[SEQ CHAPTER \h \r 1]U. S. ENVIRONMENTAL PROTECTION AGENCY, REGION 7
TARGETED BROWNFIELDS ASSESSMENT APPLICATION FORM

Use only for Properties within Region
Iowa, Kansas, Missouri, Nebraska, and Tribal Lands bordered by these states

APPLICANT: City of Maquoketa
ADDRESS: 201 E Pleasant St
CITY: Maquoketa STATE: Iowa ZIP: 52060
CONTACT PERSON: Gerald Smith and/or Frank Ellenz PHONE: 563.652.2484 and/or 563.652.4628

PROPERTY NAME: Former Clinton Engines & Clinton Engines Museum
PROPERTY ADDRESS: 605 Maple St and Unnumbered Maple St (Parcel #s: 145181938200900, 145181938200700; 145181938200800)
CITY: Maquoketa COUNTY: Jackson STATE: IA ZIP: 52060

CURRENT PROPERTY OWNER NAME (if different from above):
ADDRESS: Jackson County Historic Society
CITY: Maquoketa STATE: IA ZIP: 52060
PHONE: Bonnie Mitchell at 563.249.1776
Jackson County Historic Society owns one of the three parcels. The other two parcels are still owned by the City of Maquoketa

IF PROPERTY IS OWNED BY APPLICANT, DID APPLICANT OBTAIN THE PROPERTY THROUGH:
G FORECLOSURE G PURCHASE G OTHER (SPECIFY: BY DEFAULT AFTER COMPANY WENT BANKRUPT
DATE PROPERTY OBTAINED: 12/20/2000

IF PROPERTY IS NOT OWNED BY APPLICANT, WILL APPLICANT OBTAIN THE PROPERTY THROUGH:
G FORECLOSURE G PURCHASE G OTHER (SPECIFY): Not applicable

IF PROPERTY IS NOT OWNED BY APPLICANT, WILL APPLICANT BE ABLE TO OBTAIN LEGAL PERMISSION FOR EPA OR EPA'S REPRESENTATIVES TO ENTER THE PROPERTY TO CONDUCT SITE ASSESSMENT ACTIVITIES? G YES G NO
EXPLAIN:
Jackson County Historic Society has been working jointly with the city in conjunction with the IDNR in having the property assessed for contaminants

IS THERE ANY REASON TO BELIEVE THE PROPERTY IS CONTAMINATED WITH:
G CERCLA-RELATED HAZARDOUS SUBSTANCES G PETROLEUM G CONTROLLED SUBSTANCES,
OR IS G MINE-SCARRED LAND?
G YES (describe below) G NO G UNKNOWN
(hazardous substances as defined in 40 CFR Part 30, e.g., solvents, pesticides, creosote, metals (lead, mercury, arsenic, etc.), dry cleaning products; controlled substances as defined under the Controlled Substances Act, e.g., methamphetamines, other illegal drugs)
Chlorinated solvents including trichloroethylene (TCE), cis 1,2-dichloroethylene, 1,2-transdichloroethylene, toluene, 1.1.2-trichloroethane and vinyl chloride concentrations

IF PROPERTY IS OWNED BY APPLICANT, DID APPLICANT
(1) GENERATE OR DISPOSE OF ANY OF THE CONTAMINANTS? G YES (describe below) G NO G UNKNOWN
(2) OWN THE PROPERTY WHEN CONTAMINATION OCCURRED? G YES (describe below) G NO G UNKNOWN
REGARDLESS OF PROPERTY OWNERSHIP, IS APPLICANT AWARE OF ANY FEDERAL, STATE, OR LOCAL AGENCY INQUIRY OR ORDER REGARDING ANY PARTY'S RESPONSIBILITY FOR CONTAMINATION OR HAZARDOUS WASTE AT THE PROPERTY?
G YES (describe below) G NO

BRIEFLY DESCRIBE INVOLVEMENT / ROLE OF AGENCY IN ENFORCEMENT AND / OR OVERSIGHT OF THE INQUIRY OR ORDER:
Not applicable

PROPERTY ZONING (attach site map, if available):	**TOTAL ACREAGE OF PROPERTY:**
Industrial (I-2)	10.86

PAST PROPERTY USES (type of manufacturing, etc.):	**APPROXIMATE DATES:**
Clinton Machine Company – manufacture of small gasoline engines	1950 – 1989
Parcel #145181938200700 – museum	2004-present

BUILDINGS ON PROPERTY	**SQUARE FOOTAGE**	**CONDITION** (usable, gutted, razed, etc.)
Museum-Office	5,379 sf	usable-currently in use
Storage – Morton Building	8,000 sf	usable-currently in use
Historic Train Depot (added by Museum)	800 sf	usable-currently in use

PRIOR PROPERTY/SITE ASSESSMENT ACTIVITIES: G COMPLETED G NONE G UNKNOWN

DESCRIBE CONCLUSIONS OF PRIOR SITE ASSESSMENT ACTIVITIES (or attach "conclusion" section of report(s)):

A Phase II environmental site assessment report dated July 30, 2019 compiled all groundwater data from the previous 2013 and 2014 groundwater sampling and analysis events with the 2019 groundwater data. VOCs constituents were compared to the risk-based standards outlined in IAC 567 Chapter 137: Iowa Land Recycling Program (ILRP) Statewide Standards. The complete laboratory analytical reports from the 2019 assessment are presented as Appendix B. Chlorinated solvents including trichloroethylene (TCE), cis 1,2-dichloroethylene, 1,2-transdichloroethylene, toluene, 1.1.2-trichloroethane and vinyl chloride concentrations exceeding the Iowa Department of Natural Resources (IDNR) non-protected groundwater source action levels have been identified up to 0.64-miles to the northeast; 0.12-miles to the northwest; 0.06-miles to the west and 0.2-miles south southeast of the Property and to a maximum depth explored of 79-feet below the ground surface. A complete listing of impacted parcels is presented in Appendix C, Table 1. Potential chlorinated solvent exposure pathways into affected properties include groundwater vapor to confined space receptors (i.e., basements, sanitary sewer mains and service lines), sub-slab vapor accumulation and permeation of chlorinated solvents into water mains and service lines.

Based on the findings and conclusions resultant of data collected during the 2013, 2014 and 2019 groundwater investigations, the historic operations of the former Clinton Engine Works had contributed to concentrations of chlorinated solvent contamination in groundwater exceeding the non-protected Statewide Standards. As such, Impact7G recommends the following actions and monitoring efforts:

• Continued monitoring from the onsite permanent groundwater monitoring wells MW-1 through MW-8.
• Further discern the vertical extent of chlorinated solvent contamination and monitoring plume dynamics by installing 14 additional groundwater monitoring wells, eight of which to be nested with existing monitoring wells MW-1 through MW-8 and advance a total of four bedrock monitoring wells on the southeast, northeast, north and west sides to discern impacts to the underlying Silurian regional water supply aquifer.
• A draft corrective action design report (CADR) to evaluate at least three groundwater remediation strategies.
• Vapor intrusion assessment to discern risk to residential properties located along South Clark and South Matteson Street between Locust and Pleasant Street and at the residential trailer park located east of the Property.
• Complete a detailed assessment of water wells within the impacted groundwater area.
• Evaluation of the need for specifying engineering controls associated with new construction on parcels that exhibit potential exposure pathways associated with identified contaminants.
• Evaluation of the need for institutional controls by way of city ordinance that prevent existing non-residential zoned areas affected by the identified contaminants to be rezoned as residential unless engineering controls are designed into proposed developments that eliminate potential groundwater vapor exposure pathways.

The IDNR Phase II ESA review letter dated September 26, 2019 required further efforts if the City desired to remain in the LRP including: further horizontal and vertical delineation of the TCE plume and continued indoor air monitoring and corrective action at the Museum.

Spring 2019 Indoor Air Monitoring

Indoor air monitoring and sub-slab vapor monitoring was conducted at the Clinton Engines Museum in April of 2019. Monitoring results revealed concentrations of trichloroethene (TCE) collected from the basement media room indoor air sample (9.0 µg/m3) and the sub-slab vapor pin sample (79 µg/m3) exceeded the EPA generic regional carcinogenic and non-carcinogenic screening levels (SL). The detected TCE concentration collected from the basement community room (7.6 µg/m3) exceeded the carcinogenic screening levels but was below the non- carcinogenic SL. The detected TCE concentration from the 1st level museum and museum office indoor air samples were below the carcinogenic SLs. TCE concentration results from the community basement and basement media room were entered into the IDNR cumulative risk calculator for a site worker. The risk calculator non-cancer output by target organs heart, blood, and development function for the community basement (0.78) and the basement media room (0.92) were below a cumulative hazard quotient of 1.

The site worker cumulative risk for non-cancer output by target organs heart, blood and development function for TCE collect from the sub-slab vapor point (8.13) exceeded the cumulative non-cancer hazard quotient of one. Previous indoor air sampling cumulative risk calculations has also revealed non-cancer output hazard quotients greater than one. Given the current and historic concentration of TCE in air within the Property building and hazard quotient exceedances, the cumulative non-cancer risk criterion has not been achieved.

Based on the findings and conclusions resultant of data collected during the Supplemental Phase II ESA and according to risk calculations for a site worker scenario, the detected chemicals of concern do represent a risk to human health and the environment and further corrective actions, and subsequent assessment are needed.

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December 2019 Indoor Air Monitoring Event

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Since the Spring of 2019 monitoring event, a concrete sump pit located on the north side of the museum was passively vented and the basement floor cracks were sealed and repaired with epoxy coating. During the December 2019 monitoring event, the indoor air exchange system was operating at 0.3 air changes per hour (ACH). Analytical results revealed that the detected TCE concentrations had increased relative to the Spring 2019 monitoring event and the cancer and non-cancer SLs had been exceeded. It was concluded that the existing air exchange system was undersized and creating negative air pressure inside the museum building thus increasing the interior TCE air concentration. The museum upgraded their air exchange system to two HE1X1NH energy recovery ventilation units.

EPA Assistance

The City of Maquoketa engaged with the residential and commercial property owners located in proximity to the TCE plume to evaluate indoor and sub-slab TCE vapor concentrations. In June 2020, the EPA conducted sub-slab vapor sampling and analysis in several residential commercial structures. TCE was detected in indoor air and sub-slab vapor samples from several properties in proximity to the Clinton Engines Site. Residential property owners located adjacent to the museum along Clark Street chose not to participate in the assessment. Soil sampling and analysis was also conducted that revealed TCE present in soil.

September 2020 Indoor Air Monitoring Event

Two HE1X1NH ERVs with a typical air flow range of 925 CFM per unit, producing a total of 1.3 air exchanges per hour were installed at the Museum and running at the time of the September 2020 indoor air monitoring event. The detected concentrations of VOCs in air collected during the September 23, 2020 monitoring event were below the generic EPA regional SLs and did not exceed the DNR cumulative cancer or non-cancer risk outputs. The concentration of trichloroethene (TCE) collected from all interior locations and from the outdoor samples were below detectable laboratory reporting limits and below carcinogenic and non-carcinogenic SLs. Concentrations of tetrachloroethene (PCE) was detected in the community room basement and basement media room at concentrations of 14.8 µg/m3 and 36.8 µg/m3, respectively. The concentrations were below the EPA carcinogenic (47 µg/m3) and non-carcinogenic (180 µg/m3) regional SLs. Additional indoor monitoring during the winter of 2020/2021 was recommended to further evaluate the effectiveness of the upgraded air exchangers.

Proposal for Groundwater Monitoring Network Installation

An estimated was received by the City of Maquoketa which included task to further discern the vertical extent of chlorinated solvent contamination and monitoring plume dynamics by: installing 14 additional groundwater monitoring wells, eight of which to be nested with existing monitoring wells MW-1 through MW-8 and advance a total of four bedrock monitoring wells on the southeast, northeast, north, and west sides to discern impacts to the underlying Silurian regional water supply aquifer.

IF REPORTS ARE UNAVAILABLE, IDENTIFY CONSULTANT, CLIENT, AND APPROXIMATE DATE OF STUDY:

1. Phase II Vapor Environmental Site Assessment Former Clinton Engines Site – Impact7G, Inc. – 08/22/2019
2. Ground Penetrating Radar Report Form Clinton Engines Site – Impact7G, Inc. (GPRS) – 04/23/2019
3. Supplemental Phase II Environmental Site Assessment Former Clinton Engines Site – Impact7G, Inc. – 07/30/2019
4. Supplemental Phase II Vapor Environmental Site Assessment Former Clinton Engines Site – Impact7G, Inc. – 07/02/2019

The Eastern Iowa Regional Housing Corporation was at one time considering a portion of the site to construct low- and moderate-income housing for families and elderly. However, after speaking to regulatory agencies determined it could not move forward on the site due to the unknown extent and degree of contamination.

As such the real environmental impairments associated with the former Clinton Engines property have hindered any interest by public or private sector entities since cessation of operations in 1985. The known site contaminants pose numerous health and safety risk and limit the reuse of the site in its current condition.

ANTICIPATED FUTURE USE: G RESIDENTIAL G RECREATIONAL G COMMERCIAL / RETAIL G INDUSTRIAL

G OTHER (SPECIFY): TOURISM – EXPANSION OF MUSEUM

DESCRIBE APPLICANT'S PROPOSED REUSE PLAN:

Located just southeast of the downtown this site represents one of the greatest opportunities for redevelopment and reuse in this poverty afflicted area. Reuse plans for this site include expansion of the current museum to include prairie lands and an interactive outdoors learning center on farming in the Midwest. An additional reuse that is being considered is selling or leasing a portion of the property for solar energy use. The City believes that once the brownfield stigma is removed, the main portion owned by the City will be suitable for prime redevelopment and reuse. The City would like to have the area transformed into a traditional industrial or business park that provides additional jobs and will undoubtedly lower the poverty rate. Along with jobs, the business redevelopment would also provide tax revenue. Alternatively, the property has been pursued as an eco-friendly neighborhood. This type of redevelopment may not provide long-term jobs but will bolster the tax base within the community and provide affordable housing.

DESCRIBE ANY FINANCIAL INCENTIVES PLANNED TO SPUR DEVELOPMENT AND/OR CLEANUP AND PROPOSED FUNDING SOURCES (tax incentives, etc.):

(EPA's BTA program is for site assessment only; cleanup money is not being offered as part of this program.)

The city is working with ECIA, which administers a Brownfield RLF, to obtain cleanup funds once assessment has been completed. Additional sources of funds to aid in redevelopment include utilization of SBA 504 loans through ECIA and the Jackson County Revolving Loan Fund. The Iowa Economic Development Authority (IEDA) has an Iowa Brownfield/Grayfield Redevelopment Tax Credit Program and the City of Maquoketa has established an Urban Renewal/Tax Increment Financing district that encompasses the area. By promoting IEDA's Iowa Brownfield/Grayfield Redevelopment Tax Credit Program, the City can entice any potential developers to use green building methods. Using green building methods provides long-term benefits twofold to the community: a reduction in the amount of energy consumed by the development and also reduces the pollution generated not only from the development but from "energy producers" as well. The use of green building methods would also provide long-term financial benefits to any residents of a potential eco-friendly neighborhood by reducing their energy bills. This cost savings would be a beneficial asset in moving Maquoketa closer to the norm as compared to Jackson County and the State of Iowa average poverty and income levels. The Maquoketa Industrial Development Assistance Service (MIDAS) supports further development of industrial property, job creation, and expansion of the City's tax base. MIDAS is interested in seeing a portion developed into a lot for a future developer and they will provide a low-interest loan to the developer.

DESCRIBE PUBLIC INTEREST AND / OR COMMUNITY INVOLVEMENT IN PROPERTY REUSE PLANNING:

The City has been working closely with community-based organizations, advocacy groups, and interest parties to lock in the next development. To summarize:

- JCEA – Assist in promoting and marketing the project; assistance in redevelopment; promoting the former Clinton Engines property on its real estate website.
- ECIA – Will make SBA 504 loans and the Jackson County Revolving Loan Fund available to any private or other redevelopment entities that choose the former Clinton Engines property as its development location.
- MIDAS – Will make a low-interest loan available to future developers.
- Jackson County Historical Society – Will allow access to the museum property for additional assessment work, donate space within the museum for an informational Brownfields Kiosk and can provide meeting space for community outreach events. They are also interested in acquiring some of the remaining acres to further expand its operations and increase tourism in the community.
- In order to encourage the hiring of people from within the Maquoketa community, the City is working with the local high school and regional community college to promote vocational programs. These programs will provide sufficient trade skills for any industrial or trade jobs brought to the community by the redevelopment of the former Clinton Engines property. The reuse of the property has been discussed at various council meetings and dialog with the public will continue as the site becomes ready for reuse.

SUBMIT COMPLETED FORMS TO: Whitney Bynum, Targeted Brownfields Assessment Program
Mail Code: SUPR/BLRB
U. S. Environmental Protection Agency - Region 7
11201 Renner Blvd
Lenexa, Kansas 66219

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