

November 5, 2024

Shannon Selby
Detroit Regional Partnership
1001 Woodward Avenue, Suite 800
Detroit, Michigan 48226

Hydrant Flow Test – DRP-RACER Coldwater Industrial Land

To whom it may concern:

Test Details and Background

MSG conducted a water flow test, also known as a hydrant flow test, to measure the water supply available to the site. The test was performed for the Detroit Regional Partnership (DRP) through the Verified Industrial Properties (VIP) program, assisting site owners within the 11-County Detroit Region to cover the costs associated with due diligence and promotion. The hydrant flow test is one of the due diligence tests performed. This flow test will also assist with future building fire protection system designs (by others) within the development. The test involved measuring flow of water out of a municipal fire hydrant while recording how much the water pressure has dropped (from no flow to test flow). Our procedure in performing the water flow test did adhere to the requirements set forth by the National Fire Protection Association (NFPA). The test was performed on the east side of Horton north of E Coldwater Rd. at 10:30AM on October 28, 2024. MSG representative Charlie Cook was in attendance to witness the test. Exact hydrant locations are shown in the photo below:





Results

Based on the data collected at the locations above, results are as follows:

Static Pressure:	44psi
Residual Pressure:	30psi
Pitot Gauge:	20psi (Flowed from two 2-1/4" outlets)
Flow:	1216 GPM

Conclusion

Given the conditions on October 28, 2024 at the location described above, the flow at this location is 1216 GPM. Further due diligence is recommended for any potential site development.

For questions, please contact me by email at ccook@manniksmithgroup.com.

Sincerely,

Charlie Cook

Charlie Cook, Mechanical Engineer
Mannik Smith Group

Attachment: 2024.10.28_Flow Test_Coldwater Ind Land_MMI #F2541

TECHNICAL SKILL.
CREATIVE SPIRIT.

1800 Indian Wood Circle, Maumee, Ohio 43537 Tel: 419.891.2222 Fax: 419.891.1595
www.MannikSmithGroup.com

THE MANNIK & SMITH GROUP, INC.
401.2401289.000 DRP-RACER Coldwater Industrial Land_Hydrant Flow Test_Letter.docx



"Delivered Precisely As Intended"

INSTALLATION, SERVICE & MAINTENANCE SINCE 1970

October 28, 2024

Job Number/Name: 401.2401289.000 DRP-RACER Coldwater Industrial Land

Address: 5500 Horton Ave, Flint, MI 48505

Scope of work - Conduct water Flow Testing

Date/Time: 10/28/2024 at 10:30 AM

Hydrant Locations: See attached map

Static Hydrant:

Static Pressure: 44 PSI

Residual Pressure: 30 PSI

Flowing Hydrant: (2) 2 1/4" openings flowed

Pitot Pressure of each opening: 20 PSI

Gallons per minute: 1216 GPM (See attached Flow Chart for clarification)

Techs on Jobsite – Bob Moore and Curtis Folts

Page 1 of 3

6250 19 Mile Road • Sterling Heights • MI • 48314 • Office: 586.737.9900 • Fax: 586.737.9901

Web: www.macombmechanical.com • Email: services@macombmechanical.com



FLOW CHART (0.90 COEFFICIENT)

Posted July 2021 on MeyerFire.com. For more fire protection resources visit www.meyerfire.com/subscribe.



FLOW CHART: FLOW (GPM) USING A 0.90 DISCHARGE COEFFICIENT

PITOT PSI	VEL FEET	VEL FT/S	OUTLET SIZE (INCHES)																
			1	1-1/8	1-1/4	1-1/2	1-3/4	2	2-1/4	2-3/8	2-1/2	2-5/8	2-3/4	3	3-1/4	3-1/2	3-3/4	4	4-1/2
1	2.3	12.2	26.8	34.0	41.9	60.4	82.2	107	136	151	168	185	203	242	284	329	378	430	544
2	4.6	17.2	38.0	48.1	59.3	85.4	116	152	192	214	237	262	287	342	401	465	534	607	769
3	6.9	21.1	46.5	58.9	72.7	105	142	186	235	262	291	320	352	419	491	570	654	744	942
4	9.2	24.4	53.7	68.0	83.9	121	164	215	272	303	336	370	406	483	567	658	755	859	1,087
5	12	27.3	60.0	76.0	94	135	184	240	304	339	375	414	454	540	634	735	844	961	1,216
6	14	29.9	65.8	83.2	103	148	201	263	333	371	411	453	497	592	695	806	925	1,052	1,332
7	16	32.3	71.0	90	111	160	218	284	360	401	444	489	537	639	750	870	999	1,136	1,438
8	18	34.5	75.9	96	119	171	233	304	384	428	475	523	574	683	802	930	1,068	1,215	1,538
9	21	36.6	80.5	102	126	181	247	322	408	454	503	555	609	725	851	987	1,133	1,289	1,631
10	23	38.6	84.9	107	133	191	260	340	430	479	531	585	642	764	897	1,040	1,194	1,358	1,719
11	25	40.4	89.0	113	139	200	273	356	451	502	557	614	673	801	941	1,091	1,252	1,425	1,803
12	28	42.2	93	118	145	209	285	372	471	525	581	641	703	837	982	1,139	1,308	1,488	1,883
13	30	44.0	97	123	151	218	296	387	490	546	605	667	732	871	1,022	1,186	1,361	1,549	1,960
14	32	45.6	100	127	157	226	308	402	509	567	628	692	760	904	1,061	1,231	1,413	1,607	2,034
15	35	47.2	104	132	162	234	318	416	526	587	650	716	786	936	1,098	1,274	1,462	1,664	2,106
16	37	48.8	107	136	168	242	329	430	544	606	671	740	812	966	1,134	1,316	1,510	1,718	2,175
17	39	50.3	111	140	173	249	339	443	560	624	692	763	837	996	1,169	1,356	1,557	1,771	2,242
18	42	51.7	114	144	178	256	349	456	577	642	712	785	861	1,025	1,203	1,395	1,602	1,822	2,307
19	44	53.1	117	148	183	263	358	468	592	660	731	806	885	1,053	1,236	1,434	1,646	1,872	2,370
20	46	54.5	120	152	188	270	368	480	608	677	750	<div style="border: 1px solid red; padding: 2px;"> (2) 2-1/4" openings with 20 PSI each = 1216 GPM </div>					1,688	1,921	2,431
22	51	57.2	126	159	197	283	386	504	637	710	787						1,688	1,921	2,431
24	55	59.7	132	166	206	296	403	526	666	742	822	1,771	2,015	2,550					
26	60	62.2	137	173	214	308	419	548	693	772	856	1,850	2,104	2,663					
28	65	64.5	142	180	222	320	435	568	719	801	888	1,925	2,190	2,772					
30	69	66.8	147	186	230	331	450	588	744	829	919	1,998	2,273	2,877					
32	74	69.0	152	192	237	342	465	607	769	857	949	2,068	2,353	2,978					
34	79	71.1	157	198	245	352	479	626	793	883	978	2,136	2,430	3,075					
36	83	73.1	161	204	252	362	493	644	815	909	1,007	2,201	2,505	3,170					
38	88	75.2	165	209	259	372	507	662	838	934	1,034	2,265	2,577	3,262					
40	92	77.1	170	215	265	382	520	679	860	958	1,061	2,327	2,648	3,351					
42	97	79.0	174	220	272	391	533	696	881	981	1,087	2,388	2,717	3,438					
44	102	80.9	178	225	278	401	545	712	902	1,004	1,113	2,447	2,784	3,523					
46	106	82.7	182	230	285	410	558	728	922	1,027	1,138	2,504	2,849	3,606					
48	111	84.5	186	235	291	419	570	744	942	1,049	1,163	2,561	2,913	3,687					
50	116	86.2	190	240	297	427	581	759	961	1,071	1,186	2,616	2,976	3,767					
52	120	87.9	194	245	302	436	593	774	980	1,092	1,210	2,670	3,037	3,844					
54	125	89.6	197	250	308	444	604	789	999	1,113	1,233	2,722	3,098	3,920					
56	129	91.2	201	254	314	452	615	804	1,017	1,133	1,256	2,774	3,157	3,995					
58	134	92.8	204	259	319	460	626	818	1,035	1,153	1,278	2,825	3,214	4,068					
60	139	94.4	208	263	325	468	637	832	1,053	1,173	1,300	2,875	3,271	4,140					
												2,924	3,327	4,211					