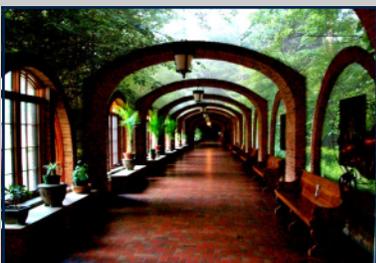


City of Livonia



Stormwater Management Plan (SWMP)

Permit No: MIG610015

April 1, 2025

Submitted by:

The City of Livonia
12973 Farmington Road
Livonia, MI. 48150
734.466.2655

In Collaboration with:



Working together, restoring the river

Introduction

The City of Livonia is regulated by a municipal separate storm sewer system (MS4) permit issued by the State of Michigan. The permit regulates the quality of stormwater that discharges from the City's stormwater system. The permit is effective city-wide.

This Stormwater Management Plan (SWMP) has been developed for the city as required by the MS4 permit. It includes the following sections:

APPENDIX A: Outfall and Point of Discharge Information

APPENDIX B: Enforcement Response Procedure

APPENDIX C: Public Participation/Involvement Program (PPP)

APPENDIX D: Public Education Program (PEP)

APPENDIX E1: Illicit Discharge Elimination Program (IDEP)

APPENDIX E2: Illicit Discharge Elimination Ordinance

APPENDIX F: Construction Stormwater Runoff Control

APPENDIX G: Post-Construction Stormwater Runoff Program

APPENDIX H: Pollution Prevention and Good Housekeeping

APPENDIX H2: DPW SOP

APPENDIX H3: Glendale SOP

APPENDIX H4: Golf Courses SOP

APPENDIX H5: Spill Response

APPENDIX I: Total Maximum Daily Load (TMDL) Implementation Plan

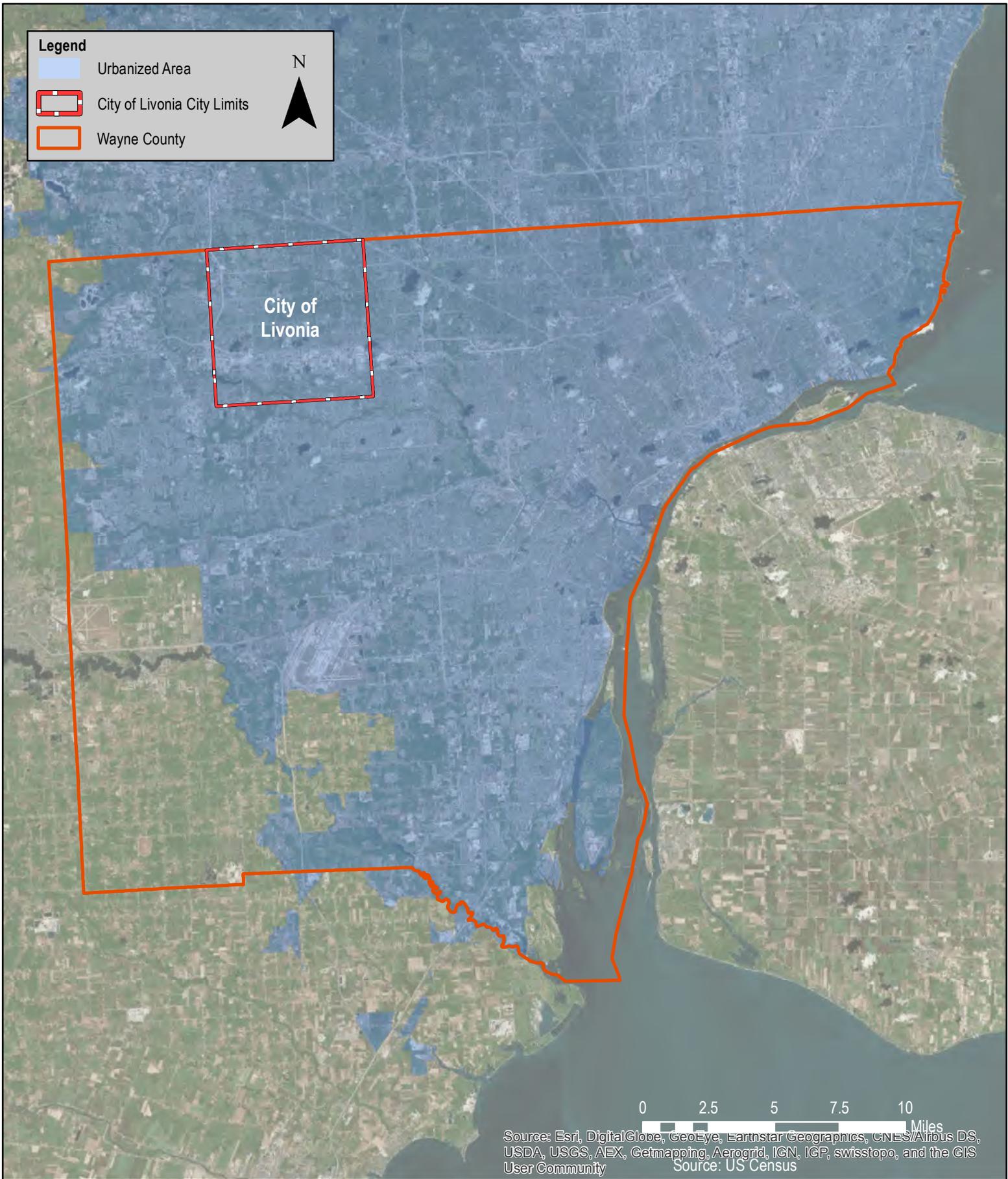
Livonia participates in the Alliance of Rouge Communities' collaborative plans for the PPP, PEP, IDEP and TMDL requirements of the permit.

APPENDIX A
Outfall and Point of Discharge Information

Legend

-  Urbanized Area
-  City of Livonia City Limits
-  Wayne County

N

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

City of Livonia - Urbanized Area
 Detroit Area Cluster
 Alliance of Rouge Communities



Legend



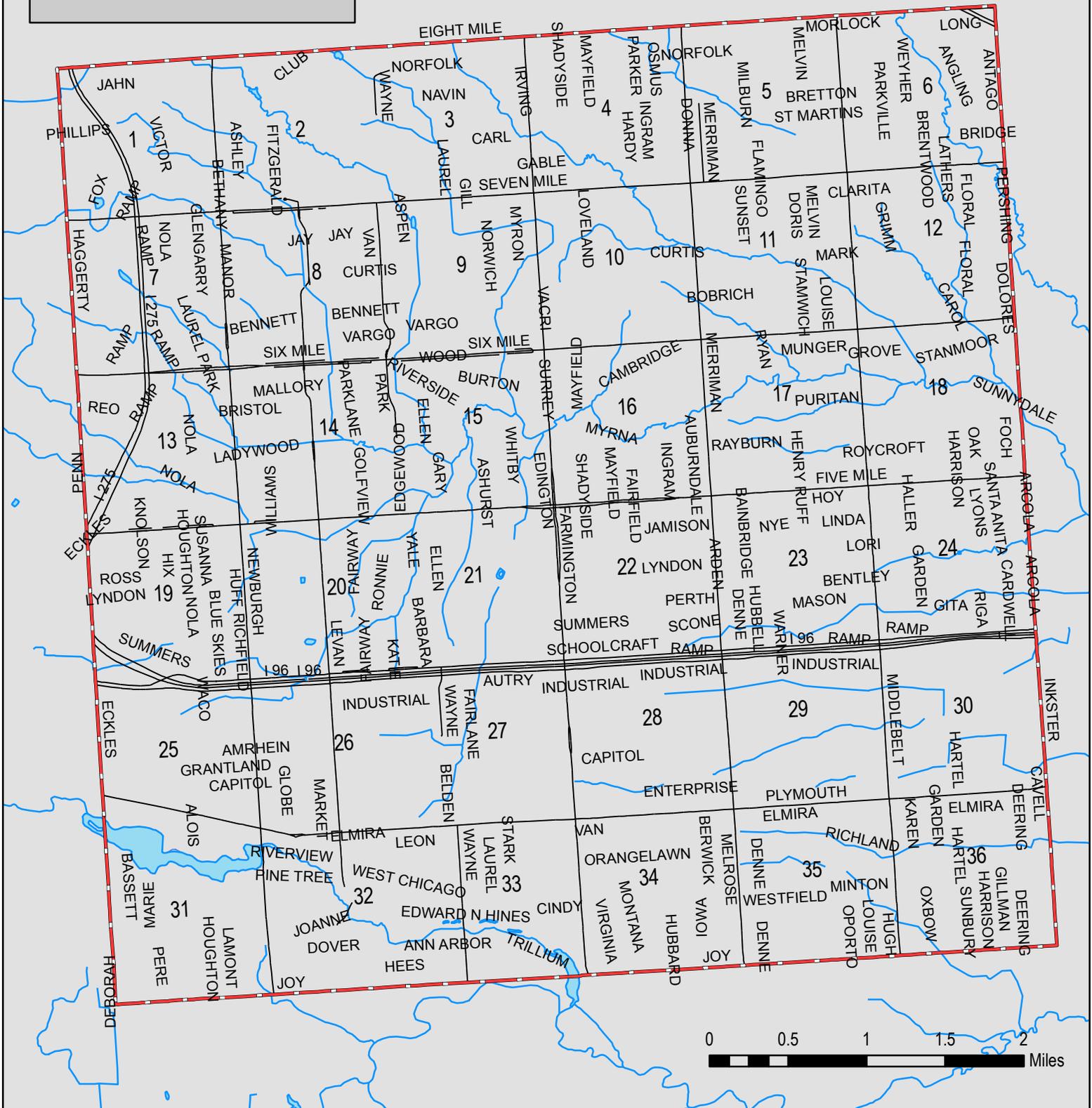
City of Livonia



Watercourse



N



City of Livonia Outfall Location Map Key

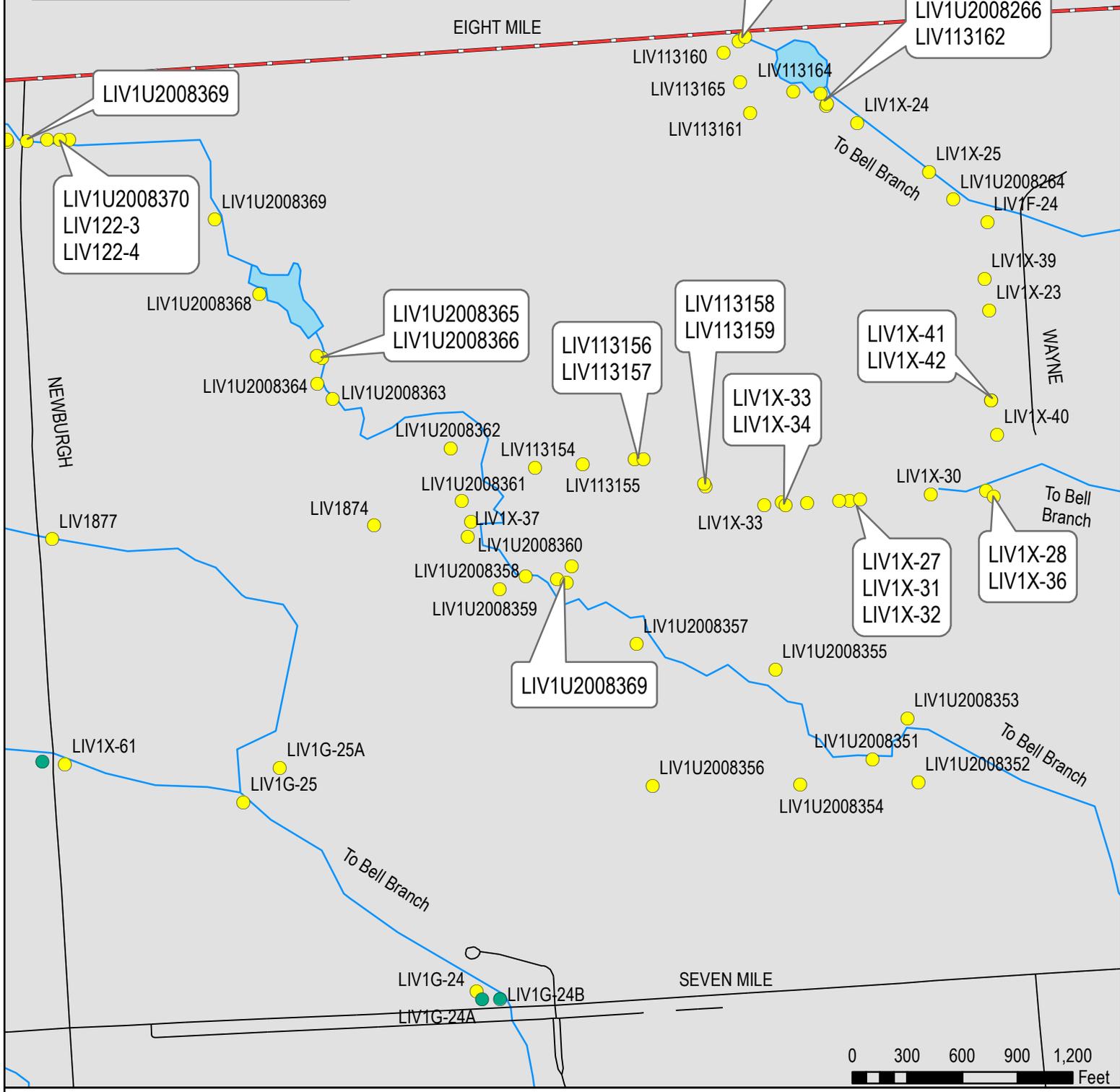
Alliance of Rouge Communities



Legend

- Outfall
- Discharge Points
- City of Livonia
- Watercourse

N



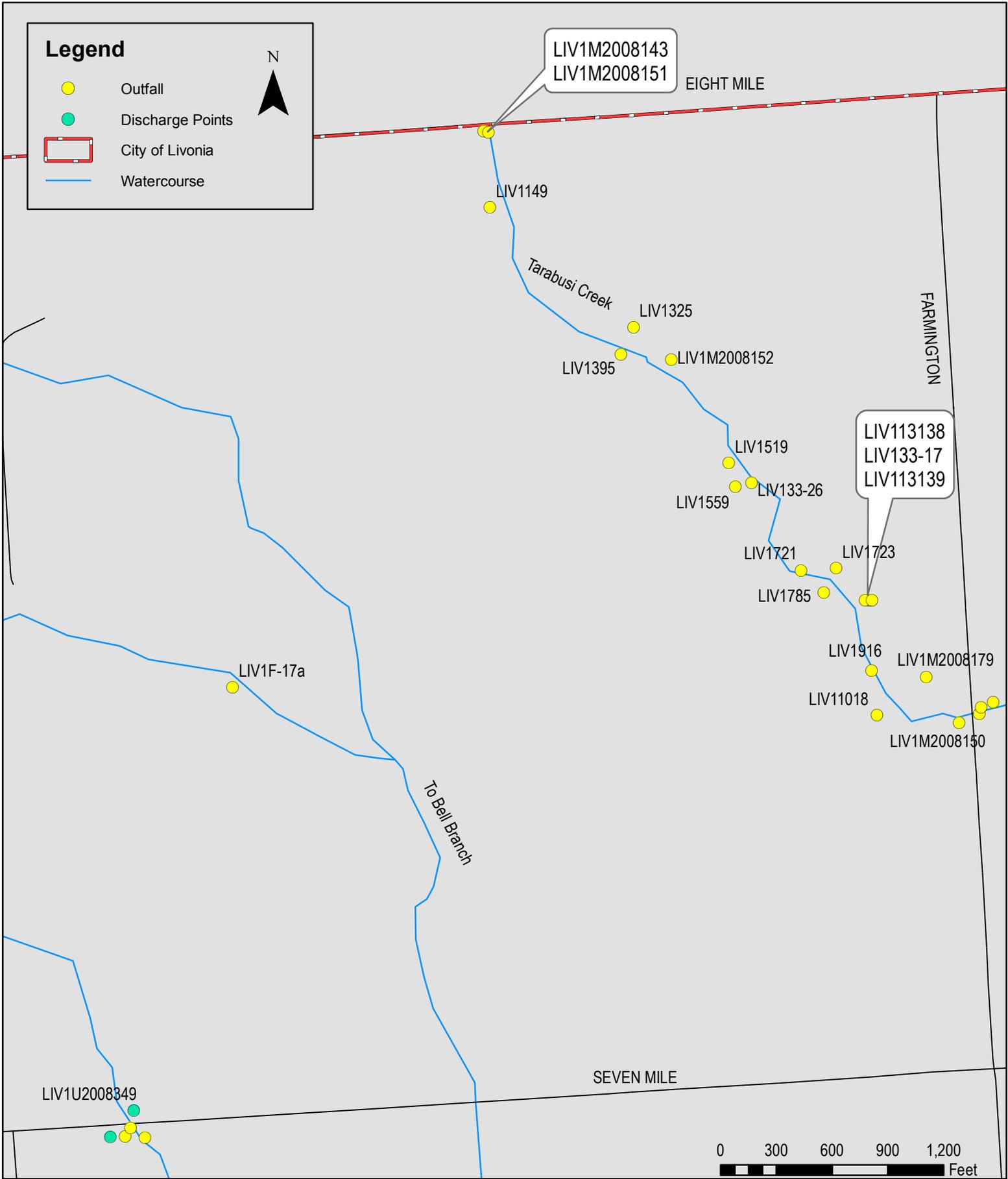
City of Livonia - Outfall Location Map 2
 Alliance of Rouge Communities



Legend

- Outfall
- Discharge Points
- City of Livonia
- Watercourse

N

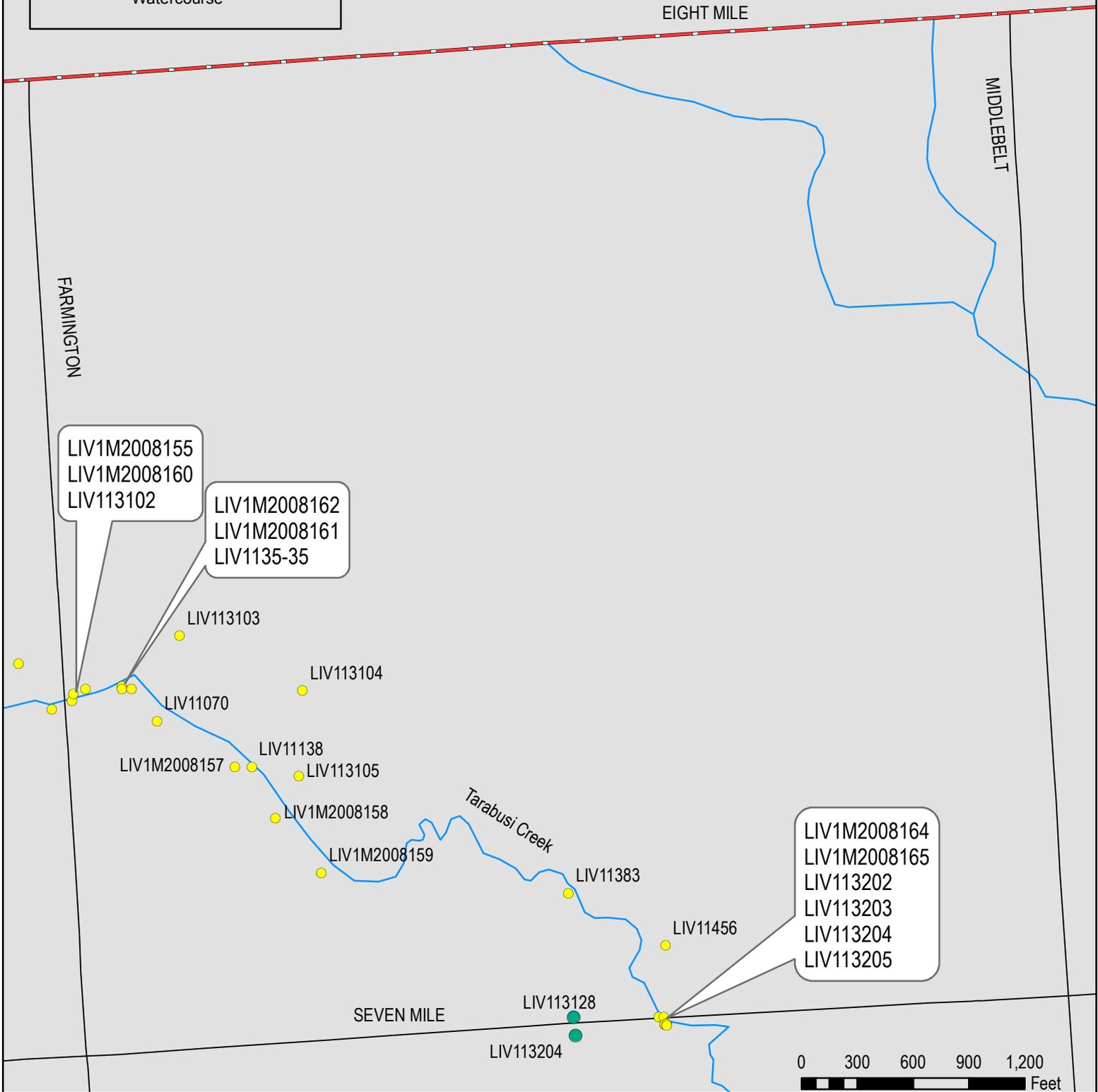


City of Livonia - Outfall Location Map 3
 Alliance of Rouge Communities



Legend

- Outfall
- Discharge Points
- ▭ City of Livonia
- Watercourse



City of Livonia - Outfall Location Map 4

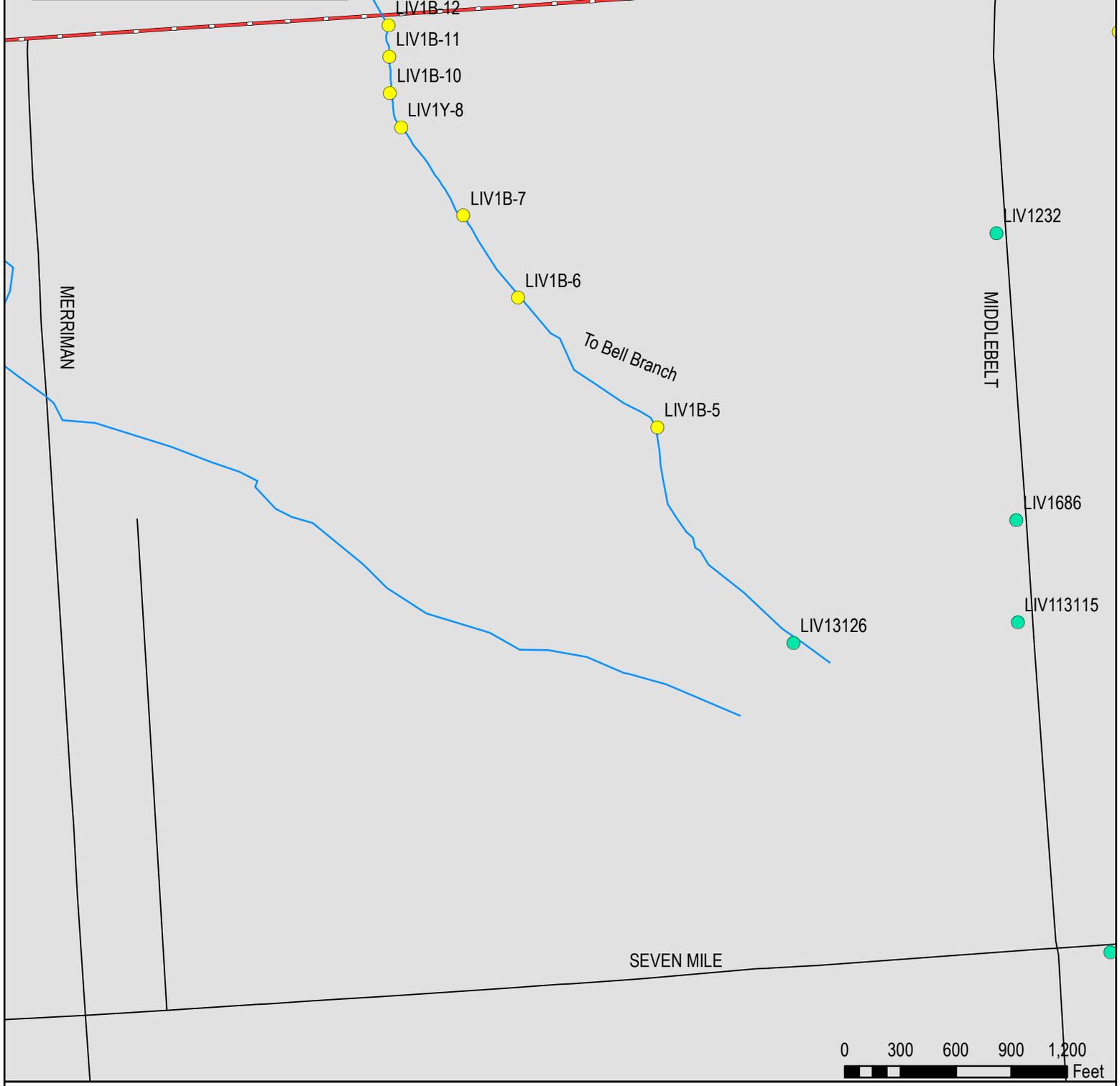
Alliance of Rouge Communities



Legend

- Outfall
- Discharge Points
- City of Livonia
- Watercourse

N



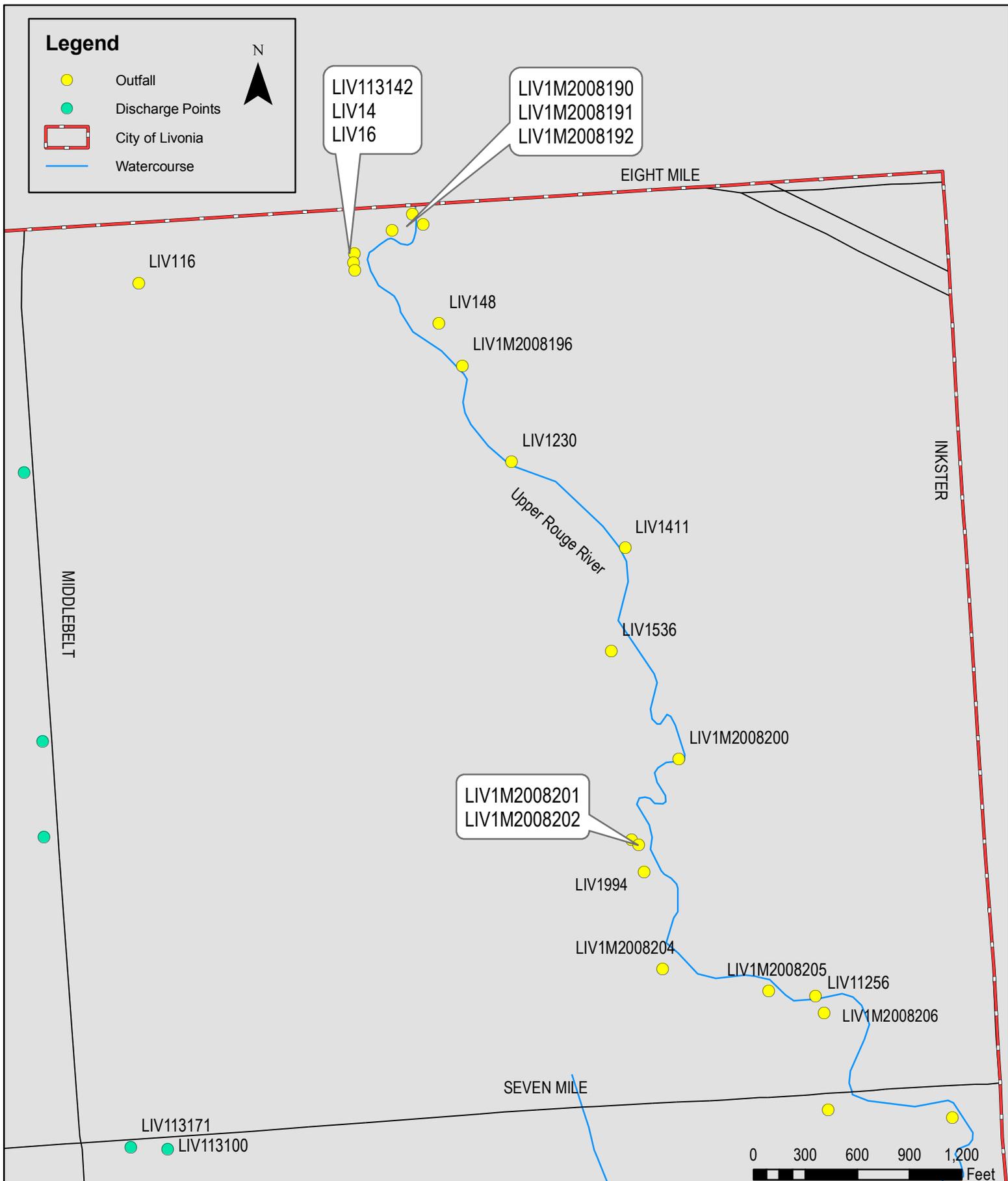
City of Livonia - Outfall Location Map 5

Alliance of Rouge Communities



Legend

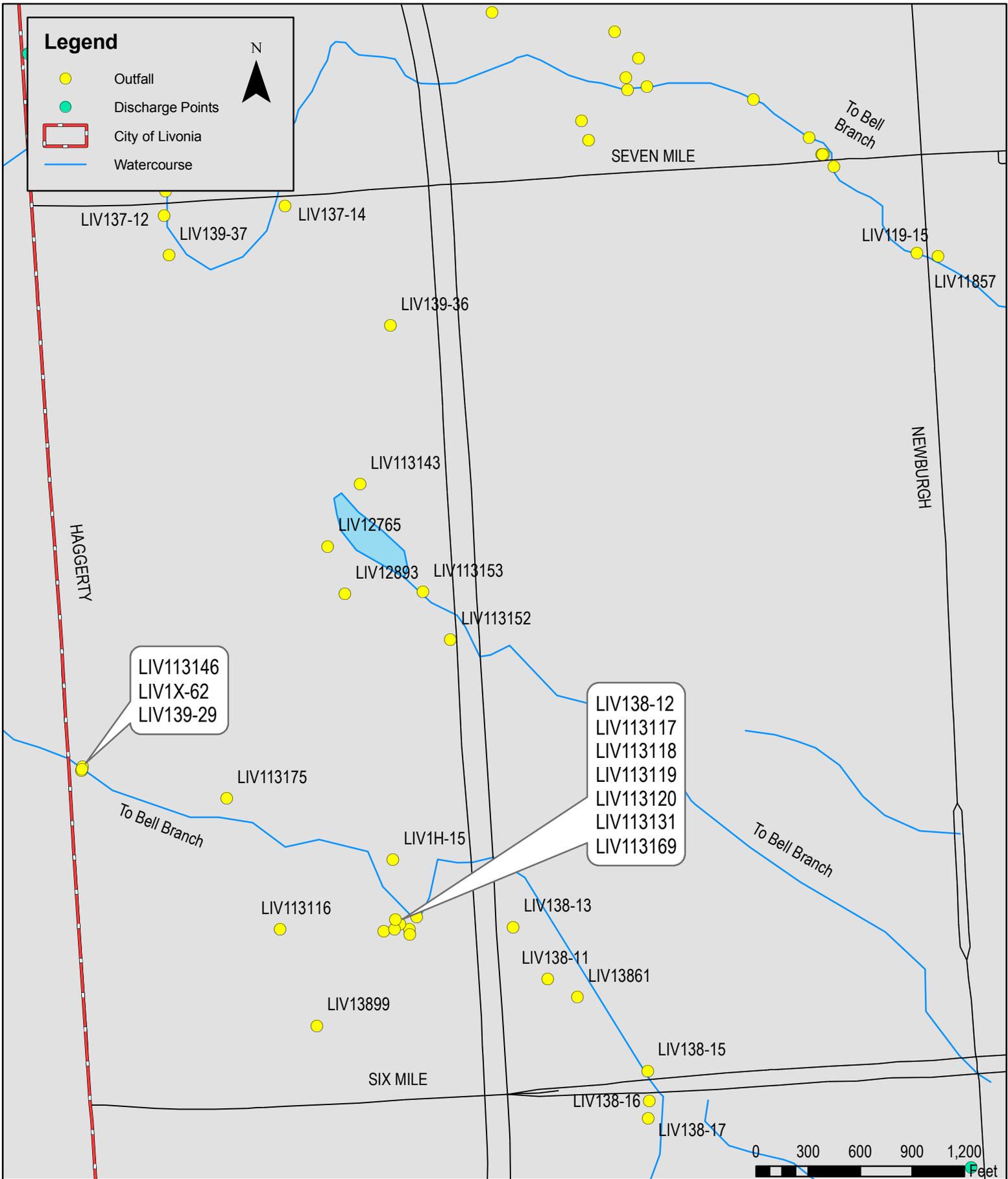
- Outfall
- Discharge Points
- ▭ City of Livonia
- Watercourse



City of Livonia - Outfall Location Map 6

Alliance of Rouge Communities





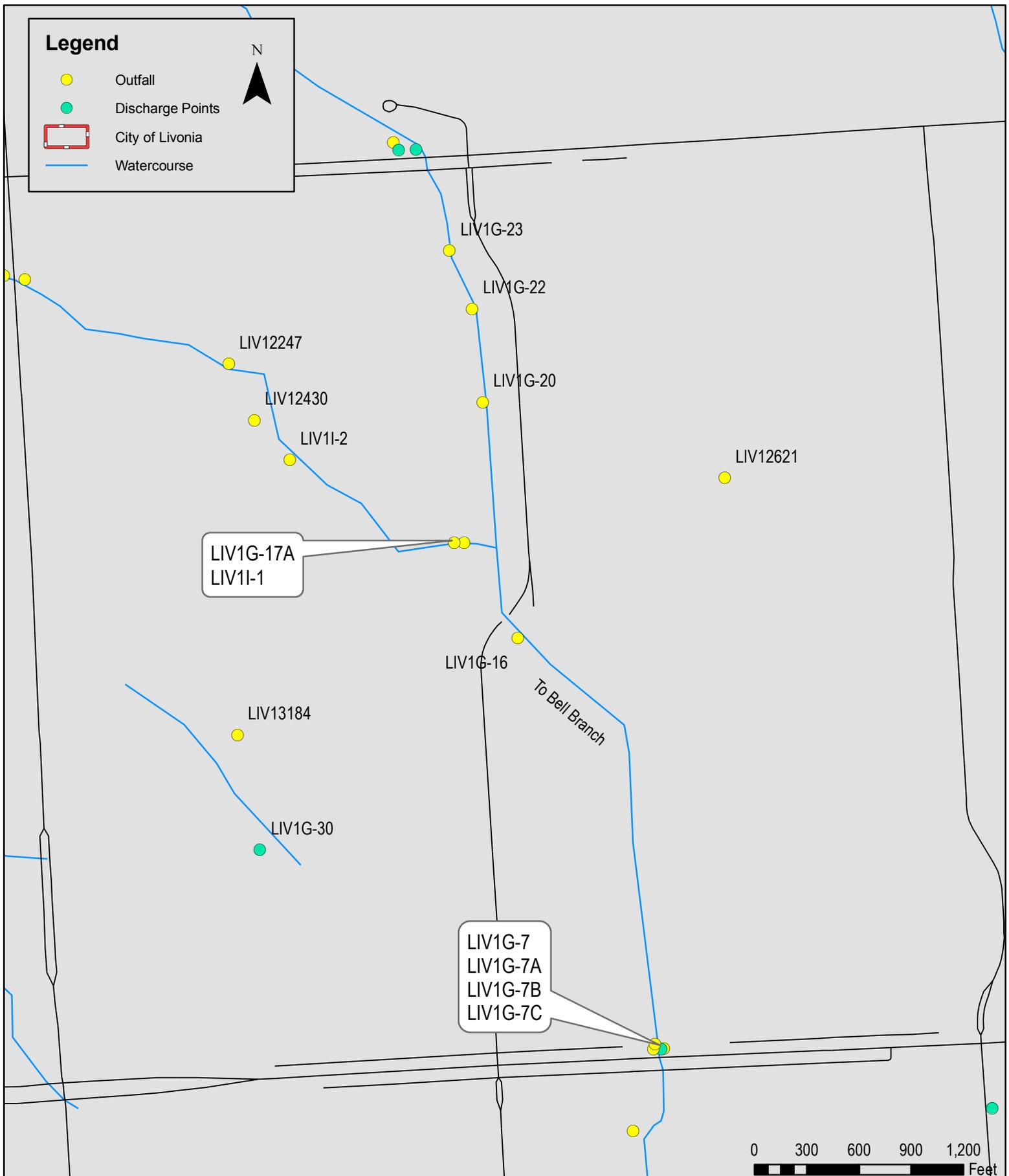
City of Livonia - Outfall Location Map 7

Alliance of Rouge Communities



Legend

- Outfall
- Discharge Points
- City of Livonia
- Watercourse



City of Livonia - Outfall Location Map 8

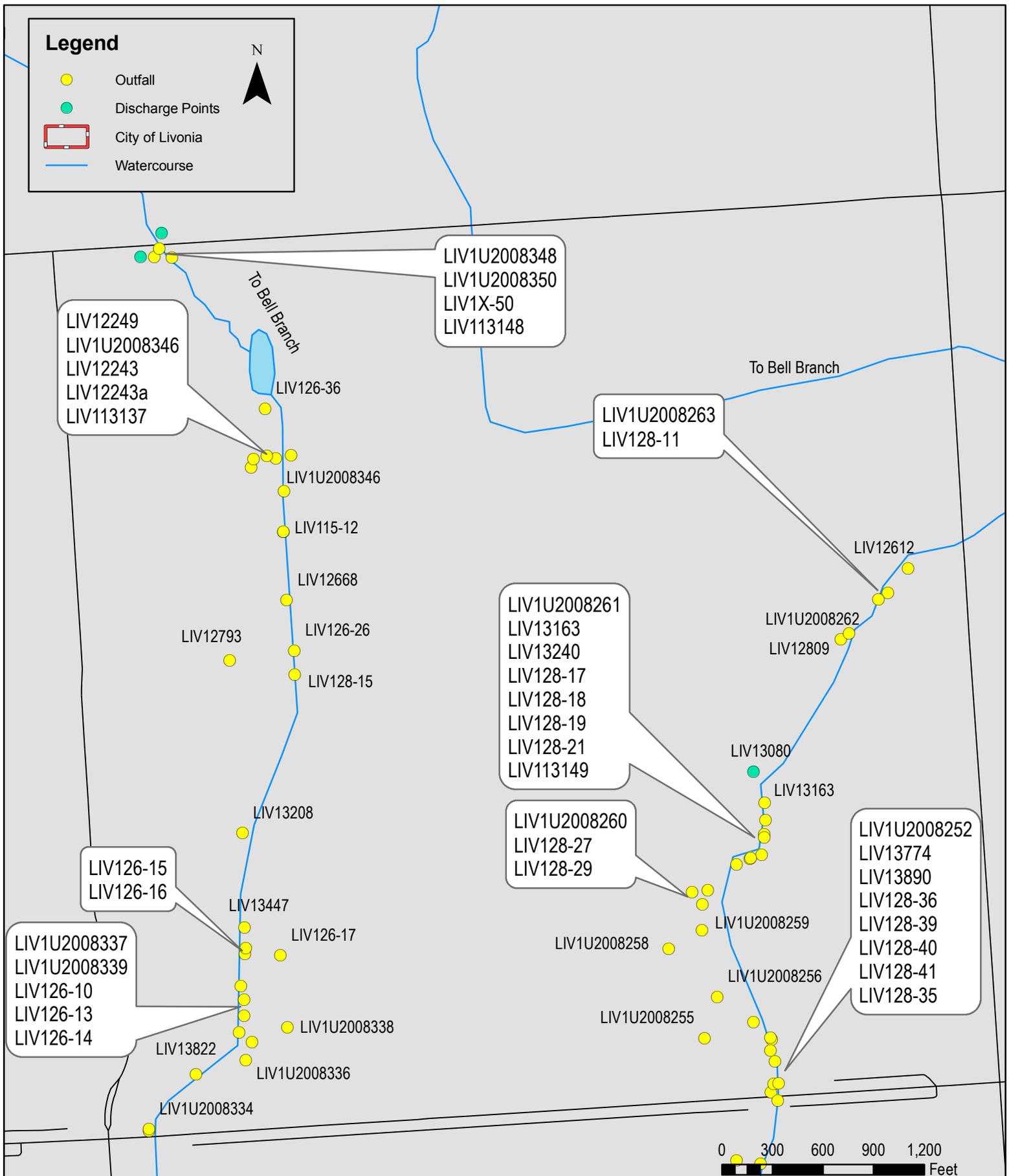
Alliance of Rouge Communities



Legend

- Outfall
- Discharge Points
- City of Livonia
- Watercourse

N



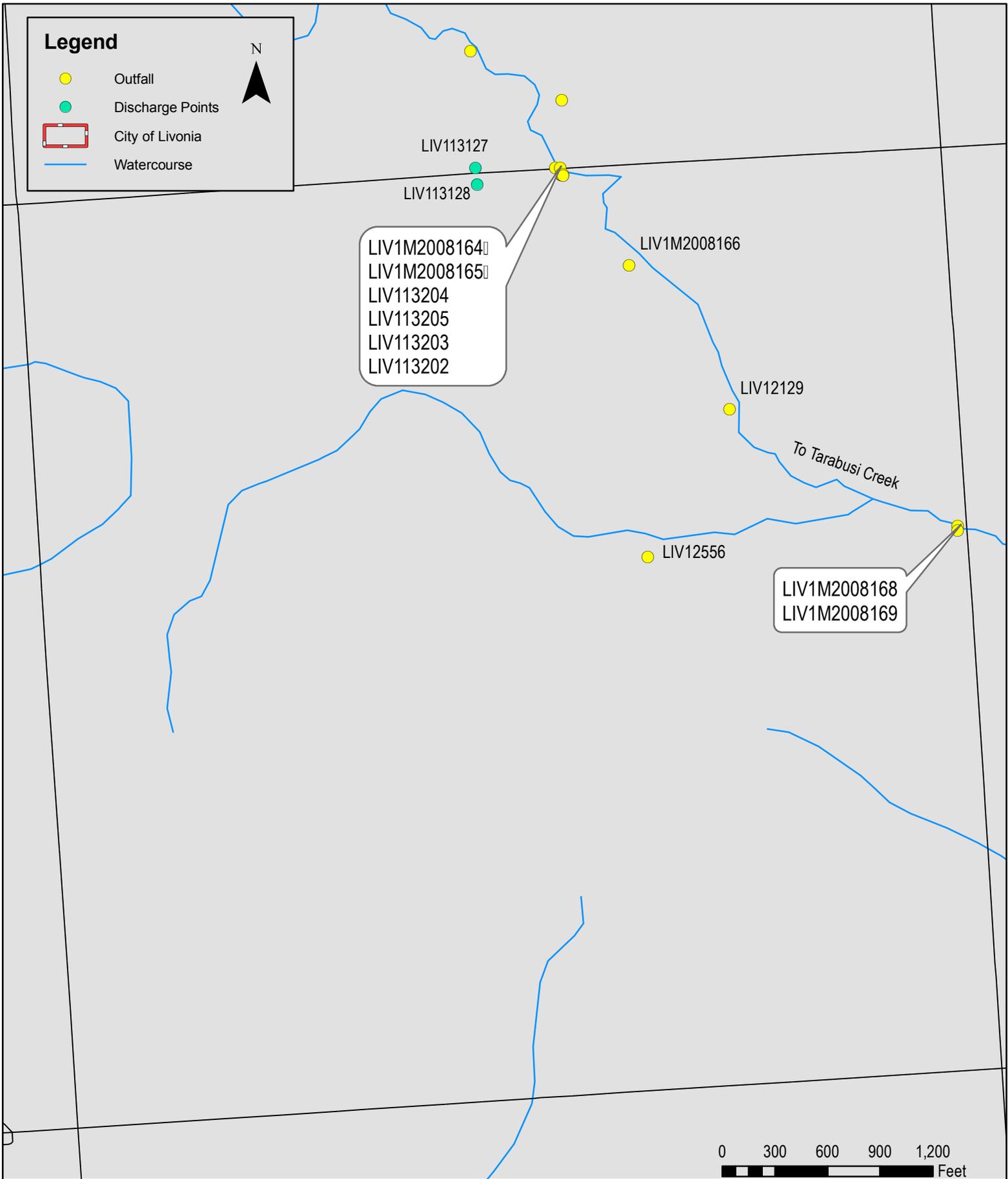
City of Livonia - Outfall Location Map 9

Alliance of Rouge Communities



Legend

- Outfall
- Discharge Points
- ▭ City of Livonia
- Watercourse



City of Livonia - Outfall Location Map 10

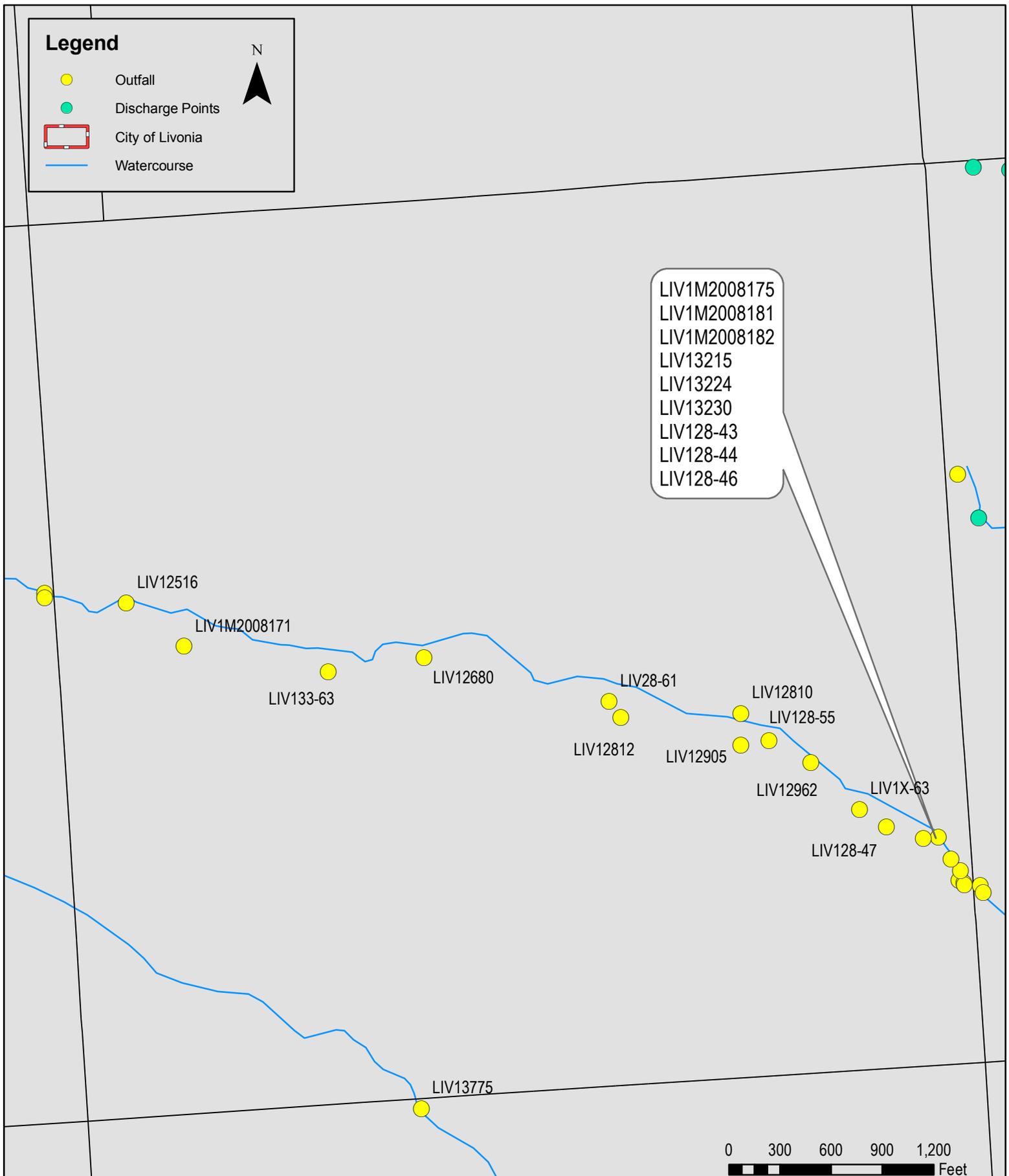
Alliance of Rouge Communities



Legend

- Outfall
- Discharge Points
- City of Livonia
- Watercourse

N



City of Livonia - Outfall Location Map 11

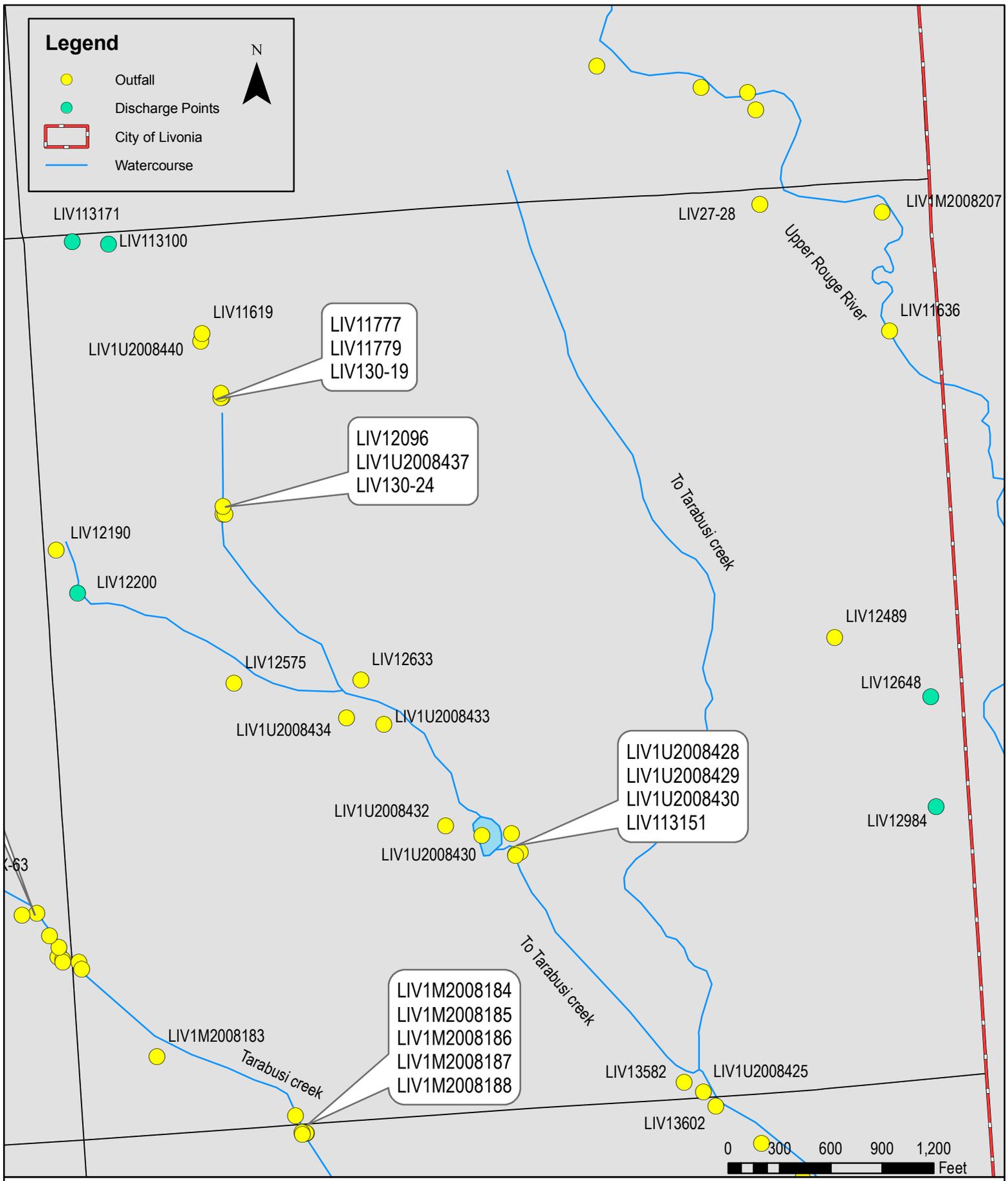
Alliance of Rouge Communities



Legend

- Outfall
- Discharge Points
- City of Livonia
- Watercourse

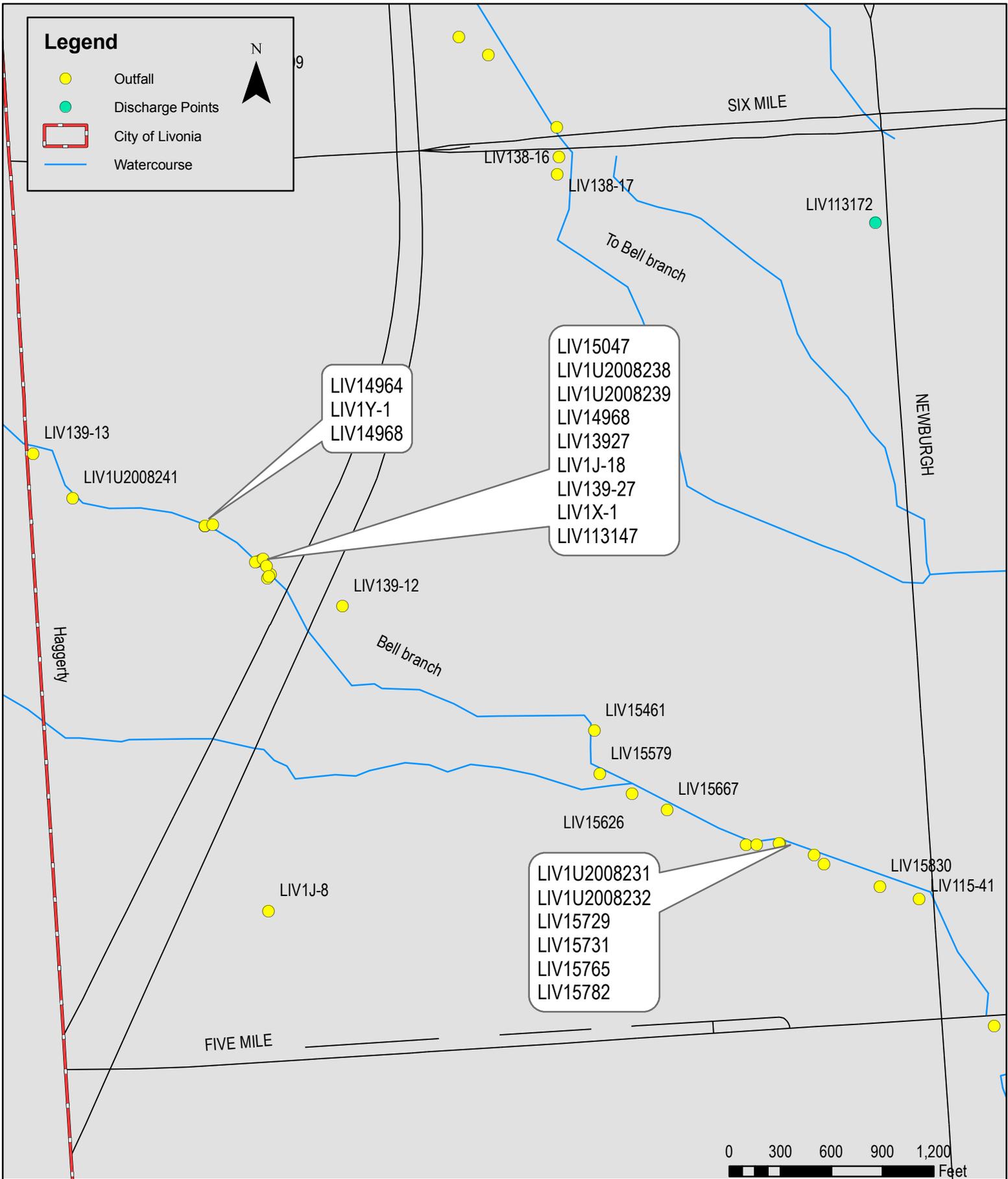
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City of Livonia - Outfall Location Map 12

Alliance of Rouge Communities





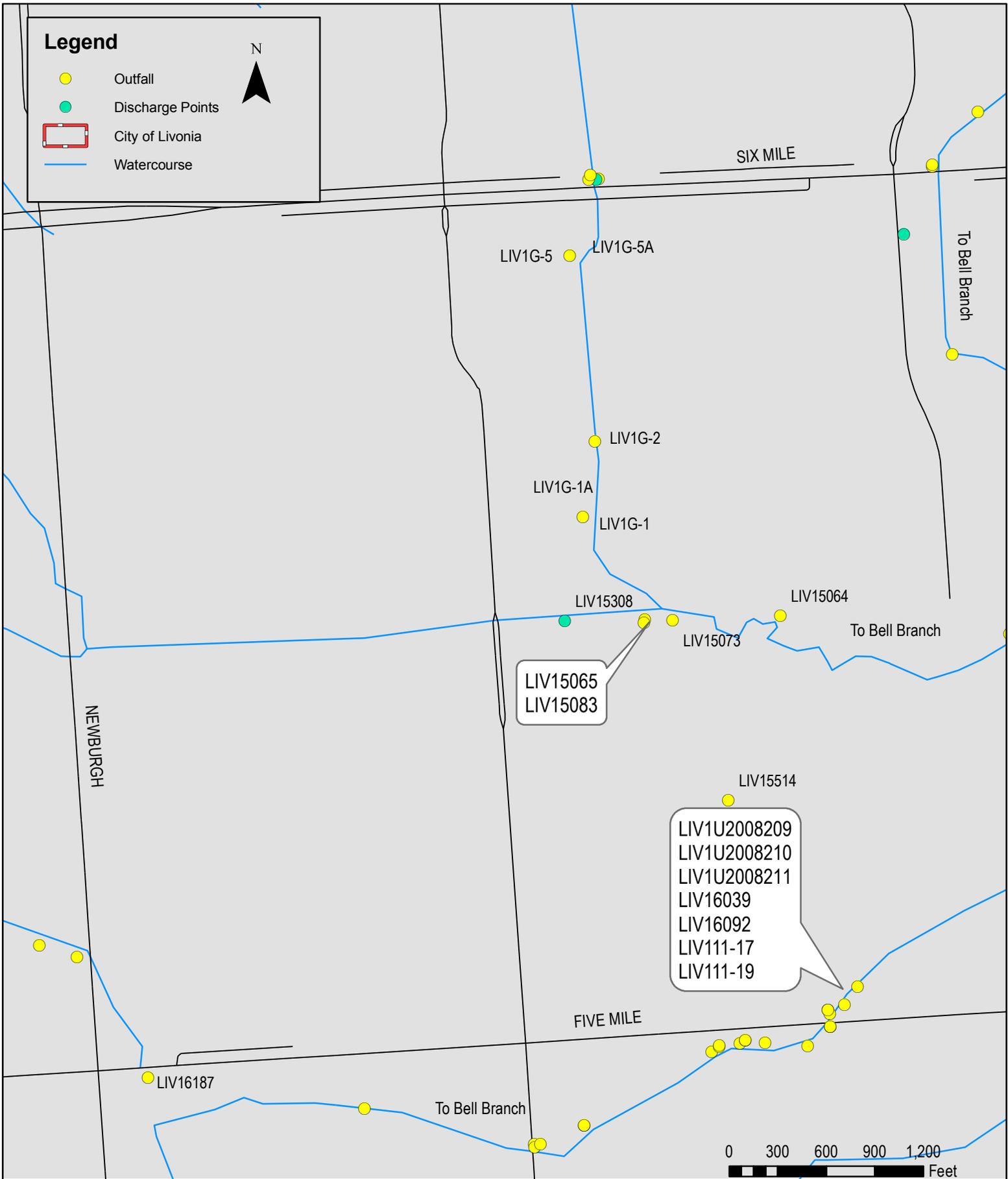
City of Livonia - Outfall Location Map 13

Alliance of Rouge Communities



Legend

- Outfall
- Discharge Points
- ▭ City of Livonia
- Watercourse



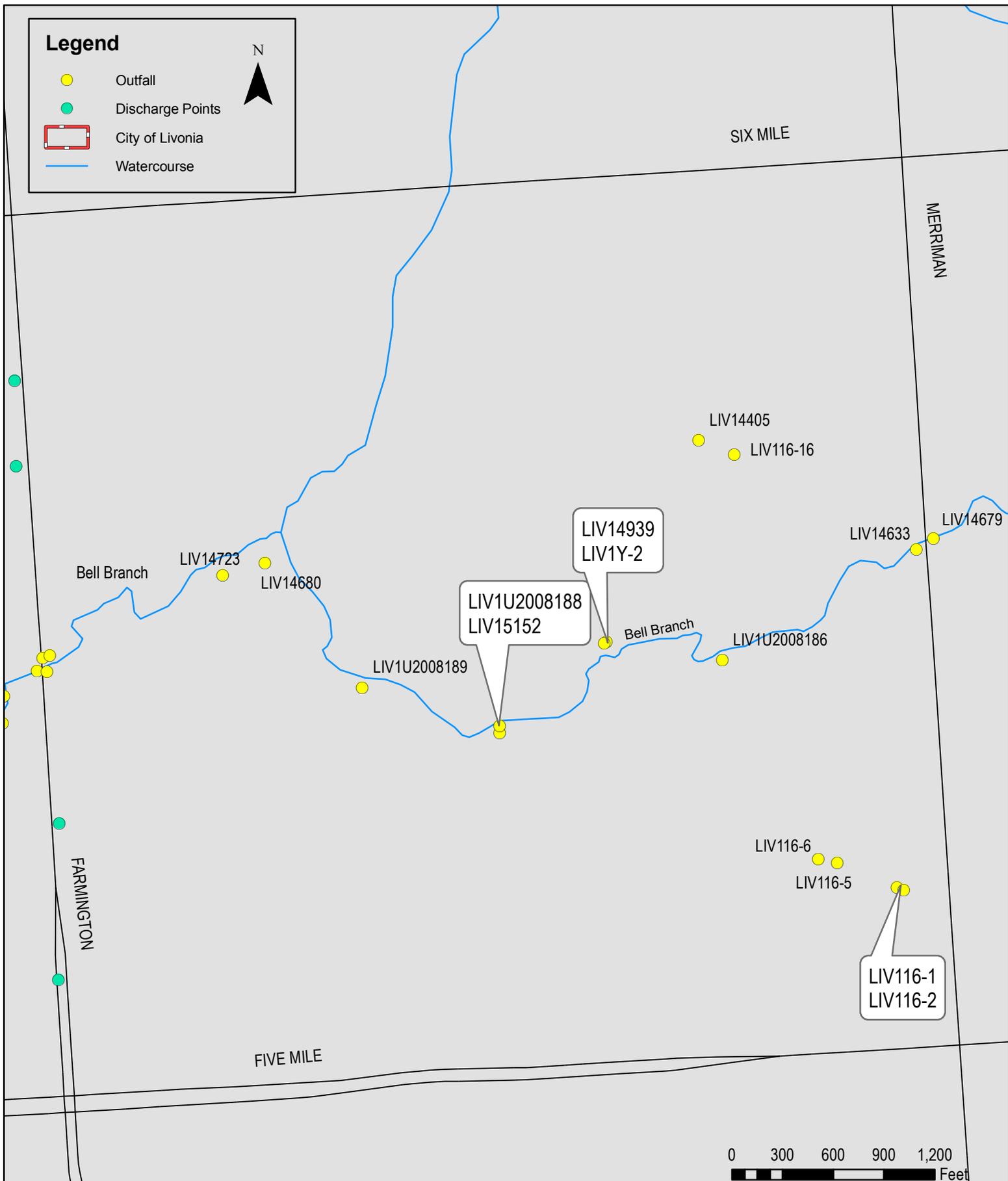
City of Livonia - Outfall Location Map 14

Alliance of Rouge Communities



Legend

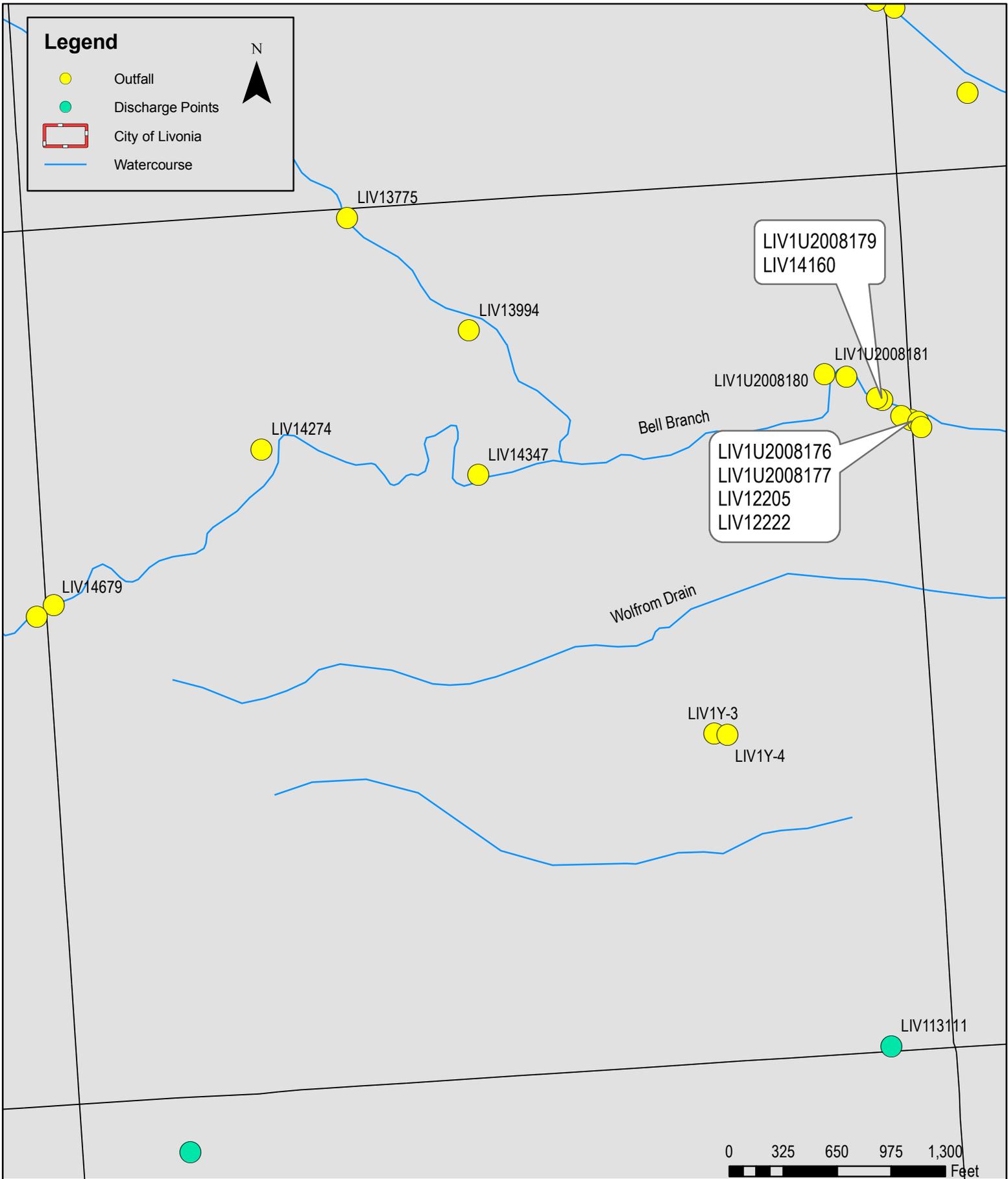
- Outfall
- Discharge Points
- ▭ City of Livonia
- Watercourse



City of Livonia - Outfall Location Map 16

Alliance of Rouge Communities

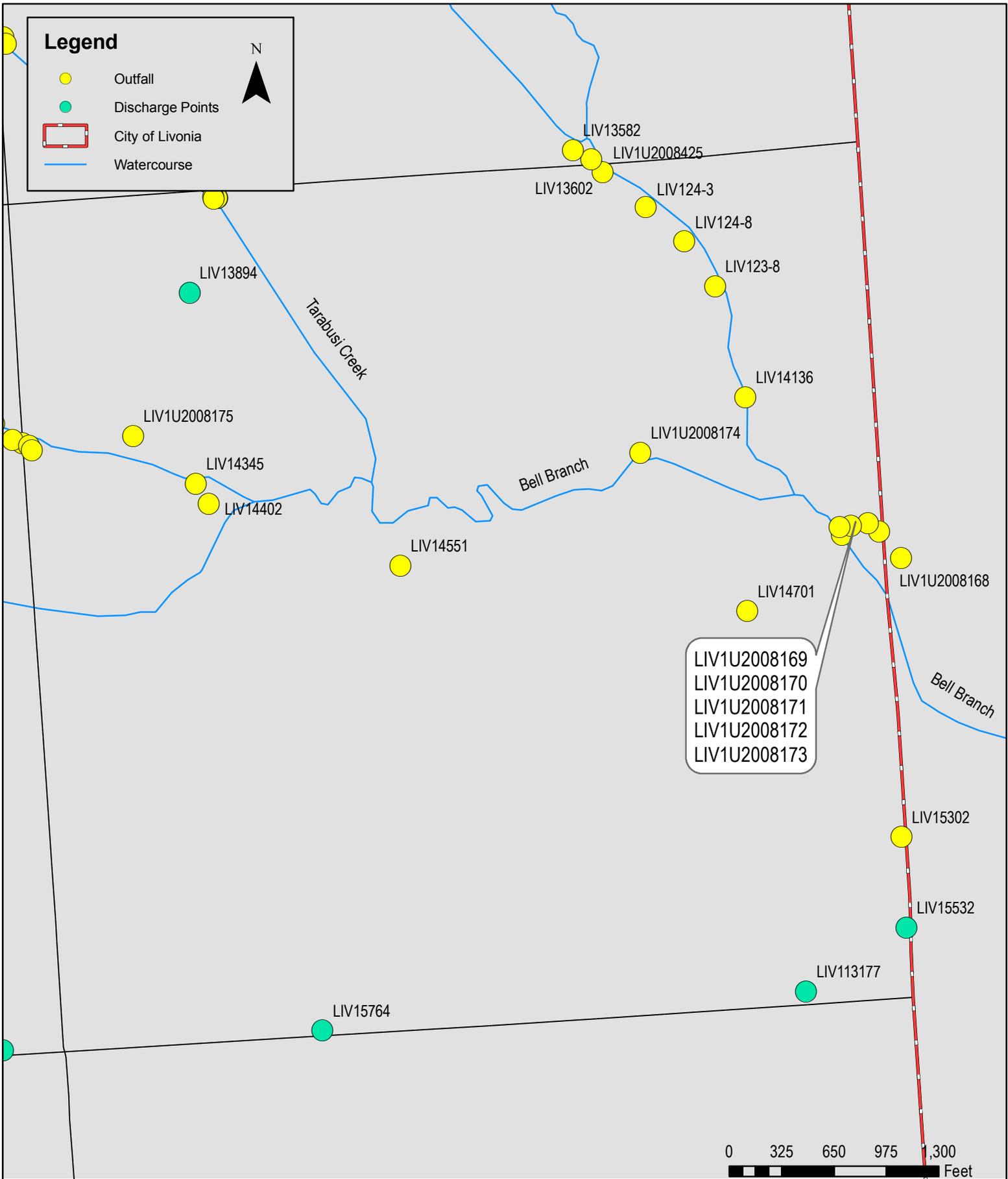




City of Livonia - Outfall Location Map 17

Alliance of Rouge Communities





City of Livonia - Outfall Location Map 18

Alliance of Rouge Communities



Legend

- Outfall
- Discharge Points
- ▭ City of Livonia
- Watercourse



FIVE MILE

NEWBURGH

LIV113166

LIV18500

LIV113200

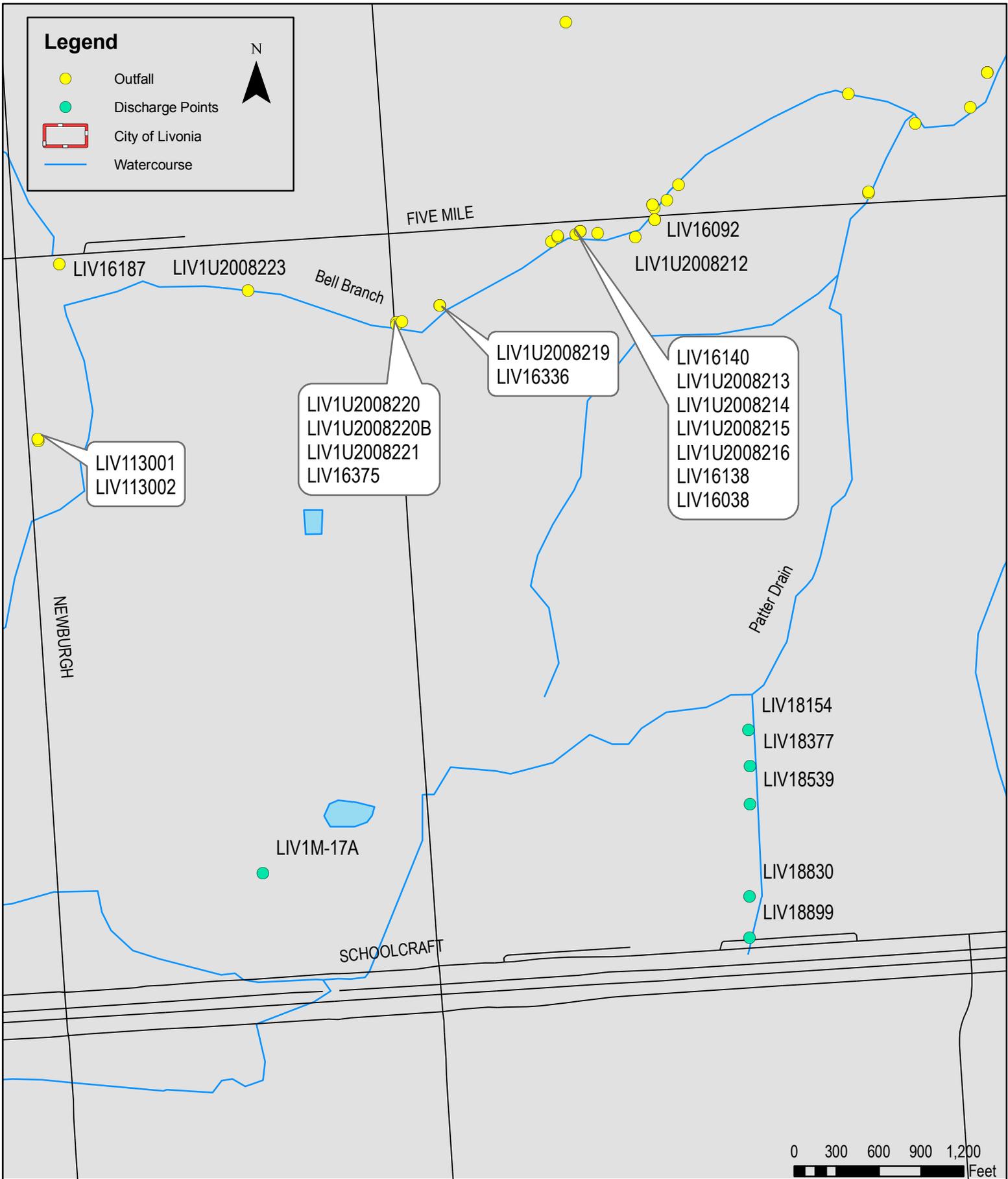
LIV18778

0 300 600 900 1,200 Feet

City of Livonia - Outfall Location Map 19

Alliance of Rouge Communities





City of Livonia - Outfall Location Map 20

Alliance of Rouge Communities



Legend

- Outfall
- Discharge Points
- City of Livonia
- Watercourse

N





City of Livonia - Outfall Location Map 21

Alliance of Rouge Communities



Legend

- Outfall
- Discharge Points
- City of Livonia
- Watercourse



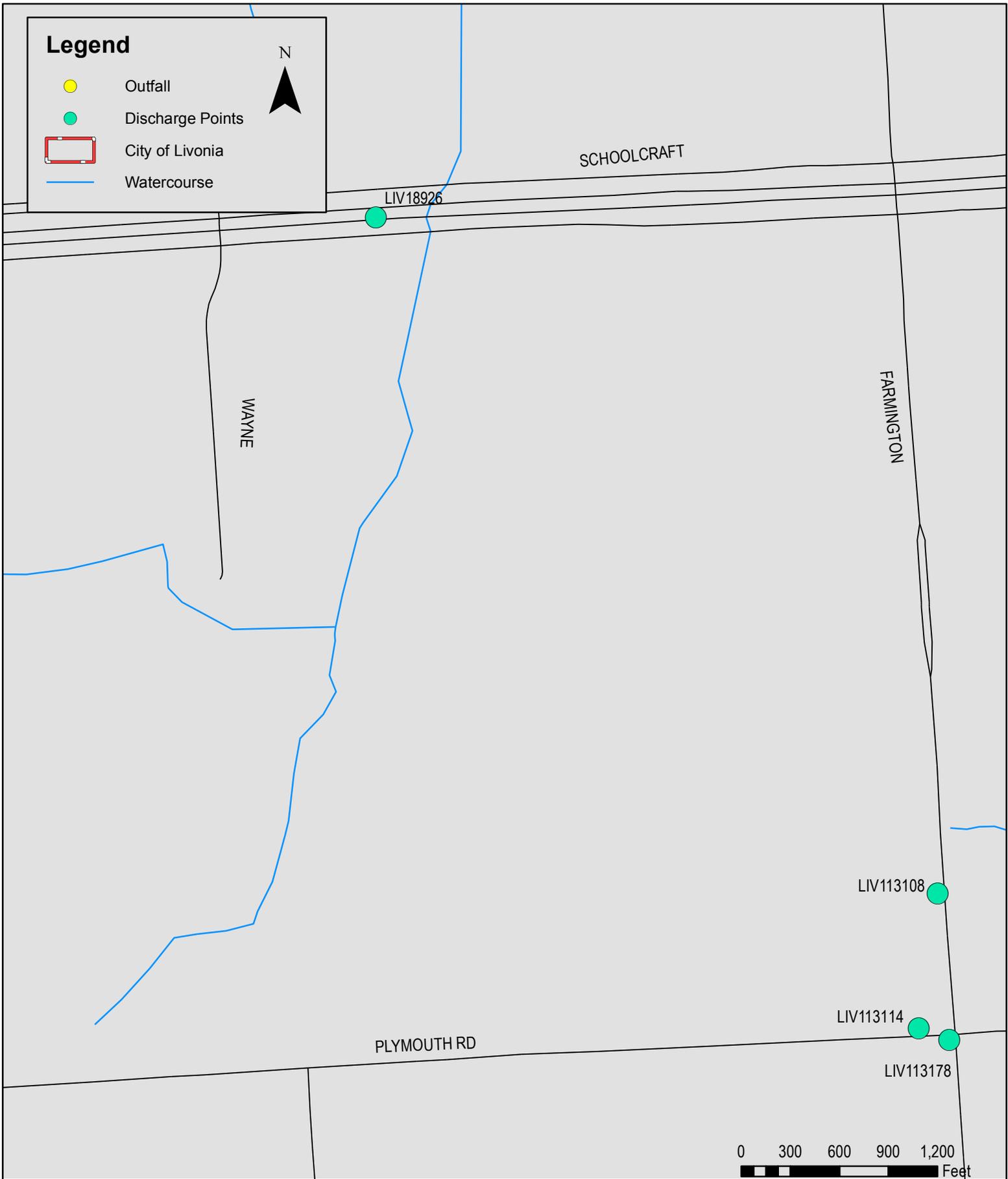
City of Livonia - Outfall Location Map 25

Alliance of Rouge Communities



Legend

- Outfall
- Discharge Points
- ▭ City of Livonia
- Watercourse



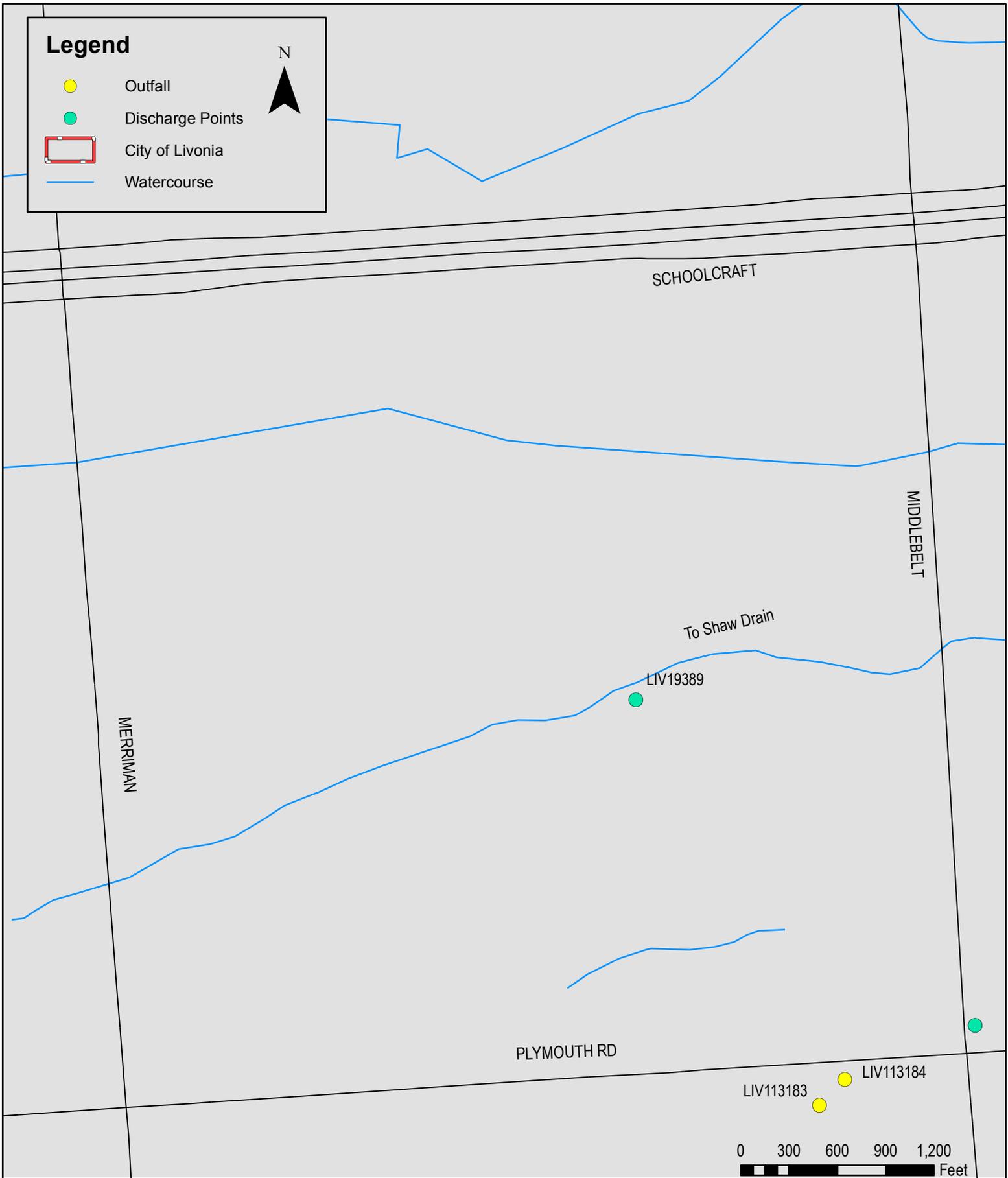
City of Livonia - Outfall Location Map 27

Alliance of Rouge Communities



Legend

- Outfall
- Discharge Points
- ▭ City of Livonia
- Watercourse



City of Livonia - Outfall Location Map 29

Alliance of Rouge Communities



Legend

-  Outfall
-  Discharge Points
-  City of Livonia
-  Watercourse



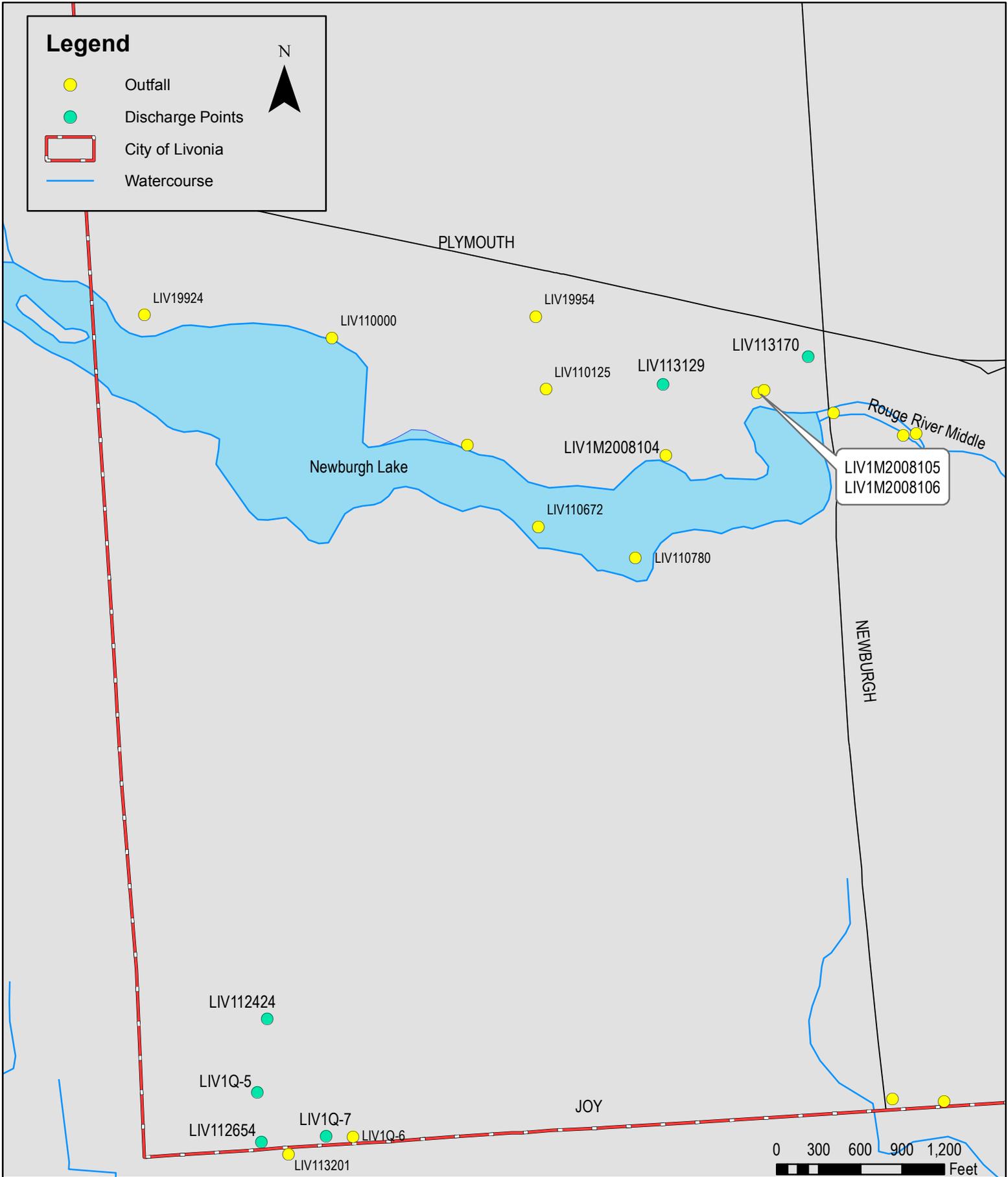
City of Livonia - Outfall Location Map 30

Alliance of Rouge Communities



Legend

- Outfall
- Discharge Points
- ▭ City of Livonia
- Watercourse



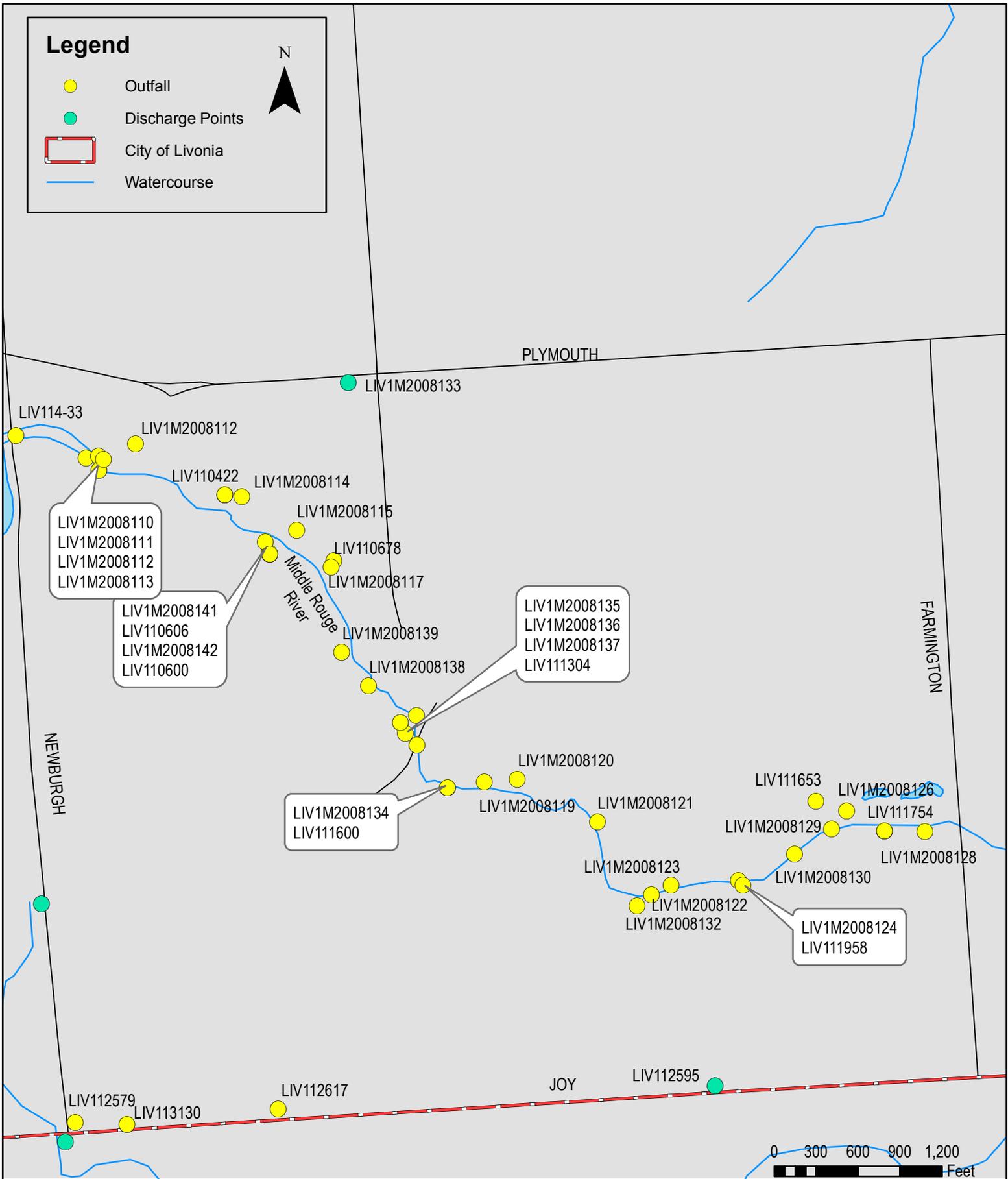
City of Livonia - Outfall Location Map 31

Alliance of Rouge Communities



Legend

- Outfall
- Discharge Points
- ▭ City of Livonia
- Watercourse



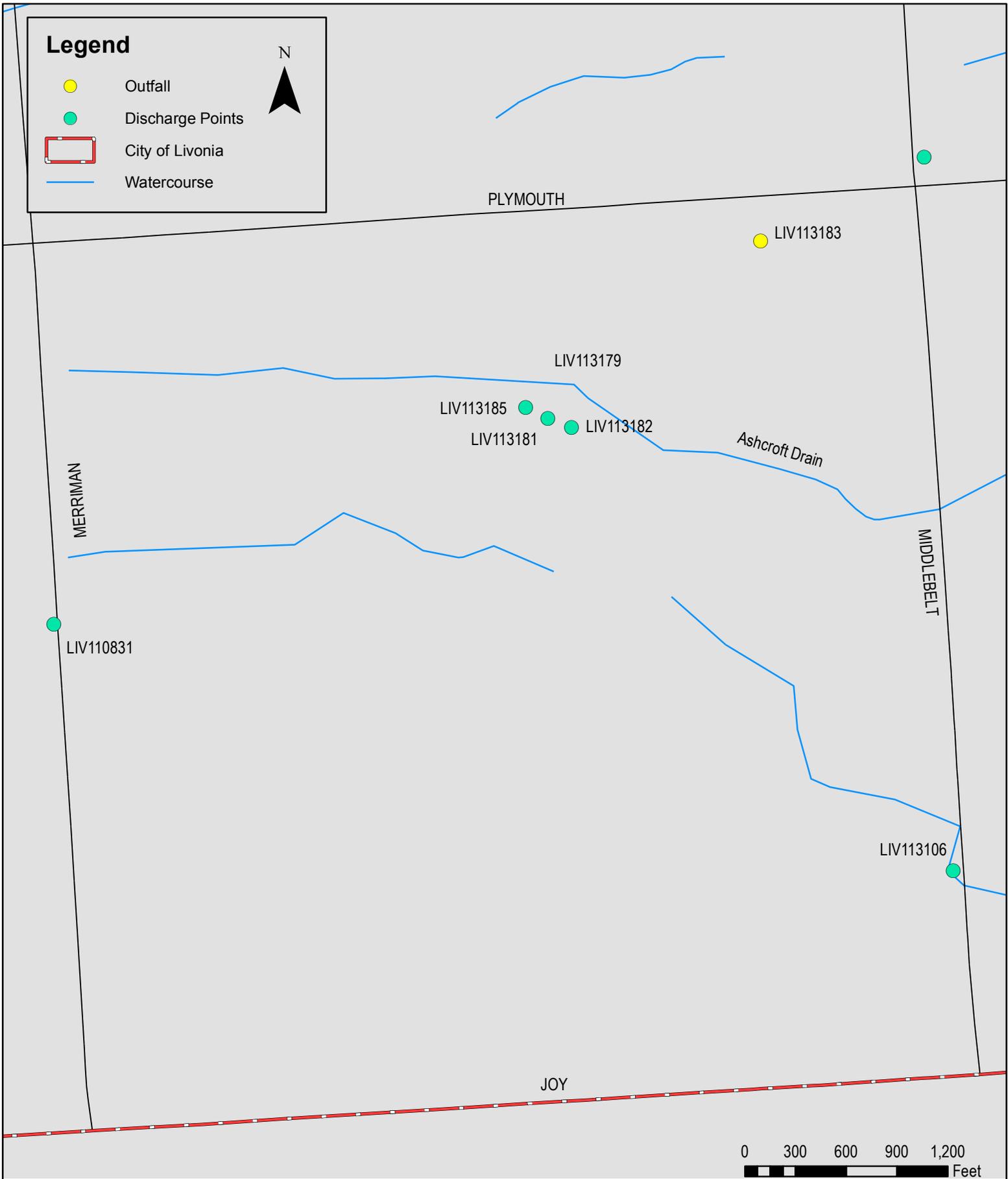
City of Livonia - Outfall Location Map 32

Alliance of Rouge Communities



Legend

-  Outfall
-  Discharge Points
-  City of Livonia
-  Watercourse



City of Livonia - Outfall Location Map 35

Alliance of Rouge Communities



City of Livonia Outfall List

Outfall ID	Type	Receiving Water
LIV110000	Outfall	Middle Rouge River
LIV110125	Outfall	Middle Rouge River
LIV11018	Outfall	Tarabusi Creek
LIV110422	Outfall	Middle Rouge River
LIV110600	Outfall	Middle Rouge River
LIV110606	Outfall	Middle Rouge River
LIV110672	Outfall	Middle Rouge River
LIV110678	Outfall	Middle Rouge River
LIV11070	Outfall	Tarabusi Creek
LIV110780	Outfall	Middle Rouge River
LIV111-17	Outfall	Bell Branch
LIV111-19	Outfall	Bell Branch
LIV111-31	Outfall	Bell Branch
LIV111-40	Outfall	Bell Branch
LIV111-41	Outfall	Gates Drain
LIV111304	Outfall	Middle Rouge River
LIV11138	Outfall	Tarabusi Creek
LIV111547	Outfall	Middle Rouge River
LIV111600	Outfall	Middle Rouge River
LIV111653	Outfall	Middle Rouge River
LIV111748	Outfall	Middle Rouge River
LIV111754	Outfall	Middle Rouge River
LIV111882	Outfall	Middle Rouge River
LIV111958	Outfall	Middle Rouge River
LIV112300	Outfall	Willow Creek
LIV112522	Outfall	Middle Rouge River
LIV112535	Outfall	Middle Rouge River
LIV112539	Outfall	Willow Creek
LIV112547	Outfall	Willow Creek
LIV112548	Outfall	Middle Rouge River
LIV112550	Outfall	Middle Rouge River
LIV113143	Outfall	Tributary to Bell Branch
LIV113144	Outfall	Tributary to Bell Branch

Outfall ID	Type	Receiving Water
LIV11256	Outfall	Upper Rouge River
LIV112579	Outfall	Tributary to Willow Creek
LIV112617	Outfall	Tributary to Willow Creek
LIV113001	Outfall	Bell Branch
LIV113002	Outfall	Bell Branch
LIV113102	Outfall	Tarabusi Creek
LIV113103	Outfall	Tarabusi Creek
LIV113104	Outfall	Tarabusi Creek
LIV113105	Outfall	Tarabusi Creek
LIV113107	Outfall	Tributary to Bell Branch
LIV113112	Outfall	Tributary to Bell Branch
LIV113113	Outfall	Tributary to Bell Branch
LIV113116	Outfall	Bell Branch
LIV113117	Outfall	Bell Branch
LIV113118	Outfall	Bell Branch
LIV113119	Outfall	Bell Branch
LIV113120	Outfall	Bell Branch
LIV113121	Outfall	Tributary to Bell Branch
LIV113122	Outfall	Tributary to Bell Branch
LIV113130	Outfall	Tributary to Willow Creek
LIV113131	Outfall	Bell Branch
LIV113132	Outfall	Tributary to Bell Branch
LIV113133	Outfall	Tributary to Bell Branch
LIV113134	Outfall	Tributary to Bell Branch
LIV113135	Outfall	Tributary to Bell Branch
LIV113136	Outfall	Tributary to Bell Branch
LIV113137	Outfall	Tributary to Bell Branch
LIV113138	Outfall	Tarabusi Creek
LIV113139	Outfall	Tarabusi Creek
LIV113140	Outfall	Tributary to Bell Branch
LIV113141	Outfall	Tributary to Bell Branch
LIV113142	Outfall	Upper Rouge River
LIV114-33	Outfall	Middle Rouge River

City of Livonia Outfall List

Outfall ID	Type	Receiving Water
LIV113145	Outfall	Tributary to Bell Branch
LIV113146	Outfall	Bell Branch
LIV113147	Outfall	Bell Branch
LIV113149	Outfall	Tributary to Bell Branch
LIV113151	Outfall	Tributary to Tarabusi Creek
LIV113152	Outfall	Tributary to Bell Branch
LIV113153	Outfall	Tributary to Bell Branch
LIV113154	Outfall	Tributary to Bell Branch
LIV113155	Outfall	Tributary to Bell Branch
LIV113156	Outfall	Tributary to Bell Branch
LIV113157	Outfall	Tributary to Bell Branch
LIV113158	Outfall	Tributary to Bell Branch
LIV113159	Outfall	Tributary to Bell Branch
LIV113160	Outfall	Tributary to Bell Branch
LIV113161	Outfall	Tributary to Bell Branch
LIV113162	Outfall	Tributary to Bell Branch
LIV113163	Outfall	Tributary to Bell Branch
LIV113164	Outfall	Tributary to Bell Branch
LIV113165	Outfall	Tributary to Bell Branch
LIV113167	Outfall	Bell Branch
LIV113169	Outfall	Bell Branch
LIV113174	Outfall	Tributary to Bell Branch
LIV113175	Outfall	Bell Branch
LIV113176	Outfall	Tributary to Bell Branch
LIV113183	Outfall	Livonia Drain
LIV113201	Outfall	Deer Drain
LIV113202	Outfall	Tarabusi Creek
LIV113203	Outfall	Tarabusi Creek
LIV113204	Outfall	Tarabusi Creek
LIV113205	Outfall	Tarabusi Creek
LIV11383	Outfall	Tarabusi Creek
LIV12249	Outfall	Tributary to Bell Branch
LIV123-8	Outfall	Tributary to Tarabusi Creek

Outfall ID	Type	Receiving Water
LIV11456	Outfall	Tarabusi Creek
LIV1149	Outfall	Tarabusi Creek
LIV115-10	Outfall	Middle Rouge River
LIV115-12	Outfall	Tributary to Bell Branch
LIV115-41	Outfall	Bell Branch
LIV116	Outfall	Upper Rouge River
LIV116-1	Outfall	Bell Branch
LIV116-16	Outfall	Bell Branch
LIV116-2	Outfall	Bell Branch
LIV116-5	Outfall	Bell Branch
LIV116-6	Outfall	Bell Branch
LIV11619	Outfall	Tributary to Tarabusi Creek
LIV11636	Outfall	Upper Rouge River
LIV11777	Outfall	Tributary to Tarabusi Creek
LIV11779	Outfall	Tributary to Tarabusi Creek
LIV11857	Outfall	Tributary to Bell Branch
LIV11872	Outfall	Tributary to Bell Branch
LIV119-15	Outfall	Tributary to Bell Branch
LIV1194	Outfall	Tributary to Bell Branch
LIV1200014	Outfall	Bell Branch
LIV1200023	Outfall	Middle Rouge River
LIV1200024	Outfall	Middle Rouge River
LIV12096	Outfall	Tributary to Tarabusi Creek
LIV12129	Outfall	Tarabusi Creek
LIV12190	Outfall	Tributary to Tarabusi Creek
LIV122-3	Outfall	Tributary to Bell Branch
LIV122-4	Outfall	Tributary to Bell Branch
LIV12205	Outfall	Bell Branch
LIV12222	Outfall	Bell Branch
LIV12243	Outfall	Tributary to Bell Branch
LIV12243a	Outfall	Tributary to Bell Branch
LIV12247	Outfall	Tributary to Bell Branch
LIV128-27	Outfall	Tributary to Bell Branch

City of Livonia Outfall List

Outfall ID	Type	Receiving Water
LIV1230	Outfall	Upper Rouge River
LIV124-3	Outfall	Tributary to Tarabusi Creek
LIV124-8	Outfall	Tributary to Tarabusi Creek
LIV12430	Outfall	Tributary to Bell Branch
LIV12476	Outfall	Tributary to Bell Branch
LIV12489	Outfall	Upper Rouge River
LIV12516	Outfall	Tarabusi Creek
LIV12556	Outfall	Tributary to Tarabusi Creek
LIV12575	Outfall	Tributary to Tarabusi Creek
LIV126-10	Outfall	Tributary to Bell Branch
LIV126-13	Outfall	Tributary to Bell Branch
LIV126-14	Outfall	Tributary to Bell Branch
LIV126-15	Outfall	Tributary to Bell Branch
LIV126-16	Outfall	Tributary to Bell Branch
LIV126-17	Outfall	Tributary to Bell Branch
LIV126-26	Outfall	Tributary to Bell Branch
LIV126-36	Outfall	Tributary to Bell Branch
LIV12612	Outfall	Tributary to Bell Branch
LIV12621	Outfall	Tributary to Bell Branch
LIV12633	Outfall	Tributary to Tarabusi Creek
LIV12668	Outfall	Tributary to Bell Branch
LIV1267	Outfall	Tributary to Bell Branch
LIV12680	Outfall	Tarabusi Creek
LIV12765	Outfall	Tributary to Bell Branch
LIV12793	Outfall	Tributary to Bell Branch
LIV128-11	Outfall	Tributary to Bell Branch
LIV128-15	Outfall	Tributary to Bell Branch
LIV128-17	Outfall	Tributary to Bell Branch
LIV128-18	Outfall	Tributary to Bell Branch
LIV128-19	Outfall	Tributary to Bell Branch
LIV128-21	Outfall	Tributary to Bell Branch
LIV134-1	Outfall	Tributary to Bell Branch
LIV134-3	Outfall	Tributary to Bell Branch

Outfall ID	Type	Receiving Water
LIV128-29	Outfall	Tributary to Bell Branch
LIV128-33	Outfall	Tributary to Bell Branch
LIV128-35	Outfall	Tributary to Bell Branch
LIV128-36	Outfall	Tributary to Bell Branch
LIV128-39	Outfall	Tributary to Bell Branch
LIV128-40	Outfall	Tributary to Bell Branch
LIV128-41	Outfall	Tributary to Bell Branch
LIV128-43	Outfall	Tarabusi Creek
LIV128-44	Outfall	Tarabusi Creek
LIV128-46	Outfall	Tarabusi Creek
LIV128-47	Outfall	Tarabusi Creek
LIV128-55	Outfall	Tarabusi Creek
LIV12809	Outfall	Tributary to Bell Branch
LIV12810	Outfall	Tarabusi Creek
LIV12812	Outfall	Tarabusi Creek
LIV12893	Outfall	Tributary to Bell Branch
LIV12905	Outfall	Tarabusi Creek
LIV12962	Outfall	Tarabusi Creek
LIV130-19	Outfall	Tributary to Tarabusi Creek
LIV130-24	Outfall	Tributary to Tarabusi Creek
LIV13163	Outfall	Tributary to Bell Branch
LIV13184	Outfall	Tributary to Bell Branch
LIV132-39	Outfall	Middle Rouge River
LIV13208	Outfall	Tributary to Bell Branch
LIV13215	Outfall	Tarabusi Creek
LIV13224	Outfall	Tarabusi Creek
LIV13230	Outfall	Tarabusi Creek
LIV13240	Outfall	Tributary to Bell Branch
LIV1325	Outfall	Tarabusi Creek
LIV133-17	Outfall	Tarabusi Creek
LIV133-26	Outfall	Tarabusi Creek
LIV133-63	Outfall	Tarabusi Creek
LIV138-8	Outfall	Tributary to Bell Branch

City of Livonia Outfall List

Outfall ID	Type	Receiving Water
LIV134-5	Outfall	Tributary to Bell Branch
LIV13447	Outfall	Tributary to Bell Branch
LIV135-35	Outfall	Tarabusi Creek
LIV13582	Outfall	Tributary to Tarabusi Creek
LIV13602	Outfall	Tributary to Tarabusi Creek
LIV137-12	Outfall	Tributary to Bell Branch
LIV137-14	Outfall	Tributary to Bell Branch
LIV137-18	Outfall	Tributary to Bell Branch
LIV137-20	Outfall	Tributary to Bell Branch
LIV137-21	Outfall	Tributary to Bell Branch
LIV137-22	Outfall	Tributary to Bell Branch
LIV137-23	Outfall	Tributary to Bell Branch
LIV137-24	Outfall	Tributary to Bell Branch
LIV137-25	Outfall	Tributary to Bell Branch
LIV137-28	Outfall	Tributary to Bell Branch
LIV137-31	Outfall	Tributary to Bell Branch
LIV137-34	Outfall	Tributary to Bell Branch
LIV137-36	Outfall	Tributary to Bell Branch
LIV137-42	Outfall	Tributary to Bell Branch
LIV137-45	Outfall	Tributary to Bell Branch
LIV137-46	Outfall	Tributary to Bell Branch
LIV137-47	Outfall	Tributary to Bell Branch
LIV137-6	Outfall	Tributary to Bell Branch
LIV13774	Outfall	Tributary to Bell Branch
LIV13775	Outfall	Tributary to Bell Branch
LIV138-11	Outfall	Tributary to Bell Branch
LIV138-12	Outfall	Bell Branch
LIV138-13	Outfall	Tributary to Bell Branch
LIV138-15	Outfall	Tributary to Bell Branch
LIV138-16	Outfall	Tributary to Bell Branch
LIV138-17	Outfall	Tributary to Bell Branch
LIV14456	Outfall	Bell Branch
LIV14470	Outfall	Bell Branch

Outfall ID	Type	Receiving Water
LIV13822	Outfall	Tributary to Bell Branch
LIV13861	Outfall	Tributary to Bell Branch
LIV13890	Outfall	Tributary to Bell Branch
LIV13899	Outfall	Bell Branch
LIV139-12	Outfall	Bell Branch
LIV139-13	Outfall	Bell Branch
LIV139-27	Outfall	Bell Branch
LIV139-29	Outfall	Bell Branch
LIV139-36	Outfall	Tributary to Bell Branch
LIV139-37	Outfall	Tributary to Bell Branch
LIV139-40	Outfall	Tributary to Bell Branch
LIV139-42	Outfall	Tributary to Bell Branch
LIV13927	Outfall	Bell Branch
LIV13942A	Outfall	Tributary to Bell Branch
LIV1395	Outfall	Tarabusi Creek
LIV13994	Outfall	Tributary to Bell Branch
LIV14	Outfall	Upper Rouge River
LIV14002	Outfall	Tributary to Bell Branch
LIV1411	Outfall	Upper Rouge River
LIV14136	Outfall	Tributary to Tarabusi Creek
LIV14141	Outfall	Tributary to Bell Branch
LIV14160	Outfall	Bell Branch
LIV14274	Outfall	Bell Branch
LIV14289	Outfall	Tributary to Bell Branch
LIV14294	Outfall	Tributary to Bell Branch
LIV14345	Outfall	Bell Branch
LIV14347	Outfall	Bell Branch
LIV14381	Outfall	Tributary to Bell Branch
LIV14389	Outfall	Tributary to Bell Branch
LIV14402	Outfall	Bell Branch
LIV14405	Outfall	Bell Branch
LIV14446	Outfall	Tributary to Bell Branch
LIV15103	Outfall	Bell Branch

City of Livonia Outfall List

Outfall ID	Type	Receiving Water
LIV14485	Outfall	Tributary to Bell Branch
LIV14504	Outfall	Tributary to Bell Branch
LIV14522	Outfall	Tributary to Bell Branch
LIV14525	Outfall	Bell Branch
LIV14551	Outfall	Tarabusi Creek
LIV14617	Outfall	Bell Branch
LIV14629	Outfall	Tributary to Bell Branch
LIV14633	Outfall	Bell Branch
LIV14679	Outfall	Bell Branch
LIV14680	Outfall	Bell Branch
LIV14701	Outfall	Tarabusi Creek
LIV14706	Outfall	Tributary to Bell Branch
LIV14708	Outfall	Bell Branch
LIV14723	Outfall	Bell Branch
LIV14790	Outfall	Bell Branch
LIV148	Outfall	Upper Rouge River
LIV14851	Outfall	Tributary to Bell Branch
LIV14900	Outfall	Bell Branch
LIV14912	Outfall	Tributary to Bell Branch
LIV14939	Outfall	Bell Branch
LIV14964	Outfall	Bell Branch
LIV14965	Outfall	Bell Branch
LIV14968	Outfall	Bell Branch
LIV14995	Outfall	Bell Branch
LIV15027	Outfall	Bell Branch
LIV15047	Outfall	Bell Branch
LIV15059	Outfall	Bell Branch
LIV15064	Outfall	Tributary to Bell Branch
LIV15065	Outfall	Tributary to Bell Branch
LIV15073	Outfall	Tributary to Bell Branch
LIV15083	Outfall	Tributary to Bell Branch
LIV16092	Outfall	Bell Branch
LIV16138	Outfall	Bell Branch

Outfall ID	Type	Receiving Water
LIV15124	Outfall	Tributary to Bell Branch
LIV15138	Outfall	Tributary to Bell Branch
LIV15152	Outfall	Bell Branch
LIV1519	Outfall	Tarabusi Creek
LIV15222	Outfall	Bell Branch
LIV15233	Outfall	Bell Branch
LIV1525	Outfall	Tributary to Bell Branch
LIV15302	Outfall	Tarabusi Creek
LIV15306	Outfall	Gates Drain
LIV1536	Outfall	Upper Rouge River
LIV15368	Outfall	Bell Branch
LIV15442	Outfall	Bell Branch
LIV15461	Outfall	Bell Branch
LIV15514	Outfall	Tributary to Bell Branch
LIV15566	Outfall	Bell Branch
LIV15579	Outfall	Bell Branch
LIV1559	Outfall	Tarabusi Creek
LIV15626	Outfall	Bell Branch
LIV15657	Outfall	Gates Drain
LIV15667	Outfall	Bell Branch
LIV15674	Outfall	Bell Branch
LIV15689	Outfall	Bell Branch
LIV15728	Outfall	Bell Branch
LIV15729	Outfall	Bell Branch
LIV15731	Outfall	Bell Branch
LIV15765	Outfall	Bell Branch
LIV15782	Outfall	Bell Branch
LIV15830	Outfall	Bell Branch
LIV15858	Outfall	Gates Drain
LIV16	Outfall	Upper Rouge River
LIV16038	Outfall	Bell Branch
LIV16039	Outfall	Bell Branch
LIV1G-25	Outfall	Tributary to Bell Branch

City of Livonia Outfall List

Outfall ID	Type	Receiving Water
LIV16140	Outfall	Bell Branch
LIV16187	Outfall	Bell Branch
LIV16336	Outfall	Bell Branch
LIV16375	Outfall	Bell Branch
LIV1721	Outfall	Tarabusi Creek
LIV1723	Outfall	Tarabusi Creek
LIV17664	Outfall	Barlow Drain
LIV1785	Outfall	Tarabusi Creek
LIV1874	Outfall	Tributary to Bell Branch
LIV1877	Outfall	Tributary to Bell Branch
LIV18778	Outfall	Tributary to Middle Rouge River
LIV1916	Outfall	Tarabusi Creek
LIV19924	Outfall	Middle Rouge River
LIV1994	Outfall	Upper Rouge River
LIV19954	Outfall	Middle Rouge River
LIV1B-10	Outfall	Tributary to Tarabusi Creek
LIV1B-11	Outfall	Tributary to Tarabusi Creek
LIV1B-12	Outfall	Tributary to Tarabusi Creek
LIV1B-5	Outfall	Tributary to Tarabusi Creek
LIV1B-6	Outfall	Tributary to Tarabusi Creek
LIV1B-7	Outfall	Tributary to Tarabusi Creek
LIV1F-17a	Outfall	Tributary to Bell Branch
LIV1F-24	Outfall	Tributary to Bell Branch
LIV1G-1	Outfall	Tributary to Bell Branch
LIV1G-16	Outfall	Tributary to Bell Branch
LIV1G-17A	Outfall	Tributary to Bell Branch
LIV1G-2	Outfall	Tributary to Bell Branch
LIV1G-20	Outfall	Tributary to Bell Branch
LIV1G-22	Outfall	Tributary to Bell Branch
LIV1G-23	Outfall	Tributary to Bell Branch
LIV1G-24	Outfall	Tributary to Bell Branch
LIV1M2008130	Outfall	Middle Rouge River
LIV1M2008132	Outfall	Middle Rouge River

Outfall ID	Type	Receiving Water
LIV1G-25A	Outfall	Tributary to Bell Branch
LIV1G-5	Outfall	Tributary to Bell Branch
LIV1G-7	Outfall	Tributary to Bell Branch
LIV1G-7B	Outfall	Tributary to Bell Branch
LIV1G-7C	Outfall	Tributary to Bell Branch
LIV1H-15	Outfall	Bell Branch
LIV1I-1	Outfall	Tributary to Bell Branch
LIV1I-2	Outfall	Tributary to Bell Branch
LIV1J-18	Outfall	Bell Branch
LIV1J-8	Outfall	Bell Branch
LIV1M2008103	Outfall	Middle Rouge River
LIV1M2008104	Outfall	Middle Rouge River
LIV1M2008105	Outfall	Middle Rouge River
LIV1M2008106	Outfall	Middle Rouge River
LIV1M2008110	Outfall	Middle Rouge River
LIV1M2008110	Outfall	Middle Rouge River
LIV1M2008112	Outfall	Middle Rouge River
LIV1M2008113	Outfall	Middle Rouge River
LIV1M2008114	Outfall	Middle Rouge River
LIV1M2008115	Outfall	Middle Rouge River
LIV1M2008117	Outfall	Middle Rouge River
LIV1M2008119	Outfall	Middle Rouge River
LIV1M2008120	Outfall	Middle Rouge River
LIV1M2008121	Outfall	Middle Rouge River
LIV1M2008122	Outfall	Middle Rouge River
LIV1M2008123	Outfall	Middle Rouge River
LIV1M2008124	Outfall	Middle Rouge River
LIV1M2008125	Outfall	Middle Rouge River
LIV1M2008126	Outfall	Middle Rouge River
LIV1M2008127	Outfall	Middle Rouge River
LIV1M2008128	Outfall	Middle Rouge River
LIV1M2008129	Outfall	Middle Rouge River
LIV1M2008185	Outfall	Tarabusi Creek

City of Livonia Outfall List

Outfall ID	Type	Receiving Water
LIV1M2008134	Outfall	Middle Rouge River
LIV1M2008135	Outfall	Middle Rouge River
LIV1M2008136	Outfall	Middle Rouge River
LIV1M2008137	Outfall	Middle Rouge River
LIV1M2008138	Outfall	Middle Rouge River
LIV1M2008139	Outfall	Middle Rouge River
LIV1M2008141	Outfall	Middle Rouge River
LIV1M2008142	Outfall	Middle Rouge River
LIV1M2008143	Outfall	Tarabusi Creek
LIV1M2008150	Outfall	Tarabusi Creek
LIV1M2008151	Outfall	Tarabusi Creek
LIV1M2008152	Outfall	Tarabusi Creek
LIV1M2008155	Outfall	Tarabusi Creek
LIV1M2008157	Outfall	Tarabusi Creek
LIV1M2008158	Outfall	Tarabusi Creek
LIV1M2008159	Outfall	Tarabusi Creek
LIV1M2008160	Outfall	Tarabusi Creek
LIV1M2008161	Outfall	Tarabusi Creek
LIV1M2008162	Outfall	Tarabusi Creek
LIV1M2008164	Outfall	Tarabusi Creek
LIV1M2008165	Outfall	Tarabusi Creek
LIV1M2008166	Outfall	Tarabusi Creek
LIV1M2008168	Outfall	Tarabusi Creek
LIV1M2008169	Outfall	Tarabusi Creek
LIV1M2008171	Outfall	Tarabusi Creek
LIV1M2008175	Outfall	Tarabusi Creek
LIV1M2008179	Outfall	Tarabusi Creek
LIV1M2008181	Outfall	Tarabusi Creek
LIV1M2008182	Outfall	Tarabusi Creek
LIV1M2008183	Outfall	Tarabusi Creek
LIV1M2008184	Outfall	Tarabusi Creek
LIV1U2008193	Outfall	Bell Branch
LIV1U2008201	Outfall	Bell Branch

Outfall ID	Type	Receiving Water
LIV1M2008186	Outfall	Tarabusi Creek
LIV1M2008187	Outfall	Tarabusi Creek
LIV1M2008188	Outfall	Tarabusi Creek
LIV1M2008190	Outfall	Upper Rouge River
LIV1M2008191	Outfall	Upper Rouge River
LIV1M2008192	Outfall	Upper Rouge River
LIV1M2008196	Outfall	Upper Rouge River
LIV1M2008200	Outfall	Upper Rouge River
LIV1M2008201	Outfall	Upper Rouge River
LIV1M2008202	Outfall	Upper Rouge River
LIV1M2008204	Outfall	Upper Rouge River
LIV1M2008205	Outfall	Upper Rouge River
LIV1M2008206	Outfall	Upper Rouge River
LIV1M2008207	Outfall	Upper Rouge River
LIV1Q-6	Outfall	Deer Drain
LIV1U2008168	Outfall	Tarabusi Creek
LIV1U2008169	Outfall	Tarabusi Creek
LIV1U2008170	Outfall	Tarabusi Creek
LIV1U2008171	Outfall	Tarabusi Creek
LIV1U2008172	Outfall	Tarabusi Creek
LIV1U2008173	Outfall	Tarabusi Creek
LIV1U2008174	Outfall	Tarabusi Creek
LIV1U2008175	Outfall	Bell Branch
LIV1U2008176	Outfall	Bell Branch
LIV1U2008177	Outfall	Bell Branch
LIV1U2008179	Outfall	Bell Branch
LIV1U2008180	Outfall	Bell Branch
LIV1U2008181	Outfall	Bell Branch
LIV1U2008186	Outfall	Bell Branch
LIV1U2008188	Outfall	Bell Branch
LIV1U2008189	Outfall	Bell Branch
LIV1U2008192	Outfall	Bell Branch
LIV1U2008264	Outfall	Tributary to Bell Branch

City of Livonia Outfall List

Outfall ID	Type	Receiving Water
LIV1U2008202	Outfall	Bell Branch
LIV1U2008205	Outfall	Bell Branch
LIV1U2008206	Outfall	Bell Branch
LIV1U2008207	Outfall	Bell Branch
LIV1U2008209	Outfall	Bell Branch
LIV1U2008210	Outfall	Bell Branch
LIV1U2008211	Outfall	Bell Branch
LIV1U2008212	Outfall	Bell Branch
LIV1U2008213	Outfall	Bell Branch
LIV1U2008214	Outfall	Bell Branch
LIV1U2008215	Outfall	Bell Branch
LIV1U2008216	Outfall	Bell Branch
LIV1U2008219	Outfall	Bell Branch
LIV1U2008220	Outfall	Bell Branch
LIV1U2008221	Outfall	Bell Branch
LIV1U2008231	Outfall	Bell Branch
LIV1U2008232	Outfall	Bell Branch
LIV1U2008238	Outfall	Bell Branch
LIV1U2008239	Outfall	Bell Branch
LIV1U2008241	Outfall	Bell Branch
LIV1U2008249	Outfall	Tributary to Bell Branch
LIV1U2008251	Outfall	Tributary to Bell Branch
LIV1U2008252	Outfall	Tributary to Bell Branch
LIV1U2008255	Outfall	Tributary to Bell Branch
LIV1U2008256	Outfall	Tributary to Bell Branch
LIV1U2008258	Outfall	Tributary to Bell Branch
LIV1U2008259	Outfall	Tributary to Bell Branch
LIV1U2008260	Outfall	Tributary to Bell Branch
LIV1U2008261	Outfall	Tributary to Bell Branch
LIV1U2008262	Outfall	Tributary to Bell Branch
LIV1U2008263	Outfall	Tributary to Bell Branch
LIV1U2008368	Outfall	Tributary to Bell Branch
LIV1U2008369	Outfall	Tributary to Bell Branch

Outfall ID	Type	Receiving Water
LIV1U2008265	Outfall	Tributary to Bell Branch
LIV1U2008266	Outfall	Tributary to Bell Branch
LIV1U2008267	Outfall	Tributary to Bell Branch
LIV1U2008323	Outfall	Bell Branch
LIV1U2008327	Outfall	Tributary to Bell Branch
LIV1U2008328	Outfall	Tributary to Bell Branch
LIV1U2008329	Outfall	Tributary to Bell Branch
LIV1U2008333	Outfall	Tributary to Bell Branch
LIV1U2008334	Outfall	Tributary to Bell Branch
LIV1U2008336	Outfall	Tributary to Bell Branch
LIV1U2008337	Outfall	Tributary to Bell Branch
LIV1U2008338	Outfall	Tributary to Bell Branch
LIV1U2008339	Outfall	Tributary to Bell Branch
LIV1U2008346	Outfall	Tributary to Bell Branch
LIV1U2008348	Outfall	Tributary to Bell Branch
LIV1U2008350	Outfall	Tributary to Bell Branch
LIV1U2008351	Outfall	Tributary to Bell Branch
LIV1U2008352	Outfall	Tributary to Bell Branch
LIV1U2008353	Outfall	Tributary to Bell Branch
LIV1U2008354	Outfall	Tributary to Bell Branch
LIV1U2008355	Outfall	Tributary to Bell Branch
LIV1U2008356	Outfall	Tributary to Bell Branch
LIV1U2008357	Outfall	Tributary to Bell Branch
LIV1U2008358	Outfall	Tributary to Bell Branch
LIV1U2008359	Outfall	Tributary to Bell Branch
LIV1U2008360	Outfall	Tributary to Bell Branch
LIV1U2008361	Outfall	Tributary to Bell Branch
LIV1U2008362	Outfall	Tributary to Bell Branch
LIV1U2008363	Outfall	Tributary to Bell Branch
LIV1U2008364	Outfall	Tributary to Bell Branch
LIV1U2008365	Outfall	Tributary to Bell Branch
LIV1U2008366	Outfall	Tributary to Bell Branch
LIV1X-27	Outfall	Tributary to Bell Branch

City of Livonia Outfall List

Outfall ID	Type	Receiving Water
LIV1U2008370	Outfall	Tributary to Bell Branch
LIV1U2008371	Outfall	Tributary to Bell Branch
LIV1U2008372	Outfall	Tributary to Bell Branch
LIV1U2008373	Outfall	Tributary to Bell Branch
LIV1U2008374	Outfall	Tributary to Bell Branch
LIV1U2008375	Outfall	Tributary to Bell Branch
LIV1U2008376	Outfall	Tributary to Bell Branch
LIV1U2008425	Outfall	Tributary to Tarabusi Creek
LIV1U2008428	Outfall	Tributary to Tarabusi Creek
LIV1U2008429	Outfall	Tributary to Tarabusi Creek
LIV1U2008430	Outfall	Tributary to Tarabusi Creek
LIV1U2008431	Outfall	Tributary to Tarabusi Creek
LIV1U2008432	Outfall	Tributary to Tarabusi Creek
LIV1U2008433	Outfall	Tributary to Tarabusi Creek
LIV1U2008434	Outfall	Tributary to Tarabusi Creek
LIV1U2008437	Outfall	Tributary to Tarabusi Creek
LIV1U2008440	Outfall	Tributary to Tarabusi Creek
LIV1U2008443	Outfall	Barlow Drain
LIV1U2008446	Outfall	Gates Drain
LIV1U2008448	Outfall	Patter Drain
LIV1U2008449	Outfall	Patter Drain
LIV1X-1	Outfall	Bell Branch
LIV1X-100	Outfall	Tributary to Bell Branch
LIV1X-11	Outfall	Tributary to Bell Branch
LIV1X-12	Outfall	Tributary to Bell Branch
LIV1X-13	Outfall	Tributary to Bell Branch
LIV1X-16	Outfall	Tributary to Bell Branch
LIV1X-17	Outfall	Tributary to Bell Branch
LIV1X-23	Outfall	Tributary to Bell Branch
LIV1X-24	Outfall	Tributary to Bell Branch
LIV1X-25	Outfall	Tributary to Bell Branch
LIV110831	Discharge point	Wilson Drain
LIV111221	Discharge point	Middle Rouge River

Outfall ID	Type	Receiving Water
LIV1X-28	Outfall	Tributary to Bell Branch
LIV1X-29	Outfall	Tributary to Bell Branch
LIV1X-30	Outfall	Tributary to Bell Branch
LIV1X-31	Outfall	Tributary to Bell Branch
LIV1X-32	Outfall	Tributary to Bell Branch
LIV1X-33	Outfall	Tributary to Bell Branch
LIV1X-34	Outfall	Tributary to Bell Branch
LIV1X-35	Outfall	Tributary to Bell Branch
LIV1X-36	Outfall	Tributary to Bell Branch
LIV1X-37	Outfall	Tributary to Bell Branch
LIV1X-38	Outfall	Tributary to Bell Branch
LIV1X-39	Outfall	Tributary to Bell Branch
LIV1X-40	Outfall	Tributary to Bell Branch
LIV1X-41	Outfall	Tributary to Bell Branch
LIV1X-42	Outfall	Tributary to Bell Branch
LIV1X-5	Outfall	Tributary to Bell Branch
LIV1X-50	Outfall	Tributary to Bell Branch
LIV1X-51	Outfall	Tributary to Bell Branch
LIV1X-61	Outfall	Tributary to Bell Branch
LIV1X-62	Outfall	Bell Branch
LIV1X-63	Outfall	Tarabusi Creek
LIV1Y-1	Outfall	Bell Branch
LIV1Y-2	Outfall	Bell Branch
LIV1Y-3	Outfall	Wolfrom Drain
LIV1Y-4	Outfall	Wolfrom Drain
LIV1Y-8	Outfall	Tributary to Tarabusi Creek
LIV27-28	Outfall	Upper Rouge River
LIV28-61	Outfall	Tarabusi Creek
LIV1INV#3	Other	Tributary to Bell Branch
LIV12984	Discharge point	Upper Rouge River
LIV113101	Discharge point	Livonia Drain
8926	Discharge point	Barlow Drain
LIV13080	Discharge point	Tributary to Bell Branch

City of Livonia Outfall List

Outfall ID	Type	Receiving Water
LIV112424	Discharge point	Deer Drain
LIV112545	Discharge point	Middle Rouge River
LIV112564	Discharge point	Willow Creek
LIV112595	Discharge point	Tributary to Willow Creek
LIV112645	Discharge point	Tributary to Willow Creek
LIV112654	Discharge point	Deer Drain
LIV113100	Discharge point	Tributary to Tarabusi Creek
LIV113106	Discharge point	Wilson Drain
LIV113108	Discharge point	Shaw Drain
LIV113114	Discharge point	Shaw Drain
LIV113115	Discharge point	Tributary to Tarabusi Creek
LIV113123	Discharge point	Middle Rouge River
LIV113124	Discharge point	Bell Branch
LIV113125	Discharge point	Tributary to Bell Branch
LIV113127	Discharge point	Tarabusi Creek
LIV113128	Discharge point	Tarabusi Creek
LIV113129	Discharge point	Middle Rouge River
LIV113148	Discharge point	Tributary to Bell Branch
LIV113166	Discharge point	Tributary to Middle Rouge River
LIV113168	Discharge point	Tributary to Willow Creek
LIV113170	Discharge point	Middle Rouge River
LIV113171	Discharge point	Tributary to Tarabusi Creek
LIV113172	Discharge point	Tributary to Bell Branch
LIV113178	Discharge point	Shaw Drain
LIV113181	Discharge point	Ashcroft Drain
LIV113182	Discharge point	Ashcroft Drain
LIV113185	Discharge point	Ashcroft Drain
LIV113200	Discharge point	Tributary to Middle Rouge River
LIV12200	Discharge point	Tributary to Tarabusi Creek
LIV1232	Discharge point	Tributary to Tarabusi Creek
LIV12648	Discharge point	Upper Rouge River
LIV1U2008349	Discharge point	Tributary to Bell Branch

Outfall ID	Type	Receiving Water
LIV13126	Discharge point	Tributary to Tarabusi Creek
LIV13894	Discharge point	Tarabusi Creek
LIV14058	Discharge point	Tributary to Bell Branch
LIV14220	Discharge point	Bell Branch
LIV14447	Discharge point	Bell Branch
LIV15308	Discharge point	Tributary to Bell Branch
LIV15334	Discharge point	Bell Branch
LIV15695	Discharge point	Barlow Drain
LIV16051	Discharge point	Gates Drain
LIV16056	Discharge point	Gates Drain
LIV1686	Discharge point	Tributary to Tarabusi Creek
LIV17264	Discharge point	Barlow Drain
LIV18154	Discharge point	Tributary to Patter Drain
LIV18377	Discharge point	Tributary to Patter Drain
LIV18500	Discharge point	Tributary to Middle Rouge River
LIV18539	Discharge point	Tributary to Patter Drain
LIV18556	Discharge point	Shaw Drain
LIV18707	Discharge point	Shaw Drain
LIV18722	Discharge point	Shaw Drain
LIV18830	Discharge point	Tributary to Patter Drain
LIV18899	Discharge point	Tributary to Patter Drain
LIV19389	Discharge point	Shaw Drain
LIV1G-24A	Discharge point	Tributary to Bell Branch
LIV1G-24B	Discharge point	Tributary to Bell Branch
LIV1G-26	Discharge point	Tributary to Bell Branch
LIV1G-27	Discharge point	Tributary to Bell Branch
LIV1G-30	Discharge point	Tributary to Bell Branch
LIV1G-7A	Discharge point	Tributary to Bell Branch
LIV1M-17A	Discharge point	Patter Drain
LIV1M-19	Discharge point	Gunn Branch
LIV1Q-5	Discharge point	Deer Drain
LIV1Q-7	Discharge point	Deer Drain

APPENDIX B
Enforcement Response Procedure

1.12.010 - Code violations constitute misdemeanors or civil infractions—Offenses by minors—Penalty—Additional remedy.

- A. It is unlawful and constitutes a misdemeanor for any person to violate or fail to comply with any of the provisions of this Code, unless such violation or failure is by state statute declared to be a felony; provided further, however, that any violation of this Code declared by Act No. 510 of the Public Acts of 1978, as amended, to be a civil infraction, is declared to be a civil infraction in this Code. Except as set forth in 10.03.050 of this Code, every person convicted of a misdemeanor for a violation of or failure to comply with any provision of this Code or any regulation lawfully promulgated pursuant thereto shall, unless otherwise prescribed in this Code, be punished by a) a fine of not more than five hundred dollars (\$500.00), b) imprisonment for a period of time not to exceed ninety (90) days, or, where allowed by law, ninety-three (93) days, c) any other costs permitted by law, or d) any combination of the foregoing, in the discretion of the court.
- B. Any minor under the age of seventeen (17) years who violates any provision of this Code or any ordinance of the City shall be dealt with by the juvenile division of the probate court, except as otherwise prescribed by the laws of the state including, but not limited to, the civil infraction provisions of the Michigan Motor Vehicle Code.
- C. In addition to all other remedies, the City may commence and prosecute appropriate actions or proceedings in court to restrain or prevent any noncompliance with or violation of any of the provisions of this Code, or to correct, remedy or abate such noncompliance or violation. (Ord. 2885, § 1, 2012: Ord. No. 2611, § 1, 2003: Ord. 1709 § 1, 1983: prior code § 1-110)

1.12.020 - Continuing violations.

In addition to the penalties hereinabove provided, any condition caused or permitted to exist in violation of any of the provisions of this code or any ordinance shall be deemed a new and separate offense for each day that such condition continues to exist. (Prior code § 1-111)

15.36.020 - Enabling authority—Designation of municipal enforcing agency.

- A. It is the intent of the City to become the municipal enforcing agency in regard to implementing the provisions of Part 91, Soil Erosion and Sedimentation Control ("Part 91"), of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (the "Act"), MCL 324.9101 et seq.), adopting by reference the latest rules promulgated by the Michigan Department of Environmental Quality relative to Part 91 within the municipal corporate limits of the City. Wherever the provisions of this Chapter conflict with those of Part 91, the more restrictive standard shall govern.
- B. The Engineering Division of the Department of Public Works is designated as the Municipal Enforcing Agency responsible for administering and enforcing Part 91 and rules promulgated thereunder, as well as this ordinance, within the City. (Ord. 2679, § 1, 2004)

15.36.090 - Failure to complete work—Work performed by City when—Costs.

In the event of failure to complete the work or failure to comply with all the requirements, conditions and terms of permit, the City Engineer may order such work as is necessary to eliminate any danger to persons or property and to leave the site in a safe condition, and he may authorize completion of all necessary temporary or permanent soil erosion and sedimentation control measures. The permittee and the person issuing the instrument of credit or making the cash deposit shall continue to be firmly bound under a continuing obligation for the payment of all necessary costs and expenses that may be insured or expended by the City in causing any and all such work to be done. In the case of a cash deposit, any unused portion thereof shall be refunded to the permittee. (Ord. 2679, § 1, 2004)

15.36.180 - Enforcement.

- A. If the Engineering Division determines that soil erosion or sedimentation of adjacent properties or the waters of the State has or will reasonably occur from land in violation of this chapter, Part 91, or the rules promulgated under Part 91, the Engineering Division may seek to enforce such a violation by notifying the person who owns the land, by mail, with return receipt requested, of its determination. The notice shall contain a description of the violation and what must be done to remedy the violation and shall specify a time to comply with this chapter, Part 91, and the rules promulgated under Part 91.
- B. Within five (5) days after the issuance of such notice of violation, the person who owns the land subject to the notice shall implement and maintain soil erosion and sedimentation control measures in conformance with this chapter, Part 91, and the rules promulgated under Part 91.
- C. Not sooner than five (5) days after such notice has been mailed, if the condition of the land, in the opinion of the Engineering Division, may result in or contribute to soil erosion or sedimentation of adjacent properties or to the waters of the State, and if soil erosion and sedimentation control measures in conformance with this chapter, Part 91, and the rules promulgated under Part 91 are not in place, the Engineering Division or its designee may enter upon the land and construct, implement, and maintain soil erosion and sedimentation control measures in conformance with this chapter, Part 91, and the rules promulgated under Part 91. However, the enforcing agency shall not expend more than ten thousand dollars (\$10,000.00) for the cost of the work, materials, labor, and administration without prior written notice in the notice provided in subsection (A) above for the owner of the land that the expenditure of more than ten thousand dollars (\$10,000.00) may be made. If more than ten thousand dollars (\$10,000.00) is to be expended under this Section, then the work shall not begin until at least ten (10) days after the notice of violation has been mailed.
- D. Notwithstanding the existence or pursuit of any other remedy, the City may maintain an action in its own name in any court of competent jurisdiction for an injunction or other process against any person to restrain or prevent violations of this chapter.
- E. The City Engineer or his/her duly authorized agents, may enter at all reasonable times in or upon any private or public property for the purpose of inspecting and investigating conditions and practices which may be a violation of this chapter, Part 91, or the rules promulgated pursuant to Part 91. (Ord. 2679, § 1, 2004)

APPENDIX C

Collaborative Public Participation/Involvement Program (PPP)

Click [here](#) for link to Collaborative PPP Plan

APPENDIX D

Collaborative Public Education Program (PEP)

Click [here](#) for link to Collaborative PEP Plan

APPENDIX E

Collaborative Illicit Discharge Elimination Plan (IDEP)

Click [here](#) for link to Collaborative IDEP

APPENDIX E2
Collaborative Illicit Discharge Elimination Plan (IDEP)
Ordinance

AN ORDINANCE ADDING CHAPTER 22 (ILLICIT DISCHARGE ELIMINATION) TO TITLE 13 OF THE LIVONIA CODE OF ORDINANCES, AS AMENDED.

THE CITY OF LIVONIA ORDAINS:

Section 1. Chapter 22 is hereby added to Title 13 of the Livonia Code of Ordinances, as amended, which chapter shall read as follows:

**Chapter 13.22
ILLICIT DISCHARGE ELIMINATION**

Sections:

- 13.22.010 Short title.
- 13.22.020 Statement of purpose.
- 13.22.030 Definitions.
- 13.22.040 Applicability.
- 13.22.050 Enforcement, responsibility for administration.
- 13.22.060 Minimum standards.
- 13.22.070 Discharge prohibitions.
- 13.22.080 Right of entry.
- 13.22.090 Suspension of storm sewer system access.
- 13.22.100 Industrial or construction activity discharges.
- 13.22.120 Requirements to prevent, control, and reduce storm water pollutants by the use of best management practices.
- 13.22.130 Watercourse protection.
- 13.22.140 Notification of spills.
- 13.22.150 Enforcement.
- 13.22.160 Appeal of notice of violation.
- 13.22.170 Enforcement measures after appeal.
- 13.22.180 Cost of the abatement of the violation.
- 13.22.190 Injunctive relief.
- 13.22.210 Violations deemed a public nuisance.
- 13.22.220 Criminal prosecution.
- 13.22.230 Remedies not exclusive.
- 13.22.240 Severability.
- 13.22.250 Repeal of ordinances in conflict herewith.
- 13.22.260 Ratification.
- 13.22.270 Publication.

13.22.010 Short title. This Ordinance codified in this Chapter shall be known and cited as the "Illicit Discharge Elimination Ordinance."

13.22.020 Statement of purpose The purpose of this Ordinance is to provide for the health, safety, and general welfare of the citizens of the City through the regulation of non-stormwater discharges to the storm drainage system to the maximum extent practicable as required by federal and state law. This Ordinance establishes methods for controlling the introduction of pollutants into the municipal storm sewer system in order to comply with requirements of the National Pollutant Discharge Elimination System (NPDES) permit process. The objectives of this Ordinance are:

- (1) To regulate the contribution of pollutants to the municipal storm sewer system by stormwater discharges by any user.
- (2) To prohibit illicit connections and discharges to the municipal storm sewer system.
- (3) To establish legal authority to carry out all inspection, surveillance and monitoring procedures necessary to ensure compliance with this article.

13.22.030 Definitions. The following words, terms and phrases, when used in this Ordinance, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

- A. Authorized enforcement agency** means the Director of Public Works and his/her authorized representatives, which shall specifically include the inspectors and ordinance enforcement personnel in the Departments of Inspection and Engineering, and any other individual designated by the Mayor of the City of Livonia to enforce this Ordinance. Where applicable the terms may also mean the director of the Michigan Department of Environment, Great Lakes, and Energy or his/her designated official.
- B. Best Management Practices (BMPs)** means schedules of activities, prohibitions of practices, general good housekeeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants directly or indirectly to stormwater, receiving waters, or stormwater conveyance systems. BMPs also include treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, and drainage from raw materials storage.
- C. City** means the City of Livonia.
- D. Clean Water Act** means the Federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.), and any subsequent amendments thereto.

- E. County** means the County of Wayne.
- F. Construction activity** means activities subject to NPDES construction permits. These include construction projects resulting in land disturbance of five acres or more requiring an issued permit and small construction activities impacting one to five acres of land deemed to operate under a national permit. Such activities include, but are not limited to, clearing and grubbing, grading, excavating, and demolition.
- G. EGLE** means the Michigan Department of Environment, Great Lakes, and Energy.
- H. Hazardous materials** means any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.
- I. Illicit discharge** means any direct or indirect non-stormwater discharge to the storm drain system, except as exempted in Code of Ordinances Section 13.22.070(A) of this Ordinance.
- J. Illicit connections** mean either of the following:
- (1) Any drain or conveyance, whether on the surface or subsurface, which allows an illegal discharge to enter the storm drain system including, but not limited to, any conveyances which allow any non-stormwater discharge including sewage, processed wastewater, and wash water to enter the storm drain system and any connections to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by an authorized enforcement agency, or
 - (2) Any drain or conveyance connected from a commercial or industrial land use to the storm drain system which has not been documented in plans, maps, or equivalent records and approved by an authorized enforcement agency.
- K. Industrial activity** means activities subject to NPDES industrial permits as defined in 40 CFR, Section 122.26(b)(14).
- L. MS4** means a municipal separate storm sewer system.

- M. NPDES Permit** means a permit issued as part of the National Pollutant Discharge Elimination System by United States Environmental Protection Agency (EPA), or by the State of Michigan under authority delegated pursuant to 33 USC § 1342(b) and codified in the Michigan Natural Resources and Environmental Protection Act at MCL 324.101, et seq., that authorizes the discharge of pollutants to waters of the United States or State of Michigan, whether the permit is applicable on an individual, group, or general area-wide basis.
- N. Non-stormwater discharge** means any discharge to the storm drain system that is not composed entirely of stormwater.
- O. Person** means any individual, association, organization, partnership, firm, corporation or other entity recognized by law and acting as either the owner or as the owner's agent.
- P. Pollutant** means anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; oil and other automotive fluids; nonhazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects, articles, and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; and noxious or offensive matter of any kind.
- Q. Premises** means any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips.
- R. Storm sewer system or storm drainage system** means a publicly owned facility by which stormwater is collected and/or conveyed, including, but not limited to, any roads with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures.
- S. Stormwater** means any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation and resulting from such precipitation.
- T. Stormwater pollution prevention plan** means a document which describes the best management practices and activities to be

implemented by a person or business to identify sources of pollution or contamination at a site and the actions to eliminate or reduce pollutant discharges to stormwater, stormwater conveyance systems, and/or receiving waters to the maximum extent practicable.

- U. Wastewater** means any water or other liquid, other than uncontaminated stormwater, discharged from a facility.

13.22.040 Applicability. This Ordinance shall apply to all water entering the storm drain generated on any developed or undeveloped lands unless expressly exempted by an authorized enforcement agency.

13.22.050 Enforcement, responsibility for administration. This Ordinance shall be enforceable by the authorized enforcement agency

13.22.060 Minimum standards. The standards set forth herein and promulgated pursuant to this Ordinance are minimum standards; therefore, this Ordinance does not intend or imply that compliance by any person will ensure that there will be no contamination, pollution, nor unauthorized discharge of pollutants.

13.22.070 Discharge prohibitions.

- A. Prohibition of illicit discharges.** No person shall discharge or cause to be discharged into the storm drain system or watercourses, any materials, including, but not limited to, pollutants or waters containing any pollutants that cause or contribute to a violation of applicable water quality standards, other than stormwater. The commencement, conduct or continuance of any illicit discharge to the storm drain system is prohibited; however, the following discharges are exempt from prohibition as described:

- (1) The discharges and flows from firefighting activities if they are identified as not being a significant source of pollutants to the waters of the state.
- (2) Discharges specified in writing by the city engineer as being necessary to protect public health and safety.
- (3) Dye testing, when there has been verbal notification to the city engineer and EGLE procedures have been followed.
- (4) Discharges permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the Federal Environmental Protection Agency, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided

that written approval has been granted for any discharge to the storm drain system.

(5) The following discharges or flows if they are identified as not being a significant contributor to violations of water quality standards: water line flushing and discharges from potable water sources; landscape irrigation runoff, lawn watering runoff, and irrigation waters; diverted stream flows and flows from riparian habitats and wetlands; rising groundwaters and springs; uncontaminated pumped groundwater, except for groundwater cleanups specifically authorized by NPDES permits; foundation drains, water from crawl space pumps, footing drains and basement sump pumps; air conditioning condensation; waters from noncommercial car washing; street wash water; dechlorinated swimming pool water from single-, two- or three-family residences. Other swimming pools shall not be discharged to stormwater or to surface waters of the state without NPDES permit authorization from EGLE.

B. Prohibition of illicit connections.

(1) The construction, use, maintenance or continued existence of illicit connections to the storm drain system is prohibited.

(2) This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.

(3) A person is considered to be in violation of this Ordinance if the person connects a line conveying sewage to a storm drain system or MS4, or allows such a connection to continue.

C. Prohibition of Direct Dumping or Disposal of Materials into the MS4.

The direct dumping of materials or discharges into the MS4 is prohibited except for those illicit discharges identified as not being a significant contributor to violations of water quality standards.

13.22.080 Right of entry. The authorized enforcement agency shall be permitted to enter upon all properties for the purposes of inspection, observation, measurement, sampling and testing of suspected non-stormwater discharges in accordance with the provisions of this Ordinance. Refusal of reasonable access to the authorized enforcement agency to any part of the premises is a violation of this Ordinance.

13.22.090 Suspension of storm sewer system access.

A. Suspension due to illicit discharges in emergency situations. The authorized enforcement agency may, without prior notice, suspend storm

sewer system discharge access to a person when such suspension is necessary to stop an actual or threatened discharge which presents or may present imminent and substantial danger to the environment, or to the health or welfare of persons, or to the storm sewer system or the Waters of the United States or this state. If the violator fails to comply with a suspension order issued in an emergency, the authorized enforcement agency may take such steps as deemed necessary to prevent or minimize damage to the storm sewer system or waters of the United States or this state, or to minimize danger to persons.

- B. Suspension due to the detection of illicit discharge.** Any person discharging to the storm sewer system in violation of this article may have their storm sewer system access terminated if such termination would abate or reduce an illicit discharge. The Public Services Director or their designee will notify a violator of the proposed termination of its storm sewer system access. The violator may petition the city for reconsideration and hearing.
- C. Violation.** A person violates this Ordinance if the person reinstates storm sewer system access to premises terminated pursuant to this section, without the prior approval of the authorized enforcement agency.

13.22.100 Industrial or construction activity discharges. Any person subject to an industrial or construction activity NPDES storm water discharge permit shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the city engineer prior to the allowing of discharges to the MS4.

13.22.120 Requirements to prevent, control, and reduce storm water pollutants by the use of best management practices. The Director of Public Works or his designee will require Best Management Practices for any activity, operation, or facility which may cause or contribute to pollution or contamination of storm water, the storm drain system, or waters of the U.S. The owner or operator of a commercial or industrial establishment shall provide, at their own expense, reasonable protection from accidental discharge of prohibited materials or other wastes into the municipal storm drain system or watercourses through the use of these structural and non-structural BMPs. Further, any person responsible for a property or premise, which is, or may be, the source of an illicit discharge, may be required to implement, at said person's expense, additional structural and non-structural BMPs to prevent the further discharge of pollutants to the municipal separate storm sewer system.

13.22.130 Watercourse protection. Every person owning property through which a watercourse passes, or such person's lessee, shall keep and maintain that part of the watercourse within the property free of trash, debris, excessive vegetation, and

other obstacles that would pollute, contaminate, or significantly retard the flow of water through the watercourse. In addition, the owner or lessee shall maintain existing privately-owned structures within or adjacent to a watercourse, so that such structures will not become a hazard to the use, function, or physical integrity of the watercourse.

13.22.140 Notification of spills. Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation, or responsible for emergency response for a facility or operation has information of any known or suspected release of materials which are resulting or may result in illegal discharges or pollutants discharging into storm water, the storm drain system, or water of the U.S. said person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release. In the event of such a release of hazardous materials said person shall immediately notify emergency response agencies of the occurrence via emergency dispatch services. In the event of a release of non-hazardous materials, said person shall notify the authorized enforcement agency in person or by phone or facsimile no later than the next business day. Notifications in person or by phone shall be confirmed by written notice addressed and mailed to the Director of Public Works within three business days of the phone notice. If the discharge of prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three years.

13.22.150 Enforcement.

- A. Notice of Violation.** Whenever the authorized enforcement agency finds that a person has violated a prohibition or failed to meet a requirement of this Ordinance, the City of Livonia may order compliance by written notice of violation to the responsible person. Such notice may require without limitation:
- (1) The performance of monitoring, analyses, and reporting;
 - (2) The elimination of illicit connections or discharges;
 - (3) That illicit discharges, practices, or operations shall cease and desist;
 - (4) The abatement or remediation of storm water pollution or contamination of hazards and the restoration of any affected property; and
 - (5) Payment of a fine to cover administrative and remediation costs; and
 - (6) The implementation of source control or treatment BMPs.
- B. Abatement of a Violation.** If abatement of a violation and/or restoration of affected property is required, the notice shall set forth a deadline within which such remediation or restoration must be completed. Said notice shall further advise that, should the violator fail to remediate or restore within the established deadline, the work will be done by the City of Livonia or its designee at the violator's expense.

13.22.160 Appeal of notice of violation. Any person receiving a Notice of Violation or a notice regarding the cost of abatement may appeal the determination of the City of Livonia. The notice of appeal must be received within 30 days from the date of the Notice of Violation. Hearing on the appeal before the Mayor or his/her designee shall take place within 15 days from the date of receipt of the notice of appeal. The decision of the City of Livonia or its designee shall be final.

13.22.170 Enforcement measures after appeal. If the violation has not been corrected pursuant to the requirements set forth in the Notice of Violation, or, in the event of an appeal, within 30 days of the decision of the City of Livonia upholding its decision, then representatives of the City or its designees shall enter upon the subject private property and are authorized to take any and all measures necessary to abate the violation and/or restore the property.

13.22.180 Cost of the abatement of the violation. Within 30 days after abatement of the violation, the owner of the property will be notified of the cost of abatement, including administrative costs. The property owner may file a written protest objecting to the amount of the assessment within 10 days. Any person violating any of the provisions of this article shall become liable to the city by reason of such violation. The liability shall be paid in not more than 12 equal payments. Interest at the rate of five percent (5%) per annum shall be assessed on the balance beginning on the first day following discovery of the violation.

13.22.190 Injunctive relief. It shall be unlawful for any person to violate any provision or fail to comply with any of the requirements of this Ordinance. If a person has violated or continues to violate the provisions of this Ordinance, the City of Livonia may petition for a preliminary or permanent injunction restraining the person from activities which would create further violations or compelling the person to perform abatement or remediation of the violation.

13.22.210 Violations deemed a public nuisance. In addition to the enforcement processes and penalties provided, any condition caused or permitted to exist in violation of any of the provisions of this Ordinance is a threat to public health, safety, and welfare, and is declared and deemed a nuisance, and may be summarily abated or restored at the violator's expense. The City of Livonia may also simultaneously or alternatively initiate a civil action to abate, enjoin, or otherwise compel the cessation of such nuisance.

13.22.220 Criminal prosecution.

- (1) Any person who has violates this Ordinance shall be guilty of a misdemeanor and subject to the penalties set forth in Section 1.12 of Chapter 1 of the City of Livonia Code of Ordinances.

(2) The City of Livonia may recover all attorney's fees, court costs, and other expenses associated with enforcement of this Ordinance, including sampling and monitoring expenses.

13.22.230 Remedies not exclusive. The remedies listed in this Ordinance are not exclusive of any other remedies available under any applicable federal, state, or local law and it is within the discretion of the authorized enforcement agency to seek cumulative remedies.

13.22.240 Severability. The provisions of this Ordinance are hereby declared to be severable. If any provision, clause, sentence, or paragraph of this Ordinance or its application to any person, establishment, or circumstances shall be held invalid, such invalidity shall not affect the other provisions or application of this Ordinance.

13.22.250 Repeal of ordinances in conflict herewith. Any and all ordinances of the City of Livonia, or any parts or provisions thereof, to the extent that they are contrary to or inconsistent with the provisions of this Ordinance, are hereby expressly repealed.

13.22.260 Ratification. All other provisions of the Code of Ordinances of the City of Livonia, Michigan except as herein modified or amended are hereby expressly ratified and affirmed.

13.22.270 Publication. This Ordinance shall be published in accordance with the terms, provisions, and requirements of the City Charter of Livonia, Michigan, and in accordance with and to the extent required by the statutes of the State of Michigan.

Section 2. All ordinances or parts of ordinances in conflict herewith are hereby repealed only to the extent necessary to give this ordinance full force and effect.

Section 3. Should any portion of this ordinance be held invalid for any reason, such holding shall not be construed as affecting the validity of any of the remaining portions of this ordinance.

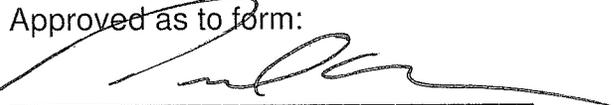
The above ordinance was passed at the regular meeting of the Council of the City of Livonia held Monday, December 2, 2019, at 7:00 p.m.

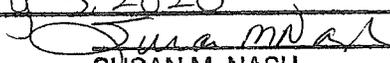

Susan M. Nash, City Clerk

The foregoing ordinance was authenticated by me on this 3rd day of December, 2019.


Dennis K. Wright, Mayor

Approved as to form:


Paul A. Bernier, City Attorney
Dated: December 3, 2019

UNDERSIGNED CERTIFIES FOREGOING
ORDINANCE WAS INTRODUCED 11-18-19
PASSED BY LIVONIA CITY COUNCIL ON
12-2-19 BY VOTE 6-0
AND PUBLISHED IN Livonia Observer
ON January 5, 2020

SUSAN M. NASH
CITY CLERK

APPENDIX F
Construction Stormwater Runoff Control

STANDARD OPERATING PROCEDURE CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

PREPARED FOR:

THE CITY OF LIVONIA
12973 FARMINGTON ROAD, LIVONIA, MICHIGAN 48150



APRIL 2016

SECTION A – PURPOSE

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a description of current and proposed BMPs to meet the minimum Soil Erosion and Sedimentation Control measure requirements for the construction stormwater runoff control program to the maximum extent practicable. The City of Livonia does administer a Part 91 program and is a designated Municipal Enforcement Agency. The following standard operating procedure provides a description of the procedures the City requires for construction site runoff control that includes notification procedures and ensuring proper permits are obtained by those disturbing greater than one acre of soil or are within 500 feet of a lake shore, stream bank, or wetland.

SECTION B – APPLICATION PROCEDURE

Prior to any earth disturbance, the City will ensure that construction activities of one acre or greater in total earth disturbance with the potential to discharge to the MS4 does obtain a Part 91 Permit and/or a State of Michigan Permit by Rule or is reviewed by an approved Authorized Public Agency through the site plan review process. These requirements are documented in both the City's Building Code and Grading and Soil Erosion Control Ordinances.

B.1 Chapter 15.36.040 – Plan Requirements

- a. *“A soil erosion and sedimentation control permit is required when an earth change is proposed which is within five hundred (500) feet of a lake or stream or will disturb one (1) or more acres of land.”*

- b. *“Prior to issuance of the permit, an erosion and sedimentation control application and plan shall be submitted to the City Engineer in accordance with the rules promulgated under Part 91.”*

B.2 Chapter 15.04.250 – Plot Plan

“There shall also be filed a plot plan drawn in accordance with an accurate boundary line survey showing to scale the size and location of all the new construction and all existing structures on the site and distances from lot lines. The plot plan shall also show the established street grades, proposed structures, existing structures, sidewalk and easement final grades and elevations at each lot corner and at all other grade change points. All grades are to be in accordance with any subdivision development plans that have been previously approved for the property. The Building Official shall be responsible for the review and approval of the plot plan as to grades before any building permit may be issued.”

B.3 Chapter 15.04.260 – Building Grade Requirements

“Subsequent to the issuance of a building permit and prior to the commencement of construction, the permit holder or his authorized agent shall set survey stakes on the property which shall delineate the building grade in conformance with the approved plot plan”

SECTION C – INSPECTIONS/COMPLAINTS

As the Part 91 regulating authority, the City will inspect active construction sites that have obtained a Soil Erosion and Sedimentation Control Permit from the City.

C.1 Chapter 15.36.170 – Inspection Requirements

- a. *“The requirements of this chapter shall be enforced by the City Engineer. The City Engineer shall inspect the work and may require adequate inspection of compaction of by a soil engineer or by a soil testing agency approved by the City Engineer.”*
- b. *“If the City Engineer finds any conditions not as stating in any application, grading permit or approved plan, he/she may refuse to approve further work until approval of a revised grading plan which will conform to the existing conditions.”*

Complaints regarding soil erosion and sedimentation control issues made by the public will be forward to the City Engineer’s office. At that time, the City Engineer will direct a site inspection to document any violations of the soil erosion and sedimentation control/grading permit within 2 to 48 hours and pursue enforcement actions as appropriate. See the Enforcement Response Procedure for a summary of the enforcement protocols to ensure compliance with the City’s Part 91 program.

SECTION D – MEASUREABLE GOALS

To demonstrate the effectiveness of the City’s Part 91 program, the following metrics will be tracked for reporting purposes:

- Number of Part 91 related complaints received.
- Number of Part 91 permits issued by the City.
- Number of enforcement actions taken to achieve compliance with the City’s Part 91 program.

These metrics will be tracked over the reporting cycle that is specified in the City’s Certificate of Coverage for the MS4 Permit.

SECTION E – REPORTABLE DISCHARGES

The City will not report instances of *de minimis* soil discharges to MDEQ. For instances where the discharge of sediment cannot be immediately contained on site, or if there are other pollutants that include pesticides, petroleum derivatives, construction chemicals, and solid waste associated with the discharge in quantities that are consistent with the spill response plan as defined in the collaborative IDEP, the City will notify the MDEQ within 24 hours through the Pollution Emergency Alert System (PEAS) at 1-800-292-4706.

SECTION F –STATE OF MICHIGAN PERMIT BY RULE

The City shall advise the landowner or recorded easement holder of the State of Michigan Permit by Rule (Rule 323.2190) for storm water discharge from construction activity if the area of the disturbance is greater than 5 acres. These criteria will be identified during the site plan review process and will be included in correspondence with the landowner as appropriate.

SECTION G – PROCESS FOR REVISION

Any questions on this policy and procedure should be directed to the Stormwater Manager or the City Manager. This procedure shall be reviewed once per permit cycle by the Stormwater Manager for any updates to streamline the requirements.

APPENDIX G
Post-Construction Stormwater Runoff Program

APPENDIX G

STANDARD OPERATING PROCEDURE

POST CONSTRUCTION STORMWATER RUNOFF CONTROL

PREPARED FOR:

THE CITY OF LIVONIA
12973 FARMINGTON ROAD, LIVONIA, MICHIGAN 48150



REVISED: MARCH 2023

SECTION A – PURPOSE

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a description of current and proposed BMPs to meet the minimum control measure requirements for the post-construction stormwater runoff control program to the maximum extent practicable. Post-construction stormwater runoff controls are necessary to maintain or restore stable hydrology in receiving waters by limiting surface runoff rates and volumes and reducing pollutant loadings from site that undergo development or significant redevelopment.

SECTION B – ADOPTION OF COUNTY STANDARDS

The City of Livonia has adopted the Wayne County Stormwater design standards under a new Stormwater Management ordinance under the City's Code of Ordinances. The ordinance can be found at this [link](#).

SECTION E – MEASURABLE GOALS

To demonstrate the effectiveness of the post construction stormwater runoff control program, the following metrics will be tracked as required by the State for each project that triggers the post construction stormwater management ordinance. The metrics will be reported upon final approval of the site plan:

- (1) Change in impervious area, pervious area by cover type, and total area by site.
- (2) CPVC volume provided at the site.
- (3) Difference between required and provided CPVC volume by site.
- (4) Percent of site in each Hydrologic Soil Group (Type A, B, C, D).
- (5) Site location in geographic information system (GIS) polygon format.
- (6) Site outfalls and points of discharge in GIS point format.
- (7) Site MS4 outfall drainage area in GIS polygon format, including any offsite drainage that passes through the outfall or points of discharge.
- (8) CPRC volume provided at the site.
- (9) Difference between required and provided CPRC volume by site.
- (10) CPVC volume required for each primary road project with receiving water of the state identified.
- (11) Cumulative CPVC volume provided for all new development and redevelopment projects discharging to the same receiving water of the state with a road project(s) starting November 1, 2021

These metrics will be reported annually by April 1.

SECTION F – PROCESS FOR REVISION

This procedure shall be reviewed every two years by the Stormwater Manager for any updates to streamline the requirements.

APPENDIX H
Pollution Prevention and Good Housekeeping

APPENDIX H1

STANDARD OPERATING PROCEDURE

POLLUTION PREVENTION AND GOOD HOUSEKEEPING

GENERAL PROCEDURES

PREPARED FOR:

THE CITY OF LIVONIA
12973 FARMINGTON ROAD, LIVONIA, MICHIGAN 48150



REVISED: MARCH 2025

SECTION A – PURPOSE

The Michigan Department of Environmental Quality (MDEQ) National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Phase II Stormwater Discharge Permit Application requires a description of current and proposed Best Management Practices (BMPs) to meet the minimum control measure requirements for the Pollution Prevention and Good Housekeeping Program to the maximum extent practicable to prevent or reduce the discharge of pollutants from municipal facilities and operations.

SECTION B – FACILITY ASSESSMENT AND PRIORITIZATION

The City of Livonia owned and operated facilities have been assessed for their potential to discharge pollutants to the waters of the state. Each facility was evaluated based on the following criteria as outlined in the NPDES permit application:

1. Amount of urban pollutants stored at the site (i.e. sediment, nutrients, metals, hydrocarbons, pesticides, fertilizers, herbicides, chlorides, trash, bacteria, or other site-specific pollutants)
2. Identification of improperly stored materials
3. Potential for polluting activities to be conducted outside (*e.g.*, vehicle washing)
4. Proximity to waterbodies
5. Poor housekeeping practices
6. Discharge of pollutants of concern to impaired waters

Based on these criteria, the potential for each facility to discharge pollutants to the waters of the state were rated high, medium, or low. For low priority facilities where no assessment factors are present, catch basin cleaning and street sweeping will be performed as indicated in the applicable procedures for these activities. For medium priority facilities, appropriate BMPs are considered based on the assessment factors present to prevent or minimize the potential for pollutants from entering surface waters of the state. High priority facilities have specific procedures that are included in Appendix H of the Stormwater Management Plan (SWMP).

SECTION C – UPDATES AND PRIORITY REVISION

This inventory shall be updated within 120 days as facilities and structural stormwater controls are added, removed, or no longer owned or operated by the applicant. Priority level assessments shall be revised within 120 days of discharging stormwater at a new facility, or when the storage of materials, equipment, or vehicles changes at a facility.

SECTION D – MUNICIPAL INVENTORY AND ASSESSMENT

The following table identifies the City's owned or operated facilities with a discharge of stormwater to surface waters of the state and provides the estimated number of stormwater structural controls (i.e. catch basins, detention basins, etc.) at each site, along with the priority level of potential discharge of pollutants to waters of the state.

Table 1

Facility Name	Structural Controls and Material Sources	Priority Level	Assessment Factors	BMP's Implemented
DPW Facility (Includes Headquarters, Roads/Parks, Maintenance, Water/Sewer, and Fleet)	Catch Basins (11) Storm Manholes (45) Dumpster (5) Household Hazardous Waste Storage (1) Underground Storage Tank (1) Vehicle Wash Area (1) Underground Stormwater Detention Basin (1)	High	1, 3	See Sections G-J
Glendale Landfill and Recycling Center, and LPD Firing Range	Catch Basins (4) Storm Manholes (1) Brine Tanks (2) Stockpiles (5) Salt Dome (2) Open Storage Structure (1)	High	1, 3	See Sections G-J
Whispering Willows Golf Course	Catch Basins (5) Storm Manholes (6) Stockpiles (2) Dumpsters (3) Underground Storage Tanks (2) Vehicle Wash Areas (2) Material Storage Shed (1)	High	1, 4	See Sections G-J
Fox Creek Golf Course	Catch Basins (3) Storm Manholes (4) Stockpiles (3) Dumpsters (2) Aboveground Storage Tanks (2) Vehicle Wash Area (1) Material Storage Shed (1) Ditch (1)	High	1, 4	See Sections G-J
Idyl Wyld Golf Course	Catch Basins (3) Storm Manholes (1) Stockpiles (2) Dumpsters (2) Aboveground Storage Tanks (2) Vehicle Wash Areas (2)	High	1,4	See Sections G-J
Civic Center (Includes City Hall, Library, 16 th District Court, Senior Center, Old 16 th District Court, Police Department, Fire Department, Parks Maintenance Building)	Catch Basins (32) Storm Manholes (35) Underground Storage Tank (1) Detention Basins (2)	Medium	1	Catch basin cleaning Street sweeping
Community Recreation Center	Catch Basins (4) Storm Manholes (20) Detention Basins (3)	Low	1	Catch basin cleaning Street Sweeping

Facility Name	Structural Controls and Material Sources	Priority Level	Assessment Factors	BMP's Implemented
Devonaire Ice Arena	Catch Basins (1) Storm Manholes (1)	Low	1	Catch basin cleaning Street sweeping
Edgar Ice Arena/Ford Field	Catch Basins (14) Storm Manholes (3)	Low	1	Catch basin cleaning Street sweeping
Rotary Park	Dumpster (1) Grow Zones (2)	Low	1	Street sweeping Grow zone maintenance
Bicentennial Park	Storm Manholes (8) Bioswale (1)	Low	1	Street sweeping Bioswale maintenance
Jaycee Park	Storm Manholes (4) Detention Basins (2)	Low	1,4	Street sweeping Ditch Maintenance Detention basin inspection
Shelden Park	Dry Detention Areas (4) Catch Basins (15) Storm Manholes (17)	Low	1	Catch basin cleaning Street sweeping Detention basin inspection
Botsford Park	Catch Basins (3) Storm Manholes (2)	Low	1,4	Catch basin cleaning Street sweeping
Robert E. McCann Park	Catch Basins (2) Storm Manholes (1)	Low	1	Catch basin cleaning Street sweeping
Fire Station #6	Catch Basins (2) Storm Manholes (2)	Low	1	Catch basin cleaning Street sweeping
Newburgh Village Retirement Community	Storm Manholes (22)	Low	1	Street sweeping
Silver Village Retirement Community	Catch Basins (15) Storm Manholes (3)	Low	1	Catch basin cleaning Street sweeping
Fire Station #3	Catch Basins (3) Storm Manhole (1) Detention Pond (1)	Low	1	Catch basin cleaning Street sweeping Detention basin inspection
Fire Station #4	Catch Basin (1)	Low	1	Catch basin cleaning Street sweeping
Fire Station #5	Catch Basins (3)	Low	1	Catch basin cleaning Street sweeping
Newburgh Pump Station		Low	1	
Clements Circle Splash Pad		Low	1	

In addition to the properties listed in **Table 1**, the City also owns other parcels at which no structural stormwater controls are installed. These properties include vacant residential parcels, conservation easements, and parks.

SECTION E –SITE SPECIFIC SOP FOR HIGH PRIORITY SITES

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a standard operating procedure (SOP) for identifying the structural and non-structural stormwater controls implemented and maintained to prevent or reduce pollutant runoff at each facility with the high potential for pollutant runoff.

E.1 Inventory and Description of Materials and Activities

The majority of the City's Department of Public Works (DPW) operations are conducted at their 12973 Farmington Road and Glendale Storage Yard facilities. The City also operates three (3) golf courses, which all have fueling areas and grounds maintenance operations. All six (6) sites are considered a high priority sites due the following operations:

Department of Public Works (DPW) Facility – 12973 Farmington Road

- Fuel Storage and Fueling
- Vehicle and Equipment Maintenance and Cleaning

Glendale Landfill & Recycling Center – 32300 Glendale Street

- Salt Storage
- Stockpiled Materials
- Significant Dust or Particulate Generation
- Waste Management and Disposal

Fox Creek, Idyl Wyld, and Whispering Willows Golf Courses

- Fuel Storage and Fueling
- Vehicle and Equipment Maintenance and Cleaning
- Stockpiled Materials
- Storage of Pesticides, Herbicides, and Fertilizers

Site specific standard operating procedures have been developed for these facilities and are included as separate documents. Please see the Standard Operating Procedures – DPW Facility, Standard Operating Procedures – Glendale Landfill & Recycling Center, and Standard Operating Procedures – City Golf Courses.

SECTION F –PRIORITIZATION CRITERIA OF STREET SWEEPING AND CATCH BASIN INSPECTIONS

The criteria for prioritizing street sweeping and catch basin cleaning activities has been defined as described below.

High Priority streets and catch basins have one or more of the following criteria:

- Immediately adjacent to stockpiles or potentially polluting materials that are not equipped with secondary containment measures or other BMPs;
- Frequently used, Township-owned and maintained parking lots that have a high potential for pollutant runoff; and/or
- Receive drainage from unpaved roadways and/or parking lots.

Medium Priority streets and catch basins have one or more of the following criteria:

- Immediately adjacent to stockpiles or potentially polluting materials that have with secondary containment measures or other BMPs;
- Associated with a downtown shopping district;
- Streets within the municipality zoned as industrial with heavy truck traffic; and/or
- Township -owned and maintained streets with moderate traffic volumes (speed limit greater than 30 mph).

Low Priority streets and catch basins have one or more of the following criteria:

- Township-owned parking lots with no material storage or handling;
- Catch basins located within vegetated areas; and/or
- Township-owned and maintained streets with low traffic volumes.

SECTION G – SCHEDULE OF STREET SWEEPING AND CATCH BASIN INSPECTIONS

The frequency of street sweeping and catch basin inspections associated with each priority level is provided in **Table 2** below.

Table 2

Maintenance Activity	Priority Level – Schedule		
	High	Medium	Low
Street Sweeping	4x /year	2x /year	1x /year
Catch Basin Inspections	Monthly	1x /year	1x /permit cycle

A summary of the municipal properties and streets and their designated priority level is provided in **Table 3** below, followed by the criteria by which the specific priority levels were determined.

Table 3

Maintenance Activity	Priority Level – Municipal Properties		
	High	Medium	Low
Street Sweeping	DPW Facility, Glendale Landfill & Recycling Center, Whispering Willows Golf Course*	Civic Center, Levan Road, Newburgh Road, Schoolcraft Road, Lyndon Road	All Other City-Owned Streets and Parking Lots
Catch Basin Inspections	DPW Facility, Glendale Landfill & Recycling Center, Golf Courses (Fox Creek, Idyl Wyld, Whispering Willows)	Civic Center, Levan Road, Newburgh Road, Schoolcraft Road, Lyndon Road	All Other City-Owned Streets and Parking Lots

** Fox Creek and Idyl Wyld Golf Courses are unpaved in the maintenance areas and polluting material storage and use areas; therefore, street sweeping is not conducted at these properties.*

The DPW Facility, Glendale Landfill & Recycling Center, and City Golf Courses (Fox Creek, Idyl Wyld, and Whispering Willows) are classified a high priority due to on-site fuel storage tanks and fueling, stockpiles, bulk salt storage, waste management and disposal, and storage and use of other polluting materials. The City does not own or operate any major thoroughfares that would be classified a high priority.

The Civic Center is classified a medium priority due to the presence of an underground storage tank and the level of public usage of the parking lot. Levan, Newburgh, Schoolcraft and Lyndon Roads are classified medium priority due to level of usage and speed limits.

All other City-owned streets, parking lots and catch basins are classified as low priority due to their limited potential for pollutant runoff or other environmental impacts.

If the DPW receives a complaint, a determination of the area will be made by DPW staff to increase sweeping on a more frequent interval as well as to reclassify the area to a higher priority rating. Catch basins that prompt resident complaints or are subject to isolated instances where structures are plugged or damaged will be maintained and inspected by DPW. At that time, it will be determined if the catch basin will require maintenance on a more frequent interval and warrants a reclassification to a higher priority rating.

In the event a priority rating is changed for catch basin inspections or street sweeping, this procedure will be updated within 120 days.

SECTION H – CATCH BASIN INSPECTION, MAINTENANCE, AND CLEANING METHODOLOGY

The City inspects and maintains 19,644 catch basins. Catch basins are visually inspected during normal work activities or if a complaint is registered by a resident. A visual inspection of the structure will identify any structural defects which may include collapse, cracking, frame damage, pipe collapse, blockage, etc. and will be documented using a standardized form. Structure repairs are prioritized based on public safety concerns. During the inspection, if it is determined that the catch basin sump is 50% full of accumulated sediment and debris, it will be cleaned promptly and advanced to the next higher priority inspection level. Catch basins will be serviced using a vactor truck to remove solids and liquids from the structure. At no time is collected sediment and water allowed to be discharged back into the storm sewer system during the cleaning process. Catch basins that are located on private property are not inspected, cleaned, or maintained by the City.

SECTION I – STREET SWEEPING METHODOLOGY

Street sweeping activities are conducted by the City and/or contracted services using both mechanical and regenerative air equipment according to the manufacturer's operating instructions. Collected sediment from street sweeping activities is disposed of as described in Section J. Street sweeping program activities are not implemented under the following conditions:

- Street sweeping is not conducted on County or State roads

- Sweeping activities are not conducted during wet and inclement weather
- Sweeping activities are not conducted on private streets or private parking lots

The City has a formal leaf collection program that generally occurs from the third week of October through the first week of December. Following bulk leaf pickup, the City conducts street sweeping for the entire City to remove all remaining leaf residue.

SECTION J - DISPOSAL OF COLLECTED MATERIAL

Collected material from catch basin maintenance and street sweeping activities is transported to the Glendale Storage Yard and Landfill Facility where it is used as daily cover for landfill operations. Dewatering is conducted at the Glendale Landfill & Recycling Center on a concrete pad that drains to the sanitary sewer system.

SECTION K - OTHER STRUCTURAL STORMWATER CONTROLS

In addition to implementing the catch basin maintenance and street sweeping programs, the City also performs inspections of open and enclosed drains that are located throughout the City.

K.1 Open and Enclosed Drain Inspections

The procedure for open drains consists of the inspection of the inlet grates for blockages, or when complaints received by the City warrant an inspection. In most cases, follow up maintenance activities involve the removal of logjams or other debris that has accumulated on the inlet grate. For enclosed drains, inspections are conducted routinely when work is conducted within the immediate area, or by request.

K.2 Pump Stations

The City currently maintains one (1) stormwater pump station, which is located at the intersection of Newburgh Road and I-96. The pump station is owned by Wayne County. Routine inspection of the pump station is conducted on a monthly basis. Maintenance and/or repairs are completed as needed and documented utilizing the City's computer system.

K.3 Bioswales

Bioswales will be inspected on a biannual basis. Inspections will assess the vegetation, presence of invasive species, erosion, flow channelization, bank stability, inlet/outlet conditions, embankment, and sediment and debris accumulations. Based on the inspections, maintenance tasks that include re-seeding and/or replanting bare areas, removal of accumulated sediment, floatables and litter, and treatment of invasive species will be undertaken if the bioswale has reduced functional capacity.

K.4 Detention Basins

There are five City-owned stormwater detention basins which are inspected twice annually. Inspections shall assess the vegetation, erosion, flow channelization, bank stability, inlet/outlet conditions, embankment, riser condition, and sediment and debris

accumulations. Sediment is removed from the basin forebay when necessary. If it is determined that maintenance activities are needed, the City will document the needed maintenance actions using a standardized inspection form and perform any maintenance activities as needed.

The City does not have any other structural controls that are owned or maintained by the City. In the event additional structural stormwater controls are constructed, this procedure will be updated and revised to include the new controls within 120 days.

SECTION L – Dirt Road Maintenance

The City maintains dirt roads to minimize impacts to stormwater from sediment and brine. This is done by stabilizing dirt roads as needed to reduce erosion and minimal use of brine for dust control.

SECTION M – NEW APPLICANT OWNED FACILITIES

In the event the City acquires or constructs new structural stormwater controls, the design of these structures will comply with the stormwater standards that have been established by Wayne County. Site plans will be reviewed by the City, Wayne County, or its consultants, to ensure the appropriate standards are met.

SECTION N – CERTIFIED PESTICIDE APPLICATOR

The DPW Facility has certified pesticide applicators (6) on staff; however, they do not routinely apply or store fertilizers or pesticides. In the event an application of pesticides is necessary, the City will retain the services of a licensed applicator and/or purchase pesticide on an as-needed basis.

SECTION O – EMPLOYEE TRAINING

Employee training programs will be implemented to inform appropriate personnel at all levels of responsibility of safety, environmental impacts, and good housekeeping practices. The City participates in training opportunities that are made available by SEMCOG, Wayne County, the Alliance of Rouge Communities, and others as deemed appropriate. Employee training components for the City DPW and golf course maintenance staff includes:

Employees Trained	Training Description and Frequency
New Livonia DPW Employees	Upon hire, employees will: <ul style="list-style-type: none"> • Read and become familiar with the City’s SOPs. • Participate in a job shadow program where new staff is paired with an experienced staff member for 30 days.
All Livonia DPW Employees	Once per permit cycle: <ul style="list-style-type: none"> • View the Municipal Stormwater Pollution Prevention Storm Watch video (or similar) • Review proper materials storage and handling • Review good housekeeping and pollution prevention practices

	<ul style="list-style-type: none"> • Review examples of illicit discharges to the storm sewer system • Review the City’s Spill Response procedure • Incorporation of stormwater BMPs into recurring staff meetings (DPW)
Key staff	Attend relevant training workshops by the Alliance of Rouge Communities, SEMCOG, or others, when available.

SECTION P – CONTRACT REQUIREMENTS AND OVERSIGHT

The contractors hired by the City to perform municipal operations that potentially impact stormwater are required to follow appropriate pollution prevention BMPs indicated in the City’s contract language. In cases where an outside contractor is hired to perform services that could impact stormwater, the contracting company will be required to follow appropriate pollution prevention BMPs. All work performed by outside contractors are monitored by City staff through daily observation to ensure quality of work, adherence to the specified contract language, and to ensure that potential impacts to stormwater are minimized.

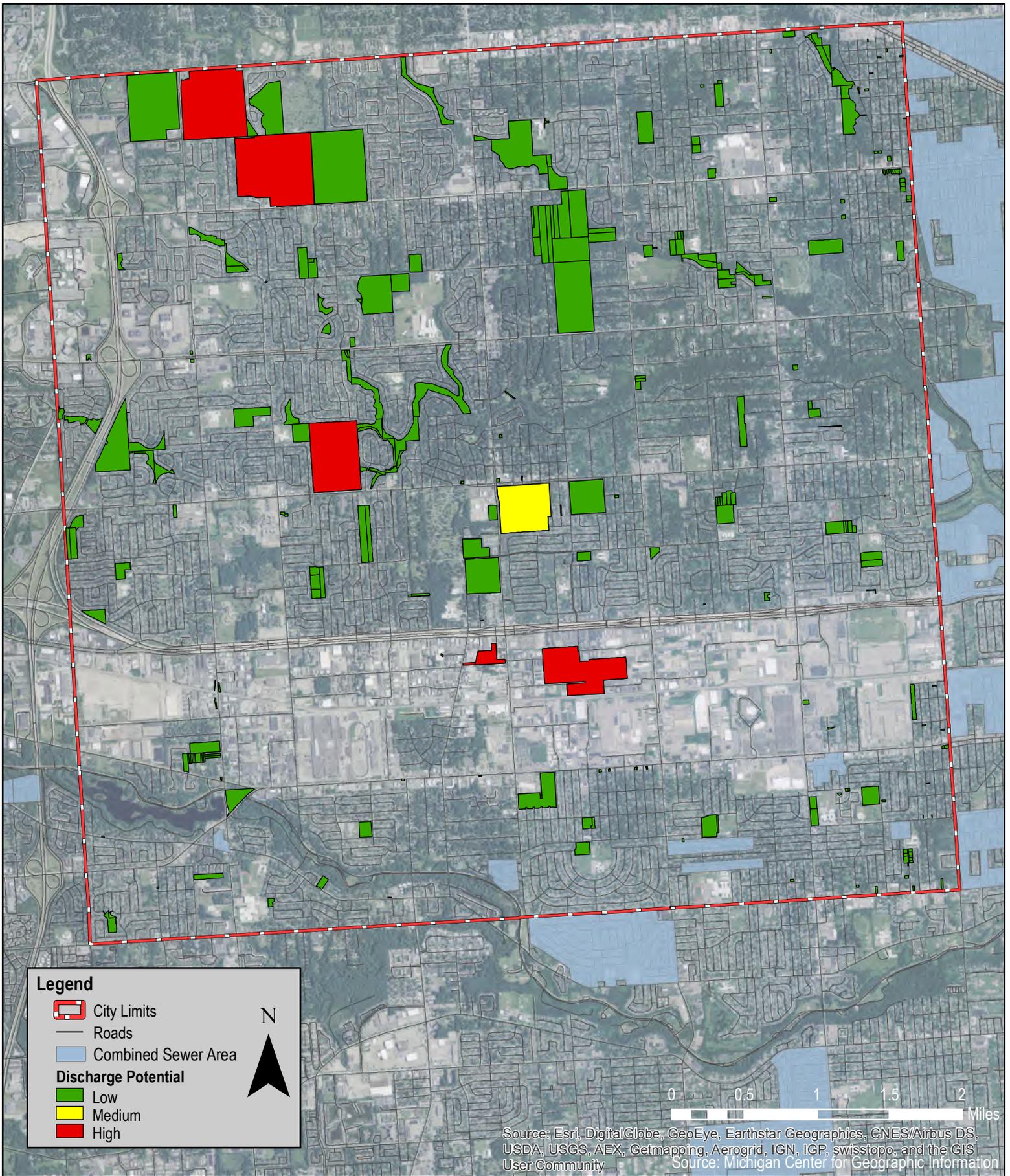
Measurable Goals – To demonstrate the effectiveness of this procedure, the following metrics will be tracked for reporting purposes.

- Number of stormwater pollution related incidents pertaining to activities or work performed by the contractor.
- Number of incidents where the City required corrective action by the contractor.

These metrics will be tracked over the reporting cycle that is specified in the City’s Certificate of Coverage.

SECTION Q – PROCESS FOR REVISION

This procedure shall be reviewed once per permit cycle by the Stormwater Manager for any updates to streamline the requirements.



City of Livonia Facilities Location Map

Wayne County, Michigan



Legend

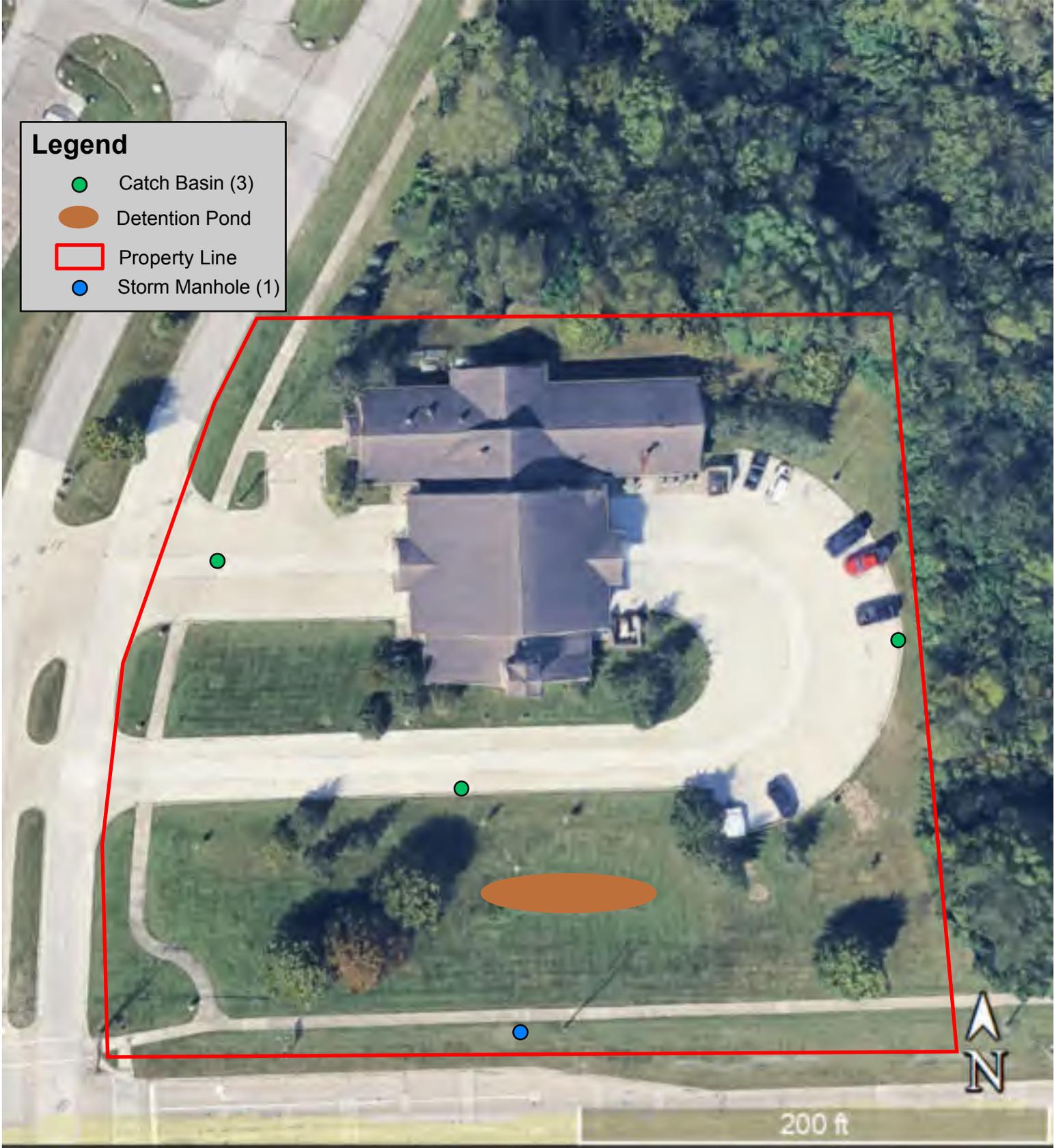
-  Catch Basin (1)
-  Property Line



City of Livonia - Fire Station Four

12300 Middlebelt
Livonia, MI 48152





Legend

- Catch Basin (3)
- Detention Pond
- Property Line
- Storm Manhole (1)

City of Livonia - Fire Station three

35000 Seven Mile
Livonia, MI 48152





City of Livonia - Bicentennial Park

34355 Seven Mile Rd
 Livonia, MI 48152



Legend

- Storm Manhole (2)
- Catch Basin (3)
- Storm Sewer
- ▭ Property Line



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

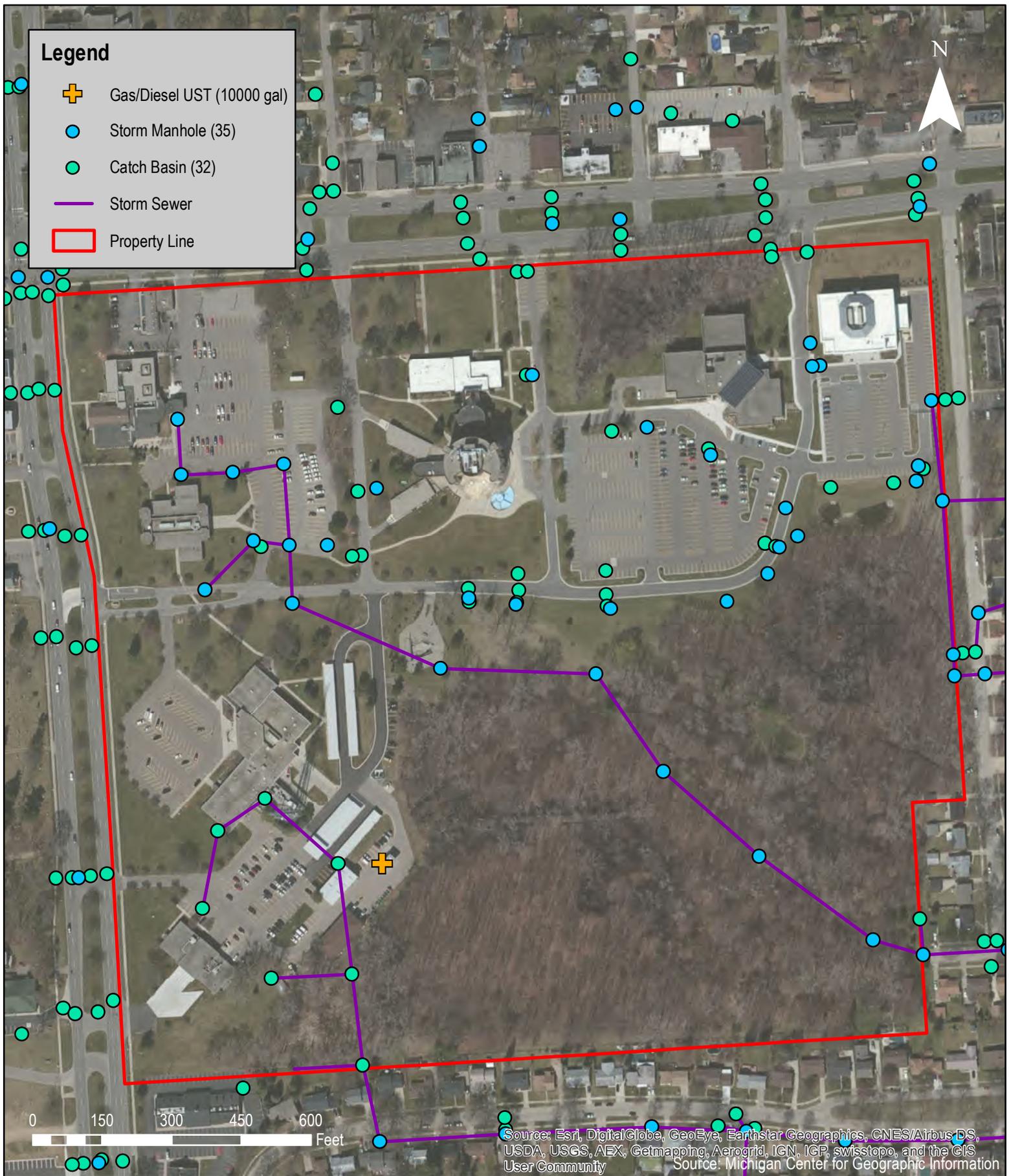
City of Livonia - Botsford Park

19444 Lathers St
Livonia, MI 48152



Legend

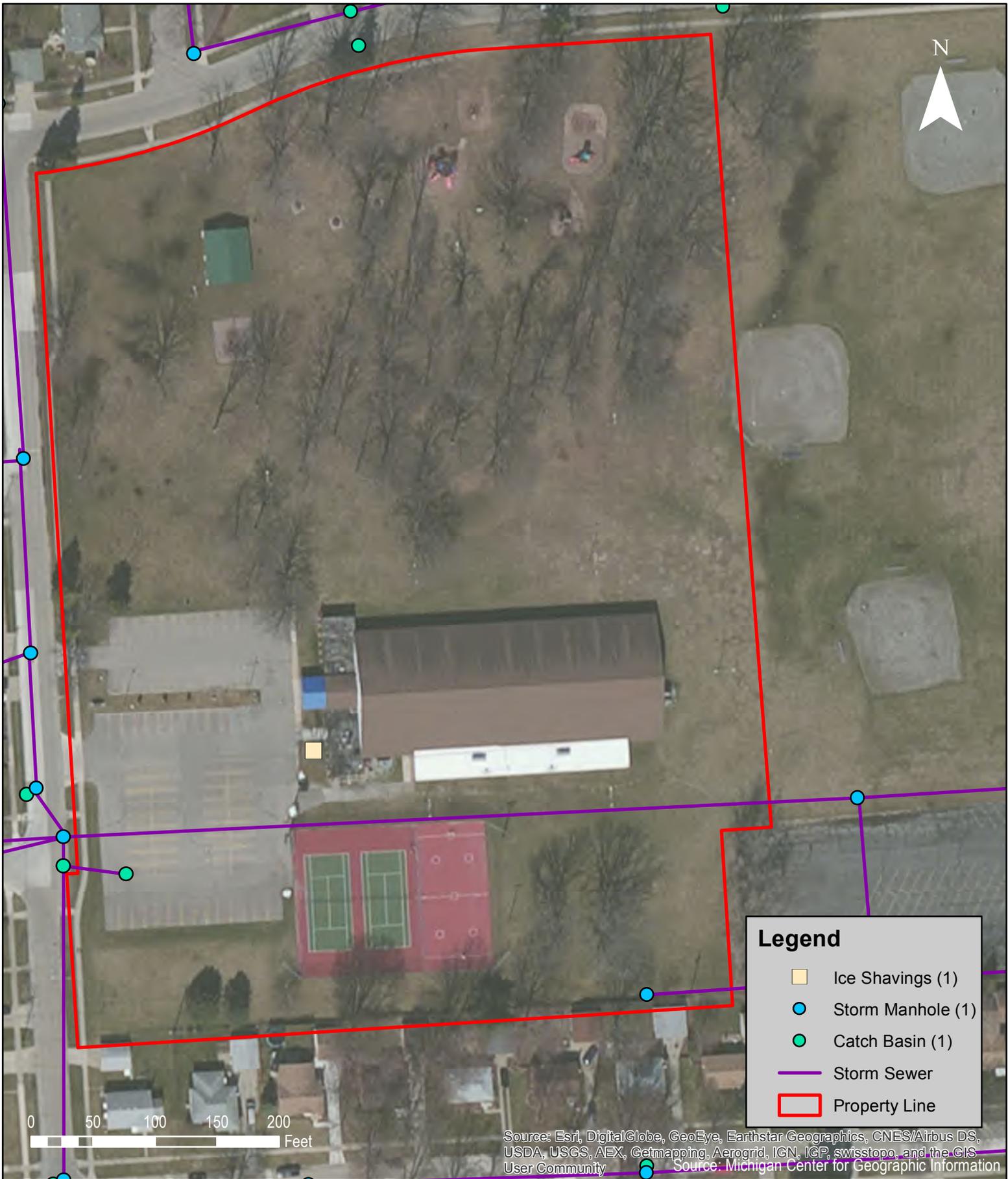
-  Gas/Diesel UST (10000 gal)
-  Storm Manhole (35)
-  Catch Basin (32)
-  Storm Sewer
-  Property Line



City of Livonia - Civic Center

33000 Civic Center Dr
Livonia, MI 48154





Legend

- Ice Shavings (1)
- Storm Manhole (1)
- Catch Basin (1)
- Storm Sewer
- Property Line

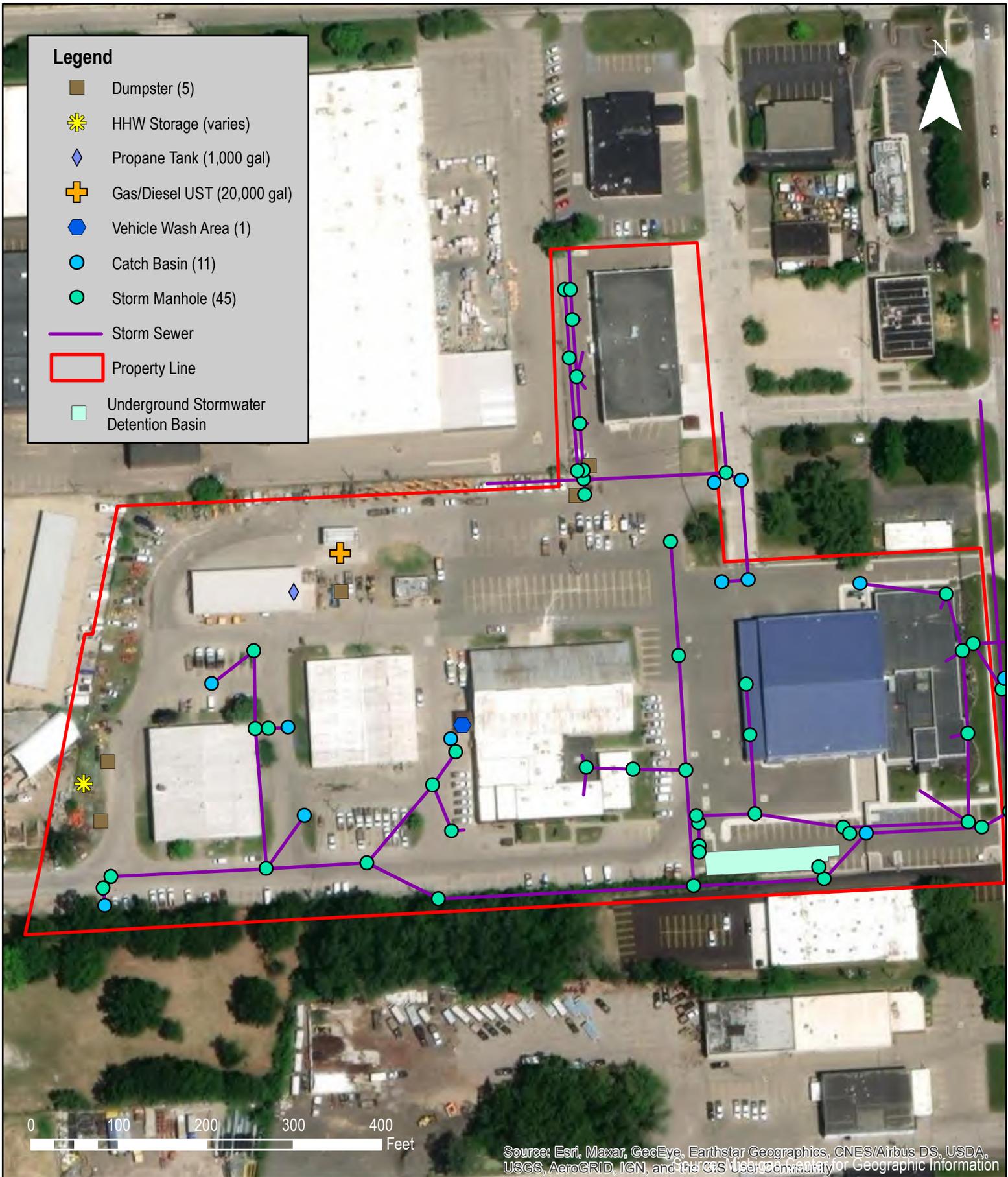
City of Livonia - Devonaire Ice Arena

9510 Sunset St
Livonia, MI 48150



Legend

-  Dumpster (5)
-  HHW Storage (varies)
-  Propane Tank (1,000 gal)
-  Gas/Diesel UST (20,000 gal)
-  Vehicle Wash Area (1)
-  Catch Basin (11)
-  Storm Manhole (45)
-  Storm Sewer
-  Property Line
-  Underground Stormwater Detention Basin



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community for Geographic Information

City of Livonia - Department of Public Works

12973 Farmington Rd
Livonia, MI 48150





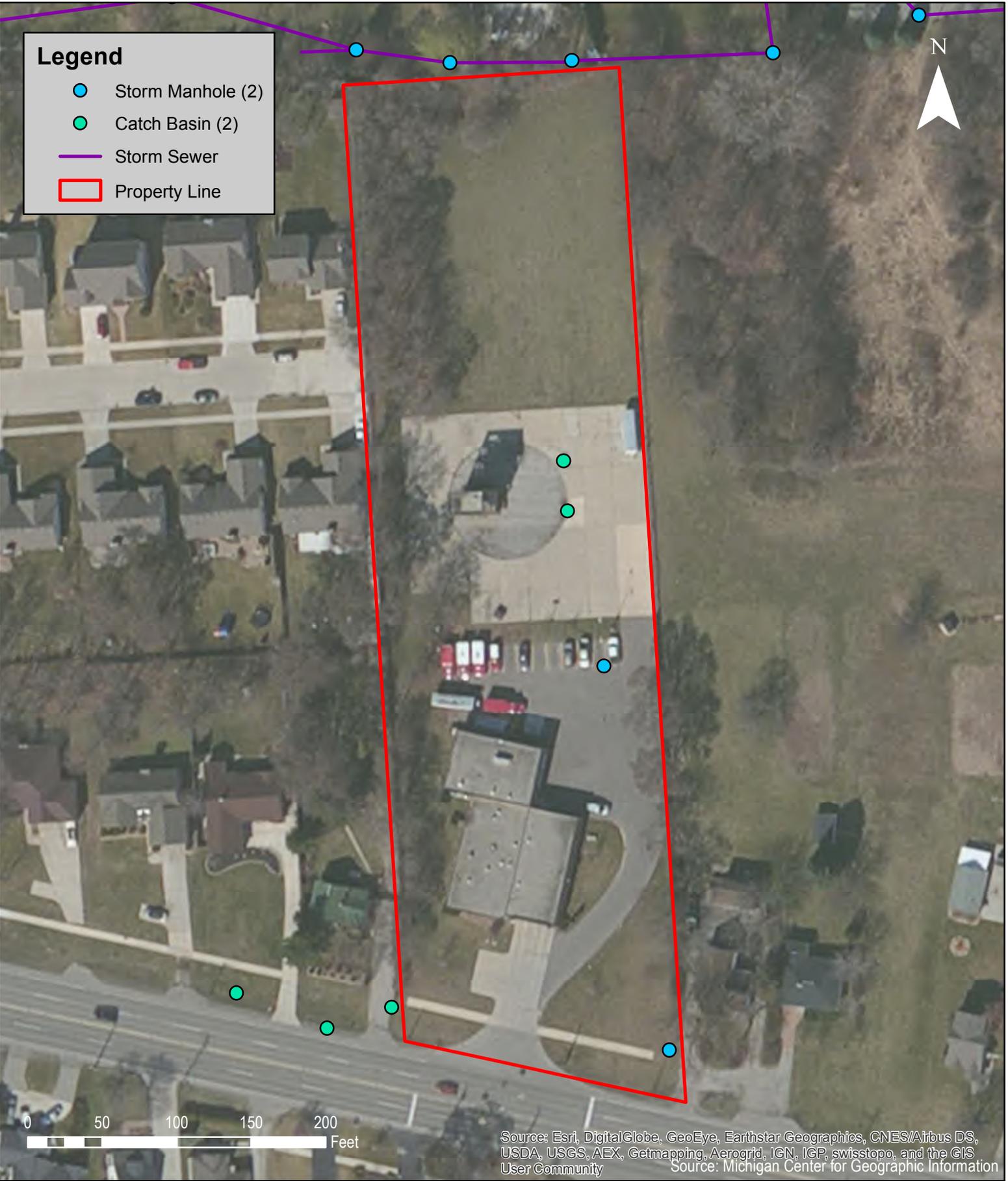
City of Livonia - Fire Station #5

18910 Middlebelt Rd
Livonia, MI 48152



Legend

- Storm Manhole (2)
- Catch Basin (2)
- Storm Sewer
- ▭ Property Line



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

City of Livonia - Fire Station #6

37876 Plymouth Rd
Livonia, MI 48150





City of Livonia - Fox Creek Golf Course

36000 Seven Mile Rd
 Livonia, MI 48152

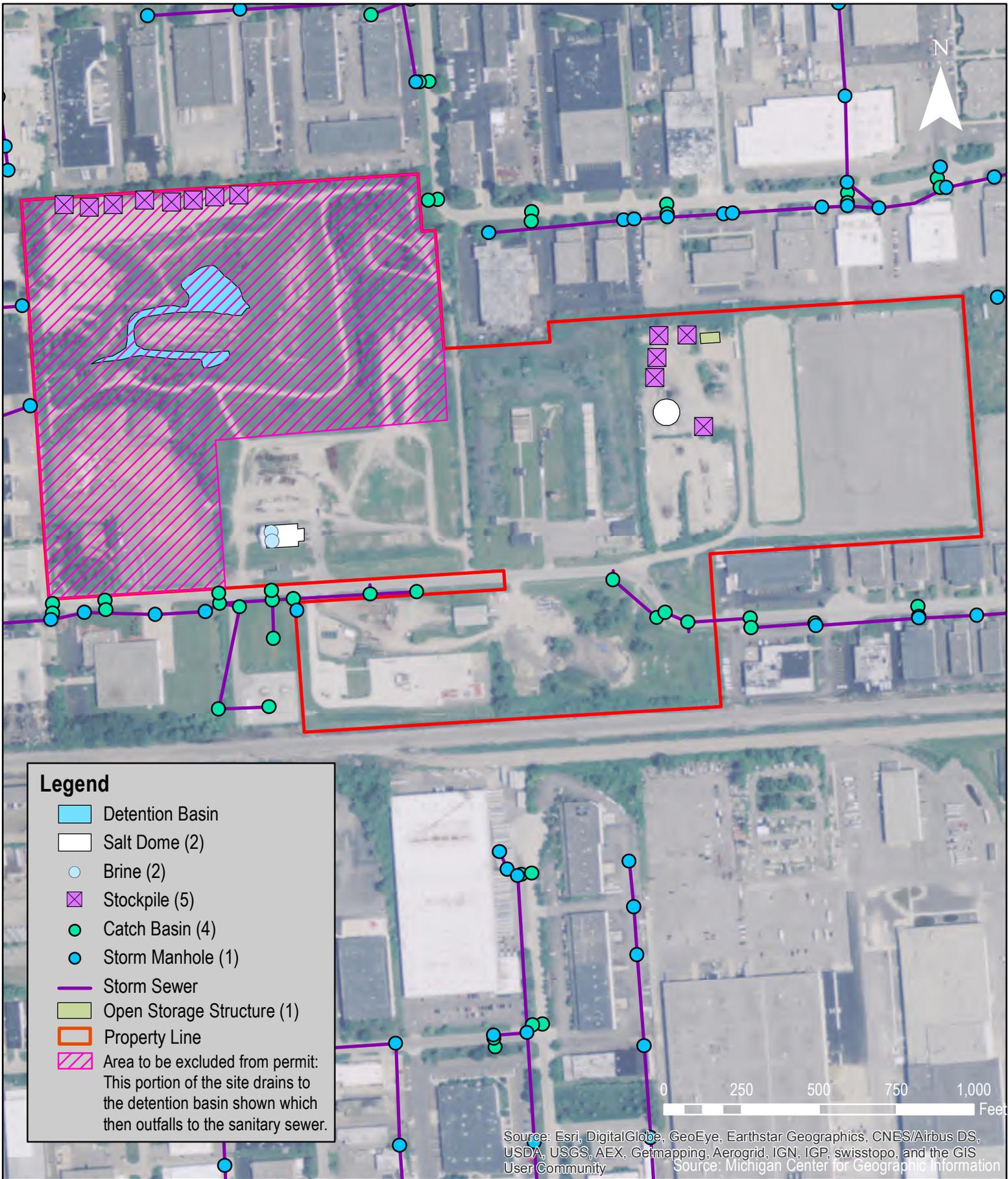




City of Livonia - Fox Creek Golf Course

36000 Seven Mile Rd
 Livonia, MI 48152





Legend

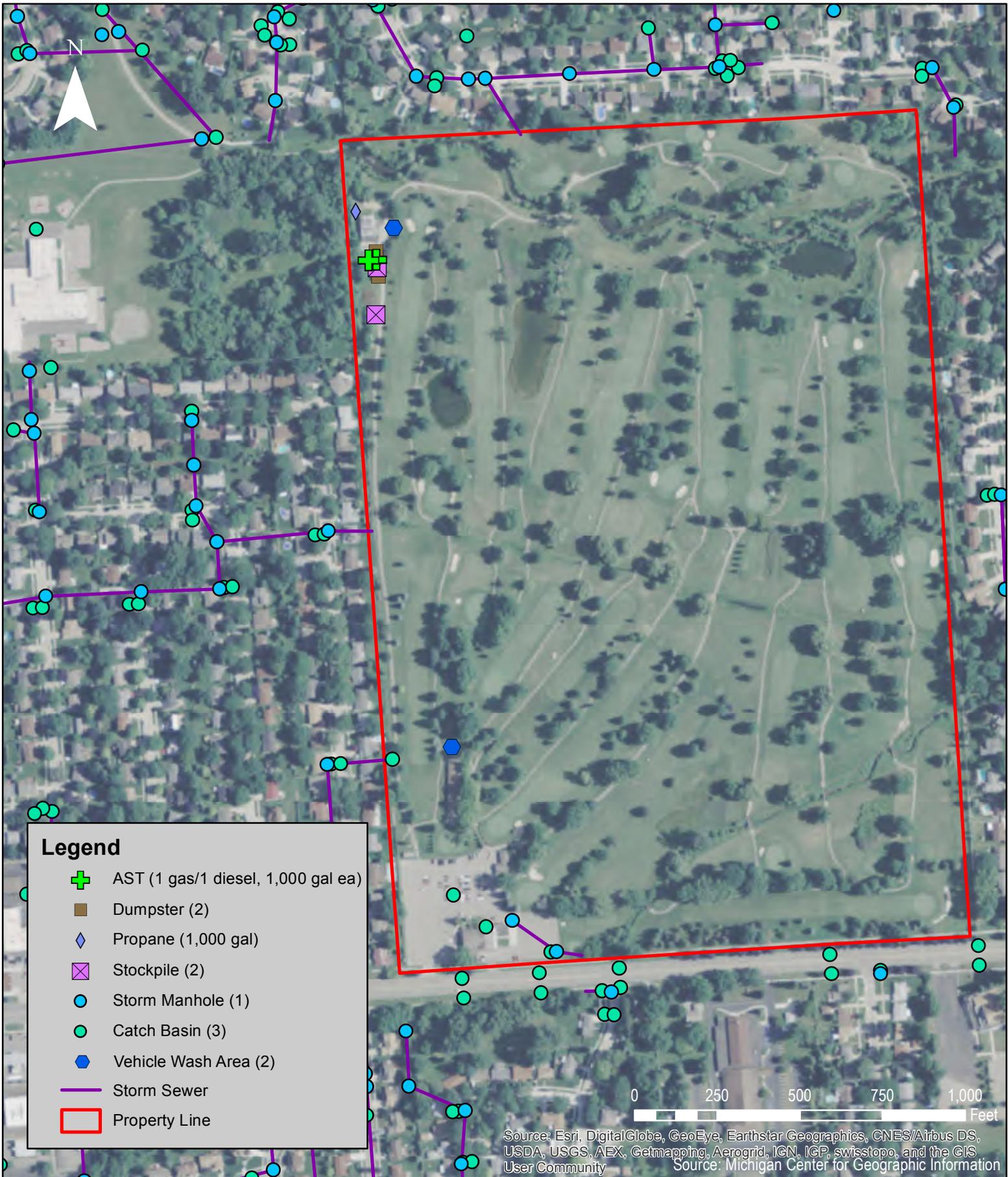
- Detention Basin
- Salt Dome (2)
- Brine (2)
- Stockpile (5)
- Catch Basin (4)
- Storm Manhole (1)
- Storm Sewer
- Open Storage Structure (1)
- Property Line
- Area to be excluded from permit:
This portion of the site drains to the detention basin shown which then outfalls to the sanitary sewer.

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

City of Livonia - Glendale Landfill & Recycling Center

32300 Glendale St
 Livonia, MI 48150





City of Livonia - Idyl Wyld Golf Course

35786 5 Mile Rd
 Livonia, MI 48154





Legend

- + AST (1 gas/1 diesel, 1,000 gal ea)
- Dumpster (2)
- ◆ Propane (1,000 gal)
- ⊠ Stockpile (2)
- Storm Manhole (1)
- Catch Basin (3)
- ⬡ Vehicle Wash Area (2)
- Storm Sewer
- Property Line



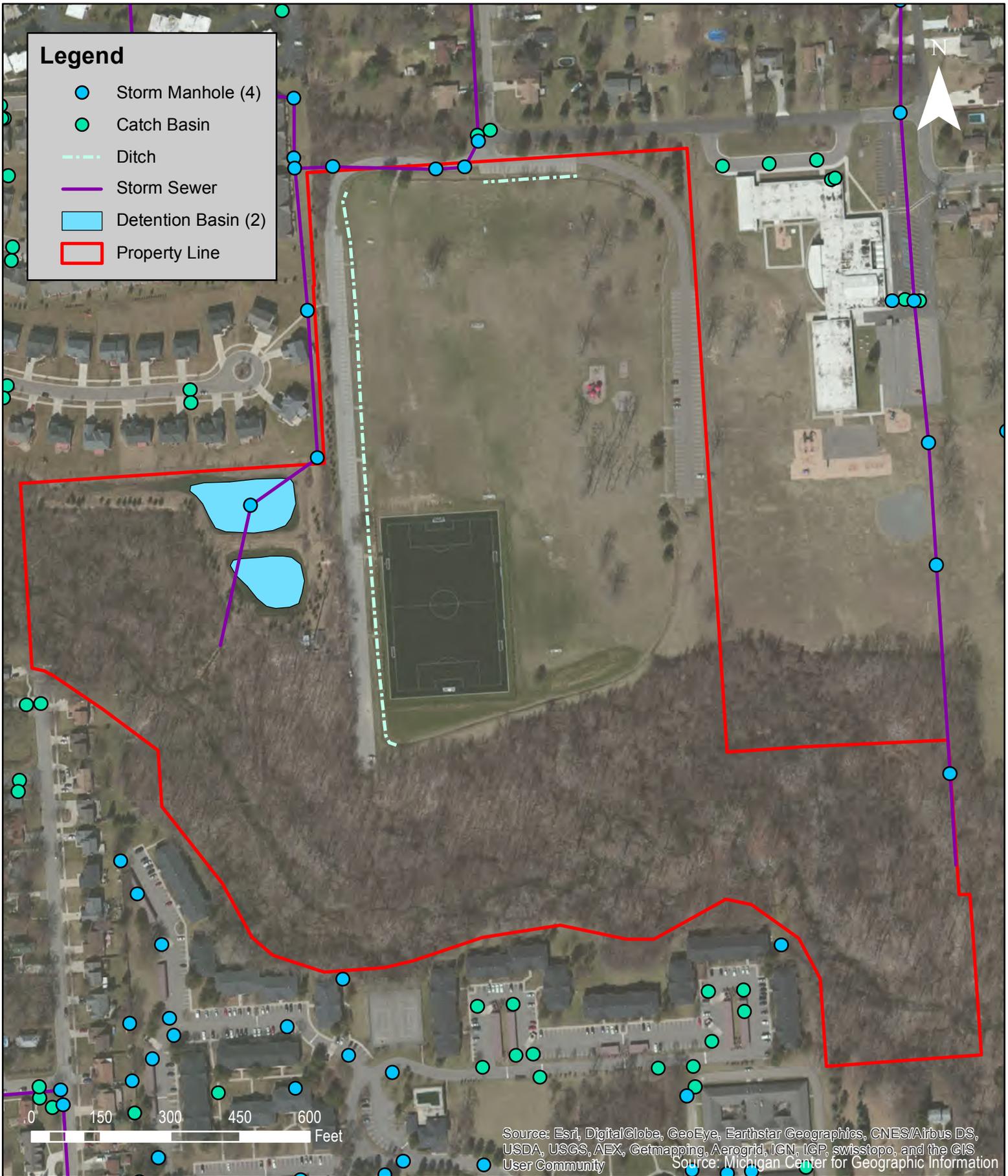
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
 Source: Michigan Center for Geographic Information

City of Livonia - Idyl Wyld Golf Course
 35786 5 Mile Rd
 Livonia, MI 48154



Legend

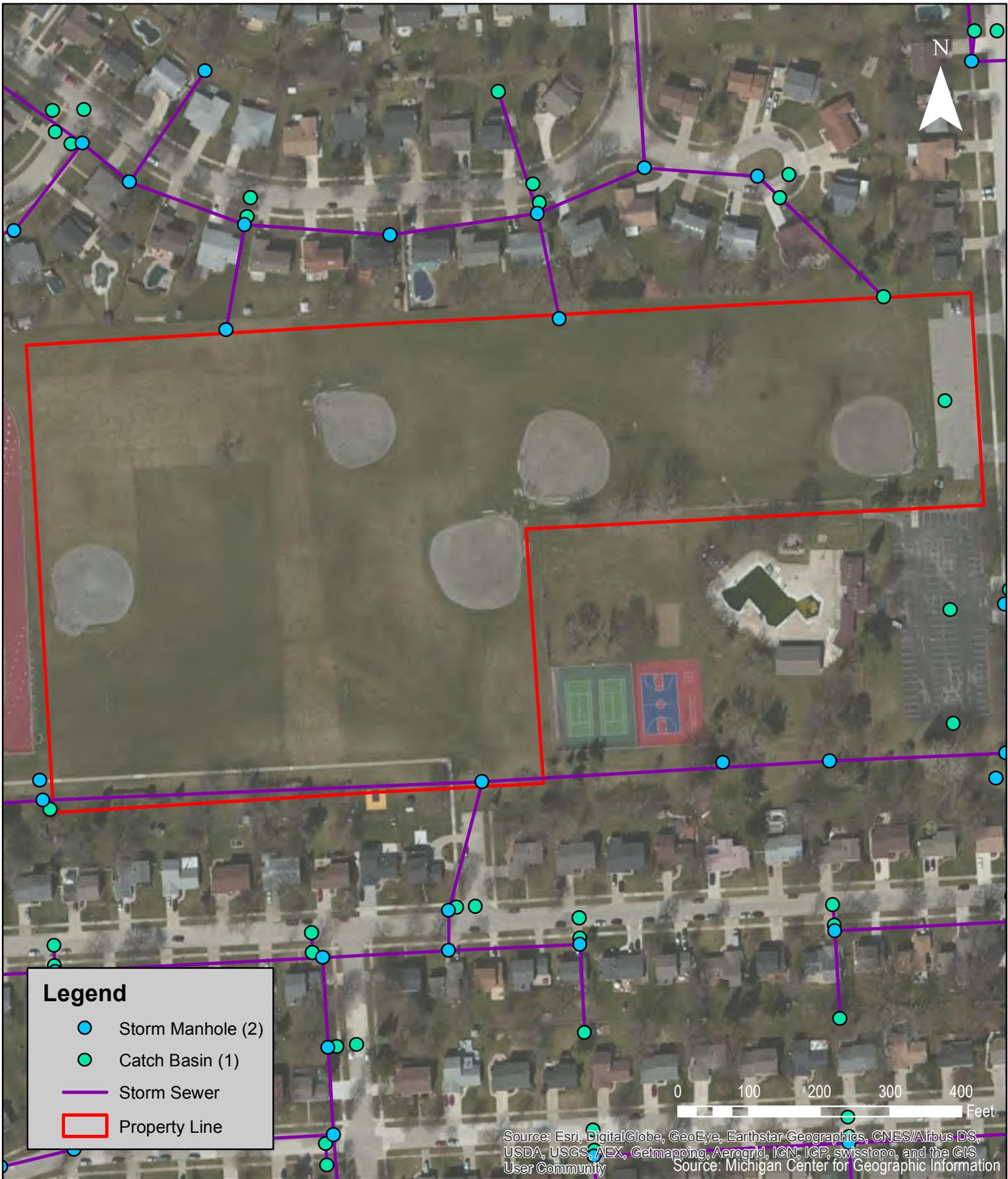
- Storm Manhole (4)
- Catch Basin
- - - Ditch
- Storm Sewer
- Detention Basin (2)
- Property Line



City of Livonia - Jaycee Park

32500 Pembroke
Livonia, MI 48152





City of Livonia - Robert E McCann Park

16285 Levan Rd
 Livonia, MI 48154





Legend

- Storm Manhole (22)
- Storm Sewer
- Property Line

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

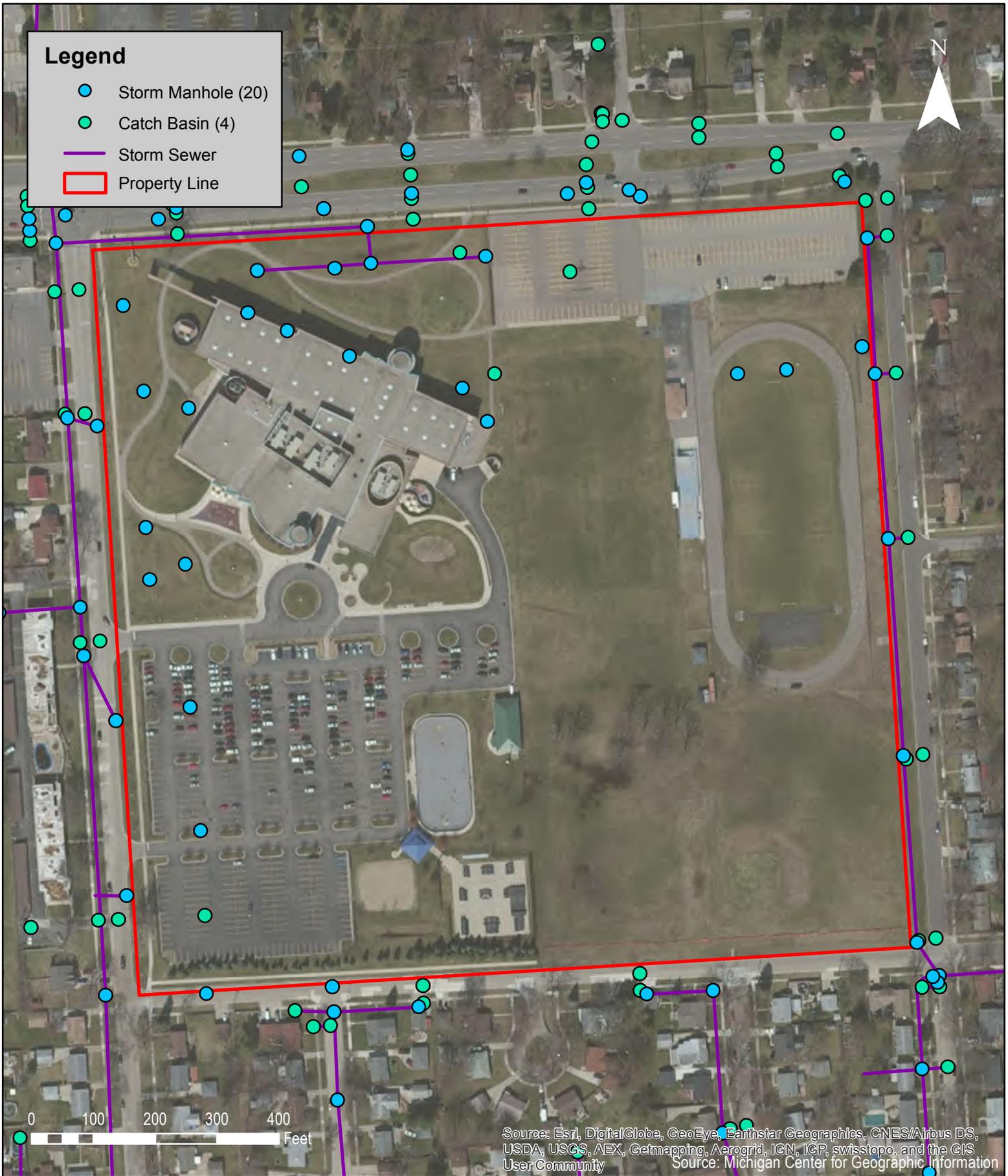
City of Livonia - Newburgh Village Retirement Community

11999 Newburgh Rd
 Livonia, MI 48150



Legend

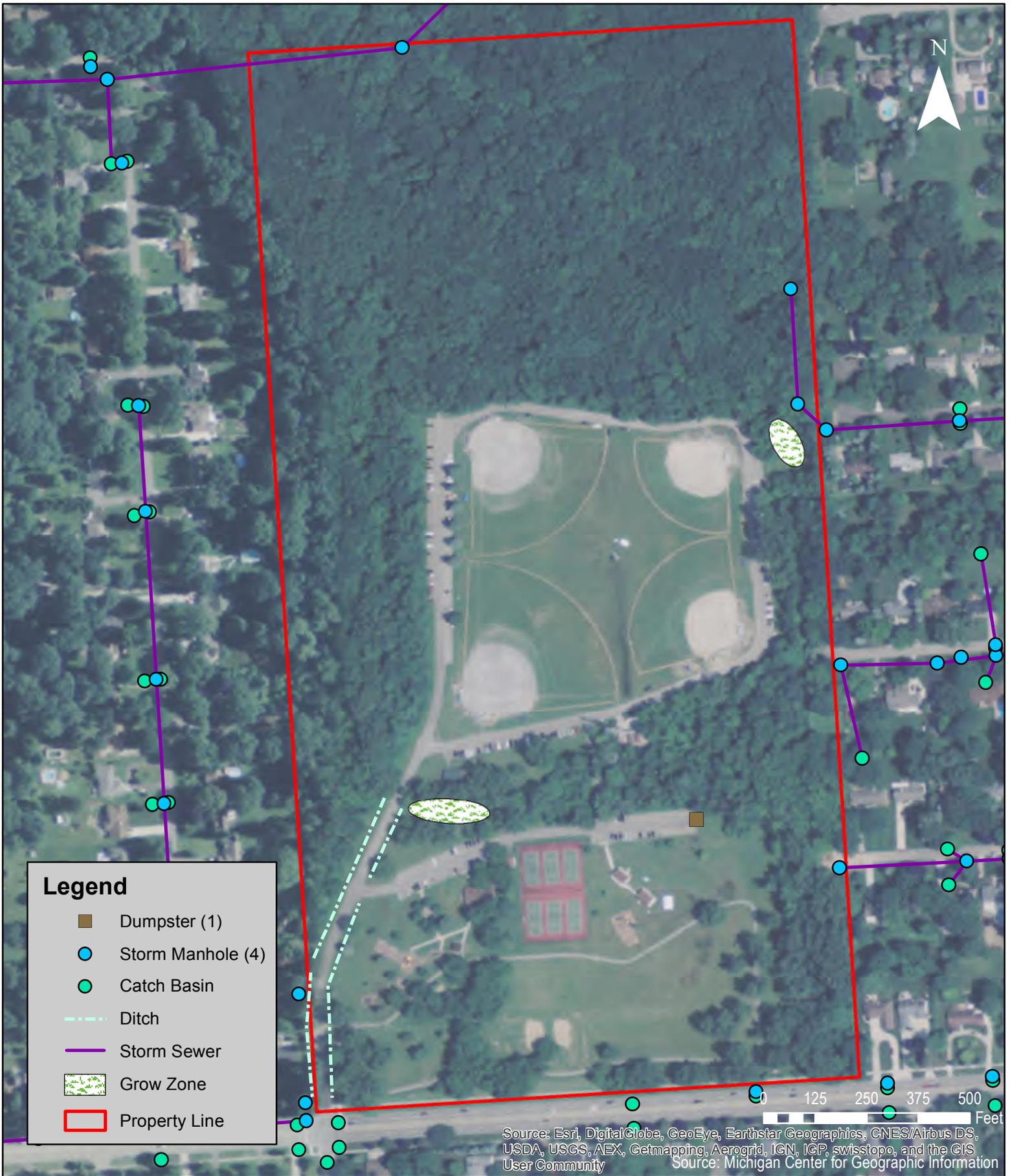
- Storm Manhole (20)
- Catch Basin (4)
- Storm Sewer
- ▭ Property Line



City of Livonia - Community Recreation Center

15100 Hubbard St
Livonia, MI 48154





City of Livonia - Rotary Park

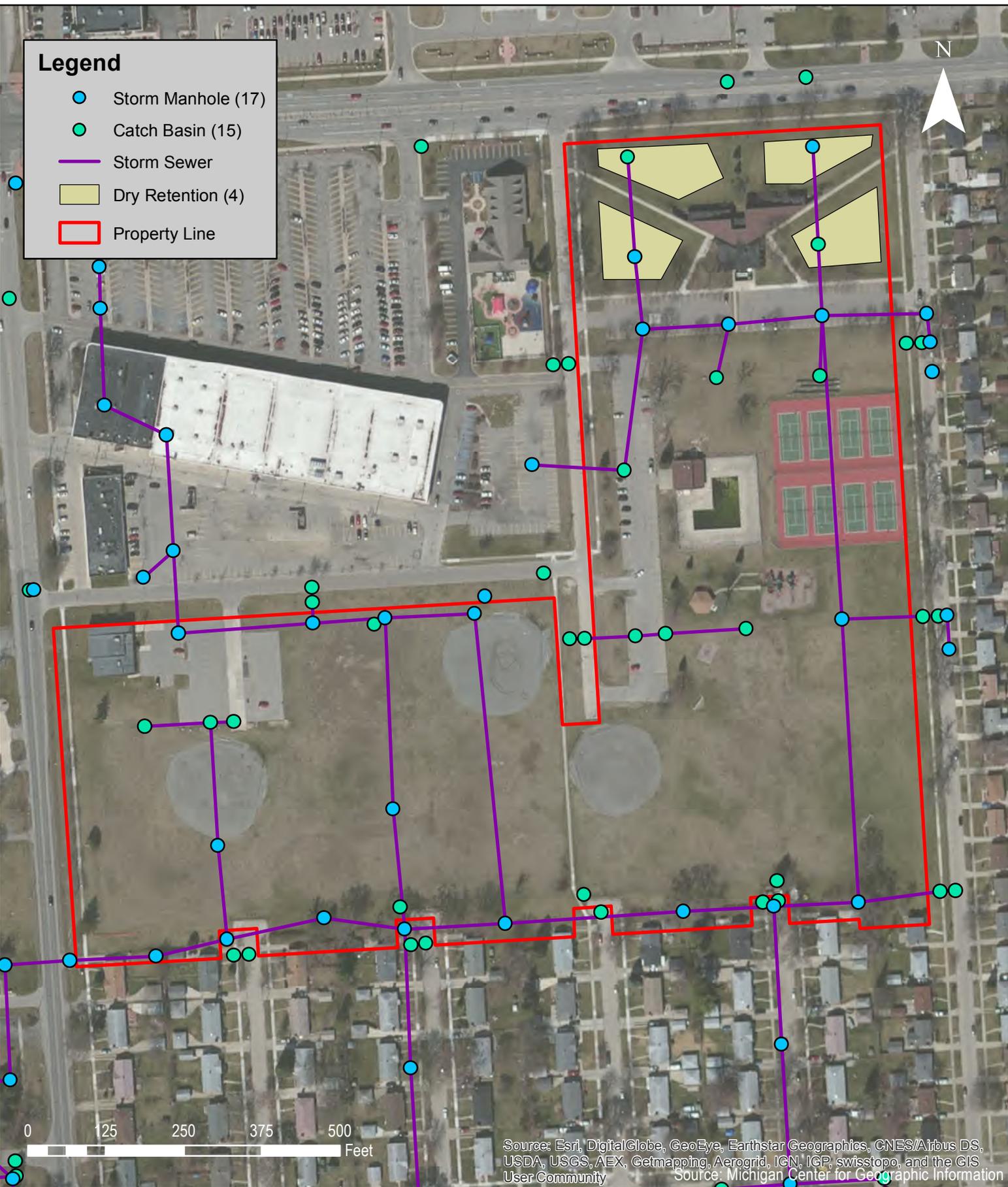
32300 Six Mile Rd
 Livonia, MI 48152



Legend

- Storm Manhole (17)
- Catch Basin (15)
- Storm Sewer
- Dry Retention (4)
- ▭ Property Line

N

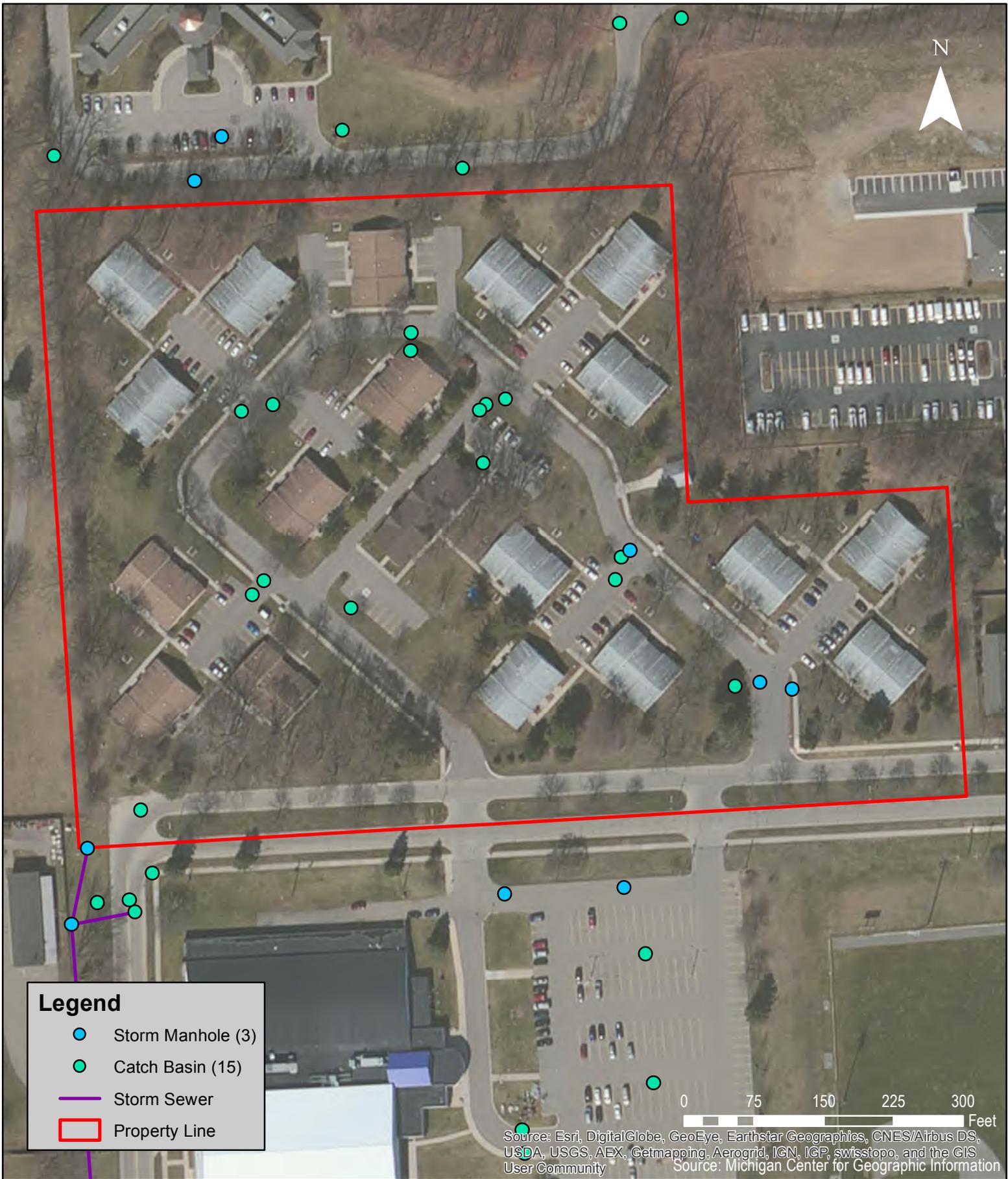


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
Source: Michigan Center for Geographic Information

City of Livonia - Shelden Park

32901 Plymouth Rd
Livonia, MI 48150

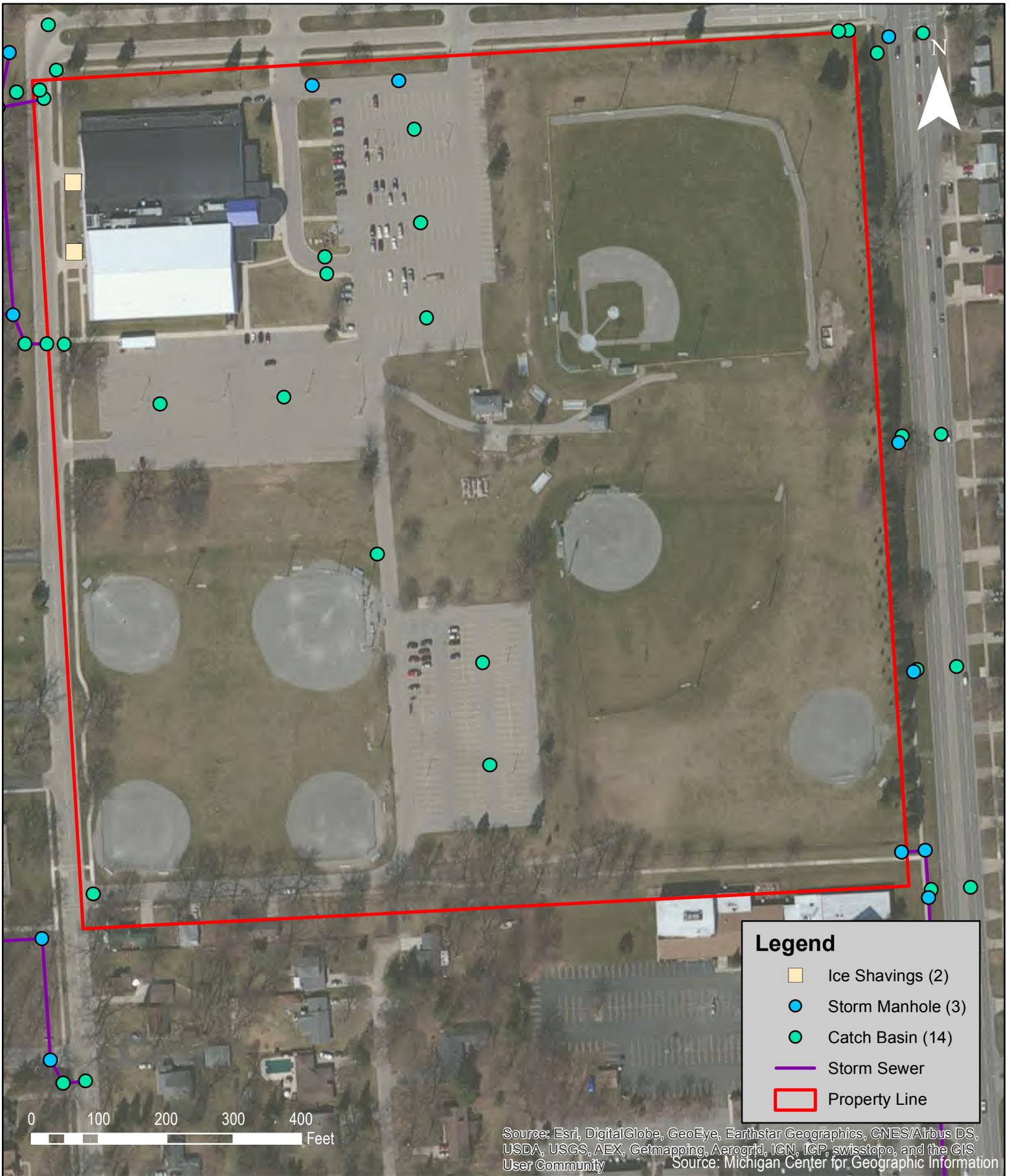




City of Livonia - Silver Village Retirement Community

33780 Lyndon St
 Livonia, MI 48154





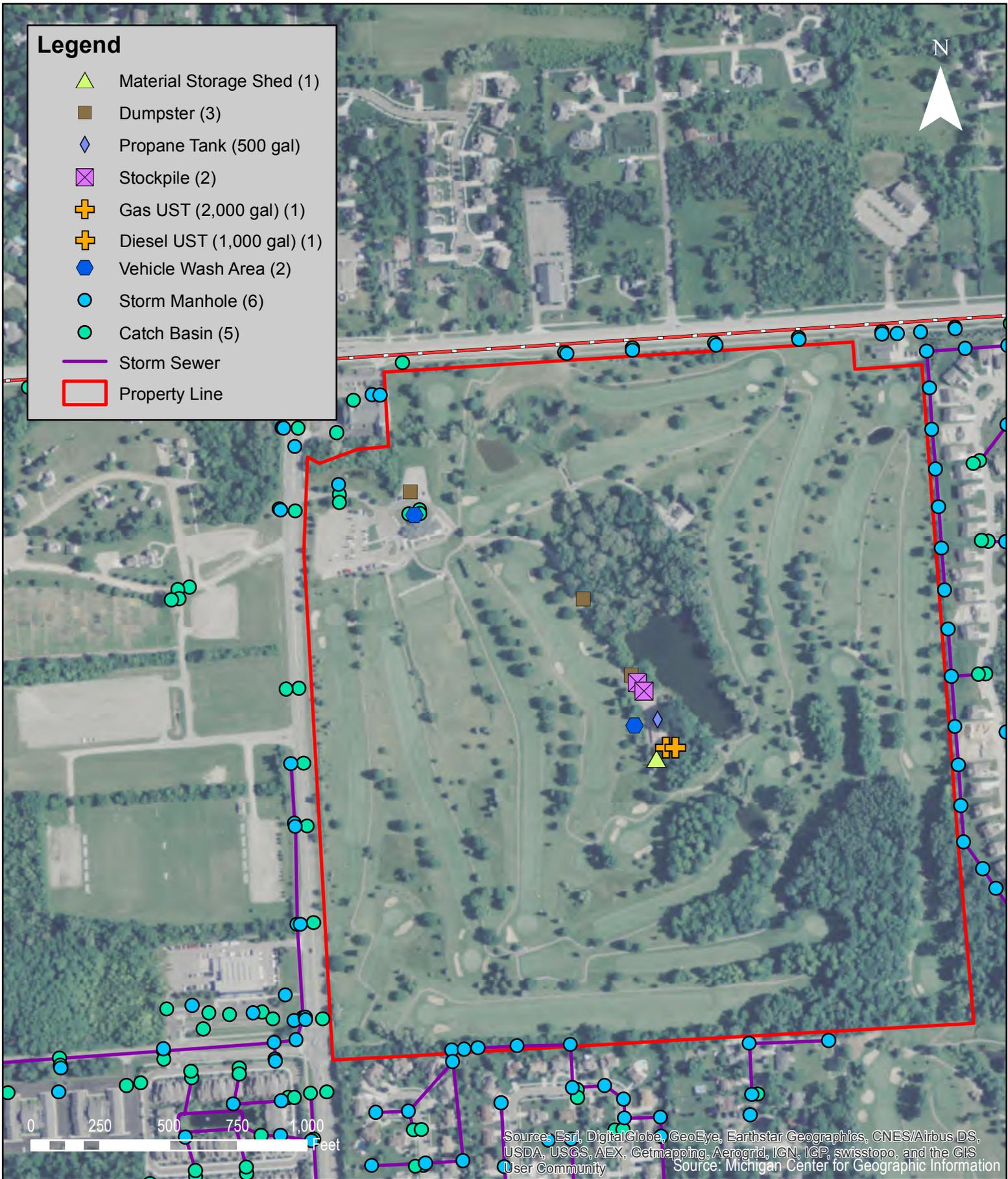
City of Livonia - Edgar Ice Arena and Ford Field

33841 Lyndon St
 Livonia, MI 48154



Legend

-  Material Storage Shed (1)
-  Dumpster (3)
-  Propane Tank (500 gal)
-  Stockpile (2)
-  Gas UST (2,000 gal) (1)
-  Diesel UST (1,000 gal) (1)
-  Vehicle Wash Area (2)
-  Storm Manhole (6)
-  Catch Basin (5)
-  Storm Sewer
-  Property Line

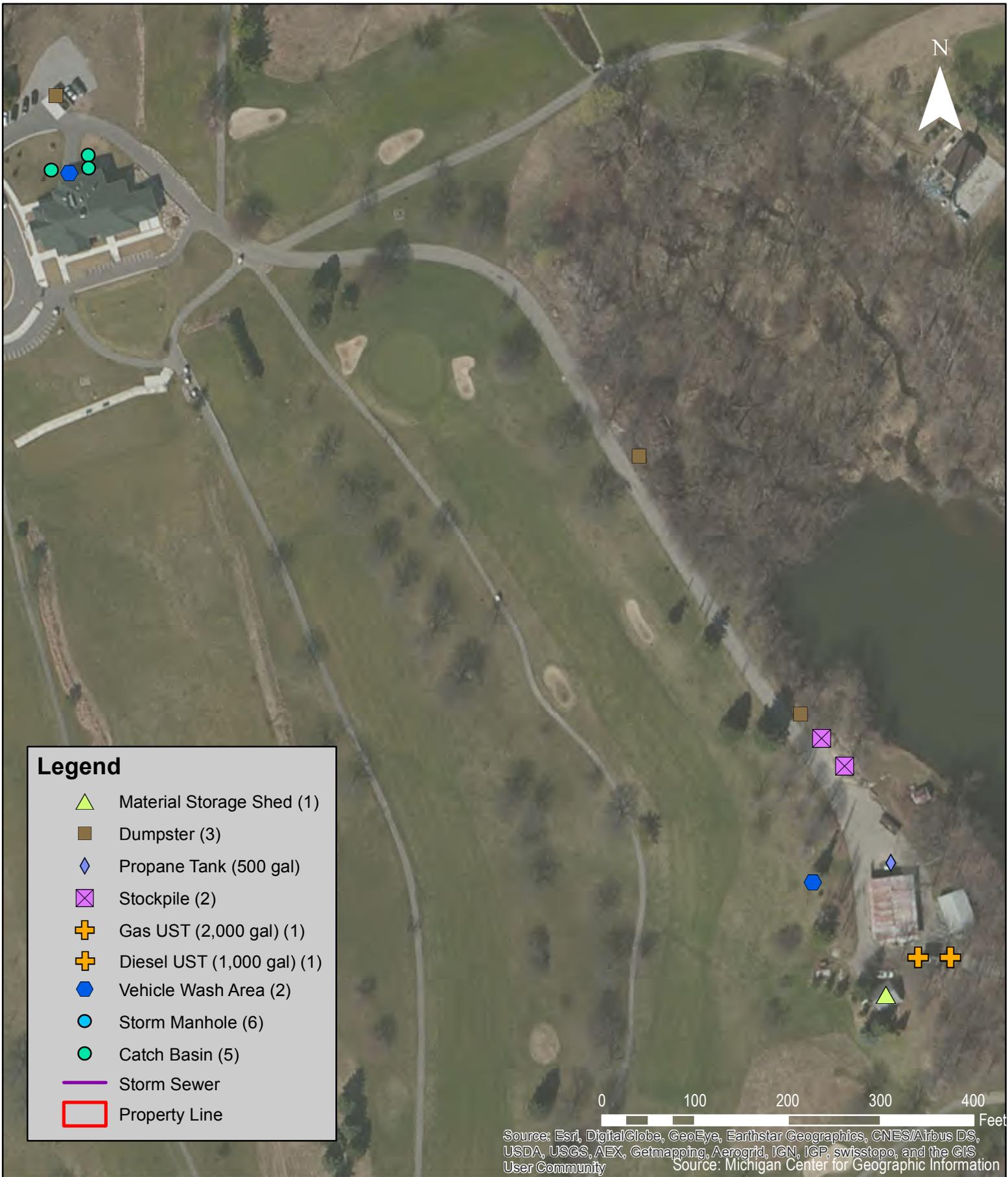


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
Source: Michigan Center for Geographic Information

City of Livonia - Whispering Willows Golf Course

20500 Newburgh Rd
Livonia, MI 48152





Legend

-  Material Storage Shed (1)
-  Dumpster (3)
-  Propane Tank (500 gal)
-  Stockpile (2)
-  Gas UST (2,000 gal) (1)
-  Diesel UST (1,000 gal) (1)
-  Vehicle Wash Area (2)
-  Storm Manhole (6)
-  Catch Basin (5)
-  Storm Sewer
-  Property Line

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

City of Livonia - Whispering Willows Golf Course

20500 Newburgh Rd
 Livonia, MI 48152



APPENDIX H2
STANDARD OPERATING PROCEDURE
POLLUTION PREVENTION AND GOOD HOUSEKEEPING

STORM WATER POLLUTION PREVENTION PLANNING

DEPARTMENT OF PUBLIC WORKS
12973 FARMINGTON ROAD

PREPARED FOR:

THE CITY OF LIVONIA
12973 FARMINGTON ROAD, LIVONIA, MICHIGAN 48150



REVISED: MARCH 2023

SECTION A – PURPOSE

The Michigan Department of Environmental Quality (MDEQ) National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Phase II Stormwater Discharge Permit Application requires a description of current and proposed Best Management Practices (BMPs) to meet the minimum control measure requirements for the Pollution Prevention and Good Housekeeping Program to the maximum extent practicable to prevent or reduce the discharge of pollutants from municipal facilities and operations. The following standard operating procedure is intended for the City of Livonia DPW facility, which has been deemed as a high priority based on the operations that are conducted at the site.

SECTION B – FACILITY ASSESSMENT AND PRIORITIZATION

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a standard operating procedure (SOP) for identifying the structural and non-structural stormwater controls implemented and maintained to prevent or reduce pollutant runoff at each facility with the high potential for pollutant runoff. The DPW was assessed for its potential to discharge pollutants to the waters of the state and as deemed a high priority based on the following applicable criteria as outlined in the NPDES permit application:

- Amount of urban pollutants stored at the site (i.e. sediment, nutrients, metals, hydrocarbons, pesticides, fertilizers, herbicides, chlorides, trash, bacteria, or other site-specific pollutants)
- Potential for polluting activities to be conducted outside (*e.g.*, vehicle washing)

Based on these criteria, the DPW facility has been deemed a high priority site which has prompted the need for a site specific standard operating procedure to prevent or minimize the potential for pollutants from entering surface waters of the state.

The City's DPW Facility is located at 12973 Farmington Road and consists of six (6) buildings, whose purposes include DPW administration, fleet maintenance, sign production, water and sewer maintenance, and general storage.

SECTION C –SIGNIFICANT MATERIALS

Significant materials are any material which could degrade or impair water quality. The following significant materials are used and stored at the DPW Facility:

- Fuel Storage and Use
- Automotive and Maintenance Fluids (*e.g.*, new and used oil, coolant, windshield wiper fluid, oils, lubricants)
- Vehicle and Equipment Wash Water (detergents, sediment, oils)
- Household Hazardous Waste Collection Area
- General Refuse and Recyclable Materials

The following handling and storage requirements apply to these materials.

Significant Material	Potential for Discharge	Handling and Storage Requirements
Fuel Storage and Use	High	<p>One 20,000-gallon underground storage tank (UST) partitioned to store gasoline and diesel fuel is installed at the DPW Facility. The tank is double-walled which provides secondary containment. The UST is provided with dispensers that are locked when the area is closed, a shut-off alarm, bollards for protection from vehicle impacts, and a spill containment kit.</p> <p>In addition, one 1,000-gallon aboveground storage tank (AST) containing propane is installed.</p>
Automotive Fluids	Low	<p>Vehicle and equipment maintenance activities are only conducted inside the DPW Garage. Storage, pickup and delivery of automotive fluids occur inside the garage.</p>
Vehicle and Equipment Wash Water	Low	<p>Vehicle washing activities are conducted outdoors in a designated, canopy-covered paved area adjacent to the main DPW building. The area is sloped inward to contain wash water to prevent wash water from flowing outside of the designated washing area. Wash water is collected by a catch basin located within the vehicle washing area which discharges into the municipal sanitary sewer system.</p>
Household Hazardous Waste Collection Area	Low	<p>The City periodically conducts a household hazardous waste event where the public is encouraged to drop off unwanted household hazardous wastes at the DPW facility. Accepted waste that is stored outdoors is staged on pallets and covered with a tarp on a temporary basis until it is collected, transported off-site, and properly disposed of by a licensed waste hauler.</p>
General Refuse and Recyclable Materials	Low	<p>Dumpsters and roll-offs are kept closed or covered at all times except when adding or removing waste.</p>

C.1 Fuel Storage and Use

The following procedures will minimize stormwater impacts from fueling operations:

- Bulk fuel deliveries will be made by properly trained suppliers. This will be ensured by including pollution prevention and spill response requirements in the supplier's contract.
- The UST has an emergency shut-off and an automated leak detection and volume monitoring system.
- A spill kits are stationed in these areas to address smaller releases.

C.2 Vehicle and Equipment Washing and Maintenance

Vehicle maintenance activities are conducted by DPW staff for the City's entire vehicle fleet with the exception of public safety vehicles. Maintenance activities conducted by DPW staff include but are not limited to: oil changes and other vehicle fluids, brakes, tune ups, and general repair tasks. A maintenance log is maintained utilizing the City's computer system.

Vehicle washing activities are conducted outdoors in a designated, covered paved area adjacent to the main DPW building. The area is sloped inward to contain wash water to prevent wash water from flowing outside of the designated washing area. Wash water is collected by a catch basin located within the vehicle washing area which discharges into the municipal sanitary sewer system.

C.3 Household Hazardous Waste

The City periodically conducts a household hazardous waste event where the public is encouraged to drop off unwanted household hazardous wastes at the DPW facility. The City only accepts wastes that are in sealed containers. Accepted waste that is stored outdoors is staged on pallets and covered with a tarp on a temporary basis until it is collected, transported off-site, and properly disposed of by a licensed waste hauler.

C.4 Road, Parking Lot, and Sidewalk Maintenance

Road, parking lot, and sidewalk maintenance activities includes pothole repair, sidewalk repair/replacement, and curb and gutter repair. These services are addressed by DPW field staff as determined in the field on an as needed basis. Materials are purchased in quantities as needed to reduce waste. Left-over materials are stored in designated stockpile areas at the Glendale Storage Yard and Landfill facility. In cases where a contractor is retained to perform these activities, a City representative is on site to oversee the work and ensure that left over material, concrete washout, and other associated pollutants are disposed of property. Disposing of concrete washout and other excess repair materials into the storm sewer is strictly prohibited by the City.

SECTION D – STRUCTURAL STORMWATER CONTROLS

The following is an inventory of stormwater controls (i.e., catch basins, detention basins, etc.) that are present at the DPW facility to prevent or minimize impacts to stormwater:

- Stormwater Catch Basins (11)
- Stormwater Manhole (45)

In addition to implementing the catch basin maintenance and street sweeping programs (as described in the Pollution Prevention and Good Housekeeping SOP), the City also performs inspections of City-owned detention basins located throughout the City. Detention basins that are owned and operated by the City are inspected on a 5-year cycle. Inspections shall assess the vegetation, erosion, flow channelization, bank stability, inlet/outlet conditions, embankment, and sediment and debris accumulations. Sediment is removed from the basin forebay when necessary. If it is determined that maintenance activities are needed, the City will document the needed maintenance actions using a standardized inspection form and perform any maintenance activities as needed.

SECTION E – NON-STRUCTURAL CONTROLS

The City is committed to employing preventative maintenance practices through the use of several nonstructural controls to prevent stormwater pollution. These nonstructural controls are everyday types of activities undertaken by employees at the facility. The non-structural controls implemented at the DPW facility are as follows:

E.1 Routine Inspections and Good Housekeeping Procedures

Preventive maintenance involves the regular inspection, testing, and cleaning of facility equipment, vehicles, and operational systems. DPW foremen meet with field staff on a daily basis to discuss daily assignments and objectives. The purpose of these inspections is to identify and prevent conditions that could lead to stormwater pollution. A log of corrective actions will be kept on file using the City's computer system.

Routine inspections of stormwater management and control structures are conducted to ensure materials and equipment are clean and orderly and to prevent or minimize pollutant runoff. They are conducted and documented on a monthly basis using a Routine Preventive Maintenance and Good Housekeeping Inspection Form has been created for the facility and is included at the end of this SOP. Completed routine inspection forms are kept on file at the DPW facility.

Staff inspect all vehicles consistent with Commercial Driver's License Procedures and performs detailed vehicle inspections every month. Completed vehicle maintenance records and fueling logs are kept on file at the DPW facility.

E.2 Comprehensive Site Inspections

The comprehensive site inspection will include but not be limited to the areas and equipment identified in the preventive maintenance program, good housekeeping procedures, structural and non-structural controls, a review of the routine preventive maintenance reports, and any other paperwork associated with this SOP. The entire DPW facility will be evaluated during the comprehensive inspection. In contrast to the routine inspections, comprehensive inspections will focus on areas that have a reasonable potential for significant materials to contaminate stormwater runoff. The comprehensive site inspection for DPW areas will be conducted once every six (6) months. Documentation of the comprehensive site inspection results will be prepared and kept on file for three years. The report shall identify any incidents of non-compliance with the SOPs. The Comprehensive Site Inspection and Report Form that will be used for each inspection is included at the end of this SOP.

E.3 Employee Training Program

Employee training programs will be implemented to inform appropriate personnel at all levels of responsibility of safety, environmental impacts, and good housekeeping practices. The standard operating procedure for employee training can be found in the City's general Pollution Prevention and Good Housekeeping Standard Operating Procedure.

SECTION F – PROCESS FOR REVISION

This procedure shall be reviewed once per permit cycle by the Stormwater Manager for any updates to streamline the requirements.

INSPECTION FORMS

**ROUTINE PREVENTIVE MAINTENANCE
AND GOOD HOUSEKEEPING INSPECTION FORM**

**Complete this inspection every month. It is not necessary to complete this inspection during the same month the Comprehensive Inspection is conducted. Maintain completed copy in site files.*

Name:		Date/Time:		
Title:		Weather:		
Significant Materials / Activity	Location	Status, Corrective Action Needed?		Corrective Action Date, Initials
Fuel Dispensing Area (Gasoline, Diesel)	Exterior			
General Refuse and Recyclable Materials, Dumpsters	Exterior			
Household Hazardous Waste Collection (when applicable)	Exterior			
Vehicle and Equipment Wash Area	Exterior			
Storm Water Catch Basins	Exterior			
Other Inspection Notes:				
		YES	NO	Follow-Up Required?
Are good housekeeping practices being maintained?				
Is all preventive maintenance of equipment performed in areas that will not release pollutant into storm water run-off?				
Do any areas of exposed soil and/or erosion need to be addressed?				
Signature:				

**ROUTINE PREVENTIVE MAINTENANCE
AND GOOD HOUSEKEEPING INSPECTION FORM**

**COMPREHENSIVE SITE INSPECTION
AND REPORT FORM (EVERY 6 MONTHS)**

**Complete this inspection every 6 months. It is not necessary to complete the Routine Preventive Maintenance and Good Housekeeping Inspection during the same month this inspection is conducted. Maintain completed copy in site files.*

Name:		Date/Time:		
Title:		Weather:		
Significant Materials / Activity	Location	Status, Corrective Action Needed?		Corrective Action Date, Initials
Fuel Dispensing Area (Gasoline, Diesel)	Exterior			
General Refuse and Recyclable Materials, Dumpsters	Exterior			
Household Hazardous Waste Collection (when applicable)	Exterior			
Vehicle and Equipment Wash Area	Exterior			
Storm Water Catch Basins	Exterior			
Automotive Fluids	Interior, Garage			
		YES	NO	Follow-Up Required?
Are good housekeeping practices being maintained?				
Is all preventive maintenance of equipment performed in areas that will not release pollutant into storm water run-off?				
Do records exist of preventive maintenance activities conducted during the past 6 months since the last Comprehensive Inspection?				
Do any areas of exposed soil and/or erosion need to be addressed?				
Are there any non-storm water discharges? (Authorized or Unauthorized; Inspect site for this)				
Has any training been completed in past 6 months concerning stormwater controls and preventive maintenance? If so, what?				
<i>I certify that the facility is in compliance with the Storm Water Pollution Prevention Planning SOP.</i>				
Signature:				Date:

City of Livonia
DPW Facility

**COMPREHENSIVE SITE INSPECTION
AND REPORT FORM (EVERY 6 MONTHS)**

NPDES MS4 Permit

APPENDIX H3
STANDARD OPERATING PROCEDURE
POLLUTION PREVENTION AND GOOD HOUSEKEEPING

STORM WATER POLLUTION PREVENTION PLANNING

GLENDALE LANDFILL & RECYCLING CENTER
32300 GLENDALE STREET

PREPARED FOR:

THE CITY OF LIVONIA
12973 FARMINGTON ROAD, LIVONIA, MICHIGAN 48150



REVISED: JULY 2018

SECTION A – PURPOSE

The Michigan Department of Environmental Quality (MDEQ) National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Phase II Stormwater Discharge Permit Application requires a description of current and proposed Best Management Practices (BMPs) to meet the minimum control measure requirements for the Pollution Prevention and Good Housekeeping Program to the maximum extent practicable to prevent or reduce the discharge of pollutants from municipal facilities and operations. The following standard operating procedure is intended for the City of Livonia Glendale Storage Yard and Landfill facility, which has been deemed as a high priority based on the operations that are conducted at the site.

SECTION B – FACILITY ASSESSMENT AND PRIORITIZATION

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a standard operating procedure (SOP) for identifying the structural and non-structural stormwater controls implemented and maintained to prevent or reduce pollutant runoff at each facility with the high potential for pollutant runoff. The Glendale facility was assessed for its potential to discharge pollutants to the waters of the state and as deemed a high priority based on the following applicable criteria as outlined in the NPDES permit application:

- Amount of urban pollutants stored at the site (i.e. sediment, nutrients, metals, hydrocarbons, pesticides, fertilizers, herbicides, chlorides, trash, bacteria, or other site-specific pollutants)
- Potential for polluting activities to be conducted outside (i.e. vehicle washing)

Based on these criteria, the Glendale facility has been deemed a high priority site which has prompted the need for a site specific standard operating procedure to prevent or minimize the potential for pollutants from entering surface waters of the state.

The Glendale Landfill and Recycling Center is located at 32300 Glendale Road and consists of two (2) structures that are used for salt and brine storage.

SECTION C – SIGNIFICANT MATERIALS

Significant materials are any material which could degrade or impair water quality. The following significant materials are used and stored at the DPW Facility:

- Liquid Brine Storage and Loading/Unloading
- Rock Salt Storage and Loading/Unloading
- Material Stockpiles
- Significant Dust or Particulate Generation

The following handling and storage requirements apply to these materials.

Significant Material	Potential for Discharge	Handling and Storage Requirements
Liquid Brine Storage and Loading/Unloading	Medium	Two 5,000-gallon aboveground storage tanks (ASTs) containing a brine solution are installed at the City property. The ASTs are situated within a depressed, impervious, concrete containment area inside a covered building.
Rock Salt Storage and Loading/Unloading	Medium	The Glendale Landfill and Recycling Center is equipped with two bulk rock salt storage structures. Each structure has a capacity of 1,200 tons of rock salt.
Material Stockpiles	Medium	Designated stockpile areas are located at the eastern portion of the site adjacent to the salt dome in an unpaved area. Materials are stockpiled at this location infrequently and include topsoil, sand, gravel, cold patch, woodchips, fill sand, and other earthen materials as needed. Cold patch is also stored under a structure consisting of a roof with open sides.
General Refuse and Recyclable Materials	Low	There are multiple dumpsters kept on municipal property for office trash, construction refuse, and scrap metal storage. The dumpsters are not used for the disposal of hazardous materials.
Significant Dust or Particulate Generation	Low	Due to unpaved driveways and parking lots, dust is generated through routine on-site activities. Driveways will be wetted as necessary to minimize dust generation during dry conditions.

C.1 Winter Operations (Brine and Rock Salt Storage and Loading/Unloading)

Two 5,000-gallon aboveground storage tanks (ASTs) containing a brine solution are installed at the City property. The ASTs are situated within a depressed, impervious, concrete containment area inside the covered salt storage building. Vehicular access is via a concrete ramp entering the containment area to allow for loading and unloading of liquid brine. In the event of a brine spill or release, spilled liquid is confined to the containment area and must be manually removed with a vacuum pump. There are not

catch basins or drainage outlets located within or immediately adjacent to the brine tank containment area.

The Glendale Landfill and Recycling Center is equipped with two bulk rock salt storage structures. One is a covered building that also houses the two brine ASTs, and the other is a salt storage dome. Each structure has a capacity of 1,200 tons of rock salt. The floor of both structures is comprised of an impervious cement pad. The structures are not located within 50 feet of a lake shore, stream bank, or wetland, nor are they located in a 100-year floodplain.

Loading of rock salt at both storage structures takes place at the structure entrance on an unpaved, gravel surface due to limited access inside the structure. The loading area is maintained after each use with excess salt being swept back inside the storage structure. There are no storm water catch basins located near either of the salt storage structures.

Several best management practices (BMPs) are employed by City personnel to achieve effective deicing with minimized environmental impact. Salt trucks are calibrated at the beginning of the season to allow monitoring of the amount of deicing salt applied to ensure efficient use of materials and prevent over application. When possible, roadways will be treated prior to a forecasted snow event which will help prevent ice from forming and may result in less salt usage overall. Snow storage areas will be designated in locations that enable runoff to be directed to landscaped areas for infiltration, to an area at Glendale that drains to the sanitary sewer system, or be otherwise treated prior to entering streams, wetlands or the storm sewer system.

Parks staff are provided annual training on salt and brine storage and application, equipment calibration, and loading/unloading to minimize any track-out from loading operations and to minimize environmental impacts. Salt and brine application vehicles are calibrated before the winter season.

C.2 Stockpiled Materials

Designated stockpile areas are located at the eastern portion of the site adjacent to the salt dome in an unpaved area. Materials are stockpiled at this location infrequently and include topsoil, sand, gravel, and other earthen materials as needed. Cold patch is also stored under a structure consisting of a roof with open sides. An additional stockpile area is located in the northwest corner of the property in an area with drainage to the sanitary sewer (and thus not included within the MS4 permitted area).

SECTION D – STRUCTURAL STORMWATER CONTROLS

The following is an inventory of stormwater controls (i.e., catch basins, detention basins, etc.) that are present at the DPW facility to prevent or minimize impacts to stormwater:

- Stormwater Catch Basins (4)

- Stormwater Manhole Structure (1)

In addition to implementing the catch basin maintenance and street sweeping programs (as described in the Pollution Prevention and Good Housekeeping SOP), the City also performs inspections of City-owned detention basins located throughout the City. Detention basins that are owned and operated by the City are inspected on a 5-year cycle. Inspections shall assess the vegetation, erosion, flow channelization, bank stability, inlet/outlet conditions, embankment, and sediment and debris accumulations. Sediment is removed from the basin forebay when necessary. If it is determined that maintenance activities are needed, the City will document the needed maintenance actions using a standardized inspection form and perform any maintenance activities as needed.

SECTION E – NON-STRUCTURAL CONTROLS

The City is committed to employing preventive maintenance practices through the use of several nonstructural controls to prevent stormwater pollution. These nonstructural controls are everyday types of activities undertaken by employees at the facility. The non-structural controls implemented at the Glendale Storage Yard and Landfill facility are as follows:

E.1 Routine Inspections and Good Housekeeping Procedures

Preventive maintenance involves the regular inspection, testing, and cleaning of facility equipment, vehicles, and operational systems. DPW foremen meet with field staff on a daily basis to discuss daily assignments and objectives. The purpose of these inspections is to identify and prevent conditions that could lead to stormwater pollution. A log of corrective actions will be kept on file using the City's computer system.

Routine inspections of stormwater management and control structures are conducted to ensure materials and equipment are clean and orderly and to prevent or minimize pollutant runoff. These routine inspections are conducted and documented on a monthly basis using a Routine Preventive Maintenance and Good Housekeeping Inspection Form has been created for the facility and is included at the end of this SOP. Completed routine inspection forms are kept on file at the DPW facility.

E.2 Comprehensive Site Inspections

The comprehensive site inspection will include but not be limited to the areas and equipment identified in the preventive maintenance program, good housekeeping procedures, structural and non-structural controls, a review of the routine preventive maintenance reports, and any other paperwork associated with this SOP. The entire DPW facility will be evaluated during the comprehensive inspection. In contrast to the routine inspections, comprehensive inspections will focus on areas that have a reasonable potential for significant materials to contaminate stormwater runoff. The comprehensive site inspection for the Glendale Landfill & Recycling Center will be conducted once every six (6) months. Documentation of the comprehensive site inspection results will be prepared and kept on file for three years. The report shall identify any incidents of non-

compliance with the SOPs. The Comprehensive Site Inspection and Report Form that will be used for each inspection is included at the end of this SOP.

SECTION F – PROCESS FOR REVISION

This procedure shall be reviewed once per permit cycle by the Stormwater Manager for any updates to streamline the requirements.

INSPECTION FORMS

**ROUTINE PREVENTIVE MAINTENANCE
 AND GOOD HOUSEKEEPING INSPECTION FORM**

**Complete this inspection every month. It is not necessary to complete this inspection during the same month the Comprehensive Inspection is conducted. Maintain completed copy in site files.*

Name:		Date/Time:	
Title:		Weather:	
Significant Materials / Activity	Location	Status, Corrective Action Needed?	Corrective Action Date, Initials
Salt Storage Dome and Loading/Unloading Area	Exterior		
Salt Storage Building and Loading/Unloading Area	Exterior		
Material Stockpiles	Exterior		
General Refuse and Recyclable Materials, Dumpsters	Exterior		
Other Inspection Notes:			
	YES	NO	Follow-Up Required?
Are good housekeeping practices being maintained?			
Is all preventive maintenance of equipment performed in areas that will not release pollutant into storm water run-off?			
Do any areas of exposed soil and/or erosion need to be addressed?			
Signature:			

City of Livonia
Glendale Landfill & Recycling

**ROUTINE PREVENTIVE MAINTENANCE
AND GOOD HOUSEKEEPING INSPECTION FORM**

NPDES MS4 Permit

**Complete this inspection every 6 months. It is not necessary to complete the Routine Preventive Maintenance and Good Housekeeping Inspection during the same month this inspection is conducted. Maintain completed copy in site files.*

Name:		Date/Time:		
Title:		Weather:		
Significant Materials / Activity	Location	Status, Corrective Action Needed?	Corrective Action	Corrective Action Date, Initials
Salt Storage Dome and Loading/Unloading Area	Exterior			
Salt Storage Building and Loading/Unloading Area	Exterior			
Material Stockpiles	Exterior			
General Refuse and Recyclable Materials, Dumpsters	Exterior			
Brine Storage Tanks and Containment Area	Interior			
		YES	NO	Follow-Up Required?
Are good housekeeping practices being maintained?				
Is all preventive maintenance of equipment performed in areas that will not release pollutant into storm water run-off?				
Do records exist of preventive maintenance activities conducted during the past 6 months since the last Comprehensive Inspection?				
Do any areas of exposed soil and/or erosion need to be addressed?				
Are there any non-storm water discharges? (Authorized or Unauthorized; Inspect site for this)				
Has any training been completed in past 6 months concerning stormwater controls and preventive maintenance? If so, what?				
<i>I certify that the facility is in compliance with the Storm Water Pollution Prevention Planning SOP.</i>				
Signature:				Date:

City of Livonia
Glendale Landfill & Recycling

**COMPREHENSIVE SITE INSPECTION
AND REPORT FORM (EVERY 6 MONTHS)**

NPDES MS4 Permit

APPENDIX H4
STANDARD OPERATING PROCEDURE
POLLUTION PREVENTION AND GOOD HOUSEKEEPING

STORM WATER POLLUTION PREVENTION PLANNING

CITY GOLF COURSES

FOX CREEK – 36000 SEVEN MILE ROAD

IDYL WYLD – 35786 FIVE MILE ROAD

WHISPERING WILLOWS – 20500 NEWBURGH ROAD

PREPARED FOR:

THE CITY OF LIVONIA
12973 FARMINGTON ROAD, LIVONIA, MICHIGAN 48150



REVISED: JULY 2018

SECTION A – PURPOSE

The Michigan Department of Environmental Quality (MDEQ) National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Phase II Stormwater Discharge Permit Application requires a description of current and proposed Best Management Practices (BMPs) to meet the minimum control measure requirements for the Pollution Prevention and Good Housekeeping Program to the maximum extent practicable to prevent or reduce the discharge of pollutants from municipal facilities and operations. The following standard operating procedure is intended for the City of Livonia's three (3) golf courses, Fox Creek, Whispering Willows, and Idyl Wyld, all of which have been deemed as a high priority based on the operations that are conducted at the site.

SECTION B – FACILITY ASSESSMENT AND PRIORITIZATION

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a standard operating procedure (SOP) for identifying the structural and non-structural stormwater controls implemented and maintained to prevent or reduce pollutant runoff at each facility with the high potential for pollutant runoff. All three of the City's golf courses were assessed for their potential to discharge pollutants to the waters of the state and as deemed a high priority based on the following applicable criteria as outlined in the NPDES permit application:

- Amount of urban pollutants stored at the site (i.e. sediment, nutrients, metals, hydrocarbons, pesticides, fertilizers, herbicides, chlorides, trash, bacteria, or other site-specific pollutants)
- Potential for polluting activities to be conducted outside (*e.g.*, vehicle washing)
- Proximity to water bodies

Based on these criteria, all three golf courses have been deemed a high priority site which has prompted the need for a site specific standard operating procedure to prevent or minimize the potential for pollutants from entering surface waters of the state.

SECTION C –SIGNIFICANT MATERIALS

Significant materials are any material which could degrade or impair water quality. The following significant materials are used and stored at the DPW Facility:

- Fuel Storage and Use
- Material Stockpiles
- Vehicle and Equipment Maintenance Fluids (*e.g.*, new and used oil, coolant, windshield wiper fluid, oils, lubricants)
- Vehicle and Equipment Wash Water (detergents, sediment, oils)
- Storage and Use of Pesticides, Herbicides and Fertilizers
- General Refuse and Recyclable Materials

The following handling and storage requirements apply to these materials.

Significant Material	Potential for Discharge	Handling and Storage Requirements
Fuel Storage and Use	High	<p>All three of the golf courses are equipped with diesel and gasoline storage tanks for fueling of golf course equipment and vehicles. These include:</p> <ul style="list-style-type: none"> • Fox Creek: two 500-gallon ASTs containing gasoline and diesel fuel. • Idyl Wyld: two 2,000-gallon ASTs containing gasoline and diesel fuel, and one 1,000-gallon propane tank. • Whispering Willow: one 2,000-gallon gasoline UST, one 1,000-gallon diesel UST, and one 500-gallon propane AST. <p>Operation procedures for fueling are described below.</p>
Material Stockpiles	Medium	<p>Designated stockpile areas are located at all three of the golf course maintenance facilities. Stockpiled materials at these locations include topsoil, sand, gravel, and other earthen materials as needed. All stockpiles have perimeter controls in place to prevent erosion which are comprised of precast concrete blocks that are positioned at rear and sides of the stockpile. The front is left open to provide access for loading. When not in use, the stockpiles are covered with a tarp to minimize erosion.</p>
Vehicle and Equipment Maintenance Fluids	Low	<p>Vehicle and equipment maintenance activities are only conducted inside garages at the golf courses. Storage, pickup and delivery of equipment fluids occur inside the garages.</p>
Vehicle and Equipment Wash Water	Low	<p>Lawn maintenance equipment is washed outside with clean water without the use of detergents or solvents. Washwater is allowed to infiltrate into the ground. Engines and other oily equipment are not washed.</p>

Significant Material	Potential for Discharge	Handling and Storage Requirements
Storage and Use of Pesticides, Herbicides, and Fertilizers	Low	<p>All three facilities have separate storage sheds that are located at the maintenance facility area and used for pesticide, herbicide and fertilizer storage. The shed is self-contained and equipped with a fire suppression system. Spill containment measures are comprised of an elevated and perforated flooring system that allows spilled materials to be collected into a containment area under the storage area. The capacity of the spill containment area is larger than the total volume of materials that are stored within the structure.</p> <p>The storage structures remain locked at all times except during times of access. Golf course staff tracks the quantity of material that is stored in both structures using a tracking log. Lastly, all three sites have spill containment kits that are immediately accessible in the event of a spill.</p>
General Refuse and Recyclable Materials	Low	A total of two (2) dumpsters at the Idyl Wyld facility, three (3) dumpsters located at the Fox Creek facility, and three (3) dumpsters located at the Whispering Willows facility are kept on site for office trash and general refuse. The dumpsters are not used for the disposal of hazardous materials. The lids of the dumpsters are to be closed when not in use.

C.1 Fuel Storage and Use

The following procedures will minimize stormwater impacts from fueling operations:

- Bulk fuel deliveries will be made by properly trained suppliers. This will be ensured by including pollution prevention and spill response requirements in the supplier’s contract.
- All fuel storage tanks have an emergency shut-off and an automated leak detection and volume monitoring system.
- A spill kits are stationed in these areas to address smaller releases.

C.2 Vehicle and Equipment Washing and Maintenance

Turf equipment maintenance activities are conducted by golf course staff only. Maintenance activities conducted by golf course staff include, but are not limited to, oil changes and other vehicle fluids, tune-ups, and general repair tasks. A maintenance log is maintained to document all equipment maintenance and repair activities.

At the Fox Creek facility, turf equipment rinsing activities are conducted outdoors in a designated paved area adjacent to the maintenance building. There are no catch basins near the washing area. Rinse water flows over a vegetated area to the south of the designated washing area where it is allowed to infiltrate. The wash water is mixed with grass cuttings only; no detergents or other chemicals are utilized.

Turf equipment rinsing activities at the Idyl Wyld facility are generally conducted near the maintenance building or the cart barn in non-paved, vegetated areas. The wash water is mixed with grass cuttings only; no detergents or other chemicals are utilized.

At the Whispering Willows facility, turf equipment rinsing activities are conducted outdoors in a designated paved area adjacent to the maintenance building. Rinse water flows over a vegetated area and is allowed to infiltrate. The wash water is mixed with grass cuttings only; no detergents or other chemicals are utilized.

SECTION D – STRUCTURAL STORMWATER CONTROLS

The following is an inventory of stormwater controls (i.e., catch basins, detention basins, etc.) that are present at the DPW facility to prevent or minimize impacts to stormwater:

Fox Creek Golf Course – 36000 Seven Mile Road

- Stormwater catch basins (3)
- Storm sewer manhole structures (4)
- Drainage ditch

Idyl Wyld Golf Course – 35786 Five Mile Road

- Stormwater catch basins (3)
- Storm sewer manhole structures (1)

Whispering Willows Golf Course – 20500 Newburgh Road

- Stormwater catch basins (5)
- Storm sewer manhole structures (6)

In addition to implementing the catch basin maintenance and street sweeping programs (as described in the Pollution Prevention and Good Housekeeping SOP), the City also performs inspections of City-owned detention basins located throughout the golf courses. Detention basins that are owned and operated by the City are inspected on a 5-year cycle. Inspections shall

assess the vegetation, erosion, flow channelization, bank stability, inlet/outlet conditions, embankment, and sediment and debris accumulations. Sediment is removed from the basin forebay when necessary. If it is determined that maintenance activities are needed, the City will document the needed maintenance actions using a standardized inspection form and perform any maintenance activities as needed.

SECTION E – NON-STRUCTURAL CONTROLS

The City is committed to employing preventative maintenance practices through the use of several nonstructural controls to prevent stormwater pollution. These nonstructural controls are everyday types of activities undertaken by employees at the facility. The non-structural controls implemented at all three golf courses are as follows:

E.1 Routine Inspections and Good Housekeeping Procedures

Preventive maintenance involves the regular inspection, testing, and cleaning of facility equipment, vehicles, and operational systems. DPW foremen meet with field staff on a daily basis to discuss daily assignments and objectives. A routine inspection is conducted by facility staff during site walkthroughs during normal operations activities. The purpose of these inspections is to identify and prevent conditions that could lead to stormwater pollution. A log of corrective actions will be kept on file using the City's computer system.

Routine inspections of stormwater management and control structures are conducted to ensure materials and equipment are clean and orderly and to prevent or minimize pollutant runoff. These routine inspections are conducted and documented on a monthly basis using a Routine Preventive Maintenance and Good Housekeeping Inspection Form that has been created for the facility and is included at the end of this SOP. Completed routine inspection forms are kept on file at the associated golf course maintenance facility.

E.2 Comprehensive Site Inspections

The comprehensive site inspection will include but not be limited to the areas and equipment identified in the preventive maintenance program, good housekeeping procedures, structural and non-structural controls, a review of the routine preventive maintenance reports, and any other paperwork associated with this SOP. The entire DPW facility will be evaluated during the comprehensive inspection. In contrast to the routine inspections, comprehensive inspections will focus on areas that have a reasonable potential for significant materials to contaminate stormwater runoff. The comprehensive site inspection of the City-owned golf courses will be conducted once every six (6) months. Documentation of the comprehensive site inspection results will be prepared and kept on file for three years. The report shall identify any incidents of non-compliance with the SOPs. The Comprehensive Site Inspection and Report Form that will be used for each inspection is included at the end of this SOP.

E.3 Employee Training Program

Employee training programs will be implemented to inform appropriate personnel at all levels of responsibility of safety, environmental impacts, and good housekeeping practices. The standard operating procedure for employee training can be found in the City's general Pollution Prevention and Good Housekeeping Standard Operating Procedure.

SECTION F – PROCESS FOR REVISION

This procedure shall be reviewed once per permit cycle by the Stormwater Manager for any updates to streamline the requirements.

INSPECTION FORMS

**ROUTINE PREVENTIVE MAINTENANCE
AND GOOD HOUSEKEEPING INSPECTION FORM**

**Complete this inspection every month. It is not necessary to complete this inspection during the same month the Comprehensive Inspection is conducted. Maintain completed copy in site files.*

Name:		Date/Time:		Golf Course:	
Title:		Weather:			
Significant Materials / Activity	Location	Status, Corrective Action Needed?		Corrective Action Date, Initials	
Fuel Dispensing Area (Gasoline, Diesel)	Exterior				
Material Stockpiles	Exterior				
Equipment Wash Areas	Exterior				
General Refuse and Recyclable Materials, Dumpsters	Exterior				
Storage Shed (Pesticides, Herbicides), Outside Equipment Storage	Exterior				
Storm Water Catch Basins (near polluting materials only)	Exterior				
Other Inspection Notes:					
		YES	NO	Follow-Up Required?	
Are good housekeeping practices being maintained?					
Is all preventive maintenance of equipment performed in areas that will not release pollutant into storm water run-off?					
Do any areas of exposed soil and/or erosion need to be addressed?					
Signature:					

City of Livonia
City Golf Courses

**ROUTINE PREVENTIVE MAINTENANCE
AND GOOD HOUSEKEEPING INSPECTION FORM**

NPDES MS4 Permit

**COMPREHENSIVE SITE INSPECTION
AND REPORT FORM (EVERY 6 MONTHS)**

**Complete this inspection every 6 months. It is not necessary to complete the Routine Preventive Maintenance and Good Housekeeping Inspection during the same month this inspection is conducted. Maintain completed copy in site files.*

Name:		Date/Time:		Golf Course:	
Title:		Weather:			
Significant Materials / Activity	Location	Status, Corrective Action Needed?		Corrective Action Date, Initials	
Fuel Dispensing Area (Gasoline, Diesel)	Exterior				
Material Stockpiles	Exterior				
Equipment Wash Areas	Exterior				
General Refuse and Recyclable Materials, Dumpsters	Exterior				
Storage Shed (Pesticides, Herbicides), Outside Equipment Storage	Exterior, Interior				
Storm Water Catch Basins (near polluting materials only)	Exterior				
		YES	NO	Follow-Up Required?	
Are good housekeeping practices being maintained?					
Is all preventive maintenance of equipment performed in areas that will not release pollutant into storm water run-off?					
Do records exist of preventive maintenance activities conducted during the past 6 months since the last Comprehensive Inspection?					
Do any areas of exposed soil and/or erosion need to be addressed?					
Are there any non-storm water discharges? (Authorized or Unauthorized; Inspect site for this)					
Has any training been completed in past 6 months concerning stormwater controls and preventive maintenance? If so, what?					
<i>I certify that the facility is in compliance with the Storm Water Pollution Prevention Planning SOP.</i>					
Signature:					Date:

City of Livonia
City Golf Courses

**COMPREHENSIVE SITE INSPECTION
AND REPORT FORM (EVERY 6 MONTHS)**

NPDES MS4 Permit

APPENDIX H5
STANDARD OPERATING PROCEDURE
POLLUTION PREVENTION AND GOOD HOUSEKEEPING
SPILL RESPONSE

PREPARED FOR:

THE CITY OF LIVONIA
12973 FARMINGTON ROAD, LIVONIA, MICHIGAN 48150



REVISED: MAY 2018

SECTION A – PERSONNEL

The following City of Livonia personnel have been identified as key staff in charge of spill response planning, implementation and maintenance of the Spill Response Plan.

Name	Phone
Livonia Police Dispatch – Spill Coordinator	(734) 466-2863
Alternate Fire Chief – Spill Coordinator	(734) 466-2430
Doug Moore – Spill Coordinator 1	(734) 323-4602
Ed Hoffman – Spill Coordinator 2	(734) 776-2095

A.1 Responsibilities

- The **Facility Responsible Person** has primary responsibility for coordinating the response to emergencies, including chemical spills
- **Supervisors** should ensure that employees are familiar with these procedures and receive the necessary training
- **All employees** should follow these procedures in the event of a chemical spill

A.2 Emergency Contact Numbers

The following telephone numbers should be posted near telephones and in other conspicuous locations:

Name	Affiliation	Phone
Livonia Police Dispatch – Spill Coordinator	Livonia Police Department	(734) 466-2863
Alternate Fire Chief – Spill Coordinator	Livonia Fire Department	(734) 466-2430
Doug Moore – Spill Coordinator 1	Livonia DPW	(734) 323-4602
Ed Hoffman – Spill Coordinator 2	Livonia DPW	(734) 776-2095
MDEQ 24-Hour Pollution Emergency Alerting System (PEAS)		1-800-292-4706
MDEQ Southeast Michigan District Office		(586) 753-3700
City of Detroit Wastewater Treatment Plant		(313) 297-9400
National Response Center		1-800-424-8802
NTH Consultants, LTD	Environmental Contractor	(248) 533-6300

SECTION B – CLEAN-UP PROCEDURES

Spilled chemical should be effectively and quickly contained and cleaned up. Employees should clean up spills themselves **only if properly trained and protected**. Employees who are not trained in spill cleanup procedures should report the spill to the Responsible Person(s) listed above, warn other employees, and leave the area.

The following general guidelines should be followed for evacuation, spill control, notification of proper authorities, and general emergency procedures in the event of a chemical incident in which there is potential for a significant release of hazardous materials.

B.1 Evacuation

Persons in the immediate vicinity of a spill should *immediately evacuate* the premises (except for employees with training in spill response in circumstances described below). If the spill is of “medium” or “large” size, or if the spill seems hazardous, immediately notify emergency response personnel.

B.2 Spill Control Techniques

Once a spill has occurred, the employee needs to decide whether the spill is small enough to handle without outside assistance. Only employees with training in spill response should attempt to contain or clean up a spill.

NOTE: If you are cleaning up a spill yourself, make sure you are aware of the hazards associated with the materials spilled, have adequate ventilation, and proper personal protective equipment. Treat all residual chemical and cleanup materials as hazardous waste.

Spill control equipment should be located wherever significant quantities of hazardous materials are received or stored. Material Safety Data Sheets (SDSs), absorbents, over-pack containers, container patch kits, spill dams, shovels, floor dry, acid/base neutralizers, and “caution-keep out” signs are common spill response items.

B.3 Spill Response and Clean-up

Chemical spills are divided into three categories: Small, Medium, and Large. Response and cleanup procedures vary depending on the size of the spill.

Small Spills: Any spill where the major dimension is less than 18 inches in diameter. Small spills are generally handled by internal personnel and usually do not require an emergency response by police or fire department HAZMAT teams.

- Quickly control the spill by stopping or securing the spill source. This could be as simple as up-righting a container and using floor-dry or absorbent pads to soak up spilled material. Wear gloves and protective clothing, if necessary.
- Put spill material and absorbents in secure containers if any are available.

- Consult with the Facility Responsible Person and the SDS for spill and waste disposal procedures.
- Use Dry Cleanup Methods and **never** wash spills down the drain, onto a storm drain or onto the driveway or parking lot.
- Both the spilled material and the absorbent may be considered hazardous waste and must be disposed of in compliance with state and federal environmental regulations.

Medium Spills: Spills where the major dimension exceeds 18 inches, but is less than 6 feet. Outside emergency response personnel (police and fire department HAZMAT teams) may be called for medium spills. Common sense, however, will dictate when it is necessary to call them.

- Immediately try to help contain the spill at its source by simple measures only. This means quickly up-righting a container, or putting a lid on a container, if possible. Do not use absorbents unless they are immediately available. Once you have made a quick attempt to contain the spill, or once you have quickly determined you cannot take any brief containment measures, leave the area and alert Emergency Responders at 911. Closing doors behind you while leaving helps contain fumes from spills. Give police accurate information as to the location, chemical, and estimated amount of the spill.
- Evaluate the area outside the spill. Engines and electrical equipment near the spill area must be turned off. This eliminates various sources of ignition in the area. Advise Emergency Responders on how to turn off engines or electrical sources. Do not go back into the spill area once you have left. Help emergency responders by trying to determine how to shut off heating, air conditioning equipment, or air circulating equipment, if necessary.
- If emergency responders evacuate the spill area, follow their instructions in leaving the area.
- After emergency responders have contained the spill, be prepared to assist them with any other information that may be necessary, such as SDSs and questions about the facility. Emergency responders or trained personnel with proper personal protective equipment will then clean up the spill residue. Do not re-enter the area until the responder in charge gives the all clear. Be prepared to assist these persons from outside the spill area with SDSs, absorbents, and containers.
- Reports must be filed with proper authorities. It is the responsibility of the spiller to inform both his/her supervisor and the emergency responders as to what caused the spill. The response for large spills is similar to the procedures for medium spills, except that the exposure danger is greater.

Large Spills: Any spill involving flammable liquid where the major dimension exceeds 6 feet in diameter; and any “running” spill, where the source of the spill has not been contained or flow has not been stopped.

- Leave the area and notify Emergency Responders (911). Give the operator the spill location, chemical spilled, and approximate amount.
- From a safe area, attempt to get SDS information for the spilled chemical for the emergency responders to use. Also, be prepared to advise responders as to any ignition sources, engines, electrical power, or air conditioning/ventilation systems that may need to be shut off. Advise responders of any absorbents, containers, or spill control equipment that may be available. This may need to be done from a remote area, because an evacuation that would place the spiller far from the scene may be needed. Use radio or phone to assist from a distance, if necessary.
- Only emergency response personnel, in accordance with their own established procedures, should handle spills greater than 6 feet in any dimension or that are continuous. Remember, once the emergency responders or HAZMAT team is on the job cleaning up spills or putting out fires, the area is under their control and no one may re-enter the area until the responder in charge gives the all clear.
- Provide information for reports to supervisors and responders, just as in medium spills.

SECTION C – REPORTING SPILLS

All chemical spills, regardless of size, should be reported as soon as possible to the Facility Responsible Person. The Responsible Person will determine whether the spill has the potential to affect the environment outside of the facility and must be reported to local, state, or federal agencies. Examples of spills that could affect the outside environment include spills that are accompanied by fire or explosion and spills that could reach nearby water bodies.

C.1 Reporting Thresholds

The spill coordinator will report spills to MDEQ PEAS for spills that involve the following:

- Salt spills over 50 pounds or 50 gallons of brine onto the ground or into water (required by Part 5 rules)
- Gasoline release of 32 gallons or more onto the ground (required by Part 201)
- Oil release of 50 pounds (approximately 7½ gallons) onto the ground (required by Part 5 rules)
- Any amount of oil or fuel that reaches surface water or shorelines, call MDEQ PEAS and the National Response Center (as required by the Clean Water Act and Part 31)
- Any spill that is in doubt about reporting

C.2 Reporting Requirements

Within ten (10) days of release, submit a written report for the reportable releases to the following:

- MDEQ Water Resources Division Field Operations Chief, PO Box 30273, Lansing, Michigan 48909-7773
- Wayne County Department of Public Health, 33030 Van Born Road, Wayne, Michigan 48184

Note: the optional report form EPQ 3465 can be found at:

http://www.michigan.gov/deg/0,4561,7-135-3307_29894_5959-20341--,00.html

The MDEQ may request other follow-up reports depending on the situation.

SECTION D – SPILL KIT INVENTORY

The following is a list of spill response equipment that will be maintained by the designated spill response coordinators at all locations where fuel products are stored and dispensed.

D.1 Minimum Spill Response Equipment

- 20 pounds of floor dry
- 1 shovel
- 1 broom
- Caution tape
- 2 Absorbent booms
- 20 Absorbent Pads
- Container for clean-up (30 gallons)
- Sample bottles

SECTION E – PROCESS FOR REVISION

This procedure shall be reviewed once per permit cycle by the Stormwater Manager for any updates to streamline the requirements.

APPENDIX I
Total Maximum Daily Loads (TMDL)
Click [here](#) for link to Collaborative TMDL