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March 22, 2019

Mr. James Carroll
Administrator, Land Restoration Program
Maryland Department of the Environment
1800 Washington Boulevard, Suite 645
Baltimore, MD 21230-1719

Subject: Q1 2019 Storm Drain Rehabilitation Schedule, Dundalk Marine Terminal
Baltimore, Maryland

Dear Mr. Carroll:

Honeywell International Inc. (Honeywell) and the Maryland Port Administration (MPA) are submitting the enclosed updated "Storm Drain Rehabilitation Schedule (SDRS), Dundalk Marine Terminal, Baltimore, Maryland." This update is submitted pursuant to Section III.A of the April 5, 2006, Consent Decree, entered into by the Maryland Department of the Environment (MDE), MPA, and Honeywell.

The attached schedule reflects the status of the remedy implementation and long-term monitoring pursuant to MDE's letter dated July 30, 2012, and replaces the quarterly CMIPP update. The storm drain work performed during this quarter included: installation on the liner system in the south trunk line of the 15th Street storm drain, performing punch list repairs of the 12th and 14th Street storm drain inlets and manholes, performing routine inspections and maintenance of the 12.5th Street, 13th Street storm drains, and 13.5th Street storm drains.

If you have any questions or require additional information, please contact me at 973-455-3302.

Very truly yours,



Maria Kaouris
Remediation Manager

Attachment (2 copies)

cc: Mr. Bill Richardson/MPA
Mr. Steve Johnson/MPA
Mr. Robert Munroe/MPA
Mr. Michael Daneker/Arnold & Porter
Mr. Chris French/Honeywell

Dundalk Marine Terminal Deliverables through Q1 2019

Title	Date
2019	
Summary Report for 2018 Repair Cycle, Surface Cover System	26-Feb-2019
Semiannual Groundwater Monitoring Report, July–December 2018	12-Mar-2019
Q1 2019 Storm Drain Rehabilitation Schedule	22-Mar-2019
2018	
Area 1501/1602 Baseline Supplemental Site Investigation Report	19-Jan-2018
Semiannual Groundwater-Monitoring Report, July–December 2017	28-Mar-2018
Q1 2018 Storm Drain Rehabilitation Schedule	28-Mar-2018
Q2 2018 Storm Drain Rehabilitation Schedule	25-Jun-2018
Geotechnical and Groundwater Investigation Work Plan	29-Jun-2018
Summary Report for 2017 Repair Cycle, Surface Cover System	11-Sep-2018
Q3 2018 Storm Drain Rehabilitation Schedule	27-Sep-2018
Semiannual Groundwater-Monitoring Report, January—June 2018	5-Nov-2018
2018 Surface Cover System and 14th & 15th Streets Storm Drain Inspection Report	11-Nov-2018
Supplemental Data Report #6, Heave Investigation and Minimization Study	17-Dec-18
Q4 2018 Storm Drain Rehabilitation Schedule	17-Dec-18
2017	
Construction Completion Report, Area 1501/1602 H Street Grout Injection	7-Mar-2017
Construction Completion Report, Area 1501/1602 Erosion Control Improvements	7-Mar-2017
Semiannual Groundwater Monitoring Report, July–December 2016	23-Mar-2017
Summary Report for 2016 Repair Cycle, Surface Cover System	23-Mar-2017
Q1 2017 Storm Drain Rehabilitation Schedule	23-Mar-2017
13.5th Street Storm Drain Rehabilitation Construction Completion Report Addendum	5-Jun-2017
12.5th Street Storm Drain Rehabilitation Project Construction Completion Report	5-Jun-2017
Q2 2017 Storm Drain Rehabilitation Schedule	21-Jun-2017
2017 Surface Cover System and 14th & 15th Streets Storm Drain Inspection Report	20-Sep-2017
Q3 2017 Storm Drain Rehabilitation Schedule	26-Sep-2017
Supplemental Data Report #5, Heave Investigation and Minimization Study	27-Oct-2017
Semiannual Groundwater Monitoring, Report, January–June 2017	31-Oct-2017
Q4 2017 Storm Drain Rehabilitation Schedule	18-Dec-2017
2016	
Semiannual Groundwater-Monitoring Report, July–December 2015	3-Mar-2016
Construction Completion Report, Area 1501/1602 Water Line Abandonment	24-Mar-2016
Construction Completion Report, Sound Wall Repairs, Area 1602/1702	24-Mar-2016
Summary Report for 2015 Repair Cycle, Surface Cover System	24-Mar-2016
Q1 2016 Storm Drain Rehabilitation Schedule	29-Mar-2016
Q2 2016 Storm Drain Rehabilitation Schedule	27-Jun-2016
Construction Completion Report, Area 1501/1602 Shoreline Protection	13-Jul-2016
Construction Completion Report, Area 1501/1602 Interceptor Trench	13-Sep-2016
Q3 2016 Storm Drain Rehabilitation Schedule	29-Sep-2016
Supplemental Data Report #4, Heave Investigation and Minimization Study	8-Nov-2016
Semiannual Groundwater Monitoring, Report, January–June 2016	9-Nov-2016
2016 Surface Cover System and 14th & 15th Streets Storm Drain Inspection Report	6-Dec-2016
Q4 2016 Storm Drain Rehabilitation Schedule	14-Dec-2016
2015	
Storm Drain Utility Comparison to COPR and Groundwater Elevations	20-Mar-2015
Semiannual Groundwater-Monitoring Report, July–December 2014	3-Mar-2015
2014 Surface Cover Repair Summary Report	25-Mar-2015
Additional Sampling Locations for Semiannual Groundwater Monitoring	8-Apr-2015
Q2 2015 Storm Drain Rehabilitation Schedule	24-Jun-2015
Supplemental Data Report, Heave Investigation and Minimization Study	29-Jun-2015
Area 1501/1602 Cross-Sections	20-Jul-2015
2015 Surface Cover System and 14th and 15th Street Storm Drain Inspection Report	12-Aug-2015
Supplemental Site Investigation Work Plan, Area 1501/1602	31-Aug-2015

Dundalk Marine Terminal Deliverables through Q1 2019

Title	Date
Semiannual Groundwater-Monitoring Report, January–June 2015	11-Sep-2015
Q3 2015 Storm Drain Rehabilitation Schedule	23-Sep-2015
Area 1501/1602 Cross-Sections (email submission)	18-Nov-2015
Q4 2015 Storm Drain Rehabilitation Schedule	22-Dec-2015
2014	
Q4 2013 Storm Drain Rehabilitation Schedule	6-Jan-2014
13.5th Street Storm Drain Rehabilitation Project Construction Completion Report	11-Feb-2014
MDE Request for Utility Maps	24-Feb-2014
Q1 2014 Storm Drain Rehabilitation Schedule	24-Mar-2014
Supplemental Data Report, Heave Investigation and Minimization Study	1-May-2014
Summary Report for 2013 Repair Cycle, Surface Cover System	13-Aug-2014
Q2 2014 Storm Drain Rehabilitation Schedule	26-Jun-2014
Q3 2014 Storm Drain Rehabilitation Schedule	29-Sep-2014
Semiannual Groundwater-Monitoring Report, January–June 2014	13-Aug-2014
Q4 2014 Storm Drain Rehabilitation Schedule	24-Dec-2014
2013	
Semiannual Groundwater-Monitoring Report, July–December 2012	21-Feb-2013
Q1 2013 Storm Drain Rehabilitation Schedule	4-Apr-2013
2012 Surface Cover Repair Summary Report	8-May-2013
13th Street Storm Drain Rehabilitation Project Construction Completion Report	17-Jun-2013
Supplemental Data Report, Heave Investigation and Minimization Study	15-Jun-2013
Q2 2013 Storm Drain Rehabilitation Schedule	28-Jun-2013
2013 Surface Cover System and 14th & 15th Streets Storm Drain Inspection Report	6-Aug-2013
Semiannual Groundwater-Monitoring Report, January–June 2013	6-Aug-2013
Q3 2013 Storm Drain Rehabilitation Schedule	27-Sep-2013
2012	
Semiannual Groundwater-Monitoring Report, January-June 2012	5-Jul-2012
Q3 2012 Corrective Measures Implementation Program Plan Schedule Update	27-Sep-2012
Summary Report for 2011 Repair Cycle, Surface Cover System	5-Nov-2012
Conceptual Groundwater-Monitoring Plan	7-Nov-2012
2012 Surface Cover System and 14th & 15th Streets Storm Drain Inspection Report	5-Dec-2012
Q4 2012 Storm Drain Rehabilitation Schedule	27-Dec-2012

First Quarter 2019 Storm Drain Rehabilitation Schedule

Task	When Task Starts/Predecessor	Duration* (Calendar Days)	Status/Comments/Assumptions
13th Street Storm Drain (Vault Completed 2008; Pipe Lining Completed 2009; Inlet/Manhole Lining Completed 2014)			
2008–2009 Storm Drain Rehabilitation Program (Vault)			
Rehabilitation of storm drain: construction of tidal exclusion vault, installation of CIPP	Initial conditions assessment and design	150–200	Completed construction of tidal exclusion vault, lining of 1,200 LF of pipe in Q4 2009
2011–2012 Storm Drain Rehabilitation Program (Storm Drain, Manholes/Inlets)			
Rehabilitation of storm drain: lining of inlets/manhole with HDPE	Additional conditions assessment and design	150–200	Completed lining of 5 manholes and 9 inlets in 2011
2013 Storm Drain Rehabilitation Program (Inlets)			
Rehabilitation of storm drain: lining of inlets with HDPE	Additional conditions assessment and design	150–200	Completed lining of 5 inlets in 2014
Submit construction completion report to MDE	Completion of draft report	M	Complete: Submitted to MDE on June 13, 2013
2017 Storm Drain Rehabilitation Program (Maintenance)			
Storm drain inspection and maintenance	Storm drain inspection and maintenance commenced with completion of drain lining	ongoing	Completed inspection of inlets during Q2/Q3 2017
Submit addendum completion report to MDE	Completion of inspection, maintenance and reporting	M	Milestone Task; completed Q3 2017
2018 Storm Drain Rehabilitation Program (Maintenance)			
Storm drain inspection and maintenance	Storm drain inspection and maintenance commenced with completion of drain lining	ongoing	Perform inspection and maintenance, as required.
Submit addendum completion report to MDE	Completion of inspection, maintenance and reporting	M	Milestone Task; to be completed Q2 2019
12.5th Street Storm Drain (Start Date: March 2015, Completed: October 2015)			
2015 Storm Drain Rehabilitation Program			
Rehabilitate vaults, inlets, manholes and drain lines	Design and procurement	200–300	Point repair completed Q2 2015; lining of drain lines, inlets, and manholes completed during Q4 2015
Submit construction completion report to MDE	Completion of draft report	M	Submitted report dated 6-5-17

First Quarter 2019 Storm Drain Rehabilitation Schedule

Task	When Task Starts/Predecessor	Duration* (Calendar Days)	Status/Comments/Assumptions
2017 Storm Drain Rehabilitation Program (Maintenance)			
Storm drain inspection and maintenance	Storm drain inspection and maintenance commenced with completion of drain lining	ongoing	Completed inspection and maintenance of three inlets and one manhole during Q4 2017
Submit addendum completion report to MDE	Completion of inspection, maintenance and reporting	M	Milestone Task; to be submitted Q4 2018
2018 Storm Drain Rehabilitation Program (Maintenance)			
Storm drain inspection and maintenance	Storm drain inspection and maintenance commenced with completion of drain lining	ongoing	The MPA began quarterly NPDES monitoring for Outfall 002 July 1, 2018.
Submit addendum completion report to MDE	Completion of inspection, maintenance and reporting	M	Milestone Task; to be submitted Q2 2019
2019 Storm Drain Rehabilitation Program (Maintenance)			
Storm drain inspection and maintenance	Storm drain inspection and maintenance commenced with completion of drain lining	ongoing	The MPA began quarterly NPDES monitoring for Outfall 002 July 1, 2018.
Submit addendum completion report to MDE	Completion of inspection, maintenance and reporting	M	Milestone Task; to be submitted Q2 2020
13.5th Street Storm Drain (Vault Completed 2010; Initial Pipe Replacement Completed 2011; Additional Pipe Replacement and Inlet Lining Completed 2016)			
2010 Storm Drain Rehabilitation Program (Pipe Replacement, Rehabilitate Inlets)			
Rehabilitation of storm drain: construction of tidal exclusion vault, pipe replacement and sealing of inlets/manhole	Initial conditions assessment and design	150–200	Completed construction of tidal exclusion vault, sealing of 3 inlets and 1 manhole, and replacement of 325 LF of pipe in Q4 2011
2015 Storm Drain Rehabilitation Program (Pipe Replacement and Inlets)			
Rehabilitation of storm drain: pipe replacement and lining of inlets/manholes	Additional conditions assessment and design	150–200	Completed lining of 4 inlets, 1 manhole and replacement of 290 LF of pipe in Q1 2016
Submit draft construction completion report to MDE	Completion of QA/QC inspections	M	Completed: Submitted to MDE on February 11, 2014
Submit addendum report to MDE	Completion of inspection repairs	M	Submitted report dated 6-5-17
2017 Storm Drain Rehabilitation Program (Maintenance)			
Storm drain inspection and maintenance	Storm drain inspection and maintenance commenced with completion of drain lining	ongoing	Completed inspection and maintenance of three inlets and one manhole

First Quarter 2019 Storm Drain Rehabilitation Schedule

Task	When Task Starts/Predecessor	Duration* (Calendar Days)	Status/Comments/Assumptions
Submit addendum completion report to MDE	Completion of inspection, maintenance and reporting	M	Milestone Task; submitted Q2 2017
2018 Storm Drain Rehabilitation Program (Maintenance)			
Storm drain inspection and maintenance	Storm drain inspection and maintenance commenced with completion of drain lining	ongoing	Performed inspection and maintenance of the tidal exclusion vault monthly through Q3 2018. The MPA began quarterly NPDES monitoring for Outfall 004 July 1, 2018.
Submit addendum completion report to MDE	Completion of inspection, maintenance and reporting	M	Milestone Task; to be submitted Q2 2019
2019 Storm Drain Rehabilitation Program (Maintenance)			
Storm drain inspection and maintenance	Storm drain inspection and maintenance commenced with completion of drain lining	ongoing	The MPA began quarterly NPDES monitoring for Outfall 004 July 1, 2018. Continue monthly inspections while MPA maintains quarterly compliance.
Submit addendum completion report to MDE	Completion of inspection, maintenance and reporting	M	Milestone Task; to be submitted Q2 2020
12th Street Storm Drain (Start Date: January 2015; Planning Estimate End Date: March 2017)			
2015 Storm Drain Rehabilitation Program (Laterals and Inlets)			
Rehabilitation of inlets and storm drain laterals	Design and Procurement	100–150	Completed lining of 14 inlets during Q4 2015. Inlets and manholes within the upper sections of the 12th Street storm drain were lined in Q4 2016.
Notification to MDE of completion of rehabilitation and update schedule	Contractor mobilization	M	Milestone task, following completion of rehabilitation
2016 Storm Drain Rehabilitation Program (Trunk Line)			
Rehabilitation of trunk line, trunk line manholes	Design and Procurement	150–200	Lining of 1,900 LF of trunk line completed Q4 2016. Lining of 5 trunk line manholes completed Q1 2017; ongoing inspection and maintenance.
Abandonment of trunk line upstream of manhole MH-288	Design and Procurement	15-20	Work completed in Q3 2016

First Quarter 2019 Storm Drain Rehabilitation Schedule

Task	When Task Starts/Predecessor	Duration* (Calendar Days)	Status/Comments/Assumptions
2017 Storm Drain Rehabilitation Program (Punchlist)			
Storm drain inspection and punchlist repairs	Storm drain inspection and punchlist repairs	ongoing	Ongoing inspection and maintenance; repairs performed on two inlets during Q3 2017
2018 Storm Drain Rehabilitation Program (Punchlist)			
Storm drain inspection and punchlist repairs	Storm drain inspection and punchlist repairs	ongoing	Performed inspections and maintenance; ongoing punchlist repairs made on necessary inlets and manholes following inspections.
2019 Storm Drain Rehabilitation Program (Punchlist)			
Storm drain inspection and punchlist repairs	Storm drain inspection and punchlist repairs, commenced with completion of drain lining	ongoing	Perform inspections, and ongoing punchlist repairs of inlets, manholes and tidal exclusion, as needed.
Prepare draft report	Completion of inspection and punchlist repairs, and performance monitoring	60–90	Prepared following completion of inspection and punchlist repairs, and performance monitoring.
Submit draft construction completion report to MDE	Completion of draft report	M	Milestone task, to be submitted Q4 2019
14th Street Storm Drain (Start Date: August 2013; Planning Estimate End Date: December 2017)			
2014 Storm Drain Rehabilitation Program (Laterals, Inlets and Manholes)			
Rehabilitate/replace inlets and manholes, and drain lines	MDE notification	200–300	Completed lining of 10 inlets and 4 manholes; 675 LF of drain lines lined with CIPP UV; 1 inlet replaced in Q4 2014. Completed 3 remaining manholes during Q4 2015.
2017 Storm Drain Rehabilitation Program (Trunk Line–Planning Estimate Start Date: Q4 2016; Planning Estimate End Date: Q4 2017)			
Rehabilitate storm drain trunk line, line storm drain manholes and inlets	Procurement	100–200	Completed lining 1,200 LF of trunk line with CIPP and lining of 10 inlets
2018 Storm Drain Rehabilitation Program (Punchlist)			
Storm drain inspection and punchlist repairs	Performance monitoring	ongoing	Completed lining 4 inlets connected to the trunk line. Performed inspections and maintenance of all inlets and manholes, and one outfall, as needed.

First Quarter 2019 Storm Drain Rehabilitation Schedule

Task	When Task Starts/Predecessor	Duration* (Calendar Days)	Status/Comments/Assumptions
2019 Storm Drain Rehabilitation Program (Punchlist)			
Storm drain inspection and punchlist repairs	Performance monitoring	ongoing	Perform inspections, and ongoing punchlist repairs of inlets, manholes and outfall, as needed.
2020 Storm Drain Rehabilitation Program (Punchlist)			
Storm drain inspection and punchlist repairs	Performance monitoring	ongoing	Perform inspections, and ongoing punchlist repairs of inlets, manholes and outfall, as needed.
Submit draft construction completion report to MDE	Completion of draft report	M	Milestone task, to be submitted Q2 2022
15th Street Storm Drain (Start Date: March 2009, Planning Estimate End Date: October 2018)			
2009 Storm Drain Rehabilitation Program (Completed November 2010)			
Rehabilitate/replace inlets and manholes, and storm drain lines	Additional conditions assessment and design	100–200	Completed: Lining 6,186 LF of pipe; replacement of 72 LF of pipe; installation of 2 new manholes completed 2010; and installation of 200 LF of liner plate on B1 line
2013 Storm Drain Rehabilitation Program (Completed February 2014)			
Rehabilitate/replace inlets and manholes, and storm drain lines	Additional conditions assessment and design	100–200	Completed: Lining of 12 inlets with HDPE; replacement of 1 inlet and 1 manhole
2014 Storm Drain Rehabilitation Program (Completed November 2014)			
Rehabilitate/replace inlets and manholes, and storm drain lines	Conditions assessment and design	150–200	Completed: MH-332 replaced, MH-327 replaced. 35 inlets/ manholes. 1,700 LF of CIPP UV lining completed Q4 2014
2016 Storm Drain Rehabilitation Program (G Line)			
Rehabilitate inlets and storm drain manhole in building 1702	Design/Procurement	60–75	Completed Q4 2016

First Quarter 2019 Storm Drain Rehabilitation Schedule

Task	When Task Starts/Predecessor	Duration* (Calendar Days)	Status/Comments/Assumptions
2018 Storm Drain Rehabilitation Program (North Trunk Line - Planning Estimate Start Date: Q1 2018; Planning Estimate End Date: Q4 2019)			
Rehabilitate trunk line and manholes	Procurement	150-200	Work started Q4 2018; manhole demolition of two manholes, installation of 2,100 linear feet of large diameter CIPP in the north trunk line. To be completed Q1 2019.
2019 Storm Drain Rehabilitation Program (South Trunk Line - Planning Estimate Start Date: Q4 2018; Planning Estimate End Date: Q4 2019)			
Conditions assessment			Completed Q2 2018
Prepare design and specifications, and SOW and bid documents	Conditions assessment	30-45	Completed Q1 2019
Procurement/Award/Notice to Proceed	Completion of SOW and bid documents	30-45	Completed Q1 2019
Rehabilitate south trunk line and manholes	Procurement	125-175	Completed lining of 1,500 linear feet of large diameter CIPP in the South trunk line Q2 2019; manhole demolition of two manholes to be completed Q2 2019; and lining of 8 manholes to be completed by Q4 2019
2019 Storm Drain Rehabilitation Program (Maintenance)			
Storm drain inspection and punchlist repairs	Performance monitoring	ongoing	Perform inspections and punchlist repairs of storm drain trunk lines and laterals, inlets, manholes and one outfall, as needed
2020 Storm Drain Rehabilitation Program (Punchlist)			
Storm drain inspection and punchlist repairs	Performance monitoring	ongoing	Perform inspections and repairs of storm drain trunk lines and laterals, inlets, manholes and one outfall, as needed

* Task durations could vary based on inspection results and severity and scope of rehabilitation. M = milestone task; TBD = to be determined; NA = not applicable