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Environmental Assessment
Determinations and Compliance Findings for HUD-assisted Projects
24 CFR Part 58

This is a suggested format that may be used by Responsible Entities to document completion of an Environmental Assessment.

Project Information

Project Name: Orchard Manor

Responsible Entity: City of Flint

Grant Recipient (if different than Responsible Entity): Communities First, 415 West Court Street, Flint, Michigan 48503

State/Local Identifier: Flint, Michigan

Preparer: Sonya McLaurin, City of Flint: Community and Economic Development CD Grant Coordinator, 1101 South Saginaw Street, Flint, Michigan 48502, 810-766-7426, smclaurin@cityofflint.com

Certifying Officer Name and Title: Deyhana Thompson, City of Flint: Community and Economic Development CD Grant Supervisor, 1101 South Saginaw Street, Flint, Michigan 48502, 810-766-7426, dthompson@cityofflint.com

Grant Recipient (if different than Responsible Entity):

Consultant (if applicable): Christopher Yelonek, ASTI Environmental, 10448 Citation Drive, Suite 100, Brighton, Michigan 48116, 810-225-2800, cyelonek@asti-env.com

Direct Comments to: Sonya McLaurin, City of Flint: Community and Economic Development CD Grant Coordinator, 1101 South Saginaw Street, Flint, Michigan 48502, 810-766-7426, smclaurin@cityofflint.com

Project Location: Parcel 40-11-351-001, 2765 Flushing Road, Flint, Michigan 48504

Description of the Proposed Project [24 CFR 50.12 & 58.32; 40 CFR 1508.25]**:** The proposed project seeks to construct a new multifamily property on a vacant lot at Parcel: 40-11-351-001, 2765 Flushing Road, Flint Township, Michigan (Subject Property). The proposed project seeks to construct 21 one-bedroom apartments and 13 two-bedroom apartments for a total of 34 mixed-income apartments. A 619 square foot community space is planned to be part of the proposed project. 17 of the apartments of the proposed project will be reserved for households who are homeless veterans, homeless individuals and families, and the move vulnerable residents as indicated by the local Continuum of Care prioritization process. The apartments of the proposed project will seek the proposed target income list of 5 units for 30 percent of area median income (AMI), 27 units for 60 percent AMI, and 2 units for 80 percent AMI. 17 of the 27 units for 60 percent AMI will be permanent support housing.

Statement of Purpose and Need for the Proposal [40 CFR 1508.9(b)]: The Subject Property is located in the City of Flint, which is west adjacent to an extant apartment complex on a key commercial corridor of the Mott Park Neighborhood. The City of Flint has sought to seek reinvestment in the Mott Park Neighborhood. The City of Flint has experienced high demand for safe and affordable housing. Additionally, the housing stock in the City of Flint is predominantly single-family homes with little diversity in the housing stock. The proposed project seeks to help address the lack of diverse housing stock and the need for safe affordable housing with the inclusion of 34 affordable apartments of differing income levels. 17 of the 34 affordable apartments will be permanent supportive housing.

Existing Conditions and Trends [24 CFR 58.40(a)]: The market study (Tab Attachment 1) conducted by NOVOGRADAC for the proposed project noted that the surrounding area of the Subject Property consists largely of single-family homes. There are commercial uses are present to the north, the Orchard Lane apartment complex to the east, and the proposed Orchard Grove project to the west. The intersection of Flushing Road and North Ballenger Highway is the closet commercial corridor which is west of the Subject Property.

There is a lack of diverse housing stock around the Flint metro area, with predominately single-family homes. The City of Flint has lagged in investing in affordable housing and housing diversity. The Subject Property is located in the Mott Park Neighborhood which has been identified by the City of Flint as a neighborhood in need of investment. The Subject Property is located near the Flushing Road commercial corridor. The City of Flint has experienced severe economic downturn with several factories closing in the metro area, two major recessions, and the water crisis have failed to attract investments in the Flint Metro area, including residents. The employment rate for Flint increased 2.5 percent as of July 2021, but the unemployment rate of the remains at 7.4 percent, above the national average of 5.7 percent. The population of the Project Market Area (PMA) and the City of Flint has decreased from 2000 to 2021. It is projected that the overall population will continue to decline in the City of Flint through 2026.

Within the PMA, there is a significant portion of the renter households earning less than $60,000.00 annually. The overall, average vacancy rate for all 22 studied rental properties stands at 1.1 percent with the range being 0 to 33.3 percent. For the affordable housing rental properties, the average vacancy rate is 1.4 percent, with the range being 0 to 2.5 percent. Orchard Lane, a market rate apartment complex has a vacancy rate of 33.3 percent, with all vacant units undergoing maintenance. All of the affordable housing rental properties have waiting lists for their affordable units. The market study noted there is a high demand for affordable housing and stabilized occupancy for all 34 units with expected to be achievable for the Subject Property.

Funding Information

Grant Number	HUD Program	Funding Amount
TBD	Tax Credit Equity	$7,093,878.00
TBD	Deferred Developer Fees	$553,295.00
TBD	City of Flint HOME	$1,207,094.20
TBD	City of Flint HOME Operating	$10,000.00

Estimated Total HUD Funded Amount: $8,627,173.00

Estimated Total Project Cost (HUD and non-HUD funds) [24 CFR 58.32(d)]**:** $9,000,000.00

Compliance with 24 CFR 50.4, 58.5, and 58.6 Laws and Authorities

Record below the compliance or conformance determinations for each statute, executive order, or regulation. Provide credible, traceable, and supportive source documentation for each authority. Where applicable, complete the necessary reviews or consultations and obtain or note applicable permits of approvals. Clearly note citations, dates/names/titles of contacts, and page references. Attach additional documentation as appropriate.

Compliance Factors: Statutes, Executive Orders, and Regulations listed at 24 CFR §58.5 and §58.6	Are formal compliance steps or mitigation required?	Compliance determinations
STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 and 58.6		

Airport Hazards 24 CFR Part 51 Subpart D	Yes ☐ No ☒	The Subject Property is 3.40 miles from Bishop International Airport and 4.23 miles from Dalton Airport. The Subject Property is outside of all airport clear and accident potential zones. The proposed project is in compliance with this statute. See Appendix P for the airports location map.
Coastal Barrier Resources Coastal Barrier Resources Act, as amended by the Coastal Barrier Improvement Act of 1990 [16 USC 3501]	Yes ☐ No ☒	The Subject Property is located in Genesee County, a landlocked county in the State of Michigan thus, there are no coastal barrier resources within Genesee County. See Appendix Q for the John H. Chafee Coastal Barrier Resources System of Michigan.
Flood Insurance Flood Disaster Protection Act of 1973 and National Flood Insurance Reform Act of 1994 [42 USC 4001-4128 and 42 USC 5154a]	Yes ☐ No ☒	The Subject Property is located is Zone X, the Area of Minimal Flood Risk Hazard, illustrated in FEMA flood map of 26049C0188D, effective September 25, 2009, of the City of Flint. The project does not require flood insurance. See Appendix D for the FIRMETTE.
STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 & 58.5		
Clean Air Clean Air Act, as amended, particularly section 176(c) & (d); 40 CFR Parts 6, 51, 93	Yes ☐ No ☒	The Subject Property is located within Genesee County, which is in an air attainment zone. No further analysis is required. The proposed project is in compliance with this statue. See Appendix J for the EPA air attainment map of Michigan.
Coastal Zone Management Coastal Zone Management Act, sections 307(c) & (d)	Yes ☐ No ☒	The Subject Property is located within Genesee County, a land locked county in the State of Michigan and there are no Coastal Management Zones within Genesee County. See Appendix F for a list of Coastal Management Zones of Michigan.
Contamination and Toxic Substances 24 CFR Part 50.3(i) & 58.5(i)(2)	Yes ☒ No ☐	The Subject Property is located within Genesee County. The EPA has classified Genesee County as Zone 2 for Radon. EGLE has listed that 20 percent of homes within Genesee County have tested equal to or above 4 pCi/L guideline. The radon assessment cannot be completed until the proposed building envelope has been

		constructed and can be enclosed. See Appendix N for the radon maps of Michigan. Phase I ESA July 21, 2022 ASTI Environmental was retained to conduct a Phase I Environmental Site Assessment (ESA) (Tab Attachment 2) of the Subject Property. ASTI has performed the Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527-13. ASTM Practice E1527-21, and MSHDA requirements of the Subject Property. The assessment has revealed the following recognized environmental conditions (RECs), controlled recognized environmental conditions (CRECs), and/or significant data gaps in connection with the Subject Property. • In the 1957 aerial photograph, apparent surface disturbance indicative of grading and unknown filling operations was identified on the Subject Property extending on to the western adjoining property. During the site reconnaissance, fill materials and debris consisting of concrete/brick/metal were observed on the southern portion of the Subject Property. A steep bank (approximately 10-feet high) was present sloping down to the southern adjoining properties. Miscellaneous trash and garbage were also present. The Subject Property appeared to be backfilled to grade for development. The type of backfill and grading materials, which were used prior to stricter permitting regulations, is unknown. The apparent filling operations are considered a REC. Phase II ESA February 27, 2023

		ASTI Environmental conducted a Limited Phase II ESA (Tab Attachment 3) on the Subject Property. The purpose of the Limited Phase II ESA was to identify if environmental impacts have occurred on the Subject Property from the RECs identified in the Phase I ESA. The laboratory analytical results for the soil samples collected at the Subject Property reported arsenic and selenium in the soil at concentrations exceeding the EGLE Part 201 GRCC. Based on the laboratory analytical results, it is ASTI's opinion that the Subject Property is a "facility" as defined in Part 201 of Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Part 201). ASTI recommends that a Baseline Environmental Assessment (BEA) be prepared for the Subject Property in order to secure statutory liability protection for the pre-existing soil contamination at the Subject Property. Additional soil, groundwater, or soil gas sampling may be necessary to further assess the Subject Property environmental conditions in order to fully determine the due care obligations and mitigation for the Subject Property. Phase II ESA May and September 2023 AKT conducted a Phase II ESA (see Tab Attachment 4) of the Subject Property. Three soil borings were completed in May 2023, and three more soil borings were completed in September 2023, where soil samples were collected. Three soil borings were completed for soil gas monitoring to a maximum depth of 5 feet bgs in May 2023. Six more soil borings were completed to a depth of 12 feet bgs for soil gas monitoring in September 2023. VOCs were not detected above the laboratory MDL in the soil samples, but mercury was detected is one soil sample exceeding the EGLE RCC GSIP criteria.

		Select PNAs were detected above the laboratory MDL in one soil boring, but were below the EGLE RCC, along with the Residential VIAP Screening Levels. Mercury was not detected in any of the soil gas samples above the laboratory MDL. No groundwater was encountered. Response Activity Plan October 11, 2023 AKT has completed a Response Activity Plan (ResAP) (Tab Attachment 4) for remediation activities on the Subject Property. The Subject Property has been impacted by the metals arsenic, chromium, and selenium in the shallow soils on the southern portion. On the northern portion of the Subject Property, the soils have been impacted by mercury in the shallow soil, approximately 3.5 to 4.5 feet below ground surface (bgs). Direct Contact All existing grass cover is to be removed and replaced with new surface cover. The majority of the Subject Property is to be covered with a building footprint and paved areas, which will prevent direct contact with the contaminated soils. For the portions of the Subject Property not to be paved over, 30 inches of topsoil are to be removed, followed by the installation of a demarcation barrier, back fill with 24 inches of certified clean fill sand, and the placement of 6 inches of clean topsoil. The operator of the Subject Property is to inspect the demarcation barrier weekly for any degradation of the clean fill materials and the paved areas are to be inspected monthly. All contaminated soils is to be disposed of at an appropriate landfill. All construction workers performing activities on the Subject Property are to be notified of the presence of contamination on the Subject Property. All contractors are to sign a form

		as an acknowledgement of notification of soil contamination present on the Subject Property. The ResAP was submitted to EGLE for review on October 17, 2023. A revised version of the ResAP was submitted to EGLE on December 5, 2023. After review of the revised ResAP, EGLE has approved the remedial activities to be performed on the Subject Property. See Appendix N for the EGLE approval letter.
Endangered Species Endangered Species Act of 1973, particularly section 7; 50 CFR Part 402	Yes ☐ No ☒	The Indiana Bat, Northern-long Eared Bat, Eastern Massasauga, and Eastern Prairie Fringed Orchid are listed in the Federally Listed Endangered and Threatened Species of Michigan, known to have critical habitats in Genesee County. The proposed project was submitted for review to the Fish and Wildlife Service, who determined that the project is anticipated to have no effect on the endangered species known to have critical habitats in Genesee County. See Appendix H.
Explosive and Flammable Hazards 24 CFR Part 51 Subpart C	Yes ☐ No ☒	There is one Above-ground Storage Tank (AST) within one mile of the Subject Property. The AST is located at 401 South Ballenger Highway has an acceptable separation distance for thermal radiation for people of 405.12 feet, where the AST is 3,125 feet away from the Subject Property and is at an acceptable separation distance. See Appendix O.
Farmlands Protection Farmland Protection Policy Act of 1981, particularly sections 1504(b) and 1541; 7 CFR Part 658	Yes ☐ No ☒	The soil on the Subject Property consists of Urban-land Crosier complex, Urban-land Williamstown complex, and Urban-land Crosier-Williamston complex. None of the soils on the Subject Property are classified as prime farmland. The proposed project is in compliance with this statute. See Appendix K for the soils report.
Floodplain Management	Yes ☐ No ☒	The Subject Property is located is Zone X, the Area of Minimal Flood Risk Hazard,

Executive Order 11988, particularly section 2(a); 24 CFR Part 55		illustrated in FEMA flood map of 26049C0188D, effective September 25, 2009, of the City of Flint. The project is in compliance with this statute. See Appendix D for the FIRMETTE.
Historic Preservation National Historic Preservation Act of 1966, particularly sections 106 and 110; 36 CFR Part 800	Yes ☐ No ☒	The proposed project underwent a Section 106 review and a Phase I Archaeology Survey. In a letter dated December 20, 2022, the State Historic Preservation Office of Michigan reviewed the project and determined that no historic properties are affected through the proposed project. See Appendix C for the SHPO response letter.
Noise Abatement and Control Noise Control Act of 1972, as amended by the Quiet Communities Act of 1978; 24 CFR Part 51 Subpart B	Yes ☒ No ☐	A noise assessment was conducted on the Subject Property by SES Environmental. The Day/Night Calculator (DNL) concluded the noise level to be at 72 dBs within the normally unacceptable range. See Appendix M for the noise assessment. STraCAT The proposed project underwent a STraCAT analysis, which identified that the combined sound transmission classification (STC) for the wall assembly is 33.62. The required STC rating is 30 dB for the proposed project to achieve an interior noise level of 45 dB. The proposed project does meet the required STC rating, therefore, the proposed project is in compliance with this statute. See Appendix M.
Sole Source Aquifers Safe Drinking Water Act of 1974, as amended, particularly section 1424(e); 40 CFR Part 149	Yes ☐ No ☒	There are no sole source aquifers within the State of Michigan. The proposed project is in compliance with this statute. See Appendix G.
Wetlands Protection Executive Order 11990, particularly sections 2 and 5	Yes ☐ No ☒	There are no wetlands on or near the Subject Property. The proposed project is within compliance with this Executive Order. See Appendix E.
Wild and Scenic Rivers	Yes ☐ No ☒	There are no designated wild and scenic rivers within Genesee County, where the Subject Property is located. See Appendix I.

Wild and Scenic Rivers Act of 1968, particularly section 7(b) and (c)		
ENVIRONMENTAL JUSTICE		
Environmental Justice Executive Order 12898	Yes ☐ No ☒	Within a one mile radius of the Subject Property, 55 percent of the population are low income and 13 percent of the local population is unemployed. The proposed project could help address the needs of the local population with affordable housing and employment. See Appendix L for the EJ Screen report.

Environmental Assessment Factors [24 CFR 58.40; Ref. 40 CFR 1508.8 &1508.27] Recorded below is the qualitative and quantitative significance of the effects of the proposal on the character, features and resources of the project area. Each factor has been evaluated and documented, as appropriate and in proportion to its relevance to the proposed action. Verifiable source documentation has been provided and described in support of each determination, as appropriate. Credible, traceable and supportive source documentation for each authority has been provided. Where applicable, the necessary reviews or consultations have been completed and applicable permits of approvals have been obtained or noted. Citations, dates/names/titles of contacts, and page references are clear. Additional documentation is attached, as appropriate. **All conditions, attenuation or mitigation measures have been clearly identified.**

Impact Codes: Use an impact code from the following list to make the determination of impact for each factor.

(1) Minor beneficial impact
(2) No impact anticipated
(3) Minor Adverse Impact – May require mitigation
(4) Significant or potentially significant impact requiring avoidance or modification which may require an Environmental Impact Statement

Environmental Assessment Factor	Impact Code	Impact Evaluation
LAND DEVELOPMENT		
Conformance with Plans / Compatible Land Use and Zoning / Scale and Urban Design	**2**	The proposed project involves the construction of new apartments and townhouses within the City of Flint. In the City of Flint's *Master Plan for a Sustainable Flint*, adopted in October 2013, the city set the goal of creating a greater variety and an increase of housing stock. Additionally, the City of Flint plans to increase density on Flushing Road, near Ballenger Highway by designated the area as a City Corridor. The Subject Property is currently zoned as D-1 Office District. The proposed

		scale and design of the project is similar to the other multi-family housing along Flushing Road. See Appendix R.
Soil Suitability/ Slope/ Erosion/ Drainage/ Storm Water Runoff	**2**	The Subject Property was the location of previous developments circa 2006. The slope of the Subject Property is at 0 to 6 percent and is relatively flat. None of the identified soils on the Subject Property are known for pooling or flooding, thereby, erosion is not anticipated to have an adverse effect. The Soil drainage class ranges from somewhat poorly to moderately soil drainage class. The soil primary consists of Urban-land Crosier Complex which has a low water runoff class. Other identified soils on the Subject Property have a moderate water runoff class. See Appendix K.
Hazards and Nuisances including Site Safety and Noise	**2**	The proposed project will incorporate fencing for resident parking, security cameras, and secure building entry through key fobs. An onsite management office will supervise onsite security. The project proposes the construction of a mixed use residential/commercial development. The proposed project is not anticipated to be a noise generator.

Environmental Assessment Factor	Impact Code	Impact Evaluation
SOCIOECONOMIC		
Employment and Income Patterns	**2**	The proposed project will have a temporary increase of construction jobs in the City of Flint area. No adverse effects are anticipated through the proposed project on employment and income patterns.
Demographic Character Changes, Displacement	**1**	The proposed project is anticipated to bring greater urban density through the construction of more diverse housing stock. No displacement will occur, since the Subject Property is currently a vacant lot.
Environmental Justice	**1**	Within a one mile radius of the Subject Property, 55 percent of the population are low income and 13 percent of the local population is unemployed. The proposed project could help address the needs of the local population with affordable housing and employment. See Appendix L for the EJ Screen report.

Environmental Assessment Factor	Impact Code	Impact Evaluation
COMMUNITY FACILITIES AND SERVICES		

Educational and Cultural Facilities	**2**	Summerfield School is the nearest preschool school to the Subject Property which is 1,901 feet away and located at 1360 Milbourne Avenue. Durant-Tuuri-Mott Elementary School is the nearest elementary school to the Subject Property at 1518 University Avenue and is 1.06 miles away. Holmes STEM Middle School is located at 6602 Oxley Drive, the nearest middle school to the Subject Property, which is 3.10 miles away. The Southwestern Classical Academy is the nearest high school to the Subject Property at 2.25 miles away at 1420 West 12th Street. Additionally, there is Mott Middle College which provides dual enrollment in high school and community college, located at 1401 East Court Street, 2.89 miles away from the Subject Property. No educational facilities are anticipated to be adversely affected by the proposed project. There are several cultural facilities near the Subject Property for future residents to participate in. Some of the nearby cultural facilities nearby are the Flint Children's Museum, Flint West 14 Cinema, Sherman's Lounge music venue, the Stockton Center at Spring Grove a museum, the YMCA of Greater Flint, Haskell Community Center, the Flint Public Library, Flint Township-McCarty Library, and Genesee District Library. Additionally, there are several churches, mosques, and local organizations that provide cultural engagement. See Appendix R.
Commercial Facilities	**1**	The nearest commercial corridor to the Subject Property is at the intersection of Flushing Road and North Ballenger Highway which is 632 feet away from the Subject Property. The Flushing and Ballenger commercial corridor does include a Save A Lot grocery store, several restaurants, and King Arthur Pastries and Bakery. Another commercial corridor is at Corunna Road and I-75, which is 1.75 miles away from the Subject Property. Some of the commercial facilities at the Corunna/I-75 commercial corridor includes Kroger grocery store, Aldi grocery store, automotive retail, restaurants, Walmart, Sam's Club, and Home Depot. An increase in population in the area of the Subject Property may lead to an increase in commercial demand. See Appendix R.
Health Care and Social Services	**2**	There are a number of health care services within the area of the Subject Property. McDaniel's Dawn dentistry is 149 feet away, the McLaren Flint Hospital Campus is 3,137 feet away, the Flushing Road Urgent Care is 5,077 feet away, Clark Family Dentistry is 1.18 miles away, and Hurley Medical Center is 1.16 miles away from the Subject

		Property. Rite Aid Pharmacy is 553 feet away from the Subject Property. Additionally, Beecher Road Family Pharmacy is immediately south of the McLaren Flint Hospital Campus on Beecher Road. Social services within the area include MDCD Employment Services Agency 1.78 miles away and the Michigan Department of Health and Human Services is 1.91 miles away from the Subject Property. See Appendix R.
Solid Waste Disposal / Recycling	**2**	The proposed project will utilize a private contractor for solid waste disposal. No adverse effects are anticipated through the proposed project on solid waste disposal.
Waste Water / Sanitary Sewers	**2**	The proposed project is planning to connect to the City of Flint's Sewer system. No adverse effects are anticipated concerning wastewater and sanitary sewers of the Subject Property.
Water Supply	**2**	The proposed project is planning to connect to the City of Flint's water supply system. No adverse effects are anticipated concerning the water supply of the proposed project.
Public Safety - Police, Fire and Emergency Medical	**2**	The City of Flint Police Department provides law enforcement for the city, located at 210 5th Street, and is 2.34 miles away from the Subject Property. The City of Flint's Fire Department serves all fire emergencies for the city and surrounding communities. The Flint Fire Department Station #1 is located at 310 East 5th Street and Flint Fire Department #3, are 2.38 miles and 1.37 miles respectively away from the Subject Property. The City of Flint Fire Department also provides emergency medical services to the city and surrounding communities. No adverse effects are anticipated concerning emergency services in connection to the proposed project. See Appendix R.
Parks, Open Space and Recreation	**2**	There are a number of parks, open space, and recreation near the Subject Property. The Eldorado Vista Park in Flint Township is 2,606 feet away from the Subject Property, containing an open field, playground, and tennis courts. Mott Park is 1,811 feet away from the Subject Property, featuring open fields, a disk golf course, an amphitheater, tennis courts, and a playground. The Riverview Canoe Landing, Canoe and Kayak Launch is 3,884 feet away from the Subject Property, which is a paddle boat launch on the Flint River. The Haskell Park and Community Center is 4,157 feet away from the Subject Property, containing baseball fields, a community center, and tennis courts. No adverse effects are anticipated to affect parks near the Subject Property by the proposed projects. See Appendix R.

Transportation and Accessibility	**2**	The Mass Transportation Authority (MTA) provides public transportation for the Flint Metro area. The nearest bus stop is 721 feet away from the Subject Property on the west side of North Ballenger Highway connecting to Route 12. Route 12 connects to route 3 and the MTA Customer Service Center. The MTA also provides Your Ride services for persons without access or physical impairment from utilizing the fixed route services. The nearest MTA Your Ride service center is Flint West Your Ride at 1401 South Dort Highway, 3.86 miles away from the Subject Property. The Subject Property is nearby I-75, I-69, and I-475 which connect the Subject Property to the rest of the State of Michigan. Transportation is not anticipated to be adverse by the proposed project. See Appendix R.

Environmental Assessment Factor	Impact Code	Impact Evaluation
NATURAL FEATURES		
Unique Natural Features, Water Resources	**2**	There are no unique natural features or water resources on the Subject Property. The Subject Property is a vacant lot consisting of a grass lawn.
Vegetation, Wildlife	**2**	A grass lawn is the only known vegetation on the Subject Property. The Subject Property is located within the City of Flint, where no known wildlife is anticipated to have habitats on vacant lots consisting of grass lawns.
Other Factors		

Environmental Assessment Factor	Impact Code	Impact Evaluation
CLIMATE AND ENERGY		
Climate Change Impacts	**1**	Based on FEMA's National Risk Index database, the Subject Property located in Genesee County, Michigan has a relatively moderate risk index for experiencing natural disasters, particularly natural disasters induced by climate change. To further breakdown the risk index of Genesee County, there is a relatively moderate expected annual loss, the social vulnerability is relatively high, and the community resilience is relatively high. Of the 14 natural disasters known to occur in Michigan, tornadoes, lighting, cold wave, and ice storms have a relatively high rating for the expected annual loss in Genesee County. Additionally, strong winds have a very high expected annual loss rating

		in Genesee County. The average daily maximum temperature of 2053 predicted for Flint, Michigan are 63.4 degrees with higher emissions and 61.9 degrees, compared to 56.9 degrees of the 1961-1990 observed average. The Subject Property is located near public transit stops within walking distance and a commercial corridor with a pharmacy. The proposed project is seeking to pursue NGBS Silver and Net Zero energy certification Additionally, the proposed project is an infill development within an urbanized area. Cumulatively, the proposed project is anticipated to help potential future residents to have a lower carbon footprint lifestyle. See Appendix R.
Energy Efficiency	**2**	The proposed project will seek to pursue NGBS Silver and Net Zero energy certifications. The pursuit of the energy certification for the proposed project will help reduce energy consumption with the predicted increase in population for the area.

Additional Studies Performed:

Orchard Manor – Flint, MI – Market Study. Communities First, Incorporated. Novogradac.

Phase I Environmental Site Assessment: Orchard Manor Apartments, 2765 Flushing Road, Parcel A, 1.20 Aces, Flint, Michigan. Communities First, Incorporated. ASTI Environmental. July 21, 2022.

Limited Phase II Environmental Site Assessment: Orchard Manor Apartments, 2765 Flushing Road (Parcel A), Flint, Michigan. Communities First, Incorporated. ASTI Environmental. February 27, 2023.

Field Inspection (Date and completed by)**:**

List of Sources, Agencies and Persons Consulted [40 CFR 1508.9(b)]**:**

1. ASTI Environmental. Phase I Environmental Site Assessment: Orchard Manor Apartments, 2765 Flushing Road, Parcel A, 1.20-Acres, Flint, Michigan. ASTI Environmental Phase I Environmental Site Assessment prepared for Communities First, Incorporated. July 21, 2022.
2. ASTI Environmental. Phase II Environmental Site Assessment: Orchard Manor Apartments, 2765 Flushing Road, (Parcel A), Flint, Michigan. ASTI Environmental Phase II Environmental Site Assessment prepared for Client Name. Month Date, Year.
3. EDR. EDR Radius Map Report: 2765 Flushing Road, Flint, Michigan 48504, June 1, 2022. Shelton, CT: EDR, 2022.
4. Environment, Great Lakes, and Energy, Department of. Coastal Zone Boundary Maps: List of Coastal Zone Management Maps of Michigan (May 2020, Environment, Great Lakes, and Energy).

5. Environment, Great Lakes, and Energy, Department of. Percentage of Elevated Radon Test Results by County (December 2019, Environment, Great Lakes, and Energy).
6. Environmental Protection Agency. Michigan – EPA Map of Radon Zones (Environmental Protection Agency).
7. Environmental Protection Agency. "Region 5 Water: Designated Sole Source Aquifers in Region 5." Accessed June 25, 2022. http://www.epa.gov/r5water/gwdw/solesourceaquifer/.
8. Environmental Protection Agency. "Environmental Justice Screen." Accessed Month Date, Year. https://ejscreen.epa.gov/mapper/.
9. Environmental Protection Agency. "Sole Source Aquifers." Accessed June 25, 2022. https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=9ebb047ba3ec41ada1877155fe31356b.
10. Federal Emergency Management Agency. "FEMA Flood Map Service Center." Accessed June 17, 2022. https://msc.fema.gov/portal/home.
11. Federal Emergency Management Agency. "National Risk Index." Accessed Month Date, Year. https://hazards.fema.gov/nri/map.
12. Flint, City of. *Current City of Flint Zoning* (January 16, 2018).
13. Flint, City of. *Master Plan for a Sustainable Flint: Summary of Goals and Objectives*. Adopted October 28, 2013. Houseal Lavigne Associates.
14. Flint, City of: Fire Department. "Fire Department." Accessed July 25, 2023. https://www.cityofflint.com/department/fire-department/.
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16. Flint Community Schools. "Flint Community Schools." Accessed July 25, 2023. https://www.flintschools.org/.
17. Mass Transit Authority. "Mass Transit Authority." Accessed July 25, 2023. https://www.mtaflint.org/.
18. Michigan State Historic Preservation Office, Diane Tuinstra. Letter Correspondence ER22-1132, Orchard Manor Apartments Construction Project, 2765 Flushing Road Flint, Genesee County (HUD) to Deyhana Thompson. September 13, 2022.
19. Michigan State Historic Preservation Office, Amy Krull. Letter Correspondence ER22-1131, Orchard Grove Apartments Construction Project, 2765 Flushing Road, Flint, Genesee County (HUD) and ER22-1132, Orchard Manor Apartments Construction Project, 2765 Flushing Road Flint, Genesee County (HUD) to Deyhana Thompson. December 20, 2022.
20. Michigan State Housing Development Authority. Michigan Wild and Scenic Rivers (April 2018, Michigan State Housing Development Authority).
21. Mott Middle College. "Mott Middle College." Accessed July 25, 2023. https://mmc.geneseeisd.org/.
22. National Wild and Scenic Rivers System. "Michigan." Accessed July 25, 2022. https://www.rivers.gov/michigan.php.
23. Perez, Maria, Project and Asset Manager. Communities First, Inc. 415 West Court Street, Flint, Michigan 48503.
24. U.S. Census: Geography Division. "TIGERweb Decennial: Census 2020: Subject Property Name or Address." Accessed Month Date, Year. https://tigerweb.geo.census.gov/tigerweb2020/.
25. U.S. Climate Resilience Toolkit. "The Climate Explorer: Flint." Accessed July 3, 2023. https://crt-climate-explorer.nemac.org/.
26. U.S. Department of Agriculture: Natural Resources Conservation Service. "Web Soil Survey: Genesee County, Michigan." Accessed July 25, 2022. https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx.
27. U.S. Department of the Interior: National Park Service. "Nationwide Rivers Inventory." Accessed Month Date, Year. https://www.nps.gov/maps/full.html?mapId=8adbe798-0d7e-40fb-bd48-225513d64977.
28. U.S. Fish and Wildlife Service. John H. Chafee Coastal Barrier Resources System: Michigan (March 14, 2016, U.S. Fish and Wildlife Service).
29. U.S. Fish and Wildlife Service: National Wetlands Inventory. "National Wetlands Inventory: Wetlands Mapper." Accessed June 17, 2022. https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/.
30. U.S. Geographic Survey. Flint North, Michigan (2019, U.S. Geographic Survey: Get Maps). Accessed July 25, 2023. https://ngmdb.usgs.gov/topoview/viewer/#4/39.98/-100.06.

List of Permits Obtained:

Public Outreach [24 CFR 50.23 & 58.43]**:**
Public outreach is to be completed by the Responsible Entity at a later date.

Cumulative Impact Analysis [24 CFR 58.32]**:**

The cumulative impact of the proposed project is anticipated to provide greater investment into more diverse housing stock and affordable housing. The infill development of the proposed project is anticipated to create a more walkable and developed City of Flint. The proposed project is not anticipated to increase the population overall within the City of Flint, but to provide more housing options to Flint residents, which may help stabilize the cost of housing. Additionally, the proposed project is to provide 17 apartments as permanent supportive housing for homeless and/or vulnerable Flint residents, which may lower the demand on social services.

Alternatives [24 CFR 58.40(e); 40 CFR 1508.9]

No other sites or actions were considered, except for the no action alternative.

No Action Alternative [24 CFR 58.40(e)]:

The no action alternative is not desirable, since it does address the demand for affordable housing, and it leaves a vacant lot undeveloped. The proposed project is located at a site near desirable amenities with a grocery store, public transit stops, and a pharmacy within a 5-minute walk, which may help bring stable housing to vulnerable residents. If the no action alternative was pursued, the 17 of the 34 apartment units to be permanent supportive housing for vulnerable Flint residents would be unavailable.

Summary of Findings and Conclusions: The proposed project seeks to develop an affordable apartment complex with a community space for Flint residents. Of the proposed new construction, 17 of the 34 apartments will be permanent supportive housing for the most vulnerable residents. The proposed project is anticipated to provide more diverse and affordable housing options to City of Flint residents, including vulnerable residents, which may help reduce the demand on social services. Additionally, the proposed project is anticipated to not have a significant impact on the natural and human environment.

Mitigation Measures and Conditions [40 CFR 1505.2(c)]

Summarize below all mitigation measures adopted by the Responsible Entity to reduce, avoid, or eliminate adverse environmental impacts and to avoid non-compliance or non-conformance with the above-listed authorities and factors. These measures/conditions must be incorporated into project contracts, development agreements, and other relevant documents. The staff responsible for implementing and monitoring mitigation measures should be clearly identified in the mitigation plan.

Law, Authority, or Factor	Mitigation Measure

Noise Control Act of 1972, as amended by the Quiet Communities Act of 1978; 24 CFR Part 51 Subpart B	Incorporate building materials as described in the STraCAT calculations to bring the interior noise levels from Normally Unacceptable to Acceptable noise levels.
[24 CFR 58.5(i)(2)]	Completion of the radon assessment when the building envelope has been completed.
[24 CFR 58.5(i)(2)]	Completion of remedial activities on the Subject Property as described in the ResAP.

Determination:

☒ **Finding of No Significant Impact** [24 CFR 58.40(g)(1); 40 CFR 1508.27]
The project will not result in a significant impact on the quality of the human environment.

☐ **Finding of Significant Impact** [24 CFR 58.40(g)(2); 40 CFR 1508.27]
The project may significantly affect the quality of the human environment.

Preparer Signature: _____ Date: _____

Name/Title/Organization: _____

_____

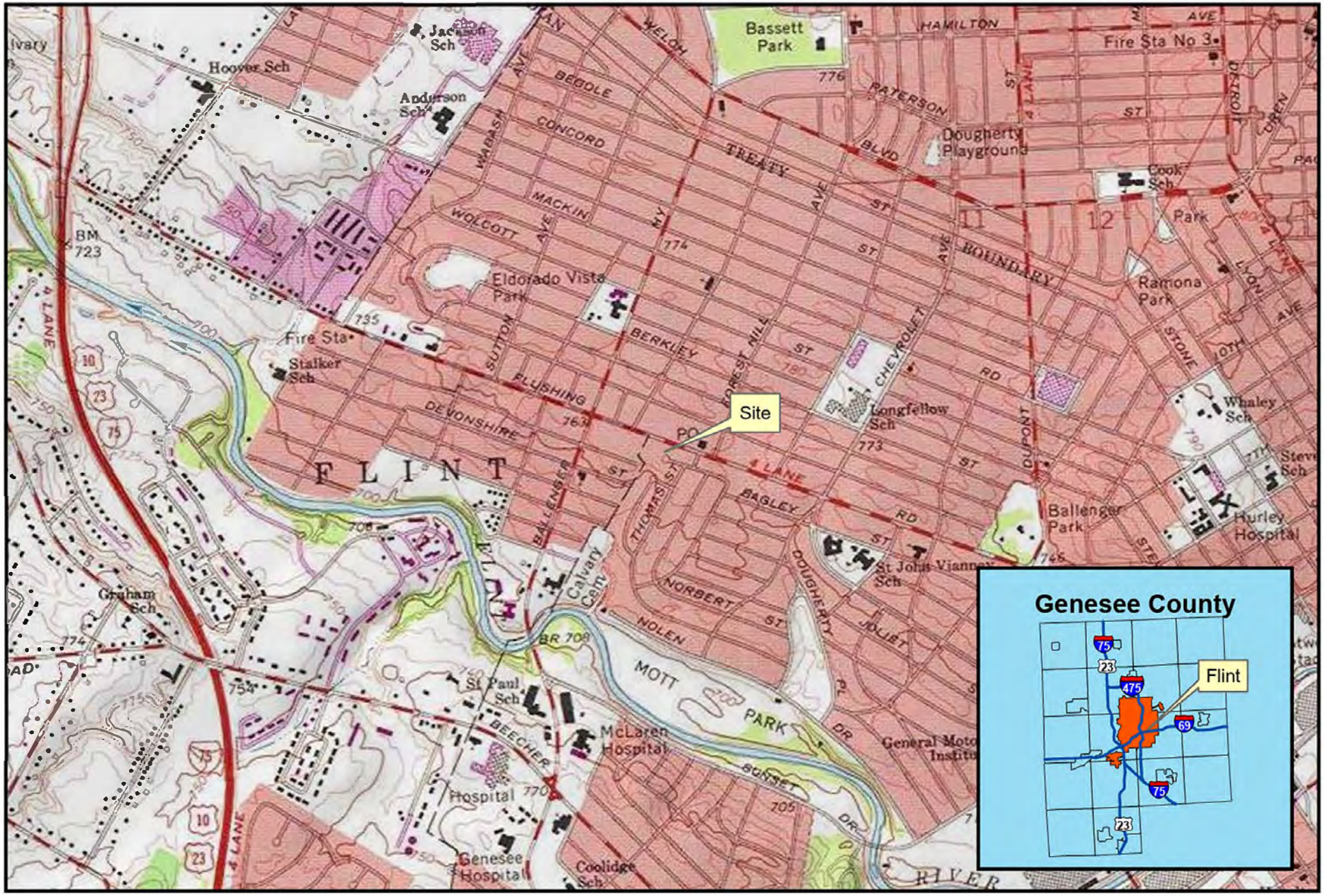
Certifying Officer Signature: Deyhana Thompson Date: 02/02/2024

Name/Title: Deyhana Thompson, Environmental Officer

This original, signed document and related supporting material must be retained on file by the Responsible Entity in an Environmental Review Record (ERR) for the activity/project (ref: 24 CFR Part 58.38) and in accordance with recordkeeping requirements for the HUD program(s).

APPENDIX A

Figures
Site Location Map
Area of Potential Effects Map



Orchard Manor Apartments

2765 Flushing Road,
Flint, MI (Parcel A)

2,000 1,000 0 2,000 Feet

N

ASTI Environmental

Created for: Communities First, Inc.
Created by: RMH, June 8, 2022, ASTI Project 11763-6

Site Location Map

Service Layer Credits: World Imagery (Clarity): Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA,

Orchard Manor Apartments

2765 Flushing Road,
Flint, MI (Parcel A)

0 25 50 100 Feet

N

ASTI Environmental

Created for: Communities First, Inc.
Created by: RMH, June 8, 2022, ASTI Project 11763-6

Site Features Map

APPENDIX B

Project Information
Executive Summary
Site Development Plans

Exhibit 1

Project Narrative

Attached are the following items for the narrative for Orchard Manor Apartments:

1. Project Narrative;
2. Site Plan; and
3. Project location map.

Orchard Manor Apartments

Project Overview

The Proposed Orchard Manor Apartments ("Project"), located at 2765 Flushing Rd. in Flint, is adjacent to Orchard Lane Apartments, an existing multifamily development, & Orchard Grove Apartments, a proposed new construction permanent supportive housing. The Project will act as gateway from Flushing Road to a single family residential neighborhood and is located near several commercial and business amenities, including a grocery store, pharmacy and McLaren Hospital. The Project is the new construction of a multifamily apartment building for individuals and families, and will involve redeveloping a vacant lot on the border of Flint and Flint Township. The proposed Project has not previously received LIHTCs. The proposed Project will be comprised of twenty-one (21) 1-bedroom units and thirteen (13) 2-bedroom units for a total of thirty-four (34) mixed-income rental housing units serving individuals and families in Flint, Michigan. The proposed Project will also contain seventeen (17) Permanent Supportive Housing Units targeting homeless veterans, individuals and families experiencing homelessness and the most vulnerable residents (top 10% most vulnerable) as indicated by the local Continuum of Care prioritization process and approximately 619 square feet community space. See below for proposed targeted income and unit mix:

Unit Type	# of units
1BR (60%) VASH PSH	8
2BR (60%) VASH PSH	2
1BR/1BA (30%)	5
1BR/2BA 60%) MSHDA PSH	6
2BR/1BA (60%) MSHDA PSH	1
1BR/1BA (60%)	2
2BR/2BA (60%)	2
2BR/1BA TH (60%)	6
2BR/1BA TH (80%)	2
Total:	34

Ownership Structure

The owner of the project will be Orchard Manor Limited Dividend Housing Association LLC. The general partner of the owner is The Orchard Manor LLC, whose managing member and 75% owner is Communities First, Inc., a Michigan nonprofit corporation. RAD conversion Specialists, LLC is the member and 25% owner of the general partner. The co-developers are Communities First, Inc. and RAD Conversion Specialists, LLC. The Property Management Company will be Premier Property Management.

Project Location Details

Orchard Manor Apartments is located along a key commercial corridor on the west side of the City of Flint, serving as a gateway to the Mott Park Neighborhood, which area has been targeted as a key area for reinvestment by the City of Flint in the Imagine Flint Master Plan. The proposed Project is within a short walking distance of many small businesses, a grocery store (Save-a-Lot), pharmacy (Rite Aid), places of worship, and health and employment center, McLaren Flint. The Mass Transportation Authority has also

committed to serving residents of the Project seven days per week with curb-to-curb service through its Your Ride program.

There have been numerous major investments in the area near the Project site, Berkley Place Apartments, a $7 million permanent supportive Housing multifamily development, a $9 million grant for the construction of Educare, a state-of-the-art facility located about a mile from the Project that will serve as many as 220 children in a partnership that includes Flint Community Schools, the Genesee Intermediate School District, and the University of Michigan-Flint. Additional area investment includes a $1 million grant for Habitat for Humanity from the Michigan State Housing Development Authority to rehabilitate 30 homes in the neighboring Ballenger Square, Grand Traverse District, Metawanenee Hills, and Circle Drive neighborhoods; $16 million new construction and rehabilitation of the dilapidated and vacant Coolidge Park Elementary School into affordable and market-rate housing and commercial space; demolition of the fire damaged/condemned Ballenger Road Apartment Complex with funds from the Michigan State Housing Development Authority, City of Flint, Genesee County, and private contributions; $29 million investment by the Lear Corporation to build a factory; and a $2 million donation from the GM foundation to build an autonomous car research center for Kettering University. See attached map of investment activity in Exhibit 17 Neighborhood Revitalization Plan/Investment Activity Area for the location of the investments described above.

Project Financing

Planned financing for this project includes LIHTC equity, conventional permanent and construction loans, and a deferred developer fee.

Job Creation

The project will provided 2 FTE equivalent jobs, including positions for property management and support services. Based on conversations with the contractor and construction budget, we estimate over 60 construction jobs to be created. The use of local contractors and local workers will provide economic opportunities to many hundreds of people.

Project support

Numerous residents and local businesses as well as community leaders support the Project. Please see attached support letters from Congressman Dan Kildee and Michigan State Senator Jim Ananich. Additional letters of support can be provided upon request.

Flint Housing Demand

There is significant unmet demand in the Flint area for decent, sanitary, and safe affordable housing, evidenced by high occupancy rates of properties that are well maintained and properly managed. Properties that have relatively high vacancy rates tend to be mismanaged, poorly maintained, or both. Per the Master Plan for a Sustainable Flint: Housing & Neighborhoods Plan (the “Plan”) Flint’s housing stock is dominated by single family homes which do not match market demand and is severely lacking with regard to the range of housing options offered. The Project is located in a desirable commercial corridor near several local businesses and other amenities, including those described above. Orchard Grove Apartments and the surrounding developments will be a transformational project in a key neighborhood along a visible corridor with convenient access to downtown Flint and nearby Interstate.

In dealing with the current global pandemic, it is evident that stable housing and community minded owners are needed more than ever. Flint, having been faced with massive economic crises due to factory shutdowns and global recession and then a water crisis that destroyed trust in government and institutions for perhaps a generation, has lagged behind other Michigan cities in the production of affordable housing units. There has been some recent construction but local residents are faced with poor housing choices and the City suffers from the ability to attract new residents. The Project is a continuation of a small trend in creating and preserving quality affordable housing that will help attract and retain residents in Flint and Genesee County. The Project will also attract and serve a diverse population that is inclusive of the area as a whole in a neighborhood that at a tipping point.

DANIEL T. KILDEE
5TH DISTRICT, MICHIGAN

CHIEF DEPUTY WHIP

WAYS AND MEANS COMMITTEE
SUBCOMMITTEE ON TRADE
SUBCOMMITTEE ON SOCIAL SECURITY

BUDGET COMMITTEE

Congress of the United States
House of Representatives
Washington, DC 20515

WASHINGTON OFFICE

203 CANNON HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
(202) 225-3611
(202) 225-6393 (FAX)

DISTRICT OFFICE

601 SOUTH SAGINAW STREET, SUITE 403
FLINT, MI 48502
(810) 238-8627
(810) 238-8658 (FAX)

WWW.DANKILDEE.HOUSE.GOV
/REPDANKILDEE
@REPDANKILDEE

January 5, 2021

Michigan State Housing Development Authority
Gary Heidel, Acting Executive Director
735 E. Michigan Ave
Lansing, MI 48912

Dear Mr. Heidel:

I am writing with my strong support for Communities First, Inc's application for Low Income Housing Tax Credit for the Orchard Manor Apartment project located in Flint, Michigan.

The Proposed Orchard Manor Apartments project, located at 2765 Flushing Rd. in Flint, is a proposed new construction permanent supportive housing development. The proposed project has not previously received LIHTCs. The proposed project will be comprised of 16 one-bedroom units, 13 two-bedroom units and 2 three-bedroom rental apartment units, for a total of 31 mixed-income rental housing units serving individuals and families in Flint. The proposed project will also contain approximately 790 square feet community space.

In addressing the ongoing global pandemic, it is evident, now more than ever, that stable housing and community-minded owners are needed. Flint, having faced great economic strain due to factory shutdowns and global recession, has lagged behind other Michigan cities in the production of affordable housing units.

The project is a continuation of a small trend in creating and preserving quality affordable housing that will help attract and retain residents in Flint and Genesee County. The project will also attract and serve a diverse population that is inclusive of the area as a whole in a neighborhood that at a tipping point.

Once again, I strongly support the Communities First, Inc's application for Low Income Tax Credits for the Orchard Manor Apartment project. I hope you will look favorably upon the organization's proposal to the extent federal law and agency regulations apply.

Sincerely,

Daniel T. Kildee

Dan Kildee
MEMBER OF CONGRESS

27TH DISTRICT
P.O. BOX 30036
LANSING, MI 48909-7536
PHONE: (517) 373-0142
FAX: (517) 373-3938
senjananich@senate.michigan.gov

JIM ANANICH
SENATE MINORITY LEADER
MICHIGAN SENATE

January 5, 2020

Glenn Wilson
President & CEO
Communities First, Inc.
415 W. Court St.
Flint, MI 48503

Re: Orchard Manor Apartments in Flint, MI (the "Project")

Dear Mr. Wilson:

This letter is to advise you that, as the State Senator representing Flint and its surrounding communities, I am pleased to offer my full support for Orchard Manor Apartment's application for Low Income Housing Tax Credits and the work of Communities First, Inc. ("CFI") in building healthy, vibrant communities.

It is my understanding that Orchard Manor Apartments is a proposed new construction, mixed-use building containing thirty-one mixed-income rental apartment units and new support service/commercial space and community space for residents of Flint. The Project is located along Flushing Rd. near N. Ballenger Hwy. in Flint at 2765 Flushing Rd. Despite its location near several amenities, including a grocery store, pharmacy, and McLaren Hospital, the area is struggling to recover from a cycle of disinvestment that has occurred for many years. The Project will help to diversify the existing housing stock and is aligned with the goals of the City of Flint Master Plan and surrounding community.

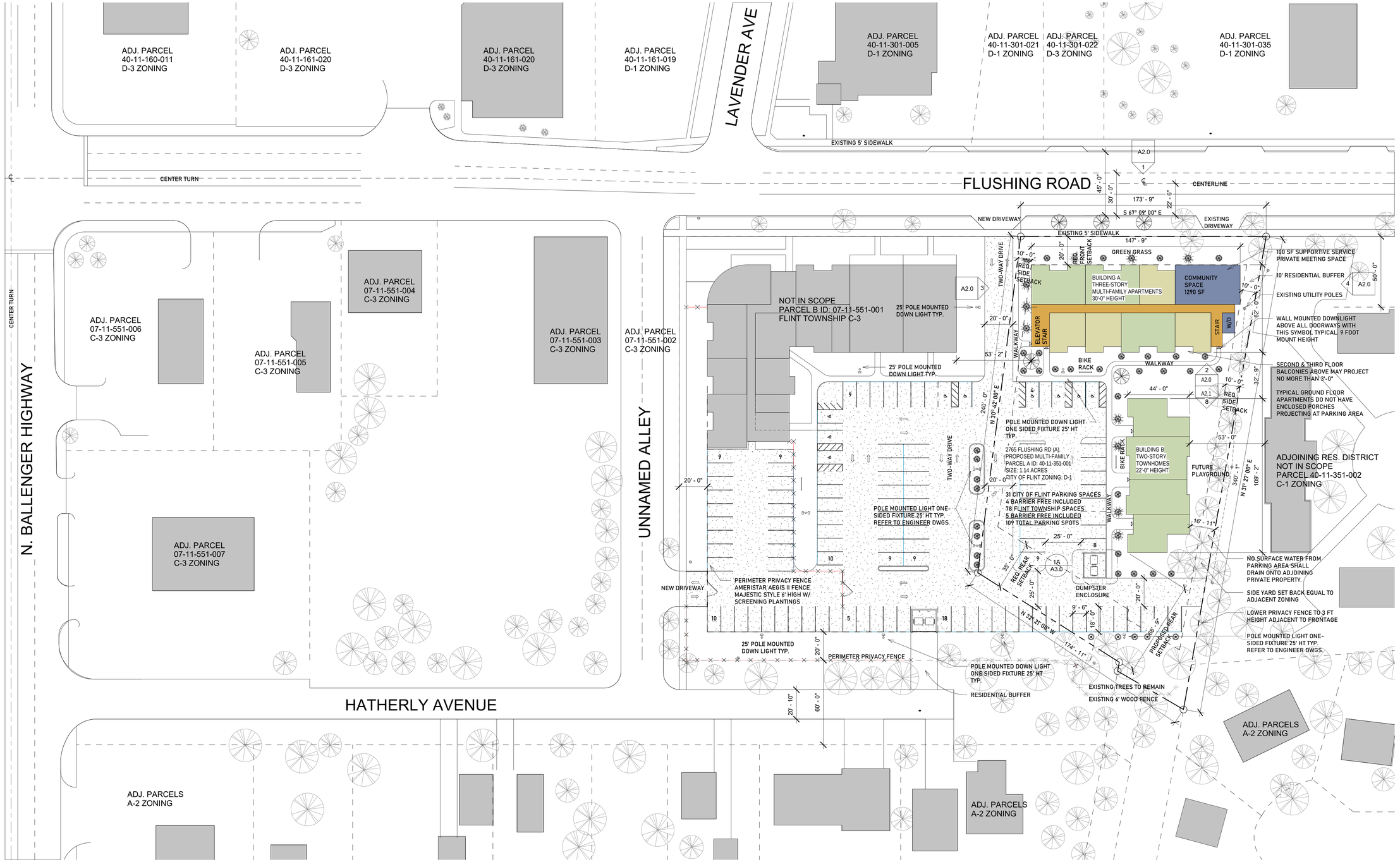
I commend CFI for responding proactively by creating much needed quality affordable housing and providing commercial and support services space to complement identified community needs. Additionally, the Project leverages planned local infrastructure and transportation investment, as well as the rehabilitation and stabilization of nearby Orchard Lane Apartments, a long-troubled property.

In conclusion, I fully support CFI's efforts with this Project and consider Orchard Manor Apartments to be vital to both catalyze investment and avoid the negative outcomes of years of disinvestment. It is my sincere hope that the Michigan State Housing Development Authority will continue to support the reinvestment and revitalization of the area by funding Orchard Manor Apartments.

Thank you for your consideration of this letter. Please do not hesitate to contact me with any questions or concerns.

Sincerely,

Jim Ananich
Senate Minority Leader
District 27



1 Ground Site Plan
1/32" = 1'-0"

No.	Description	Date
1	Site Plan Review	12/17/20

REVISIONS

ARCHITECT

URBAN COLAB ARCHITECTURE, L.3.C.
KURT NEISWENDER, AIA
801 MAXINE STREET
FLINT, MICHIGAN 48503
WWW.URBANCOLAB.DESIGN
KURT@URBANCOLAB.DESIGN
810-824-8414

CLIENT

COMMUNITIES FIRST, INC.
415 WEST COURT STREET
FLINT, MI 48503

Orchard Manor Apts

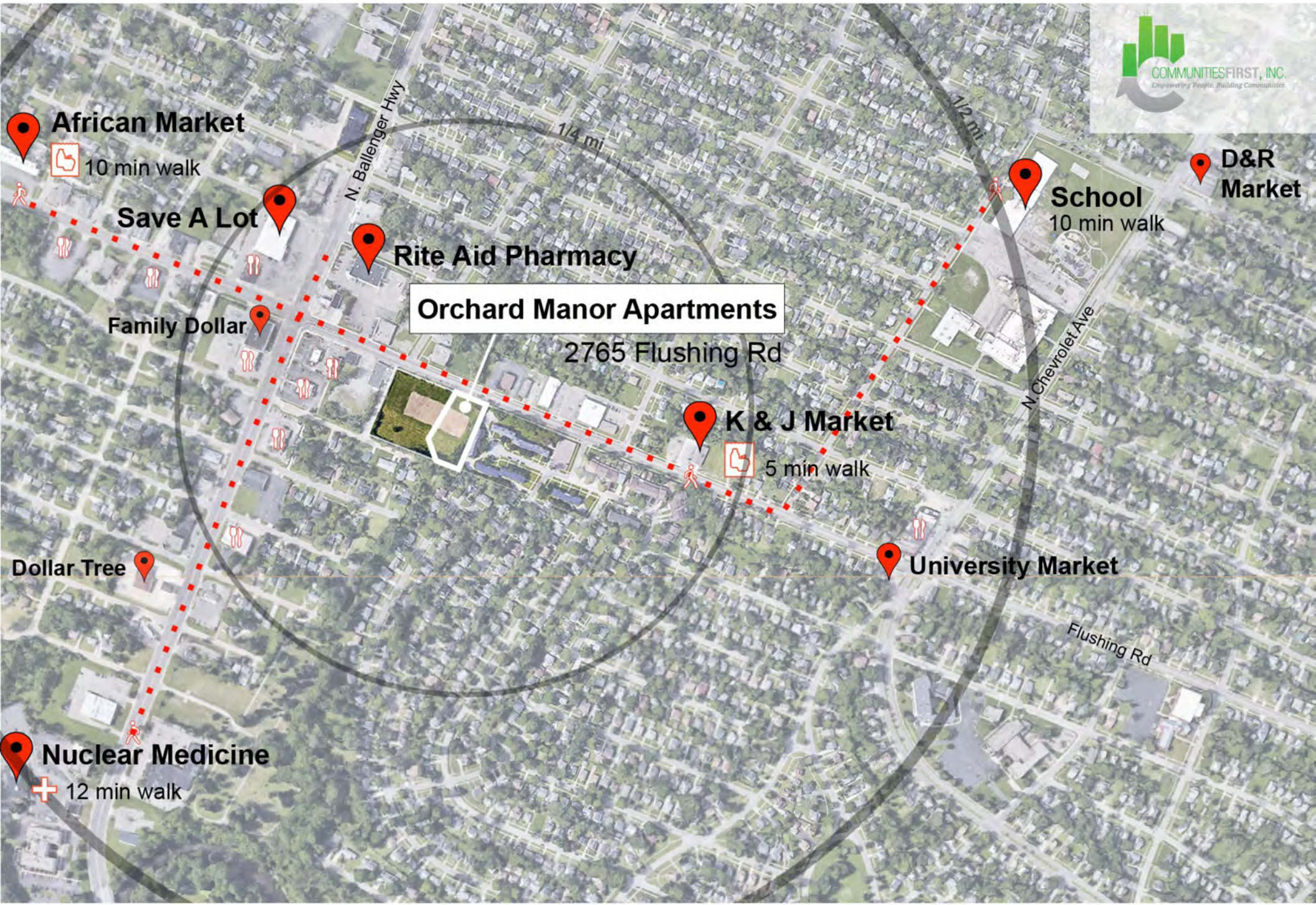
Proposed Site Plan

Project number	-
Date	12/17/2020
Drawn by	Author
Checked by	Checker

A1.0

Scale 1/32" = 1'-0"

12/17/2020 9:25:09 AM


COMMUNITIESFIRST, INC.
Empowering People. Building Communities.
African Market
10 min walk
Save A Lot
Rite Aid Pharmacy
Family Dollar
Orchard Manor Apartments
2765 Flushing Rd
K & J Market
5 min walk
Dollar Tree
University Market
Nuclear Medicine
12 min walk
School
10 min walk
D&R Market
N. Ballenger Hwy
1/4 mi
1/2 mi
N Chevrolet Ave
Flushing Rd

APPENDIX C

Historic Preservation
SHPO Response Letters

GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
MICHIGAN STRATEGIC FUND
STATE HISTORIC PRESERVATION OFFICE

QUENTIN L. MESSER, JR.
PRESIDENT

September 13, 2022

DEYHANA THOMPSON
CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT MI 48502

RE: ER22-1132 Orchard Manor Apartments Construction Project, 2765 Flushing Road, Flint, Genesee County (HUD)

Dear Ms. Thompson:

We have received your request for review of the above-cited undertaking at the location noted above. The information that you have sent has prompted us to ask for additional details. Please send the following information so that we may complete our review:

- We have reviewed the archaeological background report titled *Archaeological Records Review and Recommendation for the Section 106 Review Application for Orchard Manor Apartments Construction, 2765 Flushing Road, City of Flint, Genesee County, Michigan* by Misty M. Jackson (2022; Arbre Croche Cultural Resources, LLC). The project area is within the boundary of previously recorded archaeological Site 20GS118, the Grand Traverse Reserve, a Chippewa reservation established by an 1819 Treaty. Based on the archaeological sensitivity of the area, SHPO concur with the recommendation that more information is needed. Prior to the initiation of any ground disturbing activities within the proposed project APE, an archaeological survey must be conducted by a professional archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards (36 CFR Part 61).

For your convenience, a list of archaeological consultants found to meet or exceed federal professional requirements is available at https://www.miplace.org/4a776e/globalassets/documents/shpo/programs-and-services/archaeology/archaeology-in-michigan/archaeologist-architectural-historian-and-historian-consultants-list.pdf. We recommend that you solicit and compare a minimum of three bids prior to selecting a consultant. The consultant must conduct research in the State Archaeological Site File with the SHPO prior to initiating archaeological field survey. Any archaeological resources identified during field survey must be assessed for NRHP eligibility, with any impacts to eligible resources avoided, minimized, or mitigated prior to the initiation of project-related ground disturbance. Survey results must be submitted to this office for review and comment and must meet the Secretary of the Interior's Standards for Archaeological Documentation as well as any guidance provided by our office.

Please note that the Section 106 review process cannot proceed until we are able to consider the information requested above. This letter does not clear the project. If you have any questions,

please contact Amy Krull, Federal Projects Archaeologist, at 517-285-4211 or by email at KrullA@michigan.gov. **Please reference our project number in all communication with this office regarding this undertaking.** Thank you for your cooperation.

Sincerely,

Diane Tuinstra
Historic Inventory and Records Coordinator

for Martha MacFarlane-Faes
Deputy State Historic Preservation Officer

AK:DRT

Copy: Mary Weidel, HUD
Dan Lince, MSHDA
Glenn Wilson, Communities First, Inc.
Misty Jackson, Arbre Croche Cultural Resources, LLC
Kristine Kidorf, Kidorf Preservation Consulting

GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
MICHIGAN STRATEGIC FUND
STATE HISTORIC PRESERVATION OFFICE

QUENTIN L. MESSER, JR.
PRESIDENT

December 20, 2022

DEYHANA THOMPSON
CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT MI 48502

RE: ER22-1131 Orchard Grove Apartments Construction Project, 2765 Flushing Road, Flint, Genesee County (HUD)

ER22-1132 Orchard Manor Apartments Construction Project, 2765 Flushing Road, Flint, Genesee County (HUD)

Dear Ms. Thompson:

Under the authority of Section 106 of the National Historic Preservation Act of 1966, as amended, we have reviewed *Phase I Archaeological Survey, Orchard Manor* and *Phase I Archaeological Survey, Orchard Grove*, both by Lorin Brace (Environmental Consulting & Technology, Inc., 2022). Based on the information provided for our review, it is the opinion of the State Historic Preservation Officer (SHPO) that **no historic properties are affected** within the area of potential effects of these undertaking s .

This letter evidences HUD's compliance with 36 CFR § 800.4 "Identification of historic properties," and the fulfillment of HUD's responsibility to notify the SHPO, as a consulting party in the Section 106 process, under 36 CFR § 800.4(d)(1) "No historic properties affected." **If the scope of work changes in any way, or in the unlikely event that human remains or archaeological material are encountered during construction activities related to the above-cited undertakings, work must be halted, and the Michigan SHPO and other appropriate authorities must be contacted immediately.**

We remind you that federal agency officials or their delegated authorities are required to involve the public in a manner that reflects the nature and complexity of the undertaking and its effects on historic properties per 36 CFR § 800.2(d). The National Historic Preservation Act also requires that federal agencies consult with Native American Tribes and/or Tribal Historic Preservation Officers (THPO) who may attribute religious and cultural significance to historic properties that may be affected by the agency's undertakings per 36 CFR § 800.2(c)(2)(ii).

The State Historic Preservation Office is not the office of record for these undertakings. You are therefore asked to maintain a copy of this letter with your environmental review record for these undertakings.

If you have any questions, please contact Amy Krull, Federal Projects Archaeologist at 517-285-4211 or by email at krulla@michigan.gov. **Please reference our project number in all communication with this office regarding these undertakings.** Thank you for this opportunity to review and comment, and for your cooperation.

Sincerely,

Amy Krull
Federal Projects Archaeologist

AK

Copy: Mary Weidel, HUD
Dan Lince, MSHDA
Michael Wright, Communities First, Inc.
Glenn Wilson, Communities First, Inc.

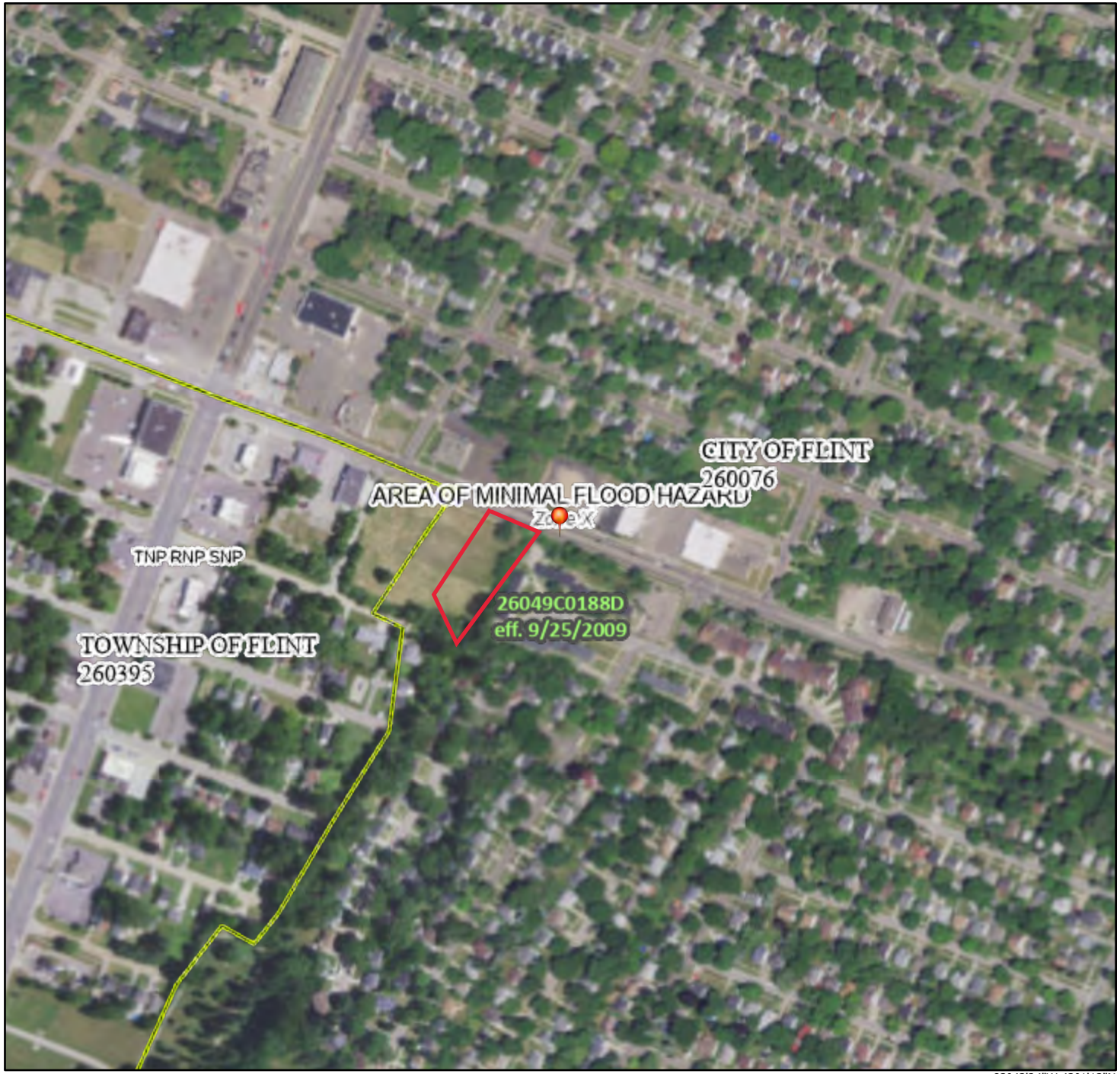
APPENDIX D

Floodplain Management
FEMA Map

National Flood Hazard Layer FIRMette

FEMA

83°44'1"W 43°1'38"N



83°43'24"W 43°1'12"N

Feet 1:6,000

0 250 500 1,000 1,500 2,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 — Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/17/2022 at 2:16 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

APPENDIX E

Wetlands Protection
National Wetlands Inventory Map

U.S. Fish and Wildlife Service
National Wetlands Inventory

Orchard Manor

June 17, 2022

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

APPENDIX F

Coastal Zone Management
List of Coastal Zone Management Area Maps

Coastal Zone Boundary Maps

The links listed below show Michigan's coastal zone boundaries by county.
If you require assistance to read the maps, please contact Ginny Berry (517-284-5052).

Alcona

- Harrisville and Greenbush Townships
- Alcona and Haynes Township

Alger

- Burt Township
- Grand Island and Munising Townships, City of Munising
- Onota and Au Train Townships

Allegan

- Ganges and Casco Townships
- Laketown, Saugatuck and Manlius Townships and South Haven

Alpena

- Alpena and Sanborn Townships
- Alpena Township and City of Alpena

Antrim

- Banks and Torch Lake Townships
- Milton and Elk Rapids Townships

Arenac

- Standish, Arenac and Au Gres Townships
- Whitney, Sims and Au Gres Townships

Baraga

- Arvon Township
- Baraga and L' Anse Townships

Bay

- Bangor, Hampton, Merritt, Portsmouth and Frankenlust Townships and Bay City and Essexville
- Bangor, Kawkawlin and Fraser Townships
- Pinconning Township

Benzie

- Lake Township
- Crystal Lake, Gilmore and Blaine Townships and City of Frankfort

Berrien

- Hagar, Benton and St. Joseph Townships and Benton Harbor and St. Joseph
- Lincoln and Lake Townships and the city of Bridgman

- New Buffalo and Chikaming Townships and New Buffalo

Charlevoix

- Bay, Charlevoix and Hayes Townships
- Charlevoix County, Beaver Island Group
- Eveline, South Arm, East Jordan, Evangeline and Wilson Townships and Boyne City
- Norwood Township

Cheboygan

- Benton Township and City of Cheboygan
- Mackinaw, Hebron and Beaugrand Townships

Chippewa

- Bay Mills, Superior and Soo Townships and Sault Ste. Marie
- Bay Mills Township
- Bruce and Soo (Nebbish Island) Townships
- Detour and Raber Townships
- Drummond Township
- Pickford and Raber Townships
- Sugar Island Township
- Whitefish Township

Delta

- Ford River Township
- Brampton, Escanaba and Wells Townships and the cities of Gladstone and Escanaba
- Ensign, Bay De Noc and Masonville Townships
- Fairbanks Township
- Garden and Nahma Townships

Emmet

- Readmond and Friendship Townships
- Wawatam, Bliss and Cross Village Townships
- West Traverse, Little Traverse, Bear Creek and Resort Townships and the cities of Petoskey and Harbor Springs

Gogebic

- Ironwood (East) and Wakefield Townships
- Ironwood (West) Township

Grand Traverse

- Acme, East Bay and Garfield Townships and Traverse City
- Peninsula Township

Houghton

- Hancock and Calumet Townships
- Portage, Chassell and South part of Torch Lake Townships
- Schoolcraft, Osceola, Franklin, Portage and North part of Torch Lake Townships
- Stanton Township

Huron

- Fair Haven and Sebewaing Townships
- Harbor Beach, Sand Beach and Sherman Townships
- Huron, Gore and Rubicon Townships
- Lake, Caseville and McKinley Townships
- Pte. Aux Barques, Port Austin and Hume Townships

Iosco

- Baldwin, Tawas, Alabaster Townships and East Tawas and Tawas City
- Oscoda and Au Sable Townships

Keweenaw

- Sherman Township
- Allouez and Houghton Townships (Mainland)
- Eagle Harbor Township (Mainland)
- Grant Township
- Isle Royal and Eagle Harbor Townships
- Isle Royal and Houghton Townships

Leelanau

- Bingham and Elmwood Townships
- Leland, Leelanau and Suttons Bay Townships
- Cleveland, Glen Arbor and Empire Townships

Luce

- McMillan Township (western part)
- McMillan Township (eastern part)

Mackinac

- Bois Blanc Township
- Clark Township
- Garfield Township
- Hendricks and Hudson Townships
- Marquette and St. Ignace Townships
- Moran Township
- Newton Township

Macomb

- Chesterfield, Harrison, Clinton, and Lake Townships and the cities of Mt. Clemens and St. Clair Shores

Manistee

- Arcadia and Onekama Townships
- Filer, Manistee and Stronach Townships and the city of Manistee

Marquette

- Marquette, Sands and Chocolay Townships
- Powell Township

Mason

- Grant, Hamlin and Victory Townships
- Pere Marquette, Amber, Riverton and Summit Townships and Ludington

Menominee

- Menominee Township and the city of Menominee
- Cedarville Township
- Ingallston Township

Monroe

- Berlin, Frenchtown and Monroe Townships
- Erie, LaSalle and Monroe Townships

Muskegon

- Muskegon, Laketon and Fruitport Townships, the "Muskegons" and Norton Shores
- White River, Montague, Whitehall and Fruitland Townships and cities of Montague and Whitehall

Oceana

- Benona and Clay Banks Townships
- Pentwater and Golden Townships

Ontonagon

- Carp Lake Township
- Bohemia and Ontonagon (east part) Townships
- Ontonagon (west part) Township

Ottawa

- Port Sheldon, Holland and Park Townships and the cities of Zeeland and Holland
- Spring Lake and Grand Haven Townships and cities of Ferrysburg and Grand Haven

Presque Isle

- Bearinger and Ocqueoc Townships
- Presque Isle, Krakow and Pulawski Townships
- Rogers and Belknap Townships

Saginaw

- Kochville, Zilwaukee, Carrollton and Buena Vista Townships

Sanilac

- Delaware, Forest and Sanilac Townships
- Sanilac, Lexington and Worth Townships

Schoolcraft

- Manistique and Thompson Townships
- Mueller and Doyle Townships

St. Clair

- Burtchville and Fort Gratiot Townships and the city of Port Huron

- East China, Cottrellville, Clay and Ira Townships and the cities of Algonac and Marine-City
- St. Clair and East China Townships and the cities of Port Huron, Marysville and St. Clair

Tuscola

- Akron and Wisner Townships

Van Buren

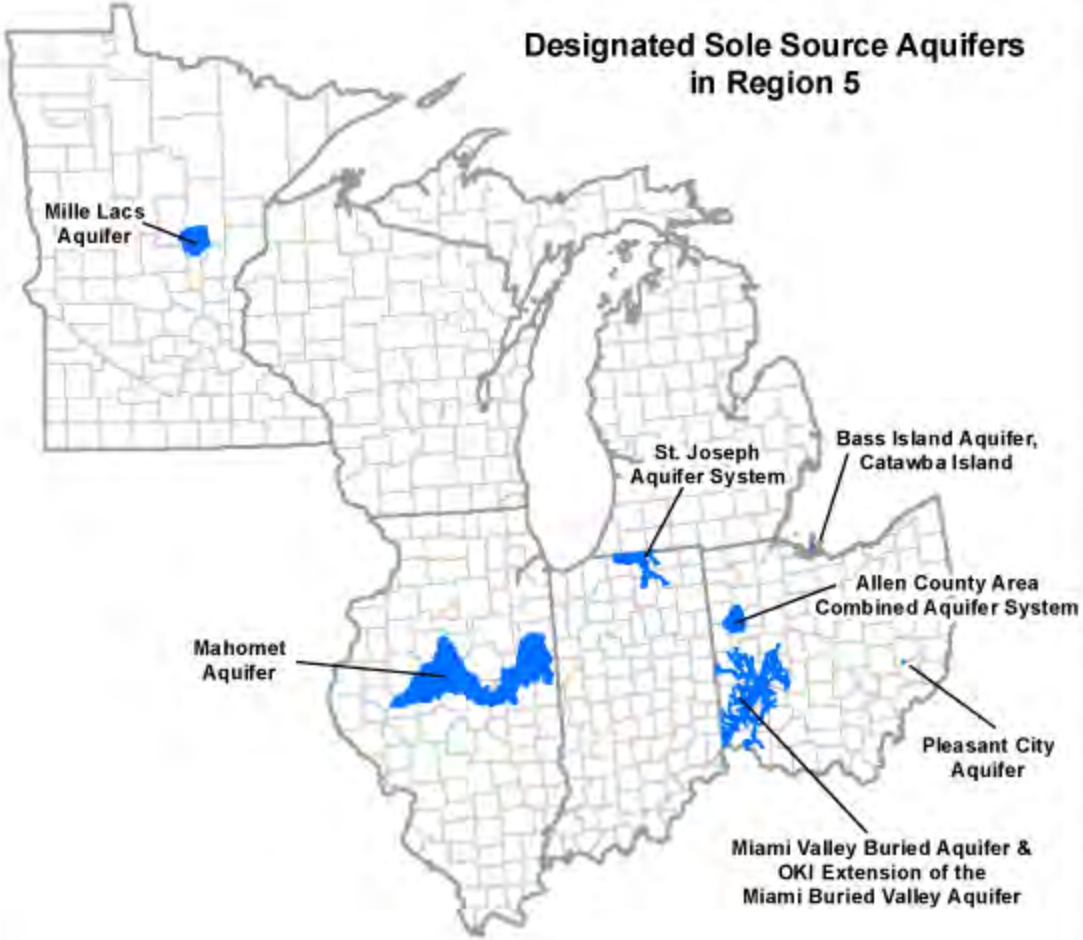
- South Haven and Covert Townships and the city of South Haven

Wayne

- Brownstown Township and the cities of Ecorse, Lincoln Park, Wyandotte, Riverview, Trenton, Rockwood and Gibraltar
- The "Grosse Points", Detroit and River Rouge

APPENDIX G

Sole Source Aquifer Protection
Michigan Sole Source Aquifer Map


Designated Sole Source Aquifers
in Region 5
Mille Lacs
Aquifer
St. Joseph
Aquifer System
Bass Island Aquifer,
Catawba Island
Allen County Area
Combined Aquifer System
Mahomet
Aquifer
Pleasant City
Aquifer
Miami Valley Buried Aquifer &
OKI Extension of the
Miami Buried Valley Aquifer

APPENDIX H

Endangered and Threated Species Protection
Michigan Endangered Species List
U.S. Fish and Wildlife General Conformity Letter

U.S. Fish & Wildlife Service

ECOS

ECOS / Species Reports / Listed species with spatial current range believed to or known to occur in MI

Listed species with spatial current range believed to or known to occur in Michigan

Notes:

- This report includes species only if they have a **Spatial Current Range** in ECOS.
- **As of 02/13/2015 the data in this report has been updated to use a different set of information.** Results are based on where the species is believed to or known to occur. The FWS feels utilizing this data set is a better representation of species occurrence. Note: there may be other federally listed species that are not currently known or expected to occur in this state but are covered by the ESA wherever they are found; Thus if new surveys detected them in this state they are still covered by the ESA. The FWS is using the best information available on this date to generate this list.
- This report shows listed species or populations believed to or known to occur in MI
- This list does not include experimental populations and similarity of appearance listings.
- Click on the highlighted scientific names below to view a Species Profile.

Listed Species

Sort by group: ☑

CSV

Show All entries Search:

26 Species Listings

Scientific Name	Common Name	Where Listed	Region	ESA Listing Status
Birds				

Scientific Name	Common Name	Where Listed	Region	ESA Listing Status
Charadrius melodus	Piping Plover	[Great Lakes watershed DPS] - Great Lakes, watershed in States of IL, IN, MI, MN, NY, OH, PA, and WI and Canada (Ont.)	3	Endangered
Calidris canutus rufa	Red knot	Wherever found	5	Threatened
Grus americana	Whooping crane	U.S.A. (AL, AR, CO, FL, GA, ID, IL, IN, IA, KY, LA, MI, MN, MS, MO, NC, NM, OH, SC, TN, UT, VA, WI, WV, western half of WY)	2	Experimental Population, Non-Essential
Clams				
Pleurobema clava	Clubshell	Wherever found; Except where listed as Experimental Populations	5	Endangered
Epioblasma rangiana	Northern riffleshell	Wherever found	5	Endangered
Villosa fabalis	Rayed Bean	Wherever found	3	Endangered
Obovaria subrotunda	Round hickorynut	Wherever found	4	Threatened
Epioblasma triquetra	Snuffbox mussel	Wherever found	3	Endangered
Ferns and Allies				

Scientific Name	Common Name	Where Listed	Region	ESA Listing Status
Asplenium scolopendrium var. americanum	American hart's-tongue fern	Wherever found	5	Threatened
Flowering Plants				
Iris lacustris	Dwarf lake iris	Wherever found	3	Threatened
Platanthera leucophaea	Eastern prairie fringed orchid	Wherever found	3	Threatened
Solidago houghtonii	Houghton's goldenrod	Wherever found	3	Threatened
Hymenoxys herbacea	Lakeside daisy	Wherever found	3	Threatened
Mimulus michiganensis	Michigan monkey-flower	Wherever found	3	Endangered
Cirsium pitcheri	Pitcher's thistle	Wherever found	3	Threatened
Insects				
Somatochlora hineana	Hine's emerald dragonfly	Wherever found	3	Endangered
Brychius hungerfordi	Hungerford's crawling water Beetle	Wherever found	3	Endangered
Lycaeides melissa samuelis	Karner blue butterfly	Wherever found	3	Endangered

Scientific Name	Common Name	Where Listed	Region	ESA Listing Status
Neonympha mitchellii mitchellii	Mitchell's satyr Butterfly	Wherever found	3	Endangered
Oarisma poweshiek	Poweshiek skipperling	Wherever found	3	Endangered
Mammals				
Lynx canadensis	Canada Lynx	Wherever Found in Contiguous U.S.	6	Threatened
Canis lupus	Gray wolf	U.S.A.: All of AL, AR, CA, CO, CT, DE, FL, GA, IA, IN, IL, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, ND, NE, NH, NJ, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, and WV; and portions of AZ, NM, OR, UT, and WA. Mexico.	6	Endangered
Myotis sodalis	Indiana bat	Wherever found	3	Endangered
Myotis septentrionalis	Northern Long-Eared Bat	Wherever found	3	Endangered
Reptiles				
Nerodia erythrogaster neglecta	Copperbelly water snake	Indiana north of 40 degrees north latitude, Michigan, Ohio	3	Threatened

Scientific Name	Common Name	Where Listed	Region	ESA Listing Status
Sistrurus catenatus	Eastern Massasauga (=rattlesnake)	Wherever found	3	Threatened

Showing 1 to 26 of 26 entries

Previous 1 Next

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Michigan Ecological Services Field Office
2651 Coolidge Road Suite 101
East Lansing, MI 48823-6360
Phone: (517) 351-2555 Fax: (517) 351-1443

In Reply Refer To: June 15, 2022
Project code: 2022-0050741
Project Name: Orchard Grove Apartments - 2765 Flushing Road, Flint

Subject: Consistency letter for 'Orchard Grove Apartments - 2765 Flushing Road, Flint' for threatened and endangered species that may occur in your proposed project location consistent with the Michigan Endangered Species Determination Key (Michigan DKey)

Dear Emmett Smrcka:

The U.S. Fish and Wildlife Service (Service) received on **June 15, 2022** your effect determination(s) for the 'Orchard Grove Apartments - 2765 Flushing Road, Flint' (the Action) using the Michigan DKey within the Information for Planning and Consultation (IPaC) system. The Service developed this system in accordance with the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based on your answers and the assistance of the Service's Michigan DKey, you determined the proposed Action will have "No Effect" on the following species.

Species	**Listing Status**	**Determination**
Eastern Massasauga (=rattlesnake) (*Sistrurus catenatus*)	Threatened	No effect
Eastern Prairie Fringed Orchid (*Platanthera leucophaea*)	Threatened	No effect
Indiana Bat (*Myotis sodalis*)	Endangered	No effect
Northern Long-eared Bat (*Myotis septentrionalis*)	Threatened	No effect

Your agency has met consultation requirements for these species by informing the Service of the "No Effect" determinations. Please email a copy of this letter to MIFO_Dkey@fws.gov for our record keeping (include "No Effect for Project Name" in the subject line).

For non-Federal representatives: Please note that when a project requires consultation under section 7 of the Act, the Service must consult directly with the Federal action agency unless that agency formally designates a non-Federal representative (50 CFR 402.08). Non-Federal representatives may prepare analyses or conduct informal consultations; however, the ultimate responsibility for section 7 compliance under the Act remains with the Federal agency. If the

Federal agency concurs with your determination, the project as proposed has completed section 7 consultation. All documents and supporting correspondence should be provided to the Federal agency for their records.
Please provide sufficient project details on your project homepage in IPaC (Define Project, Project Description) to support your conclusions. Failure to disclose important aspects of your project that would influence the outcome of your effects determinations may negate your determinations and invalidate this letter. If you have site-specific information that leads you to believe a different determination is more appropriate for your project than what the Dkey concludes, you can and should proceed based on the best available information.

The Service recommends that you contact the Service or re-evaluate the project in IPaC if: 1) the scope or location of the proposed Action is changed; 2) new information reveals that the action may affect listed species or designated critical habitat in a manner or to an extent not previously considered; 3) the Action is modified in a manner that causes effects to listed species or designated critical habitat; or 4) a new species is listed or critical habitat designated. If any of the above conditions occurs, additional consultation with the Service should take place before project changes are final or resources committed.

Bald and Golden Eagles:
Bald eagles, golden eagles, and their nests are protected under the Bald and Golden Eagle Protection Act (54 Stat. 250, as amended, 16 U.S.C. 668a-d) (Eagle Act). The Eagle Act prohibits, except when authorized by an Eagle Act permit, the "taking" of bald and golden eagles and defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." The Eagle Act's implementing regulations define disturb as "…to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

If the Action may impact bald or golden eagles, additional coordination with the Service under the Eagle Act may be required. For more information on eagles and conducting activities in the vicinity of an eagle nest, please visit https://www.fws.gov/midwest/eagle/. In addition, the Service developed the National Bald Eagle Management Guidelines (May 2007) in order to assist landowners in avoiding the disturbance of bald eagles. The full Guidelines are available at http://www.fws.gov/midwest/eagle/pdf/NationalBaldEagleManagementGuidelines.pdf.

If you have further questions regarding potential impacts to eagles, please contact Chris Mensing, Chris_Mensing@fws.gov or 517-351-2555.

Wetland impacts:
Section 404 of the Clean Water Act of 1977 (CWA) regulates the discharge of dredged or fill material into waters (including wetlands) of the United States. Regulations require that activities permitted under the CWA (including wetland permits issued by the Michigan Department of Environment, Great Lakes, and Energy (EGLE)) not jeopardize the continued existence of species listed as endangered or threatened. Permits issued by the U.S. Army Corps of Engineers must also consider effects to listed species pursuant to section 7 of the Endangered Species Act. The Service provides comments to the agencies that may include permit conditions to help avoid

or minimize impacts to wildlife resources including listed species. For this project, we consider the conservation measures you agreed to in the determination key and/or as part of your proposed action to be non-discretionary. If you apply for a wetland permit, these conservation measures should be explicitly incorporated as permit conditions. Include a copy of this letter in your wetland permit application to streamline the threatened and endangered species review process.

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

Orchard Grove Apartments - 2765 Flushing Road, Flint

2. Description

The following description was provided for the project 'Orchard Grove Apartments - 2765 Flushing Road, Flint':

> Construction of 4-story mixed use residential and commercial building in northwest corner of two parcels. Parking area constructed on southern portion. Eastern half to be 2-story townhomes and 3-story multi-family apartments. 2 parcels: 07-11-551-001 & 40-11-351-001

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@43.023318700000004,-83.72978280242089,14z

Qualification Interview

1. This determination key is intended to assist the user in the evaluating the effects of their actions on Federally listed species in Michigan. It does not cover other prohibited activities under the Endangered Species Act (e.g., for wildlife: import/export, Interstate or foreign commerce, possession of illegally taken wildlife, purposeful take for scientific purposes or to enhance the survival of a species, etc.; for plants: import/export, reduce to possession, malicious destruction on Federal lands, commercial sale, etc.) or other statutes. Click yes to acknowledge that you must consider other prohibitions of the ESA or other statutes outside of this determination key.

   Yes

2. Is the action the approval of a long-term (i.e., in effect greater than 10 years) permit, plan, or other action?

   No

3. Is the action being funded, authorized, or carried out by a Federal agency?

   Yes

4. Does the action involve the installation or operation of wind turbines?

   No

5. Does the action involve purposeful take of a listed animal?

   No

6. Does the action involve a new communication tower?

   No

7. Does the activity involve aerial or other large-scale application of any chemical (including insecticide, herbicide, etc.)?

   No

8. Will your action permanently affect local hydrology by impacting 1/2 acre or more of wetland; or by increasing or decreasing groundwater or surfacewater elevations?

   No

9. Will your action temporarily affect local hydrology by impacting 1/2 acre or more of wetland; or by increasing or decreasing groundwater or surfacewater elevations?

   No

10. Will your project have any direct impacts to a stream or river (e.g., Horizontal Directional Drilling (HDD), hydrostatic testing, stream/road crossings, new storm-water outfall discharge, dams, other in-stream work, etc.)?

    No

11. Does your project have the potential to indirectly impact the stream/river or the riparian zone (e.g., cut and fill, horizontal directional drilling, hydrostatic testing, construction, vegetation removal, discharge, etc.)?

    No

12. Will your action disturb the ground or existing vegetation? This includes any off road vehicle access, soil compaction, digging, seismic survey, directional drilling, heavy equipment, grading, trenching, placement of fill, pesticide application, vegetation management (including removal or maintenance using equipment or chemicals), cultivation, development, etc.

    Yes

13. Does your action area occur entirely within an already developed area with no natural habitat or trees present? For the purposes of this question, "already developed areas" are already paved, covered by existing structures, manicured lawns, industrial sites, or cultivated cropland, AND do not contain trees that could be roosting habitat. Be aware that listed species may occur in areas with natural, or semi-natural, vegetation immediately adjacent to existing utilities (e.g. roadways, railways) or within utility rights-of-way such as overhead transmission line corridors, and can utilize suitable trees, bridges, or culverts for roosting even in urban dominated landscapes (so these are NOT considered "already developed areas" for the purposes of this question).

    Yes

14. Does the action have potential indirect effects to listed species or the habitats they depend on (e.g., water discharge into adjacent habitat or waterbody, changes in groundwater elevation, introduction of an exotic plant species)?

    No

15. [Hidden Semantic] Does the action area intersect the Indiana bat AOI?

    Automatically answered
    Yes

16. Federally listed bats infrequently use anthropogenic structures for roosting, such as buildings, barns, sheds, and bat boxes. Are bats known to be roosting in a structure that occurs within your action area?

    No

17. [Hidden Semantic] Does the action intersect the Eastern massasauga rattlesnake area of influence?

    Automatically answered
    Yes

18. [Hidden Semantic] Does the action area intersect the area of influence for Eastern prairie fringed orchid?

    Automatically answered
    Yes

19. [Hidden Semantic] Does the action area intersect the Indiana bat area of influence?

    Automatically answered
    Yes

20. [Hidden Semantic] Does this project intersect the northern long-eared bat area of influence?

    Automatically answered
    Yes

IPaC User Contact Information

Agency: ASTI Environmental
Name: Emmett Smrcka
Address: 10448 Citation Dr, Brighton
Address Line 2: Suite 100
City: Brighton
State: MI
Zip: 48116
Email emsmrcka@gmail.com
Phone: 8102252800

Lead Agency Contact Information

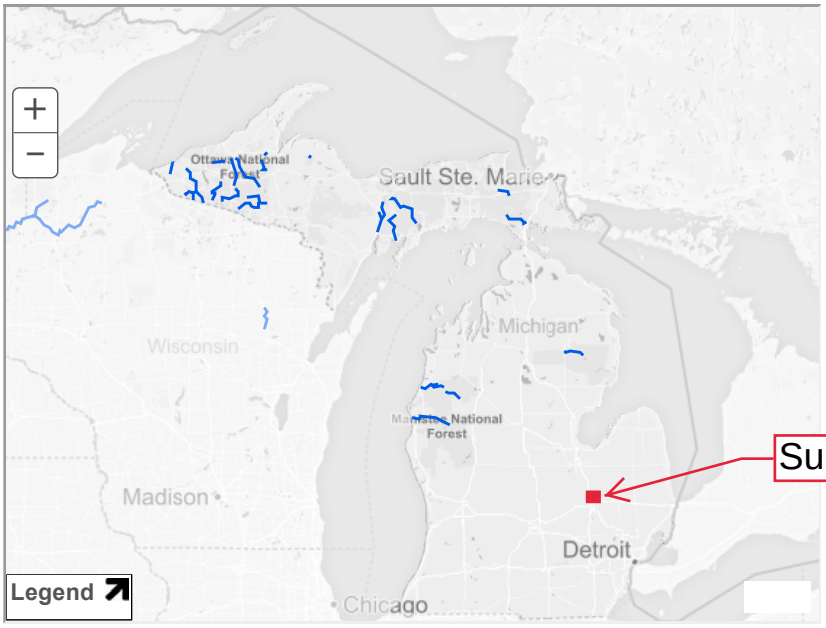
Lead Agency: Department of Housing and Urban Development

APPENDIX I

Wild and Scenic Rivers Protection
Michigan Wild and Scenic Rivers Map

MICHIGAN

Michigan has approximately 51,438 miles of river, of which 656.4 miles are designated as wild & scenic—just a bit more than 1% of the state's river miles.



+ View larger map

Choose A State ▾ Go

Choose A River ▾ Go

Nourished by the fertile soils of the region, rivers of the Midwest explode with life, from great avian migrations to ancient fishes.

AuSable River
Bear Creek
Black River
Carp River
Indian River
Manistee River
Ontonagon River
Paint River
Pere Marquette River
Pine River
Presque Isle River
Sturgeon River (Hiawatha National Forest)
Sturgeon River (Ottawa National Forest)
Tahquamenon River (East Branch)
Whitefish River
Yellow Dog River

APPENDIX J

Air Quality Protection
Michigan Air Attainment Map

Attainment Status for the National Ambient Air Quality Standards

EGLE
MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

The National Ambient Air Quality Standards (NAAQS) are health-based pollution standards set by EPA.

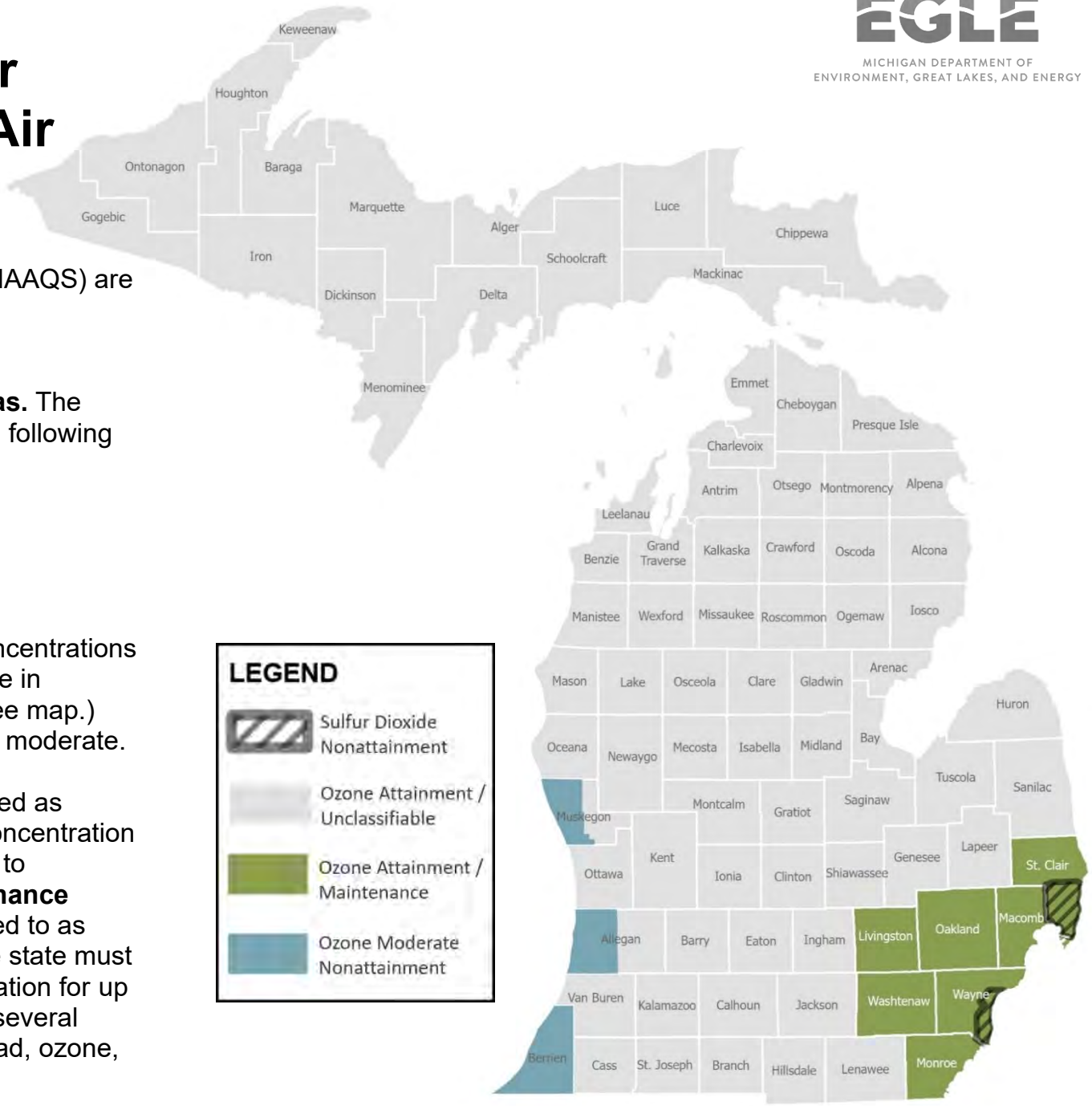
Areas of the state that are below the NAAQS concentration level are called **attainment areas.** The entire state of Michigan is in attainment for the following pollutants:

- Carbon Monoxide (CO)
- Lead (Pb)
- Nitrogen Dioxide (NO2)
- Particulate Matter (PM10 & PM2.5)

Nonattainment areas are those that have concentrations over the NAAQS level. Portions of the state are in nonattainment for sulfur dioxide and ozone (see map.) The ozone nonattainment area is classified as moderate.

Areas of the state that were previously classified as nonattainment but have since reduced their concentration levels below the NAAQS can be redesignated to attainment and are called **attainment/maintenance areas**. These areas are also commonly referred to as “attainment” after reclassification, however the state must continue monitoring and submitting documentation for up to 20 years after the redesignated. There are several maintenance areas throughout the state for lead, ozone, and particulate matter.

**For readability purposes the map only includes the most recently reclassified ozone maintenance area in southeast Michigan. For more information, please consult the Michigan.gov/AIR webpage or contact the division directly.*



**See Page 2 for close-up maps of partial county nonattainment areas.*

Updated July 2023

Close-Up Maps of Partial County Nonattainment Areas

Sulfur Dioxide Nonattainment Areas

St. Clair County

Wayne County

Ozone Moderate Nonattainment Areas

Allegan County

Muskegon County

EGLE

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

Updated July 2023

APPENDIX K

Farmland Protection
Web Soil Survey

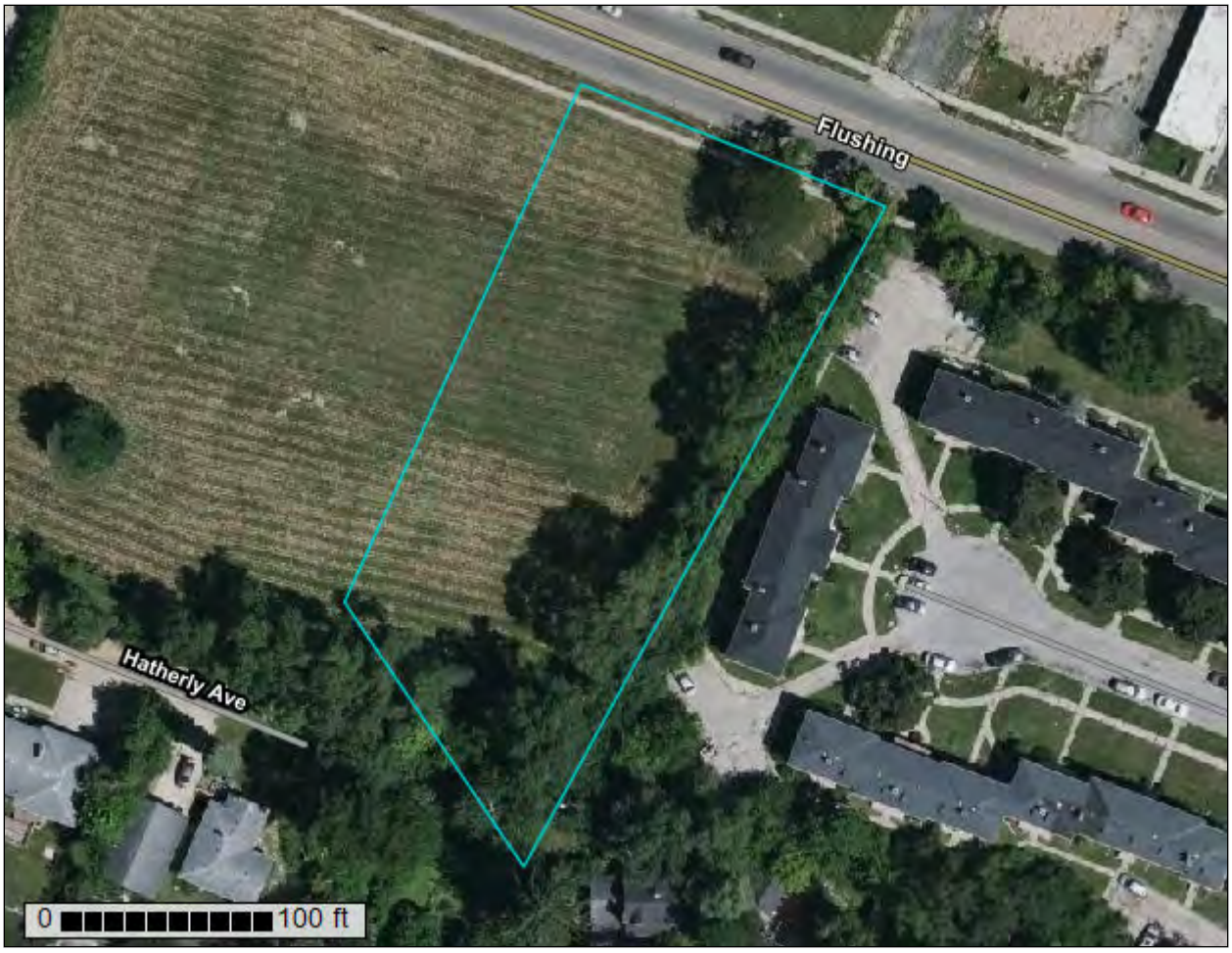
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Genesee County, Michigan



July 25, 2022

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Map Scale: 1:662 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 5 10 20 30

Feet
0 30 60 120 180

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Genesee County, Michigan
Survey Area Data: Version 17, Sep 2, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 29, 2020—Aug 12, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
UrbacA	Urban land-Crosier complex, 0 to 2 percent slopes	0.6	58.0%
UrbakB	Urban land-Williamstown complex, 0 to 6 percent slopes	0.1	4.9%
UrbalB	Urban land-Crosier-Williamstown complex, 2 to 6 percent slopes	0.4	37.1%
Totals for Area of Interest		**1.0**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate

pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Genesee County, Michigan

UrbacA—Urban land-Crosier complex, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 21yrk
Elevation: 710 to 830 feet
Mean annual precipitation: 31 to 31 inches
Mean annual air temperature: 47 to 47 degrees F
Frost-free period: 137 to 179 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 45 percent
Crosier and similar soils: 38 percent
Minor components: 17 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Crosier

Setting

Landform: Knolls on ground moraines
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Fine-loamy till over dense basal till

Typical profile

Ap - 0 to 9 inches: loam
Bt - 9 to 26 inches: loam
C - 26 to 44 inches: loam
2Cd - 44 to 80 inches: loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 30 to 75 inches to densic material
Drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low (0.01 to 0.06 in/hr)
Depth to water table: About 6 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 35 percent
Available water supply, 0 to 60 inches: Moderate (about 7.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B/D
Ecological site: F098XA011MI - Moist Loamy Drift Plains
Hydric soil rating: No

Minor Components

Udorthents
Percent of map unit: 9 percent
Landform: Knolls on ground moraines
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Williamstown
Percent of map unit: 4 percent
Landform: Knolls on ground moraines
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Brookston, dense substratum
Percent of map unit: 2 percent
Landform: Depressions on ground moraines
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Kibbie
Percent of map unit: 1 percent
Landform: Knolls on ground moraines
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Lamson
Percent of map unit: 1 percent
Landform: Depressions on ground moraines
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

UrbakB—Urban land-Williamstown complex, 0 to 6 percent slopes

Map Unit Setting
National map unit symbol: 21yrd
Elevation: 700 to 810 feet
Mean annual precipitation: 31 to 31 inches
Mean annual air temperature: 47 to 47 degrees F
Frost-free period: 137 to 179 days

Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 51 percent
Williamstown and similar soils: 40 percent
Minor components: 9 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Williamstown

Setting

Landform: Knolls on ground moraines
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loamy till

Typical profile

Ap - 0 to 7 inches: loam
Bt - 7 to 26 inches: loam
C - 26 to 38 inches: loam
2Cd - 38 to 80 inches: loam

Properties and qualities

Slope: 0 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low (0.01 to 0.06 in/hr)
Depth to water table: About 30 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 35 percent
Available water supply, 0 to 60 inches: Moderate (about 6.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: D
Ecological site: F098XA011MI - Moist Loamy Drift Plains
Hydric soil rating: No

Minor Components

Metea

Percent of map unit: 7 percent
Landform: Knolls on ground moraines
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Miami

Percent of map unit: 1 percent
Landform: Knolls on ground moraines
Landform position (three-dimensional): Rise

Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Owosso

Percent of map unit: 1 percent
Landform: Knolls on ground moraines
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

UrbalB—Urban land-Crosier-Williamstown complex, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 21yr3
Elevation: 710 to 820 feet
Mean annual precipitation: 31 to 31 inches
Mean annual air temperature: 47 to 47 degrees F
Frost-free period: 137 to 179 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 46 percent
Crosier and similar soils: 25 percent
Williamstown and similar soils: 25 percent
Minor components: 4 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Crosier

Setting

Landform: Knolls on ground moraines
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Fine-loamy till over dense basal till

Typical profile

Ap - 0 to 9 inches: loam
Bt - 9 to 26 inches: loam
C - 26 to 44 inches: loam
2Cd - 44 to 80 inches: loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: 30 to 75 inches to densic material
Drainage class: Somewhat poorly drained
Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low (0.01 to 0.06 in/hr)
Depth to water table: About 6 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 35 percent
Available water supply, 0 to 60 inches: Moderate (about 7.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B/D
Ecological site: F099XY007MI - Lake Plain Flats
Hydric soil rating: No

Description of Williamstown

Setting

Landform: Knolls on ground moraines
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loamy till

Typical profile

Ap - 0 to 7 inches: loam
Bt - 7 to 26 inches: loam
C - 26 to 38 inches: loam
2Cd - 38 to 80 inches: loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low (0.01 to 0.06 in/hr)
Depth to water table: About 30 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 35 percent
Available water supply, 0 to 60 inches: Moderate (about 6.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: D
Ecological site: F099XY007MI - Lake Plain Flats
Hydric soil rating: No

Minor Components

Metamora

Percent of map unit: 2 percent
Landform: Swales on ground moraines
Landform position (three-dimensional): Rise
Down-slope shape: Linear

Across-slope shape: Convex
Hydric soil rating: No

Udorthents

Percent of map unit: 2 percent
Landform: Knolls on ground moraines
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

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APPENDIX L

Environmental Justice
Environmental Justice Report

EJScreen Report (Version 2.0)

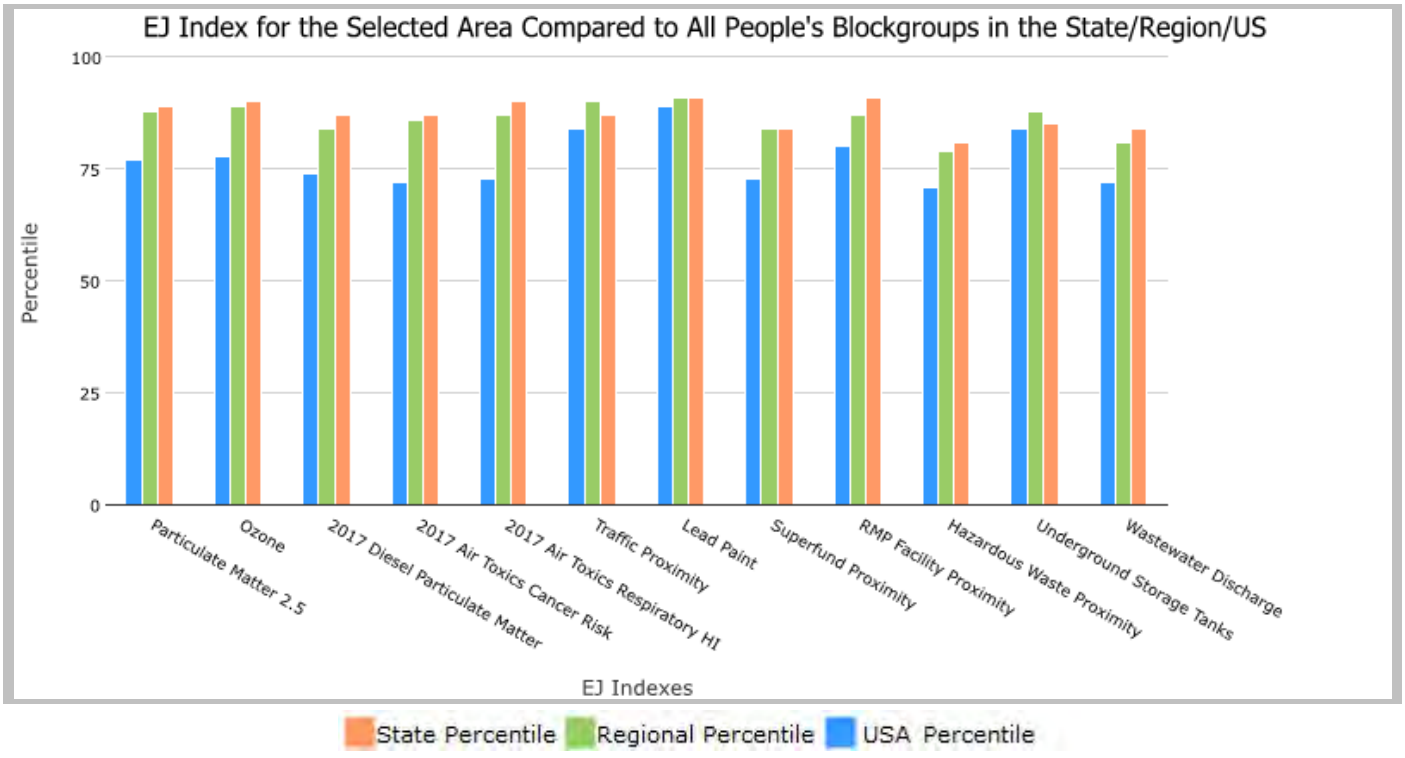
1 mile Ring Centered at 43.023475,-83.728523, MICHIGAN, EPA Region 5

Approximate Population: 13,006

Input Area (sq. miles): 3.14

Orchard Manor

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
Environmental Justice Indexes			
EJ Index for Particulate Matter 2.5	89	88	77
EJ Index for Ozone	90	89	78
EJ Index for 2017 Diesel Particulate Matter*	87	84	74
EJ Index for 2017 Air Toxics Cancer Risk*	87	86	72
EJ Index for 2017 Air Toxics Respiratory HI*	90	87	73
EJ Index for Traffic Proximity	87	90	84
EJ Index for Lead Paint	91	91	89
EJ Index for Superfund Proximity	84	84	73
EJ Index for RMP Facility Proximity	91	87	80
EJ Index for Hazardous Waste Proximity	81	79	71
EJ Index for Underground Storage Tanks	85	88	84
EJ Index for Wastewater Discharge	84	81	72



This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

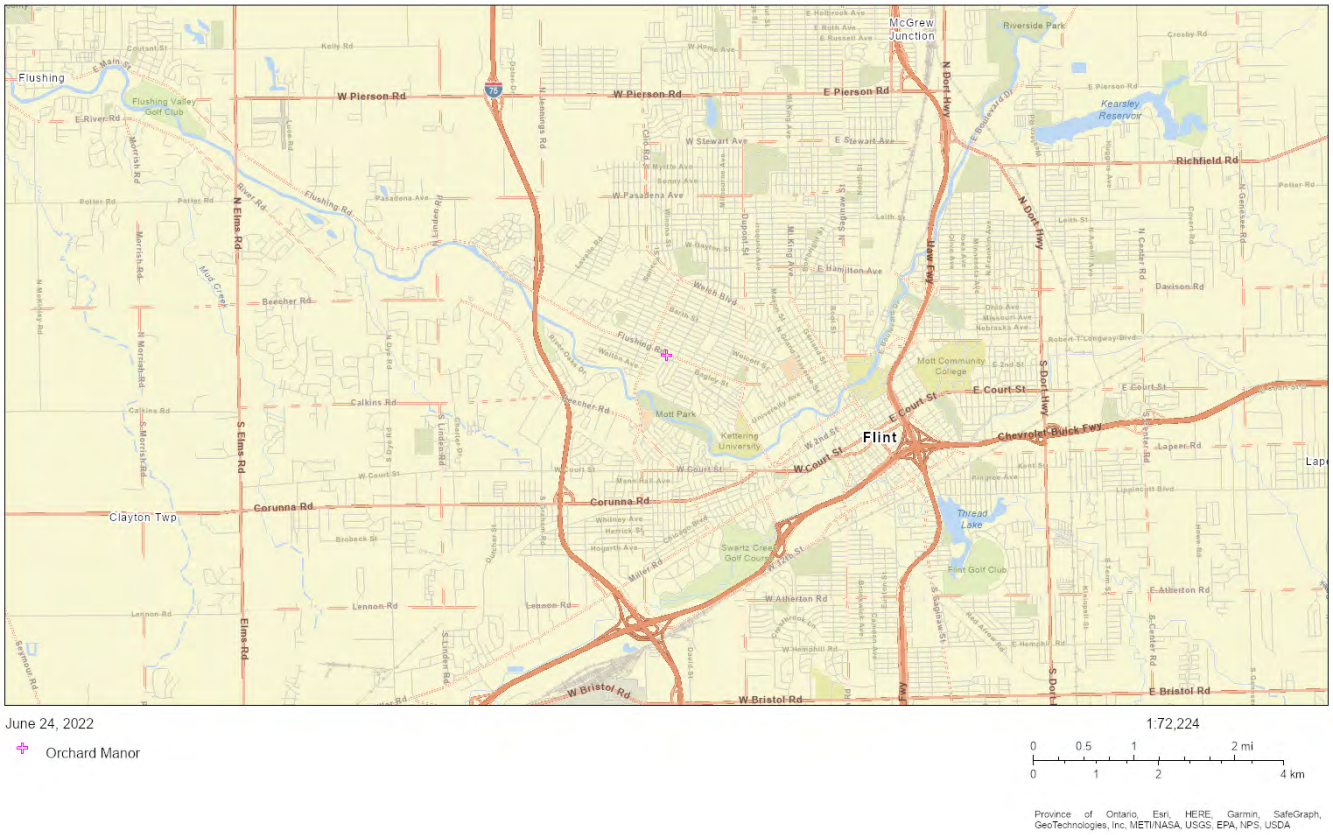
EJScreen Report (Version 2.0)

1 mile Ring Centered at 43.023475,-83.728523, MICHIGAN, EPA Region 5

Approximate Population: 13,006

Input Area (sq. miles): 3.14

Orchard Manor



June 24, 2022

Orchard Manor

1:72,224

0 0.5 1 2 mi

0 1 2 4 km

Province of Ontario, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA

Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	0

EJScreen Report (Version 2.0)

1 mile Ring Centered at 43.023475,-83.728523, MICHIGAN, EPA Region 5

Approximate Population: 13,006

Input Area (sq. miles): 3.14

Orchard Manor

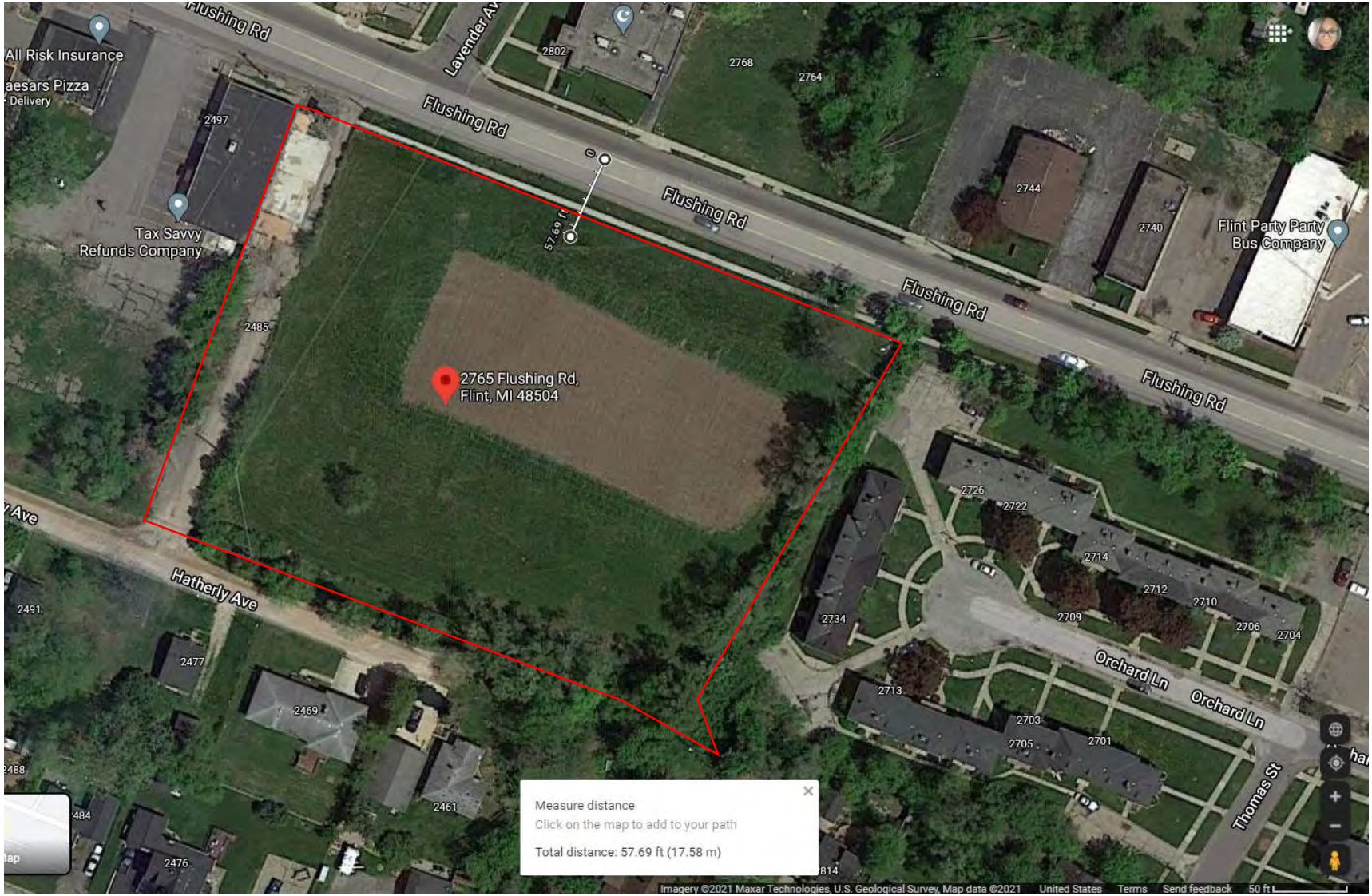
Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Pollution and Sources							
Particulate Matter 2.5 (µg/m^3)	8.47	8.75	32	8.96	25	8.74	46
Ozone (ppb)	43.7	43.8	29	43.5	37	42.6	64
2017 Diesel Particulate Matter* (µg/m^3)	0.215	0.209	55	0.279	<50th	0.295	<50th
2017 Air Toxics Cancer Risk* (lifetime risk per million)	20	23	70	24	60-70th	29	<50th
2017 Air Toxics Respiratory HI*	0.29	0.25	94	0.3	70-80th	0.36	<50th
Traffic Proximity (daily traffic count/distance to road)	720	830	64	610	77	710	76
Lead Paint (% Pre-1960 Housing)	0.7	0.37	80	0.37	81	0.28	88
Superfund Proximity (site count/km distance)	0.041	0.15	26	0.13	33	0.13	35
RMP Facility Proximity (facility count/km distance)	0.58	0.53	73	0.83	59	0.75	63
Hazardous Waste Proximity (facility count/km distance)	0.49	1.1	46	1.8	38	2.2	43
Underground Storage Tanks (count/km^2)	6.5	7.3	66	4.8	77	3.9	82
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.00015	0.41	37	9	31	12	34
Socioeconomic Indicators							
Demographic Index	64%	28%	90	28%	91	36%	85
People of Color	74%	25%	90	26%	90	40%	80
Low Income	55%	32%	85	29%	87	31%	85
Unemployment Rate	13%	6%	88	5%	90	5%	90
Linguistically Isolated	0%	2%	65	2%	59	5%	45
Less Than High School Education	12%	9%	74	10%	72	12%	62
Under Age 5	5%	6%	52	6%	48	6%	48
Over Age 64	13%	17%	35	16%	40	16%	44

*Diesel particular matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's 2017 Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update.

For additional information, see: www.epa.gov/environmentaljustice

APPENDIX M

Noise Abatement and Control
Noise Assessment Report
STraCAT Calculations



DISTANCE FROM THE PROPOSED SITE BUILDING TO FLUSHING ROAD: 57.0 FEET

DNL Calculator

The Day/Night Noise Level Calculator is an electronic assessment tool that calculates the Day/Night Noise Level (DNL) from roadway and railway traffic. For more information on using the DNL calculator, view the **Day/Night Noise Level Calculator Electronic Assessment Tool Overview (/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/)**.

Guidelines

- To display the Road and/or Rail DNL calculator(s), click on the "Add Road Source" and/or "Add Rail Source" button(s) below.
- All Road and Rail input values must be positive non-decimal numbers.
- All Road and/or Rail DNL value(s) must be calculated separately before calculating the Site DNL.
- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	Vacant Land Property
Record Date	01/25/2021
User's Name	SES Environmental

Road # 1 Name:	**Flushing Road**

Road #1

Vehicle Type	Cars ☑	Medium Trucks ☑	Heavy Trucks ☑
Effective Distance	57.0	57.0	57.0
Distance to Stop Sign			
Average Speed	35	35	35
Average Daily Trips (ADT)	11792	513	512
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	64	60	70

Calculate Road #1 DNL | 72 | Reset

Add Road Source | Add Rail Source

Airport Noise Level	
Loud Impulse Sounds?	○Yes ○No
Combined DNL for all Road and Rail sources	**0**
Combined DNL including Airport	
Site DNL with Loud Impulse Sound	

Calculate | Reset

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

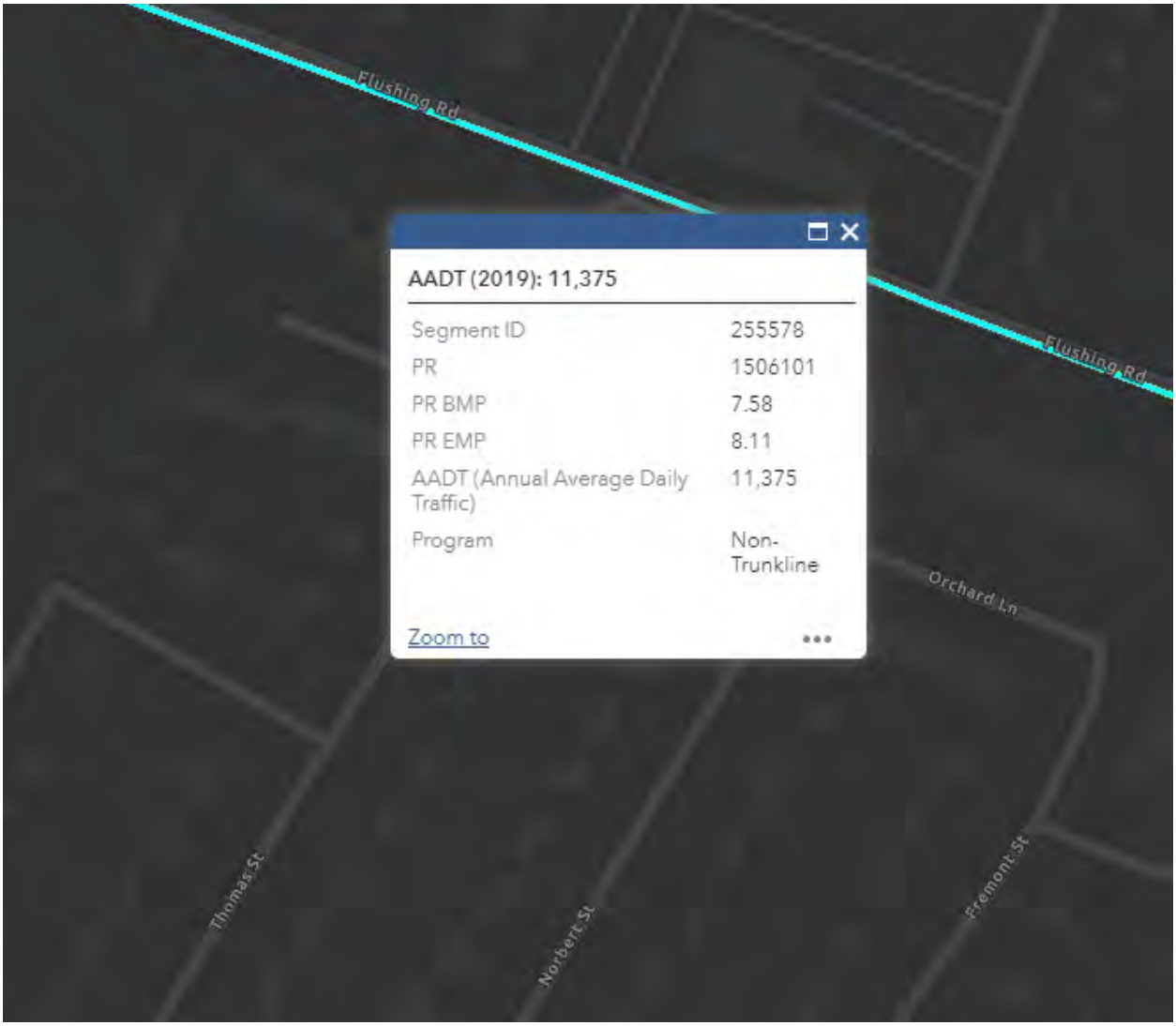
- **No Action Alternative**: Cancel the project at this location
- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
    - **Contact your Field or Regional Environmental Officer (/programs/environmental-review/hud-environmental-staff-contacts/)**
    - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
    - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
    - Incorporate natural or man-made barriers. See ***The Noise Guidebook (/resource/313/hud-noise-guidebook/)***
    - Construct noise barrier. See the **Barrier Performance Module (/programs/environmental-review/bpm-calculator/)**

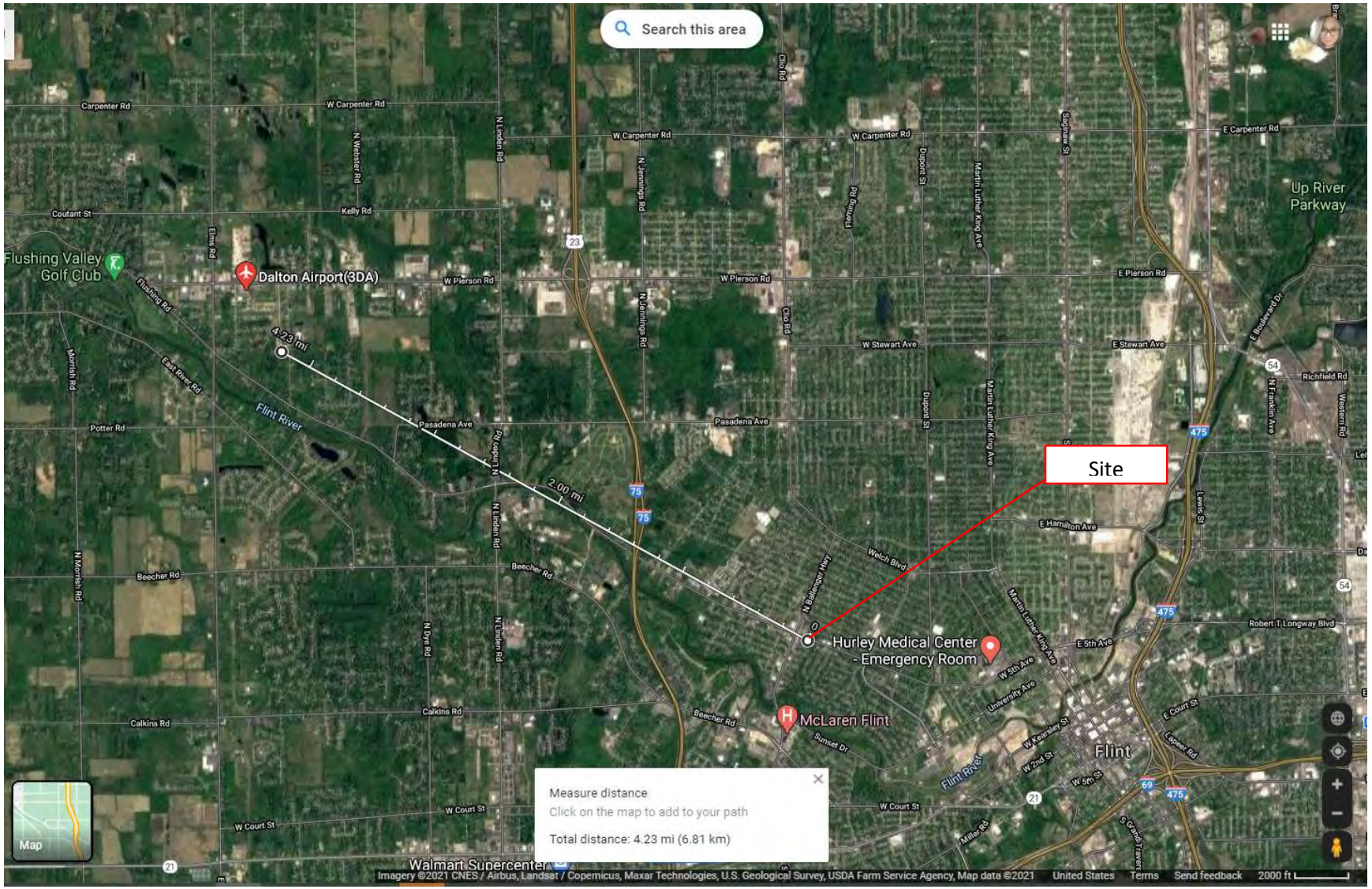
Tools and Guidance

Day/Night Noise Level Assessment Tool User Guide (/resource/3822/day-night-noise-level-assessment-tool-user-guide/)

Day/Night Noise Level Assessment Tool Flowcharts (/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)

2019 AADT – Flushing Road – Source MDOT Traffic Volume Map





DISTANCE FROM THE SITE TO DALTON AIRPORT: 4.23 MILES

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

AIRPORT MASTER RECORD

PRINT DATE: 1/25/2021
AFD EFF 12/31/2020
FORM APPROVED OMB 2120-0015

> 1 ASSOC CITY: FLUSHING
> 2 AIRPORT NAME: DALTON
3 CBD TO AIRPORT (NM): 02 E
4 STATE: MI
6 REGION/ADO: AGL/DET
LOC ID: 3DA
5 COUNTY: GENESEE MI
7 SECT AERO CHT: DETROIT
FAA SITE NR: 09811.*A

GENERAL

10 OWNERSHIP: PRIVATE
> 11 OWNER: DALTON AIRPORT ASSOC.
> 12 ADDRESS: 3400 ANN DRIVE
FLUSHING, MI 48433
> 13 PHONE NR: 810-736-7231
> 14 MANAGER: BILL CAMPEAU
> 15 ADDRESS: PO BOX 310693
FLINT, MI 48531-0693
> 16 PHONE NR: 810-736-7231
> 17 ATTENDANCE SCHEDULE:

ALL	IREG	IREG

18 AIRPORT USE: PUBLIC
19 ARPT LAT: 43-03-09.0087N ESTIMATED
20 ARPT LONG: 083-48-17.6392W
21 ARPT ELEV: 733.0 SURVEYED
22 ACREAGE: 88
> 23 RIGHT TRAFFIC: NO
> 24 NON-COMM LANDING: NO
25 NPIAS/FED AGREEMENTS:
> 26 FAR 139 INDEX:

SERVICES

> 70 FUEL: 100LL
> 71 AIRFRAME RPRS:
> 72 PWR PLANT RPRS:
> 73 BOTTLE OXYGEN: NONE
> 74 BULK OXYGEN: NONE
75 TSNT STORAGE: TIE
76 OTHER SERVICES:

FACILITIES

> 80 ARPT BCN: CG
> 81 ARPT LGT SKED : SEE RMK
BCN LGT SKED: SS-SR
> 82 UNICOM: 122.800
> 83 WIND INDICATOR: YES
84 SEGMENTED CIRCLE:
85 CONTROL TWR: NO
86 FSS: LANSING
87 FSS ON ARPT: NO
88 FSS PHONE NR:
89 TOLL FREE NR: 1-800-WX-BRIEF

BASED AIRCRAFT

90 SINGLE ENG:	71
91 MULTI ENG:	0
92 JET:	0
93 HELICOPTERS:	1
TOTAL:	72
94 GLIDERS:	0
95 MILITARY:	0
96 ULTRA-LIGHT:	2

OPERATIONS

100 AIR CARRIER:	0
102 AIR TAXI:	0
103 G A LOCAL:	4,015
104 G A ITNRNT:	3,000
105 MILITARY:	0
TOTAL:	7,015
OPERATIONS FOR 12 MONTHS ENDING:	12/31/2019

RUNWAY DATA

	09/27	18/36		
> 30 RUNWAY INDENT:				
> 31 LENGTH:	1,633	2,510		
> 32 WIDTH:	130	50		
> 33 SURF TYPE-COND:	TURF-G	ASPH-F		
> 34 SURF TREATMENT:				
35 GROSS WT:	S			
36 (IN THSDS)	D			
37	2D			
38	2D/2D2			
> 39 PCN:				

LIGHTING/APCH AIDS

> 40 EDGE INTENSITY:		LOW		
> 42 RWY MARK TYPE-COND:	- / -	BSC - F / BSC - F	- / -	- / -
> 43 VGSI:	/	/	/	/
44 THR CROSSING HGT	/	/	/	/
45 VISUAL GLIDE ANGLE:	/	/	/	/
> 46 CNTRLN-TDZ:	N - N / N - N	N - N / N - N	- / -	- / -
> 47 RVR-RVV:	- N / - N	- N / - N	- / -	- / -
> 48 REIL:	N / N	N / N	/	/
> 49 APCH LIGHTS:	/	/	/	/

OBSTRUCTION DATA

50 FAR 77 CATEGORY	A(V) / A(V)	A(V) / A(V)	/	/
> 51 DISPLACED THR:	/ 293	771 / 771	/	/
> 52 CTLG OBSTN:	TREE / ROAD	TREE / TREES	/	/
> 53 OBSTN MARKED/LGTD:	/	/	/	/
> 54 HGT ABOVE RWY END:	50 / 18	72 / 41	/	/
> 55 DIST FROM RWY END:	460 / 60	296 / 201	/	/
> 56 CNTRLN OFFSET:	95R / 125B	125L / 125B	/	/
57 OBSTN CLNC SLOPE:	9:1 / 3:1	1:1 / 0:1	/	/
58 CLOSE-IN OBSTN:	N / N	Y / Y	/	/

DECLARED DISTANCES

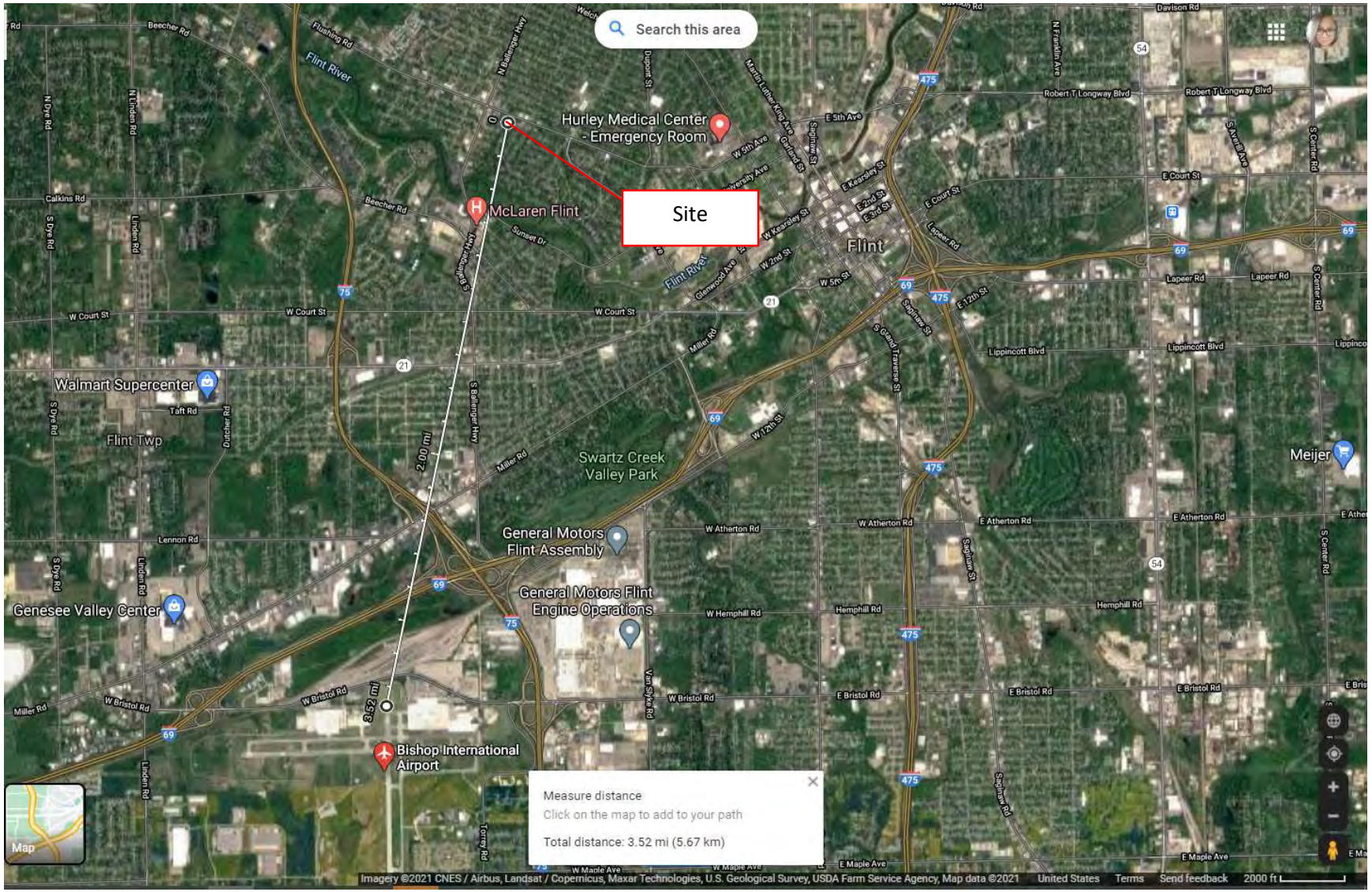
> 60 TAKE OFF RUN AVBL (TORA):	/	/	/	/
> 61 TAKE OFF DIST AVBL (TODA):	/	/	/	/
> 62 ACLT STOP DIST AVBL (ASDA):	/	/	/	/
> 63 LNDG DIST AVBL (LDA):	/	/	/	/

(>) ARPT MGR PLEASE ADVISE FSS IN ITEM 86 WHEN CHANGES OCCUR TO ITEMS PRECEDED BY >

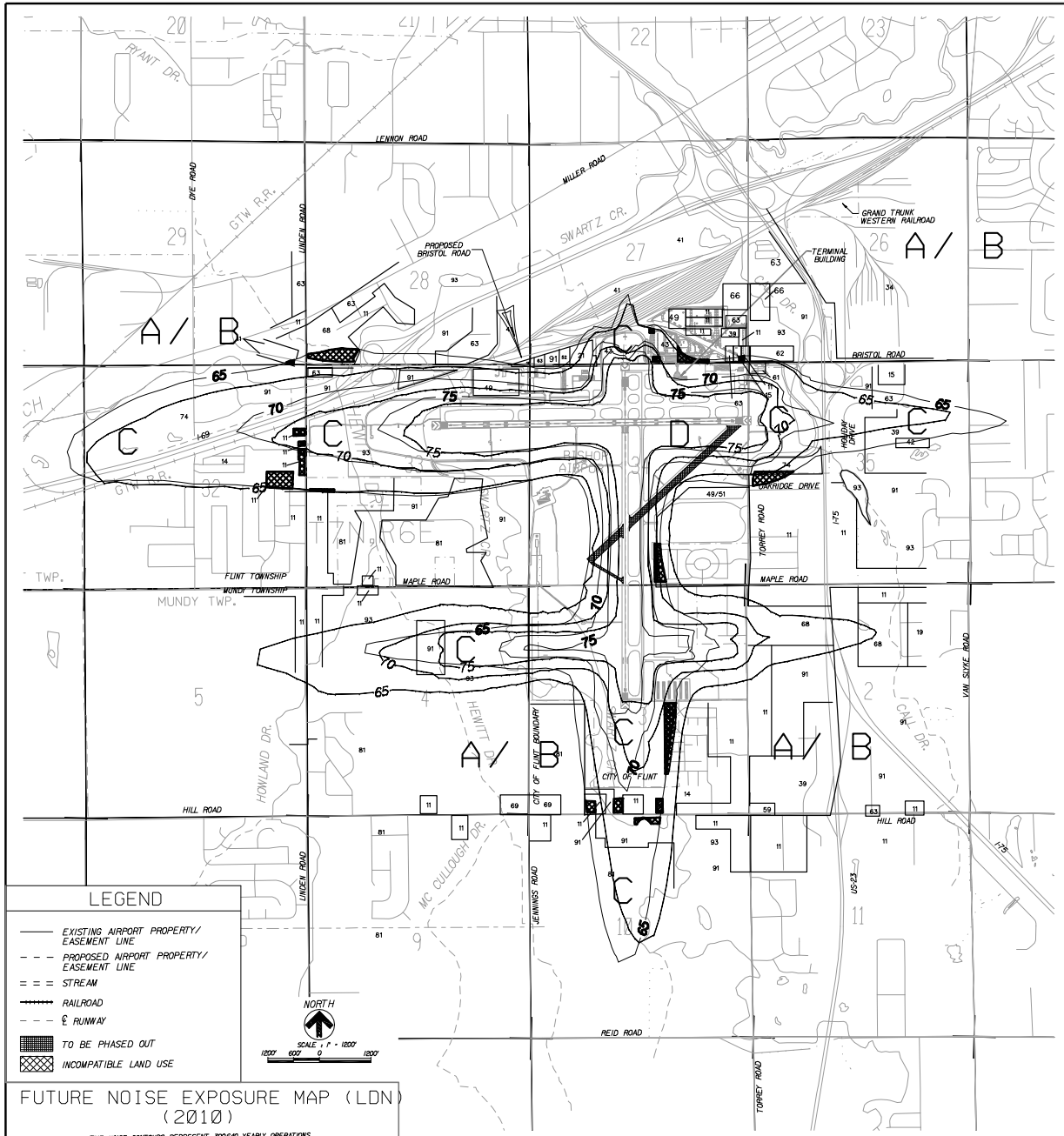
> 110 REMARKS

A 030	RWY 09/27 CLSD OCT THRU MAR.
A 042	09/27 MKD WITH 3 FT YELLOW CONES.
A 057	RWY 18 APCH RATIO 20:1 TO DSPLCD THR.
A 057	RWY 27 APCH RATIO 15:1 TO DSPLCD THR; 49 FT TREE 770 FT DST, 42 FT RIGHT.
A 057	RWY 36 APCH RATIO 20:1 TO DSPLCD THR.
A 058	+18 FT ROAD 83 FT DIST.
A 058	RWY 36 +20-35 FT TREES 61 FT DSTC.
A 070	FUEL AVBL BY CREDIT CARD.
A 081	ACTVT LIRL RY 18/36 - CTAF.
A 110-002	FOR CD CTC GREAT LAKES APCH AT 269-459-3345, WHEN APCH CLSD CTC CLEVELAND ARTCC AT 440-774-0224/0490.

111 INSPECTOR: (S)
112 LAST INSP: 02/12/2020
113 LAST INFO REQ:



DISTANCE FROM THE SITE TO BISHOP INTERNATIONAL AIRPORT: 3.52 MILES



LEGEND

- EXISTING AIRPORT PROPERTY/ EASEMENT LINE
- PROPOSED AIRPORT PROPERTY/ EASEMENT LINE
- STREAM
- RAILROAD
- & RUNWAY
- TO BE PHASED OUT
- INCOMPATIBLE LAND USE

FUTURE NOISE EXPOSURE MAP (LDN) (2010)

THE NOISE CONTOURS REPRESENT 300,640 YEARLY OPERATIONS

LAND USE GUIDANCE CHART I: AIRPORT NOISE INTERPOLATION

LAND USE GUIDANCE ZONES (LUG)	NOISE EXPOSURE CLASS	INPUTS: AIRCRAFT NOISE ESTIMATING METHODOLOGIES: LDN - DAY/NIGHT AVG. SOUND LEVEL	NEF - NOISE EXPOSURE FORECAST	CNR - COMPOSITE NOISE RATING	CNEL - COMM. NOISE EQUIVALENT LEVEL	HUD NOISE ASSESSMENT GUIDELINES	SUGGESTED NOISE CONTROLS
A	MINIMAL EXPOSURE	0 TO 55	0 TO 20	0 TO 90	0 TO 55	"CLEARLY ACCEPTABLE"	NORMALLY REQUIRES NO SPECIAL CONSIDERATIONS
B	MODERATE EXPOSURE	55 TO 65	20 TO 30	90 TO 100	55 TO 65	"NORMALLY ACCEPTABLE"	LAND USE CONTROLS SHOULD BE CONSIDERED
C	SIGNIFICANT EXPOSURE	65 TO 75	30 TO 40	100 TO 115	65 TO 75	"NORMALLY UNACCEPTABLE"	NOISE EASEMENTS, LAND USE, AND OTHER COMPATIBILITY CONTROLS RECOMMENDED
D	SEVERE EXPOSURE	75 AND HIGHER	40 AND HIGHER	115 AND HIGHER	75 AND HIGHER	"CLEARLY UNACCEPTABLE"	CONTAINMENT WITHIN AIRPORT BOUNDARY OR USE OF POSITIVE COMPATIBILITY CONTROLS RECOMMENDED

LAND USE GUIDANCE CHART II: LAND USE NOISE SENSITIVITY INTERPOLATION

SLUCM NO.	LAND USE NAME	LUG ZONE[1] SUGGESTED	LUG ZONE[1] STUDY
10	RESIDENTIAL	A-B	
11	HOUSEHOLD UNITS:		
11.11	SINGLE UNITS--DETACHED	A	
11.12	SINGLE UNITS--SEMIATTACHED	A	
11.13	SINGLE UNITS--ATTACHED ROW	B	
11.21	TWO UNITS--SIDE-BY-SIDE	A	
11.22	TWO UNITS--ONE ABOVE OTHER	A	
11.31	APARTMENTS--WALK UP	B	
11.32	APARTMENTS--ELEVATOR	B-C	
12	GROUP QUARTERS	A-B	
13	RESIDENTIAL HOTELS	B	
14	MOBILE HOME PARKS OR COURTS	A	
15	TRANSIENT LODGINGS	C	
19	OTHER RESIDENTIAL	A-C	
20	MANUFACTURING[2]	C-D	
21	FOOD AND KINDRED PRODUCTS--MANUFACTURING	C-D	
22	TEXTILE MILL PRODUCTS--MANUFACTURING	C-D	
23	APPAREL AND OTHER FINISHED PRODUCTS MADE FROM FABRICS, LEATHER, AND SIMILAR MATERIALS--MANUFACTURING	C-D	
24	LUMBER AND WOOD PRODUCTS (EXCEPT FURNITURE)--MANUFACTURING	C-D	
25	FURNITURE AND FIXTURES--MANUFACTURING	C-D	
26	PAPER AND ALLIED PRODUCTS--MANUFACTURING	C-D	
27	PRINTING, PUBLISHING, AND ALLIED INDUSTRIES	C-D	
28	CHEMICALS AND ALLIED PRODUCTS--MANUFACTURING	C-D	
29	PETROLEUM REFINING AND RELATED INDUSTRIES[3]	C-D	
30	MANUFACTURING (CONT.)[2]	C-D	
31	RUBBER AND MISCELLANEOUS PLASTIC PRODUCTS--MANUFACTURING	C-D	
32	STONE, CLAY, AND GLASS PRODUCTS--MANUFACTURING	C-D	
33	PRIMARY METAL INDUSTRIES	D	
34	FABRICATED METAL PRODUCTS--MANUFACTURING	D	
35	PROFESSIONAL, SCIENTIFIC, & CONTROLLING INSTRUMENTS; PHOTOGRAPHIC AND OPTICAL GOODS; WATCHES AND CLOCKS--MANUFACTURING	B	
39	MISCELLANEOUS MANUFACTURING	C-D	
40	TRANSPORTATION, COMMUNICATION, AND UTILITIES		
41	RAILROAD, RAPID RAIL TRANSIT, AND STREET RAILWAY TRANSPORTATION	D	
42	MOTOR VEHICLE TRANSPORTATION	D	
43	AIRCRAFT TRANSPORTATION	D	
44	MARINE CRAFT TRANSPORTATION	D	
45	HIGHWAY AND STREET RIGHT-OF-WAY	D	
46	AUTOMOBILE PARKING	D	
47	COMMUNICATION	A-D	
48	UTILITIES	D	
49	OTHER TRANSPORTATION, COMMUNICATION, AND UTILITIES	A-D	
50	TRADE[4]		
51	WHOLESALE TRADE	C-D	
52	RETAIL TRADE--BUILDING MATERIALS, HARDWARE, AND FARM EQUIPMENT	C	
53	RETAIL TRADE--GENERAL MERCHANDISE	C	
54	RETAIL TRADE--FOOD	C	
55	RETAIL TRADE--AUTOMOTIVE, MARINE CRAFT, AIRCRAFT, AND ACCESSORIES	C	
56	RETAIL TRADE--APPAREL AND ACCESSORIES	C	
57	RETAIL TRADE--FURNITURE, HOME FURNISHINGS, AND EQUIPMENT	C	
59	RETAIL TRADE--EATING AND DRINKING, OTHER RETAIL TRADE	C-D	
60	SERVICES[4]		
61	FINANCE, INSURANCE, AND REAL ESTATE SERVICES	B	
62	PERSONAL SERVICES	B	
63	BUSINESS SERVICES	B	
64	REPAIR SERVICES	C	
65	PROFESSIONAL SERVICES	B-C	
66	CONTRACT CONSTRUCTION SERVICES	C	
67	GOVERNMENTAL SERVICES	B	
68	EDUCATIONAL SERVICES	A-B	
69	MISCELLANEOUS SERVICES	A-C	
70	CULTURAL, ENTERTAINMENT, AND RECREATIONAL		
71	CULTURAL ACTIVITIES AND NATURE EXHIBITIONS	A	
72	PUBLIC ASSEMBLY	A	
73	AMUSEMENTS	C	
74	RECREATIONAL ACTIVITIES[5]	B-C	
75	RESORTS AND GROUP CAMPS	A	
76	PARKS	A-C	
79	OTHER CULTURAL, ENTERTAINMENT, AND RECREATIONAL[5]	A-B	
80	RESOURCE PRODUCTION AND EXTRACTION		
81	AGRICULTURE	C-D	
82	AGRICULTURE RELATED ACTIVITIES	C-D	
83	FORESTRY ACTIVITIES AND RELATED SERVICES	D	
84	FISHING ACTIVITIES AND RELATED SERVICES	D	
85	MINING ACTIVITIES AND RELATED ACTIVITIES	D	
89	OTHER RESOURCE PRODUCTION AND EXTRACTION	C-D	
90	UNDEVELOPED LAND AND WATER AREAS		
91	UNDEVELOPED AND UNUSED LAND AREA (EXCLUDING NON-COMMERCIAL FOREST DEVELOPMENT)	D	
92	NONCOMMERCIAL FOREST DEVELOPMENT	D	
93	WATER AREA	A-D	
94	VACANT FLOOR AREA	A-D	
95	UNDER CONSTRUCTION	A-D	
99	OTHER UNDEVELOPED LAND AND WATER AREAS	A-D	

1 REFER TO LAND USE GUIDANCE CHART I
2 ZONE "C" SUGGESTED MAXIMUM EXCEPT WHERE EXCEEDED BY SELF-GENERATED NOISE
3 ZONE "D" FOR NOISE PURPOSES. OBSERVE NORMAL HAZARD PRECAUTIONS
4 IF ACTIVITY IS NOT IN SUBSTANTIAL, AIR-CONDITIONED BUILDING, GO TO THE NEXT HIGHER ZONE
5 REQUIREMENTS LIKELY TO VARY - INDIVIDUAL APPRAISAL RECOMMENDED
SLUCM: STANDARD LAND USE CODING MANUAL

RS&H
Architectural, Engineering, Planning and Environmental Services
RS&H Michigan, Inc.
G-3101 West Bristol Road, Suite 300
Flint, Michigan 48507
810-232-8899 FAX 810-232-8840
www.rsandh.com

Bishop - International - Airport
Flint - Michigan

AIRPORT HEIGHT ZONING AND LAND USE PLANS

3 WORKING DAYS
BEFORE YOU DIG
CALL MISS DIG
1-800-482-7171
(TOLL FREE)

REVISIONS

NO.	DESCRIPTION	DATE

DATE ISSUED: 5/5/98
REVIEWED BY: HES
DRAWN BY: EMT

RS&H PROJECT NUMBER
995-1510-020

SHEET TITLE

FUTURE NOISE EXPOSURE MAP

SHEET NUMBER

9 OF 9

Sound Transmission Classification Assessment Tool (STraCAT)

Overview

The Sound Transmission Classification Assessment Tool (STraCAT) is an electronic version of Figures 17 and 19 in The HUD Noise Guidebook. The purpose of this tool is to document sound attenuation performance of wall systems. Based on wall, window, and door Sound Transmission Classification (STC) values, the STraCAT generates a composite STC value for the wall assembly as a whole. Users can enter the calculated noise level related to a specific Noise Assessment Location in front of a building façade and STraCAT will generate a target required attenuation value for the wall assembly in STC. Based on wall materials, the tool will state whether the composite wall assembly STC meets the required attenuation value.

How to Use This Tool

Location, Noise Level and Wall Configuration to Be Analyzed
STraCAT is designed to calculate the attenuation provided by the wall assembly for one wall of one unit. If unit exterior square footage and window/door configuration is identical around the structure, a single STraCAT may be sufficient. If units vary, at least one STraCAT should be completed for each different exterior unit wall configuration to document that all will achieve the required attenuation. Additionally, if attenuation is not based on a single worst-case NAL, but there are multiple NALs which require different levels of attenuation around the structure, a STraCAT should be completed for each differing exterior wall configuration associated with each NAL.

Exterior wall configurations associated with an NAL include those with parallel (facing) or near-parallel exposure as well as those with perpendicular exposure. When a façade has parallel or perpendicular exposure to two or more NALs, you should base the required attenuation on the NAL with the highest calculated noise level. For corner units where the unit interior receives exterior noise through two facades, the STraCAT calculation should incorporate the area of wall, window and door materials pertaining to the corner unit's total exterior wall area (i.e., from both walls).

Information to Be Entered
Users first enter basic project information and the NAL noise level that will be used as the basis for required attenuation. This noise level must be entered in whole numbers. STraCAT users then enter information on wall, window and door component type and area. Again, as noted above, the wall, window and door entries are based on one unit, and one wall (except for corner units as discussed above). The tool sums total wall square footage based on the combined area of walls, doors and windows for the façade being evaluated.

Users may input STC values for materials in one of two ways. The tool includes a dropdown menu of common construction materials with STC values prefilled. If selected construction materials

manually. Verification of the component STC must be included in the ERR. Documentation includes the architect or construction manager's project plans showing wall material specifications. For new construction or for components that will be newly installed in an existing wall, documentation also includes the manufacturer's product specification sheet (cut sheet) documenting the STC rating of selected doors and windows.

Required STC Rating and Determination of Compliance

Finally, based on project information entered the tool will indicate the required STC rating for the wall assembly being evaluated and whether or not the materials specified will produce a combined rating that meets this requirement. Note that for noise levels above 75 dB DNL, either HUD (for 24 CFR Part 50 reviews) or the Responsible Entity (for 24 CFR Part 58 reviews) must approve the level and type of attenuation, among other processing requirements. Required attenuation values generated by STraCAT for NALs above 75 dB DNL should therefore be considered tentative pending approval by HUD or the RE.

Part 1 - Description

Project

Orchard Manor Apartments

Sponsor/Developer

Communities First Inc

Location

Flint, MI

Prepared by

Urban Colab Architecture

Noise Level

72

Date

9/19/2022

Primary Source(s)

Roadway (2019)

Part II - Wall Components

Wall Construction Detail	Area	STC
Wall Type 2 - vinyl siding, 7/16 OSB, 2x6 with r-19 batt, 5/8 gyp bd.	300	39

Add new wall

	300 Sq. Feet	**39**

Window Construction Detail	Quantity	Sq Ft/Unit	STC
Vinyl 48x60"	1	20	29

Add new window

Door Construction Detail	Quantity	Sq Ft/Unit	STC
7'-0"x6'-10" vinyl slider	1	48	28

Add new door

Part III - Results

Wall Statistics

Stat	Value
Area:	300 ft^2
Wall STC:	39

Aperture Statistics

Aperture	Count	Area	% of wall
Windows:	1	**20 ft^2**	**6.67%**
Doors:	1	**48 ft^2**	**16%**

Evaluation Criteria

Criteria	Value
Noise source sound level (dB):	**72**
Combined STC for wall assembly:	**33.62**
Required STC rating:	**30**
Does wall assembly meet requirements?	**Yes**

Print

Part 4 - Tips

What do you do if the preferred wall design is not sufficient to achieve the required attenuation? Another wall design with more substantial materials will work, but may not be the most cost-effective solution. Try adding some other elements for just a little more attenuation.

For example:

- Staggering the studs in a wall offers approximately 4dB of additional protection.
- Increasing the stud spacing from 16" on center to 24" can increase the STC from 2-5dB.
- Adding a 2" air space can provide 3dB more attenuation.
- Increasing a wall's air space from 3" to 6"can reduce noise levels by an additional 5dB.
- Adding a layer of ½" gypsum board on "Z" furring channels adds 2dB of attenuation.
- Using resilient channels and clips between wall panels and studs can improve the STC from 2-5dB.
- Adding a layer of ½" gypsum board on resilient channels adds 5dB of attenuation.
- Adding acoustical or isolation blankets to a wall's airspace can add 4-10dB of attenuation.
- A 1" rockwool acoustical blanket adds 3dB to the wall's STC.
- Filling the cells of lightweight concrete masonry units with expanded mineral loose-fill insulation adds 2dB to the STC.

APPENDIX N

Toxic/Hazardous/Radioactive Materials, Contamination, Chemicals, or Gases
Michigan Radon Map
EGLE Approval Letter for Remedial Activities

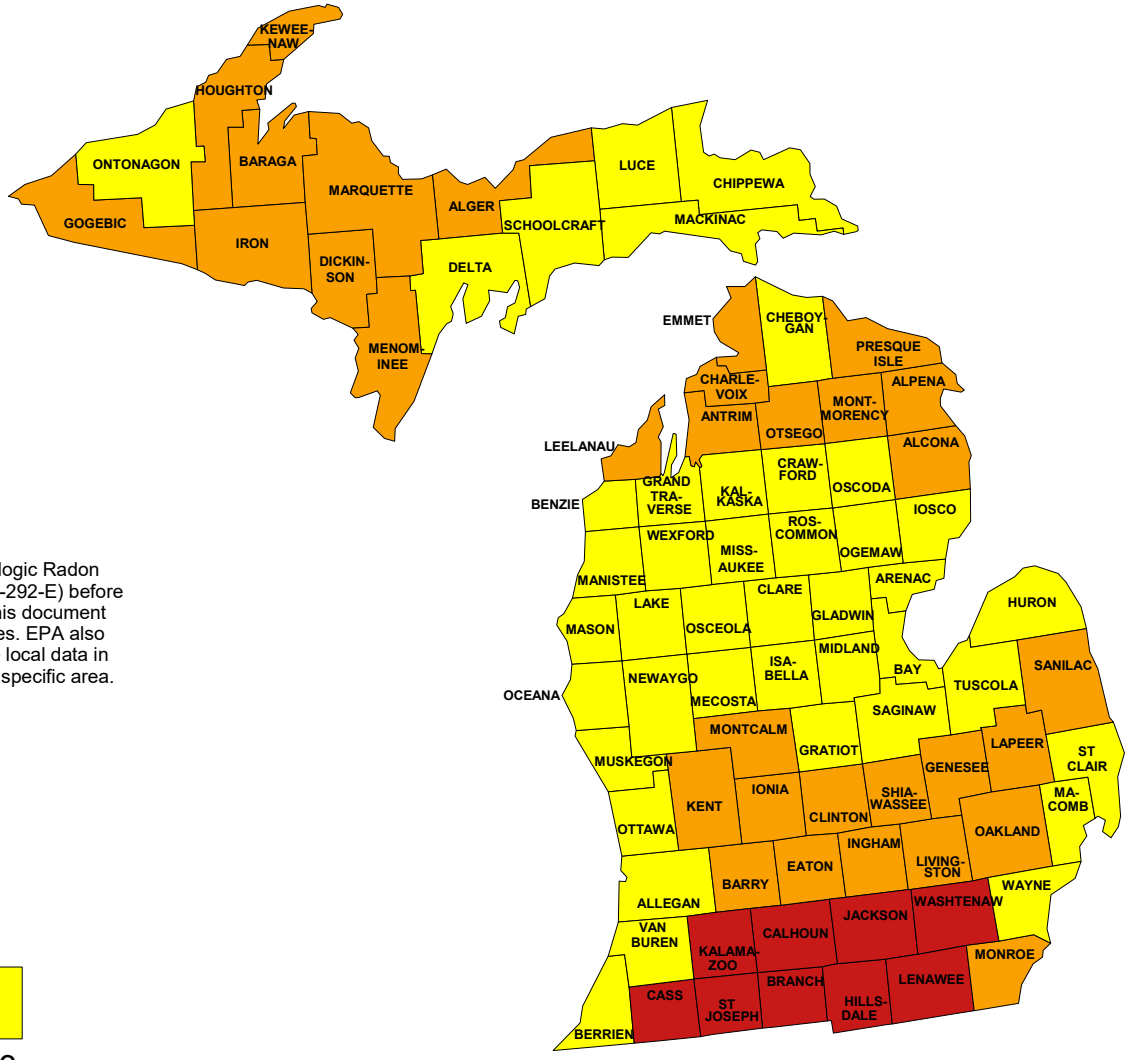
MICHIGAN - EPA Map of Radon Zones

http://www.epa.gov/radon/zonemap.html

The purpose of this map is to assist National, State and local organizations to target their resources and to implement radon-resistant building codes.

This map is not intended to determine if a home in a given zone should be tested for radon. Homes with elevated levels of radon have been found in all three zones.

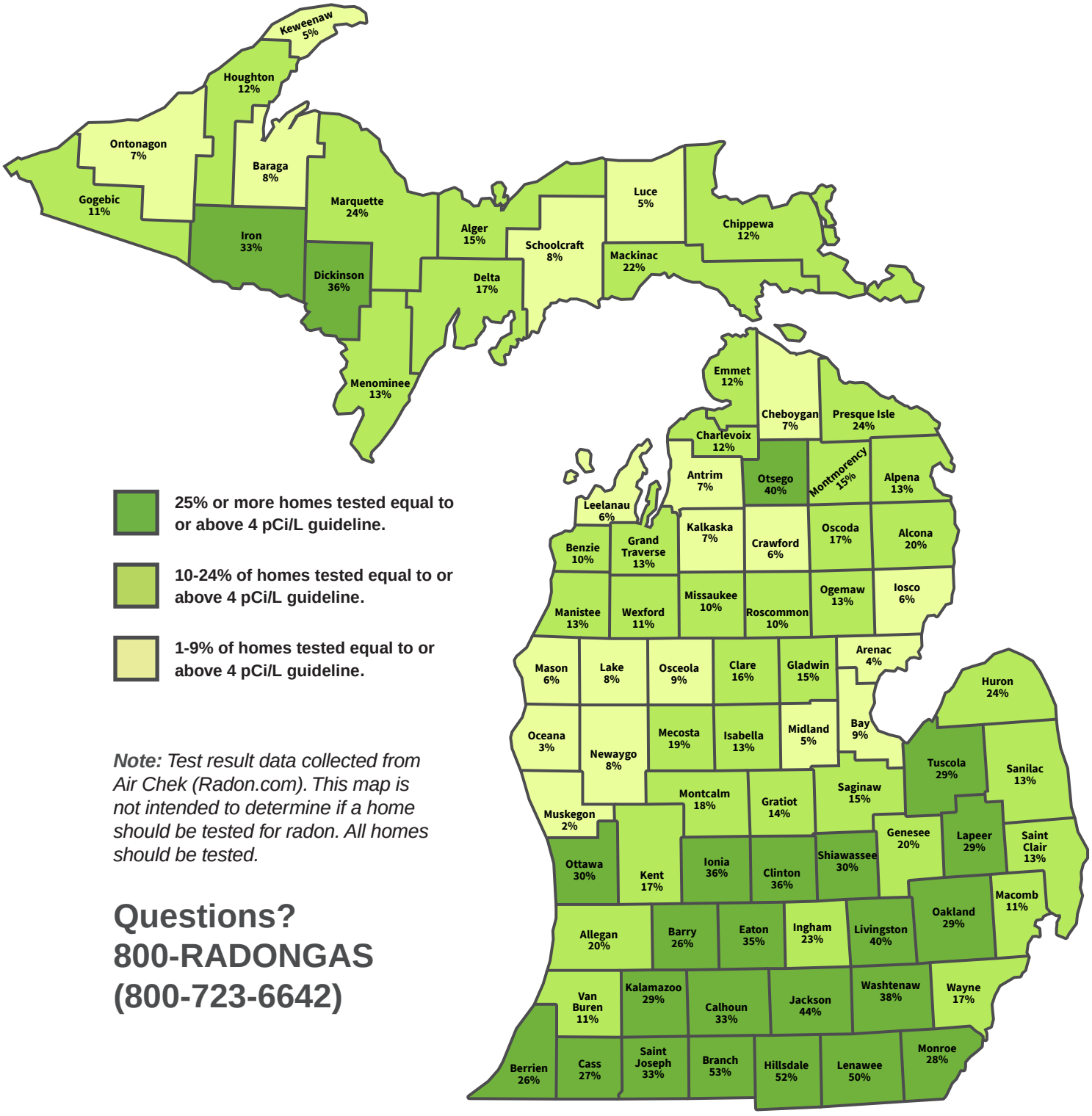
All homes should be tested, regardless of zone designation.



IMPORTANT: Consult the publication entitled "Preliminary Geologic Radon Potential Assessment of Michigan" (USGS Open-file Report 93-292-E) before using this map. http://energy.cr.usgs.gov/radon/grpinfo.html This document contains information on radon potential variations within counties. EPA also recommends that this map be supplemented with any available local data in order to further understand and predict the radon potential of a specific area.

Zone 1 Zone 2 Zone 3

Percentage of Elevated Radon Test Results by County



25% or more homes tested equal to or above 4 pCi/L guideline.

10-24% of homes tested equal to or above 4 pCi/L guideline.

1-9% of homes tested equal to or above 4 pCi/L guideline.

Note: *Test result data collected from Air Chek (Radon.com). This map is not intended to determine if a home should be tested for radon. All homes should be tested.*

Questions?
800-RADONGAS
(800-723-6642)

EGLE MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

800-662-9278 | Michigan.gov/radon

12/2019

December 12, 2023

VIA EMAIL

Glenn Wilson, President and CEO
Orchard Manor LDHA LP
415 West Court Street
Flint, Michigan 48503

Dear Glenn Wilson:

SUBJECT: Notice of Approval of Response Activity Plan to Comply with 20107a(1)(b)
2765 Flushing Road, Flint, Genesee County, Michigan
Parcel ID Number: 40-11-351-001
Facility/Site ID Number: 25001102

The Department of Environment, Great Lakes, and Energy (EGLE) Remediation and Redevelopment Division (RRD) has reviewed the Response Activity Plan (ResAP) to comply with Section 20107a(1)(b) of Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). The ResAP outlines the response activities to be undertaken at the property identified as Orchard Manor located at 2765 Flushing Road, Flint, Genesee County, Michigan. The ResAP was submitted on October 17, 2023, by Jeff Carr of AKT Peerless Environmental Services on your behalf, and the final revised version was received by EGLE on December 5, 2023.

The ResAP was submitted pursuant to Section 20114b of the NREPA and based upon representations and information contained in the submittal, the ResAP is approved.

This approval is specific to Section 6.0 of the Response Activity Plan to comply with Section 20107a(1)(b) of the NREPA to address unacceptable exposures via the direct contact pathway and is based upon the representations and information contained in the submittal; therefore, EGLE expresses no opinion as to whether other conditions that may exist will be adequately addressed by the response activities that are proposed in the plan.

EGLE has the following comments/recommendations related to the proposed response activities:

1. Section 6.0 describes a direct contact barrier proposed over a playground area along the east side of the southern-most building for the proposed development. EGLE recommends utilizing sod cover in the playground area, rather than relying on seeding, to assure an expeditious establishment of surface cover for this area of intensive recreational use.

The owner and operator of this property may also have responsibility under applicable state and federal laws, including but not limited to, Part 201, Environmental Remediation; Part 111, Hazardous Waste Management; Part 211, Underground Storage Tank Regulations; Part 213, Leaking Underground Storage Tanks; Part 615, Supervisor of Wells, of the NREPA; and the Michigan Fire Prevention Code, 1941 PA 207, as amended.

This approval is pursuant to the applicable requirements of the NREPA. The Michigan State Housing Development Authority may have additional site selection requirements beyond the NREPA statutory obligations for site characterization and remedial actions or response activities necessary to prevent, minimize, or mitigate injury to public health, safety, or welfare, or to the environment.

If you should have further questions or concerns, please contact Martha Thompson, PE, RRD, Brownfield Assessment and Redevelopment Section, at 517-285-3461 or by email at ThompsonM31@michigan.gov.

Sincerely,

Carrie Geyer, Manager
Brownfield Assessment and Redevelopment Section
Remediation and Redevelopment Division
GeyerC1@Michigan.gov

cc: Jeff Carr, AKT Peerless
Karl Primdahl, AKT Peerless
David LaBrecque, EGLE
Martha Thompson, EGLE
Jay Eichberger, EGLE
Brian Kuberski, EGLE
Kim Sakowski, EGLE
Sarah Venner, EGLE

APPENDIX O

HUD-Assisted Projects Near Hazardous Operations
Acceptable Separation Distance Map
Acceptable Separation Distance Calculations

Service Layer Credits: World Imagery (Clarity): Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Orchard Manor

2765 Flushing Road, Parcel 40-11-351-001
Flint, MI

0 125 250 500 Feet

N

ASTI Environmental

Created for: Communities First, Inc.
Created by: RMH, August 15, 2022, ASTI Project 11763-6

Acceptable Separation Distance Map

Acceptable Separation Distance (ASD) Electronic Assessment Tool

The Environmental Planning Division (EPD) has developed an electronic-based assessment tool that calculates the Acceptable Separation Distance (ASD) from stationary hazards. The ASD is the distance from above ground stationary containerized hazards of an explosive or fire prone nature, to where a HUD assisted project can be located. The ASD is consistent with the Department's standards of blast overpressure (0.5 psi-buildings) and thermal radiation (450 BTU/ft^2 - hr - people and 10,000 BTU/ft^2 - hr - buildings). Calculation of the ASD is the first step to assess site suitability for proposed HUD-assisted projects near stationary hazards. Additional guidance on ASDs is available in the Department's guidebook "Siting of HUD- Assisted Projects Near Hazardous Facilities" and the regulation 24 CFR Part 51, Subpart C, Sitting of HUD-Assisted Projects Near Hazardous Operations Handling Conventional Fuels or Chemicals of an Explosive or Flammable Nature.

Note: Tool tips, containing field specific information, have been added in this tool and may be accessed by hovering over the ASD result fields with the mouse.

Acceptable Separation Distance Assessment Tool

Is the container above ground?	**Yes:** ☑ **No:** ☐
Is the container under pressure?	**Yes:** ☐ **No:** ☑
Does the container hold a cryogenic liquified gas?	**Yes:** ☐ **No:** ☐
Is the container diked?	**Yes:** ☐ **No:** ☑
What is the volume (gal) of the container?	2500
What is the Diked Area Length (ft)?	
What is the Diked Area Width (ft)?	
Calculate Acceptable Separation Distance	
Diked Area (sqft)	
ASD for Blast Over Pressure (ASDBOP)	

ASD for Thermal Radiation for People (ASDPPU)	405.12
ASD for Thermal Radiation for Buildings (ASDBPU)	76.80
ASD for Thermal Radiation for People (ASDPNPD)	
ASD for Thermal Radiation for Buildings (ASDBNPD)	

For mitigation options, please click on the following link: Mitigation Options **(/resource/3846/acceptable-separation-distance-asd-hazard-mitigation-options/)**

Providing Feedback & Corrections

After using the ASD Assessment Tool following the directions in this User Guide, users are encouraged to provide feedback on how the ASD Assessment Tool may be improved. Users are also encouraged to send comments or corrections for the improvement of the tool.

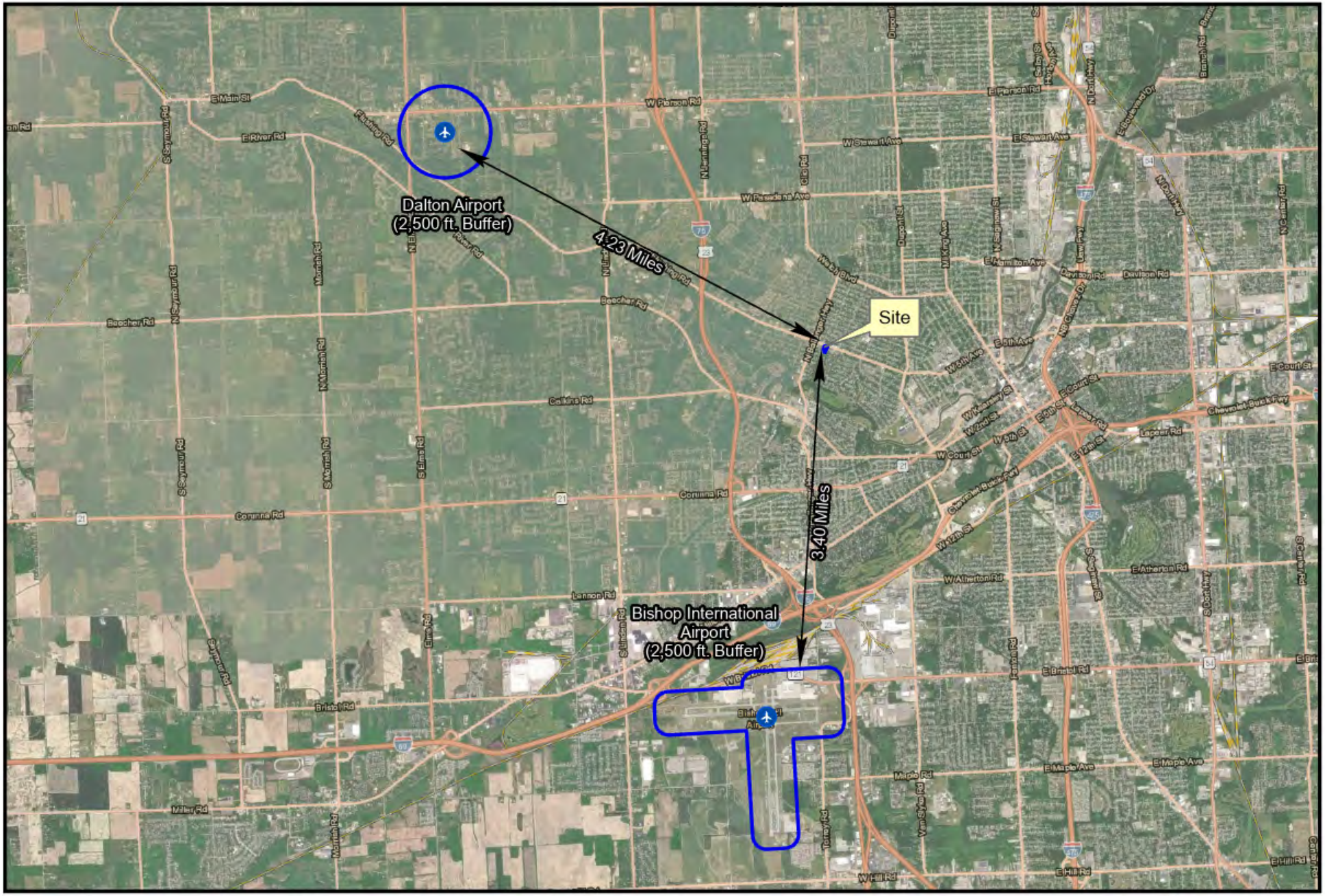
Please send comments or other input using the **Contact Us (https://www.hudexchange.info/contact-us/)** form.

Related Information

- **ASD User Guide (/resource/3839/acceptable-separation-distance-asd-assessment-tool-user-guide/)**
- **ASD Flow Chart (/resource/3840/acceptable-separation-distance-asd-flowchart/)**

APPENDIX P

Runway Clear Zones and Accident Potential Zones
Airport Location Map



Orchard Manor

2765 Flushing Road, Parcel 40-11-351-001
Flint, MI

2 1 0 2 Miles

N

ASTI Environmental

Created for: Communities First, Inc.
Created by: RMH, August 15, 2022, ASTI Project 11763-6

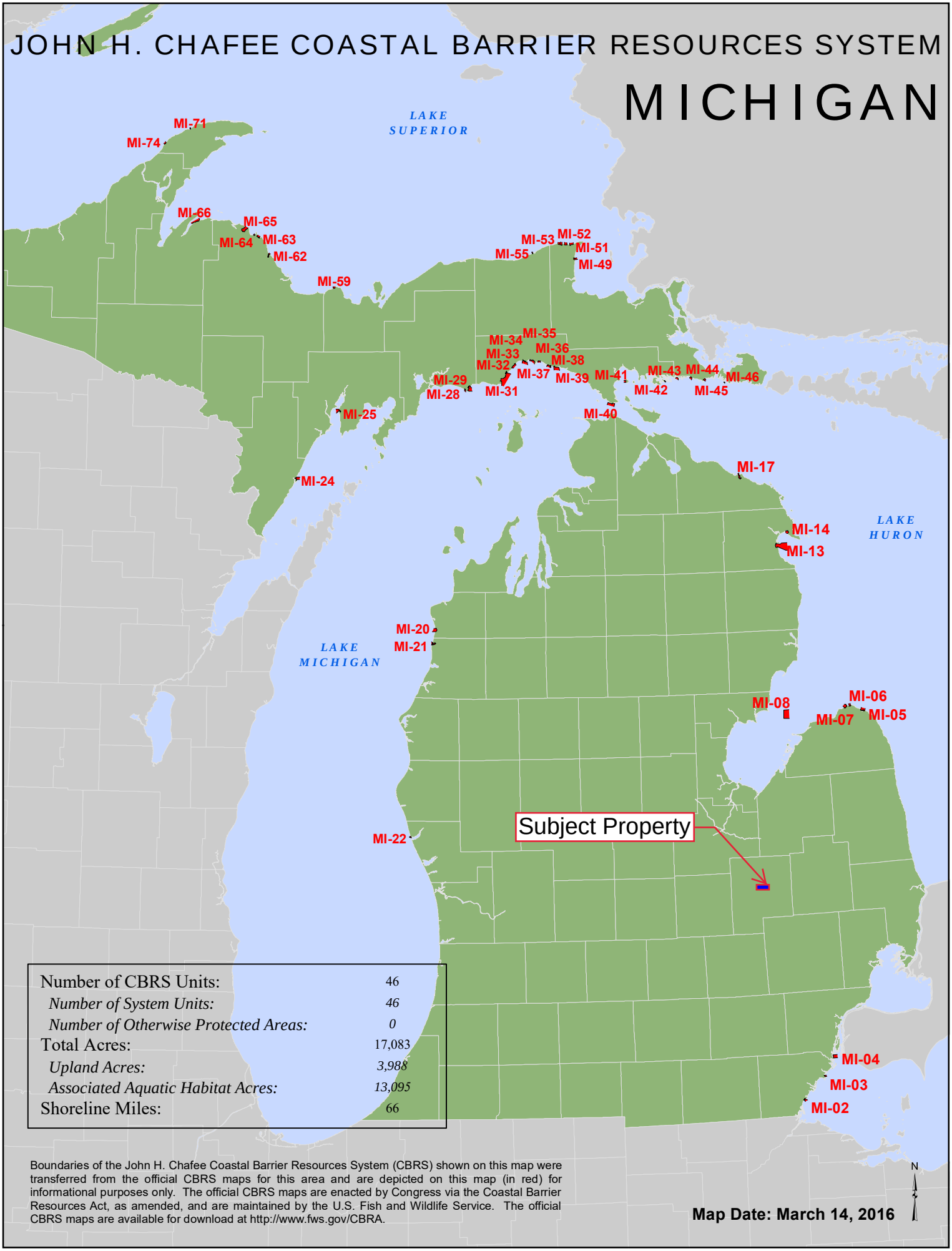
Airport Location Map

APPENDIX Q

Coastal Barrier Resources Map
John H. Chafee Coastal Barrier Resource Map

JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

MICHIGAN



Number of CBRS Units:	46
Number of System Units:	*46*
Number of Otherwise Protected Areas:	*0*
Total Acres:	17,083
Upland Acres:	*3,988*
Associated Aquatic Habitat Acres:	*13,095*
Shoreline Miles:	66

Boundaries of the John H. Chafee Coastal Barrier Resources System (CBRS) shown on this map were transferred from the official CBRS maps for this area and are depicted on this map (in red) for informational purposes only. The official CBRS maps are enacted by Congress via the Coastal Barrier Resources Act, as amended, and are maintained by the U.S. Fish and Wildlife Service. The official CBRS maps are available for download at http://www.fws.gov/CBRA.

Map Date: March 14, 2016

APPENDIX R

Environmental Factors
City of Flint Zoning Map
Facilities Maps
Public Transportation Map
USGS Flint North Quadrangle Map
Climate Risk Index and Graph

Current City of Flint Zoning

Subject Property

City of Flint Zoning

Residential Districts

- A-1 Single Family Low Density
- A-2 Single Family Medium Density
- B Two Family
- C-1 Multi Family Walkup Appts
- C-2 Multi Family High Density Appts

Commercial Districts

- D-1 Office District
- D-2 Neighborhood Business
- D-3 Community Business
- D-4 Metropolitan Business District
- D-5 Metropolitan Commercial Service
- D-6 General & Highway Commercial Services

Industrial Districts

- E Heavy Commercial Limited Manufacturing
- F Intermediate Manufacturing
- G Heavy Manufacturing
- P Parking

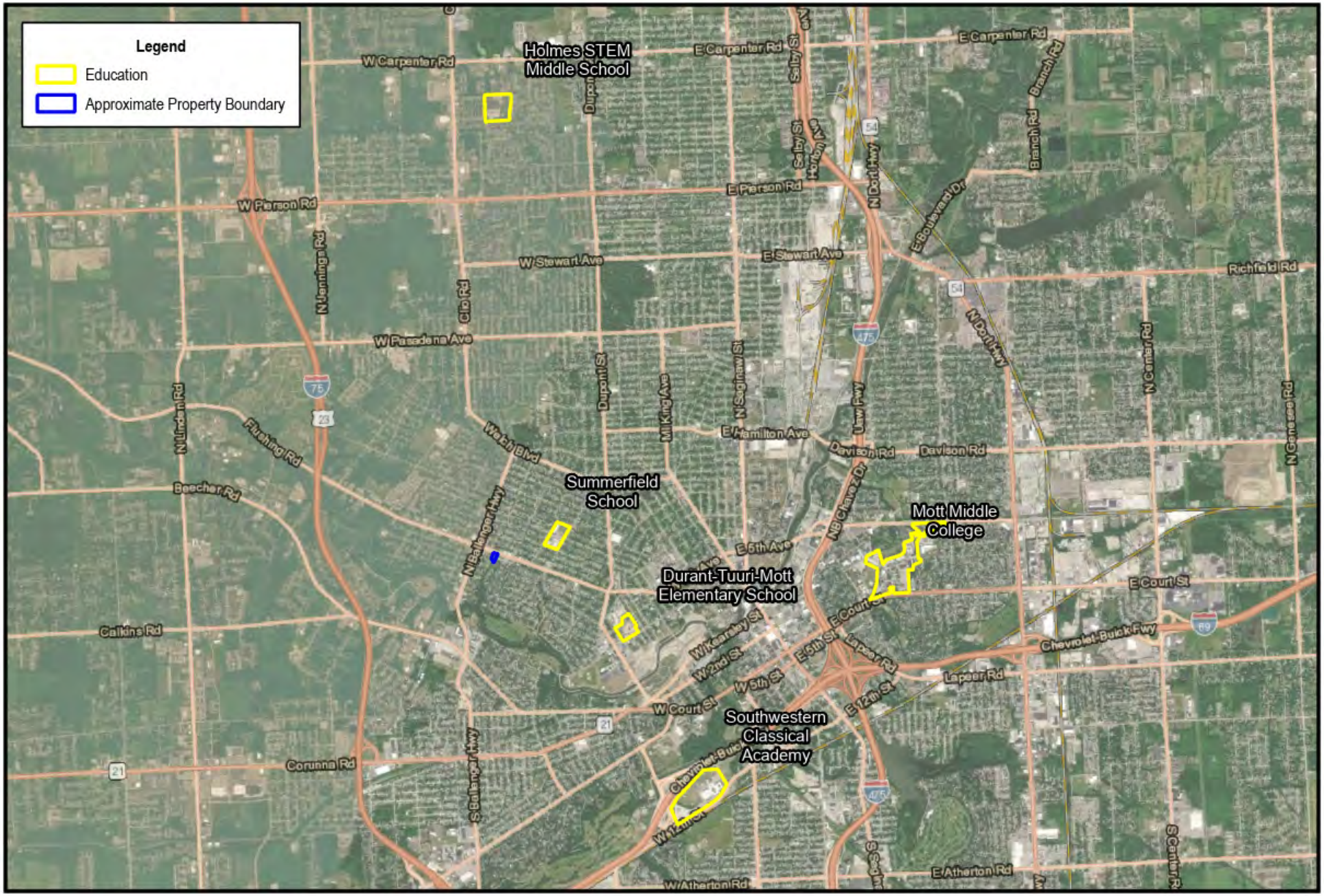
0 0.275 0.55 1.1 1.65 2.2 Miles

0 0.375 0.75 1.5 Miles

N W E S

Gis City of Flint

Last Updated: 1/16/2018



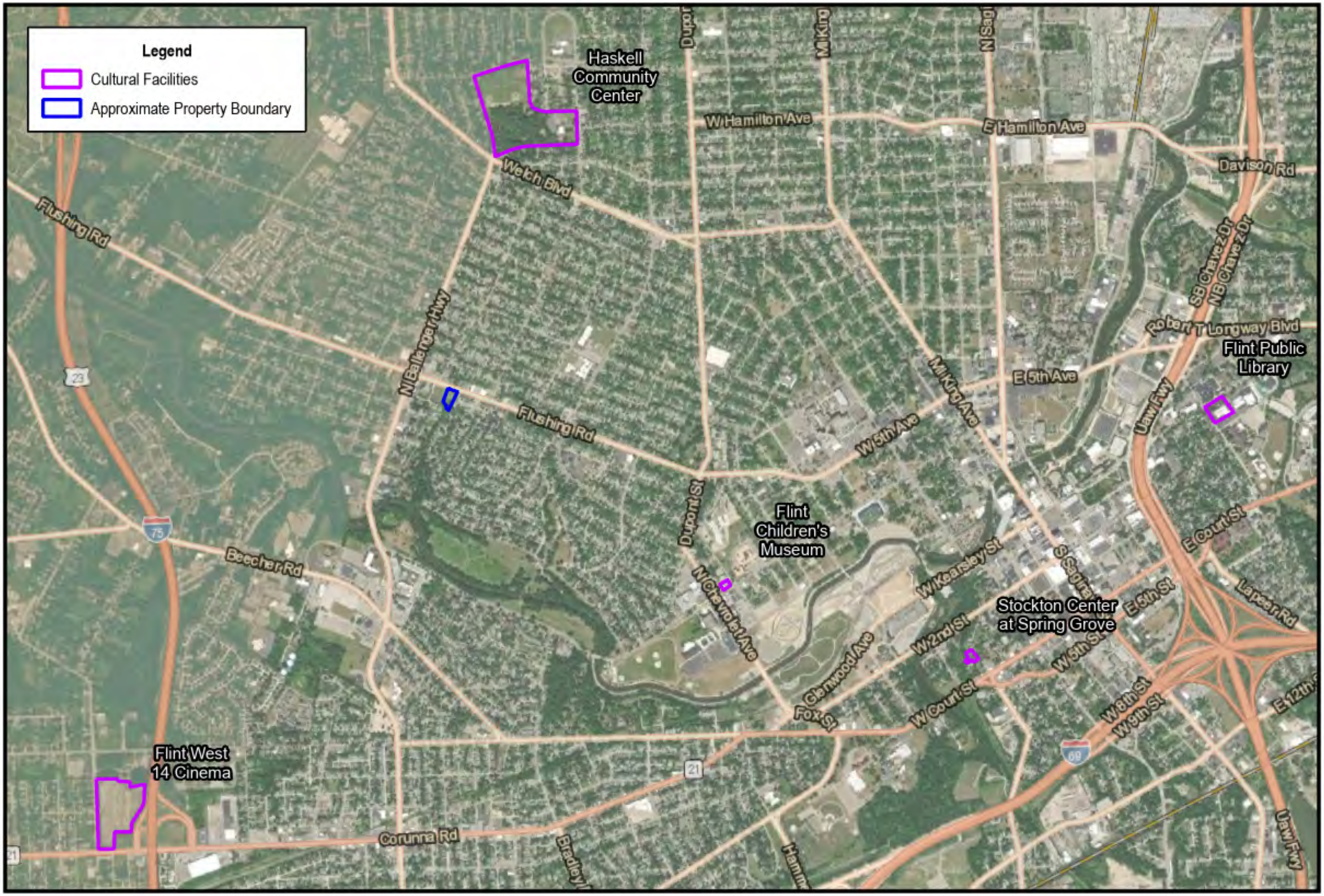
Orchard Manor

2765 Flushing Road, Parcel 40-11-351-001
Flint, MI

ASTI Environmental

Created for: Communities First, Inc.
Created by: RMH, August 15, 2022, ASTI Project 11763-6

EA Factors - Education


Legend
Cultural Facilities
Approximate Property Boundary
Haskell Community Center
Flint Public Library
Flint Children's Museum
Stockton Center at Spring Grove
Flint West 14 Cinema
W Hamilton Ave
E Hamilton Ave
Davison Rd
Welch Blvd
Flushing Rd
N Ballenger Hwy
Robert T Longway Blvd
E 5th Ave
W 5th Ave
Mlking Ave
Dupont St
Beecher Rd
N Chevrolet Ave
W Kearsley St
W 2nd St
Glenwood Ave
Fox St
W Court St
E Court St
W 5th St
E 5th St
W 8th St
W 9th St
Lapeer Rd
E 12th St
Corunna Rd
Bradley
Uaw Fwy
SB Chavez Dr
NB Chavez Dr
75
23
21
69

Orchard Manor

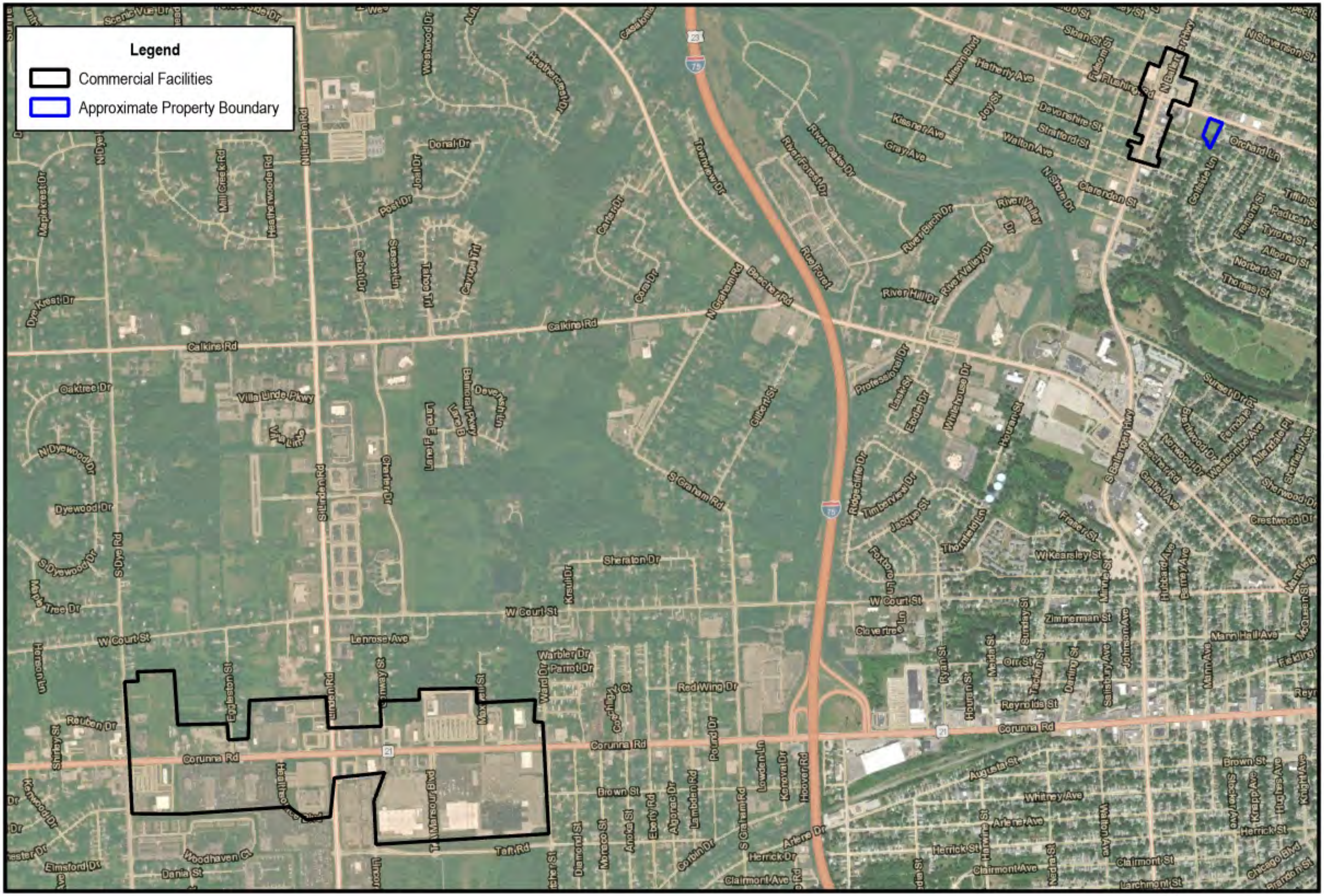
2765 Flushing Road, Parcel 40-11-351-001
Flint, MI

0.5 0.25 0 0.5 Miles

N

Created for: Communities First, Inc.
Created by: RMH, August 15, 2022, ASTI Project 11763-6

EA Factors - Cultural Facilities



Orchard Manor

2765 Flushing Road, Parcel 40-11-351-001
Flint, MI

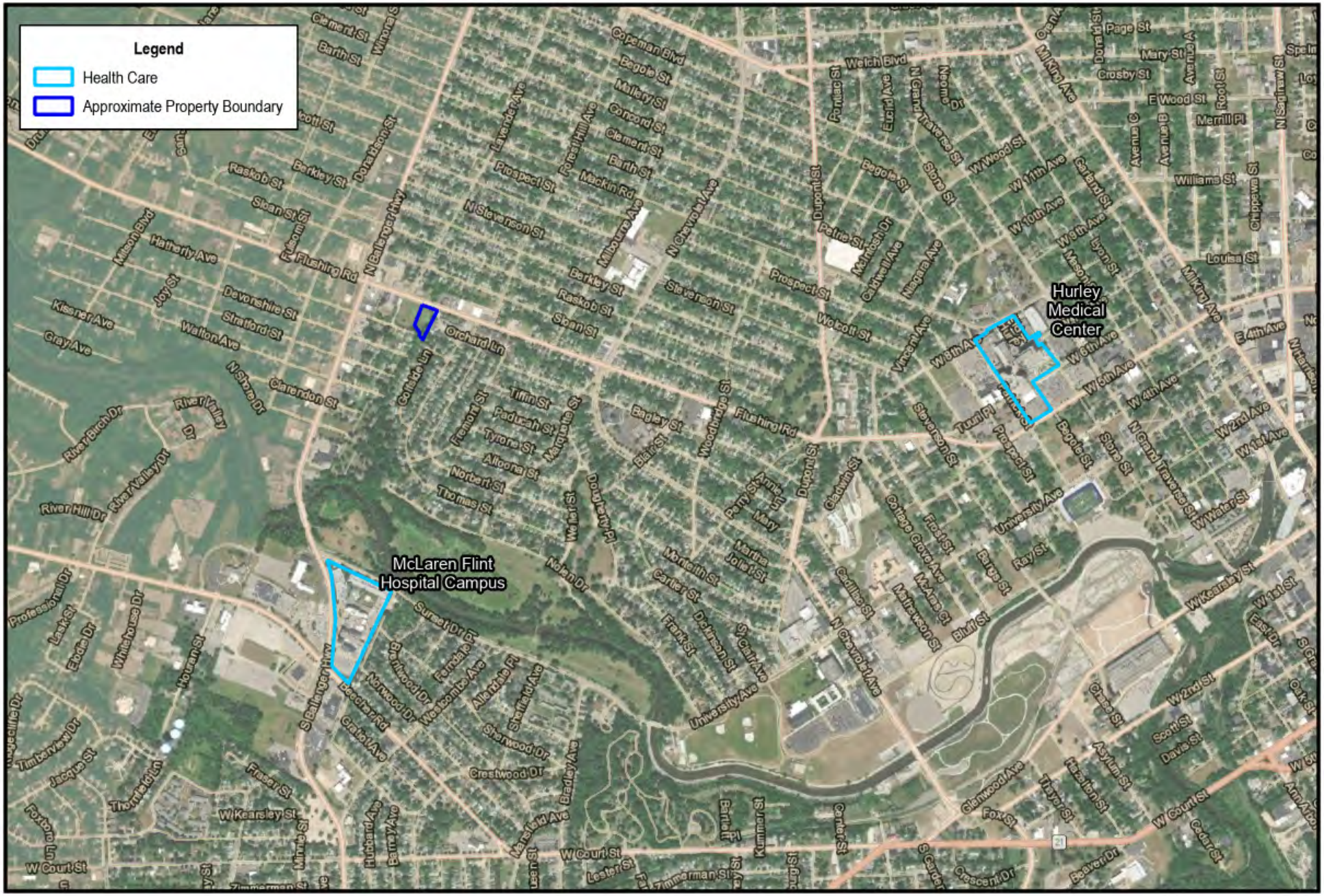
0.5 0.25 0 0.5 Miles

N

ASTI Environmental

Created for: Communities First, Inc.
Created by: RMH, August 15, 2022, ASTI Project 11763-6

EA Factors - Commercial Facilities

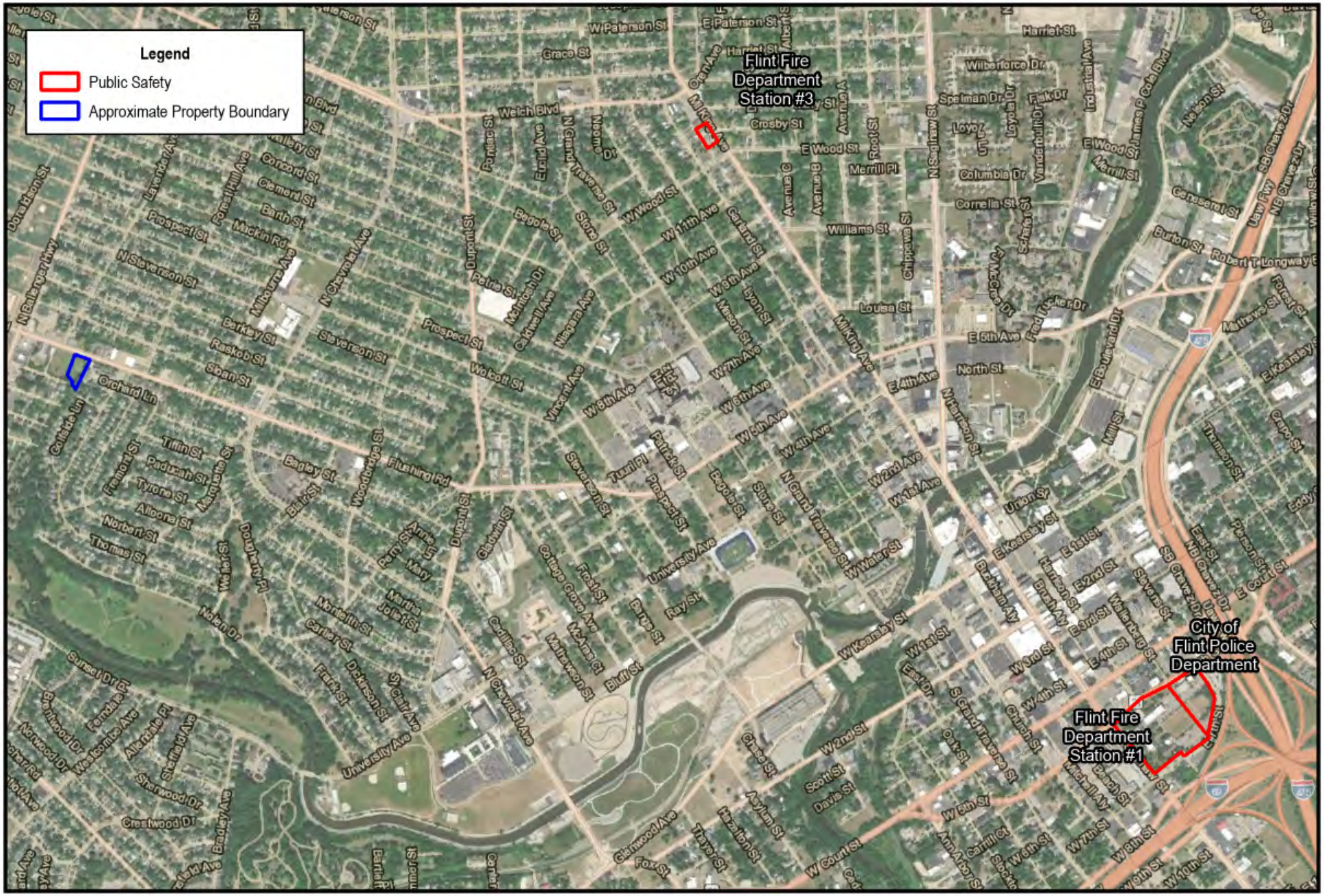


Orchard Manor

2765 Flushing Road, Parcel 40-11-351-001
Flint, MI

Created for: Communities First, Inc.
Created by: RMH, August 15, 2022, ASTI Project 11763-6

EA Factors - Health Care



Orchard Manor

2765 Flushing Road, Parcel 40-11-351-001
Flint, MI

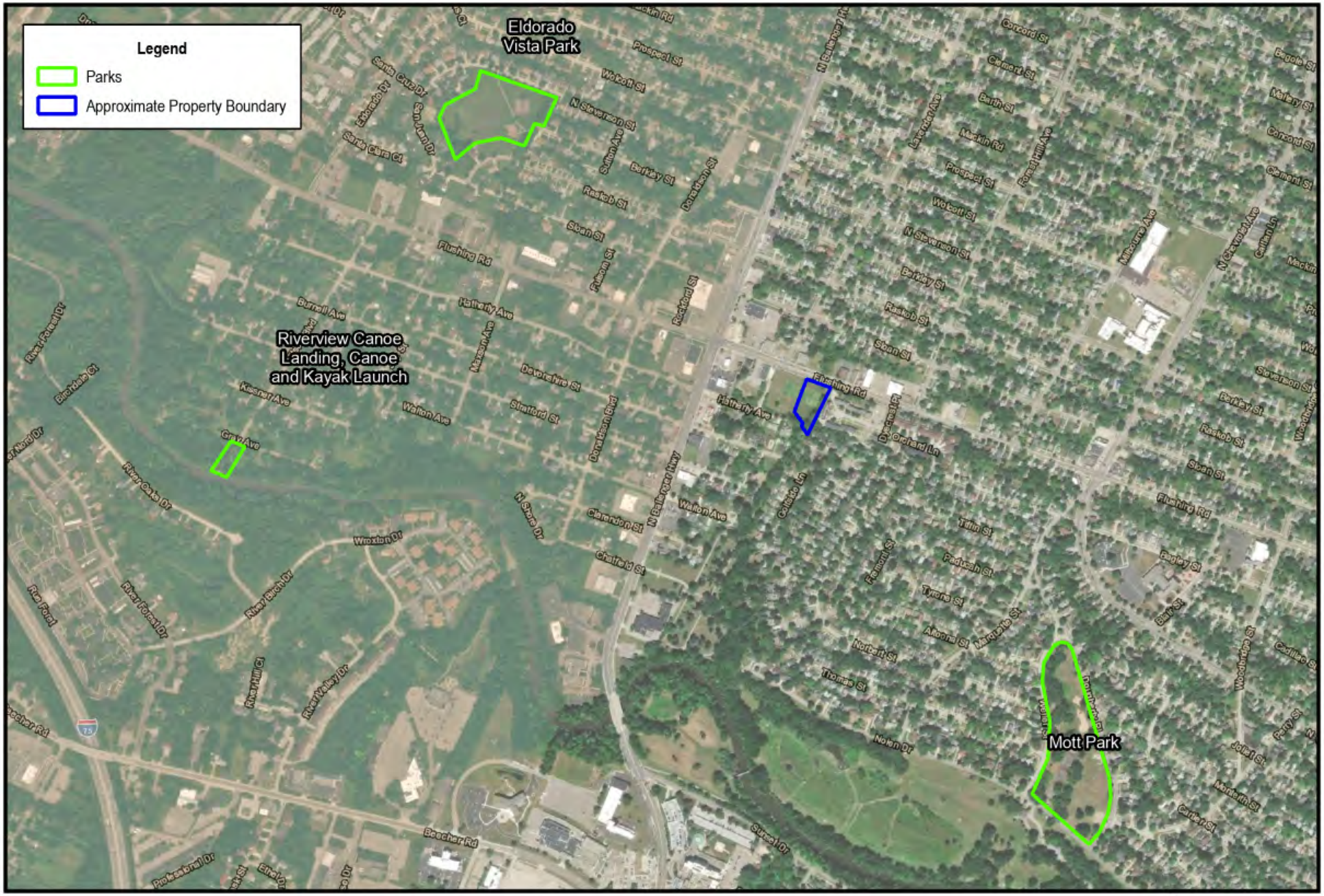
0.25 0.125 0 0.25 Miles

N

ASTI Environmental

Created for: Communities First, Inc.
Created by: RMH, August 15, 2022, ASTI Project 11763-6

EA Factors - Public Safety



Orchard Manor

2765 Flushing Road, Parcel 40-11-351-001
Flint, MI

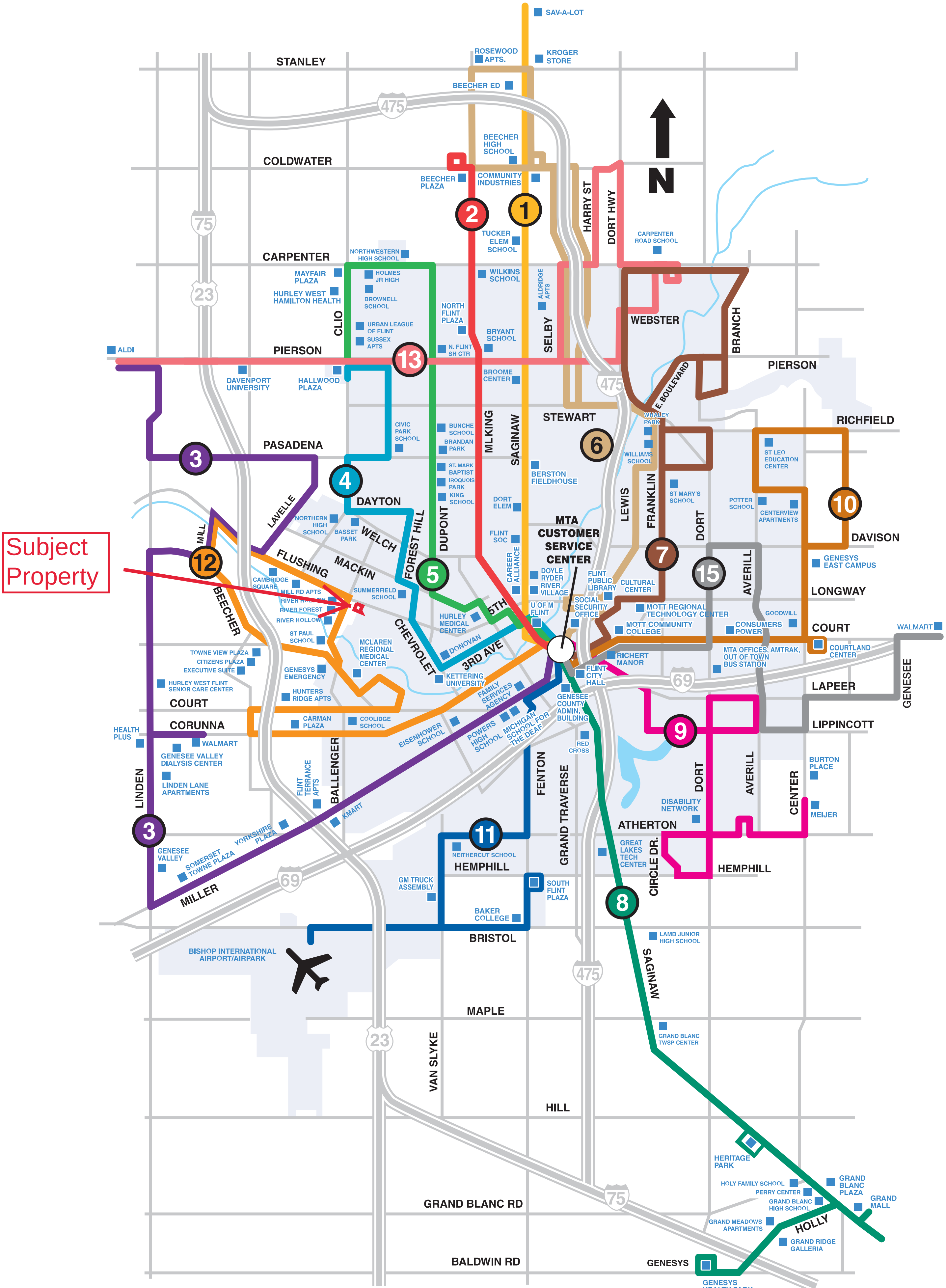
0.25 0.125 0 0.25 Miles

N

ASTI Environmental

Created for: Communities First, Inc.
Created by: RMH, August 15, 2022, ASTI Project 11763-6

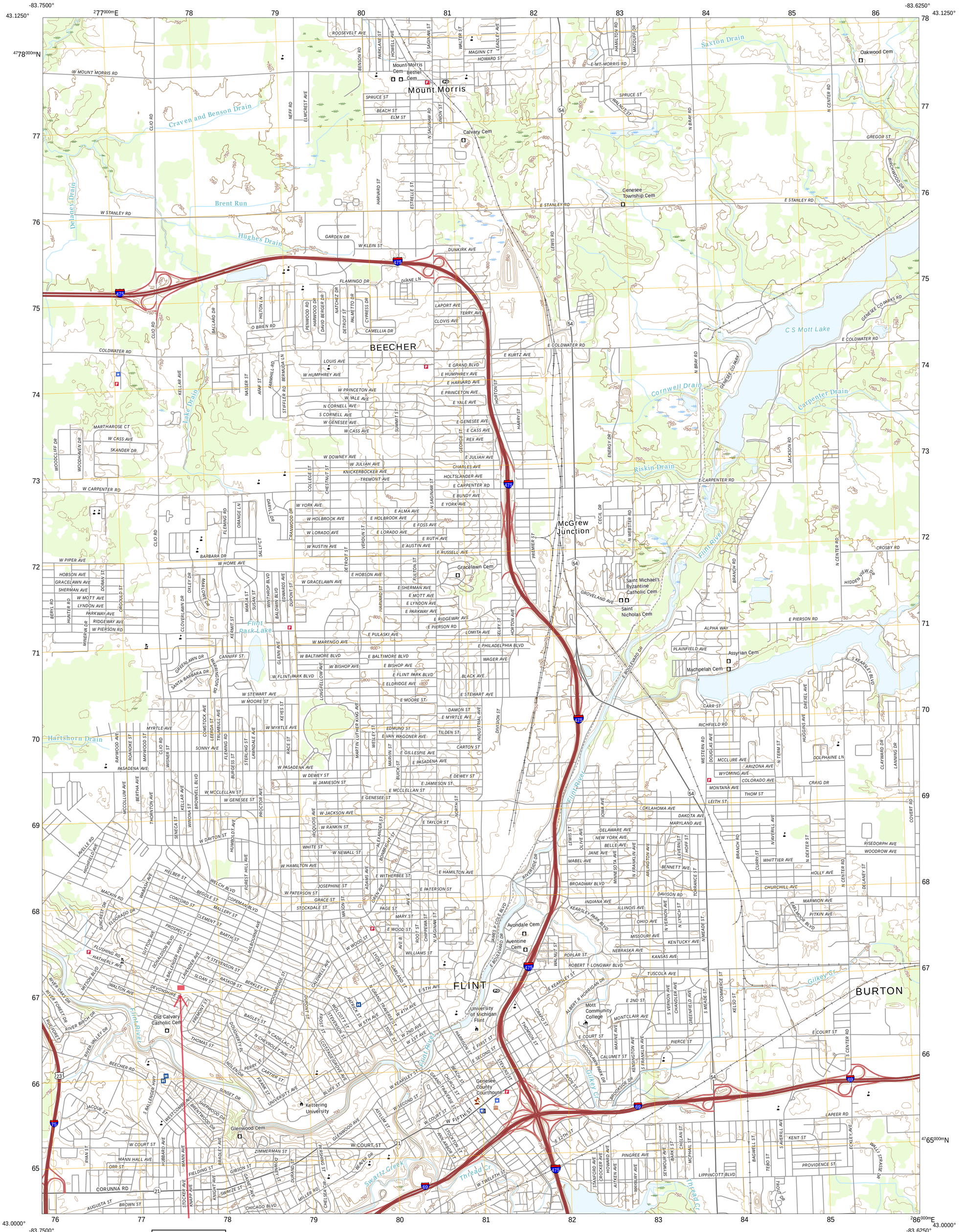
EA Factors - Parks


Subject Property
STANLEY
COLDWATER
CARPENTER
PIERSON
PASADENA
DAYTON
WELCH
FLUSHING
MACKIN
COURT
CORUNNA
MILLER
HEMPHILL
BRISTOL
MAPLE
HILL
GRAND BLANC RD
BALDWIN RD
STEWART
RICHFIELD
DAVISON
LONGWAY
LAPEER
LIPPINCOTT
ATHERTON
HOLLY
GENESYS
MTA CUSTOMER SERVICE CENTER
BISHOP INTERNATIONAL AIRPORT/AIRPARK
N

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map US Topo

FLINT NORTH QUADRANGLE
MICHIGAN - GENESEE COUNTY
7.5-MINUTE SERIES

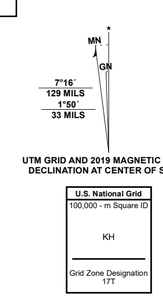


Subject Property

Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid:Universal Transverse Mercator, Zone 17T

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery.....NAIP, July 2016 - October 2016
Roads..... U.S. Census Bureau, 2016
Names.....GNIS, 1980 - 2019
Hydrography.....National Hydrography Dataset, 2005 - 2019
Contours.....National Elevation Dataset, 2018 - 2019
Boundaries.....Multiple sources; see metadata file 2017 - 2018
Public Land Survey System.....BLM, 2018
Wetlands.....FWS National Wetlands Inventory 2005



UTM GRID AND 2019 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000 - m Square ID
KH
Grid Zone Designation
17T

SCALE 1:24 000

1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 MILES 1
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 FEET

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.18

QUADRANGLE LOCATION

ROAD CLASSIFICATION

Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

1	2	3
4		5
6	7	8

ADJOINING QUADRANGLES

1 Birch Run South
2 Clio
3 Otisville
4 Flushing
5 Davison
6 Swartz Creek
7 Flint South
8 Goodrich

FLINT NORTH, MI
2019

National Risk Index

July 03, 2023

Genesee County, Michigan

Summary

Risk Index is **Relatively Moderate**

Score **89.3**

Expected Annual Loss is **Relatively Moderate**

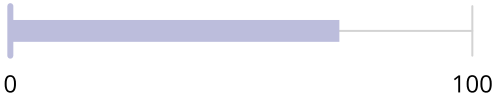
Score **89.3**

Social Vulnerability is **Relatively High**

Score **67.7**

Community Resilience is **Relatively High**

Score **71.9**



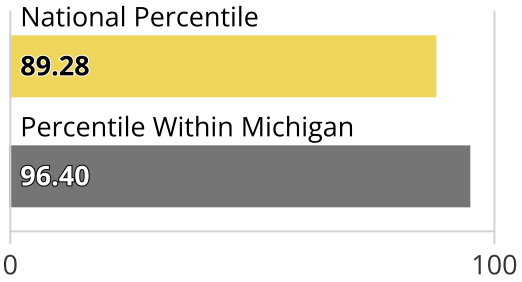
While reviewing this report, keep in mind that low risk is driven by lower loss due to natural hazards, lower social vulnerability, and higher community resilience.

For more information about the National Risk Index, its data, and how to interpret the information it provides, please review the **About the National Risk Index** and **How to Take Action** sections at the end of this report. Or, visit the National Risk Index website at **hazards.fema.gov/nri/learn-more** to access supporting documentation and links.

Risk Index

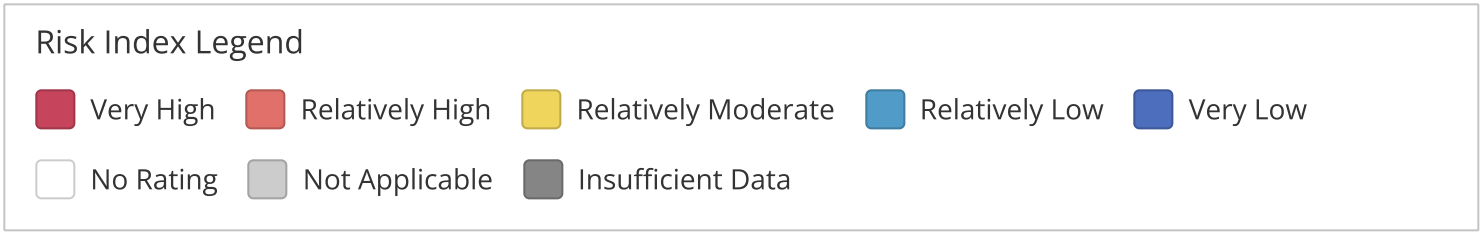
The Risk Index rating is **Relatively Moderate** for **Genesee County, MI** when compared to the rest of the U.S.

Score **89.28**



89% of U.S. counties have a lower Risk Index

96% of counties in Michigan have a lower Risk Index



Hazard Type Risk Index

Hazard type Risk Index scores are calculated using data for only a single hazard type, and reflect a community's Expected Annual Loss value, community risk factors, and the adjustment factor used to calculate the risk value.

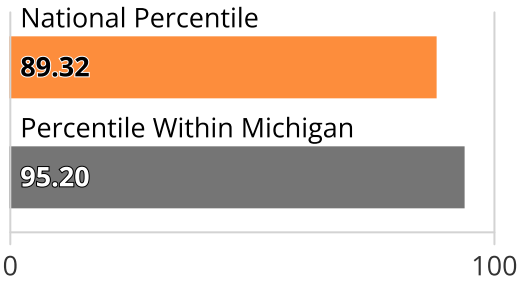
Hazard Type	EAL Value	Social Vulnerability	Community Resilience	CRF	Risk Value	Score
Tornado	$25,543,659	Relatively High	Relatively High	1.14	$29,020,075	98.4
Strong Wind	$5,777,706	Relatively High	Relatively High	1.14	$6,584,347	99
Heat Wave	$1,472,656	Relatively High	Relatively High	1.14	$1,666,067	93.1
Riverine Flooding	$884,699	Relatively High	Relatively High	1.14	$954,290	65.8
Lightning	$611,247	Relatively High	Relatively High	1.14	$692,756	90.6
Cold Wave	$597,611	Relatively High	Relatively High	1.14	$676,343	88.4
Ice Storm	$409,789	Relatively High	Relatively High	1.14	$467,226	86.4
Earthquake	$311,568	Relatively High	Relatively High	1.14	$369,419	65.7
Hail	$252,349	Relatively High	Relatively High	1.14	$286,991	70
Hurricane	$109,562	Relatively High	Relatively High	1.14	$121,712	44.2
Winter Weather	$38,052	Relatively High	Relatively High	1.14	$43,218	42.3
Wildfire	$25,003	Relatively High	Relatively High	1.14	$24,193	41.4
Landslide	$21,900	Relatively High	Relatively High	1.14	$19,926	19.6
Drought	$0	Relatively High	Relatively High	1.14	$0	0
Avalanche	--	Relatively High	Relatively High	1.14	--	--
Coastal Flooding	--	Relatively High	Relatively High	1.14	--	--
Tsunami	--	Relatively High	Relatively High	1.14	--	--

Hazard Type	EAL Value	Social Vulnerability	Community Resilience	CRF	Risk Value	Score
Volcanic Activity	--	Relatively High	Relatively High	1.14	--	--

Expected Annual Loss

In **Genesee County, MI**, expected loss each year due to natural hazards is **Relatively Moderate** when compared to the rest of the U.S.

Score **89.32**



89% of U.S. counties have a lower Expected Annual Loss

95% of counties in Michigan have a lower Expected Annual Loss

Expected Annual Loss Legend

Very High | Relatively High | Relatively Moderate | Relatively Low | Very Low

No Expected Annual Losses | Not Applicable | Insufficient Data

Composite Expected Annual Loss	**$36,055,801.24**
Composite Expected Annual Loss Rate National Percentile	**17.4**

Building EAL	**$17,676,532.93**	Population EAL	**1.58** fatalities
Building EAL Rate	**$1 per $4.13K of building value**	Population EAL Rate	**1 per 256.66K people**
Agriculture EAL	**$29,044.12**	Population Equivalence EAL	**$18,350,224.18**
Agriculture EAL Rate	**$1 per $2.78K of agriculture value**		

Expected Annual Loss for Hazard Types

Expected Annual Loss scores for hazard types are calculated using data for only a single hazard type, and reflect a community's relative expected annual loss for only that hazard type. **14 of 18** hazard types contribute to the expected annual loss for **Genesee County, MI**.

Hazard Type	Expected Annual Loss Rating	EAL Value	Score
Tornado	Relatively High	$25,543,660	98.4
Strong Wind	Very High	$5,777,706	98.8
Heat Wave	Relatively Moderate	$1,472,656	93.6
Riverine Flooding	Relatively Low	$884,699	68.0
Lightning	Relatively High	$611,247	90.8
Cold Wave	Relatively High	$597,611	88.5
Ice Storm	Relatively High	$409,789	86.1
Earthquake	Relatively Low	$311,568	64.1
Hail	Relatively Low	$252,349	71.5
Hurricane	Very Low	$109,562	43.3
Winter Weather	Relatively Low	$38,052	44.8
Wildfire	Very Low	$25,003	43.1
Landslide	Relatively Low	$21,900	36.5
Drought	No Expected Annual Losses	$0	0.0
Avalanche	Not Applicable	--	--
Coastal Flooding	Not Applicable	--	--
Tsunami	Not Applicable	--	--
Volcanic Activity	Not Applicable	--	--

Expected Annual Loss Values

Hazard Type	Total	Building Value	Population Equivalence	Population	Agriculture Value
Avalanche	--	--	--	--	--
Coastal Flooding	--	--	--	--	--
Cold Wave	$597,611	$2,260	$595,053	0.05	$297
Drought	$0	n/a	n/a	n/a	$0
Earthquake	$311,568	$241,458	$70,111	0.01	n/a
Hail	$252,349	$174,541	$77,365	0.01	$443
Heat Wave	$1,472,656	$7,335	$1,462,006	0.13	$3,315
Hurricane	$109,562	$105,083	$1,064	0.00	$3,415
Ice Storm	$409,789	$399,044	$10,745	0.00	n/a
Landslide	$21,900	$4,500	$17,400	0.00	n/a
Lightning	$611,247	$18,112	$593,135	0.05	n/a
Riverine Flooding	$884,699	$345,621	$520,899	0.04	$18,179
Strong Wind	$5,777,706	$5,545,653	$230,866	0.02	$1,188
Tornado	$25,543,659	$10,778,722	$14,762,991	1.27	$1,946
Tsunami	--	--	--	--	--
Volcanic Activity	--	--	--	--	--
Wildfire	$25,003	$22,675	$2,326	0.00	$1
Winter Weather	$38,052	$31,528	$6,263	0.00	$261

Exposure Values

Hazard Type	Total	Building Value	Population Equivalence	Population	Agriculture Value
Avalanche	--	--	--	--	--
Coastal Flooding	--	--	--	--	--
Cold Wave	$4,782,889,131,376	$72,988,043,494	$4,709,820,304,968	406,018.99	$80,782,914
Drought	$0	n/a	n/a	n/a	$0
Earthquake	$4,785,034,389,000	$72,986,789,000	$4,712,047,600,000	406,211.00	n/a
Hail	$4,782,889,234,234	$72,988,051,320	$4,709,820,400,000	406,019.00	$80,782,914
Heat Wave	$4,782,889,131,376	$72,988,043,494	$4,709,820,304,968	406,018.99	$80,782,914
Hurricane	$4,777,916,687,430	$72,927,740,744	$4,704,908,962,449	405,595.60	$79,984,237
Ice Storm	$4,782,662,528,574	$72,986,073,643	$4,709,676,454,931	406,006.59	n/a
Landslide	$126,632,959,923	$2,244,987,099	$124,387,972,824	10,723.10	n/a
Lightning	$4,782,808,451,320	$72,988,051,320	$4,709,820,400,000	406,019.00	n/a
Riverine Flooding	$58,015,521,440	$1,022,923,444	$56,990,788,685	4,913.00	$1,809,311
Strong Wind	$4,782,889,234,234	$72,988,051,320	$4,709,820,400,000	406,019.00	$80,782,914
Tornado	$4,782,889,234,234	$72,988,051,320	$4,709,820,400,000	406,019.00	$80,782,914
Tsunami	--	--	--	--	--
Volcanic Activity	--	--	--	--	--
Wildfire	$226,798,963,372	$3,481,787,282	$223,313,090,969	19,251.13	$4,085,121
Winter Weather	$4,782,889,131,376	$72,988,043,494	$4,709,820,304,968	406,018.99	$80,782,914

Annualized Frequency Values

Hazard Type	Annualized Frequency	Events on Record	Period of Record
Avalanche	--	--	--
Coastal Flooding	--	--	--
Cold Wave	0.6 events per year	10	2005-2021 (16 years)
Drought	0 events per year	0	2000-2021 (22 years)
Earthquake	0.018% chance per year	n/a	2021 dataset
Hail	3 events per year	103	1986-2021 (34 years)
Heat Wave	0.7 events per year	12	2005-2021 (16 years)
Hurricane	0 events per year	2	East 1851-2021 (171 years) / West 1949-2021 (73 years)
Ice Storm	1.2 events per year	84	1946-2014 (67 years)
Landslide	0 events per year	0	2010-2021 (12 years)
Lightning	39 events per year	859	1991-2012 (22 years)
Riverine Flooding	1 event per year	24	1996-2019 (24 years)
Strong Wind	5.9 events per year	201	1986-2021 (34 years)
Tornado	0.3 events per year	38	1950-2021 (72 years)
Tsunami	--	--	--
Volcanic Activity	--	--	--
Wildfire	0.002% chance per year	n/a	2021 dataset
Winter Weather	2.8 events per year	45	2005-2021 (16 years)

Historic Loss Ratios

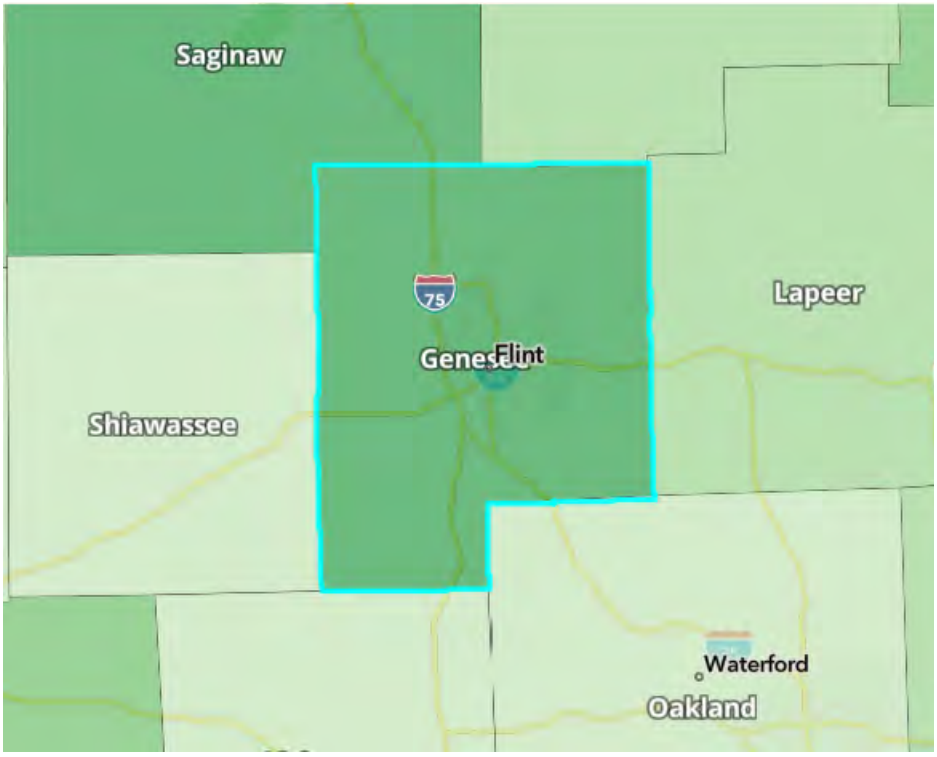
Hazard Type	Overall Rating
Avalanche	--
Coastal Flooding	--
Cold Wave	Very Low
Drought	No Rating
Earthquake	Very Low
Hail	Very Low
Heat Wave	Very Low
Hurricane	Very Low
Ice Storm	Very Low
Landslide	Very Low
Lightning	Relatively Low
Riverine Flooding	Very Low
Strong Wind	Relatively Low
Tornado	Relatively Moderate
Tsunami	--
Volcanic Activity	--
Wildfire	Very Low
Winter Weather	Very Low

Expected Annual Loss Rate

Hazard Type	Building EAL Rate (per building value)	Population EAL Rate (per population)	Agriculture EAL Rate (per agriculture value)
Avalanche	--	--	--
Coastal Flooding	--	--	--
Cold Wave	$1 per $32.29M	1 per 7.91M	$1 per $271.78K
Drought	--	--	--
Earthquake	$1 per $302.28K	1 per 67.18M	--
Hail	$1 per $418.17K	1 per 60.88M	$1 per $182.49K
Heat Wave	$1 per $9.95M	1 per 3.22M	$1 per $24.37K
Hurricane	$1 per $694.58K	1 per 4.43B	$1 per $23.65K
Ice Storm	$1 per $182.91K	1 per 438.33M	--
Landslide	$1 per $16.22M	1 per 270.68M	--
Lightning	$1 per $4.03M	1 per 7.94M	--
Riverine Flooding	$1 per $211.18K	1 per 9.04M	$1 per $4.44K
Strong Wind	$1 per $13.16K	1 per 20.40M	$1 per $68.03K
Tornado	$1 per $6.77K	1 per 319.03K	$1 per $41.50K
Tsunami	--	--	--
Volcanic Activity	--	--	--
Wildfire	$1 per $3.22M	1 per 2.02B	$1 per $58.26M
Winter Weather	$1 per $2.32M	1 per 752.01M	$1 per $310.07K

Social Vulnerability

Social groups in **Genesee County, MI** have a **Relatively High** susceptibility to the adverse impacts of natural hazards when compared to the rest of the U.S.



Score **67.66**

National Percentile

67.66

Percentile Within Michigan

0.90

0 100

68% of U.S. counties have a lower Social Vulnerability

1% of counties in Michigan have a lower Social Vulnerability

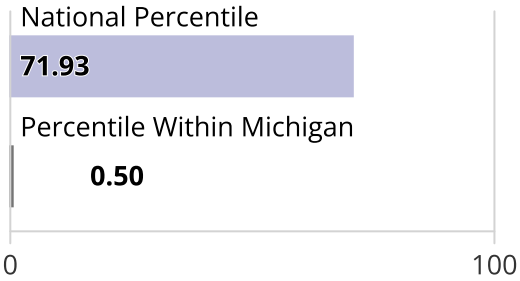
Social Vulnerability Legend

Very High | Relatively High | Relatively Moderate | Relatively Low | Very Low | Data Unavailable

Community Resilience

Communities in **Genesee County, MI** have a **Relatively High** ability to prepare for anticipated natural hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions when compared to the rest of the U.S.

Score **71.93**



28% of U.S. counties have a higher Community Resilience

100% of counties in Michigan have a higher Community Resilience

Community Resilience Legend

Very High | Relatively High | Relatively Moderate | Relatively Low | Very Low | Data Unavailable

About the National Risk Index

The National Risk Index is a dataset and online tool to help illustrate the United States communities most at risk for 18 natural hazards: Avalanche, Coastal Flooding, Cold Wave, Drought, Earthquake, Hail, Heat Wave, Hurricane, Ice Storm, Landslide, Lightning, Riverine Flooding, Strong Wind, Tornado, Tsunami, Volcanic Activity, Wildfire, and Winter Weather.

The National Risk Index leverages available source data for Expected Annual Loss due to these 18 hazard types, Social Vulnerability, and Community Resilience to develop a baseline relative risk measurement for each United States county and Census tract. These measurements are calculated using average past conditions, but they cannot be used to predict future outcomes for a community. The National Risk Index is intended to fill gaps in available data and analyses to better inform federal, state, local, tribal, and territorial decision makers as they develop risk reduction strategies.

Explore the National Risk Index Map at **hazards.fema.gov/nri/map**.

Visit the National Risk Index website at **hazards.fema.gov/nri/learn-more** to access supporting documentation and links.

Calculating the Risk Index

Risk Index scores are calculated using an equation that combines scores for Expected Annual Loss due to natural hazards, Social Vulnerability and Community Resilience:

$$\text{Risk Index} = \text{Expected Annual Loss} \times \text{Social Vulnerability} \div \text{Community Resilience}$$

Risk Index scores are presented as a composite score for all 18 hazard types, as well as individual scores for each hazard type.

For more information, visit **hazards.fema.gov/nri/determining-risk**.

Calculating Expected Annual Loss

Expected Annual Loss scores are calculated using an equation that combines values for exposure, annualized frequency, and historic loss ratios for 18 hazard types:

$$\text{Expected Annual Loss} = \text{Exposure} \times \text{Annualized Frequency} \times \text{Historic Loss Ratio}$$

Expected Annual Loss scores are presented as a composite score for all 18 hazard types, as well as individual scores for each hazard type.

For more information, visit **hazards.fema.gov/nri/expected-annual-loss**.

Calculating Social Vulnerability

Social Vulnerability is measured using the Social Vulnerability Index (SVI) published by the Centers for Disease Control and Prevention (CDC).

For more information, visit **hazards.fema.gov/nri/social-vulnerability**.

Calculating Community Resilience

Community Resilience is measured using the Baseline Resilience Indicators for Communities (HVRI BRIC) published by the University of South Carolina's Hazards and Vulnerability Research Institute (HVRI).

For more information, visit **hazards.fema.gov/nri/community-resilience**.

How to Take Action

There are many ways to reduce natural hazard risk through mitigation. Communities with high National Risk Index scores can take action to reduce risk by decreasing Expected Annual Loss due to natural hazards, decreasing Social Vulnerability, and increasing Community Resilience.

For information about how to take action and reduce your risk, visit **hazards.fema.gov/nri/take-action**.

Disclaimer

The National Risk Index (the Risk Index or the Index) and its associated data are meant for planning purposes only. This tool was created for broad nationwide comparisons and is not a substitute for localized risk assessment analysis. Nationwide datasets used as inputs for the National Risk Index are, in many cases, not as accurate as available local data. Users with access to local data for each National Risk Index risk factor should consider substituting the Risk Index data with local data to recalculate a more accurate risk index. If you decide to download the National Risk Index data and substitute it with local data, you assume responsibility for the accuracy of the data and any resulting data index. Please visit the **Contact Us** page if you would like to discuss this process further.

The methodology used by the National Risk Index has been reviewed by subject matter experts in the fields of natural hazard risk research, risk analysis, mitigation planning, and emergency management. The processing methods used to create the National Risk Index have produced results similar to those from other natural hazard risk analyses conducted on a smaller scale. The breadth and combination of geographic information systems (GIS) and data processing techniques leveraged by the National Risk Index enable it to incorporate multiple hazard types and risk factors, manage its nationwide scope, and capture what might have been missed using other methods.

The National Risk Index does not consider the intricate economic and physical interdependencies that exist across geographic regions. Keep in mind that hazard impacts in surrounding counties or Census tracts can cause indirect losses in your community regardless of your community's risk profile.

Nationwide data available for some risk factors are rudimentary at this time. The National Risk Index will be continuously updated as new data become available and improved methodologies are identified.

The National Risk Index Contact Us page is available at **hazards.fema.gov/nri/contact-us**.

The Climate Explorer

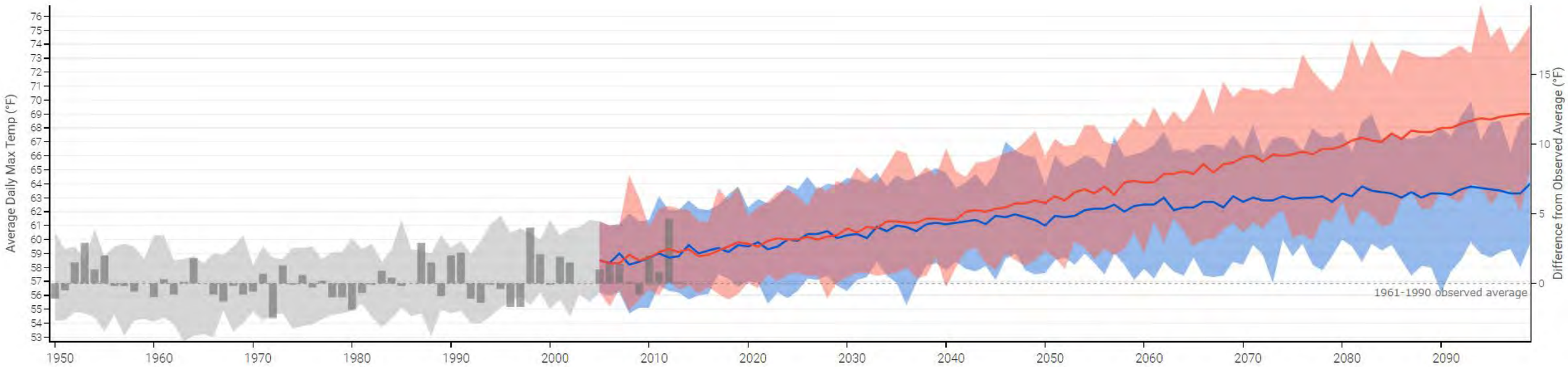
About the data

Flint, MI

Stations

Genesee County - Average Daily Maximum Temp (°F)

Average Daily Maximum Temperature (°F) | Graph | Map | Annual | Monthly | Downloads | About



Observations | Modeled History | Lower Emissions | Higher Emissions

Cards Home | Climate Maps | Climate Graphs | Historical Weather Data | Historical Thresholds | High-Tide Flooding | Take Action

TAB – ATTACHMENTS

1. Orchard Manor – Flint, MI – Market Study. Communities First Incorporated. Novogradac.
2. Phase I Environmental Site Assessment: Orchard Manor Apartments, 2765 Flushing Road, Parcel A, 1.20 Acres, Flint, Michigan. Communities First, Incorporated. ASTI Environmental. July 21, 2022.
3. Limited Phase II Environmental Site Assessment: Orchard Manor Apartments, 2765 Flushing Road (Parcel A), Flint, Michigan. Communities First, Incorporated. ASTI Environmental. February 27, 2023.
4. Response Activity Plan to Comply with 7a(1)(b): 2765 Flushing Road, Flint, Genesee County, Michigan. Communities First Incorporated. AKT Peerless Environmental Services. October 11, 2023.

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