From:	Rogers, Joseph (DEQ)
To:	Curry, Patrick
Cc:	McCabe, John (DEQ); Dave Favero; Hoeksema, Amy; Quackenbush, Peter (DEQ)
Subject:	RE: RACER Lansing - Stormwater Sampling Plan
Date:	Thursday, October 18, 2012 3:42:38 PM

Patrick –

We've reviewed the revised plan and find it acceptable. I assume you will be sending us a hard copy of the revised work plan. Please keep us advised of your field schedule so that we can make arrangements to be on-site if possible. Questions, let me know. Thanks.

Joe Rogers, Geologist,
Hazardous Waste Section
Office of Waste Management and Radiological Protection
Michigan Department of Environmental Quality
517.373.9897

From: Curry, Patrick [mailto:Patrick.Curry@arcadis-us.com]
Sent: Thursday, October 18, 2012 12:05 PM
To: Rogers, Joseph (DEQ); Quackenbush, Peter (DEQ)
Cc: McCabe, John (DEQ); Dave Favero; Hoeksema, Amy
Subject: RACER Lansing - Stormwater Sampling Plan

Pete/Joe,

Please find the attached revised storm water sampling plan. As soon as we have an approval we will setup the sampling event.

Thanks.

Patrick

Patrick J. Curry, CPG | Project Geologist | Patrick.Curry@arcadis-us.com
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ENVIRONMENT

Mr. Pete Quackenbush
Michigan Department of Environmental Quality
525 West Allegan Street
Constitution Hall, Atrium North
Lansing, MI 48909-7741

Subject:
Storm Sewer Investigation Work Plan
RACER Trust, Plants 2, 3 & 6, Lansing, Michigan

Date:
October 18, 2012

Contact:
Amy Hoeksema

Phone:
810-225-1911

Email:
Amy.Hoeksema@acadis-us.com

Our ref:
B0064479.2012
B0064480.2012
B0064481.2012

Dear Mr. Quackenbush:

In support of the RCRA Investigation at the RACER Trust Plants 2, 3 and 6 located in Lansing, Michigan (Site), ARCADIS is providing this work plan that provides an assessment of the on-site storm sewer collection system as well as a sampling plan. The goal of the evaluation is to assess whether groundwater is entering the storm sewers with concentrations of constituents of concern (COCs) that could ultimately discharge to the Grand River above Groundwater-Surface Water Interface (GSI) Criteria. The GSI Criteria are the water quality standards for surface water developed pursuant to Part 31 of the Michigan Natural Resources and Environmental Protection Act (Act 451, 1994, as amended).

Shallow groundwater and soil impacts above GSI and GSI Protection Criteria, respectively, have been identified at the Sites. The GSI criteria exceedances have been shown to exist in the shallow fill and clay, and within perched groundwater at depths consistent with the storm sewer invert elevations. In order to assess whether COCs, that may be entering the sewer via groundwater, are at concentrations that could exceed surface water standards at the Grand River, ARCADIS proposes to sample the storm sewer system at strategic points on the Site during dry weather flow conditions. Storm sewer samples will be submitted for analysis of Target Compound List (TCL) Volatile Organic Compounds (VOCs), TCL Semi-Volatile Organic Compounds (SVOCs), Target Analyte List (TAL) Metals, and Polychlorinated biphenyls (PCBs).

Storm Sewer System Assessment

Available information for the storm sewer system was reviewed to determine the best sampling locations at each Plant. The approximate locations of the storm sewers are provided as Figures 1 through 3.

Plant 2

Based on the utility drawings, the central storm sewers at Plant 2 converge to a manhole near the northwest corner of Plant 2 before continuing north under Saginaw Avenue to Plant 3. Sewers on the eastern portion of Plant 2 move north and then converge to the main Plant 2 outfall near Saginaw Ave. As the storm system continues north through Plant 3 it appears to pick up flow from several areas of Plant 3. Most notable is the parking lot area located in the southwest corner of Plant 3 and a small area approximately 380 feet north for the parking area (Figure 2). The Plant 2 storm system continues north through Plant 3 and then exits the Plant 3 property into the residential neighborhood continuing north towards the Grand River.

There is a portion of the Plant 2 sewer that appears to flow either on to or off of the Site along the western Plant 2 property boundary. Current information available to ARCADIS does not indicate flow direction. Therefore these sewers will be assessed in the field to determine flow direction. If they represent an outfall from Plant 2, a sample will be collected.

Plant 3

The Plant 3 storm sewers flow northerly across the Site and ultimately converge at a manhole near the northeast corner of Plant 3 near the former clarifier. The sewer then proceeds north under Willow Street and continues to the Grand River.

Plant 6

Most of the utilities at Plant 6 have been capped and abandoned, including the storm sewers. The as-built demolition plan indicates that post demolition sewers at Plant 6 consist of five on-site catch basins that are located near the southern and eastern property boundaries. Each of these catch basins is connected directly to the City of Lansing's (City) storm water collection system. ARCADIS understands the City is currently working to separate the storm and sanitary sewers. It is assumed after this separation project is complete the storm sewers will discharge directly to the Grand

River. Therefore, ARCADIS will sample from the stormceptor spill control structure located along the southern property boundary of Plant 6 near Investigation Area 7 (the most likely potential source of impacts), and from the active catch basin near the corner of Osborne and Stanley Street, which receives flow from the northeast portion of Plant 6. ARCADIS will also confirm with the City the schedule of when the sewer separation project will be completed.

Sampling Work Plan

Based on this assessment the storm sewers will be sampled at a total of up to seven (7) locations on Plants 2, 3 and 6. Samples will be collected at the following locations:

- Plant 2 – A grab sample will be collected from the manhole on the northern portion of Plant 2, a manhole north of the Plant 3 parking lot, and the outfall from Plant 3 to the River. In addition, the storm system on the western portion of Plant 2 will be assessed to determine if flow is coming on to or off of the Site; if an outfall, a sample will be collected. Plant 2 sample locations are indicated on Figures 1 and 2.

- Plant 3 – A sample will be collected from where the Plant 3 storm water converges at a manhole located near the northeast corner of Plant 3, near the former clarifier. Plant 3 sample locations are indicated on Figure 2.

- Plant 6 – A sample will be collected from the stormceptor spill control structure located along the southern property boundary as shown on Figure 3 and a sample will be collected from the active catch basin near the corner of Osborn and Stanley. Plant 6 sample locations are indicated on Figure 3.

At each location described above a grab water sample will be collected using a long handled dipper sampler. The sampler will be comprised of a cup attached to the end of a pole. Water samples will only be collected from the structures after an extended period (5 days or more) of less than ¼-inch per day of precipitation. Samples will be submitted to Merit Laboratories in Lansing for analysis of TCL VOCs, SVOCs, TAL Metals and PCBs.

Schedule

ARCADIS can implement the initial storm water sampling immediately following MDEQ approval of this work plan. Additional sampling events may be required to address potential variations in groundwater quantity and quality. The need for additional sampling events will be a function of the initial findings.

Assessment Results

Results of the sampling, as well as information regarding the Site's storm sewer system will be used to assess whether a demonstration, as described in Act 451 324.20120e can be made to show no risk, or limited risk, to surface water with regards to storm outfall associated with the Site. In general, the demonstration may consist of the following, singly or in combination:

1. (1)(a) Meet Generic GSI criteria, which are the water quality standards for surface water developed pursuant to Part 31.

2. (1)(b) Apply for a variance from the surface water quality standards as approved by the department under Part 31.

3. (1)(c) Use of a mixing zone for criteria based on chronic-based or acute based surface water quality criteria.

4. (1)(d) Develop site specific criteria pursuant to 20120b or 20120e or a combination. Biological criteria may be used a site specific criteria.

5. (1)(e) Conduct an ecological demonstration under subsection (9).

6. (1)(f) Conduct a modeling demonstration under subsection (10).

7. (3)(a-h) Document the pathway is not complete. If a sewer is demonstrated to be "sufficiently tight" based on accepted industry construction standards, the GSI pathway with respect to the sewer is not relevant and does not apply.

8. (9)(e) Based on monitoring well data, show that the groundwater plume is not likely to migrate to surface water in a mass amount and rate that would

impair designated uses or contribute to exceedances of surface water quality standards.

9. (14) Demonstrate venting groundwater has no effect or only a De Minimis effect on the surface water body.

10. (15) A technical impracticability waiver can be requested if the source of contamination has been controlled and compliance with GSI criteria is unachievable.

11. (11) Natural attenuation of hazardous substances in venting groundwater upgradient of the GSI is an acceptable form of remediation and may be relied upon in lieu of any active remediation of the groundwater.

We appreciate your prompt review of the work plan described herein. If you have any questions, please do not hesitate to contact me at 810.225.1926 or Amy Hoeksema at 810.225.1911.

Sincerely,

ARCADIS G&M of Michigan, LLC

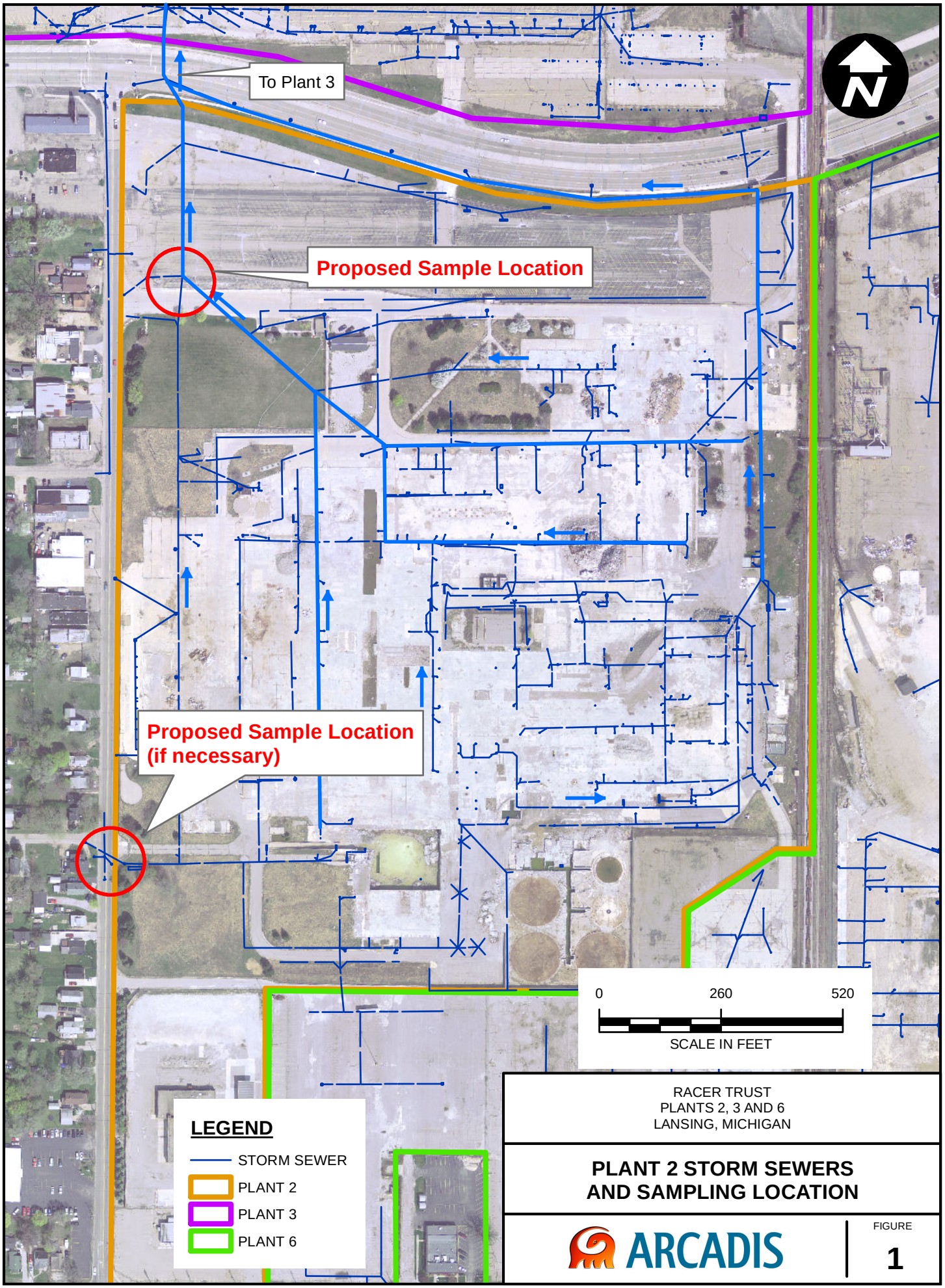
Patrick Curry, CPG
Project Geologist

Copies:
Dave Favero, RACER
Grant Trigger, RACER

Enclosures:
Figure 1 - Plant 2 Utility Location Map
Figure 2 - Plant 3 Utility Location Map
Figure 3 - Plant 6 Utility Location Map

ARCADIS

Figures



RACER TRUST
PLANTS 2, 3 AND 6
LANSING, MICHIGAN

PLANT 2 STORM SEWERS AND SAMPLING LOCATION

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FIGURE
1

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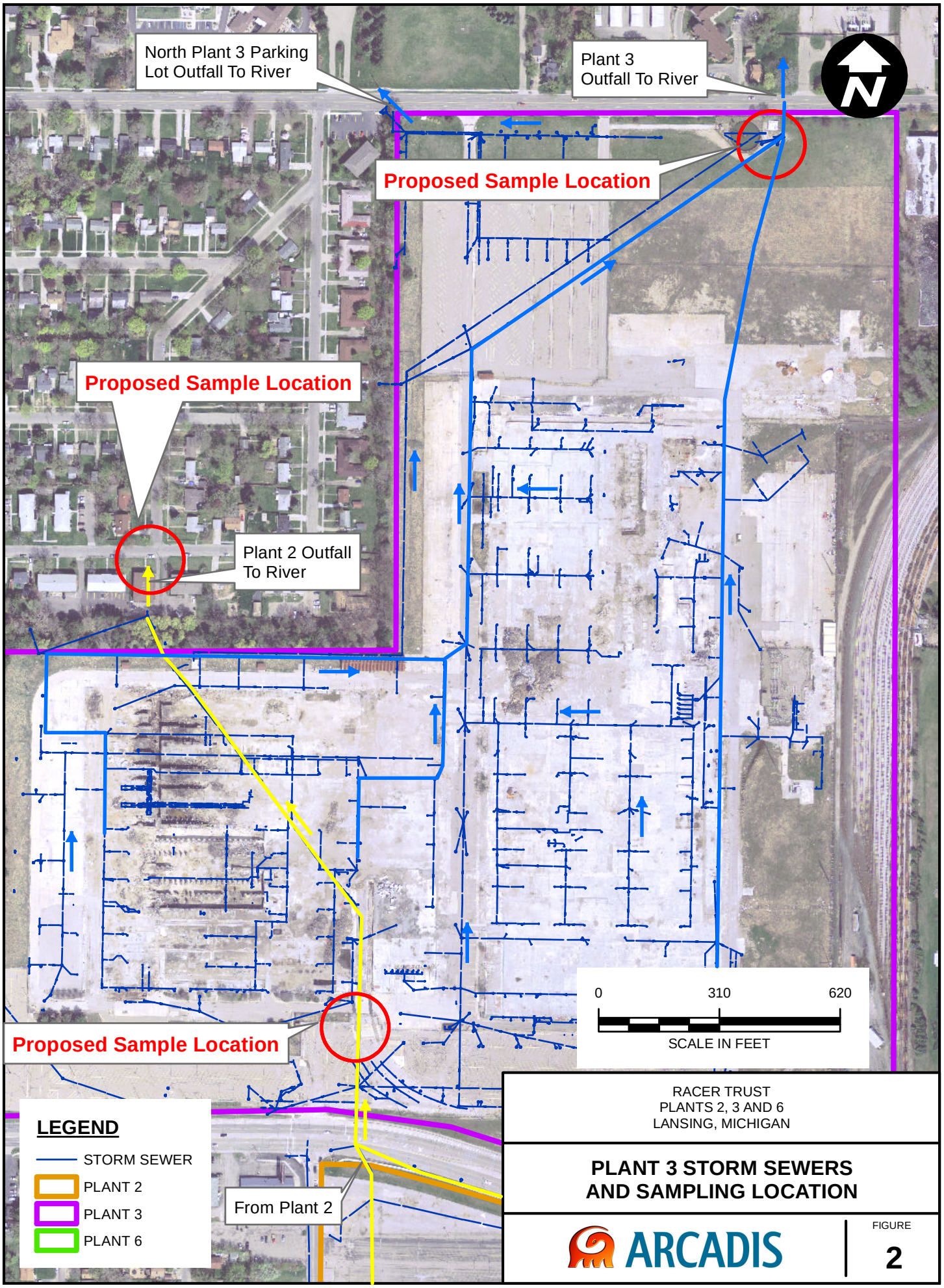

RACER TRUST
PLANTS 2, 3 AND 6
LANSING, MICHIGAN

PLANT 3 STORM SEWERS AND SAMPLING LOCATION

ARCADIS

FIGURE
2

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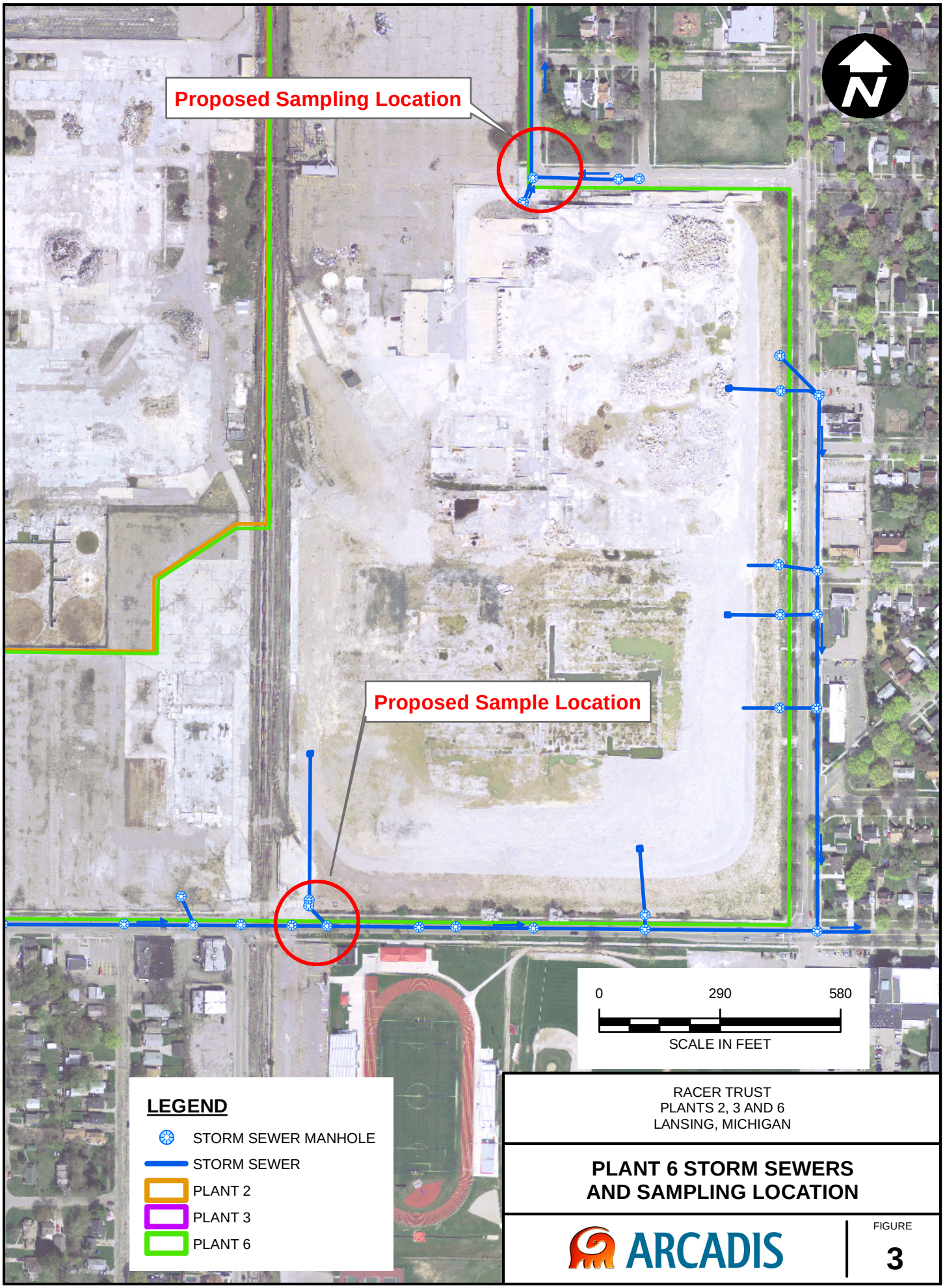

RACER TRUST
PLANTS 2, 3 AND 6
LANSING, MICHIGAN

PLANT 6 STORM SEWERS AND SAMPLING LOCATION

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FIGURE
3

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