MEMO

TO:	Alex Heath, MES SvN Architects + Planners
FROM:	Yena Ahadzie, P.Eng., and Isabelle Hemmings, P.Eng. Dillon Consulting Limited
cc:	Melissa Ricci, M.Sc, MCIP, RPP Town of Halton Hills
DATE:	August 26, 2019
SUBJECT:	Infrastructure Assessment – Servicing Town of Halton Hills Intensification Opportunities Study
OUR FILE:	17-6497

Introduction

The urban areas of Acton and Georgetown are long established communities along the Highway 7 corridor. Over time the areas have developed from farming communities, to commuter shed residential areas, to self-supporting urban areas. The areas still serve a significant proportion of commuters to other larger centers (Guelph, Milton, Oakville, Mississauga, Brampton, Vaughan, and Toronto). Dillon Consulting Limited and SvN Architects + Planners Inc. were retained to complete an Intensification Opportunities Study Update, of which this servicing infrastructure assessment is a part.

Halton Hills Servicing Infrastructure Assessment – Overview

The servicing infrastructure assessment was completed to understand potential constraints to development due to existing servicing (i.e. storm sewer, sanitary sewer and water main) infrastructure limitations. The aim of this assessment was to identify recommended areas for infrastructure investment in order to support the proposed future intensification. This was completed in an effort to provide the Town with a decision-making framework to guide selection of properties for intensification.

Methodology

Dillon reviewed the shapefiles provided by the Town which identified 90 parcels in Acton and 192 parcels Georgetown for possible residential intensification opportunities, as well as the locations of existing storm sewers, sanitary sewers and water mains. An evaluation of the parcels were completed based on three criteria:

- The proposed intensification density;
- The proposed timeline for intensification; and,
- The availability of existing servicing infrastructure.

The proposed intensification densities ranged from low to medium to high density intensification. Values of *Good, Fair,* or *Poor* were assigned to each level of intensification density as per *Table 1*.

TABLE 1: SERVICING INFRASTRUCTURE ASSESSMENT CRITERIA

Criteria	Definition	Assessment	
Timeline	Timing of proposed intensification	Good: Fair: Poor:	Proposed development occurring between 2032 – 2041 Proposed development occurring between 2022 – 2031 Proposed development occurring between 2016 – 2021
Availability of Infrastructure	The proximity and ease of access to the servicing infrastructure (storm, water and sanitary sewers/mains)	Good: Fair: Poor:	Servicing infrastructure is available and capacity is known. Servicing infrastructure is available, however, capacity is unknown. Servicing infrastructure is unavailable.
Intensification	Development of properties at high, low or medium density. Less intensification is expected to have less impact on infrastructure	Good: Fair: Poor:	Lower proposed intensification density is expected to have less impact on servicing infrastructure and/or lower potential requirement for additional servicing infrastructure Medium proposed intensification density is expected to have some impact on servicing infrastructure and/or a medium potential requirement for additional servicing infrastructure High proposed intensification density is expected to higher impact on servicing infrastructure and/or a higher potential requirement for additional servicing infrastructure

Some properties were identified as potentially low-to-medium density or medium-to-high density. For those parcels the higher density was selected to be conservative.

The proposed timelines for intensification ranged from *2016 to 2021*, *2022 to 2031*, *2032 to 2041*. Similar to the approach for intensification density, values of *Good, Fair,* or *Poor* were assigned to each time period as per *Table 1*. Development proposed to occur over a longer timeframe was considered better, since the strain on servicing infrastructure due to increased demand was delayed.

Finally, the existing storm, sanitary and water infrastructure was reviewed at a high level to assess the proximity of servicing that could support the proposed development parcels. For all types of servicing, values of *Good, Fair,* or *Poor* were assigned to indicate whether the infrastructure was available and had a known capacity, available but the capacity was unknown, or entirely unavailable. *Table 1* summarizes this approach.

A decision matrix based on a numerical scale of 0 - 3 was generated and used to identify recommended areas for servicing infrastructure investments and/or further assessment. These are areas where the servicing infrastructure needs to be reviewed in detail, and potentially upgraded to support future development. The areas were determined in two ways:

- new developments are being proposed within a short time frame and there is limited availability of infrastructure
- the intensification density of future infrastructure is such that existing infrastructure may not have sufficient capacity to accommodate additional flows.

The decision matrix was completed on a parcel-by-parcel basis which was then aggregated to the larger development blocks and presented in colour-coded tables and figures.

Notes/Assumptions

Due to the qualitative nature of the study and available background information, capacity assessments for the servicing infrastructure (storm sewers, sanitary sewers and water mains) were not completed.

The assessment for storm sewer servicing was, however, further discretized based on the size (diameter) of the sewer. Storm sewer diameter/size was used as an indication of whether or not storm sewers were local sewers or trunk sewers which was used as a proxy for available capacity (i.e. larger storm sewers were assumed to have more likelihood for capacity). Storm sewers greater than or equal to 900 mm in diameter were deemed to be trunk sewers, and those less than 600mm were deemed to be local sewers. Storm sewers between 900 mm and 600 mm were determined to be either local or trunk sewers, depending on whether or not they were at the upstream end of the sewer network and if whether or not they were on major roads.

It should be noted that the analysis/assessment focused on residential intensification rather than including employment intensification and growth.

Results

Figure 1 and *Figure 2* display the results of the Storm Services, and Water and Wastewater Services for Acton respectively, while *Figure 3* and *Figure 4* display the results of the Storm Services, and Water and Wastewater Services for Georgetown respectively.

Table 2, *Table 3* and *Table 4* summarize the results of the Storm Services, Sanitary Services, and Water Services for Acton respectively, while *Table 5*, *Table 6* and *Table 7* summarize the results of the Storm Services, Sanitary Services, and Water Services for Georgetown respectively.

As shown in the figures, the majority of the parcels/blocks are classified as fair. This indicates areas where servicing infrastructure is generally assumed to be able to support the proposed development.

Properties identified as poor are properties that are proposed to house high-density intensification, be constructed in the near-term, and/or do not have sufficient infrastructure nearby to support the proposed development. For these properties, additional storm sewers, sanitary sewers, or water mains may be required before development/intensification can proceed. These properties will require additional effort/investment to develop.

For properties identified as good, it is likely that existing infrastructure can meet the future development/intensification needs. These properties may take less effort/investment to develop.

Notes/Assumptions

The following approved developments were included in the initial infrastructure assessment; however, they are no longer considered in the infrastructure assessment since storm water servicing capacity has already been addressed through the development application process.

ACTON

- Block 1 approved servicing plan
- Block 7 current zoning will not permit development
- Block 9 125 MacDonald is an approved subdivision

GEORGETOWN

- Block 5 approved subdivision
- Block 33 approved condo (under construction)
- Block 40 approved site plan (building nearly complete)

Summary

The assessment is based on the intensification density of selected parcels, the proposed timeline for intensification and the availability of existing servicing infrastructure.

The servicing infrastructure assessment was completed to understand potential constraints to development due to servicing (i.e. storm sewer, sanitary sewer and water main) infrastructure limitations.

A decision matrix based on a numerical scale of 0 - 3 was generated and used to identify recommended areas for servicing infrastructure investments. These are areas where the servicing infrastructure needs to be reviewed in detail, and potentially upgraded to support future development.

As shown in the results, the majority of the parcels/blocks are classified as fair. This indicates areas where servicing infrastructure is generally assumed to be able to support the proposed development, pending further studies. A number of areas are identified as poor and good, depending on the timeframe for development and/or the density of the future development.

It is recommended that an assessment of infrastructure capacity be undertaken for all areas to further refine the analysis undertaken for this study. This should include:

- A detailed assessment of storm sewer capacity issues;
- A detailed review of available water/wastewater capacity; and,
- A refinement of the decision matrix based on existing capacity issues.

Figure 1: Acton Parcel Evaluation: Storm Services

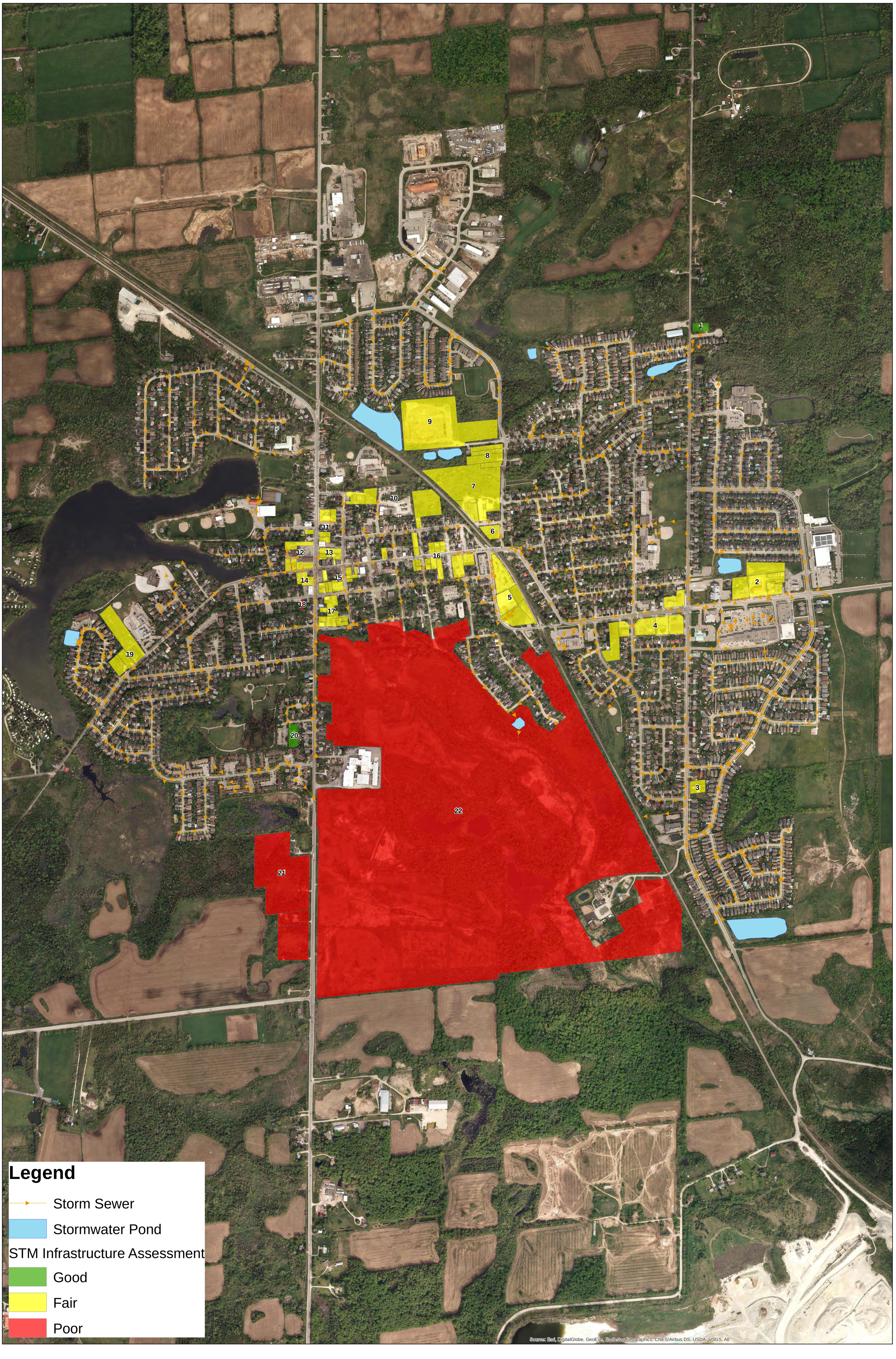

Figure 2: Acton Parcel Evaluation: Water / Wastewater Services

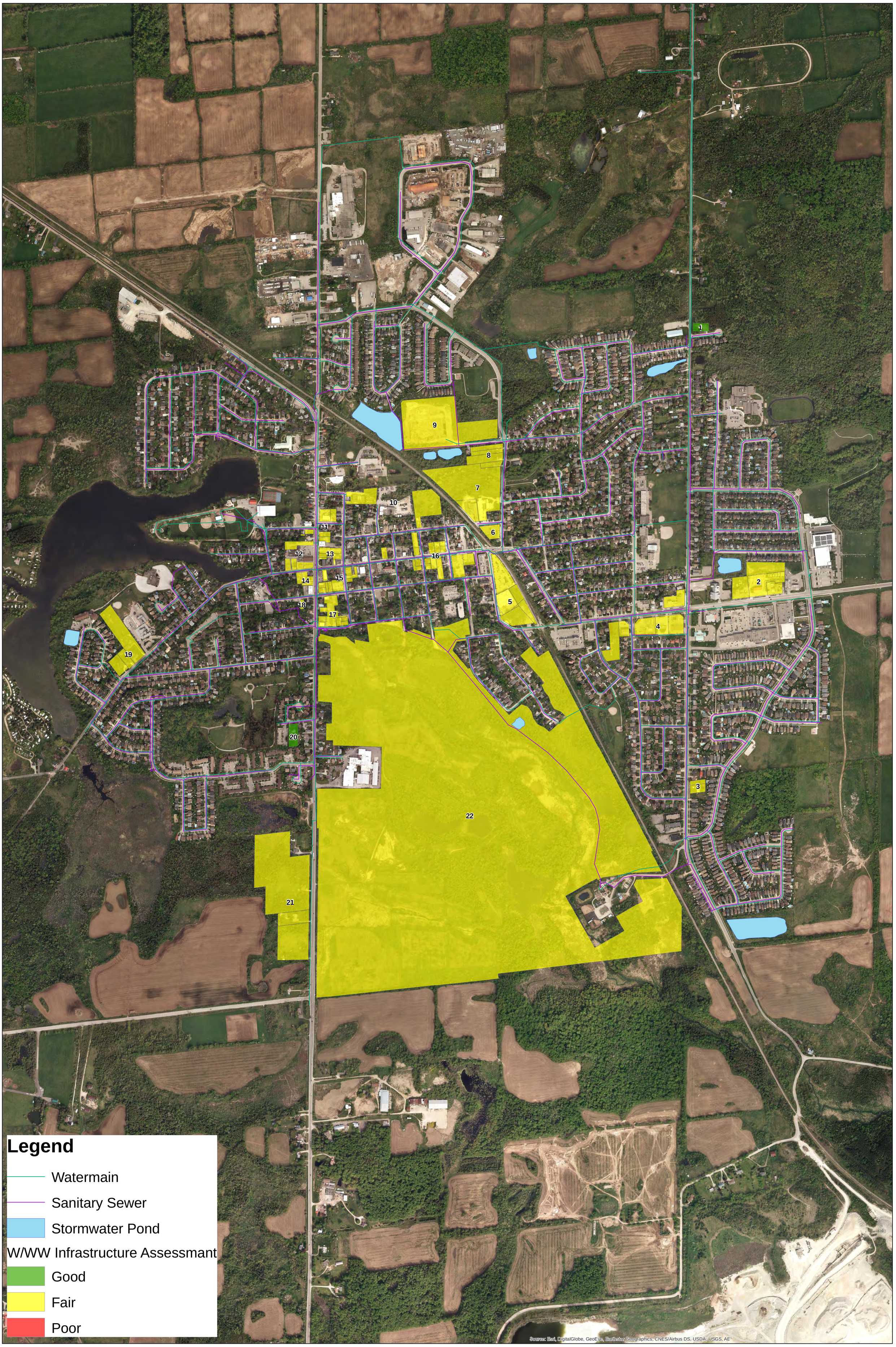

Figure 3: Georgetown Parcel Evaluation: Storm Services

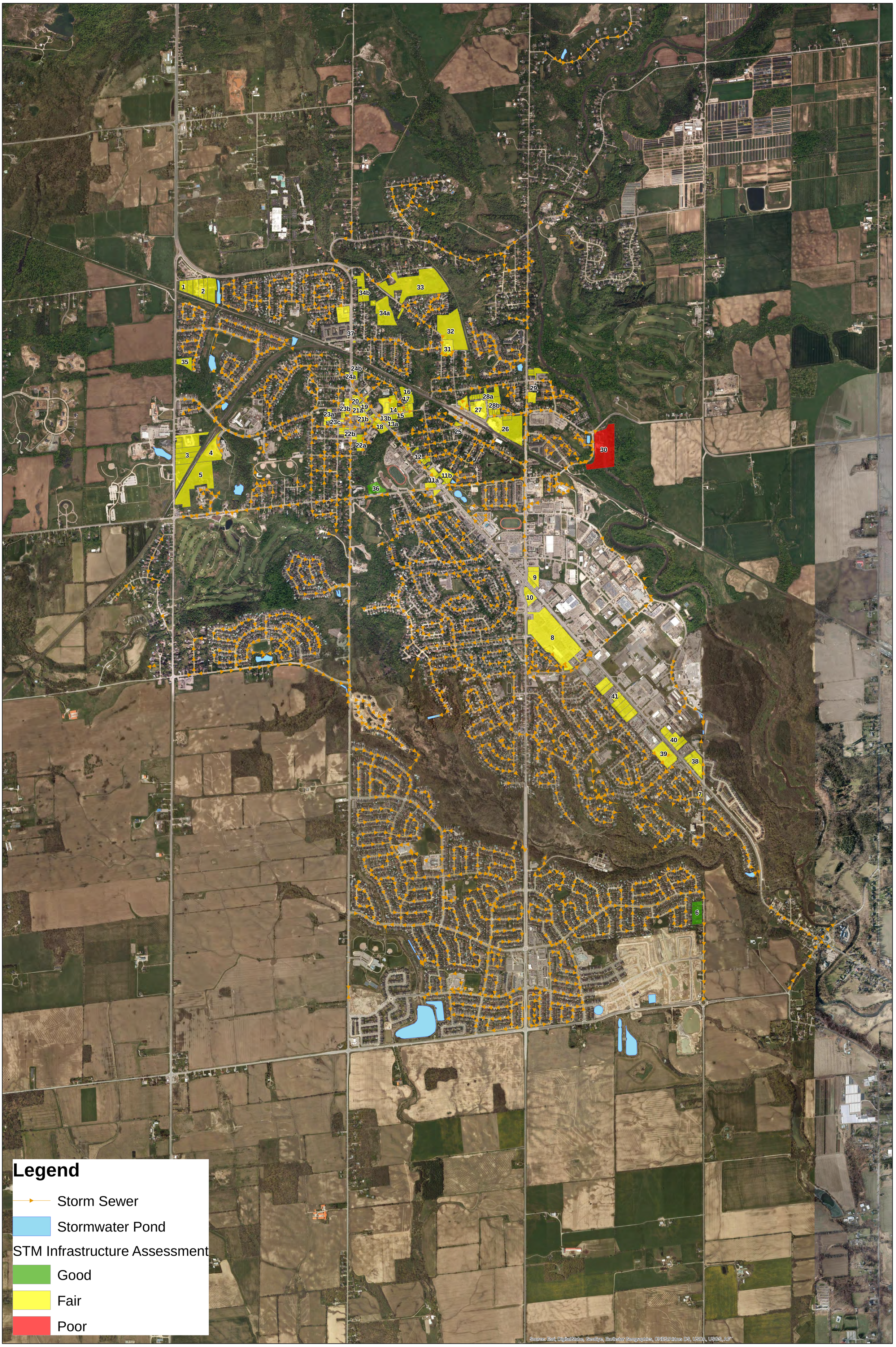

Figure 4: Georgetown Parcel Evaluation: Water / Wastewater Services

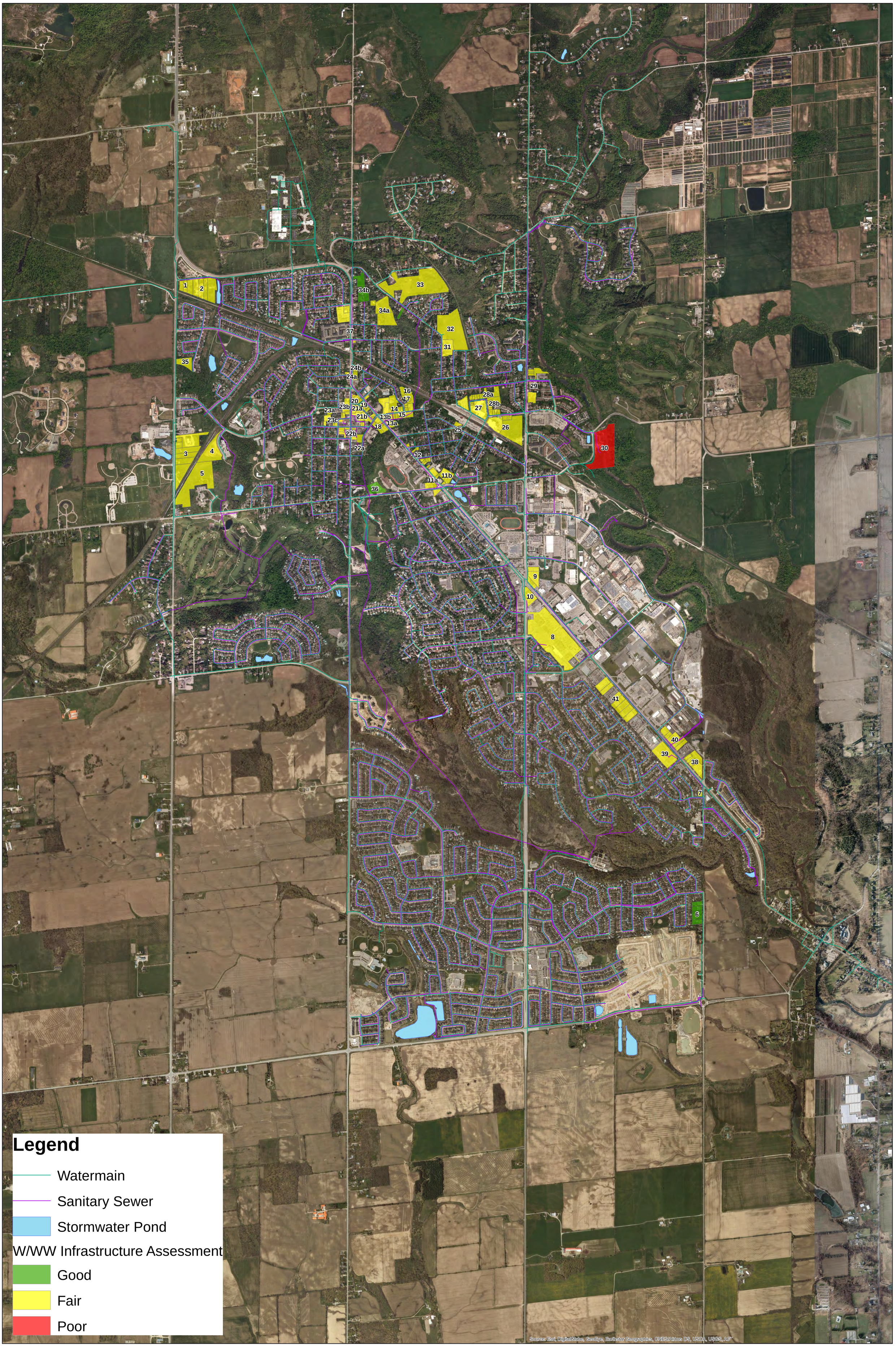

Table 2: Acton Parcel Evaluation: Storm Services

Block ID	Area (ha)	Timeline	Intensification Density	Availability of Infrastructure	Timeline	Intensification Density	Availability of Infrastructure	Average
1	0.18	22-31	LD	Approved servicing plan	🟡	🟢	🟢	🟢
2	2.03	22-31	MD	Local	🟡	🟡	🟡	🟡
3	0.25	22-31	LD	Local	🟡	🟢	🟡	🟡
4	2.23	22-31	MD	Local	🟡	🟡	🟡	🟡
5	2.02	32-41	HD	Trunk	🟢	🔴	🟢	🟡
6	0.28	22-31	HD	Local	🟡	🔴	🟡	🟡
7	3.55	32-41	MD	None	🟢	🟡	⚫	🟡
8	0.90	32-41	MD	Limited	🟢	🟡	🔴	🟡
9	4.60	16-21	MD	Approved servicing plan	🔴	🟡	🟢	🟡
10	1.48	22-31	MD	Approved	🟡	🟡	🟢	🟡
11	0.41	32-41	MD	Limited	🟢	🟡	🔴	🟡
12	0.58	32-41	HD	Local	🟢	🔴	🟡	🟡
13	0.33	32-41	HD	Local	🟢	🔴	🟡	🟡
14	0.24	32-41	HD	Local	🟢	🔴	🟡	🟡
15	0.56	32-41	HD	Local	🟢	🔴	🟡	🟡
16	1.43	32-41	HD	Local	🟢	🔴	🟡	🟡
17	0.71	22-31	MD	Local	🟡	🟡	🟡	🟡
18	0.04	16-21	LD	None	🔴	🟢	⚫	🔴
19	1.61	22-31	MD	Local	🟡	🟡	🟡	🟡
20	0.27	32-41	LD	Trunk	🟢	🟢	🟢	🟢
21	6.70	22-31	MD	None	🟡	🟡	⚫	🔴
22	121.0	22-31	HD	Limited	🟡	🔴	🔴	🔴

Table 3: Acton Parcel Evaluation: Sanitary Services

Block ID	Area (ha)	Timeline	Intensification Density	Availability of Infrastructure	Timeline	Intensification Density	Availability of Infrastructure	Average
1	0.18	22-31	LD	Approved servicing plan				
2	2.03	22-31	MD	Yes				
3	0.25	22-31	LD	Yes				
4	2.23	22-31	MD	Yes				
5	2.02	32-41	HD	Yes				
6	0.28	22-31	HD	Yes				
7	3.55	32-41	MD	Yes				
8	0.90	32-41	MD	Yes				
9	4.60	16-21	MD	Approved servicing plan				
10	1.48	22-31	MD	Yes				
11	0.41	32-41	MD	Yes				
12	0.58	32-41	HD	Yes				
13	0.33	32-41	HD	Yes				
14	0.24	32-41	HD	Yes				
15	0.56	32-41	HD	Yes				
16	1.43	32-41	HD	Yes				
17	0.71	22-31	MD	Yes				
18	0.04	16-21	LD	Yes				
19	1.61	22-31	MD	Yes				
20	0.27	32-41	LD	Yes				
21	6.70	22-31	MD	Yes				
22	121.0	22-31	HD	Yes				

Table 4: Acton Parcel Evaluation: Water Services

Block ID	Area (ha)	Timeline	Intensification Density	Availability of Infrastructure	Timeline	Intensification Density	Availability of Infrastructure	Average
1	0.18	22-31	LD	Approved servicing plan	🟡	🟢	🟢	🟢
2	2.03	22-31	MD	Yes	🟡	🟡	🟡	🟡
3	0.25	22-31	LD	Yes	🟡	🟢	🟡	🟡
4	2.23	22-31	MD	Yes	🟡	🟡	🟡	🟡
5	2.02	32-41	HD	Yes	🟢	🔴	🟡	🟡
6	0.28	22-31	HD	Yes	🟡	🔴	🟡	🟡
7	3.55	32-41	MD	Yes	🟢	🟡	🟡	🟡
8	0.90	32-41	MD	Yes	🟢	🟡	🟡	🟡
9	4.60	16-21	MD	Approved servicing plan	🔴	🟡	🟢	🟡
10	1.48	22-31	MD	Yes	🟡	🟡	🟡	🟡
11	0.41	32-41	MD	Yes	🟢	🟡	🟡	🟡
12	0.58	32-41	HD	Yes	🟢	🔴	🟡	🟡
13	0.33	32-41	HD	Yes	🟢	🔴	🟡	🟡
14	0.24	32-41	HD	Yes	🟢	🔴	🟡	🟡
15	0.56	32-41	HD	Yes	🟢	🔴	🟡	🟡
16	1.43	32-41	HD	Yes	🟢	🔴	🟡	🟡
17	0.71	22-31	MD	Yes	🟡	🟡	🟡	🟡
18	0.04	16-21	LD	Yes	🔴	🟢	🟡	🟡
19	1.61	22-31	MD	Yes	🟡	🟡	🟡	🟡
20	0.27	32-41	LD	Yes	🟢	🟢	🟡	🟢
21	6.70	22-31	MD	Yes	🟡	🟡	🟡	🟡
22	121.0	22-31	HD	Yes	🟡	🔴	🟡	🟡

Table 5: Georgetown Parcel Evaluation: Storm Services

1	0.52	22-31	MD	no				
2	3.43	16-21	MD	Sufficient infrastructure is available				
3	5.39	22-31	MD	Sufficient infrastructure is available				
4	2.07	16-21	HD	Sufficient infrastructure is available				
5	5.03	16-21	MD	Sufficient infrastructure is available				
6	1.38	32-41	LD	local				
7	0.13	22-31	LD	local				
8	10.06	32-41	HD	local				
9	1.32	32-41	HD	no				
10	0.86	32-41	MD	no				
11a	0.96	22-31	HD	local				
11b	0.86	32-41	HD	local				
12	0.43	32-41	MD	local				
13a	0.37	22-31	MD	local				
13b	0.25	32-41	MD	local				
14	1.78	16-21	MD	local				
15	0.56	32-41	MD	local				
16	0.68	32-41	HD	local				
17	0.83	32-41	MD	local				
18	0.81	32-41	HD	trunk				
19	0.43	22-31	HD	local				
20	0.44	32-41	HD	local				
21a	0.55	22-31	HD	trunk				
21b	0.63	32-41	HD	trunk				
22a	0.12	22-31	HD	local				
22b	0.76	32-41	HD	local				
23a	0.15	16-21	MD	trunk				
23b	0.30	22-31	HD	trunk				
23c	0.83	32-41	HD	trunk				
24a	0.29	22-31	MD	local				
24b	0.20	32-41	MD	local				
25	0.14	22-31	LD	local				
26	4.31	22-31	HD	local				
27	2.02	22-31	HD	trunk				
28a	0.24	22-31	LD	local				
28b	2.04	32-41	MD	local				
29	1.18	16-21	HD	Sufficient infrastructure is available				
30	5.24	16-21	HD	local				
31	1.07	22-31	MD	local				
32	4.74	16-21	LD	local				
33	7.58	16-21	LD	no				
34a	2.93	22-31	LD	no				
34b	1.52	32-41	LD	no				
35	0.81	22-31	LD	local				
36*	0.95	16-21	HD	trunk				
37	1.25	32-41	MD	local				
38	1.70	32-41	MD	local				
39	2.16	32-41	MD	local				
40	1.71	32-41	MD	no				
41	3.59	32-41	MD	local				

Table 7: Georgetown Parcel Evaluation: Sanitary Services

1	0.52	22-31	MD	yes				
2	3.43	16-21	MD	Sufficient infrastructure is available				
3	5.39	22-31	MD	Sufficient infrastructure is available				
4	2.07	16-21	HD	Sufficient infrastructure is available				
5	5.03	16-21	MD	Sufficient infrastructure is available				
6	1.38	32-41	LD	yes				
7	0.13	22-31	LD	yes				
8	10.06	32-41	HD	yes				
9	1.32	32-41	HD	yes				
10	0.86	32-41	MD	yes				
11a	0.96	22-31	HD	yes				
11b	0.86	32-41	HD	yes				
12	0.43	32-41	MD	yes				
13a	0.37	22-31	MD	yes				
13b	0.25	32-41	MD	yes				
14	1.78	16-21	MD	yes				
15	0.56	32-41	MD	yes				
16	0.68	32-41	HD	yes				
17	0.83	32-41	MD	yes				
18	0.81	32-41	HD	yes				
19	0.43	22-31	HD	yes				
20	0.44	32-41	HD	yes				
21a	0.55	22-31	HD	yes				
21b	0.63	32-41	HD	yes				
22a	0.12	22-31	HD	yes				
22b	0.76	32-41	HD	yes				
23a	0.15	16-21	MD	yes				
23b	0.30	22-31	HD	yes				
23c	0.83	32-41	HD	yes				
24a	0.29	22-31	MD	yes				
24b	0.20	32-41	MD	yes				
25	0.14	22-31	LD	yes				
26	4.31	22-31	HD	yes				
27	2.02	22-31	HD	yes				
28a	0.24	22-31	LD	yes				
28b	2.04	32-41	MD	yes				
29	1.18	16-21	HD	Sufficient infrastructure is available				
30	5.24	16-21	HD	yes				
31	1.07	22-31	MD	yes				
32	4.74	16-21	LD	yes				
33	7.58	16-21	LD	yes				
34a	2.93	22-31	LD	yes				
34b	1.52	32-41	LD	yes				
35	0.81	22-31	LD	yes				
36*	0.95	16-21	HD	yes				
37	1.25	32-41	MD	yes				
38	1.70	32-41	MD	yes				
39	2.16	32-41	MD	yes				
40	1.71	32-41	MD	yes				
41	3.59	32-41	MD	yes				

Table 6: Georgetown Parcel Evaluation: Water Services

1	0.52	22-31	MD	yes	🟡	🟡	🟡	🟡
2	3.43	16-21	MD	Sufficient infrastructure is available	🔴	🟡	🟢	🟡
3	5.39	22-31	MD	Sufficient infrastructure is available	🟡	🟡	🟢	🟡
4	2.07	16-21	HD	Sufficient infrastructure is available	🔴	🔴	🟢	🟡
5	5.03	16-21	MD	Sufficient infrastructure is available	🔴	🟡	🟢	🟡
6	1.38	32-41	LD	yes	🟢	🟢	🟡	🟢
7	0.13	22-31	LD	yes	🟡	🟢	🟡	🟡
8	10.06	32-41	HD	yes	🟢	🔴	🟡	🟡
9	1.32	32-41	HD	yes	🟢	🔴	🟡	🟡
10	0.86	32-41	MD	yes	🟢	🟡	🟡	🟡
11a	0.96	22-31	HD	yes	🟡	🔴	🟡	🟡
11b	0.86	32-41	HD	yes	🟢	🔴	🟡	🟡
12	0.43	32-41	MD	yes	🟢	🟡	🟡	🟡
13a	0.37	22-31	MD	yes	🟡	🟡	🟡	🟡
13b	0.25	32-41	MD	yes	🟢	🟡	🟡	🟡
14	1.78	16-21	MD	yes	🔴	🟡	🟡	🟡
15	0.56	32-41	MD	yes	🟢	🟡	🟡	🟡
16	0.68	32-41	HD	yes	🟢	🔴	🟡	🟡
17	0.83	32-41	MD	yes	🟢	🟡	🟡	🟡
18	0.81	32-41	HD	yes	🟢	🔴	🟡	🟡
19	0.43	22-31	HD	yes	🟡	🔴	🟡	🟡
20	0.44	32-41	HD	yes	🟢	🔴	🟡	🟡
21a	0.55	22-31	HD	yes	🟡	🔴	🟡	🟡
21b	0.63	32-41	HD	yes	🟢	🔴	🟡	🟡
22a	0.12	22-31	HD	yes	🟡	🔴	🟡	🟡
22b	0.76	32-41	HD	yes	🟢	🔴	🟡	🟡
23a	0.15	16-21	MD	yes	🔴	🟡	🟡	🟡
23b	0.30	22-31	HD	yes	🟡	🔴	🟡	🟡
23c	0.83	32-41	HD	yes	🟢	🔴	🟡	🟡
24a	0.29	22-31	MD	yes	🟡	🟡	🟡	🟡
24b	0.20	32-41	MD	yes	🟢	🟡	🟡	🟡
25	0.14	22-31	LD	yes	🟡	🟢	🟡	🟡
26	4.31	22-31	HD	yes	🟡	🔴	🟡	🟡
27	2.02	22-31	HD	yes	🟡	🔴	🟡	🟡
28a	0.24	22-31	LD	yes	🟡	🟢	🟡	🟡
28b	2.04	32-41	MD	yes	🟢	🟡	🟡	🟡
29	1.18	16-21	HD	Sufficient infrastructure is available	🔴	🔴	🟢	🟡
30	5.24	16-21	HD	yes	🔴	🔴	🟡	🔴
31	1.07	22-31	MD	yes	🟡	🟡	🟡	🟡
32	4.74	16-21	LD	yes	🔴	🟢	🟡	🟡
33	7.58	16-21	LD	yes	🔴	🟢	🟡	🟡
34a	2.93	22-31	LD	yes	🟡	🟢	🟡	🟡
34b	1.52	32-41	LD	yes	🟢	🟢	🟡	🟢
35	0.81	22-31	LD	yes	🟡	🟢	🟡	🟡
36*	0.95	16-21	HD	yes	🟢	🟢	🟡	🟢
37	1.25	32-41	MD	yes	🟢	🟡	🟡	🟡
38	1.70	32-41	MD	yes	🟢	🟡	🟡	🟡
39	2.16	32-41	MD	yes	🟢	🟡	🟡	🟡
40	1.71	32-41	MD	yes	🟢	🟡	🟡	🟡
41	3.59	32-41	MD	yes	🟢	🟡	🟡	🟡