NY

Property Line Gas Monitoring Data

Vent Number	Methane (% gas)	Notes	Vent Number	Methane (% gas)	Notes
NE1	0%		NE20	0%	
NE2	0%		NE21	0%	
NE3	0%		NE22	0%	
NE4	0%		NE23	0%	
NE5	0%		SW1	0%	
NE6	0%		SW2	0%	
NE7	0%		SW3	N/A	Well casing broken at grade.
NE8	0%		SW4	0%	
NE9	0%		SW5	0%	
NE10	0%		SW6	0%	
NE11	0%		SW7	0%	
NE12	0%		SW8	0%	
NE13	0%		SW9	0%	
NE14	0%		NW1	0%	
NE15	0%		NW2	0%	
NE16	0%		NW3	0%	
NE17	0%		NW4	0%	
NE18	0%		NW5	0%	
NE19	0%		NW6	0%	

Perimeter Gas Monitoring Data

Vent Number	Methane (% gas)	Notes	Vent Number	Methane (% gas)	Notes
SE1	0%		SE9	0%	
SE2	0%		AS1	0%	Monitored on 9/28/2016
SE3	0%		AS2	0%	
SE4	0%		AS3	0%	
SE5	0%		AS4	0%	
SE6	0%		AS5	0%	
SE7	0%		AS6	0%	
SE8	0%		AS7	0%	

Animal Shelter Monitoring Data

Bldg. Location	Methane (% gas)	Notes	Bldg. Location	Methane (% gas)	Notes
1	0%		4	0%	
2	0%		5	0%	
3	0%		6	0%	

TABLE C4-1

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

VENTING SYSTEM REPAIR REPORT

Inspection Date: 11/17/16 Inspection Personnel: Rex Chen

ITEM	Location	DESCRIPTION OF REPAIR
1. Property Line Gas Vent Wells	SW-3	Well Casing Repaired. Grass Seeded.
2. Perimeter Gas Vent Wells	None	None
3. Ridge Gas Vent Wells	R-1	Protective Ring replaced.
	R-8	Well casing repaired, geomembrane boot repaired

Gas Venting System Repair Inspection

Property Line Vent Well SW-3

Ridge Vent Well R-1

Gas Venting System Repair Inspection

Ridge Vent Well R-8

Ridge Vent Well R-8

TABLE C4-2

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

GAS VENTING SYSTEM
INSPECTION REPORT

Inspection Date: 12/9/2016 and 12/14/2016
Inspection Frequency

Inspection Personnel:
Mike Geddish, Joe Maggio, Rex Chen

☒ Quarterly
☐ Annually

ITEM	DEFECT INFORMATION[1]		
	WELL No.	DESCRIPTION	OBSERVED CAUSE
1. Property Line Gas Vent Wells	NE-16	Well casing broken at grade	Possibly hit
2. Perimeter Gas Vent Wells	None		
3. Ridge Gas Vent Wells	None		
4. Cluster Monitoring Wells	None		

(1) - Defect locations (by well number) are identified on Figure 3 (scale: 1"=200'). If no defects are found, shade "None" in the Well No. column. Utilize a separate sheet, if necessary, to further describe defects and observations of causes.

(2) – See previous report

Well Casing Broken at Grade- NE16

Well Casing Broken at Grade – NE16

TABLE C4-3
SYOSSET LANDFILL QUARTERLY GAS MONITORING DATA

Date: 12/14/2016
Time: 11:00 AM to 1:00 PM
Personnel: Joe Maggio, Rex Chen

Temperature: 46 ^{0}F
Barometric Pressure: 29.96 F
Wind Speed: 6 mph
Wind Direction: NW
Humidity: 52 %
Weather Data Measured at: Farmingdale NY

Property Line Gas Monitoring Data

Vent Number	Methane (% gas)	Notes	Vent Number	Methane (% gas)	Notes
NE1	0%		NE20	0%	
NE2	0%		NE21	0%	
NE3	0%		NE22	0%	
NE4	0%		NE23	0%	
NE5	0%		SW1	0%	
NE6	0%		SW2	0%	
NE7	0%		SW3	N/A	
NE8	0%		SW4	0%	
NE9	0%		SW5	0%	
NE10	0%		SW6	0%	
NE11	0%		SW7	0%	
NE12	0%		SW8	0%	
NE13	0%		SW9	0%	
NE14	0%		NW1	0%	
NE15	0%		NW2	0%	
NE16	0%	Well casing broken at grade. Sounded to 54.3 feet below grade.	NW3	0%	
NE17	0%		NW4	0%	
NE18	0%		NW5	0%	
NE19	0%		NW6	0%	

Perimeter Gas Monitoring Data

Vent Number	Methane (% gas)	Notes	Vent Number	Methane (% gas)	Notes
SE1	0%		SE9	0%	
SE2	0%		AS1	0%	
SE3	0%		AS2	0%	
SE4	0%		AS3	0%	
SE5	0%		AS4	0%	
SE6	0%		AS5	0%	
SE7	0%		AS6	0%	
SE8	0%		AS7	0%	

Animal Shelter Monitoring Data

Bldg. Location	Methane (% gas)	Notes	Bldg. Location	Methane (% gas)	Notes
1	0%		4	0%	
2	0%		5	0%	
3	0%		6	0%	

APPENDIX D

GROUND WATER-MONITORING PROGRAM

(Report Bound Separately as Volume 2 of 2)

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