REMEDIAL ACTION WORK PLAN
RESIDENTIAL AREAS (OU1, OU2 AND OU5)
STUDY AREA

Corning, NY

NYSDEC Project ID 851046

April 6, 2018

Prepared for:

Corning Incorporated
Corning, New York

Prepared by:

WESTON SOLUTIONS

W.O. No. 02005.056.002

Certifications

I, Michael H. Corbin, certify that I am currently a NYS registered professional engineer as defined in 6 NYCRR Part 375 and that this Remedial Action Work Plan was prepared in accordance with all applicable standards and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

Executed on the 6th day of April 2018

Technical Director

STATE OF NEW YORK
MICHAEL HECKMAN CORBIN
094037
LICENSED PROFESSIONAL ENGINEER

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

LIST OF FIGURES

Title

LIST OF TABLES

Title

LIST OF ACRONYMS

CAMP	Community Air Monitoring Plan
CCR	Construction Completion Report
COPC	constituents of potential concern
DD	Decision Document
EC	Engineering Controls
EWP	Excavation Work Plan
DUSR	Data Usability Summary Report
FEMA	Federal Emergency Management Agency
FFS/AA	Focused Feasibility Study / Alternative Analysis
ft bgs	feet below ground surface
GPS	global positioning system
HASP	Health and Safety Plan
IC	Institutional Controls
in bgs	inches below ground surface
ISMP	Interim Site Management Plan
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSPDES	New York State Pollutant Discharge Elimination System
NYCRR	New York Codes, Rules and Regulations
OU	Operable Unit
PC	Public-Conservation
PDD	Proposed Decision Document
PRR	Periodic Review Report
QAPP	Quality Assurance Project Plan
R1	Low-density Residential
RAO	Remedial Action Objective
RAWP	Remedial Action Work Plan
RCRA	Resource Conservation and Recovery Act
ROW	right-of-way
SCO	Soil Cleanup Objective

LIST OF ACRONYMS (Continued)

SMP	Site Management Plan
SOPs	standard operating procedures
TOGS	New York State Division of Water Technical & Operational Guidance Series
USACE	U.S. Army Corps of Engineers
WESTON®	Weston Solutions, Inc.

1. INTRODUCTION

1.1 GENERAL

The Study Area is located in the City of Corning, New York, as illustrated on Figure 1-1. In general, it is bound by the Chemung River to the south; Post Creek and Interstate 86 to the east and north; and the Guthrie Medical Center, the City of Corning Fire Department, and Centerway to the west. The Study Area is separated into five operable units (OUs) based on location and land use, to assist in advancing properties through the remedial process. The five OUs in the Study Area, depicted on Figure 1-2, are identified as follows:

- OU1 – Residential Area (includes 211 residential properties and Houghton Park)
- OU2 – Residential Area at the Eastern End of Corning Boulevard (includes five residential properties)
- OU3 – School/Community Use Areas (includes the Corning-Painted Post School District, Corning Christian Academy and City of Corning Memorial Stadium properties)
- OU4 – Flood Control Areas
- OU5 – Residential Expansion Area (includes 109 residential properties)

On June 27, 2014 Corning Incorporated entered into an Order on Consent and Administrative Settlement (June 2014 Order on Consent) with the New York State Department of Environmental Conservation (NYSDEC) to perform characterization activities within a portion of the Study Area[1]. From 2014 through 2017, Weston Solutions, Inc. (WESTON®), on behalf of Corning Incorporated performed characterization activities in OU1 and OU2 under the Study Area Characterization Work Plan dated June 2014, Study Area Work Plan Addendum 1 (Work Plan Addendum 1), Study Area Work Plan Addendum 2 (Work Plan Addendum 2), Study Area Work Plan Addendum 3 (Work Plan Addendum 3) and Study Area Work Plan Addendum 4 (Work Plan Addendum 4) (WESTON, 2014b; WESTON, 2015a; WESTON, 2015b; WESTON, 2017e). Collectively the June 2014 Study Area Characterization Work Plan and its Addenda, as modified,

[1] This portion includes OU1, OU2, OU3 and OU4.

amended and approved by NYSDEC, are referenced in this Remedial Action Work Plan as the Study Area Work Plan. Sampling activities were also performed by NYSDEC in OU1 and OU2 in 2014 and 2015. In 2015, Arcadis CE, Inc., on behalf of NYSDEC, performed characterization activities in OU5 (Arcadis, 2017).

A Focused Feasibility Study/Alternative Analysis (FFS/AA) was prepared by WESTON on behalf of Corning Incorporated to evaluate remedial alternatives for the residential Operable Units (OU1, OU2 and OU5) contained in the Study Area (WESTON, 2017c). The recommended alternative in the FFS/AA was to excavate up to 2 feet below ground surface (ft bgs) with a cover system.

On March 9, 2017, NYSDEC issued for public comment, a Proposed Decision Document (PDD) proposing a remedial alternative of excavation of up to 2 ft bgs with a cover system for properties in OU1, OU2 and OU5 (NYSDEC, 2017a).

On July 12, 2017, NYSDEC issued a final Decision Document (DD) describing the selected remedial alternative of excavation of up to 2 ft bgs with a cover system for properties in OU1, OU2 and OU5 (NYSDEC, 2017b).

Effective December 14, 2017 Corning Incorporated entered into an Order on Consent and Administrative Settlement (December 2017 Order on Consent) with NYSDEC to perform remedial activities and additional characterization activities within the Study Area. This Remedial Action Work Plan (RAWP) has been prepared by WESTON on behalf of Corning Incorporated to perform remedial activities in the residential Operable Units of the Study Area (OU1, OU2 and OU5) described in the NYSDEC DD, pursuant to Section II.A.e of the December 2017 Order on Consent.

1.2 STUDY AREA HISTORY

The City of Corning has a long history of manufacturing, particularly in brick and glassmaking. Historical references indicate that, in the late 1800s and early 1900s, one of the country's largest brick manufacturers and more than sixty glass manufacturers were located in the City of Corning (Dimitroff, 2001) (Sinclaire & Spillman, 1997), including Corning Incorporated, which was formerly known as Corning Glass Works. During that time frame, coal was the primary fuel source in the Corning, New York area, and most of the local industries and municipalities used coal to

heat their furnaces. In the early 1900s, when natural gas was introduced to the region, some industries converted their fuel sources to natural gas.

Between 1949 and at least 1968, the City of Corning operated a municipal incinerator that created significant volumes of ash. Historical City Council meeting minutes indicate that the City applied ash and cinders to roadways within the City to control ice during the winter months during, at least, the mid-1950s (City of Corning, 1936; 1941; 1958; 1959). These records also indicate that when land within the Study Area (now comprising OU3) was being considered for redevelopment as a school in the late 1950s, the City of Corning stated that it would require "a considerable amount of work and expense involved in filling and grading to render the track suitable for recreational and educational purposes." (City of Corning, 1950). Ultimately a school, which opened in 1962, was constructed on this portion of the Study Area.

Several times during the City of Corning's history, the Chemung River overflowed its banks. This resulted in construction and improvement of flood control structures within the Study Area on multiple occasions, including in the mid-1940s and again after Hurricane Agnes in the mid-1970s, according to NYSDEC and U.S. Army Corps of Engineers records (USACE, 1941; USACE, 1973). Such construction efforts would have likely required the import of significant volumes of material of uncertain origin, the removal or relocation of material deemed unsuitable as foundation for earthworks, the creation and filling of borrow areas from which soils suitable for construction were obtained, as well as other potential grading and filling activities. These activities occurred within and surrounding the perimeters of the Study Area, including along the Chemung River, along Post Creek, and along what is now Interstate 86 (USACE, 1941; USACE, 1973).

The land use within OU1, OU2 and OU5 has developed over time from farmland into a residential area. In general, aerial photographs indicate that the development of OU1, OU2 and OU5 north of Corning Boulevard began prior to 1938 along Pyrex Street and Houghton Circle. The residential area subsequently expanded in an easterly direction across farmlands until about 1964, by which time OU1, OU2 and OU5 were mostly developed. During development activities, fill material was commonly used as sub-grade material for construction, to fill in low-lying areas and as an aid to drainage.

Through a title search of property deeds, it was found that part of the Study Area[2] encompasses lands previously owned by Corning Homes, Inc. (a residential developer not affiliated with Corning Incorporated). The deeds for these properties contained a condition that allowed Corning Glass Works (not a party to the transaction) to maintain structures, buildings and "ash dumps as now located" on the properties. Despite reviewing available historical maps, aerial photographs, documents and public records, Corning Incorporated has not, to date, located any maps or records that depict the location, if any, of potential "ash dumps" as referenced in the deeds (i.e., that may have existed as of 1920).

In 2012, during a capital improvement project at the Corning-Painted Post High School located in OU3, within the southern portion of the Study Area, fill material that the Corning-Painted Post School District described as containing ash, brick, and glass, was encountered in the subsurface soils. During the capital improvement project, the Corning-Painted Post School District's consultant tested excavated material to determine appropriate disposal methods. A review of a summary of the analytical results for these samples, prepared by the Corning-Painted Post School District's consultant for NYSDEC, indicates over 200 samples were collected and analyzed for various constituents. The majority of the constituents were either not detected or were reported at concentrations below NYSDEC Soil Cleanup Objectives (SCOs; New York Codes, Rules and Regulations (NYCRR) Subpart 375-6). The primary constituents which exceeded the SCOs in the excavated materials were lead, cadmium, and arsenic.

1.3 PHYSICAL SETTING

1.3.1 Land use

The Study Area consists of approximately 201 acres of land located on the eastern side of the City of Corning, New York along the northern bank of the Chemung River, northwest of the confluence with Post Creek (see Figure 1-1). The Study Area includes the Corning-Painted Post High School property; the Corning Christian Academy property; the City of Corning Memorial Stadium property; a residential area consisting of 326 individual properties; and flood control areas along

[2] This portion includes OU1, OU2, OU3 and OU4.

the Chemung River and Post Creek. The properties within the Study Area are zoned as either public-conservation (PC) or low-density residential (R1) by the City of Corning, as illustrated on Figure 1-3. The land area zoned PC is generally concentrated south of Corning Boulevard and in the flood control areas near the Chemung River and Post Creek. No industrial/commercial facilities are known to be located within the Study Area at present. A list of the individual properties in the Study Area, with zoning, property classifications, and dates of construction if applicable, is presented in Table 1-1. Property classifications are illustrated on Figure 1-4.

The Residential Areas (OU1, OU2 and OU5)

The 326 individual properties in OU1, OU2 and OU5 are zoned R1 – Low Density. Of these properties, 305 are classified as single family residences; one is classified as a single family residence with an apartment; seven are classified as multi-family residences; three are classified as apartments; nine are classified as residential-vacant land; and one (Houghton Park) is classified as a playground.

OU1, OU2 and OU5 are covered both by a variety of impervious surfaces (i.e., concrete sidewalks, houses and other property structures, asphalt roadways and asphalt parking areas), and by pervious surfaces (i.e., grass covered areas, mulch-covered areas, etc.).

School/Community Use Areas (OU3)

The three School/Community Use properties in OU3 are the Corning Christian Academy property, the City of Corning Memorial Stadium property, and the Corning-Painted Post School District property. The Corning-Painted Post School District and City of Corning Memorial Stadium properties in OU3 are zoned PC – Public Conservation and the Corning Christian Academy property is zoned as R1 – Low Density. The Corning-Painted Post School District property is classified as a School and Athletic Field, the City of Corning Memorial Stadium property is classified as an Athletic Field, and the Corning Christian Academy property is classified as an Educational Facility. A list of the individual properties that comprise OU3, with property

classifications is presented in Table 1-1. Zoning and property classifications are also illustrated on Figure 1-3 and Figure 1-4, respectively.

OU3 properties are covered both by a variety of impervious surfaces (i.e., concrete sidewalks, athletic turf, school buildings and other property structures, asphalt roadways and asphalt parking areas), and by pervious surfaces (i.e., grass covered areas, mulch-covered areas, etc.).

Flood Control Areas (OU4)

The Flood Control area (OU4) consists of approximately 73 acres of undeveloped public conservation land along the Chemung River and Post Creek at the southern and eastern limits of the Study Area, respectively. The primary feature in this area is the system of earthen flood control berms, which were constructed as a flood control measure for the protection of Residential Areas to the north and west. The Flood Control Area (OU4) is located within the Federal Emergency Management Agency (FEMA) 100-year and 500-year flood plains (see Figure 1-5).

1.3.2 Regional Geology

The Study Area is located in the Chemung River valley, and contains predominately sand and gravel deposits of glaciofluvial origin and more recent alluvial deposits. The river valley deposits are on the order of 100 feet thick in the vicinity of the Study Area. These river valley deposits are underlain by low permeability shale/siltstone bedrock (Miller, 1982). In the vicinity of the Study Area, a low permeability, lacustrine silt and clay layer (approximately 10 feet thick) appears to be present about 30 feet below ground surface (ft bgs) (Miller, 1982).

1.3.3 Hydrogeology

The saturated portions of the Chemung River valley deposits are recharged principally by infiltration of precipitation. This valley-filled glacial/alluvial aquifer is generally unconfined (i.e., the water table forms the upper boundary of the aquifer) and saturated approximately to the level of nearby rivers (such as the Chemung River) (Olcot, 1995). In the higher topographic portions of the Study Area, the depth to the water table is expected to be on the order of 20 to 25 ft bgs; however, groundwater levels may be deeper where supply wells actively extract groundwater from the valley aquifer. Groundwater in the valley aquifer generally flows toward and discharges to

nearby rivers/creeks; however, groundwater flow directions can be locally altered by supply well withdrawals from the valley aquifer.

1.4 ORGANIZATION OF THIS DOCUMENT

This RAWP is organized into the following sections:

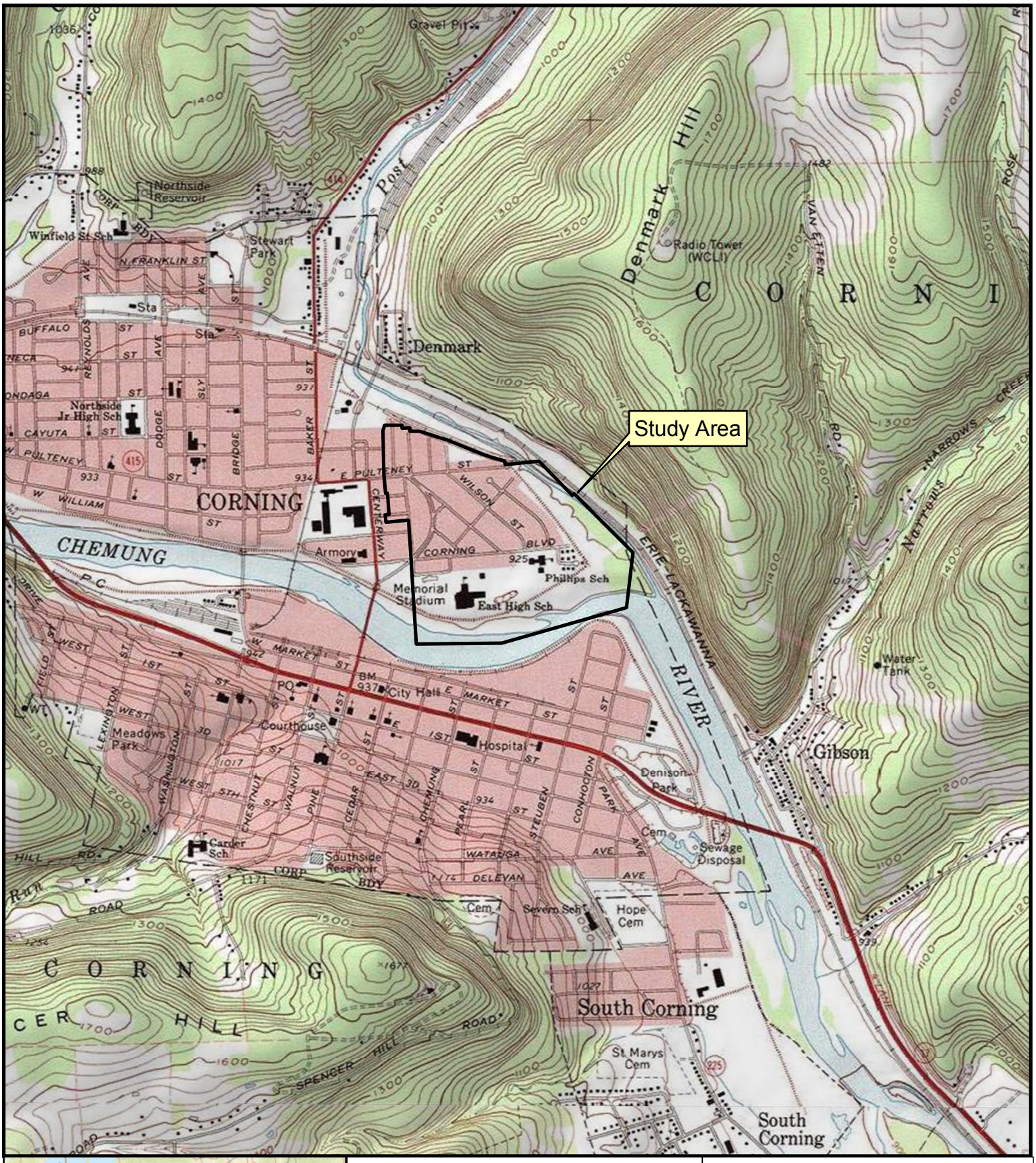
- **Section 1 – Introduction.** This section contains an introduction to the project, descriptions of the physical setting of the Study Area and the OUs that comprise it, as well as an introduction to the organization of the document.
- **Section 2 – Study Area Investigations.** This section contains a summary of the characterization activities performed to date and findings.
- **Section 3 – Remedial Action / Design Approach.** This section contains the Remedial Action Objectives (RAOs) and description of the remedy to be conducted for the Residential Areas in the Study Area (OU1, OU2 and OU5).
- **Section 4 – Cover System Implementation.** This section contains detailed information about the selected alternative (excavate up to 2 feet with a cover system). This section also includes information about the implementation of the selected alternative including construction support, excavation activities, erosion and sediment controls, waste handling and construction documentation.
- **Section 5 –Restoration.** This section includes information about the post-implementation process of remediation of the selected alternative including restoration, monitoring, inspection, and reporting.
- **Section 6 – Reporting and Schedule.** This section introduces the reporting associated with implementation of the remediation and/or monitoring activities. It also includes an anticipated project schedule.
- **Section 7 – References.**

Tables and figures are provided at the end of each section for ease of review.

A Health and Safety Plan (HASP), Community Air Monitoring Plan (CAMP), and Standard Operating Procedures (SOPs) are included in the Appendices of this RAWP.

SECTION 1

FIGURES



N
W E
S

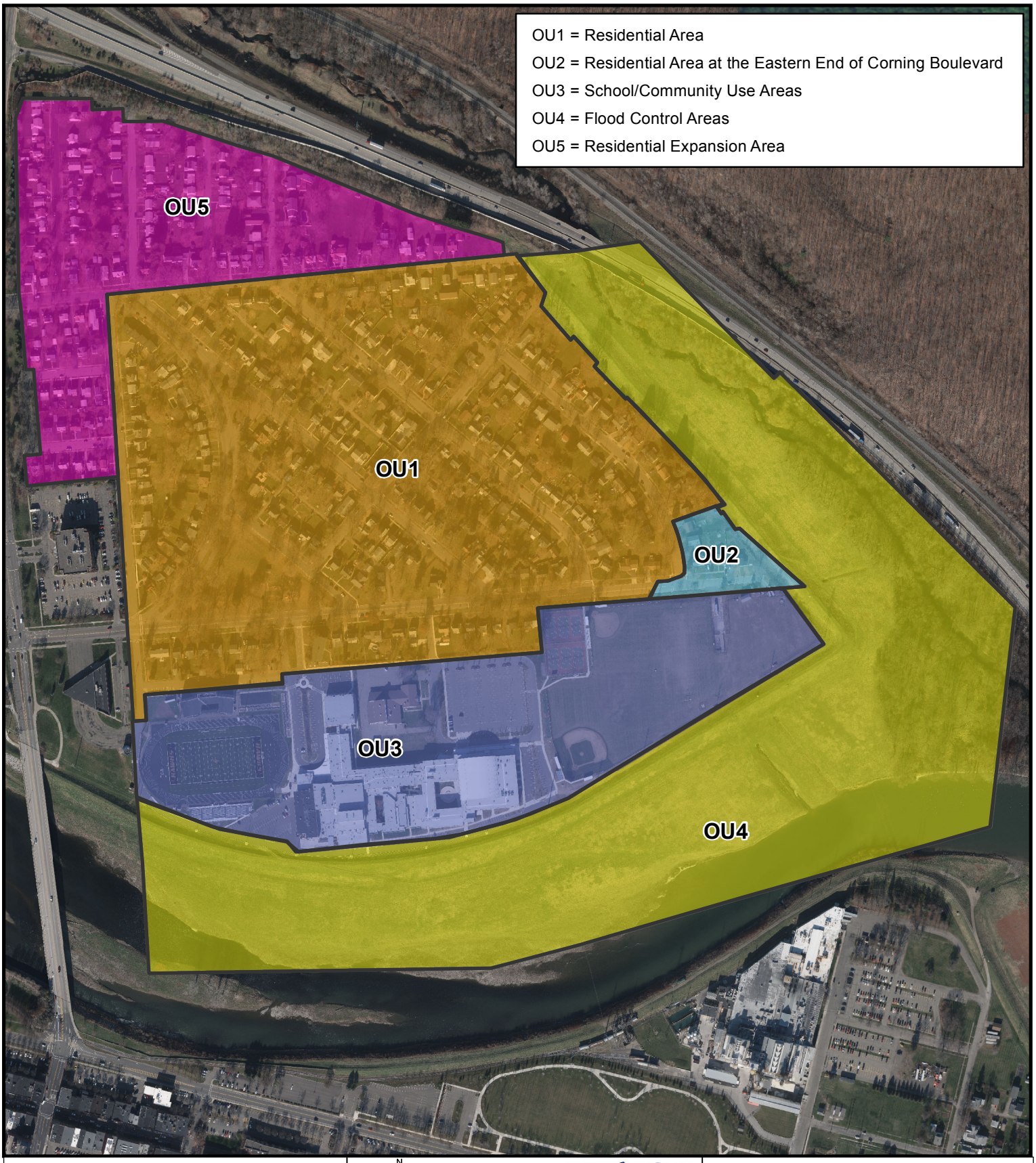
0 1,000 2,000 Feet

USGS 7.5 Minute Quadrangle Corning NY, 1971

Figure 1-1
Location of Study Area

Corning, NY

Document Name: Site_Location.MXD



Legend

Operable Units

- OU1
- OU2
- OU3
- OU4
- OU5

N
W E
S

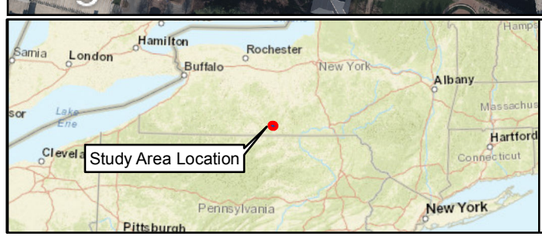
0 250 500 Feet

Base Imagery:Robinson Aerial Imagery, Dec 2015
Coordinate System: NAD 1983 State Plane
New York Central Feet
Datum: NAD83. Units: Feet

Figure 1-2
Study Area Operable Units

Corning, NY

Document Name: Study_Area_OU_no_labels.MXD



Legend

Study Area

Zoning

Public-Conservation

R1 - Low Density

NOTES:
Base Imagery:Robinson Aerial Imagery, Dec 2015
Coordinate System: NAD 1983 State Plane
New York Central Feet
Datum: NAD83. Units: Feet

Study Area
Corning, NY

WESTON SOLUTIONS

Figure 1-3
Property Zoning

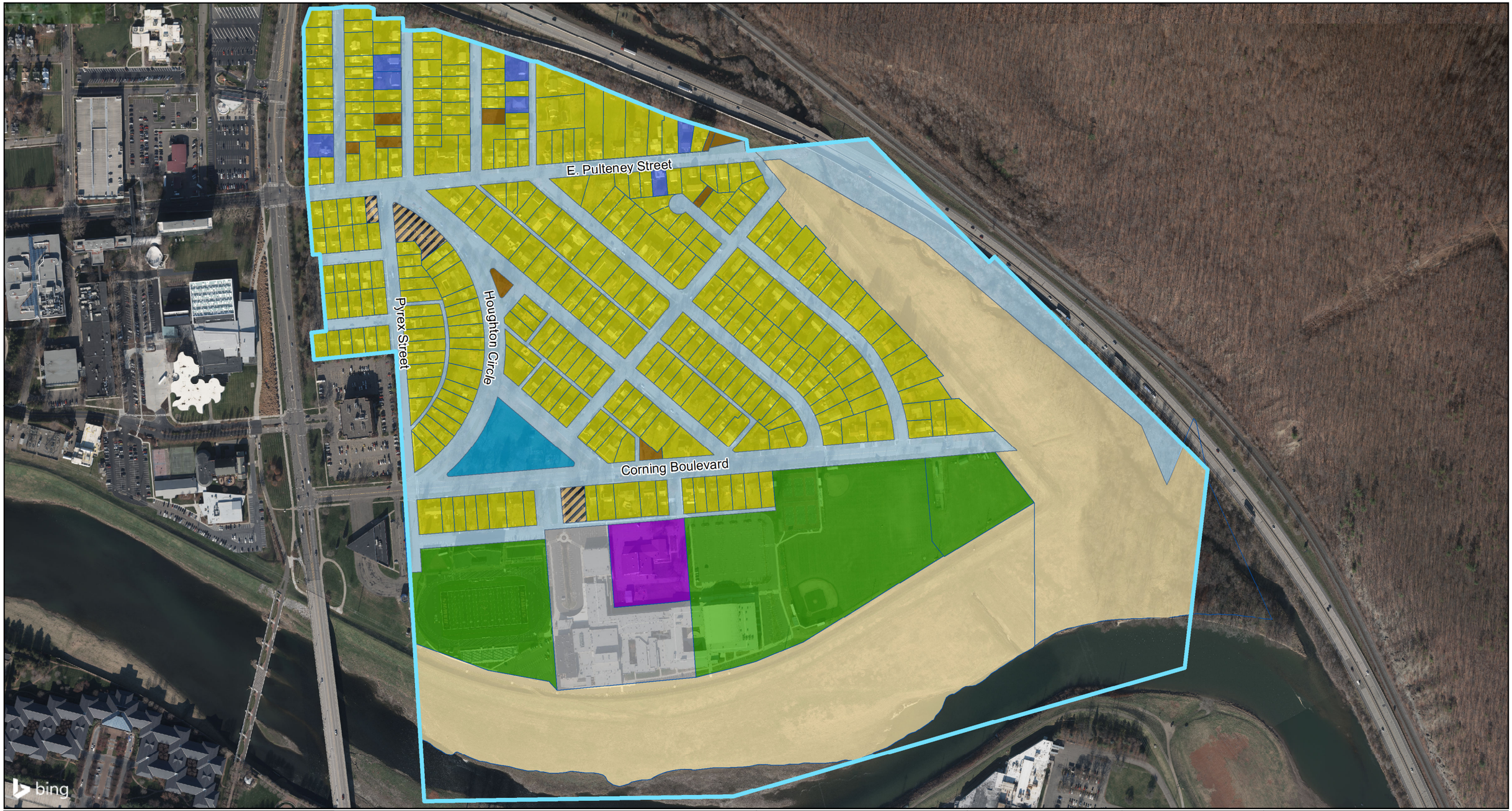
N

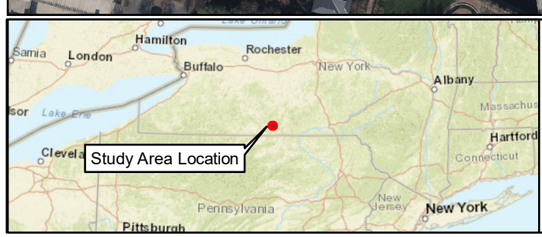
0 400 800 Feet

0 80 160 240 Meters

Document Name: Zoning.MXD

5/12/2017





Legend

- Study Area

Propety Classification

- 210 - Single Family Residence
- 220 - Multi Family Residence
- 311 - Residential - Vacant Land
- 411 - Apartment
- 591 - Playground
- 592 - Athletic Field
- 612 - School
- 615 - Educational Facility
- 821 - Flood Control
- Road/City of Corning Rights -of -Way

NOTES:
Base Imagery:Robinson Aerial Imagery, Dec 2015
Coordinate System: NAD 1983 State Plane
New York Central Feet
Datum: NAD83. Units: Feet

N

0 400 800 Feet

0 75 150 225 Meters

Study Area
Corning, NY

WESTON SOLUTIONS

Figure 1-4
Property Classification

Document Name: Property_Classification.MXD

3/15/2018

Legend

Study Area

Federal Emergency Management Agency (FEMA) Flood Plain

100 Year

500 Year

NOTES:
Base Imagery:Robinson Aerial Imagery, Dec 2015
Coordinate System: NAD 1983 State Plane
Flood Plain Layer: Federal Emergency Management Agency (FEMA) Flood Plain, Jan 2016
New York Central Feet
Datum: NAD83. Units: Feet

N

0 400 800 Feet

0 80 160 240 Meters

Study Area
Corning, NY

WESTON SOLUTIONS

Figure 1-5
FEMA Flood Plain Areas

Document Name: FEMA_Flood_Plain_Areas.MXD

6/23/2017

SECTION 1

TABLE

Table 1-1
Property Information
Study Area, Corning, New York

OU	Parcel ID	Address	Zoning	Property Classification	Year Built
OU1	318.05-01-001.000	Pershing St (Memorial Stone)	R1	Residential - Vacant Land	---
OU1	318.05-01-002.000	69 Pershing St	R1	Single Family Residence	1942
OU1	318.05-01-003.000	6 Belleau St	R1	Single Family Residence	1928
OU1	318.05-01-004.000	4 Belleau St	R1	Single Family Residence	1960
OU1	318.05-01-005.000	65 Pershing St	R1	Single Family Residence	1926
OU1	318.05-01-006.000	61 Pershing St	R1	Single Family Residence	1956
OU1	318.05-01-007.000	57 Pershing St	R1	Single Family Residence	1928
OU1	318.05-01-008.000	53 Pershing St	R1	Single Family Residence	1972
OU1	318.05-01-009.000	49 Pershing St	R1	Single Family Residence	1926
OU1	318.05-01-010.000	47 Pershing St	R1	Single Family Residence	1950
OU1	318.05-01-011.000	45 Pershing St	R1	Single Family Residence	1973
OU1	318.05-01-012.000	35 Pershing St	R1	Single Family Residence	1946
OU1	318.05-01-013.000	33 Pershing St	R1	Single Family Residence	1927
OU1	318.05-01-014.000	29 Pershing St	R1	Single Family Residence	1955
OU1	318.05-01-015.000	25 Pershing St	R1	Single Family Residence	1926
OU1	318.05-01-016.000	21 Pershing St	R1	Single Family Residence	1930
OU1	318.05-01-017.000	75 Corning Blvd	R1	Single Family Residence	1940
OU1	318.05-01-018.000	29 Pershing St	R1	Residential - Vacant Land	---
OU1	318.05-01-019.000	65 Corning Blvd	R1	Single Family Residence	1939
OU1	318.05-01-020.000	33 Sims Ave	R1	Single Family Residence	1999
OU1	318.05-01-021.000	31 Sims Ave	R1	Single Family Residence	1943
OU1	318.05-01-022.000	27 Sims Ave	R1	Single Family Residence	1930
OU1	318.05-01-023.000	21 Sims Ave	R1	Single Family Residence	1922
OU1	318.05-01-024.000	19 Sims Ave	R1	Single Family Residence	1943
OU1	318.05-01-025.000	17 Sims Ave	R1	Single Family Residence	1940
OU1	318.05-01-026.000	15 Sims Ave	R1	Single Family Residence	1956
OU1	318.05-01-027.000	11 Sims Ave	R1	Single Family Residence	1940
OU1	318.05-01-028.000	42 Houghton Cir	R1	Single Family Residence	1940
OU1	318.05-01-029.000	40 Houghton Cir	R1	Single Family Residence	1910
OU1	318.05-01-031.000	Houghton Park	R1	Playground	---
OU1	318.05-01-032.000	6 Corning Blvd	R1	Single Family Residence	1973
OU1	318.05-01-033.000	10 Corning Blvd	R1	Single Family Residence	1919
OU1	318.05-01-034.000	14 Corning Blvd	R1	Single Family Residence	1920
OU1	318.05-01-035.000	18 Corning Blvd	R1	Single Family Residence	1930
OU1	318.05-01-036.000	20 Corning Blvd	R1	Single Family Residence	1940
OU1	318.05-01-037.000	22 Corning Blvd	R1	Single Family Residence	1950
OU1	318.05-01-039.000	26 Corning Blvd	R1	Single Family Residence	1974
OU1	318.05-01-040.000	40 Corning Blvd	R1	Single Family Residence	1950
OU1	318.05-01-041.000	50 Corning Blvd	R1	Apartment	---
OU1	318.05-01-042.000	54 Corning Blvd	R1	Single Family Residence	1954
OU1	318.05-01-043.000	58 Corning Blvd	R1	Single Family Residence	1940
OU1	318.05-01-044.000	66 Corning Blvd	R1	Single Family Residence	1935
OU1	318.05-01-045.000	74 Corning Blvd	R1	Single Family Residence	1928
OU1	318.05-01-046.000	78 Corning Blvd	R1	Single Family Residence	1942
OU1	318.05-01-047.000	82 Corning Blvd	R1	Single Family Residence	1930
OU1	318.05-01-048.000	84 Corning Blvd	R1	Single Family Residence	1929
OU1	318.05-01-049.000	94 Corning Blvd	R1	Single Family Residence	1952
OU1	318.05-01-050.000	100 Corning Blvd	R1	Single Family Residence	1945
OU1	318.05-01-051.000	102 Corning Blvd	R1	Single Family Residence	1937
OU1	318.05-01-052.000	104 Corning Blvd	R1	Single Family Residence	1938
OU1	318.05-01-053.000	106 Corning Blvd	R1	Single Family Residence	1947
OU1	318.05-02-046.000	67-99 Houghton Cir	R1	Apartment	---
OU1	318.05-02-048.000	63 Houghton Cir	R1	Single Family Residence	1950
OU1	318.05-02-049.000	61 Houghton Cir	R1	Single Family Residence	1955
OU1	318.05-02-050.000	59 Houghton Cir	R1	Single Family Residence	1952
OU1	318.05-02-051.000	55 Houghton Cir	R1	Single Family Residence	1951
OU1	318.05-02-052.000	53 Houghton Cir	R1	Single Family Residence	1920
OU1	318.05-02-053.000	49 Houghton Cir	R1	Single Family Residence	1951
OU1	318.05-02-054.000	47 Houghton Cir	R1	Single Family Residence	1952
OU1	318.05-02-055.000	45 Houghton Cir	R1	Single Family Residence	1951
OU1	318.05-02-056.000	39 Houghton Cir	R1	Single Family Residence	1928
OU1	318.05-02-057.000	33 Houghton Cir	R1	Single Family Residence	1973

Table 1-1
Property Information
Study Area, Corning, New York
(continued)

OU	Parcel ID	Address	Zoning	Property Classification	Year Built
OU1	318.05-02-058.000	27 Houghton Cir	R1	Single Family Residence	1930
OU1	318.05-02-059.000	21 Houghton Cir	R1	Single Family Residence	1972
OU1	318.05-02-060.000	19 Houghton Cir	R1	Single Family Residence	1937
OU1	318.05-02-061.000	15 Houghton Cir	R1	Single Family Residence	1930
OU1	318.05-02-062.000	13 Houghton Cir	R1	Single Family Residence	1945
OU1	318.05-02-063.000	11 Houghton Cir	R1	Single Family Residence	1951
OU1	318.05-02-064.000	9 Houghton Cir	R1	Single Family Residence	1935
OU1	318.05-02-066.000	24 Pyrex St	R1	Single Family Residence	1956
OU1	318.05-02-067.000	26 Pyrex St	R1	Single Family Residence	1972
OU1	318.05-02-068.000	28 Pyrex St	R1	Single Family Residence	1953
OU1	318.05-02-069.000	30 Pyrex St	R1	Single Family Residence	1929
OU1	318.05-02-070.000	32 Pyrex St	R1	Single Family Residence	1950
OU1	318.05-02-071.000	34 Pyrex St	R1	Single Family Residence	1950
OU1	318.05-02-072.000	36 Pyrex St	R1	Single Family Residence	1950
OU1	318.05-02-073.000	38 Pyrex St	R1	Single Family Residence	1952
OU1	318.05-02-074.000	40 Pyrex St	R1	Single Family Residence	1920
OU1	318.05-02-075.000	42 Pyrex St	R1	Single Family Residence	1952
OU1	318.05-02-076.000	44 Pyrex St	R1	Single Family Residence	1973
OU1	318.05-02-077.000	46 Pyrex St	R1	Single Family Residence	1952
OU1	318.05-02-078.000	48 Pyrex St	R1	Single Family Residence	1953
OU1	318.05-03-001.000	94 Pershing St	R1	Single Family Residence	1946
OU1	318.05-03-002.000	92 Pershing St	R1	Single Family Residence	1950
OU1	318.05-03-003.000	88 Pershing St	R1	Single Family Residence	1950
OU1	318.05-03-004.000	86 Pershing St	R1	Single Family Residence	1950
OU1	318.05-03-005.000	84 Pershing St	R1	Single Family Residence	1974
OU1	318.05-03-006.000	82 Pershing St	R1	Single Family Residence	1973
OU1	318.05-03-007.000	80 Pershing St	R1	Single Family Residence	1973
OU1	318.05-03-008.000	66 Pershing St	R1	Single Family Residence	1938
OU1	318.05-03-009.000	64 Pershing St	R1	Single Family Residence	1973
OU1	318.05-03-010.000	62 Pershing St	R1	Single Family Residence	1948
OU1	318.05-03-011.000	60 Pershing St	R1	Single Family Residence	1943
OU1	318.05-03-012.000	58 Pershing St	R1	Single Family Residence	1940
OU1	318.05-03-013.000	54 Pershing St	R1	Single Family Residence	1945
OU1	318.05-03-014.000	50 Pershing St	R1	Single Family Residence	1975
OU1	318.05-03-015.000	42 Pershing St	R1	Single Family Residence	1925
OU1	318.05-03-016.000	99 Argonne St	R1	Single Family Residence	1973
OU1	318.05-03-018.000	45 Wilson St	R1	Single Family Residence	1975
OU1	318.05-03-019.000	47 Wilson St	R1	Single Family Residence	1975
OU1	318.05-03-020.000	49 Wilson St	R1	Single Family Residence	1948
OU1	318.05-03-022.000	53 Wilson St	R1	Single Family Residence	1973
OU1	318.05-03-023.000	55 Wilson St	R1	Single Family Residence	1973
OU1	318.05-03-025.000	59 Wilson St	R1	Single Family Residence	1974
OU1	318.05-03-026.000	61 Wilson St	R1	Single Family Residence	1974
OU1	318.05-03-028.000	65 Wilson St	R1	Single Family Residence	1974
OU1	318.05-03-029.000	67 Wilson St	R1	Single Family Residence	1952
OU1	318.05-03-030.000	232 E Pulteney St	R1	Single Family Residence	1950
OU1	318.05-03-031.000	234 E Pulteney St	R1	Single Family Residence	1945
OU1	318.05-03-032.000	236 E Pulteney St	R1	Single Family Residence	1950
OU1	318.05-03-033.000	240 E Pulteney St	R1	Single Family Residence	1973
OU1	318.05-03-034.000	244 E Pulteney St	R1	Single Family Residence	1952
OU1	318.05-03-035.000	56 Wilson St	R1	Single Family Residence	1973
OU1	318.05-03-036.000	54 Wilson St	R1	Single Family Residence	1973
OU1	318.05-03-037.000	52 Wilson St	R1	Single Family Residence	1973
OU1	318.05-03-038.000	50 Wilson St	R1	Single Family Residence	1974
OU1	318.05-03-040.000	46 Wilson St	R1	Single Family Residence	2013
OU1	318.05-03-041.000	44 Wilson St	R1	Single Family Residence	1951
OU1	318.05-03-042.000	42 Wilson St	R1	Single Family Residence	1950
OU1	318.05-03-043.000	34 Wilson St	R1	Single Family Residence	1950
OU1	318.05-03-044.000	109 Argonne St	R1	Single Family Residence	1977
OU1	318.05-03-045.000	111 Argonne St	R1	Single Family Residence	1957
OU1	318.05-03-046.000	6 Jackson Cir	R1	Single Family Residence	1940
OU1	318.05-03-047.000	8 Jackson Cir	R1	Single Family Residence	1956

Table 1-1
Property Information
Study Area, Corning, New York
(continued)

OU	Parcel ID	Address	Zoning	Property Classification	Year Built
OU1	318.05-03-048.000	10 Jackson Cir	R1	Single Family Residence	1945
OU1	318.05-03-049.000	12 Jackson Cir	R1	Single Family Residence	1948
OU1	318.05-03-050.000	248 E Pulteney St	R1	Single Family Residence	1952
OU1	318.05-03-051.000	250 E Pulteney St	R1	Single Family Residence	1955
OU1	318.05-03-052.000	252 E Pulteney St	R1	Single Family Residence	1973
OU1	318.05-03-053.000	258 E Pulteney St	R1	Multi Family Residence	1927
OU1	318.05-03-054.000	262 E Pulteney St	R1	Single Family Residence	1958
OU1	318.05-03-055.000	260 E Pulteney St	R1	Single Family Residence	1927
OU1	318.05-03-056.000	264 E Pulteney St	R1	Single Family Residence	1960
OU1	318.05-03-057.000	266 E Pulteney St	R1	Single Family Residence	1960
OU1	318.05-03-058.000	268 E Pulteney St	R1	Single Family Residence	1960
OU1	318.05-03-059.000	270 E Pulteney St	R1	Single Family Residence	1959
OU1	318.05-03-060.000	121 Argonne St	R1	Single Family Residence	1973
OU1	318.05-03-062.000	117 Argonne St	R1	Single Family Residence	1974
OU1	318.05-03-063.000	115 Argonne St	R1	Single Family Residence	1956
OU1	318.05-03-064.000	113 Argonne St	R1	Single Family Residence	1960
OU1	318.05-03-065.000	7 Jackson Cir	R1	Single Family Residence	1946
OU1	318.05-03-066.000	17 Jackson Cir	R1	Residential - Vacant Land	---
OU1	318.05-04-001.000	36 Pershing St	R1	Single Family Residence	1937
OU1	318.05-04-002.000	34 Pershing St	R1	Single Family Residence	1940
OU1	318.05-04-003.000	30 Pershing St	R1	Single Family Residence	1925
OU1	318.05-04-004.000	26 Pershing St	R1	Single Family Residence	1925
OU1	318.05-04-005.000	22 Pershing St	R1	Single Family Residence	1927
OU1	318.05-04-006.000	18 Pershing St	R1	Single Family Residence	1928
OU1	318.05-04-007.000	14 Pershing St	R1	Single Family Residence	1937
OU1	318.05-04-008.000	10 Pershing St	R1	Single Family Residence	1925
OU1	318.05-04-009.000	8 Pershing St	R1	Single Family Residence	1969
OU1	318.05-04-010.000	105 Corning Blvd	R1	Single Family Residence	1973
OU1	318.05-04-011.000	107 Corning Blvd	R1	Single Family Residence	1947
OU1	318.05-04-012.000	109 Corning Blvd	R1	Single Family Residence	1946
OU1	318.05-04-013.000	7 Wilson St	R1	Single Family Residence	1948
OU1	318.05-04-014.000	9 Wilson St	R1	Single Family Residence	1947
OU1	318.05-04-015.000	11 Wilson St	R1	Single Family Residence	1948
OU1	318.05-04-016.000	13 Wilson St	R1	Single Family Residence	1947
OU1	318.05-04-017.000	15 Wilson St	R1	Single Family Residence	1947
OU1	318.05-04-018.000	17 Wilson St	R1	Single Family Residence	1973
OU1	318.05-04-019.000	19 Wilson St	R1	Single Family Residence	1947
OU1	318.05-04-020.000	21 Wilson St	R1	Single Family Residence	1947
OU1	318.05-04-021.000	23 Wilson St	R1	Single Family Residence	1949
OU1	318.05-04-022.000	25 Wilson St	R1	Single Family Residence	1947
OU1	318.05-04-023.000	27 Wilson St	R1	Single Family Residence	1947
OU1	318.05-04-024.000	29 Wilson St	R1	Single Family Residence	1948
OU1	318.05-04-025.000	98 Argonne St	R1	Single Family Residence	1973
OU1	318.05-04-026.000	104 Argonne St	R1	Single Family Residence	1978
OU1	318.05-04-028.000	30 Wilson St	R1	Single Family Residence	1947
OU1	318.05-04-029.000	28 Wilson St	R1	Single Family Residence	1947
OU1	318.05-04-030.000	26 Wilson St	R1	Single Family Residence	1948
OU1	318.05-04-031.000	24 Wilson St	R1	Single Family Residence	1948
OU1	318.05-04-032.000	22 Wilson St	R1	Single Family Residence	1951
OU1	318.05-04-033.000	20 Wilson St	R1	Single Family Residence	1947
OU1	318.05-04-034.000	18 Wilson St	R1	Single Family Residence	1947
OU1	318.05-04-035.000	16 Wilson St	R1	Single Family Residence	1947
OU1	318.05-04-036.000	14 Wilson St	R1	Single Family Residence	1946
OU1	318.05-04-037.000	12 Wilson St	R1	Single Family Residence	1947
OU1	318.05-04-038.000	10 Wilson St	R1	Single Family Residence	1942
OU1	318.05-04-039.000	8 Wilson St	R1	Single Family Residence	1977
OU1	318.05-04-040.000	6 Wilson St	R1	Single Family Residence	1947
OU1	318.05-04-041.000	4 Wilson St	R1	Single Family Residence	1976
OU1	318.05-04-042.000	115 Corning Blvd	R1	Single Family Residence	1950
OU1	318.05-04-043.000	117 Corning Blvd	R1	Single Family Residence	1975
OU1	318.05-04-045.000	121 Corning Blvd	R1	Single Family Residence	1975
OU1	318.05-04-046.000	7 Roosevelt St	R1	Single Family Residence	1974

Table 1-1
Property Information
Study Area, Corning, New York
(continued)

OU	Parcel ID	Address	Zoning	Property Classification	Year Built
OU1	318.05-04-048.000	11 Roosevelt St	R1	Single Family Residence	1974
OU1	318.05-04-049.000	15 Roosevelt St	R1	Single Family Residence	1976
OU1	318.05-04-050.000	17 Roosevelt St	R1	Single Family Residence	1977
OU1	318.05-04-051.000	19 Roosevelt St	R1	Single Family Residence	1973
OU1	318.05-04-052.000	21 Roosevelt St	R1	Single Family Residence	1973
OU1	318.05-04-054.000	25 Roosevelt St	R1	Single Family Residence	1973
OU1	318.05-04-055.000	27 Roosevelt St	R1	Single Family Residence	1973
OU1	318.05-04-056.000	33 Roosevelt St	R1	Single Family Residence	1973
OU1	318.05-04-057.000	35 Roosevelt St	R1	Single Family Residence	1975
OU1	318.05-04-058.000	37 Roosevelt St	R1	Single Family Residence	1973
OU1	318.05-04-060.000	39 Roosevelt St	R1	Single Family Residence	1975
OU1	318.05-04-061.000	108 Argonne St	R1	Single Family Residence	1977
OU1	318.05-04-062.000	46 Roosevelt St	R1	Single Family Residence	1973
OU1	318.05-04-063.000	44 Roosevelt St	R1	Single Family Residence	1951
OU1	318.05-04-064.000	42 Roosevelt St	R1	Single Family Residence	1976
OU1	318.05-04-066.000	38 Roosevelt St	R1	Single Family Residence	1973
OU1	318.05-04-067.000	36 Roosevelt St	R1	Single Family Residence	1973
OU1	318.05-04-068.000	34 Roosevelt St	R1	Single Family Residence	1973
OU1	318.05-04-069.000	30 Roosevelt St	R1	Single Family Residence	1978
OU1	318.05-04-070.000	28 Roosevelt St	R1	Single Family Residence	1974
OU1	318.05-04-072.000	24 Roosevelt St	R1	Single Family Residence	1976
OU1	318.05-04-073.000	20 Roosevelt St	R1	Single Family Residence	1973
OU1	318.05-04-074.000	18 Roosevelt St	R1	Single Family Residence	1976
OU1	318.05-04-076.000	16 Roosevelt St	R1	Single Family Residence	1975
OU1	318.05-04-078.000	12 Roosevelt St	R1	Single Family Residence	1973
OU1	318.05-04-079.000	10 Roosevelt St	R1	Single Family Residence	1975
OU2	318.05-04-080.000	8 Roosevelt St	R1	Single Family Residence	1973
OU2	318.05-04-081.000	4 Roosevelt St	R1	Single Family Residence	1974
OU2	318.05-04-082.000	123 Corning Blvd	R1	Single Family Residence	1976
OU2	318.05-04-083.000	125 Corning Blvd	R1	Single Family Residence	1975
OU2	318.05-04-084.000	127 Corning Blvd	R1	Single Family Residence	1973
OU3	318.05-01-054.000	126 Corning Blvd	PC	Athletic Field	---
OU3	318.05-01-065.000	120 Corning Blvd	PC	School	---
OU3	318.05-01-066.000	11 Aisne St	R1	Educational Facility	---
OU3	318.05-01-067.000	201 Cantigny St	PC	School	---
OU3	318.05-01-068.000	202 Cantigny St (Stadium)	PC	Athletic Field	---
OU4	317.08-01-039.000	Dyke	PC	Flood Control	---
OU4	318.06-01-001.000	E Pulteney St (P/O dyke)	PC	Flood Control	---
OU5	300.17-01-013.000	179 E Pulteney St	R1	Single Family Residence	1930
OU5	300.17-01-014.000	181 E Pulteney St	R1	Single Family Residence	1930
OU5	300.17-01-015.000	3 High St	R1	Multi Family Residence	1896
OU5	300.17-01-017.000	5 High St	R1	Single Family Residence	1860
OU5	300.17-01-018.000	9 High St	R1	Single Family Residence	1947
OU5	300.17-01-019.000	11 High St	R1	Single Family Residence	1972
OU5	300.17-01-020.000	13 High St	R1	Single Family Residence	1950
OU5	300.17-01-022.000	15 High St	R1	Single Family Residence	1989
OU5	300.17-01-023.000	17 High St	R1	Single Family Residence	1946
OU5	300.17-01-024.000	37 High St	R1	Single Family Residence	1973
OU5	300.17-01-025.000	39 High St	R1	Single Family Residence	1975
OU5	300.17-01-026.000	43 High St	R1	Single Family Residence	1948
OU5	300.17-01-030.000	44 High St	R1	Single Family Residence	1973
OU5	300.17-01-031.000	42 High St	R1	Single Family Residence	1953
OU5	300.17-01-033.000	38 High St	R1	Single Family Residence	1942
OU5	300.17-01-034.000	34 High St	R1	Single Family Residence	1940
OU5	300.17-01-035.000	28 High St	R1	Single Family Residence	1961
OU5	300.17-01-036.000	24 High St	R1	Single Family Residence	1951
OU5	300.17-01-037.000	22 High St	R1	Single Family Residence	1940
OU5	300.17-01-038.000	14 High St	R1	Single Family Residence	1945
OU5	300.17-01-039.000	6 High St	R1	Single Family Residence	1945
OU5	300.17-01-040.000	4 High St	R1	Single Family Residence	1942
OU5	300.17-01-042.000	High St	R1	Residential - Vacant Land	--
OU5	300.17-01-043.000	201 E Pulteney St	R1	Single Family Residence	1915
OU5	300.17-01-044.000	203 E Pulteney St	R1	Single Family Residence	1915

Table 1-1
Property Information
Study Area, Corning, New York
(continued)

OU	Parcel ID	Address	Zoning	Property Classification	Year Built
OU5	300.17-01-045.000	205 E Pulteney St	R1	Single Family Residence	1925
OU5	300.17-01-046.000	207 E Pulteney St	R1	Single Family Residence	1945
OU5	300.17-01-047.000	Earl St	R1	Residential - Vacant Land	--
OU5	300.17-01-048.000	15 Earl St	R1	Single Family Residence	1950
OU5	300.17-01-049.100	21 Earl St	R1	Single Family Residence	1920
OU5	300.17-01-049.200	17 Earl St	R1	Residential - Vacant Land	--
OU5	300.17-01-050.000	23 Earl St	R1	Single Family Residence	1950
OU5	300.17-01-051.000	25 Earl St	R1	Multi Family Residence	1960
OU5	300.17-01-052.000	27-29 Earl St	R1	Multi Family Residence	1920
OU5	300.17-01-053.000	31 Earl St	R1	Single Family Residence	1955
OU5	300.17-01-054.000	33 Earl St	R1	Single Family Residence	1950
OU5	300.17-02-003.000	34 Earl St	R1	Single Family Residence	1952
OU5	300.17-02-004.000	32 Earl St	R1	Single Family Residence	1976
OU5	300.17-02-005.000	30 Earl St	R1	Single Family Residence	1974
OU5	300.17-02-006.000	26 Earl St	R1	Single Family Residence	1971
OU5	300.17-02-007.000	22 Earl St	R1	Single Family Residence	1940
OU5	300.17-02-008.000	20 Earl St	R1	Single Family Residence	1960
OU5	300.17-02-009.000	18 Earl St	R1	Single Family Residence	1976
OU5	300.17-02-010.000	16 Earl St	R1	Single Family Residence	1940
OU5	300.17-02-011.000	12 Earl St	R1	Single Family Residence	1939
OU5	300.17-02-012.000	211 E Pulteney St	R1	Single Family Residence	1940
OU5	300.17-02-013.000	215 E Pulteney St	R1	Single Family Residence	1940
OU5	300.17-02-014.000	223 E Pulteney St	R1	Single Family Residence	1940
OU5	300.17-02-015.000	9 Clara St	R1	Single Family Residence	1915
OU5	300.17-02-016.000	11 Clara St	R1	Single Family Residence	1955
OU5	300.17-02-017.000	13 Clara St	R1	Single Family Residence	1955
OU5	300.17-02-018.000	15 Clara St	R1	Single Family Residence	1960
OU5	300.17-02-019.000	17 Clara St	R1	Single Family Residence	1952
OU5	300.17-02-020.000	19 Clara St	R1	Single Family Residence	1978
OU5	300.17-02-025.000	18 Clara St	R1	Single Family Residence	1973
OU5	300.17-02-026.000	16 Clara St	R1	Single Family Residence	1951
OU5	300.17-02-027.000	14 Clara St	R1	Single Family Residence	1951
OU5	300.17-02-028.000	12 Clara St	R1	Single Family Residence	1975
OU5	300.17-02-029.000	Clara St	R1	Residential - Vacant Land	--
OU5	300.17-02-030.000	233 E Pulteney St	R1	Single Family Residence	1946
OU5	300.17-02-031.000	235 E Pulteney St	R1	Single Family Residence	1949
OU5	300.17-02-032.000	237 E Pulteney St	R1	Single Family Residence	1952
OU5	300.17-02-033.000	239 E Pulteney St	R1	Single Family Residence	1925
OU5	300.17-02-034.000	1 James St	R1	Single Family Residence	1937
OU5	300.17-02-035.000	3 James St	R1	Single Family Residence	1973
OU5	300.17-02-036.000	5 James St	R1	Multi Family Residence	1979
OU5	300.17-02-037.000	7 James St	R1	Single Family Residence	1974
OU5	300.17-02-038.000	9-11 James St	R1	Multi Family Residence	1978
OU5	300.17-02-040.100	4 James St	R1	Single Family Residence	1999
OU5	300.17-02-040.200	8 James St	R1	Single Family Residence w/Apartment	2000
OU5	300.17-02-041.000	241 E Pulteney St	R1	Single Family Residence	1900
OU5	300.17-02-042.000	243 E Pulteney St	R1	Single Family Residence	1900
OU5	300.17-02-043.000	245 E Pulteney St	R1	Single Family Residence	1900
OU5	300.17-02-044.000	247 E Pulteney St	R1	Single Family Residence	1900
OU5	300.17-02-047.100	249 E Pulteney St	R1	Single Family Residence	1895
OU5	300.17-02-049.000	253 E Pulteney St	R1	Single Family Residence	1953
OU5	300.17-02-050.000	255 E Pulteney St	R1	Single Family Residence	1830
OU5	300.17-02-051.000	257 E Pulteney St	R1	Single Family Residence	1974
OU5	300.17-02-053.000	259 E Pulteney St	R1	Single Family Residence	1935
OU5	300.17-02-054.000	261-263 E Pulteney St	R1	Multi Family Residence	1988
OU5	300.17-02-055.000	267 E Pulteney St	R1	Single Family Residence	1951
OU5	300.17-02-056.000	E Pulteney St (ROW to dyke)	R1	Residential - Vacant Land	--
OU5	300.17-02-057.000	271 E Pulteney St	R1	Residential - Vacant Land	--
OU5	318.05-02-011.000	170 South Pl	R1	Single Family Residence	1949
OU5	318.05-02-012.000	174 South Pl	R1	Single Family Residence	1949
OU5	318.05-02-013.000	178 South Pl	R1	Single Family Residence	1946
OU5	318.05-02-014.000	182 South Pl	R1	Single Family Residence	1946
OU5	318.05-02-015.000	186 South Pl	R1	Single Family Residence	1950
OU5	318.05-02-016.000	33 Pyrex St	R1	Single Family Residence	1950
OU5	318.05-02-017.000	37 Pyrex St	R1	Single Family Residence	1947

Table 1-1
Property Information
Study Area, Corning, New York
(continued)

OU	Parcel ID	Address	Zoning	Property Classification	Year Built
OU5	318.05-02-018.000	185 South Pl	R1	Single Family Residence	1948
OU5	318.05-02-019.000	183 South Pl	R1	Single Family Residence	1948
OU5	318.05-02-020.000	179 South Pl	R1	Single Family Residence	1947
OU5	318.05-02-021.000	175 South Pl	R1	Single Family Residence	1940
OU5	318.05-02-027.000	174 North Pl	R1	Single Family Residence	1950
OU5	318.05-02-028.000	178 North Pl	R1	Single Family Residence	1948
OU5	318.05-02-029.000	182 North Pl	R1	Single Family Residence	1950
OU5	318.05-02-030.000	186 North Pl	R1	Single Family Residence	1950
OU5	318.05-02-031.000	41 Pyrex St	R1	Single Family Residence	1945
OU5	318.05-02-032.000	45 Pyrex St	R1	Single Family Residence	1947
OU5	318.05-02-033.000	187 North Pl	R1	Single Family Residence	1945
OU5	318.05-02-034.000	183 North Pl	R1	Single Family Residence	1946
OU5	318.05-02-035.000	179 North Pl	R1	Single Family Residence	1946
OU5	318.05-02-036.000	175 North Pl	R1	Single Family Residence	1946
OU5	318.05-02-041.000	174 E Pulteney St	R1	Single Family Residence	1950
OU5	318.05-02-042.000	178 E Pulteney St	R1	Single Family Residence	1946
OU5	318.05-02-043.000	182 E Pulteney St	R1	Single Family Residence	1948
OU5	318.05-02-044.000	186 E Pulteney St	R1	Single Family Residence	1947
OU5	318.05-02-045.000	47-57 Pyrex St	R1	Apartment	--

Notes:
R1 = low density residential
PC = public-conservation
--- = Not available

2. STUDY AREA INVESTIGATIONS

2.1 SUMMARY OF REMEDIAL INVESTIGATIONS

Commencing in 2014, WESTON performed characterization activities within the Study Area under the June 2014 Order on Consent. Characterization activities were performed in accordance with the Study Area Work Plan as modified, amended and approved by NYSDEC. Sampling activities were also performed by NYSDEC in OU1 and OU2 in 2014 and 2015. In 2015, Arcadis CE, Inc., on behalf of NYSDEC performed characterization activities in OU5.

The objectives of the Study Area characterization activities were to assess the nature and extent of layers of fill material containing ash, brick and/or glass that were encountered within the Study Area, and to collect data necessary for understanding current conditions and associated potential exposure pathways. Validated analytical data for samples collected by WESTON in OU1 and OU2 of the Study Area have been submitted to NYSDEC in Data Usability Summary Reports (DUSRs) throughout the characterization program. NYSDEC has provided data to WESTON for its characterization activities in OU1, OU2 and OU5.

Characterization activities in OU1, OU2 and OU5 of the Study Area are substantially complete. Summaries of findings of the investigations performed to date in the Residential Areas of the Study Area are provided in the following subsections.

2.1.1 Residential Areas (OU1, OU2 and OU5)

The Residential Areas of the Study Area consist of three OUs: OU1 – Residential Area (including 211 residential properties and Houghton Park), OU2 – Residential Area at the Eastern End of Corning Boulevard (including five residential properties) and OU5 – Residential Expansion Area (including 109 residential properties). A summary of the findings of the characterization activities performed to date in OU1, OU2 and OU5 are provided below:

- A total of 310 of the 326 properties have been sampled to date. This includes 201 of the 212 properties within OU1, the five properties within OU2 and 104 of 109 properties in OU5. Access to the remaining 16 properties has not been granted by property owners. Therefore, these properties have not been sampled.

- Laboratory analytical data for 171 of the 310 properties sampled indicated that soil concentrations are less than or equal to the SCOs. Of these 171 properties, the NYSDEC issued No Further Action letters for 33 properties in OU1 and 36 properties in OU5 on May 18, 2017. Additionally, NYSDEC issued No Further Action letters for 56 of these properties in OU1 on September 26, 2017.

- A total of 102 soil borings were advanced in the City of Corning rights-of-way (ROWs) within OU1, OU2 and OU5.
  - Laboratory analytical data for samples collected from 64 of the 102 ROW soil borings indicated that soil concentrations are less than or equal to the SCOs.
- A total of 17 test pits were excavated in the Study Area.
  - Laboratory analytical data for samples collected from 11 of the 17 test pits indicated that soil concentrations are less than or equal to the SCOs.

To date, over 4,400 soil samples, including surface soil and soil boring samples, have been collected in OU1, OU2 and OU5, the majority of which are below the SCOs. This includes surface soil and soil boring samples collected on individual residential properties and soil boring samples collected in the City of Corning ROWs. Laboratory analytical results for compounds detected at concentrations greater than the SCOs are summarized in Table 2-1, Table 2-2 and Table 2-3 for OU1, OU2 and OU5, respectively. The majority of samples had no analytical results above the SCOs. For samples with analytical results above the SCOs, arsenic, cadmium and lead (the constituents of potential concern or COPCs in the Study Area) were the constituents detected at concentrations greater than the SCOs most frequently. Other constituents, as shown in Table 2-1 through Table 2-3, have also been detected in a limited number of samples at concentrations greater than SCOs.

Surface soil samples were collected from 0 to 2 inches below ground surface (in bgs). A total of 1,549 surface soil samples were collected in OU1, OU2 and OU5: 1,137 in OU1; 1 in OU2; and 411 in OU5.

- Laboratory analytical results for 1,360 of the 1,549 surface soil samples were less than or equal to SCOs.

- Laboratory analytical results for 189 of the surface soil samples were greater than SCOs (139 surface soil samples in OU1, no surface soil samples in OU2 and 50 surface soil samples in OU5).

To date, a total of 1,011 soil borings were advanced in OU1, OU2 and OU5 to investigate sub-surface soil conditions. All soil borings were logged, and the presence of a layer of fill material containing ash, brick and/or glass[3] was documented where encountered. The total number of soil borings advanced in OU1, OU2 and OU5 consist of the following:

- In OU1, 551 soil borings were advanced on residential properties and 71 soil borings were advanced in ROW areas (three of the soil borings advanced on residential properties, six of the soil borings advanced in the City of Corning right-of-way (ROW) areas, and two of the soil borings advanced in a public park in OU1 were associated with test pit activities as discussed below).

- In OU2, 13 soil borings were advanced on residential properties and two soil borings were advanced in ROW areas.

- In OU5, 339 soil borings were advanced on residential properties and 35 soil borings were advanced in ROW areas.

The findings of the soil boring investigations in OU1, OU2 and OU5 related to the presence or absence of a layer of fill material containing ash, brick and/or glass are summarized in Table 2-4, Table 2-5, and Table 2-6, respectively. These tables categorize the soil borings by the presence of a layer of fill material containing ash, brick and/or glass, as well as the depth at which analytical concentrations were greater than SCOs.

A total of 678 of the 1,011 soil borings advanced in OU1, OU2 and OU5 to date contained no layer of fill material containing ash, brick and/or glass. Of the remaining 333 soil borings, a layer of fill material containing ash, brick and/or glass was encountered at the following depth intervals:

- From 0 to 2 ft bgs in 61 soil borings;
- From 0 to 2 ft bgs and below 2 ft bgs in 130 soil borings; and

[3] A "layer of fill material containing ash, brick, and/or glass" is defined as a non-native material containing ash, brick, and/or glass with a thickness of greater than 1 inch.

- Greater than 2 ft bgs only in 142 soil borings.

A total of 17 test pits were excavated in the Study Area: five in OU1 ROWs, two in a public park located in OU1, three on residential properties within OU1, and seven in OU5 ROWs. A layer of fill material containing ash, brick and/or glass was encountered in one test pit excavated in a ROW in OU1 and in four test pits excavated in ROWs of OU5.

Garden soil samples, comprised of composite soil samples[4], were collected from 0 to 12 in bgs within vegetable gardens on residential properties in OU1 and OU5, and in non-vegetable gardens when requested by NYSDEC. No garden soil samples were collected in OU2. A total of 88 garden soil samples were collected, 73 of which contained concentrations less than or equal to SCOs. Of the 15 garden soil samples that had concentrations of one or more constituents greater than SCOs, five samples were collected in OU1 and 10 samples were collected in OU5.

2.1.2 Groundwater Investigation

Two rounds of groundwater samples were collected from a network of seven groundwater monitoring wells installed in the Study Area, and one existing irrigation groundwater well located in OU3. Arsenic, cadmium and lead, the constituents most frequently detected in the soils at concentrations greater than the SCOs in the Study Area, were not detected in groundwater at concentrations greater than New York State Division of Water Technical & Operational Guidance Series (TOGS) standards. This indicates that groundwater in the Study Area is not currently impacted by layers of fill material containing ash, brick and/or glass.

2.2 PRE-DESIGN INVESTIGATION

A draft Pre-Design Investigation (PDI) Work Plan was submitted to NYSDEC on October 18, 2017. NYSDEC approved the PDI Work Plan on November 1, 2017 and subsequently approved the PDI Work Plan schedule on January 4, 2018. The NYSDEC-approved PDI Work Plan and schedule (WESTON, 2018) have been prepared to gather additional data to assist in defining the

[4] Each composite garden soil sample consisted of 5 to 7 subsamples mixed together as one sample.

extent of Subject Material at properties in OU1, OU2 and OU5. The following materials are collectively referred to as the "Subject Material":

- Soil with concentrations greater than the applicable SCOs[5] and
- Layers of fill material containing ash, brick and/or glass with concentrations greater than the applicable SCOs; and
- Layers of fill material containing ash, brick and/or glass that do not contain concentrations greater than the applicable SCOs[6].

The specific objectives of the PDI Work Plan are as follows:

1. Perform additional sampling, as needed, to result in at least four surface soil samples and two soil borings on all residential properties in OU1[7] and OU5.
2. Perform additional sampling to delineate Subject Material.
3. Perform additional sampling to investigate fill material containing ash, brick and/or glass where analytical results collected to date do not indicate that concentrations of constituents are greater than the SCOs.
4. Perform additional sampling to collect endpoint confirmation samples.

The implementation of the NYSDEC-approved PDI Work Plan is anticipated to begin in the spring of 2018.

---

[5] NYSDEC residential SCOs are applicable to the residential properties and NYSDEC restricted-residential SCOs are applicable to the City of Corning rights-of-way.

[6] Layers of fill material containing ash, brick and/or glass which do not contain concentrations greater than the applicable SCOs are being remediated at the direction of NYSDEC. Remediation of this material is not an admission that remediation is necessary and/or that such material represents a potential for exposure.

[7] With the exception of 66 properties in OU1 which have been included in Study Area Characterization Work Plan Addendum 4 required by NYSDEC.

SECTION 2

TABLES

Table 2-1
Summary of Detected Analytical Results - OU1[1]
Study Area, Corning, New York

	Screening Levels[2]	Minimum Analytical Result	Maximum Analytical Result	Total # Samples	Total # Non-Detects	Total # Samples with Detected Concentrations	Total # Samples above the Screening Level[4]	Total # Properties with Samples above the Screening Level
Residential Properties								
Toxicity Characteristic Leaching Procedure (TCLP) Metals, mg/L								
Barium, TCLP	100	0.16 J	105	415	5	410	1[3]	1
Cadmium, TCLP	1	0.00050 U	3.7	415	96	319	2[3]	2
Lead, TCLP	5	0.0030 U	277	415	126	289	31[3]	17
Total Metals, mg/Kg								
Arsenic, Total	16	1.5 J	1280	3018	1	3017	255	57
Barium, Total	350	29.7	35600	2220	0	2220	34	21
Cadmium, Total	2.5	0.032 U	21000	3015	294	2721	127	40
Chromium, Total	36	3.0	556	2227	0	2227	22	12
Copper, Total	270	6.3	12900	2220	0	2220	4	4
Lead, Total	400	7.1	28200	3015	0	3015	112	40
Manganese, Total	2000	44.9	2720	2220	0	2220	3	3
Mercury, Total	0.81	0.0080 U	70.0 J	2188	69	2119	54	20
Nickel, Total	140	4.0 J	221	2220	0	2220	3	3
Selenium, Total	36	0.39 U	11200	2220	1370	850	4	4
Zinc, Total	2200	34.7	6260	2220	0	2220	3	3
Semi-Volatile Organic Compounds (SVOCs), ug/Kg								
2-Methylnaphthalene	410	2.3 U	2100 U	451	433	18	3	3
Benz(a)anthracene	1000	3.4 U	21000	451	268	183	48	24
Benzo(a)pyrene	1000	5.4 U	25000 J	451	272	179	50	26
Benzo(b)fluoranthene	1000	4.3 U	44000	451	263	188	58	28
Benzo(k)fluoranthene	1000	2.1 U	18000	451	319	132	31	18
Chrysene	1000	2.0 U	30000	451	311	140	49	25
Dibenz(a,h)anthracene	330	2.2 U	2500 J	451	416	35	5	5
Indeno(1,2,3-cd)pyrene	500	9.6 J	10000	451	265	186	77	29
Rights of Way Areas								
Toxicity Characteristic Leaching Procedure (TCLP) Metals, mg/L								
Lead, TCLP	5	0.0030 U	90.0	96	40	56	6[3]	2
Total Metals, mg/Kg								
Arsenic, Total	16	0.50 U	429	177	1	176	34	2
Barium, Total	400	34.5	498	125	0	125	2	1

Table 2-1 (continued)
Summary of Detected Analytical Results - OU1[1]
Study Area, Corning, New York

	Screening Levels[2]	Minimum Analytical Result	Maximum Analytical Result	Total # Samples	Total # Non-Detects	Total # Samples with Detected Concentrations	Total # Samples above the Screening Level[4]	Total # Properties with Samples above the Screening Level
Rights of Way Areas (continued)								
Total Metals, mg/Kg (continued)								
Cadmium, Total	4.3	0.031 U	48.0	177	13	164	14	2
Lead, Total	400	0.30 U	9480	177	1	176	16	2
Mercury, Total	0.81	0.0088 U	2.9	112	1	111	1	1
Semi-Volatile Organic Compounds (SVOCs), ug/Kg								
Benz(a)anthracene	1000	3.1 U	41000	97	45	52	9	2
Benzo(a)pyrene	1000	4.5 U	38000	97	38	59	10	2
Benzo(b)fluoranthene	1000	3.6 U	65000	97	34	63	12	2
Benzo(k)fluoranthene	3900	2.1 U	30000	97	45	52	2	1
Chrysene	3900	1.9 U	38000	97	43	54	2	1
Dibenz(a,h)anthracene	330	2.1 U	1800 U	97	65	32	3	1
Indeno(1,2,3-cd)pyrene	500	5.2 U	33000	97	40	57	9	2

Notes:

[1] Table includes compounds detected at concentrations greater than applicable screening levels in one or more sample.

[2] TCLP samples are screened against the TCLP Regulatory Screening Levels contained in the Code of Federal Regulations, Section 2.6.1-Toxicity Characteristic. Non-TCLP Samples from Residential Areas are screened against NYSDEC Subpart 375-6 Remedial Program Residential SCOs. Non-TCLP Samples from Rights-of-Way Areas are screened against NYSDEC Subpart 375-6 Remedial Program Restricted-Residential SCOs.

[3] USEPA TCLP method is used to determine the appropriate disposal method under current NYSDEC and USEPA regulations.

[4] Total Number of Samples above the Screening Level includes only detected concentrations above the screening level.

NYSDEC = New York State Department of Environmental Control

USEPA = United States Environmental Protection Agency

SCO = soil cleanup objective

TCLP = Toxicity Characteristic Leaching Procedure

OU = Operable Unit

mg/L = milligram per liter

µg/Kg = microgram per kilogram

mg/Kg = milligram per kilogram

U = The analyte was analyzed for, but was not detected above the level of the detection quantitation limit shown.

J = The positive result reported is estimated either because the result is less than the limit of quantitation (LOQ) or because certain quality control criteria were not met.

Table 2-2
Summary of Detected Analytical Results - OU2[1]
Study Area, Corning, New York

	Screening Levels[2]	Minimum Analytical Result	Maximum Analytical Result	Total # Samples	Total # Non-Detects	Total # Samples with Detected Concentrations	Total # Samples above the Screening Level[4]	Total # Properties with Samples above the Screening Level
Residential Properties								
Toxicity Characteristic Leaching Procedure (TCLP) Metals, mg/L								
Cadmium, TCLP	1	0.00050 U	1.2	30	3	27	1[3]	1
Lead, TCLP	5	0.0030 U	35	30	5	25	5[3]	4
Total Metals, mg/Kg								
Arsenic, Total	16	4.9	200	49	0	49	17	5
Barium, Total	350	71	660	30	0	30	1	1
Cadmium, Total	2.5	0.061 J	44	49	0	49	17	5
Chromium, Total	36	6.2	43	30	0	30	1	1
Lead, Total	400	9.3	4200	49	0	49	12	5
Nickel, Total	140	9.6	170	30	0	30	1	1
Semi-Volatile Organic Compounds (SVOCs), ug/Kg								
Benz(a)anthracene	1000	3.4 U	10000	37	11	19	5	4
Benzo(a)pyrene	1000	4.9 UJ	8700	37	7	23	5	4
Benzo(b)fluoranthene	1000	4.0 UJ	14000	37	6	24	5	4
Benzo(k)fluoranthene	1000	2.0 U	3800 J	37	14	16	3	2
Chrysene	1000	2.0 U	10000	37	8	22	5	4
Dibenz(a,h)anthracene	330	2.3 U	2500 J	37	12	18	4	3
Indeno(1,2,3-cd)pyrene	500	5.4 U	9900	37	10	20	5	4
Rights of Way Areas								
Toxicity Characteristic Leaching Procedure (TCLP) Metals, mg/L								
Lead, TCLP	5	0.010 U	8.7	4	2	2	1[3]	1
Total Metals, mg/Kg								
Arsenic, Total	16	7.0	170	8	0	8	3	1
Cadmium, Total	4.3	0.16 J	53	8	0	8	3	1
Lead, Total	400	19	7600	8	0	8	3	1

Table 2-2 (continued)
Summary of Detected Analytical Results - OU2[1]
Study Area, Corning, New York

	Screening Levels[2]	Minimum Analytical Result	Maximum Analytical Result	Total # Samples	Total # Non-Detects	Total # Samples with Detected Concentrations	Total # Samples above the Screening Level[4]	Total # Properties with Samples above the Screening Level
Rights of Way Areas (continued)								
Semi-Volatile Organic Compounds (SVOCs), ug/Kg								
Benz(a)anthracene	1000	3.5 U	3600	4	1	3	2	1
Benzo(a)pyrene	1000	4.9 U	7000	4	1	3	2	1
Benzo(b)fluoranthene	1000	6.5 J	8300	4	0	4	2	1
Chrysene	3900	2.1 U	4300	4	1	3	1	1
Dibenz(a,h)anthracene	330	2.4 U	2100	4	1	3	2	1
Indeno(1,2,3-cd)pyrene	500	5.7 U	8300	4	1	3	2	1

Notes:

[1] Table includes compounds detected at concentrations greater than applicable screening levels in one or more sample.

[2] TCLP samples are screened against the TCLP Regulatory Screening Levels contained in the Code of Federal Regulations, Section 2.6.1-Toxicity Characteristic. Context: Title 40 - Protection of Environment. CHAPTER I - ENVIRONMENTAL PROTECTION AGENCY. SUBCHAPTER I- SOLID WASTES. PART 261 - IDENTIFICATION AND LISTING OF HAZARDOUS WASTE. Subpart G Characteristics of Hazardous Waste (2012-07-01). Non-TCLP Samples from Residential Areas are screened against NYSDEC Subpart 375-6 Remedial Program Residential SCOs. Non-TCLP Samples from Rights-of-Way Areas are screened against NYSDEC Subpart 375-6 Remedial Program Restricted-Residential SCOs.

[3] USEPA TCLP method is used to determine the appropriate disposal method under current NYSDEC and USEPA regulations.

[4] Total Number of Samples above the Screening Level includes only detected concentrations above the screening level.

NYSDEC = New York State Department of Environmental Control
USEPA = United States Environmental Protection Agency
SCO = soil cleanup objective
TCLP = Toxicity Characteristic Leaching Procedure
OU = Operable Unit
mg/L = milligram per liter
µg/Kg = microgram per kilogram
mg/Kg = milligram per kilogram
U = The analyte was analyzed for, but was not detected above the level of the detection quantitation limit shown.
J = The positive result reported is estimated either because the result is less than the limit of quantitation (LOQ) or because certain quality control criteria were not met.
UJ = The analyte was analyzed for, but not detected. The quantitation limit is approximate and may be inaccurate or imprecise.

Table 2-3
Summary of Detected Analytical Results - OU5[1]
Study Area, Corning, New York

	Screening Levels[2]	Minimum Analytical Result	Maximum Analytical Result	Total # Samples	Total # Non-Detects	Total # Samples with Detected Concentrations	Total # Samples above the Screening Level[4]	Total # Properties with Samples above the Screening Level
Residential Properties								
Toxicity Characteristic Leaching Procedure (TCLP) Metals, mg/L								
Barium, TCLP	100	0.11 J	104	282	0	282	1[3]	1
Cadmium, TCLP	1	0.012 U	17.2	282	215	67	4[3]	4
Lead, TCLP	5	0.021 U	283	282	59	223	15[3]	10
Total Metals, mg/Kg								
Arsenic, Total	16	0.89	669	1329	0	1329	138	53
Barium, Total	350	8.8 J	4790	1329	0	1329	35	19
Cadmium, Total	2.5	0.098 U	374	1329	1038	291	47	23
Chromium, Total	36	1.4 J	436	1329	1	1328	22	17
Copper, Total	270	2.4 J	738	1329	0	1329	5	4
Lead, Total	400	0.97	28600	1329	0	1329	71	31
Manganese, Total	2000	30.8	8260	1329	0	1329	10	10
Mercury, Total	0.81	0.011 U	18	1329	67	1262	31	21
Nickel, Total	140	1.5 J	442	1329	1	1328	2	2
Selenium, Total	36	0.35 U	65.8	1329	976	353	1	1
Zinc, Total	2200	10.1	14200	1329	0	1329	5	5
Semi-Volatile Organic Compounds (SVOCs), ug/Kg								
2-Methylnaphthalene	410	8.3 J	1900 U	282	127	155	7	6
Benz(a)anthracene	1000	32 J	5000	282	124	158	18	12
Benzo(a)pyrene	1000	12 J	5400	282	100	182	19	11
Benzo(b)fluoranthene	1000	15 J	11000 J	282	94	188	25	15
Benzo(k)fluoranthene	1000	17 J	3000	282	124	158	10	9
Chrysene	1000	11 J	8400 U	282	92	190	21	14
Dibenz(a,h)anthracene	330	21 J	1600	282	175	107	17	12
Indeno(1,2,3-cd)pyrene	500	24 J	7000	282	123	159	35	20
Isophorone	100000	8.4 J	150000	282	251	31	1	1
Rights of Way Areas								
Toxicity Characteristic Leaching Procedure (TCLP) Metals, mg/L								
Lead, TCLP	5	0.021 U	149	54	13	41	1[3]	1
Total Metals, mg/Kg								
Arsenic, Total	16	3.3 J	265	112	1	111	12	4
Cadmium, Total	4.3	0.33 U	54.1	112	99	13	2	2
Copper, Total	270	6.5	1520	112	1	111	1	1

Table 2-3 (continued)
Summary of Detected Analytical Results - OU5[1]
Study Area, Corning, New York

	Screening Levels[2]	Minimum Analytical Result	Maximum Analytical Result	Total # Samples	Total # Non-Detects	Total # Samples with Detected Concentrations	Total # Samples above the Screening Level[4]	Total # Properties with Samples above the Screening Level
Rights of Way Areas (continued)								
Total Metals, mg/Kg (continued)								
Lead, Total	400	3.4	4030	112	0	112	5	2
Manganese, Total	2000	7.3	3390	112	0	112	3	2
Mercury, Total	0.81	0.012 U	1.3	112	9	103	1	1
Semi-Volatile Organic Compounds (SVOCs), ug/Kg								
Benz(a)anthracene	1000	35 U	55000	54	24	30	4	2
Benzo(a)pyrene	1000	13 J	50000	54	21	33	4	2
Benzo(b)fluoranthene	1000	16 NJ	83000	54	19	35	7	4
Benzo(k)fluoranthene	3900	18 J	35000	54	24	30	1	1
Chrysene	3900	13 J	53000	54	16	38	2	2
Dibenz(a,h)anthracene	330	25 J	11000	54	27	27	3	2
Indeno(1,2,3-cd)pyrene	500	27 J	53000	54	24	30	11	4

Notes:

[1] Table includes compounds detected at concentrations greater than applicable screening levels in one or more sample.

[2] TCLP samples are screened against the TCLP Regulatory Screening Levels contained in the Code of Federal Regulations, Section 2.6.1-Toxicity Characteristic. Context: Title 40 - Protection of Environment. CHAPTER I - ENVIRONMENTAL PROTECTION AGENCY. SUBCHAPTER I- SOLID WASTES. PART 261 - IDENTIFICATION AND LISTING OF HAZARDOUS WASTE. Subpart G Characteristics of Hazardous Waste (2012-07-01). Non-TCLP Samples from Residential Areas are screened against NYSDEC Subpart 375-6 Remedial Program Residential SCOs. Non-TCLP Samples from Rights-of-Way Areas are screened against NYSDEC Subpart 375-6 Remedial Program Restricted-Residential SCOs.

[3] USEPA TCLP method is used to determine the appropriate disposal method under current NYSDEC and USEPA regulations.

[4] Total Number of Samples above the Screening Level includes only detected concentrations above the screening level.

NYSDEC = New York State Department of Environmental Control

USEPA = United States Environmental Protection Agency

SCO = soil cleanup objective

TCLP = Toxicity Characteristic Leaching Procedure

OU = Operable Unit

mg/L = milligram per liter

µg/Kg = microgram per kilogram

mg/Kg = milligram per kilogram

U = The analyte was analyzed for, but was not detected above the level of the detection quantitation limit shown.

J = The positive result reported is estimated either because the result is less than the limit of quantitation (LOQ) or because certain quality control criteria were not met.

NJ = The detection is tentative in identification and estimated value. Although there is presumptive evidence of the analyte, the result should be used with caution as a potential false positive and/or elevated quantitative value.

Table 2-4
Soil Boring Summary - OU1[1]
Study Area, Corning, NY

Sample Results	Observations			
	No Layer of fill material containing ash, brick and/or glass observed	Layer of fill material containing ash, brick and/or glass observed		
		0-2 ft bgs Only	0-2 ft bgs and > 2 ft bgs	> 2 ft bgs Only
Number of Soil Borings with All Soil Samples < SCOs[2]	378	10	6	18
Number of Soil Borings with One or More Soil Samples >SCOs in 0-2 ft bgs Only[2]	36	18	2	7
Number of Soil Borings with One or More Soil Sample >SCOs in 0-2 ft bgs and > 2 ft bgs[2]	5	2	27	34
Number of Soil Borings with One or More Soil Sample >SCOs in >2 ft bgs Only[2]	5	2	10	53
Number of Soil Borings with no Samples Collected[3]	9	0	0	0
Totals	**433**	**32**	**45**	**112**
		189		

Notes:

[1] Includes 551 soil borings on residential properties, 71 soil borings in the City of Corning ROW areas

[2] Samples collected in residential soil borings compared to residential SCOs and samples collected in ROW area soil borings compared to restricted residential SCOs.

[3] Soil borings were associated with test pit activities and because no layer of ash, brick and/or glass was observed in these soil borings, no samples were collected.

ft bgs = feet below ground surface

SCOs = New York State Department of Environmental Conservation (NYSDEC) soil cleanup objectives

ROW = Rights-of-Way

Table 2-5
Soil Boring Summary - OU2[1]
Study Area, Corning, NY

Sample Results	Observations			
	No Layer of fill material containing ash, brick and/or glass observed	Layer of fill material containing ash, brick and/or glass observed		
		0-2 ft bgs Only	0-2 ft bgs and > 2 ft bgs	> 2 ft bgs Only
Number of Soil Borings with All Soil Samples < SCOs[2]	4	0	0	1
Number of Soil Borings with One or More Soil Samples >SCOs in 0-2 ft bgs Only[2]	0	0	0	0
Number of Soil Borings with One or More Soil Sample >SCOs in 0-2 ft bgs and > 2 ft bgs[2]	0	0	0	4
Number of Soil Borings with One or More Soil Sample >SCOs in >2 ft bgs Only[2]	0	0	0	6
Totals	**4**	**0**	**0**	**11**
		11		

Notes:

[1] Includes 13 soil borings on residential properties and 2 soil borings in the City of Corning ROW

[2] Samples collected in residential soil borings compared to residential SCOs and samples collected in ROW area soil borings compared to restricted residential SCOs.

ft bgs = feet below ground surface

SCOs = New York State Department of Environmental Conservation (NYSDEC) soil cleanup objectives

ROW = Rights-of-Way

Table 2-6
Soil Boring Summary - OU5[1]
Study Area, Corning, NY

Sample Results	Observations			
	No Layer of fill material containing ash, brick and/or glass observed	Layer of fill material containing ash, brick and/or glass observed		
		0-2 ft bgs Only	0-2 ft bgs and > 2 ft bgs	> 2 ft bgs Only
Number of Soil Borings with All Soil Samples < SCOs[2]	212	17	14	5
Number of Soil Borings with One or More Soil Samples >SCOs in 0-2 ft bgs Only[2]	10	12	7	1
Number of Soil Borings with One or More Soil Sample >SCOs in 0-2 ft bgs and > 2 ft bgs[2]	17	0	30	11
Number of Soil Borings with One or More Soil Sample >SCOs in >2 ft bgs Only[2]	2	0	34	2
Totals	**241**	**29**	**85**	**19**
		133		

Notes:

[1] Includes 339 soil borings on residential properties and 35 soil borings in the City of Corning ROW

[2] Samples collected in residential soil borings compared to residential SCOs and samples collected in ROW area soil borings compared to restricted residential SCOs.

ft bgs = feet below ground surface

SCOs = New York State Department of Environmental Conservation (NYSDEC) soil cleanup objectives

ROW = Rights-of-Way

3. REMEDIAL ACTION / DESIGN APPROACH

3.1 OBJECTIVES OF RAWP

The purpose of the RAWP is to perform remediation activities in the residential Operable Units of the Study Area in accordance with the remedy selected in the NYSDEC DD.

The Remedial Action Objectives (RAOs) for the residential Operable Units of the Study Area, stated in the NYSDEC DD for OU1, OU2 and OU5 are as follows:

"RAOs for Public Health Protection

- *Prevent ingestion/direct contact with contaminated soil.*
- *Prevent inhalation of or exposure from contaminants in soil.*

RAOs for Environmental Protection

- *Prevent migration of contaminants that would result in groundwater or surface water contamination."*

3.2 DESCRIPTION OF REMEDY

The selected remedy for OU1, OU2 and OU5 is described in the NYSDEC DD as:

> *"The remedy will consist of excavation and removal of target fill* [Subject Material] *to conform to Commissioner Policy CP-51 Section G and excavation and removal of soil within the top two feet to meet the residential SCO remedial goals, with some flexibility to be employed by the Department* [NYSDEC] *and NYSDOH* [New York State Department of Health] *on a case-specific basis. The flexibility may allow for limited confirmation samples to exceed the SCO levels, based on concentration, the location and/or depth of the sample exceeding the SCO and the implementability of the removal and exposure potential, while still achieving sufficient removal to assure a protective cleanup for which a no further action determination can be issued, with site management where appropriate.*
>
> *Case-specific consideration will also be applied to accommodate property owner concerns related to preservation of their property with respect to specific features such as mature*

trees, sheds, decorative plantings, or other features of significance to the property owner, where possible."

The elements of the remedy for OU1, OU2 and OU5 described in the DD are: 1) Remedial Design, 2) Excavation and Off-Site Disposal, 3) Restoration of Excavated Areas, 4) Cover System and 5) Site Management.

This RAWP provides the general means and methods by which the remedial activities required by the NYSDEC DD will be implemented, with the exception of any investigation and/or remedial activities required to be conducted in the interior of any structures within the Study Area, including but not limited to structures used for residential purposes. All investigation and/or remedial activities required in the interior of structures within the Study Area are excluded from this RAWP, with the exception of the visual inspection of existing conditions within the interior of structures in advance of excavations being undertaken at the exterior of such structure as described in Section 4.3, which shall be undertaken by Corning Incorporated. In addition, Corning Incorporated will survey property owners where remediation is needed, through written means, to ascertain properties where basements are identified as having a dirt floor and notify NYSDEC of such properties, which NYSDEC will evaluate for consistency with the NYSDEC DD.

3.3 ENGINEERING CONTROLS

An Engineering Control (EC) is a physical barrier or method used to contain, stabilize, control migration, and/or prevent exposure to constituents above applicable SCOs. A cover system is an EC that involves placement of a physical barrier such as asphalt/concrete (e.g., roadway, driveway, sidewalk), or a layer of clean soil, over material below. A soil cover may or may not include a permeable geotextile or other physical barrier (such as a flexible membrane liner) between the clean soil and the material below.

As defined in the NYSDEC DD, the cover system in the residential Operable Units of the Study Area will be comprised of a clean soil cover over a subsurface demarcation layer, where applicable, and/or asphalt pavement/driveways, concrete-covered sidewalks, and/or concrete slabs. The soil cover will consist of two feet of clean soil (0 to 2 ft bgs) over areas of Subject Material at depths greater than 2 ft bgs.

While surface features such as driveways, walkways and concrete slabs may be utilized as part of a cover system, they will be evaluated on a case-by-case basis to determine if the removal and replacement of the feature so that a clean soil cover can be placed below the feature is feasible to eliminate the long term maintenance of the feature as part of a cover system. If removed, the surface feature will then be restored on top of the installed soil cover, at an elevation comparable to the pre-existing grade.

No excavation will be conducted and no demarcation layer will be installed in areas where characterization activities and analytical results indicate that Subject Material is present only at depths greater than 2 ft bgs, and no Subject Material is present in the existing soil cover (i.e., 0 to 2 ft bgs).

3.4 INSTITUTIONAL CONTROLS

An Institutional Control (IC) is a non-physical method of restricting exposure to constituents above applicable SCOs. A series of ICs will be implemented in the Study Area to: (1) maintain and monitor EC systems; and (2) prevent future exposure to remaining Subject Material. For the purpose of the RAWP, the following ICs will be implemented. These ICs will be finalized in the NYSDEC-approved Site Management Plan (SMP).

- Residential properties may be used for residential use. City of Corning rights-of-way properties may be used for restricted residential use.
- All ECs will be operated and maintained as specified in this RAWP and the Interim Site Management Plan (ISMP);
- All ECs will be inspected at a frequency and in a manner defined in the RAWP and the ISMP;
- All future activities that will disturb remaining Subject Material will be conducted in accordance with this RAWP and the ISMP;
- Monitoring to assess the performance and effectiveness of the ECs will be performed as defined in this RAWP and the ISMP;
- Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the cover system will be performed as defined in this RAWP and the ISMP;

- Through signed access agreements with the individual property owners, access will be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the ECs.

3.5 ACCESS AGREEMENTS

Property within OU1 and OU5 is not owned by or under the control of Corning Incorporated or the NYSDEC. Therefore, individual property owners will need to agree to access prior to the implementation of any RAWP activities. For properties where a cover system is to be installed, the written consent to access will include an acknowledgment from the property owner of the EC and IC that will be placed on their respective property.

Prior to WESTON performing work at each property, and after Corning Incorporated obtains written consent to access, each individual property owner will be notified by WESTON of pending activities on the owner's property. Additionally, following implemented remedial activities, property owners will be responsible for providing access for inspection of the condition of the cover system and for notifying Corning Incorporated of any situation that compromises the effectiveness of the cover system, in accordance with the applicable ISMP or SMP.

4. COVER SYSTEM IMPLEMENTATION

4.1 DESIGN APPROACH

Implementation of the selected alternative at individual properties will be scheduled and performed as a block or group of properties, to the extent possible, to minimize the disturbance, disruption and geographical impact of remedial activities to the community. In addition, remedial activities will be implemented in a manner to avoid, to the extent possible, relocation of resident(s). Prior to performing remediation activities on an individual property, a property-specific remedial plan (drawings) will be prepared for each property. The following general design approach will be implemented in the Study Area, with any site-specific issues not otherwise specifically included in this Remedial Action Work Plan to be addressed on a case-by-case basis:

(1) Pre-Design Investigation: Additional characterization, delineation, and end point sampling will be conducted, as necessary, under the NYSDEC-approved PDI Work Plan. Written consent to access will be obtained from the property owner prior to performing the Pre-Design Investigation.

(2) Property Survey/Inventory: An external property survey and an external inventory will be performed on an individual property basis to locate property lines and features. During this survey, property features potentially affected by the proposed remediation activities (e.g., driveway, decks, patios, pools, sheds, fences, swing sets, trees, flower beds, vegetable gardens, etc.) will be inventoried and their location surveyed. A New York State licensed land surveyor will perform the property survey. A landscape architect or other qualified personnel will used to inventory landscape features as needed. A New York State licensed arborist or other qualified personnel will perform tree surveys as needed. Written consent to access will be obtained from the property owner prior to performing the property survey/inventory.

(3) Draft Remedial Design: Following the Pre-Design Investigation and property survey/ inventory activities, property-specific design drawings will be developed for each property requiring remediation in a block or group of properties, to the extent possible,

and submitted to NYSDEC for approval. The property-specific design drawings will consist of remediation drawing(s) and restoration plan(s).

(4) NYSDEC-Approved Remedial Designs to Property Owners: Following NYSDEC-approval, NYSDEC and Corning Incorporated will meet with the respective property owner to review the property-specific design drawings.

(5) Final Design Drawings: After receiving comments from individual property owners, the design drawings may be finalized without revision or revised and resubmitted to NYSDEC and the property owner for final approval.

(6) Access Agreements: Individual property owners will need to agree to access prior to the implementation of remediation activities. For properties where a cover system is part of the remedy, the written consent to access will include an acknowledgment from the property owner of their approval of the design drawings and that an EC and IC will be placed on their respective property.

(7) Remediation Activities: To the extent possible, remedial activities will be conducted on a block by block or group of properties basis following final approval of the design drawings, and receipt of written consent to access the property(ies). The block by block remedial approach will minimize the disturbance and disruption to the community during remedial activities. At a minimum, adjacent properties will need to be fully delineated prior to remediation on a specific property.

(8) Post Restoration Inspection: Following backfilling and restoration activities, an inspection of the areas where the excavation activities were performed and restored under this RAWP will be performed with the property owner, NYSDEC representatives, Corning Incorporated representatives, WESTON, and the remedial contractor. The purpose of the Post Restoration Inspection will be to identify any outstanding issues (i.e., punch list items) to be addressed prior to demobilization from the property. A final Post Restoration Inspection will be conducted, if needed, after punch list items are addressed.

4.2 CONSTRUCTION DETAILS

Corning Incorporated's subcontractor will perform the excavation, placement of the demarcation layer, the handling and disposal of excavated material, and restoration, as necessary, in accordance with this RAWP and individual design drawings for each property.

Due to the confidential nature of sample collection on privately-owned residential properties, no sampling location maps or detailed remediation maps are included in the RAWP. Property-specific drawings will be submitted along with the RAWP to respective property owners.

4.2.1 Property-Specific Design Drawings

Based on the results of the Pre-Design Investigation activities, and using the data obtained from the property survey/inventory, property-specific remedial design drawings will be prepared. In accordance with DER-10 Section 5.2(b)7 a set of scaled maps will be provided to each property owner where remedial actions will be conducted on their property and who have granted access to their property. These maps/drawings will consist of the following:

- Overall Plan – This will include a property wide scaled drawing which will identify property boundary and site features
- General Notes and Legend – This will identify the footnotes and legend for the packet of drawings including map source information and a legend of map features and utilities
- Overall Layout Plan – This will be an overview map, zoomed to the areas of excavation and identifying the limits of excavation on the property. This map will include the identified utilities (which will be confirmed in the field by the excavation subcontractor prior to any excavation activities), and areas where ECs (i.e., cover system) and ICs will be required.
- Excavation and Erosion and Sediment Control Plan – This map will identify the areas of proposed erosion and sediment control features to be used on the property during excavation and restoration activities.
- Erosion and Sediment Control Notes and Details – This drawing will coincide with the previous map and provide details about the erosion and sediment control features identified to be used on the property, as applicable.

- Final Grading and Restoration Plan – This drawing will show the final restoration plan for the property, including the replacement of property features that will require removal during remedial activities.

Cumulatively, these maps will include the following types of information, in accordance with the applicable requirements from DER-10 Section 5.2(b)7:

- A scaled map identifying all areas where remedial actions will be conducted;
- Sample locations, depths and parameters for all samples in accordance with DER-10 Section 5.4(b);
- The vertical and horizontal extent of the area to be remediated;
- The location, depth and concentration of all constituents in excess of the remedial action objectives and areas where ECs (i.e., cover system) and ICs will be required;
- The areas and volumes of soils to be remediated; and
- Wetlands, streams or other habitats to be protected or potentially disturbed by the remedial action.

4.3 PRE-EXCAVATION ACTIVITIES

After NYSDEC approval of the property-specific design drawings and written consent to access from the property owner, the following pre-excavation activities will be conducted at individual properties or a block or group of properties:

- *In situ* disposal profile samples will be collected as described in Section 4.7.1.
- Property surveys to identify remedial boundaries and property features.
- Visual inspections of existing interior and exterior conditions of the property structures (e.g., buildings, foundations, etc.) will be conducted by a qualified civil or structural engineer to observe and document the current conditions.
- The locations of subsurface utilities will be identified by non-intrusive subsurface scans using a combination of geophysical methods to assist in identifying subsurface details.
- Construction health and safety perimeters will be established around the project work areas (i.e. exclusion zone) to prevent unauthorized personnel from entering. The perimeters will

be established through the use of temporary barriers or fencing, either with appropriate signage, to restrict access to the area during excavation and backfilling activities.

- The established perimeter will encompass an area large enough to provide a safe construction buffer and for excavation equipment to operate freely to perform the excavation as well as the staging of the excavated soils. The exclusion zone will also provide an area of protection around open excavations and have barriers and signage to restrict property owners, trespassers and other unauthorized personnel from entering the established exclusion zone. The exclusion zone will remain in place until backfilling of the excavation has been completed.
- Street parking is permitted in the Residential Areas of the Study Area. Therefore residents will have access to nearby parking should construction health and safety perimeters interfere with regular parking on a residential property during remediation activities.

Prior to and/or during excavation and backfilling activities, temporary erosion and sedimentation control measures (i.e., silt fences, erosion eels) will be installed as described in Section 4.6, adjusted during the course of the work, and removed when the area is stabilized.

During remediation activities, air monitoring and dust control techniques will be performed in accordance with the CAMP contained in Appendix B of this RAWP, which will mitigate the potential of the excavation activities impacting nearby residences. In an abundance of caution, however, NYSDEC and NYSDOH recommend that residents shut their windows, doors and vents while remedial work is occurring on their property.

4.4 TEMPORARY FIELD OFFICE

The excavation activities will involve mobilization of personnel and equipment. The existing temporary field office and equipment staging area, approved by NYSDEC for the ongoing Study Area work, will be utilized. This temporary field office area is surrounded by temporary fencing for security. The office area and access gate are closed and locked when not in use and consist of an office trailer and staging area for field equipment.

4.5 EXCAVATION ACTIVITIES

Soil removal will generally be accomplished through the use of conventional earth moving equipment such as an excavator, backhoe, front-end loader, skid steer loader and/or other construction equipment. It is anticipated that smaller equipment (i.e., small to mid-size excavator

and a skid steer loader) will be used for the excavation activities in the Residential Areas given the shallow excavation depth and location of the excavation relative to existing property structures and roadways. Excavation and backfilling activities will be performed in an uninterrupted manner, as much as possible, to limit the exposed earthen areas and minimize the collection and ponding of precipitation and effect on soil erosion. Shovels, rakes and other hand tools will be used as needed for precise removal of material around existing property structures, foundations and utilities.

Staging of excavated soils will be conducted in a controlled manner such as (1) on a prepared pad lined with plastic sheeting, bermed and tarped to provide containment and protection from precipitation, or (2) in roll-off containers. If excavated soils are staged at a property and left unattended, they will be covered and the area secured to avoid exposure. As described in the CAMP (Appendix B) and subsection 4.7.2, additional actions will be undertaken as needed during hauling and excavation activities to manage dust generation. Wherever possible, excavated soil will be directly loaded onto trucks or into roll-off containers for hauling to an appropriate landfill or staging area. Additional information about the handling of excavated soils is described in subsection 4.7. Where possible, care will be taken to allow traffic to pass around the staging and excavation areas and the property owners will be notified of planned excavation activities at least 48 hours prior to the start of activities. To the extent practicable, hauling will be limited to off-peak hours (i.e., traffic will be minimized during morning and evening peak traffic hours).

Analytical results from the characterization sampling activities will be used to determine the horizontal extent of excavation. Where characterization and analytical results indicate that there is Subject Material below 2 ft bgs, a demarcation layer will be installed in the excavation area at the base of the excavation over the existing in-place Subject Material. If characterization sampling indicates the Subject Material in an area is present only in the surface soil (0-2 inches bgs), the depth of the excavation in that area will be 6 inches bgs. No vertical confirmation samples will be collected and no demarcation layer will be installed.

Excavated areas (with or without the demarcation layer) will then be initially backfilled with structural fill, covered with a minimum of 6 inches of vegetative support soil (i.e., top soil, amended soil), and graded to the natural surrounding topographic contours or pre-determined

elevations. Surface soil excavations (6 inches bgs) will be backfilled with a minimum of 4 inches of vegetative support soil (i.e., top soil, amended soil), and graded to the natural surrounding topographic contours or pre-determined elevations. Following placement of the vegetative support soil, sod will be installed at the ground surface or a natural seed blanket will be installed and covered with a protective stabilization blanket composed of biodegradable materials. If a sidewalk or impervious surface is replaced, the topsoil layer and revegetation would not be needed. If an excavation area contains a property feature such as a mulch flower bed, gravel bed, or other pervious surface, it will be replaced in kind.

The order of excavation activities on the property will be determined based on a variety of factors, typically including: weather, traffic, ongoing activities at the property, logistics and communication with the property owner. Backfilling will occur as soon as possible after excavation is completed to minimize the time that excavations remain open. To prevent cross contamination, either separate dedicated backfilling equipment will be used or equipment will be decontaminated prior to being utilized to move imported backfill material. Equipment decontamination will be conducted in accordance with SOPs (Appendix C).

Prior to importing backfill material, analytical samples will be collected at the backfill source to ensure the material meets the requirements for soil to be imported under DER-10 Section 5.4(e). These samples will be collected and analyzed in accordance with Quality Assurance Project Plan (QAPP). Analytical results for soil samples will be submitted to NYSDEC for approval prior to use during the RAWP activities.

Confirmation sampling will not be collected during RAWP activities, except as provided in Section 4.5.1 below, as the lateral extent of excavation is bound by end point sampling locations where soil concentrations are below applicable SCOs, or by an impervious surface, structure or property boundary. Confirmation sampling will not be collected in a vertical direction because soils will be excavated to a depth of up to two feet within the defined limits of excavation and the purpose of the RAWP is to remove the Subject Material or provide a soil cover in accordance with the NYSDEC DD.

Subject Material will be excavated to a depth of up to 2 ft bgs and disposed off-site at a permitted facility. All non-hazardous waste will be disposed of at the Steuben County landfill or other

permitted landfill. Hazardous waste will be shipped to a fully permitted, third party disposal facility.

No excavation will be conducted and no demarcation layer will be installed in areas where characterization analytical results indicate that Subject Material is present only at depths greater than 2 ft bgs, and no Subject Material is present at depths less than 2 ft bgs (i.e., in the existing soil cover).

No excavation will be conducted in areas covered by building footprints (i.e., permanent structures) and paved public roadways. In addition, and at the discretion of the NYSDEC, isolated samples with concentrations greater than SCOs may be left in place, because the disturbance caused by the excavation to remove these materials would outweigh the benefit of removal.

4.5.1 Excavation Contingency

While the design and implementation of remediation on a specific property will not occur until characterization and remedial design activities are complete, the potential for encountering a layer of fill material containing ash, brick and/or glass beyond the remediation areas, although unlikely, is possible. In these instances, if a visual indication of a layer of fill material containing ash, brick and/or glass is encountered in the side wall of a delineated excavation area within the respective cover system (i.e., the 0 to 2 foot or 0 to 1 foot bgs layer) the footprint of the excavation will be expanded to excavate the material.

Where the final limits of excavation are extended, the need for collecting an additional endpoint sample, as required to have a minimum of one sample per 30 linear feet of excavation, will be re-evaluated. If needed, an additional endpoint sample may be collected in the field. However, where possible, Corning Incorporated may elect to extend the limits of the excavation to an existing endpoint, property boundary, and/or property structure to eliminate the need for an additional endpoint sample.

4.6 EROSION AND SEDIMENTATION CONTROLS

Excavation activities will be performed in a manner such that erosion is adequately controlled and soil and sediments are not allowed to flow into or onto any watercourse, adjacent properties, roadways, parking areas, walkways or storm and sanitary sewers. Erosion and sediment control

measures will be implemented as needed and inspected weekly and after each major storm event or during excavation activities. Maintenance and repair of the sediment and erosion control measures will be performed on an as needed basis.

Excavation will proceed in a manner to minimize water management; however, excess water may have to be removed by pumping prior to backfill. Trenches and sumps may be dug in excavation areas, at depths no greater than 2.5 ft bgs, to minimize areas where water may collect. Water that collects in an excavation area will be allowed to infiltrate to the maximum extent practical. Excavations will be conducted in a manner to minimize uncontrolled run-off. Excavated soil will be bermed and covered/tarped.

The remedial work will not require a New York State Pollutant Discharge Elimination System (NYSPDES) General Permit for Storm water Discharges since it is being performed under an Order on Consent, however for excavations greater than 1 acre, the substantive requirements of the NYSDEC Division of Water guidelines and NYS regulations for storm water pollution prevention will be followed. Requirements can be found on the NYSDEC webpage at <http://www.dec.ny.gov/chemical/43133.html#Permit >.

4.7 WASTE HANDLING

Excavated soil generated during removal activities will be direct loaded for disposal or loaded into roll-off containers and moved to the NYSDEC-approved Study Area staging area for disposal profiling and subsequent disposal. In lieu of moving soil to the staging area, soil can be directly loaded onto haul trucks for disposal in accordance with applicable NYSDEC waste regulations.

Reasonable care will be taken by the equipment operator in handling and loading of excavated soils to minimize spillage and tracking. In the event of spillage or tracking of soils, paved traffic areas will be cleaned using hand shovels, brooms, a skid steer loader or an industrial street sweeper.

4.7.1 Disposal Profiling

For disposal profiling of the removed material, including decontamination water and/or solids, samples of the various excavated media will be collected and analyzed in accordance with the QAPP included in the Study Area Work Plan.

Sampling of Subject Material for disposal profiling will involve the collection of *in situ* composite samples and *in situ* discrete samples prior to excavation activities, to facilitate landfill pre-acceptance of material that is excavated and direct loaded for disposal. *In situ* composite disposal profile samples will be collected at a rate of approximately one composite sample for the first 100 cubic yards of Subject Material to be excavated and then one composite sample for each additional 300 cubic yards of Subject Material to be excavated, with a minimum of one sample per property. Each *in situ* composite disposal profile sample will consist of subsamples, collected from the depth interval to be excavated, from 3 to 5 locations within each area where the first 100 or subsequent 300 cubic yards of Subject Material will be excavated, and mixed together as one composite sample. *In situ* discrete disposal profile samples will be collected at a rate of approximately one sample for the first 100 cubic yards of Subject Material to be excavated and then one discrete sample for each additional 300 cubic yards of Subject Material to be excavated, with a minimum of one sample per property. Each *in situ* discrete disposal profile sample will be collected from the depth interval to be excavated. All disposal profile samples will be analyzed for Toxicity Characteristic Leaching Procedure (TCLP) Resource Conservation and Recovery Act (RCRA) metals.

Excavated materials will be disposed in accordance with all applicable federal and state laws. If any material is characterized as hazardous waste based on the disposal profiling sampling described above, that material will be handled separately and disposed of as hazardous waste. As approved by NYSDEC, a Study Area-specific USEPA Identification Number (NYR000232645) has been obtained and will be used for disposal documentation in accordance with all applicable federal and state laws. Included in Appendix D is a copy of a letter from Kelly Cloyd, Ph.D. of NYSDEC to Corning Incorporated confirming the use of the Study Area-specific USEPA Identification Number for investigation and remediation in the Study Area.

4.7.2 Staging and Loading

Prior to any excavation, staging and loading activities, an exclusion zone will be established around the excavation areas. To the extent practical, the exclusion zone will be set up in a manner to allow haul trucks to remain outside of the exclusion zone where they can be loaded by equipment located inside the exclusion zone. This will minimize the need for frequent decontamination and potential for tracking soil out of the exclusion zone.

Staging and loading activities will be conducted on existing asphalt roadways/driveways to the extent practicable. All trucks will be operated by a licensed hauling company. A route of access will be determined for all trucks going to or from the individual property and WESTON will inspect all trucks prior to leaving the property to assure the load is secured to prevent spillage, leakage or airborne movement during transit. Staging of excavated soils at the NYSDEC-approved Study Area staging area will occur on an as needed basis.

In the event of excessively dry conditions that could create dust, the spread of dust and dirt will be limited by the use of water mist or other suitable methods. Air monitoring will be performed by WESTON to ensure excessive migration of dust particles does not occur during the excavation activities. Ambient air concentrations greater than the NYSDEC-approved action level will result in actions being taken to control fugitive emissions (see the CAMP [Appendix B]).

4.7.3 Material Transport and Disposal

Corning Incorporated will oversee all transport of Subject Material removed under this RAWP. All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

Material transported by trucks will be secured with covers. If loads contain wet material capable of producing free liquid, truck liners will be used. Trucks will be prohibited from stopping and idling in the Residential Areas within the Study Area.

Egress points for truck and equipment will be kept clean of dirt and other materials during the excavation and removal.

4.8 CONSTRUCTION DOCUMENTS

Work conducted pursuant to the RAWP will also be conducted in accordance with the procedures defined in the Health and Safety Plan (HASP; Appendix A), CAMP (Appendix B) and the SOPs (Appendix C).

4.8.1 Field Documentation

Essential project information pertinent to field activities will be recorded in bound field logbooks and/or field sheets (if applicable). Information pertinent to field activities may include the following: active excavation areas, daily excavation and backfill volumes, inspection reports, equipment decontamination, placement of demarcation barrier, waste profiling, project manifests, etc.

4.8.2 Photographs

A project photo log will be prepared and maintained throughout the RAWP activities to provide photo documentation of pre-existing conditions, field activities, and post restoration conditions.

4.8.3 Surveying

The limits of excavation will be measured as the work progresses using global positioning system (GPS) survey controls. Final depths of excavations and the location of buried utilities or other structures encountered in the excavation area will be surveyed prior to backfilling. After backfilling, final elevations will be measured after placing sod or seeding.

The final limits of the excavations will be surveyed by a New York State licensed professional surveyor prior to backfilling. The final conditions of the excavation areas will be surveyed by a New York State licensed professional surveyor following restoration and placement of sod or seed. The final survey will include property features replaced during remedial activities, such as driveways, sidewalks, etc. The professional surveyor will produce and stamp a set of “as-built” drawings to document the limits of removal.

5. RESTORATION

The cover system will be comprised of a minimum of two feet of clean soil (and subsurface demarcation layer areas where excavation is necessary and Subject Material remains at depths greater than 2 ft bgs) at properties within the Study Area and/or asphalt pavement/driveways, concrete-covered sidewalks, and/or concrete slabs. However, surface features such as driveways, walkways and concrete slabs may, but are not required to be, removed and replaced so that a clean soil cover can be placed below these features. These surface features will then be restored on top of the installed soil cover system, at an elevation comparable to the pre-existing grade. As a result, these surface features will not be maintained by Corning Incorporated as part of the cover system. Any property features that will be considered part of the Cover System will be identified on the as-built drawing. The post-remediation "as-built" drawing showing the modified surface, stamped and signed by a New York State (NYS) professional engineer will be included in the property-specific Construction Completion Report (CCR).

Property features, trees, and shrubs identified for removal will be replaced in kind. Trees and shrubs that will require removal, will be replaced with a similar species/type based on the recommendation of a New York State licensed arborist with stock that is commercially available at local nurseries (e.g. trees will be replaced with 2 to 3 inch caliper trees). The arborist's recommendations for replacement trees will be discussed with and approved by the property owner during the design review step prior to beginning remediation activities. Invasive varieties of trees or plants will not be replaced in kind, but rather replaced with native species as recommended by the arborist and discussed with, and agreed upon, by the property owner. No trees or shrubs will be replaced if the property owner declines replacement.

Vegetable gardens that require replacement will be replaced with an aboveground garden per NYSDOH recommendation in the Healthy Gardening pamphlet (Healthy Gardening: Tips for New and Experienced Gardeners). All property features will be replaced in accordance with local building codes and standard industry practice.

Following backfilling and restoration activities, a Post Restoration Inspection of the areas where the excavation activities were performed and restored will be performed with the property owner,

NYSDEC representatives, Corning Incorporated representatives, WESTON, and the remedial contractor. The purpose of the Post Restoration Inspection will be to identify any outstanding issues (i.e., punch list items) to be addressed prior to demobilization from the property. A final Post Restoration Inspection will be conducted, if needed, after punch list items are addressed.

5.1 MONITORING PLAN

Individual property owners will be responsible for day-to-day maintenance of the cover system (e.g. maintenance and mowing grassy areas and sealing driveways) prior-to and following remediation activities. However, following remediation activities, Corning Incorporated will repair an installed soil cover system (as needed) until vegetation is established (expected to take up to one year). If the vegetative cover (grass) is not established in a year, Corning Incorporated and NYSDEC will investigate the area to determine the reason the vegetative cover (grass) is not being established and determine the future course of action to ensure the vegetative cover becomes established.

Monitoring of the cover system will include inspections to be conducted by WESTON, and will thus require ongoing access to the property for review of the cover system condition. For the first year following restoration, WESTON will perform monthly inspections of the areas where the excavation activities were performed under this RAWP to ensure the stability of the area and reestablishment of vegetation in backfilled areas. Any changes in the soil cover will be noted and repaired as necessary. Slight changes in grade that result in ponding of precipitation (for a period of more than 24 hours) will be repaired if the ponding was not a pre-existing condition.

Trees and shrubs that were removed and replaced as described above will be inspected to ensure they become established (expected to take up to one year). Trees and shrubs that do not survive the first year after planting will be replaced. In addition, existing trees and shrubs adjacent to the remediation area that do not survive the first year as a result of the remediation activities will be replaced as described above.

5.1.1 Notification of completed restoration

Corning Incorporated will submit a written notification to the property owner, with a copy to NYSDEC, when vegetation is established, as determined by a qualified landscape architect or other

qualified personnel. This letter will document the transfer of any cover system maintenance activities from Corning Incorporated to the property owner.

5.2 INSPECTIONS

Following backfilling and restoration, WESTON will perform monthly inspections of the areas where the excavation activities were performed under this RAWP to (1) initially ensure the stability of the area and reestablishment of vegetation in backfilled areas and to (2) confirm that no visual indicators of soil disturbance at depth occurred. These inspections will be conducted at each property until NYSDEC approves the property-specific Construction Completion Report for the property, unless otherwise approved by the NYSDEC as required by an NYSDEC-approved ISMP or SMP (as described in Subsection 5.4).

5.3 FIELD REPORTS

NYSDEC and the NYSDOH will be provided updates in the monthly progress reports, including select supporting photographs. All air monitoring data will be recorded in the site field logbook, in designated field sheets, or digitally, and the results of the air monitoring will be communicated to the NYSDEC and NYSDOH on a scheduled basis (i.e. daily for levels which require actions, weekly for routine monitoring data).

5.4 SITE MANAGEMENT PLAN

During the implementation of remedial activities in OU1, OU2 and OU5 under this RAWP, a NYSDEC-approved ISMP will be put in place.

The ISMP will provide the following information:

- A description of all ISMP ECs;
- The basic implementation and intended role of each anticipated EC;
- A description of the ECs to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of ISMP ECs, such as the implementation of the Excavation Work Plans (EWPs) (as provided in Appendix B of the ISMP) for the proper handling of remaining Subject Material if disturbed;

- Any other provisions necessary to identify or establish methods for implementing the IC/ECs, as determined by NYSDEC; and

- A description of the responsibilities of the property owner and remedial party.

Following remedial activities a SMP will be developed for the Residential Areas (OU1, OU2 and OU5) and submitted to NYSDEC for approval.

6. REPORTING AND SCHEDULE

6.1 CONSTRUCTION COMPLETION REPORTS

Following remediation activities at each residential property in OU1, OU2 and OU5 of the Study Area, a property-specific Construction Completion Report (CCR) will be prepared to document the remediation activities. In accordance with DER-10 Section 5.8(b) the property-specific CCR will include:

- A description of the remedial activities conducted in accordance with this RAWP and the NYSDEC-approved property-specific design drawings.
- Tables and figures containing all pre- and post-remedial data so that the completion of the remedial action is documented.
- As-built drawing(s) stamped and signed by a NYS registered professional engineer showing the remediated areas and ECs established at the property.

Each property-specific CCR will be submitted to NYSDEC for approval.

6.2 PERIODIC REVIEW REPORTS

Periodic Review Reports (PRRs) will be prepared in accordance with the ISMP and submitted by Corning Incorporated to NYSDEC 90 days following the end of each calendar year during which certification is required by the ISMP.

The report will include:

- Identification, assessment and certification of all ISMP ECs/ICs.
- Results of the required annual inspections and severe weather conditions or emergency inspections, if applicable.
- All applicable management forms and other records generated for the Study Area during the reporting period in the NYSDEC-approved electronic format, if not previously submitted.
- An evaluation, which includes the following:
    - i. Recommendations regarding any necessary changes to the cover system and/or Monitoring Plan

ii. The overall performance and effectiveness of the ISMP compared to the stated ISMP objectives (note: the property owners will not need to provide notification to Corning Incorporated that they did not breach cover systems for the PRR, effectiveness will be evaluated based on inspections).

Once the SMP is approved by the NYSDEC, the PRR requirements included herein will be superseded by the PRR requirements included in the SMP.

6.3 AIR MONITORING

Air monitoring will be performed during all RAWP excavation and restoration activities in accordance with the NYSDEC-approved CAMP (Appendix B). WESTON will communicate the results of the air monitoring to the NYSDEC and NYSDOH on a scheduled basis (i.e., daily for levels which require actions, and weekly for routine data).

6.4 SCHEDULE

The activities described in this RAWP are scheduled to be performed following the NYSDEC approval of this RAWP. The project schedule has been developed to perform remediation and restoration activities during the typical construction season in the Corning, New York area (April 1 through September 30, weather permitting). Preparatory tasks such as property-specific remedial design, access agreements, backfill source identification and contractor procurement, will be performed prior to each construction season. Remediation activities on each residential property will not be performed without approval of the property-specific remedial design and consent to access from the property owner.

It is anticipated that remedial activities may be performed in 2018 at three to five residential properties which do not require additional sampling under the Pre-Design Investigation Work Plan, depending on NYSDEC and property owner approval of property-specific designs and receipt of access agreements. Subsequently, it is anticipated that remedial activities will be conducted at approximately 40 to 50 residential properties each construction year thereafter. The anticipated overall project schedule is provided as Figure 6-1. During the execution of this RAWP, the project schedule will be updated monthly and submitted to NYSDEC.

SECTION 6

FIGURE

ID	Task Name	Duration
1	NYSDEC Approve RAWP	0 days
2	**2018 Remediation Properties**	**195 days**
3	**Properties without Additional Sampling**	**100 days**
4	Access Agreements for Property Surveys/Inventories	3 wks
5	Property Surveys/Inventories	2 wks
6	Draft Remedial Design Drawings	1 mon
7	NYSDEC Review and Approve Remedial Design Dwgs	2 wks
8	Property Owner Meetings and followup	2 wks
9	Final Remedial Designs	2 wks
10	NYSDEC Review and Approve	2 wks
11	Access Agreements for Remediation	3 wks
12	**Backfill/Sod Source Materials**	**60 days**
13	Identify Sources	0.5 mons
14	Sample Sources and Data Validation	2 mons
15	NYSDEC Approval of DUSR	2 wks
16	**Contractor Procurement**	**30 days**
21	**Remediation and Restoration**	5 wks
22	Draft Construction Completion Reports	2 mons
23	NYSDEC Review and Comment	2 wks
24	Final Construction Completion Reports	1 mon
25	**2019 Remediation Properties**	**455 days**
26	Access Agreements for Property Inventories	1 mon
27	Property Inventories	1 mon
28	Complete Draft Remedial Design Drawings	2 mons
29	NYSDEC Review and Approve	2 wks

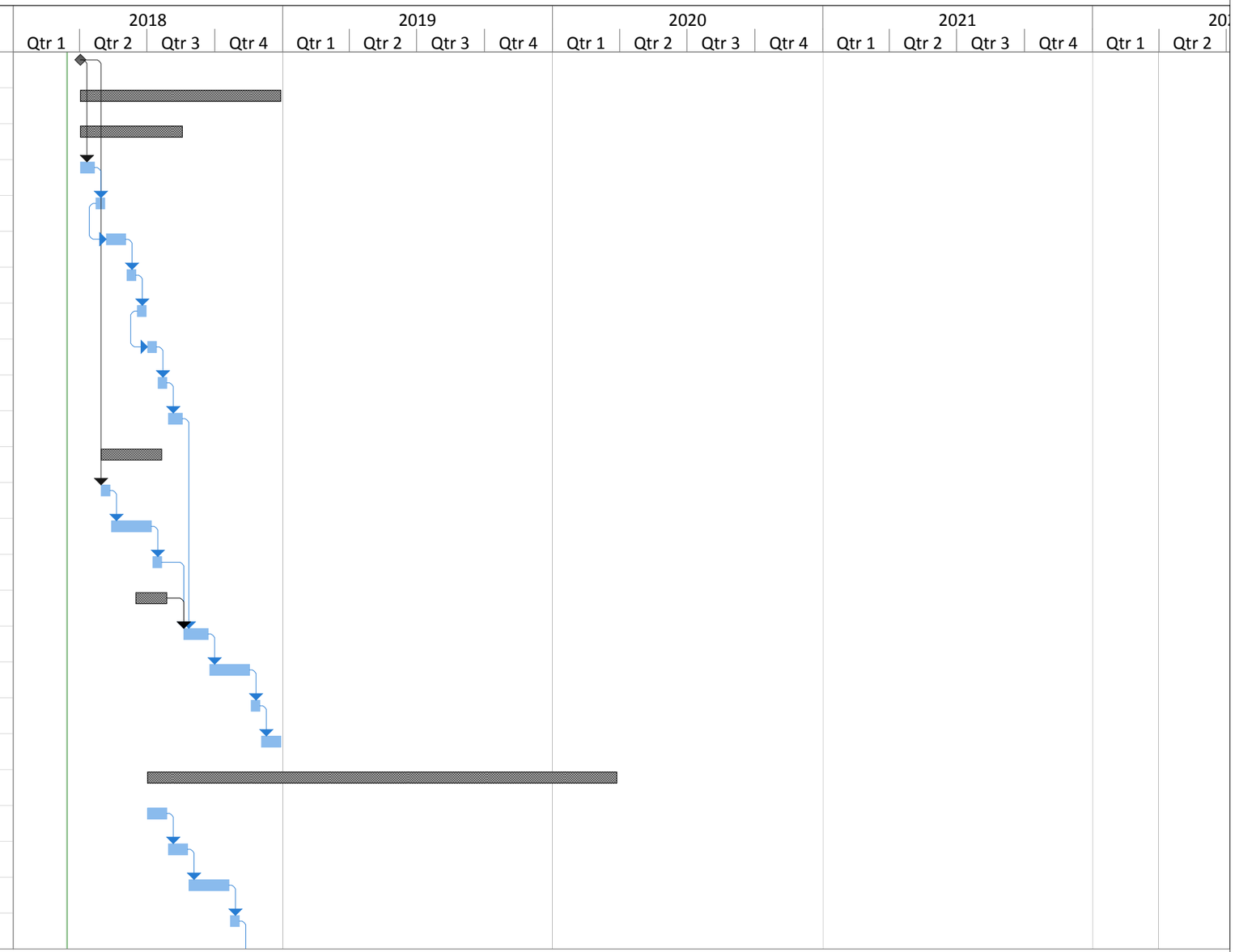


Figure 6-1
RAWP Schedule
Study Area, Corning, NY

Task **Split** **Milestone** **Summary**

ID	Task Name	Duration
30	Property Owner Meetings and followup	2 mons
31	Final Remedial Designs	2 mons
32	NYSDEC Review and Approve	2 wks
33	Access Agreements for Remediation	1 mon
34	**Backfill/Sod Source Materials**	**80 days**
35	Identify Sources	0.5 mons
36	Sample Sources and Data Validation	3 mons
37	NYSDEC Approval of DUSR	2 wks
38	**Contractor Procurement**	**40 days**
43	**Remediation and Restoration**	**6.5 mons**
44	Draft Construction Completion Reports	4 mons
45	NYSDEC Review and Comment	2 wks
46	Final Construction Completion Reports	2 mons
47	**2020 Remediation Properties**	**467 days**
48	Access Agreements for Property Inventories	1 mon
49	Property Inventories	1 mon
50	Complete Draft Remedial Design Drawings	2 mons
51	NYSDEC Review and Approve	2 wks
52	Property Owner Meetings and followup	2 mons
53	Final Remedial Designs	2 mons
54	NYSDEC Review and Approve	2 wks
55	Access Agreements for Remediation	1 mon
56	**Backfill/Sod Source Materials**	**80 days**
57	Identify Sources	0.5 mons
58	Sample Sources and Data Validation	3 mons

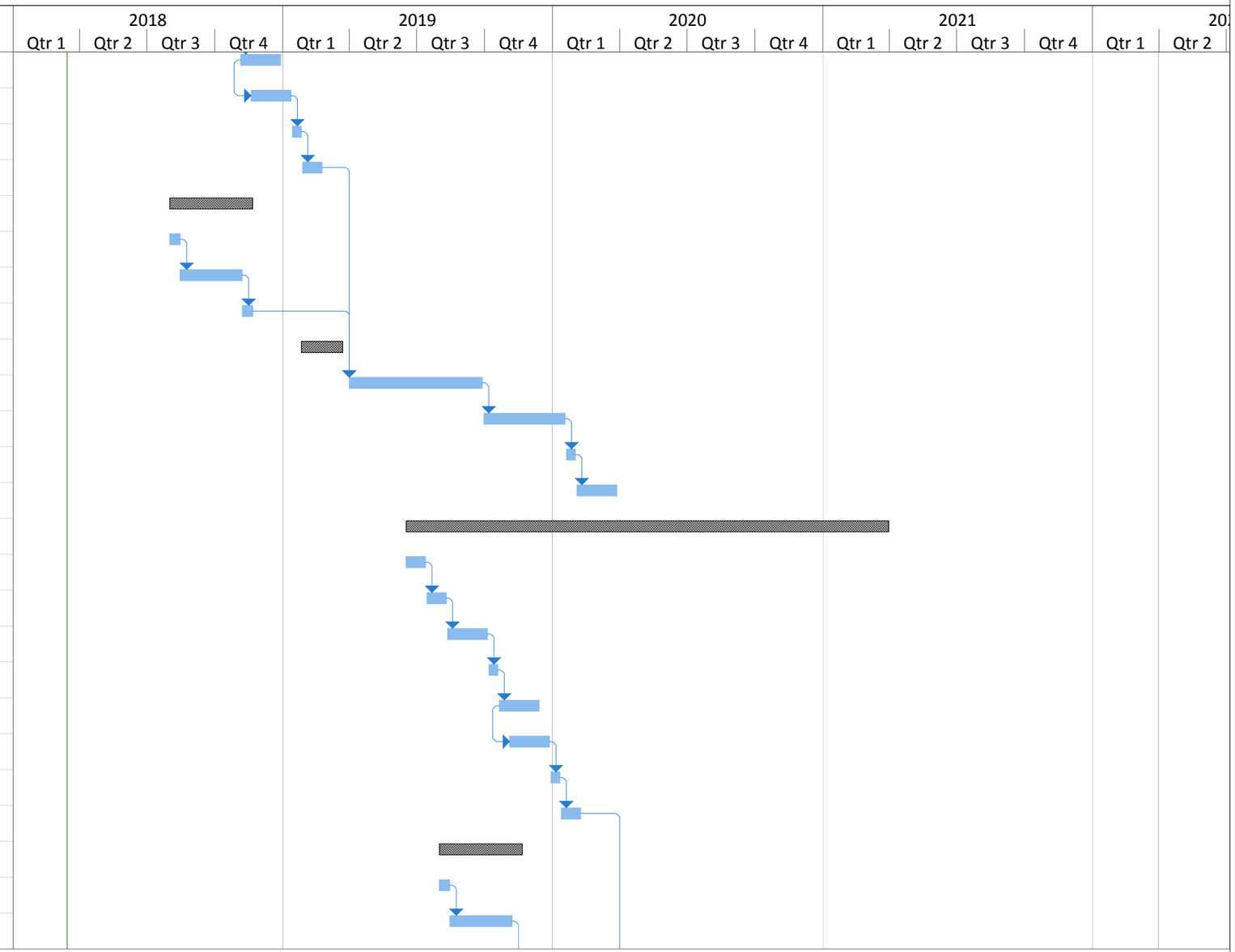


Figure 6-1
RAWP Schedule
Study Area, Corning, NY

Task Split Milestone Summary

ID	Task Name	Duration
59	NYSDEC Approval of DUSR	2 wks
60	**Contractor Procurement**	**40 days**
65	**Remediation and Restoration**	**6.5 mons**
66	Draft Construction Completion Reports	4 mons
67	NYSDEC Review and Comment	2 wks
68	Final Construction Completion Reports	2 mons
69	**2021 Remediation Properties**	**468 days**
70	Access Agreements for Property Inventories	1 mon
71	Property Inventories	1 mon
72	Complete Draft Remedial Design Drawings	2 mons
73	NYSDEC Review and Approve	2 wks
74	Property Owner Meetings and followup	2 mons
75	Final Remedial Designs	2 mons
76	NYSDEC Review and Approve	2 wks
77	Access Agreements for Remediation	1 mon
78	**Backfill/Sod Source Materials**	**80 days**
79	Identify Sources	0.5 mons
80	Sample Sources and Data Validation	3 mons
81	NYSDEC Approval of DUSR	2 wks
82	**Contractor Procurement**	**40 days**
87	**Remediation and Restoration**	**6.5 mons**
88	Draft Construction Completion Reports	4 mons
89	NYSDEC Review and Comment	2 wks
90	Final Construction Completion Reports	2 mons

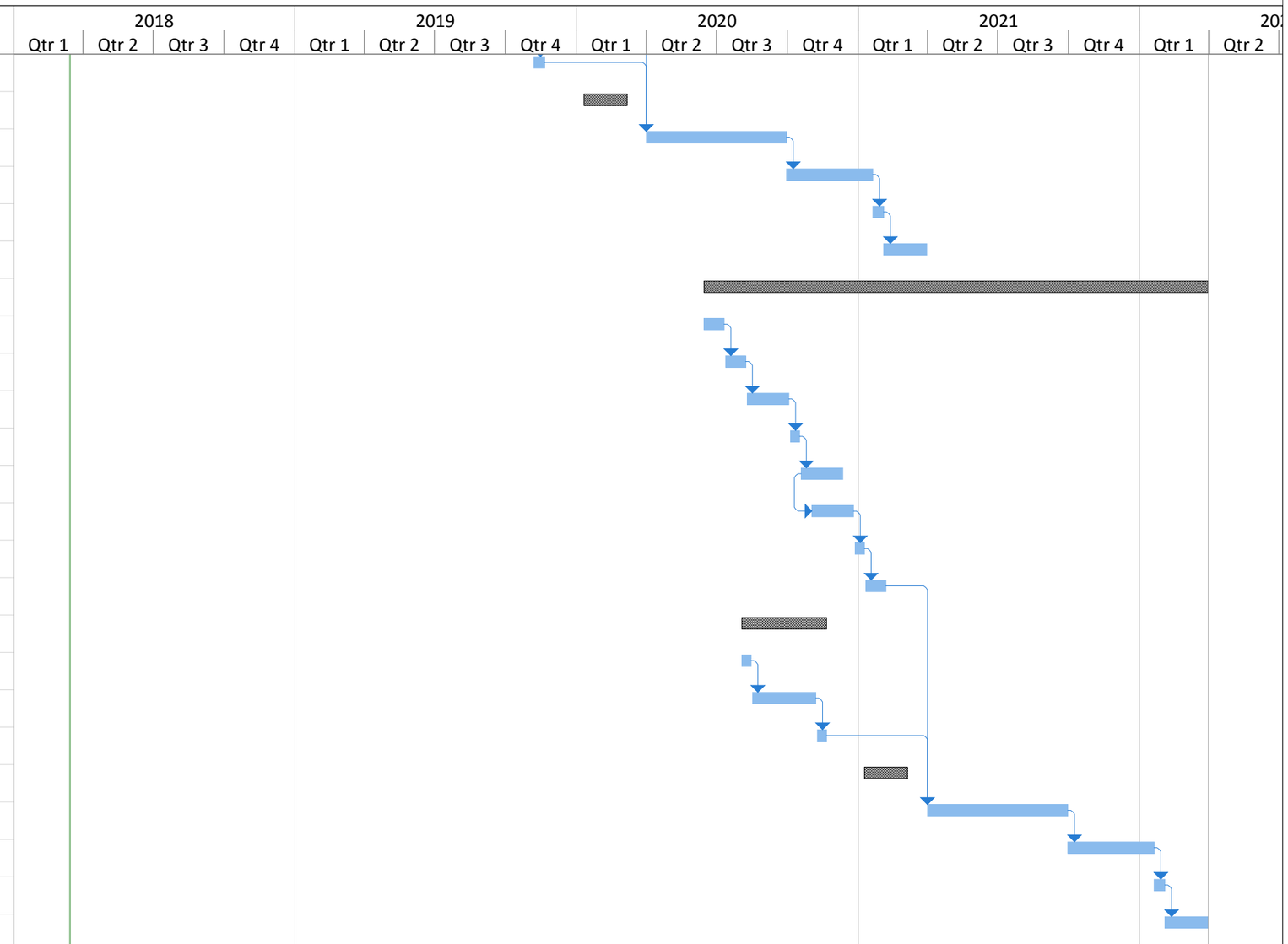


Figure 6-1
RAWP Schedule
Study Area, Corning, NY

Task **Split** **Milestone** **Summary**

7. REFERENCES

Arcadis (Arcadis CE, Inc.) 2017. *Site Characterization Report, Corning Study Area – Offsite OU5, NYSDEC Site No. 851046*, March 2017.

City of Corning, 1936. *Record of Regular Monthly Meeting of Honorable Mayor and Members of the Common Council of the City of Corning, New York,* April 6, 1936.

City of Corning, 1941. *Record of Regular Meeting of Honorable Mayor and Members of the Common Council of the City of Corning, New York,* July 7, 1941.

City of Corning, 1950. *Record of Regular Monthly Meeting of Honorable Mayor and Members of the Common Council of the City of Corning, New York,* July 5, 1950.

City of Corning, 1958. *Record of Special Meeting of Members of the Common Council of the City of Corning, New York,* December 8, 1958.

City of Corning, 1959. *Record of Regular Monthly Meeting of Members of the Common Council of the City of Corning, New York,* January 5, 1959.

Dimitroff T.P. and L.S. Janes. 1991. *History of the Corning-Painted Post Area: 200 Years in Painted Post Country*. Bookmarks Publishing, London, UK.

Miller, T.S., Belli, J.L., Allen, R.V. 1982. Geohydrology of the valley-fill aquifer in the Corning area, Steuben County, New York.

NYSDEC (New York State Department of Environmental Conservation). 1998. Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. Technical and Operational Guidance Services. < http://www.dec.ny.gov/regulations/2652.html>.

NYSDEC (New York State Department of Environmental Conservation). 2010. DER-10, Technical Guidance Site Investigation and Remediation. NYSDEC Program Policy. May 3, 2010.

NYSDEC (New York State Department of Environmental Conservation). 2017a. Proposed Decision Document, Study Area, Operable Units (OUs) 1, 2 and 5, Corning, Steuben County, New York, Site ID No. 851046, March 2017.

NYSDEC (New York State Department of Environmental Conservation). 2017b. Decision Document, Study Area, Operable Units (OUs) 1, 2 and 5, Corning, Steuben County, New York, Site ID No. 851046, July 2017.

Olcot, Perry G. 1995. U.S. Geological Survey – Groundwater Atlas of the United States: Segment 12, Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, Vermont, Hydrologic Investigations Atlas, 730-M.

Sinclair, Estelle F. and Spillman, Jane Shadel. 1997. *The Complete Cut & Engraved Glass of Corning*, Syracuse University Press, Syracuse, NY.

U.S. Army Corps of Engineers. 1941. Southern New York Flood Control Project Plans for Corning Flood Protection Project, Section Number Two, Corning, New York. War Department, Corps of Engineers, U.S. Army, U.S. Engineer Office, Binghamton, NY (Maps).

U.S. Army Corps of Engineers. 1973. Susquehanna River Flood Control Project Plans for Restoration of Flood Control Project, Corning-Painted Post, N.Y. Prepared by Tippetts, Abbett, McCarthy, Stratton Engineers and Architects New York, NY. Prepared for Department of the Army, Baltimore District, Corps of Engineers, Baltimore, MD (Maps).

WESTON (Weston Solutions, Inc.). 2014a. Study Area Characterization Work Plan, June 2014. Prepared by Weston Solutions, Inc. for Corning Incorporated.

WESTON (Weston Solutions, Inc.). 2014b. Study Area Characterization Work Plan Addendum Number 1, 29 October 2014. Prepared by Weston Solutions, Inc. for Corning Incorporated.

WESTON (Weston Solutions, Inc.). 2015a. Study Area Characterization Work Plan Addendum Number 2, 25 March 2015. Prepared by Weston Solutions, Inc. for Corning Incorporated.

WESTON (Weston Solutions, Inc.). 2015b. Study Area Characterization Work Plan Addendum Number 3, 20 March 2015. Prepared by Weston Solutions, Inc. for Corning Incorporated.

WESTON (Weston Solutions, Inc.). 2017a. Draft Study Area Operable Units 1, 2 and 5 (Residential Areas), Steuben County, Corning, New York, Interim Site Management Plan (ISMP), NYSDEC Site Number 851046, 16 October 2017. Prepared by Weston Solutions, Inc. for Corning Incorporated.

WESTON (Weston Solutions, Inc.). 2017b. Focused Feasibility Study/Alternatives Analysis, Residential Areas (OU1, OU2 and OU5), 23 March 2017. Prepared by Weston Solutions, Inc. for Corning Incorporated.

WESTON (Weston Solutions, Inc.). 2017c. Focused Feasibility Study/Alternatives Analysis, School/Community Use Areas (OU3), 23 March 2017. Prepared by Weston Solutions, Inc. for Corning Incorporated.

WESTON (Weston Solutions, Inc.). 2017d. Study Area Characterization Work Plan Addendum Number 4, Additional Field Investigation Activities in the Expedited Portion of the Study Area, 10 March 2017. Prepared by Weston Solutions, Inc. for Corning Incorporated.

WESTON (Weston Solutions, Inc.). 2018. Study Area Pre-Design Investigation Work Plan, Residential Areas (OU1, OU2 and OU5), 9 January 2018. Prepared by Weston Solutions, Inc. for Corning Incorporated.

APPENDIX A

HEALTH AND SAFETY PLAN (HASP)

The final Health and Safety Plan will be
maintained at the Study Area during field activities.

Appendix A
HEALTH AND SAFETY PLAN (HASP)

Remedial Action Work Plan
Residential Areas (OU1, OU2 and OU5)

Corning, NY
NYSDEC Project IS 851046

April 6, 2018

Prepared for

Corning Incorporated
Corning, New York

Prepared by

WESTON SOLUTIONS, INC.
West Chester, Pennsylvania 19380

W.O. No. 02005.056.002

Responsible Persons
Review and Approval

Project Manager

Printed Name	Company	Title
Phone Number	Signature	Date

Site Manager

Printed Name	Company	Title
Phone Number	Signature	Date

Field Health & Safety Officer

Printed Name	Company	Title
Phone Number	Signature	Date

TABLE OF CONTENTS

1. INTRODUCTION

1.1 Purpose

Contractors performing work under the Remedial Action Work Plan (RAWP) for the residential area (Operable Units 1 [OU1]), the redisential area at the easern end of Corning Boulevard (Operable Unit 2 [OU2]) and the residential expansion area (Operable Unit 5 [OU5]) of the Study Area are responsible for the health and safety of their personnel. This Health and Safety Plan (HASP) has been prepared to identify safety and health precautions associated with the implementation of the RAWP. Individual contractors will be required to review this HASP and adopt or amend portions of this HASP as needed to address their scope of work and personnel or prepare their own HASP consistent with the requirements of the Occupational Safety and Health Administration (OSHA) General Industry and Construction Standards (29 Code of Federal Regulations (CFR) 1910 and 1926) using the information contained in this HASP as guidance.

This HASP does not in any way relieve site personnel, contractors, or subcontractors from responsibility for their personnel. Contractors will be required to assign a Field Health and Safety Officer to review site conditions and work to be performed to determine specific requirements for their personnel. The Field Health and Safety Officer shall have a minimum of 5 years of working experience in the environmental remediation field, have a sound working knowledge of state and federal occupational health and safety regulations, and formal training in occupational health and safety. All personnel who perform field activities under this HASP shall have proper training (including, at a minimum, OSHA Hazardous Waste Operations and Emergency Response (HAZWOPER) 40-hour training and annual refreshers as required under 29 CFR 1910.120) and participate in medical surveillance monitoring as required by 29 CFR 1910 and 1926.

Any visitors that enter the work area (e.g. construction barrier or temporary fence) will be required to comply with the HASP during performance of the work.

The health and safety precautions have been developed to address the presence of Subject Material in portions of the properties in OU1, OU2 and OU5 of the Study Area. The following materials are collectively referred to as the "Subject Material":

- Soil with concentrations greater than the applicable New York State Department of Environmental Conservation (NYSDEC) Soil Cleanup Objectives (SCOs) (New York Codes, Rules and Regulations (NYCRR) Subpart 375-6);
- Layers of fill material containing ash, brick and/or glass[1] with concentrations greater than the applicable SCOs; and
- Layers of fill material containing ash, brick and/or glass that do not contain concentrations greater than the applicable SCOs[2].

This HASP has been prepared by the Weston Solutions, Inc. (WESTON®), on behalf of Corning Incorporated. It is written to be consistent with all applicable federal, state, and local health and safety requirements. Specific references consulted in assembling this HASP include the following:

- 29 CFR 1910 and 1926 (OSHA General Industry and Construction Standards, respectively).
- National Institute for Occupational Safety and Health (NIOSH) Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, 1985.
- 40 CFR 260-270 (U.S. Environmental Protection Agency [EPA] Hazardous Waste Standards).
- EPA Standard Operating Safety Guides, Office of Solid Waste and Emergency Response (OSWER), June 1992.
- Applicable state and local regulations.

1.2 Site Description and Background

The Study Area is NYSDEC Project ID No. 851046 located in the City of Corning, New York. The Study Area is bound by the Chemung River to the south; Post Creek and Interstate 86 to the

[1] A "layer of fill material containing ash, brick, and/or glass" is defined as a non-native material containing ash, brick, and/or glass with a thickness of greater than 1 inch.

[2] Layers of fill material containing ash, brick and/or glass which do not contain concentrations greater than the applicable SCOs are being remediated at the direction of NYSDEC. Remediation of this material is not an admission that remediation is necessary and/or that such material represents a potential for exposure.

east and north; and the Guthrie Medical Center, the City of Corning Fire Department, and Centerway to the west. The NYSDEC has defined the residential areas within the Study Area as OU1, OU2 and OU5 as depicted in Figure 1-1.

2. HEALTH AND SAFETY EVALUATION

2.1 Task Hazard Assessment

Activities Covered Under This Plan:

No.	Task/Subtask	Description
1	Excavation	Excavation, backfilling and restoration activities.
2	Soil Sampling	Collect samples of stockpiled soil by hand or subsurface soil using soil boring techniques.
3	Water Sampling	Collect samples of investigation derived waste (IDW) or construction water from drum/container.
4	Equipment Decontamination	Perform decontamination of excavation and sampling equipment

Types of Hazards:

Numbers refer to one of the following hazard evaluation forms. Complete hazard evaluation forms for each appropriate hazard class.

Physiochemical 1

- ☐ Flammable
- ☐ Explosive
- ☐ Corrosive
- ☐ Reactive
- ☐ O_2 Rich
- ☐ O_2 Deficient

Chemically Toxic 1

- ☒ Inhalation
- ☒ Ingestion
- ☒ Contact
- ☐ Absorption
- ☐ Carcinogen
- ☐ Mutagen
- ☐ Teratogen
- ☐ OSHA 1910.1000 Substance (Air Contaminants)
- ☒ OSHA Specific Hazard Substance Standard (Refer to following page for listing)

Radiation 3

Ionizing:

- ☐ Internal exposure
- ☐ External exposure

Non-ionizing:

- ☒ UV
- ☐ IR
- ☐ RF
- ☐ MicroW
- ☐ Laser

Biological 2

- ☐ Etiological Agent
- ☒ Other (plant, insect, animal)

☐ **Physical Hazards 4**

- ☒ Sampling Activities
- ☒ Excavation Activities

Source/Location of Contaminants and Hazardous Substances:

Directly Related to Tasks

- ☒ Air
- ☐ Groundwater
- ☒ Soil
- ☒ Water
- ☐ Surface Water
- ☐ Sanitary Wastewater
- ☐ Process Wastewater
- ☐ Other _____

Indirectly Related to Tasks — Nearby Process(es) That Could Affect Team Members:

☒ Nearby Facility

Describe: **Work is being performed on City of Corning and privately owned property in OU1, OU2 and OU5 and requires permission by the property owner prior to any activities**

☐ Have activities (task[s]) been coordinated with facility?

Comments:

2.2 Chemical Hazards of Concern

Chemical Contaminants of Concern	Hazardous Materials
Chemicals contaminants of concern are listed on the table below and chemical data sheets are included in Attachment A of this HASP.	Contractor to identify hazardous materials used in performance of the work under the RAWP for OU1, OU2 and OU5 and maintain Safety Data Sheets (SDSs) for all reagent type chemicals, solutions, or other identified materials that in normal use in performing tasks related to this project could produce hazardous substances. Ensure that all subcontractors and other parties working nearby are informed of the presence of these chemicals and the location of the SDSs. Obtain from subcontractors and other parties, lists of the hazardous materials they use or have at the work area and identify location of the SDSs here.

OSHA-SPECIFIC HAZARDOUS SUBSTANCES			
☐ 1910.1001 Asbestos	☐ 1910.1002 Coal tar pitch volatiles	☐ 1910.1003 4-Nitrobiphenyl, etc.	☐ 1910.1004 alpha-Naphthylamine
☐ 1910.1005 [Reserved]	☐ 1910.1006 Methyl chloromethyl ether	☐ 1910.1007 3,3'-Dichlorobenzidine (and its salts)	☐ 1910.1008 bis-Chloromethyl ether
☐ 1910.1009 beta-Naphthylamine	☐ 1910.1010 Benzidine	☐ 1910.1011 4-Aminodiphenyl	☐ 1910.1012 Ethyleneimine
☐ 1910.1013 beta-Propiolactone	☐ 1910.1014 2-Acetylaminofluorene	☐ 1910.1015 4-Dimethylaminoazobenzene	☐ 1910.1016 N-Nitrosodimethylamine
☐ 1910.1017 Vinyl chloride	☒ 1910.1018 Inorganic arsenic	☒ 1910.1025 Lead	☐ 1910.1026 Chromium VI
☒ 1910.1027 Cadmium	☒ 1910.1028 Benzene	☐ 1910.1029 Coke oven emissions	☐ 1910.1043 Cotton dust
☐ 1910.1044 1,2-Dibromo-3-chloropropane	☐ 1910.1045 Acrylonitrile	☐ 1910.1047 Ethylene oxide	☐ 1910.1048 Formaldehyde
☐ 1910.1050 Methylenedianiline	☐ 1910.1051 1,3 Butadiene	☐ 1910.1052 Methylene chloride	☐ 1926.60 Methylenedianiline
☒ 1926.62 Lead	☐ 1926.1101 Asbestos	☒ 1926.1127 Cadmium	

Constituents Detected in Soil Samples in the Study Area[1]

Constituents	Screening Levels[2] (mg/kg)	Minimum Analytical Result (mg/Kg)	Maximum Analytical Result (mg/Kg)	Average Analytical Result[3] (mg/Kg)	Total # Samples above the Screening Level	Total # of Samples	Percentage of Samples below the Screening Level
Arsenic, Total	16 / 16	0.43 U	1280	13.3	503	4935	89.8%
Barium, Total	350 / 400	8.8 J	35600	157	76	3907	98.1%
Cadmium, Total	2.5 / 4.3	0.031 U	21000	6.32	233	4932	95.3%
Chromium, Total	36 / 180	1.4 J	556	15.3	45	3914	98.9%
Copper, Total	270 / 270	2.4 J	12900	24.2	11	3907	99.7%
Lead, Total	400 / 400	0.26 U	28600	165	253	4932	94.9%
Manganese, Total	2000 / 2000	7.3	8260	565	16	3907	99.6%
Mercury, Total	0.81 / 0.81	0.0080 U	70.0 J	0.156	88	3812	97.7%
Nickel, Total	140 / 310	1.5 J	442	21.0	6	3907	99.8%
Selenium, Total	36 / 180	0.35 U	11200	4.57	5	3907	99.9%
Zinc, Total	2200 / 10000	7	14200	115	8	3907	99.8%
2-Methylnaphthalene	0.41 /	2.2 U	18 J	0.232	10	1016	99.0%
Benz(a)anthracene	1 / 1	3.1 U	210	0.631	91	1016	91.0%
Benzo(a)pyrene	1 / 1	4.3 U	120	0.640	96	1016	90.6%
Benzo(b)fluoranthene	1 / 1	3.5 U	180	0.943	116	1016	88.6%
Benzo(k)fluoranthene	1 / 3.9	2.0 U	89	0.434	51	1016	95.0%
Chrysene	1 / 3.9	1.8 U	110	0.751	83	1016	91.8%
Dibenz(a,h)anthracene	0.33 / 0.33	2.1 U	21	0.202	37	1016	96.4%
Fluoranthene	100 / 100	2.6 U	210	1.32	1	1016	99.9%
Indeno(1,2,3-cd)pyrene	0.5 / 0.5	4.9 U	84	0.544	146	1016	85.6%
Isophorone	100 /	4.5 U	150	0.482	1	1016	99.9%
Phenanthrene	100 / 100	3.7 U	180	0.867	1	1016	99.9%
Pyrene	100 / 100	1.2 U	160	1.031	1	1016	99.9%
Benzene	2.9 / 4.8	0.20 U	6.1	0.321	1	19	94.7%

[1] Data represented by this table include all soil samples collected in the Study Area from June 2014 through June 2017.

[2] Screening levels are displayed NYSDEC Residential SCOs / NYSDEC Restricted-Residential SCOs. (NYSDEC Subpart 375-6) Samples from residential areas are screened against Residential SCOs while samples from Rights-of-Way are screened against Restricted-Residential SCOs.

[3] To be conservative, the average analytical result was calculated using the minimum detection limit (MDL) values for samples that were reported as non-detect.

2.3 Biological Hazards of Concern

☒ **Poisonous Plants** Location/Task No(s) **All** Source: ☐ Known ☒ Suspect Route of Exposure: ☐ Inhalation ☐ Ingestion ☒ Contact ☐ Direct Penetration	☒ **Insects** Location/Task No(s) **All** Source: ☐ Known ☒ Suspect Route of Exposure: ☐ Inhalation ☐ Ingestion ☒ Contact ☒ Direct Penetration
☒ **Snakes, Reptiles** Location/Task No(s) **All** Source: ☐ Known ☒ Suspect Route of Exposure: ☐ Inhalation ☐ Ingestion ☒ Contact ☒ Direct Penetration	☒ **Animals** Location/Task No(s) **All** Source: ☐ Known ☒ Suspect Route of Exposure: ☐ Inhalation ☐ Ingestion ☒ Contact ☒ Direct Penetration
☒ **Blood borne Pathogens (Universal Precaution)** Location/Task No(s) **All** Source: ☐ Known ☒ Suspect Route of Exposure: ☒ Inhalation ☒ Ingestion ☒ Contact ☒ Direct Penetration	

2.4 Radiation Hazards of Concern

NONIONIZING RADIATION				
Task No.	**Type of Nonionizing Radiation**	**Source On-Site**	**Control Measures**	**Monitoring Instrument**
All	Ultraviolet	Solar	Appropriate clothing/ sunscreen	None

IONIZING RADIATION								
Task No.	**Radionuclide**	**Major Radiations**	**Radioactive Half-Life (Years)**	DAC (µCii/mL) **D**	DAC (µCii/mL) **W**	DAC (µCii/mL) **Y**	**Surface Cont. Limit**	**Monitoring Instrument**
None								

2.5 Physical Hazards of Concern

Physical Hazard Condition	Physical Hazard	Known or Potential Hazard
Loud noise	Hearing loss/disruption of communication	☒
Inclement weather	Rain/humidity/cold/ice/snow/lightning	☒
Steam heat stress	Burns/displaced oxygen/wet working surfaces	☐
Heat stress	Burns/hot surfaces/low pressure steam	☐
Ambient heat stress	Heat rash/cramps/exhaustion/heat stroke	☒
Cold stress	Hypothermia/frostbite	☒
Cold/wet	Trench/paddy/immersion foot/edema	☒
Confined spaces	Falls/burns/drowning/engulfment/electrocution	☐
Industrial Trucks	Fork Lift Truck Safety	☐
Improper lifting	Back strain/abdomen/arm/leg muscle/joint injury	☒
Uneven surfaces	Vehicle accidents/slips/trips/falls	☒
Poor housekeeping	Slips/trips/falls/punctures/cuts/fires	☒
Structural integrity	Crushing/overhead hazards/compromised floors	☐
Improper cylinder. handling	Mechanical injury/fire/explosion/suffocation	☐
Water hazards	Poor visibility/entanglement/drowning/cold stress	☐
Water hazards	Drowning/heat/cold stress/hypothermia/falls	☐
Water hazards	Drowning/frostbite/hypothermia/falls/electrocution	☐
Vehicle hazards	Struck by vehicle/collision	☒
Explosions	Explosion/fire/thermal burns	☐
Moving mechanical parts	Crushing/pinch points/overhead hazards/electrocution	☒
Moving mech. parts	Overhead hazards/electrocution	☐
Working at elevation	Overhead hazards/falls/electrocution	☐
Working at elevation	Overhead hazards/falls/electrocution	☐
Working at elevation	Overhead hazards/falls/electrocution/slips	☐
Working at elevation	Slips/trips/falls/overhead hazards	☐
Trench cave-in	Crushing/falling/overhead hazards/suffocation	☒
Physiochemical	Explosions/fires from oxidizing, flam./corr. material	☐
Physiochemical	Fire and explosion	☒
Physiochemical	Fire	☒
Structural integrity	Overhead/electrocution/slips/trips/falls/fire	☐
Electrical	Electrocution/shock/thermal burns	☒
Electrical	Electrocution/shock/thermal burns	☒
Burns/fires	Heat stress/fires/burns	☐
Impact/thermal	Thermal burns/high pressure impaction/heat stress	☒
Impaction/electrical	Smashing body parts/pinching/cuts/electrocution	☒
Poor visibility	Slips/trips/falls	☐
Fire/explosion	Burns/impaction	☐
Communications	Disruption of communications	☐
Energy/release	Unexpected release of energy	☐
Biological Hazards	Biological Hazards at site	☒
Animals	Animals	☒
Insects	Stinging and Biting Insects	☒
Molds/Fungi	Molds and Fungi	☐
Hazardous Plants	Hazardous Plants	☒
Etiologic Agents	Etiologic Agents	☐
Biological Hazards/BBP	Biological Hazards/BBP at site/First Aid Providers	☒

2.5 Physical Hazards of Concern (Continued)

Physical Hazard Condition	Physical Hazard	Known or Potential Hazard
Infectious Waste	Infectious Waste at site/BBP/ at site/Infectious Waste	☐
Lead Contaminated sites	Lead poisoning	☒
Puncture/cuts	Cuts/ dismemberment/gouges	☐
Government Inspector	Disruption of Operations	☐
Unknown Chemicals	Exposure to hazardous materials/waste	☒
Cadmium	Exposure Control	☒
Process Safety Procedure	Safety Procedure	☒
Asbestos	Asbestos Exposure	☐
Hexavalent Chromium	Exposure Control Plan	☐
Benzene	Exposure Control Plan	☐
Hydrofluoric acid	Working with HF	☐
Moving drill rig parts	Crushing/pinch points/overhead hazards/electrocution	☒
Vehicles/driving	Accidents,/fatigue/cell phone use	☒
Improper material handling	Back injury/crushing from load shifts/equipment/tools	☒
COC decontamination	COCs/slip, trip, and falls/waste generation/environmental compliance/PPE	☒
Drilling hazards	Electrocution/overhead hazards/pinch points	☒
Fatigue	Long work hours	☒
Benzene/Gasoline	Benzene exposure	☒
Cardiac Arrest	Accident/Heart Attack	☐
Ionizing Radiation	Ionizing Radiation	☐
Working Alone	Isolated Working Conditions	☐

3. SITE SECURITY

3.1 Site Security Assessment

DESCRIPTION
Site Name and Location: OU1, OU2 and OU5 of the Study Area
Type of Work: Sampling, Excavation, Backfilling and Restoration Activities
SURROUNDING AREA
Suburban, residential neighborhood, flood control area, and school property within the Study Area limits.
THREAT INDICATORS
None apparent
COUNTERMEASURES
Closest police station location and contact information: Corning Police Department – 607-962-0340 1 Center Way Corning, NY 14830
OVERALL SECURITY ASSESSMENT
Risk Level: ☒ **Low** ☐ **Medium** ☐ **High**

4. TASK BY TASK ASSESSMENT

4.1 Task 1 Excavation

TASK 1: Excavation, backfilling, restoration and sampling activities. Includes handing, stockpiling, temporary storage and loading of excavated soils for offsite disposal. Air monitoring will be conducted continuously by field personnel using a minimum of two pDR meters, one upwind of sampling activities and one downwind. If levels are exceeded, field personnel will stop work, re-evaluate site conditions, and proceed in accordance with the Community Air Monitoring Plan (CAMP).

EQUIPMENT REQUIRED/USED

Construction Equipment (mini-excavator, backhoe, front end loader)

Hard Hat	Hearing Protection
Safety boots	Mini-Rae/PID (soil screening)
Safety glasses	Nitrile gloves
High-visibility vest (if required)	pDR 1000 (particulate)

POTENTIAL HAZARDS/RISKS

Chemical

☒ Hazard Present Risk Level: ☐ H ☐ M ☒ L

What justifies risk level?

Disturbance of soil with the potential presence of metal and semivolatile organic compound (SVOC) constituents.

Physical

☒ Hazard Present Risk Level: ☐ H ☐ M ☒ L

What justifies risk level?

Activities include the use of heavy equipment in residential and public areas.

Biological

☒ Hazard Present Risk Level: ☐ H ☐ M ☒ L

What justifies risk level?

Potential for ticks, bees, snakes, vegetation and small animals.

RADIOLOGICAL

☒ Hazard Present Risk Level: ☐ H ☐ M ☒ L

What justifies risk level?

Potential for solar radiation.

LEVELS OF PROTECTION/JUSTIFICATION

Level D – safety shoes, safety glasses, hard hat, high-visibility vest.

SAFETY PROCEDURES REQUIRED

All work will be performed in accordance with the provisions of this HASP and OSHA guidelines.
Air monitoring will be performed in accordance with the Community Air Monitoring Plan (CAMP).

4.2 Task 2 Soil Sampling

TASK 2: Soil Sampling: This consists of collecting samples from stockpiled soil and/or soil borings. Subsurface samples will be collected using a Geoprobe rig. Includes handing, stockpiling, temporary storage and loading of drill cuttings for offsite disposal. Air monitoring will be conducted continuously by field personnel using a minimum of two pDR meters, one upwind of sampling activities and one downwind. If levels are exceeded, field personnel will stop work, re-evaluate site conditions, and proceed in accordance with the Community Air Monitoring Plan (CAMP).

EQUIPMENT REQUIRED/USED

Scoops	Hard hat
Hand Tools	Plastic/Aluminum Trays
Nitrile gloves	Mini-Rae/PID (soil screening)
Safety Boots	pDR 1000 (particulate)
Safety Glasses	Drill Rig (if required)
Hearing Protection (if required)	Hand Auger (if required)
High-visibility vest (if required)	

POTENTIAL HAZARDS/RISKS

Chemical

☒ Hazard Present Risk Level: ☐ H ☐ M ☒ L

What justifies risk level?

Sampling soil with the potential presence of metal and SVOC constituents.

Physical

☒ Hazard Present Risk Level: ☐ H ☐ M ☒ L

What justifies risk level?

Activities include the use of heavy equipment in residential and public areas.

Biological

☒ Hazard Present Risk Level: ☐ H ☐ M ☒ L

What justifies risk level?

Potential for ticks, bees, snakes, vegetation and small animals.

RADIOLOGICAL

☒ Hazard Present Risk Level: ☐ H ☐ M ☒ L

What justifies risk level?

Potential for solar radiation.

LEVELS OF PROTECTION/JUSTIFICATION

Level D – safety shoes, safety glasses, hard hat, high-visibility vest.

SAFETY PROCEDURES REQUIRED

All work will be performed in accordance with the provisions of this HASP and OSHA guidelines.
Air monitoring will be performed in accordance with the Community Air Monitoring Plan (CAMP).

4.3 Task 3 Water Sampling

TASK 3: Sampling of investigation derived waste (IDW), which is generally decontamination water or construction water containerized in drums and/or other containers. This task can also include the pumping of accumulated precipitation that collects in the base of an excavation and will not infiltrate.

EQUIPMENT REQUIRED/USED

Nitrile Gloves	Hand Tools	Hearing Protection (if required)
Safety Boots	Sample Bottles	Mini-Rae/PID (soil screening)
Safety Glasses	Generator	pDR 1000 (particulate)
Poly/plastic tubing	Grundfos pump (or similar)	
Hard hat		

POTENTIAL HAZARDS/RISKS

Chemical

☒ Hazard Present Risk Level: ☐ H ☐ M ☒ L

What justifies risk level?

Sampling drum/container of water with potential presence of constituents (metals/SVOCs) at lower levels.

Physical

☒ Hazard Present Risk Level: ☐ H ☐ M ☒ L

What justifies risk level?

Work generally will occur in residential and public areas.

Biological

☒ Hazard Present Risk Level: ☐ H ☐ M ☒ L

What justifies risk level?

Potential for ticks, bees, snakes, vegetation and small animals.

RADIOLOGICAL

☒ Hazard Present Risk Level: ☐ H ☐ M ☒ L

What justifies risk level?

Potential for solar radiation.

LEVELS OF PROTECTION/JUSTIFICATION

Level D – safety shoes, safety glasses, hard hat, high-visibility vest**.**

SAFETY PROCEDURES REQUIRED AND/OR FIELD OPS UTILIZED

All work will be performed in accordance with the provisions of this HASP and OSHA guidelines.

4.4 Task 4 Equipment Decontamination

TASK 4: Decontamination of excavation equipment and field sampling equipment using procedures described in the RAWP for OU1, OU2 and OU5.

EQUIPMENT REQUIRED/USED		
Nitrile Gloves	Hand Tools	Mini-Rae/PID (soil screening)
Safety Boots	Generator	pDR 1000 (particulate)
Safety Glasses	Pressure Washer	
Hard hat	Hearing Protection (if required)	

POTENTIAL HAZARDS/RISKS

Chemical

☒ Hazard Present Risk Level: ☐ H ☐ M ☒ L

What justifies risk level?

Decontamination of equipment with potential presence of constituents (metals/SVOCs)

Physical

☒ Hazard Present Risk Level: ☐ H ☐ M ☒ L

What justifies risk level?

Work with heavy equipment in public areas.

Biological

☒ Hazard Present Risk Level: ☐ H ☐ M ☒ L

What justifies risk level?

Potential for ticks, bees, snakes, vegetation and small animals.

RADIOLOGICAL

☒ Hazard Present Risk Level: ☐ H ☐ M ☒ L

What justifies risk level?

Potential for solar radiation

LEVELS OF PROTECTION/JUSTIFICATION

Level D – safety shoes, safety glasses, hard hat, high-visibility vest.

SAFETY PROCEDURES REQUIRED AND/OR FIELD OPS UTILIZED

All work will be performed in accordance with the provisions of this HASP and OSHA guidelines.

4.5 Personnel Protection Plan

Engineering Controls: Describe Engineering Controls used as part of Personnel Protection Plan:

Tasks

Administrative Controls: Describe Administrative Controls used as part of Personnel Protection Plan:

Tasks

1	Follow OSHA guidelines for excavations.
All	Conduct hazard analysis of all work tasks.
All	Conduct safety briefings with contractors prior to performing daily tasks to discuss safety hazards and controls taken to minimize or eliminate hazards
All	Community Air Monitoring Plan (CAMP)

Personal Protective Equipment:

Tasks

All	Hard hat, safety glasses, safety shoes, hearing protection (as necessary), high-visibility vest (as necessary), nitrile gloves (as necessary)
All	PPE will be reviewed with each hazard analysis to ensure level of PPE is appropriate for scope of work

Description of Levels of Protection

Level D		Level D Modified
Task(s): All		**Task(s**):
☒ Head	Hard hat when near drilling rig, excavation equipment	☐ Head
☒ Eye and Face	Safety Glasses	☐ Eye and Face
☒ Hearing	Ear plugs in designated areas and during drilling activities	☐ Hearing
☐ Arms and Legs Only		☐ Arms and Legs Only
☒ Appropriate Work Uniform	Coveralls or long pants and appropriate shirt	☐ Whole Body
☒ Hand – Gloves	Nitrile (as needed)	☐ Apron
☒ Foot - Safety Boots	Steel-toed boots	☐ Hand - Gloves
☐ Fall Protection		☐ Gloves
☐ Flotation		☐ Gloves
☐ Other		☐ Foot - Safety Boots
		☐ Over Boots

5. MONITORING PROGRAM

5.1 Air Monitoring Instruments

Instrument Selection and Initial Check Record
Reporting Format: ☒ Field Notebook ☒ Field Data Sheets

Instrument	Task No.(s)	Minimum Number Required	Number Received	Checked Upon Receipt	Comment	Initials
☒ **PID**	All	1		☐		
☒ MiniRAE	All	1		☐		
☐ MultiRAE (LEL/O2/H2S/CO/PID)				☐		
☐ TVA 1000 (PID/FID)				☐		
☐ Other _____				☐		
☒ **PDR 1000 (Particulate)***	All	2		☐		

* See Community Air Monitoring Plan (CAMP) for air monitoring locations for fugitive dust.

5.2 Air Monitoring Instruments Calibration Record

Instrument, Mfg., Model, Equip. ID No.	Date	Time	Calib. Material	Calib. Method Mfg.'s	Other	Initial Setting and Reading	Final Setting and Reading	Calibrator's Initials

5.3 Site Air Monitoring Program

Action Levels				
These Action Levels, if not defined by regulation, are some percent (usually 50%) of the applicable PEL/TLV/REL. That number must also be adjusted to account for instrument response factors.				
	Tasks	**Action Level**		**Action**
☐ **Explosive or Flammable Atmosphere**		Ambient Air Concentration	Confined Space Concentration	
		<10% LEL	0 to 1% LEL	Work may continue. Consider toxicity potential.
		10 to 25% LEL	1 to 10% LEL	Work may continue. Increase monitoring frequency.
		>25% LEL	>10% LEL	Work must stop. Ventilate area before returning.
☐ **Oxygen**		Ambient Air Concentration	Confined Space Concentration	
		<19.5% O_2	<19.5% O_2	Leave area. Re-enter only with self-contained breathing apparatus.
		19.5% to 25% O_2	19.5% to 23.5% O_2	Work may continue. Investigate changes from 21%.
		>25% O_2	>23.5% O_2	Work must stop. Ventilate area before returning.
☐ **Radiation**		< 3 times background		Continue work.
		3 times background to < 1 mR/hour		Radiation above background levels (normally 0.01-0.02 mR/hr) signifies possible radiation source(s) present. Continue investigation with caution. Perform thorough monitoring. Consult with a Health Physicist.
		> 1 mrem/hour		Potential radiation hazard. Evacuate site. Continue investigation only upon the advice of Health Physicist.
☒ **Organic Gases and Vapors**	All	2.5 units sustained above background for 15-minute period		Increase monitoring frequency. Stop work and evaluate appropriate PPE
☒ **Inorganic Fugitive Dust/Particulates**	All	100 µg/m^3 above background per 15-minute period		Continue work with dust suppression techniques. If levels exceed 150 µg/m^3 above background per 15-minute period. Stop work and re-evaluate dust suppression.

5.4 Action Levels

Organic Vapors

The organic gases and vapors action level of 2.5 parts per million (ppm) above background level is used as an action level. Note, previously the NYSDEC has used 5 ppm screening level during soil sampling when soil VOC sampling was required previously on this project. This sampling activity is no longer required based on sample results indicating only one detected VOC greater than the respective screening level in the Study Area. However, to be conservative the action level has been set at ½ of the NYSDEC screening level for activities that disturb the Subject Material.

Benzene was detected in one soil sample (CPP-SB010) at concentration of 6.1 mg/kg at a depth of 7 feet below ground surface. Additional precaution should be taken when excavating in this area. The Field Safety Officer should consider a more conservative organic vapor action level for work in this area.

Fugitive Dust / Particulates

The NYSDEC recommended action level for fugitive dust is 100 ug/m^3 greater than background (measured at the upwind location) for a 15 minute time period. See the Community Air Monitoring Plan (CAMP) for air monitoring locations for fugitive dust.

In addition, Action Levels for particulates for workers were calculated for using the most conservative OSHA Permissible Exposure Limits (PELs)[3] and average soil concentrations for constituents that were detected above NYSDEC SCOs in a minimum of 1% of the samples collected in the Study Area. Action Levels for workers were calculated using the following equation:

$$\text{Action Level (AL)} = \frac{[\text{Exposure Limit (mg/m}^3\text{) x 1,000,000}]}{[\text{Concentration of contaminant (mg/Kg) x 2}]}$$

The PELs and calculated Action Levels for particulates for workers are provided in the table below.

[3] OSHA Permissible Exposure Limits (PELs) are available at www.osha.gov/dsg/annotated-pels/tablez-1.html

Particulate Action Levels for Workers

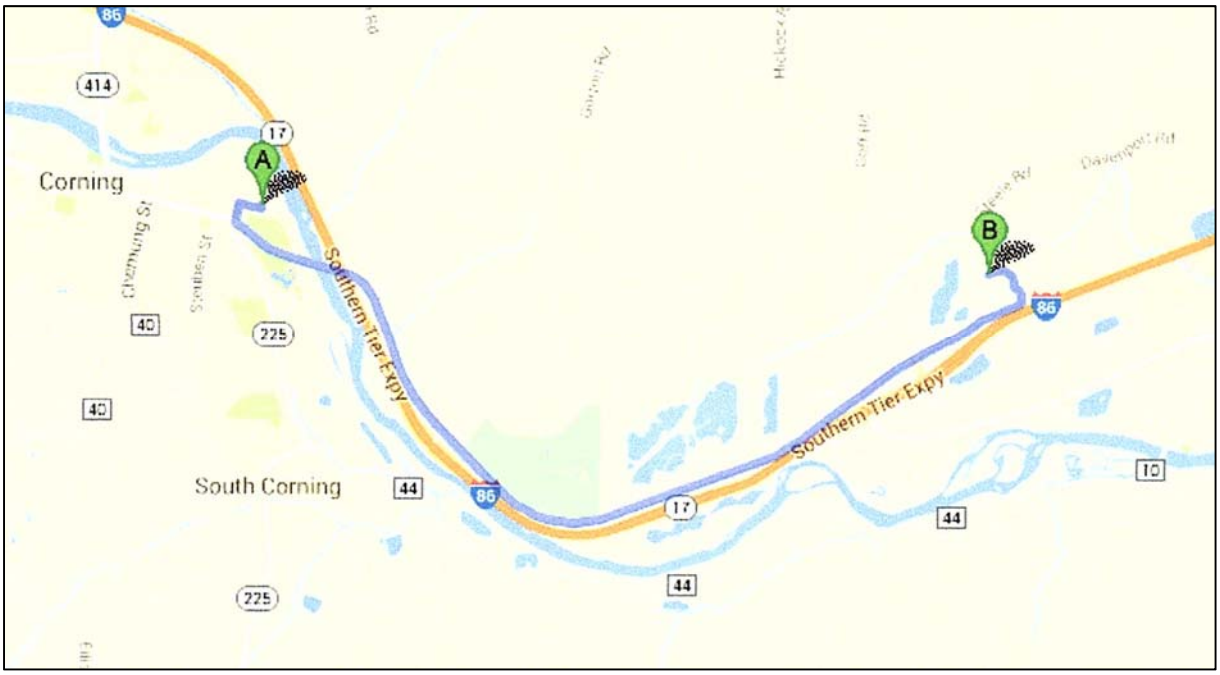
Compound	Average Analytical Result (mg/Kg)	Exposure Limit (mg/m^3)	Source	Action Level (mg/m^3)
Arsenic, Total	13.3	0.01	ACGIH 2016 TLV, 8-hr TWA	375
Barium, Total	157	0.5	CAL/OSHA PEL, 8 hr-TWA	1,590
Cadmium, Total	6.32	0.005	CAL/OSHA PEL, 8 hr-TWA	395
Chromium, Total	15.3	0.5	CAL/OSHA PEL, 8 hr-TWA	16,300
Lead, Total	165	0.05	ACGIH 2016 TLV, 8-hr TWA	152
Mercury, Total	0.156	0.025	CAL/OSHA PEL, 8 hr-TWA	80,300
2-Methylnaphthalene	0.232	None		
Benz(a)anthracene	0.631	0.2	CAL/OSHA PEL, 8 hr-TWA	159,000
Benzo(a)pyrene	0.640	0.2	CAL/OSHA PEL, 8 hr-TWA	156,000
Benzo(b)fluoranthene	0.943	0.2	CAL/OSHA PEL, 8 hr-TWA	106,000
Benzo(k)fluoranthene	0.434	None		
Chrysene	0.751	0.2	CAL/OSHA PEL, 8 hr-TWA	133,000
Dibenz(a,h)anthracene	0.202	None		
Indeno(1,2,3-cd)pyrene	0.544	None		

To be conservative, the Action Level for particulates for workers is set at the action level for fugitive dust of 100 $\mu g/m^3$ greater than the background (measured at the upwind location) for a 15 min-time period (i.e., the Action Level set by NYSDEC for the Community Air Monitoring Program).

6. CONTINGENCIES

6.1 Emergency Contacts and Phone Numbers		
Agency	**Contact**	**Phone Number**
Fire Department		911
Police Department		911
Poison Control		(800) 222-1222
Local Medical Emergency Facility		
Name of Hospital: Guthrie Corning Hospital		
Address: 1 Guthrie Drive, Corning, NY 14830		Phone No.: 607-937-8674
Type of Service: X Physical trauma only ☐ Chemical exposure only ☐ Physical trauma and chemical exposure ☐ Available 24 hours		**Travel time from site:** 9 Minutes **Distance to hospital:** 5.2 Miles **Name/no. of 24-hr ambulance service:** 911

6.2 Hospital Map



This map is subject to Google's Terms of Service, and Google is the owner of rights therein. Portions of this image may have been removed for clarity.

6.3 Directions to Hospital

A 59 Canisteo St, Corning, NY 14830

	1. Head **south** on **Canisteo St** toward **Woodview Ave**	go 82 ft total 82 ft
	2. Take the 1st right onto **Woodview Ave**	go 0.1 mi total 0.1 mi
	3. Take the 1st left onto **Conhocton St**	go 495 ft total 0.2 mi
352	4. Take the 2nd left onto **NY-352 E/E Corning Rd/Denison Pkwy E** Continue to follow NY-352 E/E Corning Rd About 5 mins	go 3.8 mi total 4.0 mi
	5. Continue straight onto **E Corning Rd** Destination will be on the left About 2 mins	go 1.2 mi total 5.2 mi

B **Guthrie Corning Hospital**
1 Guthrie Drive, Corning, NY 14830

6.4 Response Plans

Medical - General Provide first aid, if trained; assess and determine need for further medical assistance. Transport or arrange for transport after appropriate decontamination.	First Aid Kit: ☒ Yes ☐ No Blood Borne Pathogens Kit: ☒ Yes ☐ No	**Type** Appropriate sized ANSI-approved Type III Kit, plus BBP	**Location** In vehicle near work area
	Eyewash required ☒ Yes ☐ No	**Type** Saline Solution	**Location** In vehicle near work area

Plan for Response to Spill/Release		**Plan for Response to Fire/Explosion**		**Fire Extinguishers**
In the event of a spill or release, ensure safety, assess situation, and perform containment and control measures, as appropriate.	Cleanup per SDSs if small spill/release; If large spill/release that cannot be cleaned up per SDS: a. Sound alarm, call for assistance, notify Emergency Coordinator b. Evacuate to pre-determined safe place c. Account for personnel d. Determine if team can respond safely e. Mobilize per Site Spill Response Plan	In the event of a fire or explosion, ensure personal safety, assess situation, and perform containment and control measures, as appropriate:	a. Sound alarm and call for assistance, notify Emergency Coordinator b. Evacuate to predetermined safe place c. Account for personnel d. Use fire extinguisher only if safe and trained in its use e. Stand by to inform emergency responders of materials and conditions	Type/Location ABC/Vehicle
Plan to Respond to Security Problems 911 Emergency				

7. DECONTAMINATION PLAN

7.1 Personnel Decontamination

Used PPE will be properly disposed/

Levels of Protection Required for Decontamination Personnel

The levels of protection required for personnel assisting with decontamination will be:

☐ Level B ☐ Level C ☒ Level D

Disposition of Decontamination Wastes

All waste soil/water generated during site activities will be containerized in 55-gallon drums or other appropriate containers (as described in the RAWP for OU1, OU2 and OU5). The filled containers will be staged in a secure, designated area. The waste soil and water will be properly disposed of by a certified waste handler, in accordance with analytical results.

Liquid drums/containers will be placed inside a secondary containment structure, and staged within the fenced area.

Equipment Decontamination

Heavy equipment will be decontaminated in accordance with the RAWP for OU1, OU2 and OU5.

Temporary decontamination structures will be equipped with bermed side walls, in order to contain all fluids. All decontamination fluids will be pumped daily into 55-gallon drums, no more than ¾ full, and staged within secondary containment. Liquid drums will be emptied of their contents as needed by a certified waste hauler.

Decontamination procedures are detailed in the RAWP for OU1, OU2 and OU5 (see the Standard Operating Procedures (SOPs) - Appendix C).

Sampling Equipment Decontamination

All non-dedicated sampling and monitoring equipment will be decontaminated in accordance with the decontamination procedures in the RAWP for OU1, OU2 and OU5 of the Study Area Appendix C (Standard Operating Procedures [SOPs]). If sampling equipment is single-use only materials (including glass jars, nitrile gloves, plastic paint trays, disposable spoons and plastic bags) no decontamination activities will be required for these items.

7.2 Level D Decontamination Plan

Check indicated functions or add steps, as necessary:

Function	Description of Process, Solution, and Container
☐ Segregated equipment drop	
☐ Boot cover and glove wash	
☐ Boot cover and glove rinse	
☐ Tape removal - outer glove and boot	
☐ Boot cover removal	
☒ Outer glove removal	Disposable PPE (nitrile gloves) will be discarded in designated areas and disposed
HOTLINE	
☐ Suit/safety boot wash	
☐ Suit/boot/glove rinse	
☐ Safety boot removal	
☐ Suit removal	
☐ Inner glove wash	
☐ Inner glove rinse	
☐ Inner glove removal	
☐ Inner clothing removal	
CONTAMINATION REDUCTION ZONE (CRZ)/SAFE ZONE BOUNDARY	
☐ Field wash	
☐ Redress	

Disposal Plan, End of Day:
Single-use PPE (nitrile gloves, ear plugs) will be disposed of in approved containers at the completion of a work task. Non-disposable PPE will be wiped clean (hard hats, safety boots, safety glasses) if visibly soiled. In general, Level D activities will not require personnel decontamination.

Disposal Plan, End of Week:
NA

Disposal Plan, End of Project:
Disposable sampling equipment will be disposed of in accordance with applicable waste management procedures. Sampling equipment that is not dedicated disposable equipment will be decontaminated in accordance with the procedures in the RAWP for OU1, OU2 and OU5 of the Study Area.

8. TRAINING AND BRIEFING TOPICS/SIGN OFF SHEET

The following items will be covered at the site-specific training meeting, daily or periodically.	
☒ Site characterization and analysis, Sec. 3.0, 29 CFR 1910.120 I	☐ Level A
☒ Physical hazards	☐ Level B
☒ Chemical hazards	☐ Level C
☒ Animal bites, stings, and poisonous plants	☒ Level D
☐ Etiologic (infectious) agents	☒ Monitoring, 29 CFR 1910.120 (h)
☒ Site control, 29 CFR 1910.120 d	☒ Decontamination, 29 CFR 1910.120 (k)
☒ Engineering controls and work practices, 29 CFR 1910.120 (g)	☒ Emergency response, 29 CFR 1910.120 (l)
☒ Heavy machinery	☒ Elements of an emergency response, 29 CFR 1910.120 (l)
☐ Forklift	☒ Procedures for handling site emergency incidents, 29 CFR 1910.120 (l)
☒ Backhoe	☒ Off-site emergency response, 29 CFR 1910.120 (l)
☒ Equipment	☒ Handling drums and containers, 29 CFR 1910.120 (j)
☒ Tools	☐ Opening drums and containers
☐ Ladder, 29 CFR 1910.25.26.26 + 29 CFR 1926.1053	☐ Electrical material handling equipment
☒ Overhead and underground utilities	☐ Radioactive waste
☐ Scaffolds	☐ Shock-sensitive waste
☐ Structural integrity	☐ Laboratory waste packs
☐ Unguarded openings - wall, floor, ceilings	☐ Sampling drums and containers
☐ Pressurized air cylinders	☒ Shipping and transport, 49 CFR 172.101, IATA
☒ Personal protective equipment, 29 CFR 1910.120 (g); 29 CFR 1910.134	☐ Tank and vault procedures
☐ Respiratory protection, 29 CFR 1910.120 (g); ANSI Z88.2	☐ Illumination, 29 CFR 1926.26
☐ Working over water	☐ Sanitation, 29 CFR 1926.27
☐ Boating safety	☒ Proper lifting techniques
☒ Heat Stress / Cold Stress	☒ Lead, Arsenic, Cadmium exposure training

HEALTH AND SAFETY PLAN APPROVAL/SIGNOFF FORM

Site Name: Study Area, Corning, New York (Activities performed under the RAWP for OU1, OU2 and OU5)

I understand, agree to, and will conform to the information set forth in this Health and Safety Plan (and attachments) and discussed in the personnel health and safety briefing(s).

Name	Signature	Date

ATTACHMENT A
CHEMICAL CONTAMINANTS DATA SHEETS

ATTACHMENT B
AIR SAMPLING DATA SHEETS

AIR MONITORING PROGRAM

Field Data Sheets

Location:

% LEL	% O_2	PID (units)	FID (units)	Aerosol Monitor (mg/m^3)	GM: Shield Probe/ Thin Window		NaI (uR/hr)	ZnS (cpm)
					mR/hr	cpm		
Monitox (ppm)				**Detector Tube(s)**				
Sound Levels (dBA)		**Illumination**	**pH**	**Other**	**Other**	**Other**	**Other**	**Other**

Location:

% LEL	% O_2	PID (units)	FID (units)	Aerosol Monitor (mg/m^3)	GM: Shield Probe/ Thin Window		NaI (uR/hr)	ZnS (cpm)
					mR/hr	cpm		
Monitox (ppm)				**Detector Tube(s)**				
Sound Levels (dBA)		**Illumination**	**pH**	**Other**	**Other**	**Other**	**Other**	**Other**

AIR MONITORING/SAMPLING DATA LOG

Client:	**W.O. No.:**	**Sample No.:**
Address:	**Sampled By:**	**Date:**

Employee and Location Information

Employee Name:	**Employee No.:**	**Job Title**:

Respirator ☐ APR ☐ ½ Mask ☐ Full Face ☐ PAPR ☐ ½ Mask ☐ Full Face ☐ Hood ☐ SAR ☐ ½ Mask ☐ Full Face ☐ Hood ☐ SCBA	**Manufacturer:**	**Cartridge Type:**

PPE: ☐ Hard Hat ☐ HPD ☐ Gloves ☐ Safety Shoes ☐ Coveralls ☐ Other:

Sampling Data

Sampling Type: ☐ Personal ☐ TWA ☐ STEL ☐ Area ☐ Source ☐ Full Shift ☐ Partial Shift ☐ Grab	**Media:**	**Pump Type/Serial No.:** /
Calibrator/Serial No.: /	**Pre-Calibration:** 1. 2. 3. **avg-pre:**	**Post-Calibration:** 1. 2. 3. **avg-post**:

Start Time:	**Restart Time:**	**Restart Time:**	**Avg. Flow rate:**	**% Change:**
1st Stop Time:	**2nd Stop Time:**	**3rd Stop Time:**	**Total Time:**	**Volume:**

Multiple Samples for this TWA: ☐ Yes ☐ No	**Multiple Chemical Exposures:** ☐ Yes ☐ No	**Exposure Time:** ☐ Normal ☐ Worst Case

Sampling Conditions

Weather Conditions:

Temp: R.H: B.P.: Other:

Engineering Controls:

Substances Evaluated

Substance	Result	Substance	Result	Substance	Result

Observations and Comments

QA by: _____ **Date:** _____

APPENDIX B

COMMUNITY AIR MONITORING PLAN (CAMP)

Appendix B
Community Air Monitoring Plan

Remedial Action Work Plan
Residential Areas (OU1, OU2 and OU5)

Corning, NY
NYSDEC Project IS 851046

April 6, 2018

Prepared for

Corning Incorporated
Corning, New York

Prepared by

WESTON SOLUTIONS, INC.
West Chester, Pennsylvania 19380

W.O. No. 02005.056.002

TABLE OF CONTENTS

LIST OF ACRONYMS

CAMP	Community Air Monitoring Plan
COPCs	constituents of potential concern
HASP	Health and Safety Plan
mg/m^3	milligrams per cubic meter
$\mu g/m^3$	micrograms per cubic meter
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PDI	Pre-Design Investigation
WESTON®	Weston Solutions, Inc.

1. INTRODUCTION

This Community Air Monitoring Plan (CAMP) has been prepared by Weston Solutions, Inc. (WESTON®) on behalf of Corning Incorporated to detail the dust control and air monitoring procedures to be performed during the execution of remedial activities in the Residential Areas (OU1, OU2 and OU5) of the Study Area located in Corning, New York. In general the Study Area is bound by the Chemung River to the south; Post Creek and Interstate 86 to the east and north; and the Guthrie Medical Center, the City of Corning Fire Department, and Centerway to the west (Study Area). This air monitoring plan will supplement the existing Health and Safety Plan (HASP).

As presented in the Remedial Action Work Plan (RAWP), remedial activities are planned to be conducted within the Study Area. Air monitoring for dust particulates and dust control techniques will be performed during subsurface excavation and backfilling activities.

2. METHODS

Perimeter air monitoring for dust particles will be conducted at two stations, one generally located upwind, and one generally located downwind of any intrusive activity. In addition, due to the close proximity of athletic playing fields and schools, more stringent CAMP requirements will be necessary. Common-sense measures to keep dust at a minimum around the work areas will also be implemented to ensure that the children are protected at all times. No visible dust will leave the work area.

As the location of excavation and backfilling activities will change, the location of the monitoring point relative to the activities will be modified as needed. The monitoring location will be positioned to provide data representative of potential migration of dust in the direction of nearby receptors. The perimeter monitoring equipment will be portable, which will allow the monitoring network to be adjusted if needed to adapt to changes in activities or meteorological conditions.

Particulate monitoring is the measurement of fine liquid or solid particles such as dust, smoke, mist, fumes or smog, in particle sizes less than 10 microns (PM_{10}), in the ambient air. During excavation and backfilling activities, the generation of dust particles will be monitored. The

equipment selected to monitor PM_{10} will be the Thermo Electron Corporation personal DataRAM (pDR), or equivalent. The pDR is a light-scattering monitor, designed for measuring airborne particulates such as aerosols and dusts. The units are portable and measure the concentration of airborne particulate matter (up to 10 µm in size) continuously and in real time, with results expressed in milligrams per cubic meter (mg/m^3), or 1,000 micrograms per cubic meter ($\mu g/m^3$). Particulate concentrations can be measured over the following ranges: 0.01 – 10 mg/m^3 (equivalent to 10 – 10,000 $\mu g/m^3$) and 0.1 – 100 mg/m^3 (equivalent to 100 – 100,000 $\mu g/m^3$). The pDR meets performance standard for a real-time particulate monitor according to the New York State Department of Environmental Conservation (NYSDEC) Technical Guidance for Site Investigation and Remediation; May 2010.

Special Requirements for Work Within 20 Feet of Potentially Exposed Individuals or Structures:

When work areas are within 20 feet of potentially exposed populations or occupied structures, the continuous monitoring locations for particulates must reflect the nearest potentially exposed individuals and the location of ventilation system intakes for nearby structures. The use of dust suppression techniques and/or engineering controls such as vapor/dust barriers or special ventilation devices should be considered to prevent exposures related to the work activities and to control dust and odors. Consideration should be given to implementing the planned activities when potentially exposed populations are at a minimum, such as during weekends or evening hours in non-residential settings.

3. CALIBRATIONS

Calibration of instruments will be performed prior to the start of daily activities. Additional calibrations will be performed as needed or whenever maintenance is performed involving the functional elements of the unit. Calibration data will be documented in the field log book or on designated calibration log sheets.

4. DATA RECORDING

The data collected during the monitoring program will be used for real-time data display and notification to on-site personnel when the action levels are exceeded (action levels are discussed

in Section 5). All ambient air monitoring data will be recorded in the site field logbook or designated field sheets and the results of the air monitoring will be communicated to the NYSDEC and New York State Department of Health (NYSDOH) on scheduled basis (i.e. daily for levels which require actions, weekly for routine monitoring data).

5. ACTION LEVELS

The action level established in this document will be used as an indicator that potential excessive migration of dust particles may be occurring during the remedial activities. Monitored ambient air concentrations above the action level will result in actions being taken to more stringently control fugitive emissions or trigger quantitative sampling.

The NYSDEC recommended action level for fugitive dust is 100 $\mu g/m^3$ greater than background (measured at the upwind location) for a 15 minute period. At this concentration, work may continue with dust suppression techniques provided that no visible dust is migrating from the working area, and the downwind particulate levels do not exceed 150 $\mu g/m^3$ greater than background (measured at the upwind location). If the downwind particulate levels exceed 150 $\mu g/m^3$ greater than background (measured at the upwind location), work will stop and dust suppression techniques will be re-evaluated.

If the perimeter monitors detect concentrations above the 100 $\mu g/m^3$ action level, Site supervisory personnel will be notified. Notifications will be sent to the WESTON Site Manager and the Site Health and Safety Officer. Upon receiving the notification message, the supervisor will assess the situation and initiate appropriate administrative and/or engineering controls to mitigate the migration of dust particles.

Special Requirements for Work Within 20 Feet of Potentially Exposed Individuals or Structures:

If total particulate concentrations opposite the walls of occupied structures or next to intake vents exceed 100 $\mu g/m^3$, work activities should be suspended until controls are implemented and are

successful in reducing the total particulate concentration to 100 $\mu g/m^3$ or less at the monitoring point.

APPENDIX C

STANDARD OPERATING PROCEDURES (SOPS)

DECONTAMINATION
STANDARD OPERATING PROCEDURE C.1

1.0 Scope and Application

1.1 This standard operating procedure (SOP) is generally applicable to the development and application of a decontamination program for a field investigation program in level D health and safety protection.

2.0 Summary of Method

2.1 This document has been prepared to assist personnel with the performance of specific tasks and procedures related to decontamination procedures during implementation of certain investigation activities. The procedures addressed in this SOP include the following:

- Personnel Decontamination Procedures
- Decontamination of Drilling Equipment
- Decontamination of Sampling Equipment
- Decontamination of Support Equipment
- Management of Investigation Derived Waste (IDW)

3.0 Health and Safety Issues

3.1 As with any activities associated with potential contaminants, work tasks should be conducted in strict accordance with Environmental Protection Agency (EPA), Occupation Safety & Health Administration (OSHA), client, and WESTON safety policy and procedures. This should include preparation of a site-specific Health and Safety Plan (HASP) to ensure that all aspects of potential risk are evaluated and properly addressed. A HASP has been prepared for the Study Area (see Appendix A of the Work Plan).

4.0 Personnel Qualifications

4.1 All field personnel with potential for exposure to contaminated media are required to take the 40-hour Health and Safety Training and regular refresher courses prior to engaging in any field effort. Certificates for each person should be incorporated into the site HASP. Additionally, all field personnel should have medical clearance in accordance with the HASP.

5.0 Equipment and Supplies

5.1 The equipment necessary for decontamination in the field may vary depending on the activities being conducted. A general list of equipment that may be utilized is as follows:

- Nitrile gloves
- Alconox (or other non-phosphate soap solution)
- Potable or distilled water
- 10% nitric acid rinse (only if sample is to be analyzed for metals)
- Hexane
- Isopropyl alcohol
- Paper towels
- Plastic (polyethylene) sheeting
- Containers for storage of decontamination liquids (e.g., poly-tank or 55-gallong drums)
- Approved Work Plan

6.0 Decontamination Activities

6.1 The following are the steps to be considered for decontamination of equipment and personnel during field investigation activities. The effectiveness of the decontamination process should be evaluated as part of the Work Plan.

7.0 Personnel Decontamination

7.1 The following steps should be followed for personnel decontamination:

- Remove any gross debris from gloves and place it in the designated waste accumulation point.
- Remove nitrile gloves, taking care not to contact the outside of the gloves, and place the gloves in the designated waste accumulation point.

8.0 Decontamination of Drilling Equipment

8.1 Decontamination of drilling equipment (e.g., augers, rods) should be conducted prior to and between drilling locations. This should be conducted in a manner to contain all fluids and cuttings, and may include a temporary decontamination pad specifically constructed for this purpose. Potable water should be available for the decontamination pad area. The following steps should be considered during the decontamination process:

- Position the equipment on the pad to avoid release of debris or overspray beyond the pad area.
- Don nitrile gloves and safety glasses.
- Remove gross debris from equipment and contain at a designated waste accumulation point.
- Thoroughly wash the equipment using a steam cleaner and potable water.
- Contain wastewater at a designated accumulation point.

Additional Steps for Non-Dedicated Sampling Equipment

- Don nitrile gloves
- Remove any gross debris or expendables and place it into the designated waste accumulation point
- Wash the equipment in a non-phosphate soap solution.
- Thoroughly rinse the equipment with potable or distilled water.
- Contain wastewater at a designated accumulation point.

9.0 Decontamination of Field Monitoring Equipment

- Don nitrile gloves.
- Remove any gross debris and place it into the designated waste accumulation point.
- Wipe the outside of the equipment with a moist towel.

10.0 Decontamination of Pumps and Electrical Equipment

10.1 Equipment involving internal components sensitive to decontamination fluids or electrical equipment, such as well pumps and water level indicators, that may be damaged by standard decontamination procedures can be decontaminated as follows:

- Place the submersible pump into a non-phosphate soap solution and operate the pump to ensure adequate rinsing of the internal pump assembly. For water level measurement devices, unreel the tape into the soap solution and agitate.
- Place the equipment into a potable water rinse. Operate pumps as described above to remove any residual soap solution.
- Rinse measurement tapes by agitating in potable or distilled water.

11.0 Investigation Derived Waste Management

IDW from the investigation activities should be properly managed to ensure safety to site personnel and to reduce the potential of impact to other areas of the site by the wastes. Wastes may include expendable sampling items such as gloves, plastic sheeting, paper towels, pump tubing, or bailers; media solids including soil cuttings or decontamination debris; or liquids such as well purge fluids or decontamination fluids. Should media be encountered that potentially meets the classification as a hazardous waste, these materials should be properly contained, labeled and stored until a formal waste characterization may be achieved. Final disposition should be based on the classification of the waste. Personnel should segregate all IDW according to the classifications identified above for final disposition. The following procedures should be considered to ensure proper management of IDW:

11.1 Expendable Materials

Expendable items are commercially acquired materials used in support of field activities. These materials may include but are not limited to packaging, paper towels, plastic sheeting, etc.

These materials should be placed into plastic garbage bags placed within the areas of activity or carried on the vehicle. Upon completion of the activity or when the bag has filled, the wastes should be placed into a designated disposal area for disposal of solid waste.

11.2 Solid Media Waste

Sampling-derived waste included in this category may include the following:

- Soil cuttings
- Solids accumulated during decontamination
- Personal protection equipment (PPE)

Unless otherwise authorized, cuttings should be placed into 55-gallon drums, sealed, labeled with the date, contents, and location; and subsequently transferred to a designated soil staging location until the waste can be adequately characterized and properly disposed.

Solids accumulated during decontamination should be placed into 55-gallon drums. Once filled, each drum should be sealed, identified with the contents and date, and transferred to the onsite staging area for subsequent testing prior to disposal.

PPE should also be placed into a 55-gallon drum, sealed, labeled with contents and date, and transferred to the onsite staging area for subsequent testing prior to disposal.

11.3 Liquid Media Waste

Liquid wastes potentially generated during investigation activities may include the following:

- Drilling fluids
- Purged well water
- Decontamination fluids

Unless otherwise authorized, liquid wastes generated during the investigation should be containerized in 55-gallon drums, or other appropriate storage (i.e. polyethylene tanks). Containerized liquids should be labeled with the date, contents and location, and transferred to the staging pad for subsequent testing prior to disposal.

12.0 Data and Records Management

12.1 All data and information (e.g., location of decontamination pad, water source, site conditions) should be documented within site logbooks or field data sheets.

SOIL SAMPLING
STANDARD OPERATING PROCEDURE C.2

1.0 Scope and Application

1.1 This standard operating procedure (SOP) is generally applicable to the development and application of a soil sampling program including discussion of methodology and equipment. The procedures discussed in this document focus on the collection of surface soil samples (within approximately two feet from ground surface) utilizing manual hand-operated equipment and the collection of subsurface soil samples utilizing Geoprobe® and/or hollow-stem auger drilling techniques.

2.0 Summary of Method

2.1 This document has been prepared to assist personnel with the performance of specific tasks and procedures related to the collection of surface soil samples (0 to 2 feet below ground surface [ft bgs]) and subsurface soil samples (greater than 2 ft bgs). Where possible, Geoprobe drilling technology should be considered for subsurface soil sampling to minimize the quantity of investigative derived waste (IDW) generated during sampling activities. A hollow-stem auger drill rig should be utilized to install borings in locations where a Geoprobe cannot penetrate to the desired depth.

3.0 Health and Safety Issues

3.1 As with any activities associated with potential contaminants, work tasks should be conducted in accordance with applicable Environmental Protection Agency (EPA), Occupation Safety & Health Administration (OSHA), client and WESTON safety policy and procedures. This should include preparation of a site-specific Health and Safety Plan (HASP) to ensure that all aspects of potential risk are evaluated and properly addressed. A HASP has been prepared for the Study Area (see Appendix A of the Work Plan).

4.0 Personnel Qualifications

4.1 All field personnel with potential for exposure to contaminated media on site are required to take the 40-hour Health and Safety Training and regular refresher courses prior to engaging in any field effort. Certificates for each person should be incorporated into the site HASP. Additionally, all field personnel should have medical clearance in accordance with the HASP.

5.0 Equipment and Supplies

5.1 To the extent possible, equipment used for sampling should be constructed of inert materials such as stainless steel or polyethylene. Ancillary equipment such as auger flights may be constructed of other materials.

5.2 Selection of equipment is usually based on the depth of the samples to be collected, but it is also controlled to a certain extent by the characteristics of the material. Equipment and supplies that may be required as part of this SOP include the following:

- Stainless steel hand-operated bucket auger
- Stainless steel or polyethylene scoops
- Stainless steel bowls or disposable plastic/polyethylene trays
- Stainless steel split-barrel sampler
- Plastic zip-sealed bags
- Survey stakes or survey flags
- Permanent markers
- Field logbook/field sheets
- Photoionization detector (PID)
- Area maps, ruler, waterproof pens
- Measuring tape (100 foot)
- Munsell Soil Color Reference Guide
- Shovel or post-hole diggers
- Safety equipment (e.g. safety shoes, safety glasses, hard hat, nitrile gloves, leather gloves, first aid kit)
- Plastic (polyethylene) sheeting
- Sample bottles, and labels
- Trip blanks
- Chain-of-custody forms
- Coolers
- Approved Work Plan
- Radio or cell phone
- Truck or suitable off-road vehicle

6.0 Sample Collection – Preparation

Pre-sampling preparation activities may include:

- Determine the extent of the sampling effort, the sampling methods to be employed, minimum sample volume requirements, and which equipment and supplies are needed.

- Obtain necessary sampling and monitoring equipment.

- Decontaminate or pre-clean equipment (see decontamination SOP), and ensure that equipment is in working order.

- Use stakes or flags to identify and mark sampling locations. If required, the proposed locations may be adjusted based on site access, utility clearance and surface obstructions.

7.0 Sample Collection – Secondary Parameters

- Soil characterization data should be collected during soil sampling. Visual observations of soil color and texture, descriptions of soil horizons, moisture, the presence of any non-native material should be recorded on field data sheets or in the field logbook (as necessary).

8.0 Sampling Methodology

8.1 Surface Sampling Procedures

1. This discussion of soil sampling methodology is generally applicable to the collection of surface soil samples using scoops or hand augers.

2. Sampling locations may be tentatively located prior to mobilization to the site based on historic records, aerial photographs, and site drawings. Upon entering the field, the proposed area should be evaluated to confirm that samples collected from the area meet the objectives of the investigation in accordance with the Work Plan. The following procedures may be applied to the site for sampling:

    - Conduct reconnaissance of the area to locate appropriate sample locations (modify locations if necessary as previously discussed).
    - Designate the location with a unique sample identifier and place a stake or survey flag at the location with the sample site identification.
    - Don gloves and prepare equipment. If hand augers are to be used, leather gloves are permitted provided there is no contact with the sampled media.
    - Begin construction of the sample boring by removing the soil horizon (upper soil horizon containing the vegetative root mat generally high in organic debris).
    - Continue the boring until the desired depth is achieved.

- Collect soil from the sampling interval using decontaminated or disposable equipment (scoop or auger).
- Collect grab samples (as required in accordance with the Work Plan).
- For composite sampling (excluding VOCs), place the soil from the sampling into a decontaminated disposable tray for blending (blend the soil until the soil is adequately homogenized).
- Adequately describe the sample including sample depth, soil color, texture, moisture content and a soil description.
- When adequate volume is achieved, blend the soil in the bowl until the soil is adequately homogenized.
- Place the soil media into appropriately prepared laboratory containers.
- Seal, label, and place the containers into a cooler.
- Adequately describe the sample location. May include site setting, vegetation, drainage conditions, depth to sampling location, and a soil description.
- Complete the chain-of-custody.
- Decontaminate the sampling equipment (according to the procedures outlined in to the Decontamination SOP).
- Dispose of expendable items in the waste allocation area and backfill sampling site (as necessary).

8.2 Subsurface Soil Sampling

This discussion of soil sampling methodology is applicable to the collection of subsurface soil samples using Geoprobe or hollow-stem auger drilling techniques using stainless steel split-barrel samplers. The following procedures may be applied to the site for sampling:

- Don gloves and expose the surface soil by either pulling barrels apart or cutting the boring liner.
- Follow necessary Work Plan procedures for logging of the soil core and sample collection.
- Adequately describe the sample including sample depth, soil color, texture, moisture content and a soil description.
- Collect grab samples (as required in accordance with the Work Plan).
- For composite sampling (excluding VOCs), place the soil from the sampling into a decontaminated disposable tray for blending (blend the soil until the soil is adequately homogenized).
- Place the soil media into appropriately prepared laboratory containers.
- Seal, label, and place the containers into a cooler.
- Complete the chain-of-custody.
- Decontaminate the sampling equipment (according to the procedures outlined in to the Decontamination SOP.

9.0 Data and Records Management

All data and information (e.g., sample collection method used) must be documented on field data sheets or within site logbooks.

APPENDIX D

NYSDEC LETTER FOR USEPA GENERATOR ID NUMBER

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Region 8
6274 East Avon-Lima Road, Avon, NY 14414-9516
P: (585) 226-5353 I F: (585) 226-8139
www.dec.ny.gov

July 21, 2017

Mr. Michael Ford, P.E.
Corning Incorporated
HP-ME-03-83
Corning, New York 14831

Dear Mr. Ford:

Subject: Waste manifested under EPA ID Number NYR000232645

This letter is to confirm that it is acceptable and appropriate for waste generated by Corning Incorporated as a part of investigation and remediation of the Study Area (Site Number 851046) to be manifested under the above referenced waste generator number regardless of the physical address within the Study Area where waste is being generated and loaded. This letter applies to investigation/remediation derived solid and hazardous wastes being shipped from any location within the Study Area boundaries to an authorized solid or industrial waste landfill(non-hazardous solid waste), such as the Steuben County Landfill, or to an appropriately permitted hazardous waste treatment, storage or disposal facility.

The Study Area was initially defined in the Order on Consent (Index No. B8-0835-14-07) with Corning Incorporated as the area bounded by Pyrex Street on the west, E. Pulteney Street on the north, Post Creek on the east, and the Chemung River on the south. The area has been expanded to include the area characterized by the Department as the "Expansion Area." The Expansion Area is further bounded by I-86 to the north, Centerway (NYS Route 414) to the west, and the Guthrie Medical Center property to the South. Please see the attached map.

The physical address associated with the above-referenced EPA ID number is for the Department approved staging area at 397 Woodview Avenue in Corning New York, however, it is intended to be a site-wide generator ID. As such, it is with the Department's consent that investigative and remedial waste from any property within the Study Area including the expansion area as described above be handled under this ID. The waste need not be taken to the staging area prior to being loaded and manifested under ID number NYR000232645.

If you or any of your contractors have any questions or concerns regarding this issue, please contact me at 585-226-5351, or via email at kelly.cloyd@dec.ny.gov.

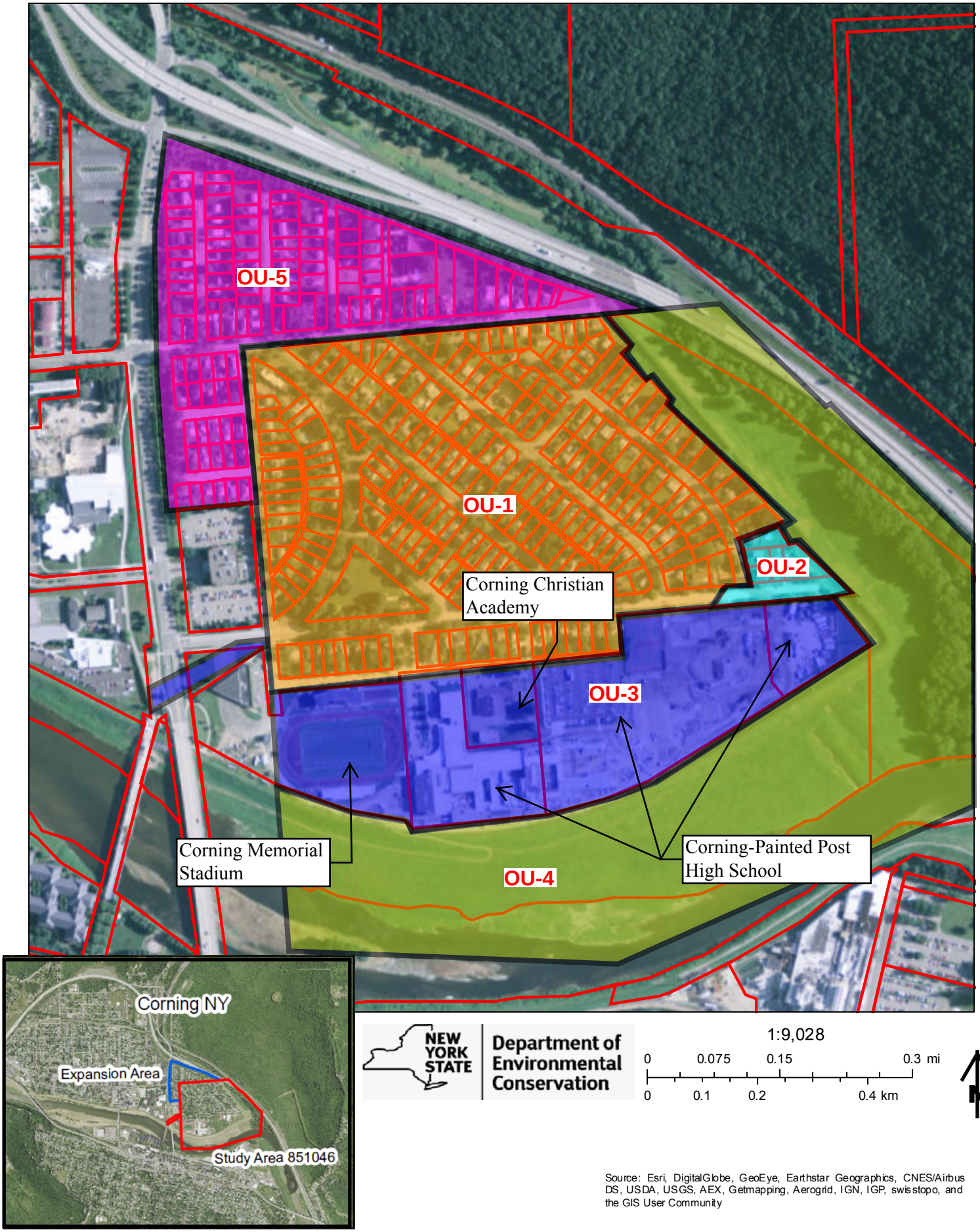
Sincerely,

Digitally signed by Kelly Cloyd
DN: cn=Kelly Cloyd, o=DER - Region 8 - Avon, ou=DER - Region 8 - Avon, email=kccloyd@gw.dec.state.ny.us, c=US
Date: 2017.07.21 14:04:25 -04'00'
Adobe Acrobat version: 11.0.2

Kelly C. Cloyd, Ph.D.
Engineering Geologist 2

enclosure
ec: B. Conlon
M. Cruden
M. Doroski
K. Douglas
S. Foti
B. Schilling
J. Sontag

Study Area Operable Units



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

APPENDIX E

NYSDEC APPROVAL LETTER

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Region 8
6274 East Avon-Lima Road, Avon, NY 14414-9516
P: (585) 226-5353 I F: (585) 226-8139
www.dec.ny.gov

March 30, 2018

Mr. Michael Ford, P.E.
Corning Incorporated
HP-ME-03-83
Corning, New York 14831

Dear Mr. Ford:

Subject: Remedial Action Work Plan, Residential Areas (OU1, OU2, and OU5), Study Area, dated March 16, 2018, Site Number 851046

The Department in consultation with NYSDOH reviewed and hereby approves the above-referenced document with the following clarifications.

The "draft" stamp and restrictive settlement confidential language must be removed as the document will need to be made available to the public. Once this is done and the document is signed and stamped, please place it in the Document Repositories with this letter attached.

The RAWP indicates that the PDI work plan was submitted as Draft on October 18, 2017 and approved on November 1, 2018. Please note, the Draft PDI work plan was initially submitted on March 15, 2017 and conditionally approved on April 6, 2017. Corning Incorporated chose to revise and resubmit the draft plan after the Department's conditional approval. The resubmission date was October 18, 2017.

The Department's January 26, 2018 letter, commenting on the RAWP, included a comment regarding addressing quality of life issues on properties being remediated. The comment was not addressed in the revised plan. It is, however, the Department's understanding based on our February 21, 2018 conference call with Corning Incorporated's representatives, that Corning Incorporated will work diligently with owners of properties requiring remediation to satisfactorily address any quality of life issues associated with the remedial activities to be completed on their properties.

The Department's January 26, 2018 letter, commenting on the RAWP, included a comment regarding the size of replacement trees. The comment was not addressed in the revised plan. It is, however, the Department's understanding based on our February 21, 2018 conference call with Corning Incorporated's representatives, that Corning Incorporated will work diligently, with owners of properties where large mature trees will be replaced as a result of remedial work,

to satisfactorily address any of the owners concerns regarding the size of replacement trees.

The SOP contained in Appendix C was not previously submitted with the work plan. It is referred to as containing procedures for decontaminating construction equipment used during the remedial work. No such procedures are contained in the SOP provided. The SOP clearly states in its first paragraph that it applies to a field **investigation** program. The procedures described in the SOP for decontamination of drilling equipment are, however, appropriate and acceptable for use to decontaminate the excavation equipment used during remediation.

If you have any questions or concerns regarding this correspondence, please contact me at 585-226-5351, or via email at kelly.cloyd@dec.ny.gov.

Sincerely,

Kelly C. Cloyd, Ph.D.
Engineering Geologist 2

Ec: B. Conlon
M. Cruden
J. Deming
M. Doroski
K. Douglas
S. Foti
M. Ryckman
B. Schilling
J. Sontag
S. Williams