STATE OF MISSOURI
Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director
DEPARTMENT OF NATURAL RESOURCES
www.dnr.mo.gov

OCT 07 2014

Mr. Brian Power
Area Environmental Manager
Republic Services, Inc.
13570 St. Charles Rock Road
Bridgeton, MO 63044

RE: Temperature Monitoring and Corrective Action Assessment and Plan--Neck Area, Bridgeton Landfill, Permit Number 0118912, St. Louis County

Dear Mr. Power:

The Missouri Department of Natural Resources, Solid Waste Management Program (SWMP) has reviewed reports for the Bridgeton Landfill submitted by Republic Services, Inc. pursuant to the First Agreed Order and the September 16, 2014, Thalhamer Data Review response prepared by Civil and Environmental Consultants, Inc. Our evaluation of these recent submittals reveals a continuing upward trend in temperature in the neck area of the Bridgeton Landfill. This area of concern starts at temperature monitoring probe-12 (TMP-12) and expands into the North Quarry near gas extraction well-53 (GEW-53). The area of concern is well beyond the planned heat extraction pilot study area. (See Initial Temperature Maximum maps attached.) The complex nature of this ongoing subsurface fire requires proactive planning, monitoring of infrastructure and timely submittal of resulting data by Republic Services, Inc. to the SWMP to allow for continued evaluation of the northward migration of the subsurface fire and for continued monitoring of impacts to landfill infrastructure from the subsurface fire.

Recent reports by federal agencies indicate the isolation barrier originally contemplated in the North Quarry Action Plan for the Bridgeton Landfill is now likely at least 18 months away from actual construction, i.e., dirt work beginning. As a result and to ensure protection of human health and the environment, beginning October 14, 2014, specific temperature data for the following gas extraction wells is required to be submitted on a weekly basis to the SWMP.

Gas Extraction Wells (GEWs)	
8	43R
9	53
10	54
38	55
39	56R
40	109
41R	110

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Pursuant to Paragraph 20 of the First Agreed Order, the SWMP is requiring installation of a new line of Temperature Monitoring Probes containing at least twelve (12) (TMP-21 through approximately -33). Installation of the TMPs must begin no later than 30 days from receipt of this letter along a line as specified on the attached map. These new TMPs are necessary as a data gap has been identified existing between the neck area and North Quarry primarily due to continued failure of thermocouples in the current lines of TMPs and specifically, the TMP line including TMP-1, -2, -3 and -4. The new TMPs will ensure the landfill and the SWMP have a system for monitoring temperatures at depth in the landfill and potential impacts from the South Quarry subsurface fire. Upcoming winter weather may preclude construction activity, such as installation of additional TMPs from December through March, and the estimated time for construction of the isolation barrier as noted above has expanded to at least 18 months, necessitating timely completion of these new TMPs to ensure adequate monitoring will continue over the coming months.

Additionally, this correspondence provides formal notice to Republic Services, Inc. of the need for further corrective action assessment of the neck area leading into the North Quarry and a requirement for submittal of a corrective action plan within 30 days of the date of this letter. Specifically, the corrective action assessment must include the area bounded to the north along a line extending from the west quarry wall to the east quarry wall and through GEW-07, GEW-52, GEW-51 and GEW-44 and ending near perimeter extraction well-52 (PEW-52) and to the south by a line extending from the west quarry wall to the east quarry wall and through GEW-110, GEW-56R, GEW-109 and ending near PEW-40. (See section of as-built drawing attached.) The corrective action plan must provide a method or methods for stabilizing and maintaining temperatures within the corrective action zone at less than 185° F for gas extraction wells and less than 200° F for temperature monitoring probes. Upon reaching plan activation temperatures in the corrective action zone, the method or methods within the corrective action plan must be implementable, as follows: 1.) immediately for "hot spot" treatment, i.e., a localized subsurface event as described in Appendix H, SSO Procedure of the Bridgeton Landfill, Operations, Maintenance and Monitoring Plan, or 2.) within SWMP approved timeframes, for any larger areas impacted by movement of the South Quarry subsurface fire towards the north.

If you have any questions or comments, please feel free to contact me or Brenda Ardrey at (573) 751-5401 or at P.O. Box 176, Jefferson City, MO 65102-0176.

Sincerely,

SOLID WASTE MANAGEMENT PROGRAM

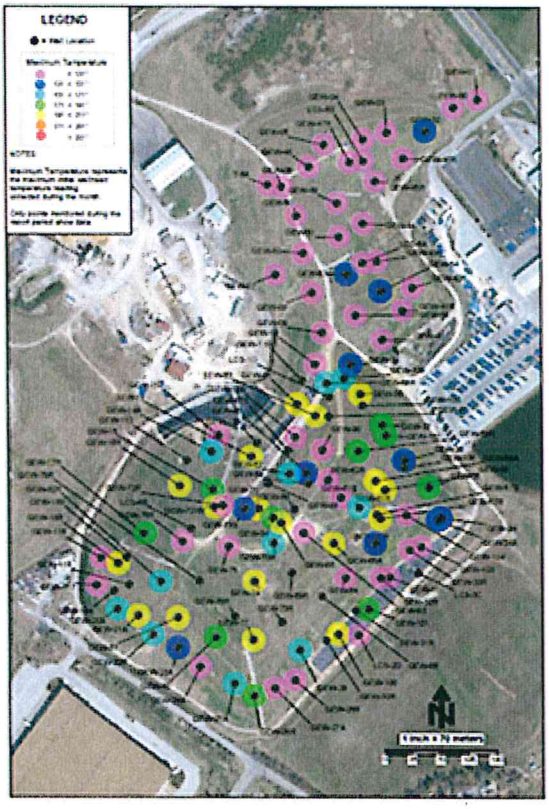
Chris Nagel
Director

CN/bam

Enclosures

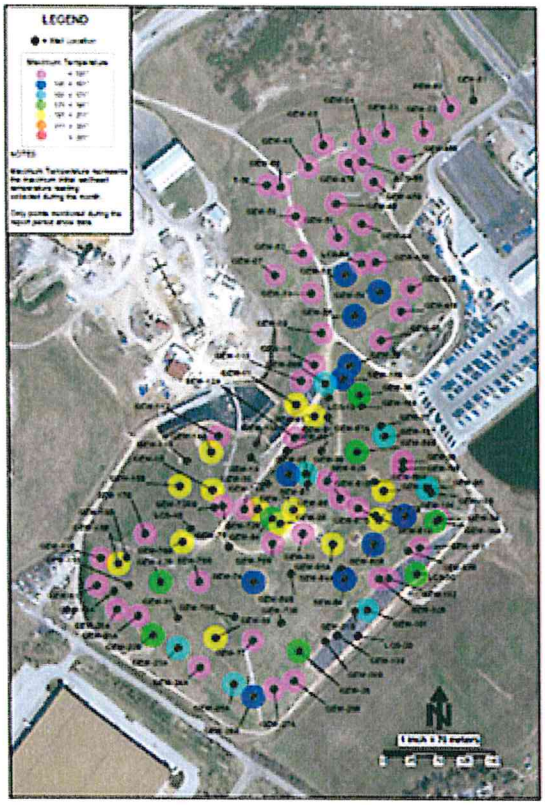
c: Jim Getting, P.E., Bridgeton Landfill, LLC
Ms. Laura Yates, St. Louis County Department of Health
Mr. Tom Phillips, Attorney General's Office
Mr. Larry Lehman, Compliance/Enforcement Section, SWMP
Charlene Fitch, P.E., Engineering Section, SWMP
Ms. Brenda Ardrey, Operations Section, SWMP
Mr. Joe Trunko, St. Louis Regional Office

BRIDGETON LANDFILL
INITIAL TEMPERATURE MAXIMUM MAY 2014 COMPARED TO AUGUST 2014
SOURCE: MONTHLY REPORTS FILED BY REPUBLIC SERVICES FOR BRIDGETON LANDFILL



Initial Temperature Maximums - May 2014 - Bridgeton Landfill

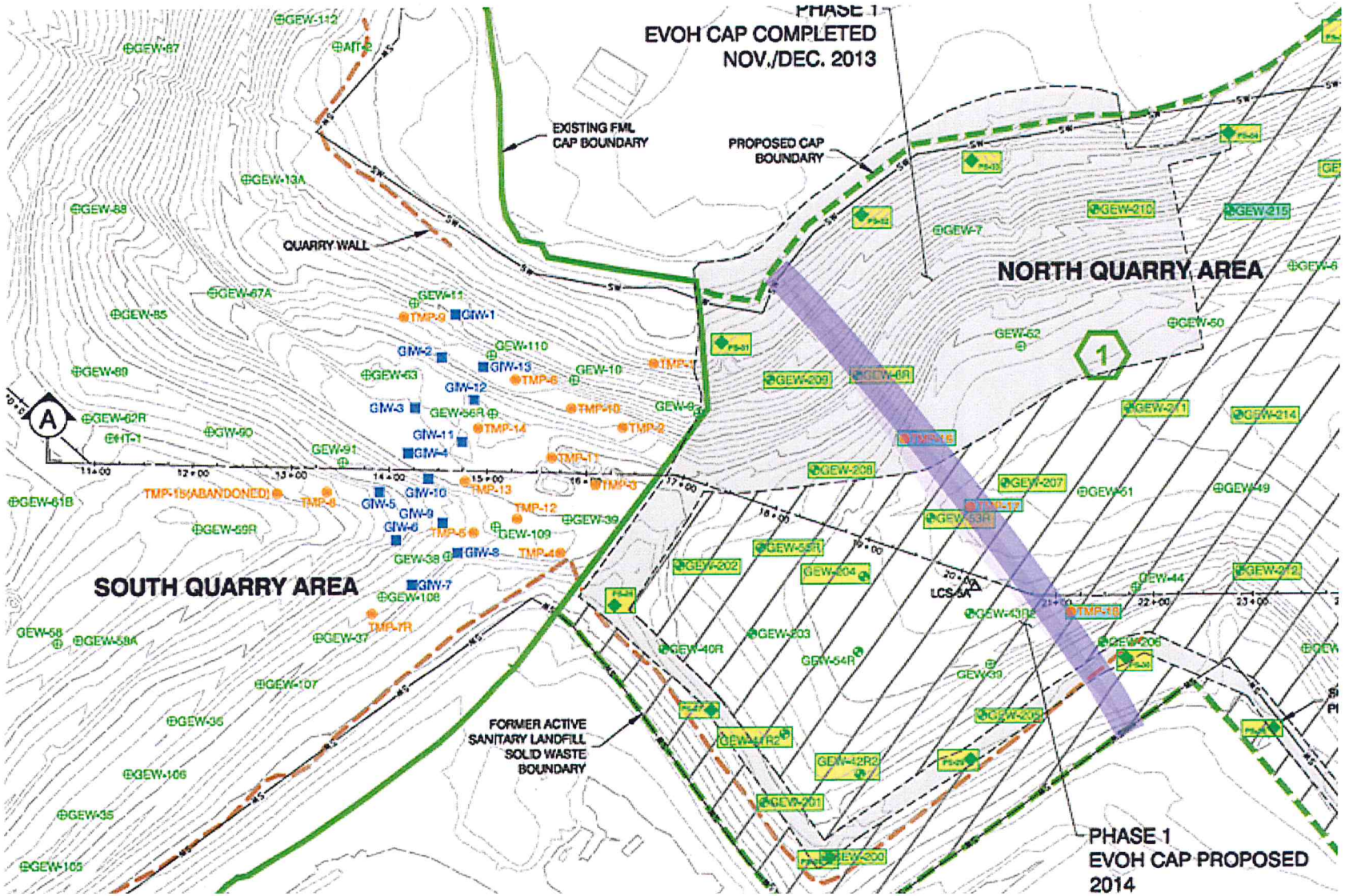
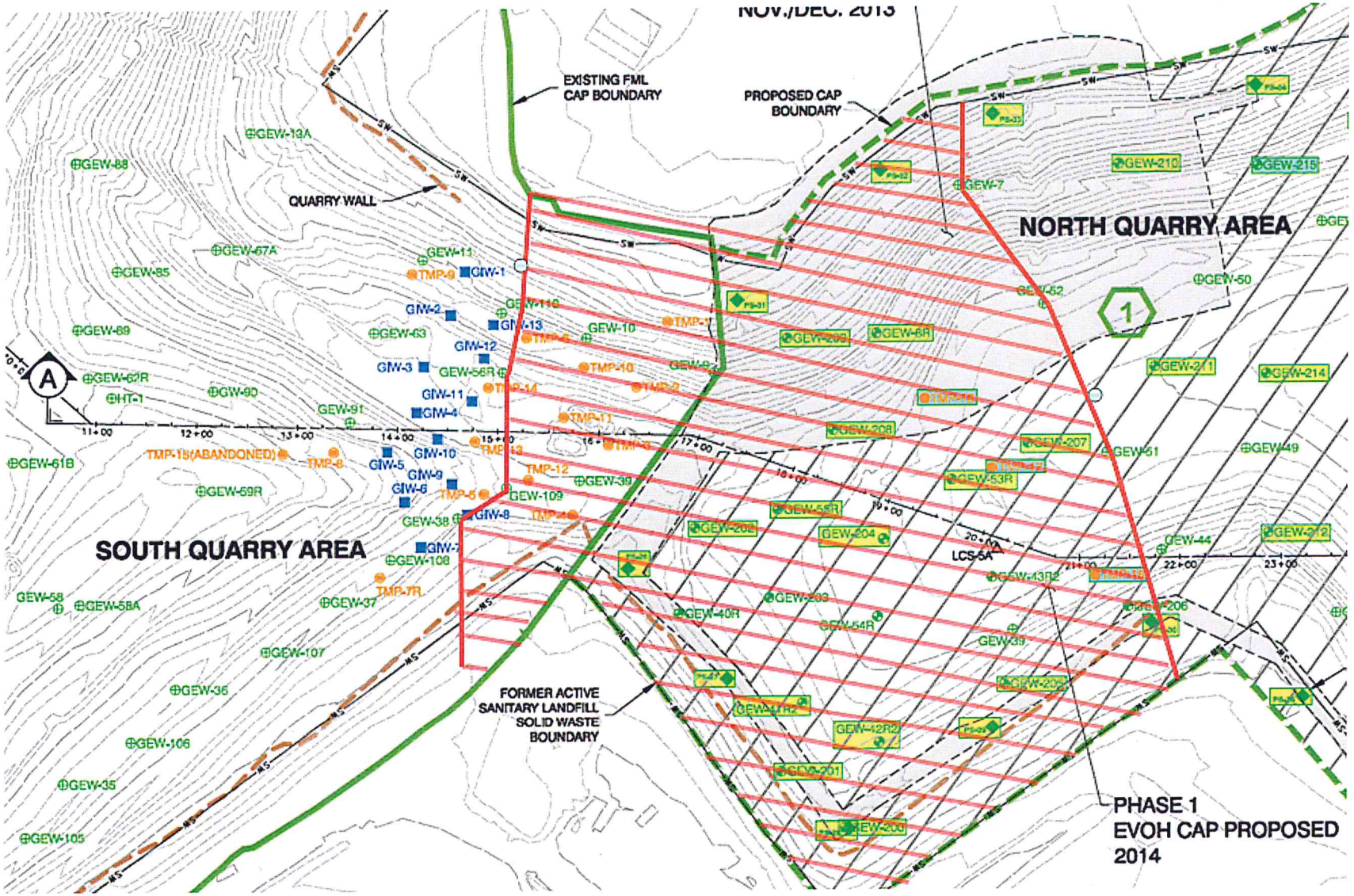
SCS ENGINEERS



Initial Temperature Maximums - August 2014 - Bridgeton Landfill

SCS ENGINEERS

BRIDGETON LANDFILL
TEMPERATURE MONITORING PROBE LINE
SOURCE: SCHEMATIC PLAN OF ACTIONS FROM CIVIL AND ENVIRONMENTAL CONSULTANTS, INC. FOR BRIDGETON LANDFILL, JANUARY 2014.



BRIDGETON LANDFILL
NECK AREA – CORRECTIVE ACTION ZONE