

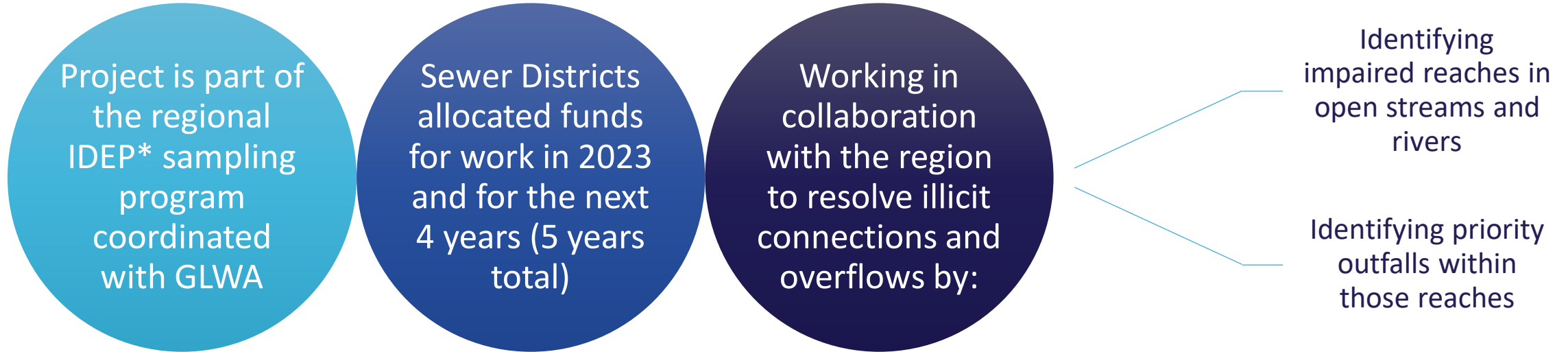


2023 *E.coli* Investigational Sampling Results

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Background and Goals



**IDEP: Illicit Discharge Elimination Program*



WRC Priority Evaluation



Year 1 focused on Paint Creek, Clinton River, Rouge River and County Drain outfalls and discharge points



Years 2-5 will focus on Priority Drains and County Drain outfalls and discharge points

E.Coli Results

- **Priority 1:** Evidence of pollutants and/or E. coli values $\geq 10,000$ cfu/100 ml
- **Priority 2:** No evidence of pollutants and E. coli values ≥ 5001 and $< 10,000$ cfu/100 ml
- **Priority 3:** No evidence of pollutants and E. coli values $\leq 5,000$ cfu/100 ml

Microbial Source Tracking (MST)

- HF183 markers are measured in GC (Gene Copies) / 100 ml with priority designation given to results of 1,000 GC/100ml in enclosed systems and 500 GC/100ml in open water courses or drains with regular flow.

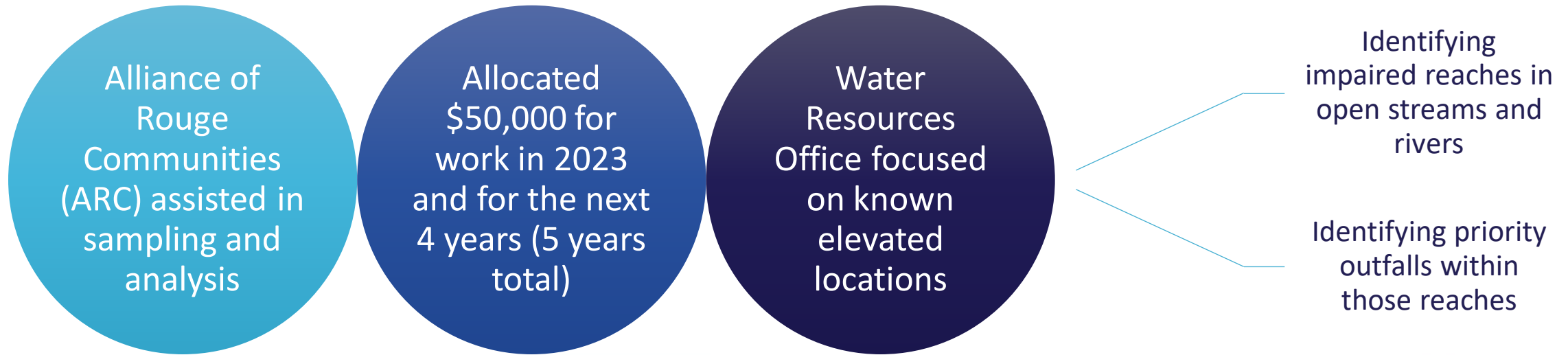


Rouge River Watershed

Evergreen-Farmington Sewage Disposal System



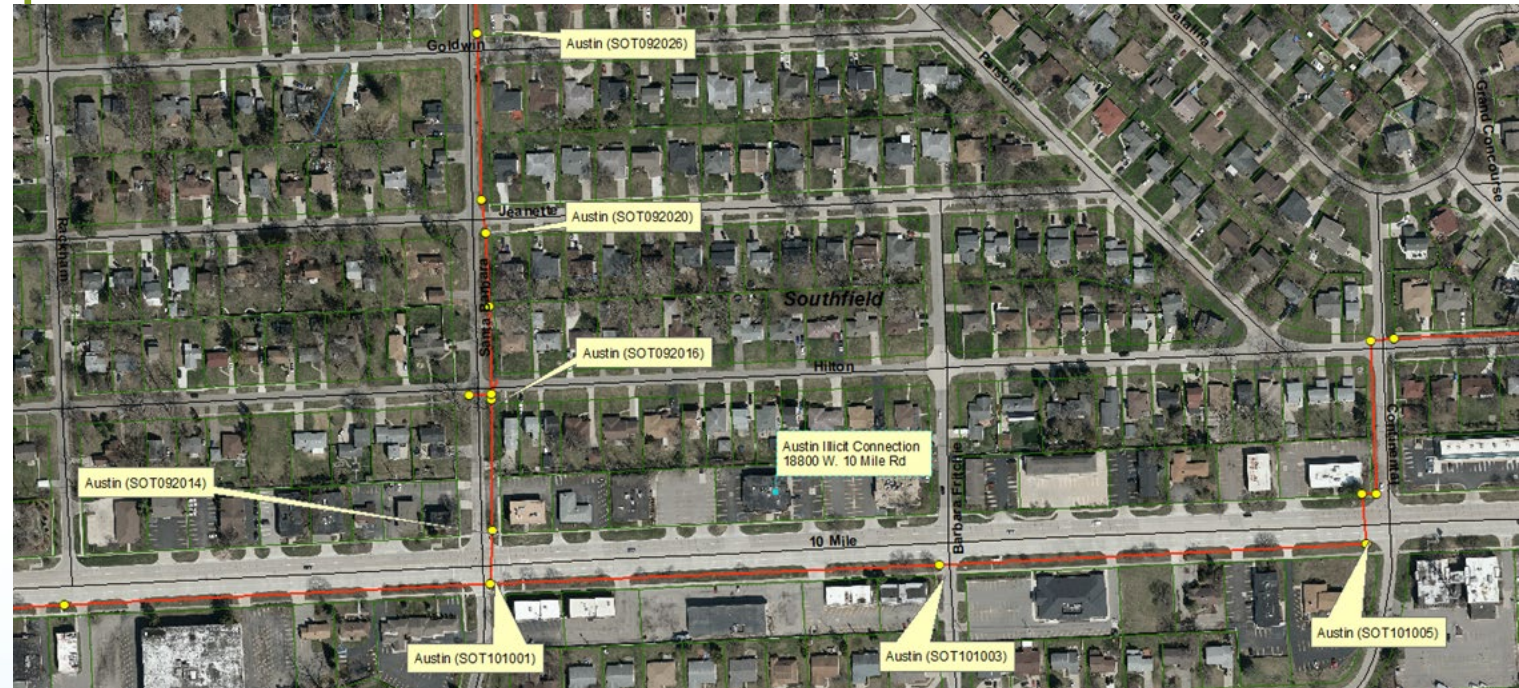
Background



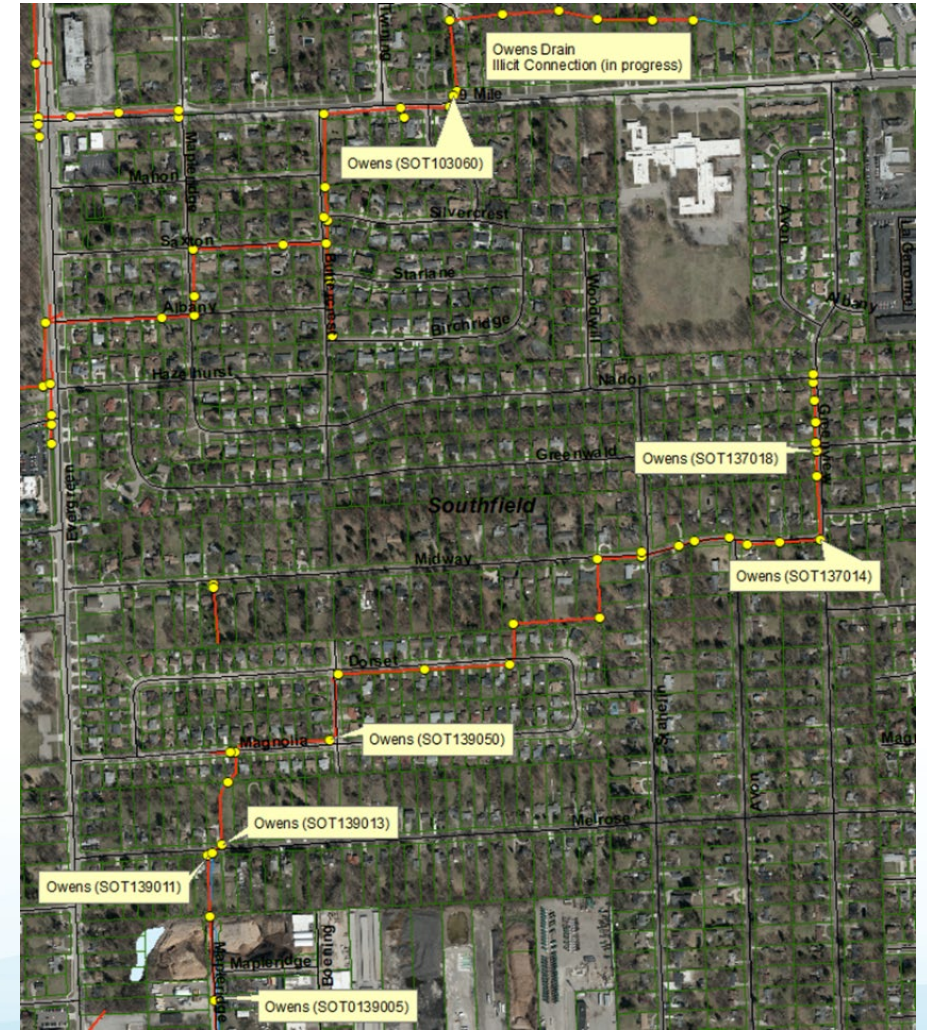
**IDEP: Illicit Discharge Elimination Program*

AUSTIN DRAIN

Elevated E. coli results were narrowed down to a couple segments of pipe. An illicit discharge was identified from a building located on the 1800 block of W. 10 Mile Road. Follow-up dye testing of the building confirmed the illicit connection at a Road Commission for Oakland County catch basin along the north side of 10 Mile Road and ultimately into the Austin Drain. The illicit connection has been eliminated.



OWENS DRAIN

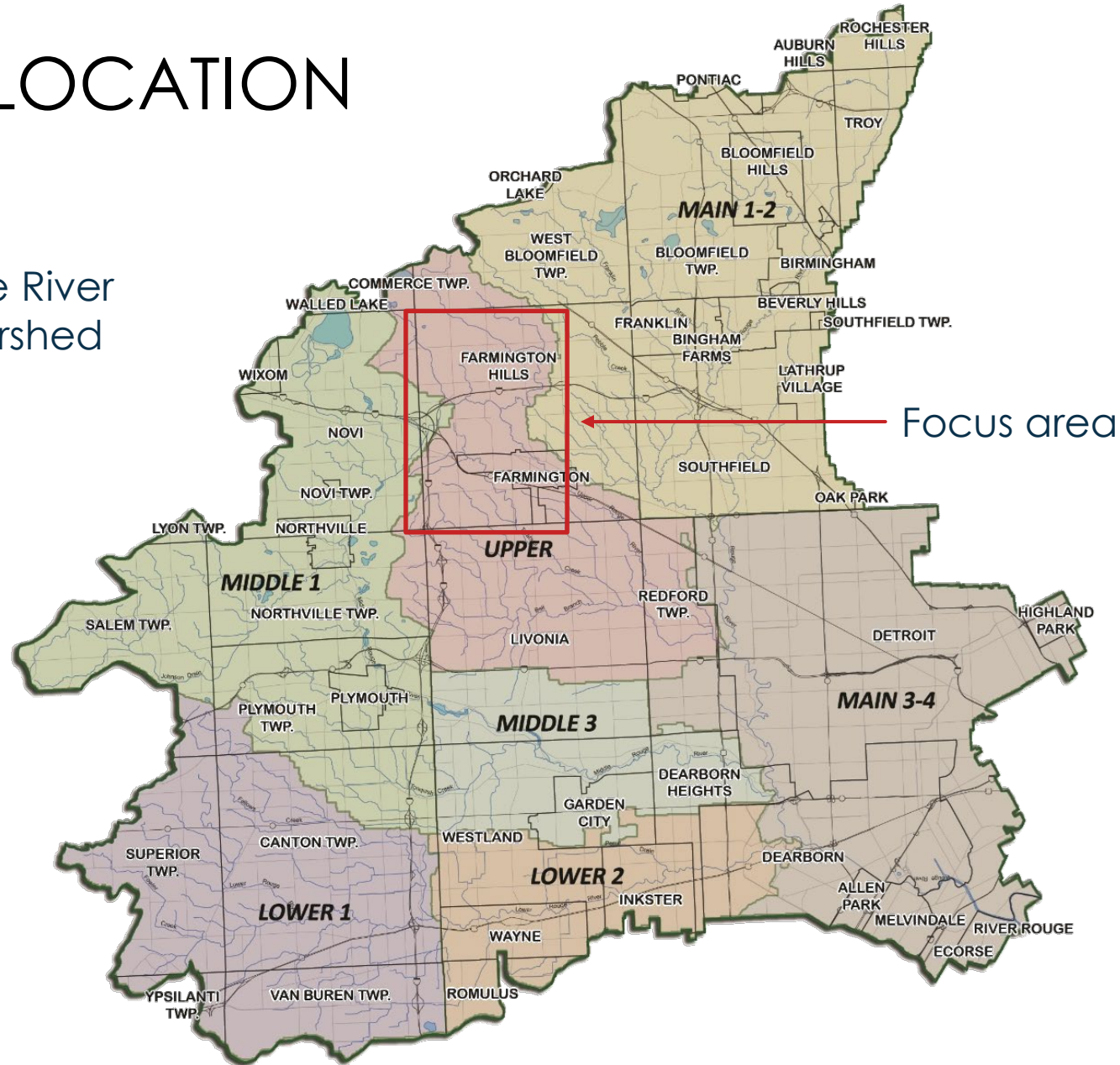


<u>Structure Location</u>	<u>E. coli GEO MEAN</u> cfu/100ml	<u>Structure Location</u>	<u>E. coli GEO MEAN</u> cfu/100ml
SOT103060	17,329*	SOT139005	2,934
SOT135005	3,448*	SOT139011	1,086*
SOT136026	21,328*	SOT139013	4,376*
SOT137014	3,315	SOT139050	1,027*
SOT137018	9,453		

<u>Structure Location</u>	<u>HF183 Marker</u> GC/100 ml	<u>Structure Location</u>	<u>HF183 Marker</u> GC/100 ml
SOT137018	944	SOT13060	1,102

SITE LOCATION

Rouge River
Watershed

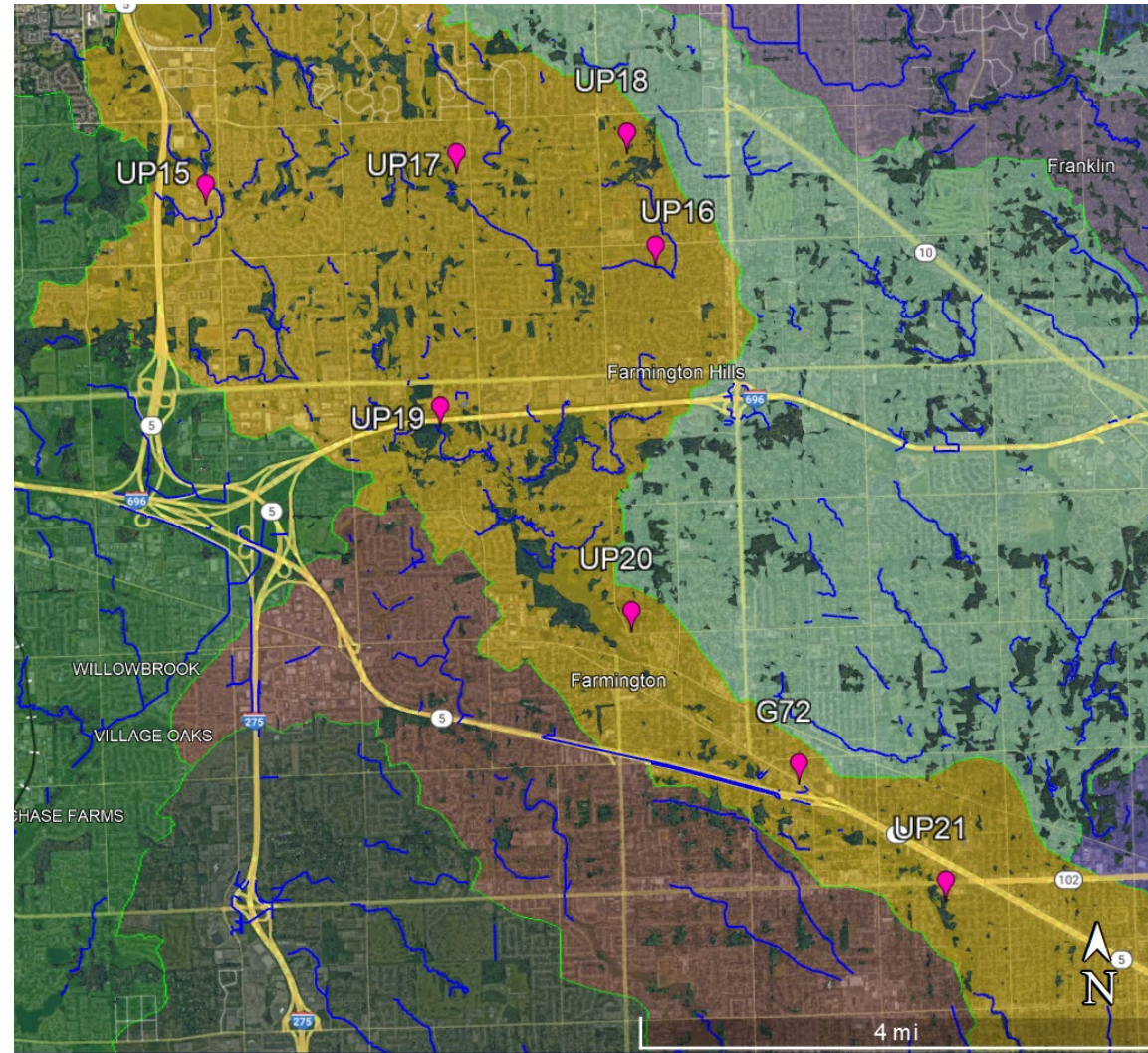


SITE LOCATION

8 sampling locations across the
Evergreen-Farmington Sanitary
Drain Drainage District:

From upstream to Downstream

UP15
UP16
UP17
UP18
UP19
UP20
G72
UP21



Weeks	Sites							
	UP15	UP16	UP17	UP18	UP19	UP20	G72	UP21
1	41	241	663	20	120	218	98	373
2	201	203	620	842	96	86	256	388
3	122	450	9208	171	84	908	373	464
4	243	201	1137	31	771	132	399	650
5	697	364	495	10	733	583	631	836
6	404	345	1187	2495	703	309	738	583
7	389	350	2247	15531	404	794	987	1274
8	298	657	987	529	320	473	1043	1112
9	243	631	631	422	520	683	1014	1616
*10	2247	12033	9208	3448	4106	15531	24196	24196
11	576	305	2755	41	521	448	809	4352
*12	1333	4352	3448	1333	959	1789	4884	4106
13	295	813	1119	62	262	2755	1483	1616
14	345	269	683	41	368	556	1236	1153
15	563	323	341	52	327	404	697	880
*16	7701	24196	11199	11199	9804	12033	14136	10462
17	1106	594	345	20	1017	733	703	1017
*18	1211	1850	1376	31	2603	5172	11199	4352
19	199	602	602	63	2909	1137	990	1296
20	1565	350	265	10	185	473	813	1274
GeoMean	489	684	1235	176	587	822	1161	1483
Min	41	201	265	10	84	86	98	373
Max	7701	24196	11199	15531	9804	15531	24196	24196

NOTES

* Wet Weather Event (> 0.25" in the preceding 24 hrs of sampling)

Samples greater than 1000 MPN/100ml

RESULTS

Table 2: *E. coli* results and descriptive statistics for each site over the 20-week sampling period. Red cells indicate samples above 1,000 MPN/100ml.



RESULTS

Table 3: Geometric means of each sampling location over respective weeks between dry and wet-weather events.

	Geometric Means									
	Weeks	CNT	G72	UP15	UP16	UP17	UP18	UP19	UP20	UP21
Dry Weather	20	13	743	350	387	950	139	373	525	1077
Inter Weather	20	3	370	264	367	648	100	441	367	605
Wet Weather	20	4	11695	2299	6958	4703	1124	3166	6449	8201

Dry Weather Criteria: > 1,000 MPN/100ml

Wet Weather Criteria: > 10,000 MPN/100ml

Next Steps

- Continued investigation on the Owens Drain
- Per ARC's recommendation investigate outfalls upstream of points UP17, G72, UP21
- Consecutive sampling results of over 10,000 cfu/100ml or visual pollutants will trigger *HF183 **MST samples to be conducted
- Sampling outfalls of the following locations:

- Arbors of West Bloomfield
- Donohue
- Evans
- Law
- Autumn Park
- Earlmoor
- Hidden Creek
- Murphy
- Park Ridge
- Robert A Reid
- Case
- Edwards Relief
- Gronkowski
- Keego Harbor
- Peterson
- McDonnell
- Ravines of West Bloomfield
- Silverbrook Vill Apts
- Snyder
- Townline
- Village Square
- Blue Heron
- Brennan
- Chimney Hills Apts
- De Conick
- Southfield Road
- Luz
- Palais Le Duc Drain
- Royal Pointe
- Tulane
- Peggy Street
- Southwyck
- Wagner
- Sunken Bridge
- Walnut Creek
- O donoghue
- Stewart
- Tuttle
- West Bloomfield Oaks
- Beechmont
- Caddell
- Cranbrook Ridge
- McIntosh
- Martha Washington

**HF: Human Fecal*

***MST: Microbial Source Tracking*