

## MEMORANDUM

To: Mr. Pete Van Grootheest, Senior Project Manager (BBS Construction)  
From: William Sherwin, EIT. (MP) Mitchell Patenaude P.Eng (MP)  
Date: August 2, 2023  
Re: 1540/1560 Star Top Road Warehousing Development – Road Safety Review

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### 1.0 INTRODUCTION

This Road Safety Review is intended to assess safety operations within the vicinity of the proposed development located at 1540 Star Top Road (the Site). Based on the City of Ottawa Transportation Impact Assessment (TIA) Screening form, the proposed development satisfied the requirements for a TIA study. However, based on discussion with City staff and recent updates to the TIA guidelines, it was determined that a full TIA was not required and only the *Road Safety* module from Section 3 – Analysis (formerly *Section 4.3 – Boundary Street Design*) is required. The TIA Screening form and communications with City staff can be found in *Appendix A*.

### 2.0 PROPOSED DEVELOPMENT

The Site, illustrated in *Figure 1*, is located at 1540/1560 Star Top Road within the Industrial Park neighbourhood in the City of Ottawa. The site is currently occupied with a commercial office building and is used for outdoor storage. The Site is located within lands zoned Light Industrial (LI) under The City of Ottawa Zoning By-Law. The zone permits a variety of non-residential uses such as warehousing, commercial, automobile dealerships, and office buildings.

The proposed development, illustrated in *Figure 2*, will include one warehousing structure with a total combined GFA of 8,369 m<sup>2</sup>. A total of 109 parking spaces, including two barrier free parking spaces, 9 total bicycle parking spaces and 20 loading spaces are proposed. The Site is anticipated to make use of the two existing full movement accesses off of Star Top Road. A detailed site plan is provided in *Appendix B*.



Figure 1 Site Location

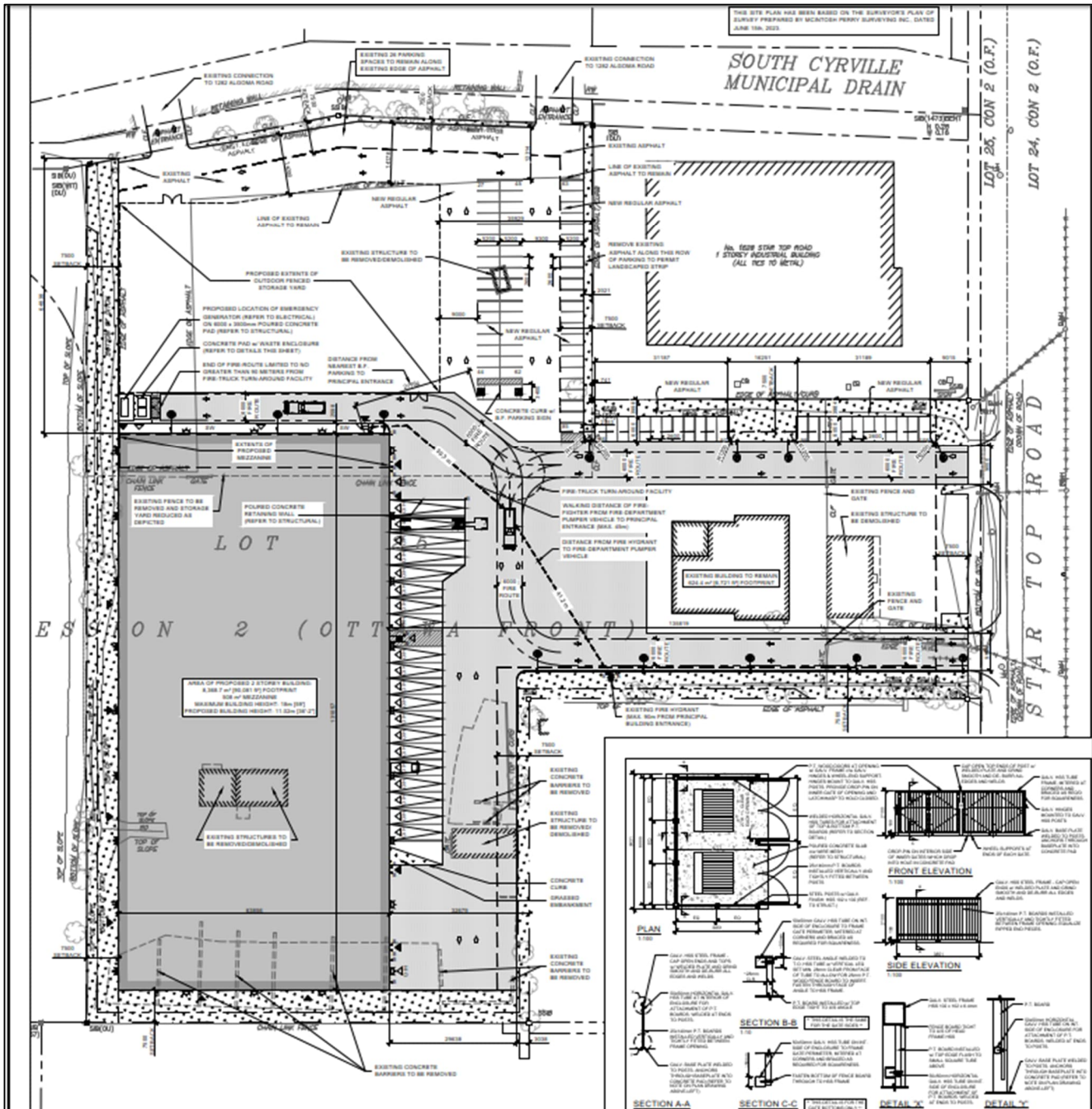


Figure 2 Proposed Development

### 3.0 ROAD SAFETY

Collision data was obtained from the City of Ottawa for the year 2016 to 2020 within the vicinity of the Site (500 m). *Figure 3* illustrates the collisions within the surrounding area of the proposed site.

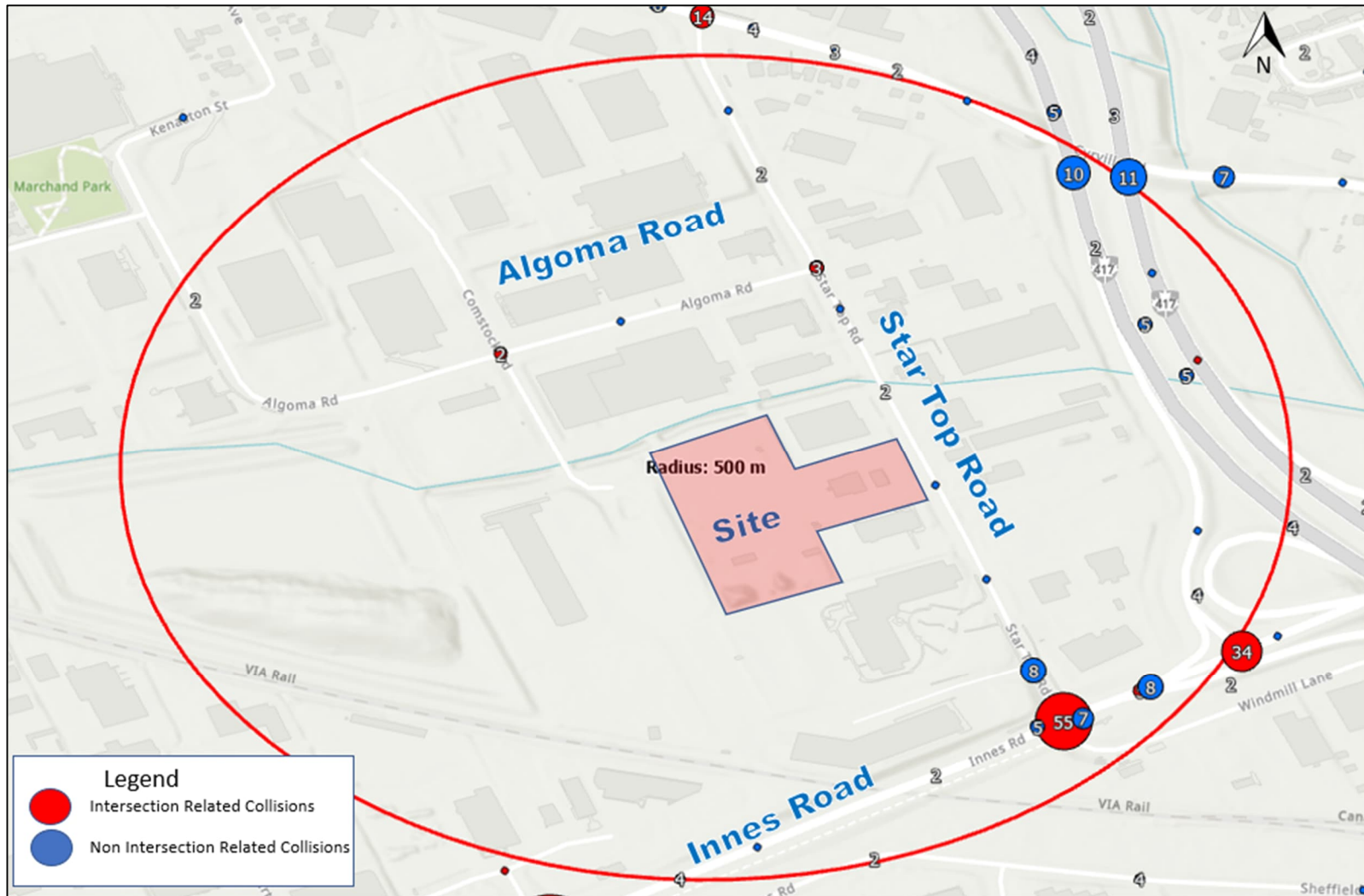


Figure 3 Collisions Within 500 m of Proposed Site

MP identified a total of 14 collisions during this time frame located on Star Top Road from Algoma Road to Innes Road. A total of 55 collisions were recorded at the intersection of Innes Road and Star Top Road, and *Table 1* provides a summary of the collision data.

Table 1 Collision data

Location	Collisions								
	2016	2017	2018	2019	2020	Total	Cyclist	Pedestrian	Fatalities
Innes Road at Star Top Road	11	14	9	11	10	55	0	1	0
Star Top Road between Algoma Road and Innes Road	2	1	5	5	1	14	0	0	0
Total	13	15	14	16	11	69	0	1	0

*Table 1* also summarizes the total number of collisions recorded per year at each location and the number of collisions that involved either cyclists, pedestrians, or resulted in a fatality. Based on the data, The intersection of Innes Road at Start Top Road between 2016 and 2020 had a total of 55 collisions with the majority (14) occurring during 2017. Out of the 55 collisions, only one involved a pedestrian. There were no collisions involving a cyclist or that resulted in a fatality.

Along Star Top Road between Algoma Road and Innes Road, there were a total of 14 collisions that occurred in the 5-year period. Of these 14 collisions, there were no collisions that included a cyclist, pedestrian or resulted in a fatality.

*Table 2* summarizes the collision type, road surface conditions, and collision classification at the Intersection of Star Top Road and Innes Road.

Table 2 Innes Road and Start Top Road Collision Breakdown

	Collisions								
	2016	2017	2018	2019	2020	Total	Property Damage	Injury	
Collision Type									
Rear End	4	6	6	3	3	22	18	4	
Sideswipe	2	2	0	2	1	7	7	0	
Turning Movement	3	5	0	2	2	12	8	4	
Other (Angle/SMV Other)	2	1	3	4	4	14	12	2	
Total	11	14	9	11	10	55	45	10	

	Collisions						Property Damage	Injury
	2016	2017	2018	2019	2020	Total		
Road Surface Conditions								
Wet	2	2	3	3	2	12	/	
Winter (ice/snow)	3	4	1	1	1	10		
Dry	6	8	5	7	7	33		
Total	11	14	9	11	10	55		

As illustrated, the most common type of collision was a rear end collision with 22 of the total 55 collisions (40%) with other collision types (Single Motor Vehicle, Angle, etc.) resulting in 14 of the 55 recorded collisions. Ten collisions resulted in injury while the other 45 collisions resulted in property damage only (PDO).

The number of collision as well as the collision impact type is most likely a result of the intersection being a high-volume (AADT of > 40,000 as per the counts performed in Jan 18, 2016 sourced from Open Ottawa.), signalized intersection. Rear end collisions, being the most prevalent collision type at this location, are typically proportional to AADT volumes in Urban Environments, they are also the leading causation of collisions overall. At the intersection of Innes Road and Star Top Road, it is to be expected that the number of rear-end collisions for an intersection that experiences over 40,000 AADT to be the leading collisions type.

#### 4.0 ACCESS INTERSECTION DESIGN

The proposed development is planned to make use of the two existing site accesses. While not explicitly required by the City, MP has completed a swept path analysis for the Site ingress/egress operations as well as internal Site circulation. Design vehicles reviewed include a tractor-trailer combination (WB-20), firetruck and waste collection truck. The Site Plan includes A 6.0 m wide, unobstructed drive aisle for the fire route, meeting the Transportation Association of Canada (TAC) Geometric Design Guide standards. All design vehicles can access the site and circulate on-site without conflict. All turning templates can be found in *Appendix C*.

Appendix A – TIS Screening Form and communications

City of Ottawa 2017 TIA Guidelines TIA Screening

**1. Description of Proposed Development**

Municipal Address	
Description of Location	
Land Use Classification	
Development Size (units)	
Development Size square metre (m <sup>2</sup> )	
Number of Accesses and Locations	
Phase of Development	
Buildout Year	

**If available, please attach a sketch of the development or site plan to this form.**

**2. Trip Generation Trigger**

Considering the Development’s Land Use type and Size (as filled out in the previous section), please refer to the Trip Generation Trigger checks below.

**Table notes:**

1. Table 2, Table 3 & Table 4 TRANS Trip Generation Manual
2. Institute of Transportation Engineers (ITE) Trip Generation Manual 11.1 Ed.

Land Use Type	Minimum Development Size
Single-family homes	60 units
Multi-Use Family (Low-Rise) <sup>1</sup>	90 units
Multi-Use Family (High-Rise) <sup>1</sup>	150 units
Office <sup>2</sup>	1,400 m <sup>2</sup>
Industrial <sup>2</sup>	7,000 m <sup>2</sup>
Fast-food restaurant or coffee shop <sup>2</sup>	110 m <sup>2</sup>
Destination retail <sup>2</sup>	1,800 m <sup>2</sup>
Gas station or convenience market <sup>2</sup>	90 m <sup>2</sup>



If the proposed development size is equal to or greater than the sizes identified above, the Trip Generation Trigger is satisfied.

### 3. Location Triggers

	Yes	No
Does the development propose a new driveway to a boundary street that is designated as part of the Transit Priority Network, Rapid Transit network or Cross-Town Bikeways?		
Is the development in a Hub, a Protected Major Transit Station Area (PMTSA), or a Design Priority Area (DPA)? <sup>2</sup>		

If any of the above questions were answered with ‘Yes,’ the Location Trigger is satisfied.

### 4. Safety Triggers

	Yes	No
Are posted speed limits on a boundary street are 80 kilometers per hour (km/h) or greater?		
Are there any horizontal/vertical curvatures on a boundary street limits sight lines at a proposed driveway?		
Is the proposed driveway within the area of influence of an adjacent traffic signal or roundabout (i.e. within 300 metre [m] of intersection in rural conditions, or within 150 m of intersection in urban/ suburban conditions)?		
Is the proposed driveway within auxiliary lanes of an intersection?		
Does the proposed driveway make use of an existing median break that serves an existing site?		

<sup>2</sup> Hubs are identified in Schedules B1 to B8 of the City of Ottawa Official Plan. PMTSAs are identified in Schedule C1 of the Official Plan. DPAs are identified in Schedule C7A and C7B of the Official. See Chapter 4 for a list of City of Ottawa Planning and Engineering documents that support the completion of TIA.

## Transportation Impact Assessment Guidelines

	Yes	No
Is there is a documented history of traffic operations or safety concerns on the boundary streets within 500 m of the development?		
Does the development include a drive-thru facility?		

**If any of the above questions were answered with ‘Yes,’ the Safety Trigger is satisfied.**

### 5. Summary

Results of Screening	Yes	No
Does the development satisfy the Trip Generation Trigger?		*
Does the development satisfy the Location Trigger?		
Does the development satisfy the Safety Trigger?		

**If none of the triggers are satisfied, the TIA Study is complete. If one or more of the triggers is satisfied, the TIA Study must continue into the next stage (Screening and Scoping).**

\* Per email correspondence, the site at 1560 Star Top Road will be redeveloped with a large warehouse (8,361 square metres) to be used by Boone Plumbing. Boone has an existing warehouse at 1282 Algoma, as well as a leased warehouse on Kenaston Street (for which they do not intend to renew the lease). The existing truck traffic that is generated from the Algoma and Kenaston warehouses will be redirected to the new warehouse, with no increase in truck trips, but rather a consolidation to the new warehouse.

William Sherwin

---

From: William Sherwin  
Sent: August 1, 2023 1:11 PM  
To: William Sherwin  
Subject: FW: PC2023-0107 - 1282 Algoma, Boone Plumbing Site - Traffic Engineering

(Deleted)

**William Sherwin, EIT**

**Transportation Planning & Traffic Engineering Intern**  
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---

From: Thomas Gryz <[t.gryz@mcintoshperry.com](mailto:t.gryz@mcintoshperry.com)>  
Sent: July 18, 2023 8:26 AM  
To: William Sherwin <[W.Sherwin@McIntoshPerry.com](mailto:W.Sherwin@McIntoshPerry.com)>  
Subject: FW: PC2023-0107 - 1282 Algoma, Boone Plumbing Site - Traffic Engineering

(Deleted)

**Thomas Gryz, M.A.Sc., P.Eng.**

**Senior Transportation/Traffic Engineer**  
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From: Bridgette Alchawa <[b.alchawa@mcintoshperry.com](mailto:b.alchawa@mcintoshperry.com)>  
Sent: July 17, 2023 7:12 PM  
To: Thomas Gryz <[t.gryz@mcintoshperry.com](mailto:t.gryz@mcintoshperry.com)>  
Cc: Curtis Melanson <[c.melanson@mcintoshperry.com](mailto:c.melanson@mcintoshperry.com)>  
Subject: FW: PC2023-0107 - 1282 Algoma, Boone Plumbing Site - Traffic Engineering

{deleted}

**Bridgette Alchawa**

**Planner**  
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---

From: Paudel, Neeti <[neeti.paudel@ottawa.ca](mailto:neeti.paudel@ottawa.ca)>  
Sent: July 14, 2023 2:58 PM  
To: Bridgette Alchawa <[b.alchawa@mcintoshperry.com](mailto:b.alchawa@mcintoshperry.com)>  
Cc: Thomas Gryz <[t.gryz@mcintoshperry.com](mailto:t.gryz@mcintoshperry.com)>; Pete Van Grootheest <[pete@bbsconstruction.ca](mailto:pete@bbsconstruction.ca)>  
Subject: RE: PC2023-0107 - 1282 Algoma, Boone Plumbing Site - Traffic Engineering

Thanks Bridgette. Please provide a memo for safety – it is the road safety section of the design review component of the TIA and the turning movements. This can be submitted with the site plan application.

Regards,  
Neeti

---

From: Bridgette Alchawa <[b.alchawa@mcintoshperry.com](mailto:b.alchawa@mcintoshperry.com)>  
Sent: July 14, 2023 2:18 PM  
To: Paudel, Neeti <[neeti.paudel@ottawa.ca](mailto:neeti.paudel@ottawa.ca)>  
Cc: Thomas Gryz <[t.gryz@mcintoshperry.com](mailto:t.gryz@mcintoshperry.com)>; Pete Van Grootheest <[pete@bbsconstruction.ca](mailto:pete@bbsconstruction.ca)>  
Subject: RE: PC2023-0107 - 1282 Algoma, Boone Plumbing Site - Traffic Engineering

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Hi Neeti,

I've updated the 2023 screening form that you provided, noting that trip generation is not triggered and included the explanation outlined below. The form is attached. That is correct, the safety trigger was triggered due to collisions at intersections. We had noted 18 collisions from 2015-2019 on Star Top Road between Algoma Road and Innes Road, as well as 62 collisions at the intersection of Innes Road and Star Top Road.

Is this sufficient to confirm that a TIA will not be required at all?

Thanks,  
Bridgette

**Bridgette Alchawa**

Planner

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---

From: Paudel, Neeti <[neeti.paudel@ottawa.ca](mailto:neeti.paudel@ottawa.ca)>  
Sent: July 14, 2023 1:47 PM  
To: Bridgette Alchawa <[b.alchawa@mcintoshperry.com](mailto:b.alchawa@mcintoshperry.com)>  
Cc: Thomas Gryz <[t.gryz@mcintoshperry.com](mailto:t.gryz@mcintoshperry.com)>; Pete Van Grootheest <[pete@bbsconstruction.ca](mailto:pete@bbsconstruction.ca)>  
Subject: RE: PC2023-0107 - 1282 Algoma, Boone Plumbing Site - Traffic Engineering

Thanks Bridgette. Could you provide more information on why the safety trigger is met? Is it collisions at the intersections?

Please also update the attached screening form with the information below. It would not trigger trip generation in that case and that should be reflected on the screening form.

Once you provide the information above, I can let you know regarding the scope or if we need a TIA at all.

Regards,

Neeti

---

From: Bridgette Alchawa <[b.alchawa@mcintoshperry.com](mailto:b.alchawa@mcintoshperry.com)>  
Sent: July 14, 2023 1:21 PM  
To: Paudel, Neeti <[neeti.paudel@ottawa.ca](mailto:neeti.paudel@ottawa.ca)>  
Cc: Thomas Gryz <[t.gryz@mcintoshperry.com](mailto:t.gryz@mcintoshperry.com)>; Pete Van Grootheest <[pete@bbsconstruction.ca](mailto:pete@bbsconstruction.ca)>  
Subject: FW: PC2023-0107 - 1282 Algoma, Boone Plumbing Site - Traffic Engineering

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Good afternoon Neeti,

I've reattached the screening form that was submitted to the City in April prior to our preconsult. Boone plumbing will be redeveloping the site at 1560 Star Top Road with a large warehouse (8,361 square metres). They have an existing warehouse at 1282 Algoma, as well as a leased warehouse on Kenaston Street (for which they do not intend to renew the lease). The existing truck traffic that is generated from the Algoma and Kenaston warehouses will be directed to the new warehouse, with no increase in truck trips, but rather a consolidation to the new warehouse.

Please let us know if you require any additional information or would like to discuss in order to confirm the scope of the required TIA. The project team is working towards a Site Plan Control submission for the week of August 1 and accordingly, we would like to confirm the scope as soon as possible.

Thanks,  
Bridgette

**Bridgette Alchawa**  
Planner

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From: Paudel, Neeti <[neeti.paudel@ottawa.ca](mailto:neeti.paudel@ottawa.ca)>  
Sent: July 14, 2023 12:22 PM  
To: Thomas Gryz <[t.gryz@mcintoshperry.com](mailto:t.gryz@mcintoshperry.com)>  
Cc: Bridgette Alchawa <[b.alchawa@mcintoshperry.com](mailto:b.alchawa@mcintoshperry.com)>  
Subject: RE: PC2023-0107 - 1282 Algoma, Boone Plumbing Site - Traffic Engineering

You don't often get email from [neeti.paudel@ottawa.ca](mailto:neeti.paudel@ottawa.ca). [Learn why this is important](#)

Hi Tom,

Could you please complete the screening form for my review? Could you provide further information on why the truck trips aren't changing in the form. 8,361 m2 is big enough to trigger trip generation. For trip generation trigger, please clarify/confirm why there are no new trips being generated. I would like to see some details.

Thanks,  
Neeti

---

From: Thomas Gryz <[t.gryz@mcintoshperry.com](mailto:t.gryz@mcintoshperry.com)>  
Sent: July 12, 2023 4:22 PM  
To: Paudel, Neeti <[neeti.paudel@ottawa.ca](mailto:neeti.paudel@ottawa.ca)>  
Cc: Bridgette Alchawa <[b.alchawa@mcintoshperry.com](mailto:b.alchawa@mcintoshperry.com)>  
Subject: RE: PC2023-0107 - 1282 Algoma, Boone Plumbing Site - Traffic Engineering

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Hi Neeti,

Can you please confirm whether we still need to go through all the steps, just including the design review component? Or do you just want to see the turning templates.

Thanks,  
-Tom

**Thomas Gryz, M.A.Sc., P.Eng.**  
Senior Transportation/Traffic Engineer

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From: Paudel, Neeti <[neeti.paudel@ottawa.ca](mailto:neeti.paudel@ottawa.ca)>  
Sent: June 28, 2023 11:50 AM  
To: Thomas Gryz <[t.gryz@mcintoshperry.com](mailto:t.gryz@mcintoshperry.com)>  
Cc: Bridgette Alchawa <[b.alchawa@mcintoshperry.com](mailto:b.alchawa@mcintoshperry.com)>  
Subject: RE: PC2023-0107 - 1282 Algoma, Boone Plumbing Site - Traffic Engineering

Hi Tom,

Yes, I am ok with reduced scope if the trip generation is not changing. Design Review component should be included and please include turning templates in the TIA.

Regards,  
Neeti

---

From: Thomas Gryz <[t.gryz@mcintoshperry.com](mailto:t.gryz@mcintoshperry.com)>  
Sent: June 26, 2023 1:23 PM  
To: Paudel, Neeti <[neeti.paudel@ottawa.ca](mailto:neeti.paudel@ottawa.ca)>  
Cc: Bridgette Alchawa <[b.alchawa@mcintoshperry.com](mailto:b.alchawa@mcintoshperry.com)>  
Subject: PC2023-0107 - 1282 Algoma, Boone Plumbing Site - Traffic Engineering

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Good Afternoon Neeti,

We have been retained by BBS / Boone to prepare a TIA for the proposed expansion of the Boone Plumbing site on Algoma Road. According to discussion with the client the total number of trucks is not expected to change, however the access to the facility is expected to change. As such, we are expecting that trucks will no longer access the site at the 1282 Algoma truck entrance from 1500 star top road and will access the site from the future truck entrance off star top road (please see attached figure for clarity). Since the trucks generated are not expected to change and the local patterns are not expected to change significantly, can we reduce the scope of the TIA? Feel free to call if that facilitates the discussion.

Best Regards,  
-Tom

**Thomas Gryz, M.A.Sc., P.Eng.**

**Senior Transportation/Traffic Engineer**  
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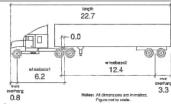
Appendix B – Site Plan



Appendix C – Site Circulation Diagrams



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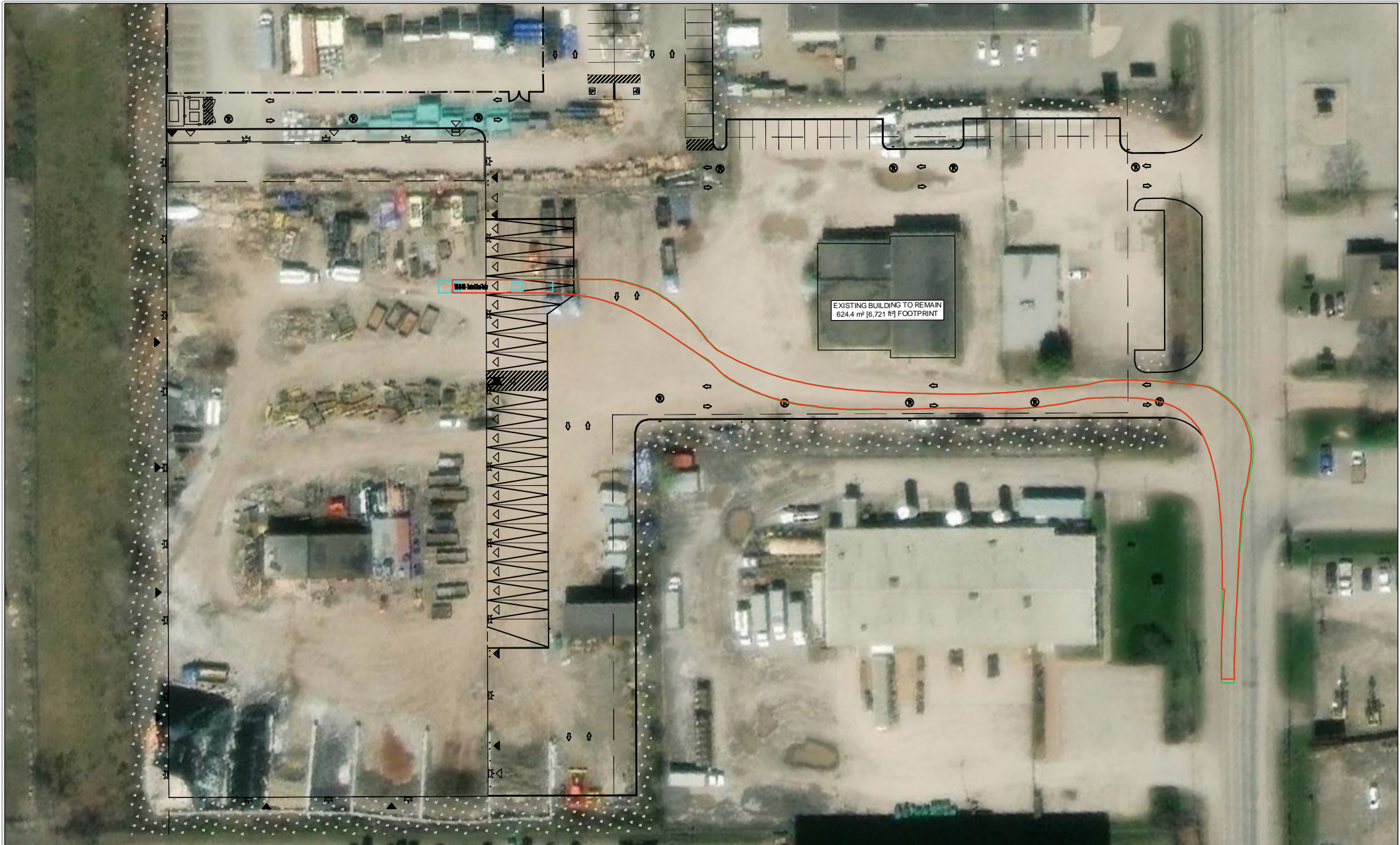
No.	Revision/Issue	Date
1		

Designed by: WS  
 Drawn by:  
 Checked by: IMP  
 Scale: 1:1000

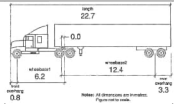
Client:  
**BBS Construction**  
 1805 Woodward Drive, Ottawa, Ontario  
 Project:  
**1540\1560 Star Top Road - Safety memo**  
 Oakville, ON

Drawing Title:  
**Site Circulation**  
**Delivery Vehicle WB-20**  
**Entering Site**

Date: August 2023  
 Project Number:  
 Drawing Number: C-1



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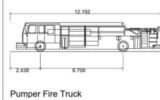
No.	Revision/Issue	Date
1		

Designed by: WS  
 Drawn by:  
 Checked by: MP  
 Scale: 1:1000

Client:  
**BBS Construction**  
 1805 Woodward Drive, Ottawa, Ontario  
 Project:  
 1540\1560 Star Top Road - Safety memo  
 Oakville, ON

Drawing Title:  
**Site Circulation  
 Delivery Vehicle WB-20  
 Exiting Site**

Date: August 2023  
 Project Number:  
 Drawing Number: C-2



No.	Revision/Issue	Date
1		

Designed by: WS  
 Drawn by:  
 Checked by: MP  
 Scale: 1:1000

Client:  
**BBS Construction**  
 1805 Woodward Drive, Ottawa, Ontario  
 Project:  
**1540\1560 Star Top Road - Safety memo**  
 Oakville, ON

Drawing Title:  
**Site Circulation**  
**Fire Truck Circulating Site**

Date: August 2023  
 Project Number:

Drawing Number:  
**C-3**

1540\1560 Star Top Road - Safety memo - 20230815 - 1540\1560 Star Top Road - Safety memo - 20230815 - 1540\1560 Star Top Road - Safety memo - 20230815



No.	Revision/Issue	Date
1		

Designed by: WS  
 Drawn by:  
 Checked by: MP  
 Scale: 1:1000

Client:  
 BBS Construction  
 1805 Woodward Drive, Ottawa, Ontario  
 Project:  
 1540\1560 Star Top Road - Safety memo  
 Oakville, ON

Drawing Title:  
**Site Circulation**  
**Waste Removal Front Loading**  
**Garbage Truck Entering Site**

Date: August 2023  
 Project Number:  
 Drawing Number: C-4

1540\1560 Star Top Road - Safety memo - Site Circulation - Waste Removal Front Loading - Garbage Truck Entering Site - August 2023



**McINTOSH PERRY**  




No.	Revision/Issue	Date
1		

Designed by: WS  
 Drawn by:  
 Checked by: MP  
 Scale: 1:1000

Client:  
 BBS Construction  
 1805 Woodward Drive, Ottawa, Ontario  
 Project:  
 1540\1560 Star Top Road - Safety memo  
 Oakville, ON

Drawing Title:  
**Site Circulation**  
**Waste Removal Front Loading**  
**Garbage Truck Exiting Site**

Date: August 2023  
 Project Number:  
 Drawing Number: C-5

B:\Projects\1540\1560 Star Top Road - Safety memo\Drawings\Site Circulation\Waste Removal Front Loading\Garbage Truck Exiting Site\1540\_1560\_Site\_Circulation\_Waste\_Removal\_Front\_Loading\_Garbage\_Truck\_Exit\_Site.dwg  
 2023/08/08 10:00 AM  
 User: [unreadable]  
 Plot: 1540\_1560\_Site\_Circulation\_Waste\_Removal\_Front\_Loading\_Garbage\_Truck\_Exit\_Site.dwg  
 Plot Date: 2023/08/08 10:00 AM  
 Plot Scale: 1:1000  
 Plot Size: 11.00 x 17.00  
 Plot Orientation: Landscape  
 Plot Color: Black  
 Plot Lineweight: 0.50  
 Plot Linetype: Solid  
 Plot Font: Arial, 10.00  
 Plot Title: 1540\_1560\_Site\_Circulation\_Waste\_Removal\_Front\_Loading\_Garbage\_Truck\_Exit\_Site.dwg  
 Plot User: [unreadable]  
 Plot Password: [unreadable]  
 Plot Security: [unreadable]