June 7, 2021

Northrop Grumman
One Space Park Drive
MS: CER/XE6D21
Redondo Beach, CA 90278

northropgrumman.com

Ms. Rachel K. Gardner, E.I.T.
Assistant Engineer
Region 6 Environmental Remediation
New York State Department of Environmental Conservation
317 Washington Street
Watertown, NY 13601

Subject: Buffer Parcel Additional Soil Sampling Work Plan
Former TRW Aeronautical Systems Facility, Utica, New York
USEPA ID#: NYD002244911

Dear Ms. Gardner:

Please find enclosed for your review the Buffer Parcel Additional Soil Sampling Work Plan for the former TRW Aeronautical Systems facility in Utica, New York. This Work Plan has been revised to address the comments provided in the New York Department of Environmental Conservation's June 2, 2021 letter.

Should you have any questions or require any additional information related to the enclosed Work Plan, please contact Kurt Batsel, our project manager, at (770) 578-9696 or via e-mail at batsel@dextra-group.com.

Sincerely,

Michael D. Shannon

Michael Shannon
Corporate Manager, Environmental Remediation
michael.shannon@ngc.com
p: 310-332-5915 | c: 310-648-1929

Enclosure:
Buffer Parcel Additional Soil Sampling Work Plan

Distribution:
(1) Addressee
(1) Kurt Batsel, The Dextra Group, Inc.
(1) Mark Flusche, Arcadis of New York, Inc.
(1) Peter Taylor, New York State Department of Environmental Conservation
(1) Gregory Rys, New York State Department of Health
(1) Maureen Schuck, New York State Department of Health

Lucas Western LLC

Buffer Parcel Additional Soil Sampling Work Plan

Former TRW Aeronautical Systems Facility

211 Seward Avenue, Utica, New York

June 7, 2021

Buffer Parcel Additional Soil Sampling Work Plan

Former TRW Aeronautical Systems Facility

211 Seward Avenue, Utica, New York

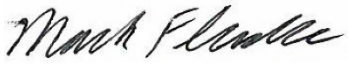
June 7, 2021

Prepared By:
Arcadis of New York, Inc.
855 Route 146, Suite 210
Clifton Park
New York 12065
Phone: 518 250 7300
Fax: 518 371 2757

Prepared For:
Lucas Western LLC

Our Ref:
30051795

I, Mark Flusche, certify that I am currently a Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).



Mark Flusche, P.G., P.Hg.
Principal Hydrogeologist

Contents

Figures

Acronyms and Abbreviations

ASP	Analytical Services Protocol
bgs	below ground surface
CFR	Code of Federal Regulations
ELAP	Environmental Laboratory Approval Program
HASP	Health and Safety Plan
NYSDEC	New York State Department of Environmental Conservation
PCB	polychlorinated biphenyl
PID	photoionization detector
SCO	soil cleanup objective
SVOC	semi-volatile organic compound
TAGM	Technical and Administrative Guidance Memorandum
TAL	Target Analyte List
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound

1 Introduction

This Buffer Parcel Additional Soil Sampling Work Plan (Work Plan) was prepared on behalf of Lucas Western LLC (Lucas Western) to describe the sampling to be completed on the Buffer Parcel near the Former TRW Aeronautical Systems Facility located at 211 Seward Avenue in the City of Utica, Oneida County, New York (Site) (Figure 1) to further characterize the Buffer Parcel. The Buffer Parcel is the southern portion of the existing parcel #329.11-02-03 (Figure 2), consisting of wooded land south of Site Parking Lot No. 3 that has never been developed or otherwise used in the manufacturing operations of the Former TRW Aeronautical Systems Facility. The New York State Department of Environmental Conservation (NYSDEC) requested in a March 19, 2021 email that three (3) additional soil samples be collected and analyzed for semi-volatile organic compounds (SVOCs) and metals on the Buffer Parcel, which in addition to the 4 soil samples that were collected in 2015 for volatile organic compound (VOC) and polychlorinated biphenyls (PCB) analysis, will allow this parcel to be excluded from the "Site" if results support the lack of site-related SVOC and metals at levels of concern. This Work Plan describes the procedures that will be used for this additional investigation work, and is based on Lucas Western's comprehensive review of the historical investigations and remedial work performed at the Site and has been prepared in accordance with the NYSDEC document DER-10, "Technical Guidance for Site Investigation and Remediation", dated May 3, 2010 (DER-10, NYSDEC 2010a).

1.1 Purpose

The purpose of this investigation is to determine if site-related SVOC and metal soil concentrations on the Buffer Parcel support excluding the Parcel from the "Site". Consistent with removal of the Lyon Place Parcels, NYSDEC has agreed to remove the Buffer Parcel from the "Site" if results support the lack of site-related SVOC and metals at levels of concern.

1.2 Buffer Parcel

As shown on Figure 2, the existing parcel #329.11-02-03 will be modified whereby the southern portion will become the new parcel #329.11-02-03 (the Buffer Parcel) and the northern portion of that parcel will be added to parcel #329.11-02-01 (i.e., the lot line between current parcels 329.11-02-03 and 329.11-02-01 will be moved to the south). Final action by the City is pending. Based on available facility records, historical aerial photographs, and Sanborn fire insurance mapping, the Buffer Parcel was never used for manufacturing operations or waste management.

In 2020, NYSDEC removed the Lyon Place parcels from the regulated site based on findings of lack of historical operations and low-level site-related contamination, as confirmed by soil samples analyzed for VOCs, SVOCs, metals, and PCBs. Given its similar status to the Lyon Place parcels, NYSDEC has proposed to remove the Buffer Parcel from the "Site" upon comparable conditions.

2 Past Investigations

As part of a 2015 soil investigation focused primarily on the Site parking lots, soil samples were collected from four boring locations in the Buffer Parcel for PCB and VOC analysis. This includes two samples each from boring locations SB-112 through SB-115, as shown on Figure 3. The samples for PCB analysis were surface soil samples collected from 0-0.2 feet below ground surface (bgs), and the samples for VOCs were shallow subsurface soil samples collected from 0.5-1.5 feet bgs. The results of this investigation are presented in the Additional On-Site Investigation and Focused Follow-up Sampling Summary Report (Arcadis 2016).

PCBs were not detected in the surface soil samples collected from locations SB-113, SB-114, or SB-115. While detected in the surface soil sample collected from location SB-112, the PCB concentration was well-below the 0.1 ppm Part 375 unrestricted SCO (estimated concentration of 0.019 parts per million (ppm).

No VOCs were detected in the four shallow subsurface soil samples, except acetone which is a common laboratory artifact and not a site-related constituent of concern. Acetone was detected in samples from locations SB-113, SB-114, and SB-115 at concentrations of 0.007 ppm (estimated), 0.0092 ppm (estimated), and 0.19 ppm, respectively, which are all less than the 100 ppm Part 375 residential SCO. The 0.19 ppm acetone concentration identified at location SB-115 slightly exceeds the 0.05 ppm Part 375 groundwater protection SCO. However, in this same investigation, acetone was not detected in any of the groundwater samples.

3 Scope of Work

Per NYSDEC's request, soil samples will be collected from three (3) locations: SB-112, SB-114, and SB-115 (Figure 3). At each of these locations, a surface soil sample from a depth of 0 to 2 inches bgs and a near surface soil sample from 0 to 2 feet bgs will be collected and analyzed for SVOCs and Target Analyte List (TAL) metals. These depth intervals are consistent with the surface and near surface soil samples collected in 2019 from the Lyon Place parcels. Soil samples previously collected from SB-112, SB-114, and SB-115 during the 2015 Additional On-Site Investigation and Focused Follow-up Sampling Investigation (Arcadis 2016) were analyzed for PCBs and VOCs. These SVOC and TAL metals results, in addition to the VOC and PCB results from the 2015 investigation, will provide a full suite of analyses to fully characterize soil quality on the Buffer Parcel for purposes of determining its status as part of the "Site".

Based on a review of the previous 2015 PCB and VOC analytical results, soil samples for this investigation will be collected from sampling locations SB-112, SB-114, and SB-115. These three sampling locations have been selected because there were slightly more detections or slightly higher concentrations of low-level PCBs and/or VOCs at these locations compared to the fourth sampling location on the Buffer Parcel (SB-113 – PCBs not detected and acetone was the only VOC detected).

Vegetation at the sample locations will be removed by cutting or scraping away with a decontaminated stainless-steel trowel. Twigs, leaves roots, grass, and rocks are not considered part of the soil matrix and will be removed from the sample. The protocol to be used for sampling is as follows: (1) remove gravel or other debris from the surface before advancing the auger or trowel to a depth of approximately 2 inches; (2) using pre-cleaned stainless-steel equipment, extrude the surface soil sample directly into the laboratory supplied sampling containers; (3) using a decontaminated hand auger, bore down to 4 feet bgs or hand auger refusal, whichever comes first; (4) homogenize soil from 0 to 2 feet bgs as well as from 2 to 4 foot bgs and place soil samples into

the laboratory supplied sampling containers. If hand auger refusal is reached before 4 feet bgs, the third soil sample will be collected from 2 feet bgs to refusal.

The soil at each sample location will be described/ characterized and screened with a photoionization detector (PID) equipped with a 10.7 electron volt lamp. Data and observations will be entered into a permanent field logbook or electronic tablet.

Soil samples for laboratory analysis will be collected as grab samples and will be placed in laboratory supplied clean sample containers, immediately placed in an insulated cooler to be maintained at a temperature of 4°C and shipped to a laboratory for analysis of SVOCs by United States Environmental Protection Agency (USEPA) Method 8270 and TAL metals by USEPA Methods 6010 and 7471. Samples will be analyzed by a New York State Environmental Laboratory Approval Program (ELAP)-certified laboratory capable of providing Analytical Services Protocol (ASP) Category B deliverables as described in DER-10. Quality assurance/quality control samples for laboratory analysis will include a blind field duplicate, a field equipment blank, and a matrix spike/matrix spike duplicate.

Sampling equipment will be decontaminated between sampling intervals and between locations. Decontamination procedures include rinsing item(s) with tap or distilled water, thoroughly scrubing the item with a brush and soapy water, using non-phosphate detergent such as Alconox™, rinsing the item with tap or distilled water to remove residual soap. rinsing the item with 10% nitric acid to remove residual metals, rinsing the item with de-ionized or distiled water, rinsing the item with isopropyl alcohol, and rinsing the item with de-ionized or distilled water three times. Field equipment blanks are used to identify the effect of sampling equipment decontamination procedures on the sample results. At the field location, deionized, analyte-free water (typically laboratory supplied) is passed through decontaminated sampling equipment and placed in an empty set of sample containers for analysis of the same parameters as the samples collected with the sampling equipment (i.e. SVOCs and TAL metals).

Soil sampling locations will be marked in the field with a stake or pin flag and labeled with the sample identification to facilitate subsequent surveying of the sampling location. Northing and Easting survey data will be collected using a Global Positioning Satellite survey to the nearest foot. Ground elevations will be collected to the nearest 0.01 foot.

Analytical data collected during the investigation will be validated to demonstrate its usability in supporting the conclusions of the investigation. A third-party data validator will review and validate the analytical data generated by the subcontract laboratory. The validation will be completed in general accordance with applicable USEPA guidance (USEPA 2008) and DER-10. A Data Usability Summary Report will be prepared in accordance with DER-10.

Although the Site soil analytical data were historically compared to NYSDEC Technical and Administrative Guidance Memorandum (TAGM) 4046 Soil Cleanup Objectives and Cleanup Levels, TAGM 4046 was integrated into and replaced by 6 NYCRR Part 375 and NYSDEC CP-51 (NYSDEC 2010b). The validated analytical data from this investigation will be evaluated against protection of groundwater SCOs as well as the restricted use-residential SCOs outlined in Part 375 Table 375-6.8(b), unrestricted use (SCOs) outlined in Part 375 Table 375-6.8(a), and CP-51 with consideration of regional background values.

Following completion of the investigation activities and receipt of the analytical data, the results of the investigation will be presented in a letter report. The report will include a summary of the field work, observations, the field and analytical data, a Data Usability Summary Report, a sample location figure, and references. Analytical data will be presented in tabulated form. The final report will be submitted to the NYSDEC and New

York State Department of Health for review and comment. It is expected, based on the soil analytical results and historical records and data, that the report will recommend that the Buffer Parcel be excluded from the "Site."

4 Schedule

The proposed field activities will be implemented following receipt of NYSDEC written approval of this Work Plan. The field activities are anticipated to take 1 day to complete. Laboratory analysis of the soil and groundwater samples will be performed on a standard turnaround with results (NYSDEC ASP Category B deliverables) provided by the laboratory approximately 3 to 4 weeks following sample collection. Data validation is anticipated to be completed within approximately 2 weeks following receipt of the final laboratory analytical results. The summary report will be submitted to the NYSDEC approximately 2 weeks after the laboratory analytical results are validated.

5 Health and Safety

An updated Site-specific Health and Safety Plan (HASP) will be prepared for the Site in accordance with 29 Code of Federal Regulations (CFR) Part 1910 and 29 CFR 1926. The HASP provides health and safety protocols and procedures that will be implemented during field activities to promote worker safety and protect the general public. The HASP is a separate document reviewed annually and updated as needed to reflect current site-specific information, policies, and procedures. A Community Air Monitoring Program will not be implemented because surface soil sampling is not considered an intrusive subsurface activity and no dust and fugitive vapor generation is anticipated. Health and safety monitoring information will be recorded and available for agency review.

6 References

Arcadis, 2016. Additional On-Site Investigation and Focused Follow-up Sampling Summary Report. June 2016.

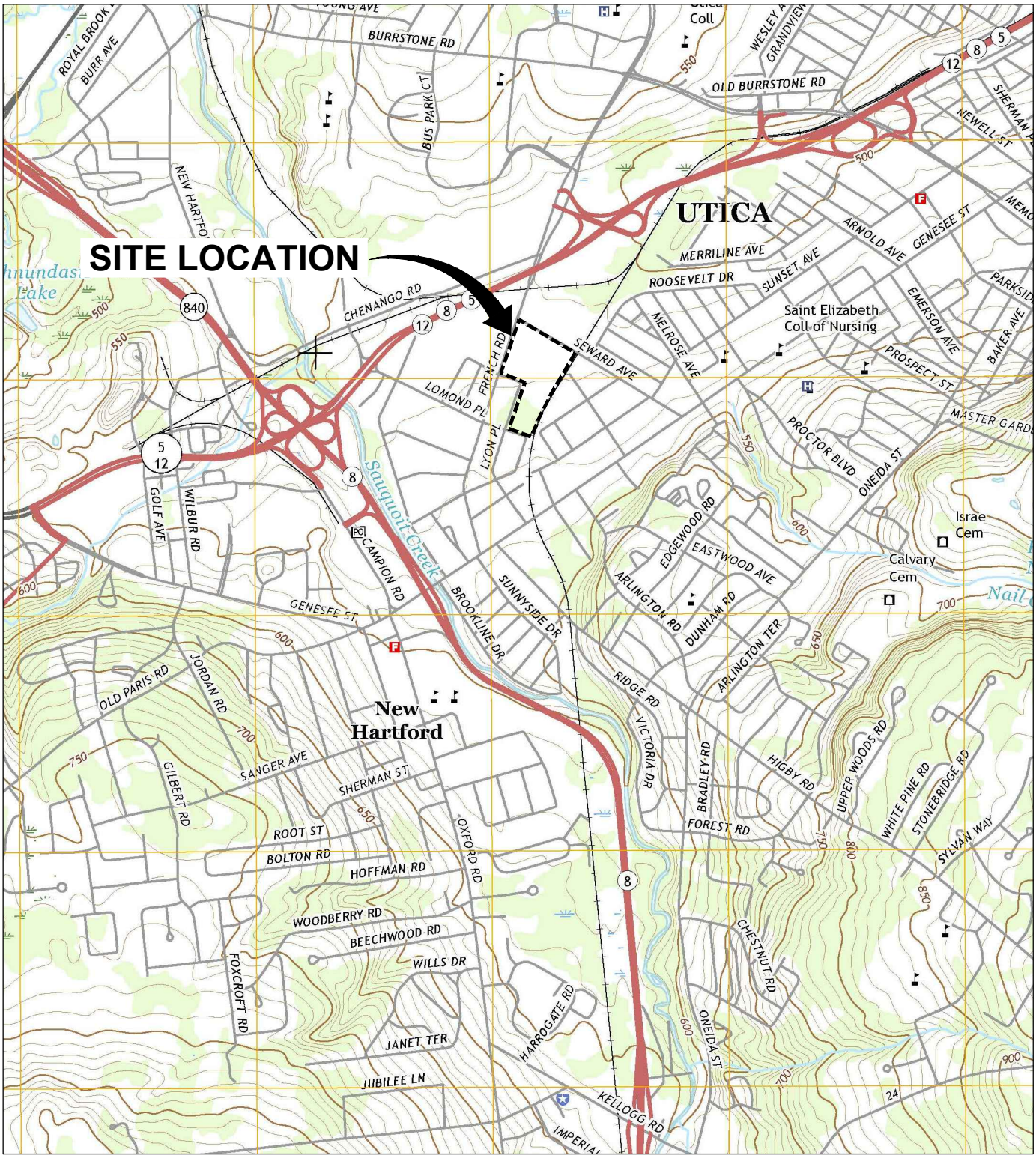
NYSDEC, 2006. 6 NYCRR Part 375. Division of Environmental Remediation, Environmental Remediation Programs Subparts 375-1 to 375- 4 & 375-6. Effective December 14, 2006.

NYSDEC, 2010a. DER-10: Technical Guidance for Site Investigation and Remediation. May 3, 2010 with April 9, 2019 Errata Sheet.

NYSDEC, 2010b. Final Commissioner Policy, CP-51 / Soil Cleanup Guidance. October 21, 2010.

USEPA, 2008. USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review. USEPA 540-R-08-01. June 2008

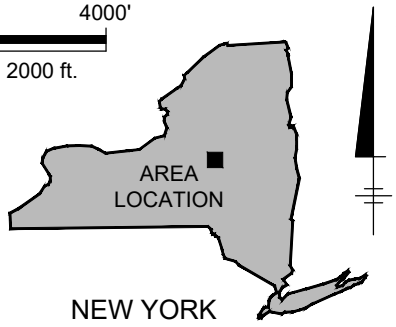
Figures



REFERENCE: BASE MAP USGS 7.5. MIN. TOPO. QUAD., UTICA WEST, NEW STATE, 2016.

0 2000' 4000'

Approximate Scale: 1 in. = 2000 ft.



FORMER TRW AERONAUTICAL SYSTEM FACILITY
211 SEWARD AVENUE
UTICA, NEW YORK
SOIL SAMPLING WORK PLAN

SITE LOCATION MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE
1

CITY:(Reqd) DIV/GROUP:(Reqd) DB:(Reqd) LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
C:\Users\jmeyer\BIM 360\Arcadis\ANA - Northrop Grumman\Project Files\NGC Corp Utica NY\2020\30052757\01-DWG\SSR- FIG1-SITE LOCATION MAP.dwg LAYOUT: 1 SAVED: 9/15/2020 10:50 AM ACADVER: 23.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 9/15/2020
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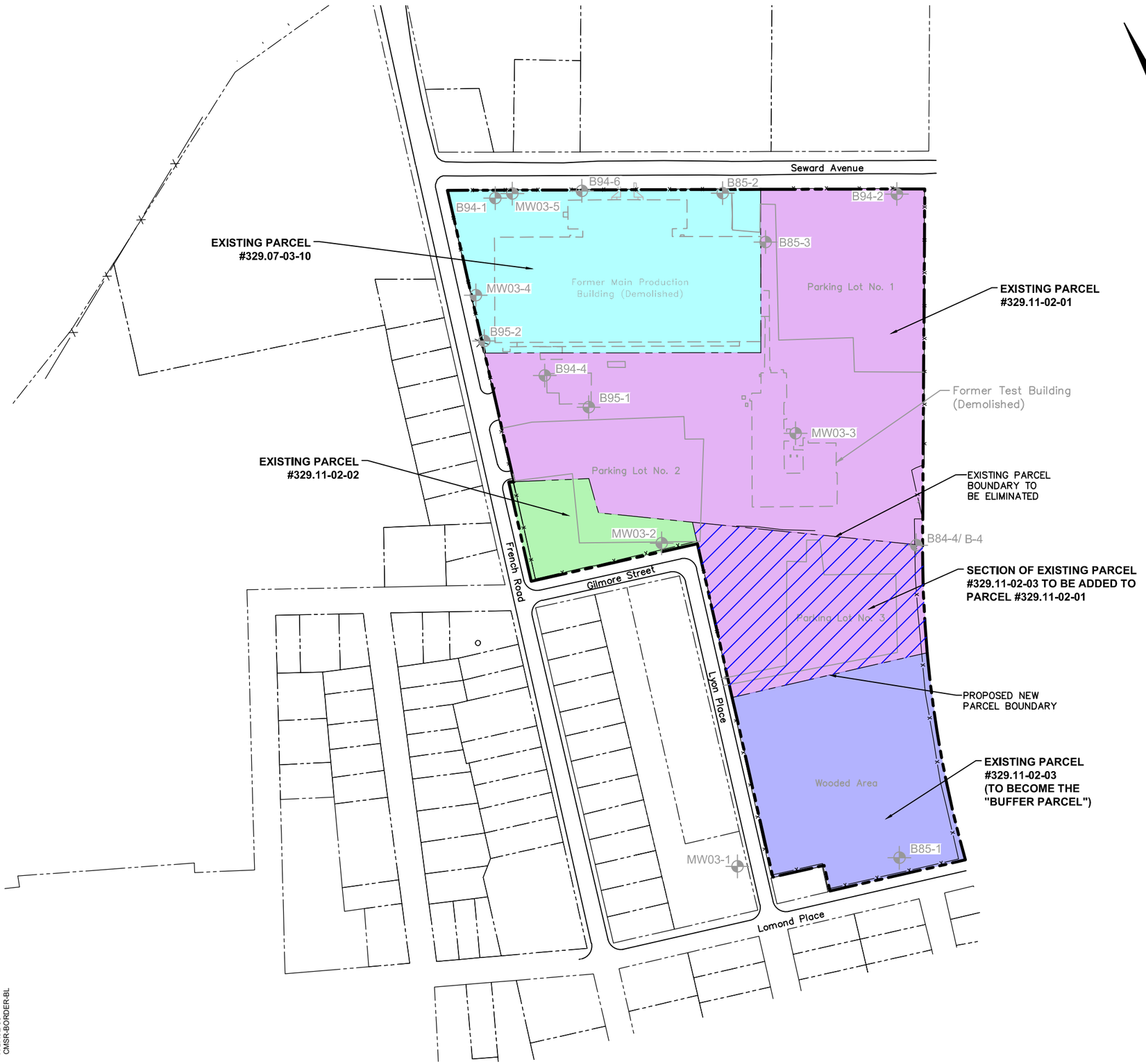

LEGEND:

- FENCE
- PROPERTY BOUNDARY
- SITE BOUNDARY
- MONITORING WELL

NOTES:

1. UNLESS OTHERWISE INDICATED, MAPPING IS BASED ON SURVEYS PERFORMED BY BLASLAND, BOUCK & LEE, INC. (NOW ARCADIS), MARCH 19, 2003 TO FEBRUARY 17, 2004.
2. OFFSITE PROPERTY LINES AND ROADWAYS ARE ADAPTED FROM A DRAWING ENTITLED "SITE LAYOUT MAP SHOWING AREAS OF CONCERN", FIGURE 1-1, BY ENVIRONMENTAL RESOURCES MANAGEMENT (ERM), EXTON, PA., AT A SCALE OF 1"=40', DATED 08/27/02.
3. SITE PROPERTY LINES AND PARKING AREAS ARE ADAPTED FROM A SURVEY DRAWING ENTITLED "LOT LINE RELOCATION, TAX MAP NUMBERS 329. 11-02-01 AND 329. 11-02-03", BY PAUL JAMES OLSZEWSKI, P.L.S, PLLC, SCALE 1"=80', DATED 5/14/2020.

0 200' 400'

GRAPHIC SCALE

FORMER TRW AERONAUTICAL SYSTEMS FACILITY
211 SEWARD AVENUE
UTICA, NEW YORK

SOIL SAMPLING WORK PLAN

SITE MAP WITH PARCEL BOUNDARIES

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2

CITY: SYRACUSE NY DIV/GROUP: ENVCAD DB: E. KRAHMER LD:(Opt) PIC:(Opt) PM:J.BRUSSEL TM:(Opt) TR: L. HEALY LYR:(Opt)ON=*;OFF=*REF*
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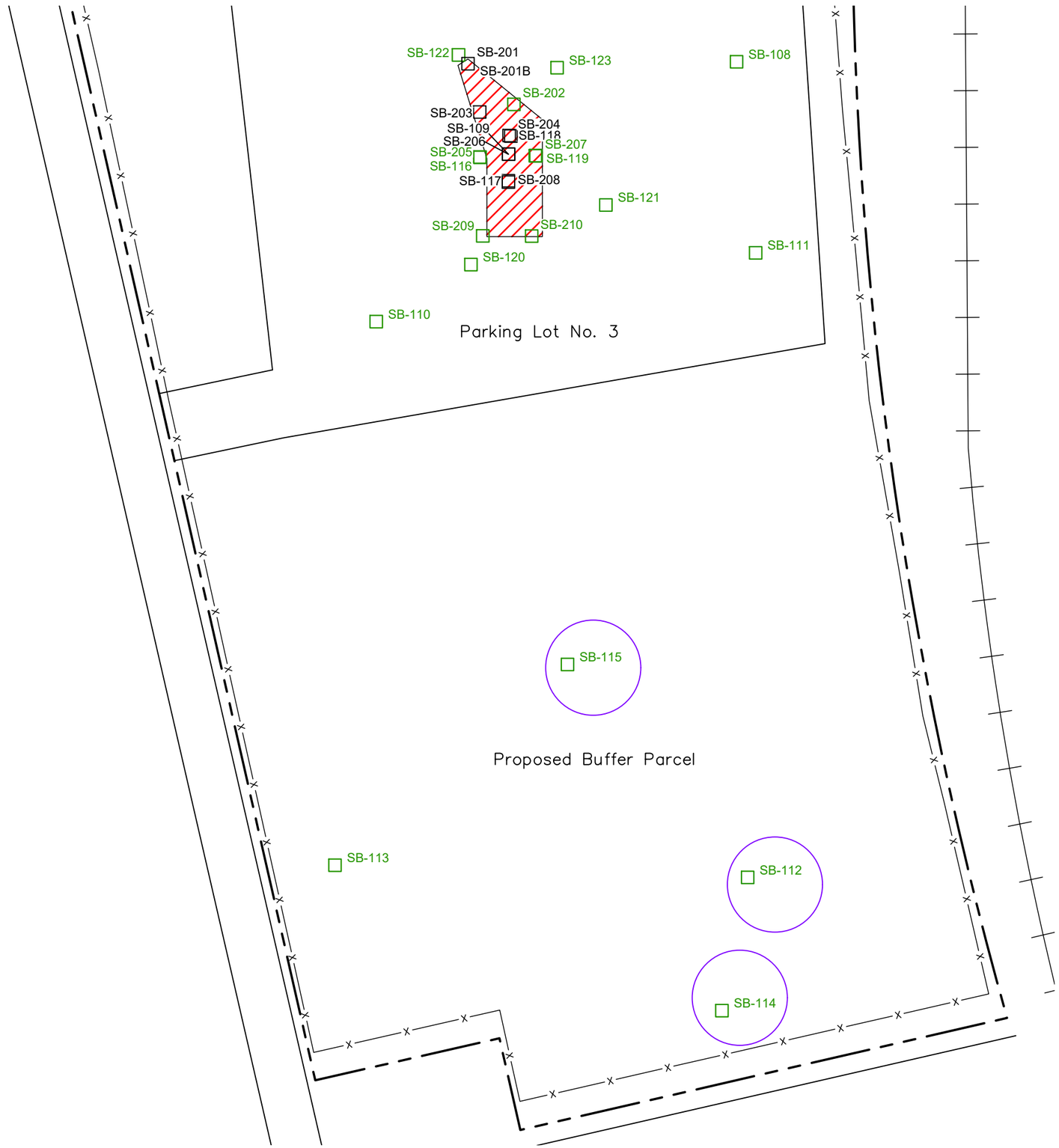

LEGEND:

- SITE BOUNDARY
- FENCE
- FOCUSED ADDITIONAL SOIL REMOVAL (2015)
- 2015 SOIL BORING LOCATION

COLOR CODES FOR SAMPLE IDs ARE AS FOLLOWS:

GREEN = SOIL SAMPLING LOCATION WHERE CONSTITUENTS <COMMERCIAL SCOs

BLACK = SOIL SAMPLING LOCATION WHERE SOIL WAS EXCAVATED DURING PREVIOUS EXCAVATION

PROPOSED SOIL SAMPLE

NOTES:

1. UNLESS OTHERWISE INDICATED, MAPPING IS BASED ON SURVEYS PERFORMED BY BLASLAND, BOUCK & LEE, INC.(BBL), MARCH 19, 2003 TO JUNE 28, 2004.
2. PROPERTY LINES AND ROADWAYS ARE ADAPTED FROM A DRAWING ENTITLED "SITE LAYOUT MAP SHOWING AREAS OF CONCERN", FIGURE 1-1, BY ENVIRONMENTAL RESOURCE MANAGEMENT, INC. (ERM), EXTON, PA., AT A SCALE OF 1" = 40', DATED AUGUST 27, 2002.

0 60' 120'

GRAPHIC SCALE

FORMER TRW AERONAUTICAL SYSTEMS FACILITY
211 SEWARD AVENUE
UTICA, NEW YORK

SOIL SAMPLING WORK PLAN

PROPOSED SOIL SAMPLE LOCATIONS

ARCADIS Design & Consultancy for natural and built assets

FIGURE 3

CITY: SYRACUSE NY DIV/GROUP: ENVCAD DB: E. KRAHMER LD:(Opt) PIC:(Opt) PM:J.BRUSSEL TM:(Opt) TR: L. HEALY LYR:(Opt)ON=*;OFF=*REF*
C:\Users\wdbernd\g.ARCADIS-US\BIM 360\Arcadis\ANA - Northrop Grumman\Project Files\NGC Corp Utica NY\2021\01-DWG\SSR-FIG3-BUFFER PARCEL SB LOCS.DWG LAYOUT: 3 SAVED: 5/18/2021 12:26 PM ACADVER: 23.0S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: PLTFULL.CTB
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37125X05
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