AUGUST 6, 2025

PROJECT NO: 624-6777

SENT VIA: EMAIL

Toronto and Region Conservation Authority
101 Exchange Avenue
Vaughan, ON L4K 5R6

Attention: Michael Hynes, MES, MCIP, RPP
Senior Planner, Development Planning and Permits

RE: PROLOGIS HUMBER STATION – TEMPORARY STORMWATER MANAGEMENT OUTLET

Dear Michael,

As discussed in our meeting on Friday, September 6, 2024, C.F. Crozier & Associates Inc. (Crozier) was retained by PLD Humber Station Investment LP to prepare a detailed stormwater management design to support the Site Plan Application for a proposed industrial development located at 12519-12713 Humber Station Road in the Town of Caledon. The property is located within the Humber Station Villages Employment Area, Lots 1-5, Concession 5 (Albion) in the Town of Caledon. A Comprehensive Environmental Impact Study and Management Plan (CEISMP) for Phase 1 dated July 2025 and Phase 2 dated July 2025 were prepared by GEI to support the development of Humber Station Villages. The management plan includes roads, storm sewers and a pond downstream of the Prologis property which will ultimately serve as the outlet for the development. As the parcel (12285 Humber Station Road) north of the SWM Block is a non-participating landowner, it is unclear when the proposed road and storm sewer will be designed and constructed.

This letter has been prepared to support a temporary outlet to the Clarkway Tributary for the first phase of the Prologis development which would remain in place until the downstream storm sewers and stormwater management pond proposed in the CEISMP are constructed. The terms of reference for this analysis were confirmed through email correspondence between Crozier and the TRCA dated September 19, 2024. A copy of this email is attached for reference.

The first phase of the Prologis development (Phase 1A) occupies approximately 31.3 ha in the northeast of the site. Refer to the Overall Site Plan prepared by Petroff dated May 2025 for details. Most of Phase 1A drains to the existing HDF 8 just south of the property. This feature is not a suitable outlet for the development as it is not a defined drainage feature. Based on the concept plan layout, we would like to propose an outlet towards the Clarkway Tributary, at the southeast corner of the property. We have completed the following analysis to support the flow diversion and interim outlet location based on correspondence with the TRCA.

1. *The initial step is to calculate the required site release rates for the portion of the subject properties that drains to the Clarkway Tributary under existing conditions and determine the storage requirements for the stormwater management (SWM) pond accordingly using the criterion.*

211 Yonge St., Suite 600
Toronto, ON M5B 1M4
T. 416.477.3392
cfcrozier.ca

The Humber River unitary flow rates for Sub-basin 36 were used to determine the allowable release rates to the Clarkway Tributary for the property. The 9.56 ha area along the northeast property line that drains to the Clarkway Tributary in existing conditions was used for this calculation. The TRCA Humber catchments were used to delineate this area as shown in **Figure 1**.

The storage required to control Phase 1A to the unitary release rates was determined using VO and the TRCA 12-hour AES storm events since they produced the highest peak flows and storage values out of the TRCA storm events recommended for the Humber River watershed. The 100-year release rate was calculated to be 0.236 m^3/s. To control Phase 1A to this release rate, a storage of 18,343 m^3 is required for the 100-year event and a storage of 45,688 m^3 is required for the Regional event. Refer to **Figure 2** for the post-development drainage area plan and **Table 1** below for calculated release rates and required storage. Detailed model parameters are provided as an attachment to this letter, as is a copy of the VO model.

Table 1: Release Rates and Storage

Return Period	Calculated Unit Flow Rate		Required Storage
	L/s	(m^3/s)	m^3
2-Year	75.4	0.075	8,185
5-Year	115.6	0.116	10,919
10-Year	142.0	0.142	12,740
25-Year	178.9	0.179	15,004
50-Year	209.0	0.209	16,682
100-Year	236.0	0.236	18,343
Regional	678.8	0.679	45,688

2. *Identify and describe the constraint that makes the above requirement challenging, and propose an approach to resolve the issue without negatively affecting the receiving feature (flooding and erosion).*

   In order to control the Phase 1A area to the relatively small target release rates for the Clarkway Tributary as described above, a significant amount of storage is required for the interim outlet conditions. There is insufficient space available within the property to provide a SWM facility large enough to contain this quantity of storage. Therefore, a sensitivity analysis has been completed using the TRCA Humber VO model to determine the maximum discharge from Phase 1A that does not impact the conditions downstream of the property. Further details of the analysis are provided below.

3. *Identify contributing drainage area to the proposed interim outlet location in Clarkway Tributary and summarize in a drainage map.*
   a. *Compare the upstream area and diversion area.*

   Figure 2 attached shows the post-development catchment areas from Phase 1A that are to drain to the interim outlet location as well as the proposed SWM facility. **Figure 3** shows the upstream area contributing to the tributary and highlights the areas within Phase 1A that are proposed to be diverted. The diverted area is summarized in the table below. As

shown, the 15.92 ha diverted area is very minor in comparison to the total 651.60 ha contributing area, representing 2.4% of the total area.

Table 2: Diverted Area Summary

TRCA VO Catchment	Drainage Feature	Diverted Area (ha)	Total Upstream Area (ha)	Diverted Area Percentage (%)
43.03	HDF-8	15.92	651.60	2.4

b. Compare the modeled flows from the diversion area to the modeled flows in the Clarkway Tributary.

The unitary release rate for Phase 1A has been calculated as described in Comment 1 above. The table below compares the Phase 1A peak flow with the total peak flow at the Phase 1A outlet location (J124) for the 2 to 100-year storm events. The target release rate has been area weighted for the diverted area. As shown in the table below, the 100-year release rate for the diverted area represents approximately 0.31% of the total peak flow within the Clarkway Tributary at the Phase 1A outlet location and the Regional represents 0.45%.

Table 3: Peak Flow Comparison

Storm Event	Phase 1A Release Rate (m^3/s)	Area Weighted Peak Flow for Diverted Area (m^3/s)	J124 Peak Flow (m^3/s)	Diverted Area Peak Flow / J124 Peak Flow Percentage (%)
2 Yr 6 Hour AES	0.075	0.038	6.0467	0.63
5 Yr 6 Hour AES	0.116	0.059	10.2711	0.57
10 Yr 6 Hour AES	0.142	0.072	21.3820	0.34
25 Yr 6 Hour AES	0.179	0.091	28.3070	0.32
50 Yr 6 Hour AES	0.209	0.106	33.3970	0.32
100 Yr 6 Hour AES	0.236	0.120	39.2180	0.31
Regional	0.679	0.345	76.1430	0.45

4. *Conduct flow comparison and sensitivity analysis in the VO model regarding flow diversion for the Clarkway Tributary.*
    a. *Review and assess the downstream impact assuming the flow change and no SWM controls.*
        i. *Assess the flow change within the Clarkway Tributary at the proposed interim outlet location.*

A sensitivity analysis was completed by adding the Phase 1A post-development catchments into the TRCA Humber VO model and adjusting the existing catchments accordingly. The Phase 1A catchments were routed to the Clarkway Tributary outlet location without storage so the impacts on the downstream system could be analyzed. The 6-hour AES storm was used for this analysis as it produces the highest peak flows in the TRCA Humber VO model. The table below summarizes the results at the outlet location (J124) and two other nodes farther downstream (J4200.683 and J1700.594). Detailed results are attached for reference.

Table 4: Peak Flow Release Rates without Storage

Storm Event	Junction	Pre-dev Peak Flow Rate (m^3/s)	Post-dev Peak Flow Rate (m^3/s)	Percent Increase (%)
2 Yr 6 Hr AES	J124	6.0467	6.1314	1.4
	J4200.683	6.1701	6.2764	1.7
	J1700.594	6.0538	6.2476	3.2
5 Yr 6 Hr AES	J124	10.2711	10.5275	2.5
	J4200.683	10.1732	10.3565	1.8
	J1700.594	10.1163	10.3023	1.8
10 Yr 6 Hr AES	J124	21.3820	21.4859	0.5
	J4200.683	21.6590	21.8376	0.8
	J1700.594	20.0460	20.2453	1.0
25 Yr 6 Hr AES	J124	23.3070	28.6098	1.1
	J4200.683	27.4340	27.8230	1.4
	J1700.594	25.3590	25.5992	0.9
50 Yr 6 Hr AES	J124	33.3970	33.5690	0.5
	J4200.683	33.6830	34.0516	1.1
	J1700.594	29.4870	29.7870	1.0
100 Yr 6 Hr	J124	39.2180	39.2671	0.1
	J4200.683	39.4150	39.8531	1.1
	J1700.594	34.2010	34.6549	1.3
Hazel	J124	76.1430	77.4473	1.7
	J4200.683	90.2880	91.9444	1.8
	J1700.594	110.6160	112.3286	1.5

ii. Assess the flow change within the Clarkway Tributary downstream of the proposed outlet to the confluence at node 43.2 (downstream of Mayfield Road).

Node 43.2 is located at J124 within the VO model. See results for J124 presented in the table above.

b. Complete sensitivity analysis for the following:

i. Required Site release rate calculated based on unitary release rate calculated using the existing drainage area to the Clarkway Tributary.

A sensitivity analysis was completed by adding the Phase 1A post-development catchments into the TRCA Humber VO model and adjusting the existing catchments accordingly. The Phase 1A catchments were routed to a reservoir so the Phase 1A peak flow discharging to the Clarkway Tributary could be iterated and the impacts on the downstream system could be analyzed. The first scenario included setting the Phase 1A discharge according to the unitary flow rate calculations. Then, the peak flow was increased and the impacts on the peak flows were analyzed.

The modeling shows that if the unitary release rates for the 2 and 5-year storm events are multiplied by 3 and the 10 to 100-year storms events are multiplied by 4, the impacts to downstream peak flows are negligible. The 6-hour AES storm events were used for the analysis. Similarly, if the regional release rate is multiplied by 2.5, the impacts to downstream peak flows are negligible. The table below summarizes the results.

Table 5: Peak Flow Release Rates with Storage

Storm Event	Phase 1A Release Rate (m^3/s)	Phase 1A Storage (m^3)	Junction	Pre-dev Peak Flow Rate (m^3/s)	Post-dev Peak Flow Rate (m^3/s)	Percent Increase (%)
2 Yr	0.300	0.7458	J124	6.0467	6.1113	1.1
			J4200.683	6.1701	6.2415	1.2
			J1700.594	6.0538	6.1521	1.6
5 Yr	0.464	0.921	J124	10.2711	10.3225	0.5
			J4200.683	10.1732	10.2651	0.9
			J1700.594	10.1163	10.2083	0.9
10 Yr	0.568	1.071	J124	21.3820	21.3935	0.1
			J4200.683	21.6590	21.7568	0.5
			J1700.594	20.0460	20.1450	0.5
25 Yr	0.716	1.248	J124	23.3070	28.0422	-0.9
			J4200.683	27.4340	27.5771	0.5
			J1700.594	25.3590	25.4791	0.5
50 Yr	0.836	1.387	J124	33.3970	33.4007	0.0
			J4200.683	33.6830	33.6668	0.0
			J1700.594	29.4870	29.6229	0.5
100 Yr	0.944	1.513	J124	39.2180	39.2298	0.0
			J4200.683	39.4150	39.4939	0.2
			J1700.594	34.2010	34.3568	0.5
Hazel	1.697	3.362	J124	76.1430	75.7932	-0.5
			J4200.683	90.2880	89.9248	-0.4
			J1700.594	110.6160	110.3355	-0.3

ii. Unit flow rates calculated using the area for the existing areas draining to Clarkway Tributary and the area to be diverted from HDF 8.

The unitary flow rates based on the existing areas draining to the Clarkway Tributary per the CEISMP report, are summarized in the table below.

Table 6: Unitary Release Rates

Return Period	Calculated Unit Flow Rate	
	L/s	(m^3/s)
2-Year	190.7	0.191
5-Year	290.6	0.291
10-Year	358.4	0.358
25-Year	450.7	0.451
50-Year	524.1	0.524
100-Year	593.6	0.594
Regional	2,199.7	2.200

A scenario was created and run in the TRCA Humber VO model with Phase 1A discharging the peak flows noted in the table above to the Clarkway Tributary and the downstream nodes were analyzed. The results are summarized in the table below.

Table 7: Peak Flow Analysis Summary

Storm Event	Junction	Pre-dev Peak Flow Rate (m^3/s)	Post-dev Peak Flow Rate (m^3/s)	Percent Increase (%)
2 Yr	J124	6.0467	6.0428	-0.1
	J4200.683	6.1701	6.1844	0.2
	J1700.594	6.0538	6.0970	0.7
5 Yr	J124	10.2711	10.1561	-1.1
	J4200.683	10.1732	10.1216	-0.5
	J1700.594	10.1163	10.1138	0.0
10 Yr	J124	21.3820	21.0952	-1.3
	J4200.683	21.6590	21.4558	-0.9
	J1700.594	20.0460	19.8944	-0.8
25 Yr	J124	23.3070	27.6783	-2.2
	J4200.683	27.4340	27.1770	-0.9
	J1700.594	25.3590	25.1913	-0.7
50 Yr	J124	33.3970	32.9728	-1.3
	J4200.683	33.6830	33.2758	-1.2
	J1700.594	29.4870	29.2733	-0.7
100 Yr	J124	39.2180	38.7892	-1.1
	J4200.683	39.4150	39.0593	-0.9
	J1700.594	34.2010	33.9112	-0.8
Hazel	J124	76.1430	76.2732	0.2
	J4200.683	90.2880	90.4275	0.2
	J1700.594	110.6160	110.7469	0.1

iii. Proposed Site release rate to Clarkway Tributary (rate calculated in bullet ii reduced by the percentage required to produce no significant downstream impacts.

As discussed in Comment 4b above, if the unitary release rates for Phase 1A are multiplied by 3 for the 2 and 5-year storm events and by 4 for the 10 to 100-year storm

events, the impacts on the downstream peak flows are negligible. Similarly, multiplying the Regional event release rate by 2.5 has a negligible impact on the downstream system and requires the smallest amount of additional site storage. These release rates are higher than those required for the ultimate conditions for the 2 through 100-year storm events. As the Prologis development needs to be designed to meet the release rates identified in the CEISMP, the storage and controls for the 2-100 year storms are provided within the Phase 1A development area. These release rates are shown in green in the table below. The release rate calculated for the regional storm is smaller under interim conditions than the release rate for the ultimate conditions, so additional storage will be required.

Therefore, we are proposing the following release rates, shown in green, for Phase 1A to the temporary outlet.

Table 8: Proposed Phase 1A Release Rates

Storm Event	Phase 1A Release Rate (m^3/s)		Storage Required (m^3)	
	Interim	**Phase 1A**	**Interim**	**Phase 1A**
2 Yr	0.300	0.191	7,461	7,667
5 Yr	0.464	0.291	9,643	10,948
10 yr	0.568	0.358	11,036	12,359
25 Yr	0.716	0.451	12,983	14,551
50 Yr	0.836	0.524	14,386	16,074
100 Yr	0.944	0.594	15,789	17,974
Regional	**1.697**	2.200	**32,664**	24,840

5. *Conduct hydraulic downstream impact assessment.*
    a. *Update the HEC-RAS model with the updated flow from task #2.*
    b. *Evaluate the impact on water surface elevations and velocity between the proposed interim outlet location and node 43.2 (Mayfield Road).*

The sensitivity analysis shows that if the release rates from 4 ii. are used as described above, there are no increases in downstream peak flows. The node directly downstream (J124) has a percent decrease of -1.1% for the 100-year storm event. Since there are no increases in peak flows, the downstream watercourse will not be impacted and no changes to the HEC-RAS model are required.

1. *Erosion Assessment*
    a. *Fluvial engineer to review the erosion impact at the outlet location and points of interest downstream of the Site.*
    b. *Since diverting areas will lead to a significant increase in runoff volume, which may cause instream erosion, it is crucial that the stormwater management (SWM) strategy includes a minimum of 10mm of onsite runoff retention, which can be managed through infiltration or evapotranspiration.*
    c. *48-hour drawdown time is required for the SWM pond.*

A minimum of 10 mm of onsite retention has been accounted for in the design and 48 hours of extended detention will be provided by the interim pond. Please refer to the Stormwater Management Implementation Report prepared by Crozier under a separate cover for further details regarding erosion and water balance.

2. *Water balance*
    a. *Site specific water balance should be maintained, matching post-development infiltration volume to pre-development.*
    b. *Fill loading impact on soil infiltration, mounding and LID infiltration rates should be reviewed by a geotechnical and hydrogeological engineer.*

Comment 2 is addressed in the Stormwater Management Implementation Report prepared by Crozier under a separate cover. Please refer to this report for further details regarding water balance.

The analysis and responses described in responses to comments 1 to 5 above demonstrate that Phase 1A of the development can discharge to the Clarkway Tributary without negatively impacting the conditions downstream. Therefore, using the Clarkway Tributary as a temporary outlet during interim conditions is the best solution.

Should you have any questions or require any further information, please do not hesitate to contact the undersigned.

Sincerely,

C.F. CROZIER & ASSOCIATES INC.

M. Findlay

Maggie Findlay, P.Eng.
Project Engineer

MF/tc

C.C.

C.F. CROZIER & ASSOCIATES INC

Rebecca Archer, P.Eng.
Senior Project Engineer

Enclosure
- Email correspondence
- Hydrologic Input Parameters
- Unitary Release Rate Calculations
- Diverted Area Summary
- VO Model Sensitivity Analysis Output Tables
- Figure 1 - Interim Conditions Target Release Rate
- Figure 2 - Interim Conditions Drainage Figure
- Figure 3 - Interim Conditions Diverted Drainage Areas

J:\600\624 - Prologis\6777 - Prologis Humber Station - Phase 1 & 2\Letters\2025.08.06_TRCA Letter\6777_Humber Station TRCA Letter.docx

From: Michael Hynes <Michael.Hynes@trca.ca>
Sent: Thursday, September 19, 2024 12:28 PM
To: Hamdy Shafi <hshafi@cfcrozier.ca>; Dilnesaw Chekol <Dilnesaw.Chekol@trca.ca>
Cc: Heaven Lin <hlin@cfcrozier.ca>; Rebecca Archer <rarcher@cfcrozier.ca>; Mena Iskander <miskander@cfcrozier.ca>; Canejo, Carlos <ccanejo@prologis.com>; Joe Plutino <jplutino@mainlineplanning.com>; Jim Davidson <Jdavidson@mainlineplanning.com>; Adam Miller <Adam.Miller@trca.ca>; Jason Wagler <Jason.Wagler@trca.ca>; Dilnesaw Chekol <Dilnesaw.Chekol@trca.ca>; Ali Shirazi <Ali.Shirazi@trca.ca>
Subject: RE: Prologis Humber Station - SWM Outlet Discussion with TRCA

Good Afternoon,

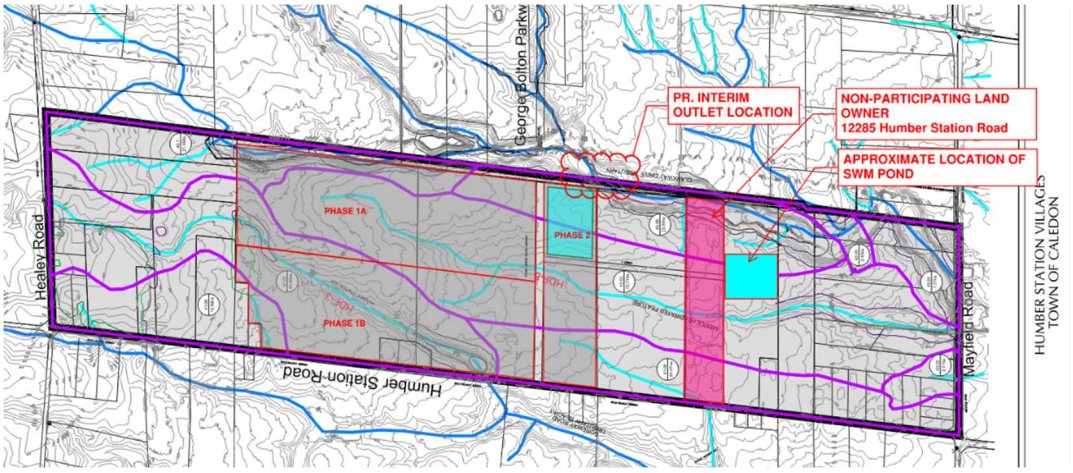
Technical staff have reviewed your Prologis Humber Station - SWM Outlet Discussion with TRCA and would provide the following changes in red below. Sorry for the delay in responding. Should you have questions please contact me.

Good Morning Michael,

Thank you for meeting with us on Friday, September 6, 2024. As discussed, please see the meeting summary below and our inquiries regarding the SWM outlet.

We have completed a submission dated April 2024 for the Draft Plan of Subdivision, Zoning Bylaw Amendment, and Site Plan Application following CEISMP Phase 1. Due to the delay in the CEISMP Phase 2 submission, the Town has not started their review, or circulated documents to agencies for formal review. Please see attached the Site Plan for context of the proposed development (Phase 1 of the Prologis Humber Station Distribution Centre).

Following the design concept of CEISMP Phase 1 and 2, an end-of-pipe SWM facility is proposed to provide water quantity and quality control for the Humber Station Employment area. As the parcel (12285 Humber Station Road) north of the SWM Block is a non-participating landowner, it is unclear when the proposed road and storm sewer will be designed and constructed. This may delay the Prologis Humber Station construction schedule. Therefore, we would like to explore the SWM outlet location as an interim solution.



The Site is draining to the existing HDF 8 just south of the Site. This feature is not a suitable outlet for the development as it is not a defined drainage feature. Based on the concept plan layout, we would like to propose an outlet towards the Clarkway Tributary, at the southeast corner of the Site. Based on the meeting discussion we will provide the following analysis to support the flow diversion and interim outlet location:

1. The initial step is to calculate the required site release rates for the portion of the subject properties that drains to the Clarkway Tributary under existing conditions and determine the storage requirements fo the stormwater management (SWM) pond accordingly using the criterion.
2. Identify and describe the constraint that makes the above requirement challenging, and propose an approach to resolve the issue without negatively affecting the receiving feature (flooding and erosion).
3. Identify contributing drainage area to the proposed interim outlet location in Clarkway Tributary and summarize in a drainage map.
    a. Compare the upstream area and diversion area.
    b. Compare the modeled flows from the diversion area to the modeled flows in the Clarkway Tributary.
4. Conduct flow comparison and sensitivity analysis in the VO model regarding flow diversion for the Clarkway Tributary.
    a. Review and assess the downstream impact assuming the flow change and no SWM controls.
        i. Assess the flow change within the Clarkway Tributary at the proposed interim outlet location.
        ii. Assess the flow change within the Clarkway Tributary downstream of the proposed outlet to the confluence at node 43.2 (downstream of Mayfield Road).
    b. Complete sensitivity analysis for the following:
        i. Required Site release rate calculated based on unitary release rate calculated using the existing drainage area to the Clarkway Tributary.
        ii. Unit flow rates calculated using the area for the existing areas draining to Clarkway Tributary and the area to be diverted from HDF 8.
        iii. Proposed Site release rate to Clarkway Tributary (rate calculated in bullet ii reduced by the percentage required to produce no significant downstream impacts.
5. Conduct hydraulic downstream impact assessment.
    a. Update the HEC-RAS model with the updated flow from task #2.
    b. Evaluate the impact on water surface elevations and velocity between the proposed interim outlet location and node 43.2 (Mayfield Road).

The above tasks (1, 2, and 3) will be summarized in a memorandum for TRCA's review. Additional topics such as erosion and water balance criteria were also discussed in the meeting, and these criteria will be incorporated into the submission for Draft Plan of Subdivision, Zoning Bylaw Amendment, and Site Plan Application.

1. Erosion Assessment

a. Fluvial engineer to review the erosion impact at the outlet location and points of interest downstream of the Site.

b. Since diverting areas will lead to a significant increase in runoff volume, which may cause instream erosion, it is crucial that the stormwater management (SWM) strategy includes a minimum of 10mm of onsite runoff retention, which can be managed through infiltration or evapotranspiration.

c. 48-hour drawdown time is required for the SWM pond.

2. Water balance

   a. Site specific water balance should be maintained, matching post-development infiltration volume to pre-development.

   b. Fill loading impact on soil infiltration, mounding and LID infiltration rates should be reviewed by a geotechnical and hydrogeological engineer.

Please advise if our understanding of the above is correct. We look forward to providing more information to begin the TRCA's preliminary review and advancement of the Prologis Humber Station site design.

Thanks,
Hamdy

Michael Hynes, MES, MCIP, RPP
Senior Planner
Development Planning and Permits | Development and Engineering Services

T: (437) 880-2327
E: michael.hynes@trca.ca
A: 101 Exchange Avenue, Vaughan, ON, L4K 5R6 | trca.ca

Toronto and Region Conservation Authority

From: Hamdy Shafi <hshafi@cfcrozier.ca>
Sent: September 18, 2024 10:26 AM
To: Michael Hynes <Michael.Hynes@trca.ca>; Dilnesaw Chekol <Dilnesaw.Chekol@trca.ca>
Cc: Heaven Lin <hlin@cfcrozier.ca>; Rebecca Archer <rarcher@cfcrozier.ca>; Mena Iskander <miskander@cfcrozier.ca>; Canejo, Carlos <ccanejo@prologis.com>; Joe Plutino <jplutino@mainlineplanning.com>; Jim Davidson <Jdavidson@mainlineplanning.com>
Subject: RE: Prologis Humber Station - SWM Outlet Discussion with TRCA

EXTERNAL SENDER
Good Morning Michael,

Hope all is well.

I just wanted to follow up on my email from last week. Hoping to get your feedback on the framework we have outlined below to confirm we have the correct understanding before getting into our work.

Thanks in advance for your assistance.

Regards,
Hamdy

Hamdy Shafi, P.Eng.
Manager, Land Development
Office: 416.842.0022
Collingwood | Milton | Toronto | Bradford | Guelph

We've elevated our leadership team – click to learn more.

CROZIER

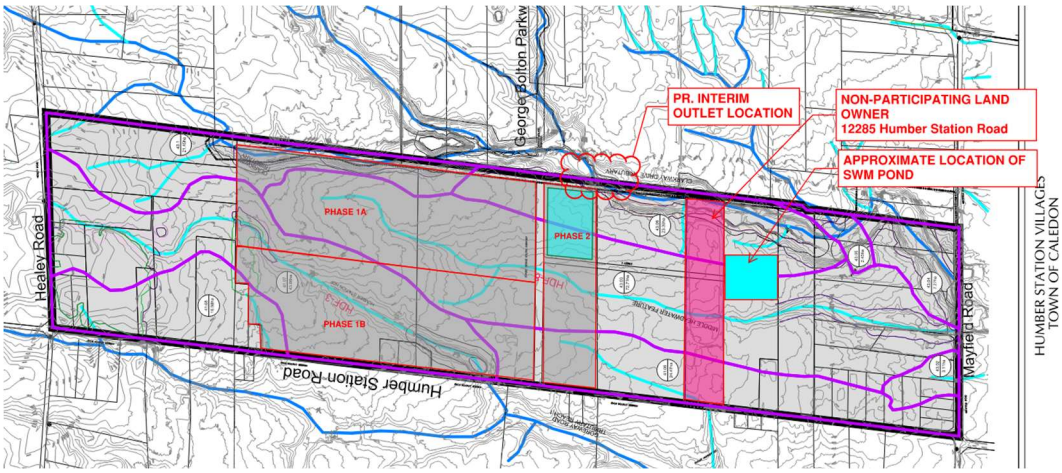
From: Hamdy Shafi <hshafi@cfcrozier.ca>
Sent: Thursday, September 12, 2024 10:35 AM
To: Michael.hynes@trca.ca; Dilnesaw A. DAC. Chekol <dchekol@trca.on.ca>
Cc: Heaven Lin <hlin@cfcrozier.ca>; Rebecca Archer <rarcher@cfcrozier.ca>; Mena Iskander <miskander@cfcrozier.ca>; Canejo, Carlos <ccanejo@prologis.com>; Joe Plutino <jplutino@mainlineplanning.com>; Jim Davidson <Jdavidson@mainlineplanning.com>
Subject: Prologis Humber Station - SWM Outlet Discussion with TRCA

Good Morning Michael,

Thank you for meeting with us on Friday, September 6, 2024. As discussed, please see the meeting summary below and our inquiries regarding the SWM outlet.

We have completed a submission dated April 2024 for the Draft Plan of Subdivision, Zoning Bylaw Amendment, and Site Plan Application following CEISMP Phase 1. Due to the delay in the CEISMP Phase 2 submission, the Town has not started their review, or circulated documents to agencies for formal review. Please see attached the Site Plan for context of the proposed development (Phase 1 of the Prologis Humber Station Distribution Centre).

Following the design concept of CEISMP Phase 1 and 2, an end-of-pipe SWM facility is proposed to provide water quantity and quality control for the Humber Station Employment area. As the parcel (12285 Humber Station Road) north of the SWM Block is a non-participating landowner, it is unclear when the proposed road and storm sewer will be designed and constructed. This may delay the Prologis Humber Station construction schedule. Therefore, we would like to explore the SWM outlet location as an interim solution.



The Site is draining to the existing HDF 8 just south of the Site. This feature is not a suitable outlet for the development as it is not a defined drainage feature. Based on the concept plan layout, we would like to propose an outlet towards the Clarkway Tributary, at the southeast corner of the Site. Based on the meeting discussion we will provide the following analysis to support the flow diversion and interim outlet location:

1. Identify contributing drainage area to the proposed interim outlet location in Clarkway Tributary and summarize in a drainage map.
    a. Compare the upstream area and diversion area.
    b. Compare the modeled flows from the diversion area to the modeled flows in the Clarkway Tributary.

2. Conduct flow comparison and sensitivity analysis in the VO model regarding flow diversion for the Clarkway Tributary.
    a. Review and assess the downstream impact assuming the flow change and no SWM controls.
        i. Assess the flow change within the Clarkway Tributary at the proposed interim outlet location.
        ii. Assess the flow change within the Clarkway Tributary downstream of the proposed outlet to the confluence at node 43.2 (downstream of Mayfield Road).
    b. Complete sensitivity analysis for the following:
        i. Required Site release rate calculated based on unitary release rate calculated using the existing drainage area to the Clarkway Tributary.
        ii. Unit flow rates calculated using the area for the existing areas draining to Clarkway Tributary and the area to be diverted from HDF 8.
        iii. Proposed Site release rate to Clarkway Tributary (rate calculated in bullet ii reduced by the percentage required to produce no significant downstream impacts.

3. Conduct hydraulic downstream impact assessment.
    a. Update the HEC-RAS model with the updated flow from task #2.
    b. Evaluate the impact on water surface elevations and velocity between the proposed interim outlet location and node 43.2 (Mayfield Road).

The above tasks (1, 2, and 3) will be summarized in a memorandum for TRCA's review. Additional topics such as erosion and water balance criteria were also discussed in the meeting, and these criteria will be incorporated into the submission for Draft Plan of Subdivision, Zoning Bylaw Amendment, and Site Plan Application.

1. Erosion Assessment
    a. Fluvial engineer to review the erosion impact at the outlet location and points of interest downstream of the Site.

b. We will explore opportunities to increase onsite retention, such as 10 mm on-site retention will be provided on the roof and removed through evapotranspiration.
c. 48-hour drawdown time is required for the SWM pond.

2. Water balance
    a. Site specific water balance should be maintained, matching post-development infiltration volume to pre-development.
    b. Fill loading impact on soil infiltration, mounding and LID infiltration rates should be reviewed by a geotechnical and hydrogeological engineer.

Please advise if our understanding of the above is correct. We look forward to providing more information to begin the TRCA's preliminary review and advancement of the Prologis Humber Station site design.

Thanks,
Hamdy

Hamdy Shafi, P.Eng.
Manager, Land Development
Office: 416.842.0022
Collingwood | Milton | Toronto | Bradford | Guelph

Project Name: Prologis Humber Station
Project Number: 624-6777
Date: 2024.04.11

By: MF
Checked by: RA
Updated: 2025.06.17

Catchment Name: UC01
Catchment Area (ha): 1.08

Hydrologic Parameters: NASHYD Command
Pre-Development Drainage Area: Catchment UC01

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Monogham Clay Loam	MOG	C	100	1.08
Total Area Check				1.08

Impervious Landuses Present:											
	Roadway		Sidewalk		Gravel Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG	0.00	98			0.00						0.00

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Meadows		Landscape/Lawn		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG									1.08	81	1.08

CN Calculations		
	Total Area	1.08
	Composite Curve Number*	81

Runoff Coefficient Calculations

Land Use	Area (ha)	C	Weighted Average C
Pervious	1.08	0.25	0.25
Impervious	0.00	0.90	0.00
Total Subcatchment	**1.1**	**-**	**0.25**

*CN Value per meeting with TRCA on June 25, 2025 and Humber River Hydrology Report dated April 2018

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)
Pervious	5	1.1
Impervious	1	0.00
Total	5.0	1.1

Time to Peak Calculations

Time to Peak Inputs					Uplands			Bransby Williams		Airport	
Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
335	7.34	2.19%	2.3	0.34	0.27	0.16	0.16	0.27	0.18	0.65	0.44

Appropriate calculated time to peak:	0.44	Appropriate Method:	Airport

Project Name: Prologis Humber Station
Project Number: 624-6777
Date: 2024.04.11

By: MF
Checked by: RA
Updated: 2025.06.17

Catchment Name: UC02
Catchment Area (ha): 1.13

Hydrologic Parameters: NASHYD Command
Pre-Development Drainage Area: Catchment UC02

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Monogham Clay Loam	MOG	C	100	1.1
Total Area Check				1.1

Impervious Landuses Present:

	Roadway		Sidewalk		Gravel Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG	0.00	98			0.00						0.00

Pervious Landuses Present:

	Woodland		Meadow		Wetland		Meadows		Landscape/Lawn		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG									1.13	81	1.13

CN Calculations		
	Total Area	1.13
	Composite Curve Number*	81

Runoff Coefficient Calculations

Land Use	Area (ha)	C	Weighted Average C
Pervious	1.13	0.25	0.25
Impervious	0.00	0.90	0.00
Total Subcatchment	**1.1**	**-**	**0.25**

*CN Value per meeting with TRCA on June 25, 2025 and Humber River Hydrology Report dated April 2018

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)
Pervious	5	1.1
Impervious	1	0.00
Total	5.0	1.1

Time to Peak Calculations

Time to Peak Inputs					Uplands			Bransby Williams		Airport	
Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
68	2.6	3.82%	2.3	0.45	0.04	0.03	0.03	0.05	0.03	0.24	0.16

Appropriate calculated time to peak:	0.16	Appropriate Method:	Airport

Minimum Tp = 0.17hr or 10 minutes is used in VO model

Project Name: Prologis Humber Station
Project Number: 624-6777
Date: 2024.04.11

By: MF
Checked by: RA
Updated: 2025.06.17

Catchment Name: UC03
Catchment Area (ha): 0.38

Hydrologic Parameters: NASHYD Command
Pre-Development Drainage Area: Catchment UC03

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Monogham Clay Loam	MOG	C	100	0.4
Total Area Check				0.4

Impervious Landuses Present:											
	Roadway		Sidewalk		Gravel Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG	0.00	98			0.00						0.00

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Meadows		Landscape/Lawn		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG									0.38	81	0.38

CN Calculations		
	Total Area	0.38
	Composite Curve Number*	81

Runoff Coefficient Calculations

Land Use	Area (ha)	C	Weighted Average C
Pervious	0.38	0.25	0.25
Impervious	0.00	0.90	0.00
Total Subcatchment	**0.4**	**-**	**0.25**

*CN Value per meeting with TRCA on June 25, 2025 and Humber River Hydrology Report dated April 2018

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)
Pervious	5	0.4
Impervious	1	0.00
Total	5.0	0.4

Time to Peak Calculations

Time to Peak Inputs					Uplands			Bransby Williams		Airport	
Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
75	1.75	2.33%	2.3	0.35	0.06	0.04	0.04	0.07	0.04	0.30	0.20

Appropriate calculated time to peak:	0.20	Appropriate Method:	Airport

Project Name: Prologis Humber Station
Project Number: 624-6777
Date: 2024.04.11

By: MF
Checked by: RA
Updated: 2025.06.17

Catchment Name: UC04
Catchment Area (ha): 0.16

Hydrologic Parameters: NASHYD Command
Pre-Development Drainage Area: Catchment UC04

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Monogham Clay Loam	MOG	C	100	0.2
Total Area Check				0.2

Impervious Landuses Present:											
	Roadway		Sidewalk		Gravel Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG	0.00	98			0.00						0.00

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Meadows		Landscape/Lawn		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG									0.16	81	0.16

CN Calculations		
	Total Area	0.16
	Composite Curve Number*	81

Runoff Coefficient Calculations

Land Use	Area (ha)	C	Weighted Average C
Pervious	0.16	0.25	0.25
Impervious	0.00	0.90	0.00
Total Subcatchment	**0.2**	**-**	**0.25**

*CN Value per meeting with TRCA on June 25, 2025 and Humber River Hydrology Report dated April 2018

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)
Pervious	5	0.2
Impervious	1	0.00
Total	5.0	0.2

Time to Peak Calculations

Time to Peak Inputs					Uplands			Bransby Williams		Airport	
Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
10	3.3	33.00%	2.3	1.32	0.00	0.00	0.00	0.01	0.00	0.05	0.03

Appropriate calculated time to peak:	0.03	Appropriate Method:	Airport

Project Name: Prologis Humber Station
Project Number: 624-6777
Date: 2024.04.11

By: MF
Checked by: RA
Updated: 2025.06.17

Catchment Name: C201
Catchment Area (ha): 1.42

Hydrologic Parameters: STANDHYD Command
Post-Development Drainage Area: Catchment C201

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Monogham Clay Loam	MOG	C	100	1.42
Total Area Check				1.42

Impervious Landuses Present:

	Paved/Rooftops		Sidewalk		Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG	1.37	98									1.37

Pervious Landuses Present:

	Woodland		Meadow		Wetland		Meadows		Landscape/Lawn		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG									0.05	81	0.05

CN Calculations		
	Total Area	1.42
	Pervious Curve Number*	81

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)
Pervious	5	0.052
Impervious	1	1.37
Total	1.1	1.42

*CN Value per meeting with TRCA on June 25, 2025 and Humber River Hydrology Report dated April 2018

Runoff Coefficient Calculations

Land Use	**Area (ha)**	**C**	**Weighted Average C**
Pervious	0.05	0.25	0.01
Impervious	1.37	0.90	0.87
Total Subcatchment	**1.42**	**-**	**0.88**

TIMP	**0.96**
XIMP	**0.96**

Flow Length Calculations

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2.0	145	0.25
Impervious	2.0	1.1	100	0.013

Project Name: Prologis Humber Station
Project Number: 624-6777
Date: 2024.04.11

By: MF
Checked by: RA
Updated: 2025.06.17

Catchment Name: C201R
Catchment Area (ha): 2.43

Hydrologic Parameters: STANHYD Command
Post-Development Drainage Area: Catchment C201R

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Monogham Clay Loam	MOG	C	100	2.4
Total Area Check				2.4

Impervious Landuses Present:											
	Paved/Rooftops		Sidewalk		Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG	2.43	98									2.43

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Meadows		Landscape/Lawn		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG										81	0.00

CN Calculations		
	Total Area	2.43
	Pervious Curve Number*	81

*CN Value per meeting with TRCA on June 25, 2025 and Humber River Hydrology Report dated April 2018

Runoff Coefficient Calculations

Land Use	Area (ha)	C	Weighted Average C
Pervious	0.00	0.25	0.00
Impervious	2.43	0.90	0.90
Total Subcatchment	**2.43**	**-**	**0.90**

TIMP	**0.99**
XIMP	**0.99**

Flow Length Calculations

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2.0	20	0.25
Impervious	1.0	1.0	20	0.013

Project Name: Prologis Humber Station
Project Number: 624-6777
Date: 2024.04.11

By: MF
Checked by: RA
Updated: 2025.06.17

Catchment Name: C202
Catchment Area (ha): 1.70

Hydrologic Parameters: STANDHYD Command
Post-Development Drainage Area: Catchment C202

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Monogham Clay Loam	MOG	C	100	1.70
Total Area Check				1.70

Impervious Landuses Present:											
	Paved/Rooftops		Sidewalk		Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG	1.70	98									1.70

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Meadows		Landscape/Lawn		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG										81	0.00

CN Calculations		
	Total Area	1.70
	Pervious Curve Number*	81

*CN Value per meeting with TRCA on June 25, 2025 and Humber River Hydrology Report dated April 2018

Runoff Coefficient Calculations

Land Use	Area (ha)	C	Weighted Average C
Pervious	0.00	0.25	0.00
Impervious	1.70	0.90	0.90
Total Subcatchment	**1.70**	**-**	**0.90**

TIMP	**0.99**
XIMP	**0.99**

Flow Length Calculations

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2.0	40	0.25
Impervious	2.0	1.1	100	0.013

Project Name: Prologis Humber Station
Project Number: 624-6777
Date: 2024.04.11

By: MF
Checked by: RA
Updated: 2025.06.17

Catchment Name: C202R
Catchment Area (ha): 2.37

Hydrologic Parameters: STANDHYD Command
Post-Development Drainage Area: Catchment C202R

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Monogham Clay Loam	MOG	C	100	2.37
Total Area Check				2.37

Impervious Landuses Present:											
	Paved/Rooftops		Sidewalk		Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG	2.37	98									2.37

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Meadows		Landscape/Lawn		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG										81	0.00

CN Calculations		
	Total Area	2.37
	Pervious Curve Number*	81

*CN Value per meeting with TRCA on June 25, 2025 and Humber River Hydrology Report dated April 2018

Runoff Coefficient Calculations

Land Use	Area (ha)	C	Weighted Average C
Pervious	0.00	0.25	0.00
Impervious	2.37	0.90	0.90
Total Subcatchment	**2.37**	**-**	**0.90**

TIMP	**0.99**
XIMP	**0.99**

Flow Length Calculations

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2.0	20	0.25
Impervious	1.0	1.0	20	0.013

Project Name: Prologis Humber Station
Project Number: 624-6777
Date: 2024.04.11

By: MF
Checked by: RA
Updated: 2025.06.17

Catchment Name: C203
Catchment Area (ha): 1.30

Hydrologic Parameters: STANDHYD Command
Post-Development Drainage Area: Catchment C203

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Monogham Clay Loam	MOG	C	100	1.3
Total Area Check				1.3

Impervious Landuses Present:											
	Paved/Rooftops		Sidewalk		Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG	1.28	98									1.28

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Meadows		Landscape/Lawn		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG									0.02	81	0.02

CN Calculations		
	Total Area	1.30
	Pervious Curve Number*	81

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)
Pervious	5	0.022
Impervious	1	1.28
Total	1.1	1.30

*CN Value per meeting with TRCA on June 25, 2025 and Humber River Hydrology Report dated April 2018

Runoff Coefficient Calculations

Land Use	**Area (ha)**	**C**	**Weighted Average C**
Pervious	0.00	0.25	0.00
Impervious	1.28	0.90	0.90
Total Subcatchment	**1.28**	**-**	**0.90**

TIMP	**0.98**
XIMP	**0.98**

Flow Length Calculations

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2.0	40	0.25
Impervious	2.0	1.1	100	0.013

Project Name: Prologis Humber Station
Project Number: 624-6777
Date: 2024.04.11

By: MF
Checked by: RA
Updated: 2025.06.17

Catchment Name: C203R
Catchment Area (ha): 2.43

Hydrologic Parameters: STANDHYD Command
Post-Development Drainage Area: Catchment C203R

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Monogham Clay Loam	MOG	C	100	2.4
Total Area Check				2.4

Impervious Landuses Present:											
	Paved/Rooftops		Sidewalk		Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG	2.43	98									2.43

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Meadows		Landscape/Lawn		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG										81	0.00

CN Calculations		
	Total Area	2.43
	Pervious Curve Number*	81

Runoff Coefficient Calculations

*CN Value per meeting with TRCA on June 25, 2025 and Humber River Hydrology Report dated April 2018

Land Use	Area (ha)	C	Weighted Average C
Pervious	0.00	0.25	0.00
Impervious	2.43	0.90	0.90
Total Subcatchment	**2.43**	**-**	**0.90**

TIMP	**0.99**
XIMP	**0.99**

Flow Length Calculations

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	1.0	20	0.25
Impervious	1.0	1.0	20	0.013

Project Name: Prologis Humber Station
Project Number: 624-6777
Date: 2024.04.11

By: MF
Checked by: RA
Updated: 2025.06.17

Catchment Name: C204
Catchment Area (ha): 1.73

Hydrologic Parameters: STANDHYD Command
Post-Development Drainage Area: Catchment C204

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Monogham Clay Loam	MOG	C	100	1.7
Total Area Check				1.7

Impervious Landuses Present:											
	Paved/Rooftops		Sidewalk		Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG	1.54	98									1.54

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Meadows		Landscape/Lawn		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG									0.19	81	0.19

CN Calculations		
	Total Area	1.73
	Pervious Curve Number*	81

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)
Pervious	5	0.191
Impervious	1	1.54
Total	1.4	1.73

*CN Value per meeting with TRCA on June 25, 2025 and Humber River Hydrology Report dated April 2018

Runoff Coefficient Calculations

Land Use	**Area (ha)**	**C**	**Weighted Average C**
Pervious	0.00	0.25	0.00
Impervious	1.54	0.90	0.90
Total Subcatchment	**1.54**	**-**	**0.90**

TIMP	**0.89**
XIMP	**0.89**

Flow Length Calculations

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2.0	145	0.25
Impervious	2.0	1.1	100	0.013

Project Name: Prologis Humber Station
Project Number: 624-6777
Date: 2024.04.11

By: MF
Checked by: RA
Updated: 2025.06.17

Catchment Name: C204R
Catchment Area (ha): 2.42

Hydrologic Parameters: STANDHYD Command
Post-Development Drainage Area: Catchment C204R

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Monogham Clay Loam	MOG	C	100	2.4
Total Area Check				2.4

Impervious Landuses Present:											
	Paved/Rooftops		Sidewalk		Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG	2.42	98									2.42

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Meadows		Landscape/Lawn		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG										81	0.00

CN Calculations		
	Total Area	2.42
	Pervious Curve Number*	81

*CN Value per meeting with TRCA on June 25, 2025 and Humber River Hydrology Report dated April 2018

Runoff Coefficient Calculations

Land Use	Area (ha)	C	Weighted Average C
Pervious	0.00	0.25	0.00
Impervious	2.42	0.90	0.90
Total Subcatchment	**2.42**	**-**	**0.90**

TIMP	**0.99**
XIMP	**0.99**

Flow Length Calculations

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	1.0	20	0.25
Impervious	1.0	1.0	20	0.013

Project Name: Prologis Humber Station
Project Number: 624-6777
Date: 2024.04.11

By: MF
Checked by: RA
Updated: 2025.06.17

Catchment Name: C205
Catchment Area (ha): 1.79

Hydrologic Parameters: STANDHYD Command
Post-Development Drainage Area: Catchment C205

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Monogham Clay Loam	MOG	C	100	1.8
Total Area Check				1.8

Impervious Landuses Present:											
	Paved/Rooftops		Sidewalk		Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG	1.79	98									1.79

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Meadows		Landscape/Lawn		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG										81	0.00

CN Calculations		
	Total Area	1.79
	Pervious Curve Number*	81

Runoff Coefficient Calculations

*CN Value per meeting with TRCA on June 25, 2025 and Humber River Hydrology Report dated April 2018

Land Use	Area (ha)	C	Weighted Average C
Pervious	0.00	0.25	0.00
Impervious	1.79	0.90	0.90
Total Subcatchment	**1.79**	**-**	**0.90**

TIMP	**0.99**
XIMP	**0.99**

Flow Length Calculations

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2.0	40	0.25
Impervious	2.0	1.1	100	0.013

Project Name: Prologis Humber Station
Project Number: 624-6777
Date: 2024.04.11

By: MF
Checked by: RA
Updated: 2025.06.17

Catchment Name: C205R
Catchment Area (ha): 2.36

Hydrologic Parameters: STANDHYD Command
Post-Development Drainage Area: Catchment C205R

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Monogham Clay Loam	MOG	C	100	2.36
Total Area Check				2.36

Impervious Landuses Present:											
	Paved/Rooftops		Sidewalk		Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG	2.36	98									2.36

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Meadows		Landscape/Lawn		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG										81	0.00

CN Calculations		
	Total Area	2.36
	Pervious Curve Number*	81

Runoff Coefficient Calculations

*CN Value per meeting with TRCA on June 25, 2025 and Humber River Hydrology Report dated April 2018

Land Use	Area (ha)	C	Weighted Average C
Pervious	0.00	0.25	0.00
Impervious	2.36	0.90	0.90
Total Subcatchment	**2.36**	**-**	**0.90**

TIMP	**0.99**
XIMP	**0.99**

Flow Length Calculations

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	1.0	20	0.25
Impervious	1.0	1.0	20	0.013

Project Name: Prologis Humber Station
Project Number: 624-6777
Date: 2024.04.11

By: MF
Checked by: RA
Updated: 2025.06.17

Catchment Name: C206
Catchment Area (ha): 1.36

Hydrologic Parameters: STANDHYD Command
Post-Development Drainage Area: Catchment C206

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Monogham Clay Loam	MOG	C	100	1.36
Total Area Check				1.36

Impervious Landuses Present:											
	Paved/Rooftops		Sidewalk		Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG	1.35	98									1.35

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Meadows		Landscape/Lawn		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG									0.01	81	0.01

CN Calculations		
	Total Area	1.36
	Pervious Curve Number*	81

*CN Value per meeting with TRCA on June 25, 2025 and Humber River Hydrology Report dated April 2018

Runoff Coefficient Calculations

Land Use	Area (ha)	C	Weighted Average C
Pervious	0.00	0.25	0.00
Impervious	1.35	0.90	0.90
Total Subcatchment	**1.3**	**-**	**0.90**

TIMP	**0.99**
XIMP	**0.99**

Flow Length Calculations

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2.0	40	0.25
Impervious	2.0	1.1	100	0.013

Project Name: Prologis Humber Station
Project Number: 624-6777
Date: 2024.04.11

By: MF
Checked by: RA
Updated: 2025.06.17

Catchment Name: C206R
Catchment Area (ha): 2.42

Hydrologic Parameters: STANDHYD Command
Post-Development Drainage Area: Catchment C206R

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Monogham Clay Loam	MOG	C	100	2.4
Total Area Check				2.4

Impervious Landuses Present:

	Paved/Rooftops		Sidewalk		Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG	2.42	98									2.42

Pervious Landuses Present:

	Woodland		Meadow		Wetland		Meadows		Landscape/Lawn		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG										81	0.00

CN Calculations		
	Total Area	2.42
	Pervious Curve Number*	81

Runoff Coefficient Calculations

*CN Value per meeting with TRCA on June 25, 2025 and Humber River Hydrology Report dated April 2018

Land Use	Area (ha)	C	Weighted Average C
Pervious	0.00	0.25	0.00
Impervious	2.42	0.90	0.90
Total Subcatchment	**2.4**	**-**	**0.90**

TIMP	**0.99**
XIMP	**0.99**

Flow Length Calculations

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	1.0	20	0.25
Impervious	1.0	1.0	20	0.013

Project Name: Prologis Humber Station
Project Number: 624-6777
Date: 2024.04.11

By: MF
Checked by: RA
Updated: 2025.06.17

Catchment Name: C207A
Catchment Area (ha): 1.06

Hydrologic Parameters: STANDHYD Command
Post-Development Drainage Area: Catchment C207A

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Monogham Clay Loam	MOG	C	100	1.06
Total Area Check				1.06

Impervious Landuses Present:											
	Paved/Rooftops		Sidewalk		Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG	1.05	98									1.05

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Meadows		Landscape/Lawn		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG									0.02	81	0.02

CN Calculations		
	Total Area	1.06
	Pervious Curve Number*	81

Runoff Coefficient Calculations

*CN Value per meeting with TRCA on June 25, 2025 and Humber River Hydrology Report dated April 2018

Land Use	Area (ha)	C	Weighted Average C
Pervious	0.00	0.25	0.00
Impervious	1.05	0.90	0.90
Total Subcatchment	**1.0**	**-**	**0.90**

TIMP	**0.99**
XIMP	**0.99**

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)
Pervious	5	0.015
Impervious	1	1.05
Total	1.1	1.06

Flow Length Calculations

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2.0	40	0.25
Impervious	2.0	2.5	60	0.013

Project Name: Prologis Humber Station
Project Number: 624-6777
Date: 2024.04.11

By: MF
Checked by: RA
Updated: 2025.06.17

Catchment Name: C207B
Catchment Area (ha): 1.20

Hydrologic Parameters: STANDHYD Command
Post-Development Drainage Area: Catchment C207B

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Monogham Clay Loam	MOG	C	100	1.20
Total Area Check				1.20

Impervious Landuses Present:

	Paved/Rooftops		Sidewalk		Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG	1.15	98									1.15

Pervious Landuses Present:

	Woodland		Meadow		Wetland		Meadows		Landscape/Lawn		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG									0.05	81	0.05

CN Calculations		
	Total Area	1.20
	Pervious Curve Number*	81

Runoff Coefficient Calculations

*CN Value per meeting with TRCA on June 25, 2025 and Humber River Hydrology Report dated April 2018

Land Use	Area (ha)	C	Weighted Average C
Pervious	0.00	0.25	0.00
Impervious	1.15	0.90	0.90
Total Subcatchment	**1.2**	**-**	**0.90**

TIMP	**0.96**
XIMP	**0.96**

Flow Length Calculations

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2.0	40	0.25
Impervious	2.0	2.5	60	0.013

Project Name: Prologis Humber Station
Project Number: 624-6777
Date: 2024.04.11

By: MF
Checked by: RA
Updated: 2025.06.17

Catchment Name: C208A
Catchment Area (ha): 0.42

Hydrologic Parameters: STANDHYD Command
Pre-Development Drainage Area: Catchment C208A

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Monogham Clay Loam	MOG	C	100	0.42
Total Area Check				0.42

Impervious Landuses Present:											
	Paved/Rooftops		Sidewalk		Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG	0.42	98									0.42

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Meadows		Landscape/Lawn		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG									0.000	81	0.00

CN Calculations		
	Total Area	0.42
	Pervious Curve Number*	81

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)
Pervious	5	0.000
Impervious	1	0.42
Total	1.0	0.42

*CN Value per meeting with TRCA on June 25, 2025 and Humber River Hydrology Report dated April 2018

Runoff Coefficient Calculations

Land Use	**Area (ha)**	**C**	**Weighted Average C**
Pervious	0.00	0.25	0.00
Impervious	0.42	0.90	0.90
Total Subcatchment	**0.4**	**-**	**0.90**

TIMP	**0.99**
XIMP	**0.99**

Flow Length Calculations

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2.0	40	0.25
Impervious	2.0	2.5	60	0.013

Project Name: Prologis Humber Station
Project Number: 624-6777
Date: 2024.04.11

By: MF
Checked by: RA
Updated: 2025.06.17

Catchment Name: C208B
Catchment Area (ha): 0.20

Hydrologic Parameters: STANDHYD Command
Pre-Development Drainage Area: Catchment C208B

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Monogham Clay Loam	MOG	C	100	0.2
Total Area Check				0.2

Impervious Landuses Present:											
	Roadway/Rooftops		Sidewalk		Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG	0.19	98									0.19

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Meadows		Landscape/Lawn		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG									0.01	81	0.01

CN Calculations		
	Total Area	0.20
	Composite Curve Number*	81

Runoff Coefficient Calculations

*CN Value per meeting with TRCA on June 25, 2025 and Humber River Hydrology Report dated April 2018

Land Use	Area (ha)	C	Weighted Average C
Pervious	0.00	0.25	0.00
Impervious	0.19	0.90	0.90
Total Subcatchment	**0.2**	**-**	**0.90**

TIMP	**0.95**
XIMP	**0.95**

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)
Pervious	5	0.010
Impervious	1	0.19
Total	1.2	0.20

Flow Length Calculations

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2	40	0.25
Impervious	1.0	2	60	0.013

Project Name: Prologis Humber Station
Project Number: 624-6777
Date: 2024.04.11

By: MF
Checked by: RA
Updated: 2025.06.17

Catchment Name: C209A
Catchment Area (ha): 1.18

Hydrologic Parameters: STANDHYD Command
Pre-Development Drainage Area: Catchment C209A

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Monogham Clay Loam	MOG	C	100	1.18
Total Area Check				1.18

Impervious Landuses Present:											
	Roadway/Rooftops		Sidewalk		Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG	1.18	98									1.18

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Meadows		Landscape/Lawn		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG										81	0.00

CN Calculations		
	Total Area	1.18
	Composite Curve Number*	81

Runoff Coefficient Calculations

*CN Value per meeting with TRCA on June 25, 2025 and Humber River Hydrology Report dated April 2018

Land Use	Area (ha)	C	Weighted Average C
Pervious	0.00	0.25	0.00
Impervious	1.18	0.90	0.90
Total Subcatchment	**1.2**	**-**	**0.90**

TIMP	**0.99**
XIMP	**0.99**

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)
Pervious	5	0.000
Impervious	1	1.18
Total	1.0	1.18

Flow Length Calculations

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2.0	40	0.25
Impervious	1.0	2.0	91 (Auto)	0.013

Project Name: Prologis Humber Station
Project Number: 624-6777
Date: 2024.04.11

By: MF
Checked by: RA
Updated: 2025.06.17

Catchment Name: C209B
Catchment Area (ha): 0.74

Hydrologic Parameters: STANDHYD Command
Pre-Development Drainage Area: Catchment C209B

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Monogham Clay Loam	MOG	C	100	0.7
Total Area Check				0.7

Impervious Landuses Present:											
	Roadway/Rooftops		Sidewalk		Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG	0.74	98									0.74

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Meadows		Landscape/Lawn		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG										81	0.00

CN Calculations		
	Total Area	0.74
	Composite Curve Number*	81

Runoff Coefficient Calculations

*CN Value per meeting with TRCA on June 25, 2025 and Humber River Hydrology Report dated April 2018

Land Use	Area (ha)	C	Weighted Average C
Pervious	0.00	0.25	0.00
Impervious	0.74	0.90	0.90
Total Subcatchment	**0.7**	**-**	**0.90**

TIMP	**0.99**
XIMP	**0.99**

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)
Pervious	5	0.000
Impervious	1	0.74
Total	1.0	0.74

Flow Length Calculations

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2.0	40.00	0.25
Impervious	1.0	2.0	62.72 (Auto)	0.013

Project Name: Prologis Humber Station
Project Number: 624-6777
Date: 2024.04.11

By: MF
Checked by: RA
Updated: 2025.06.17

Catchment Name: C210
Catchment Area (ha): 11.23

Hydrologic Parameters: STANDHYD Command
Pre-Development Drainage Area: Catchment C210

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Monogham Clay Loam	MOG	C	100	11.2
Total Area Check				11.2

Impervious Landuses Present:											
	Roadway/Rooftops		Sidewalk		Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG	11.23	98									11.23

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Meadows		Landscape/Lawn		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG										81	0.00

CN Calculations		
	Total Area	11.23
	Composite Curve Number*	81

Runoff Coefficient Calculations

*CN Value per meeting with TRCA on June 25, 2025 and Humber River Hydrology Report dated April 2018

Land Use	Area (ha)	C	Weighted Average C
Pervious	0.00	0.25	0.00
Impervious	11.23	0.90	0.90
Total Subcatchment	**11.2**	**-**	**0.90**

TIMP	**0.99**
XIMP	**0.99**

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)
Pervious	5	0.000
Impervious	1	11.23
Total	1.0	11.23

Flow Length Calculations

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2.0	40	0.25
Impervious	1.0	2.0	275.44 (AUTO)	0.013

Project Name: Prologis Humber Station
Project Number: 624-6777
Date: 2024.04.11

By: MF
Checked by: RA
Updated: 2025.06.17

Catchment Name: C211
Catchment Area (ha): 10.70

Hydrologic Parameters: STANDHYD Command
Pre-Development Drainage Area: Catchment C211

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Monogham Clay Loam	MOG	C	100	10.7
Total Area Check				10.7

Impervious Landuses Present:

	Roadway/Rooftops		Sidewalk		Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG	10.70	89									10.70

Pervious Landuses Present:

	Woodland		Meadow		Wetland		Meadows		Landscape/Lawn		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
MOG							0.00	81			0.00

CN Calculations		
	Total Area	10.70
	Composite Curve Number*	81

*CN Value per meeting with TRCA on June 25, 2025 and Humber River Hydrology Report dated April 2018

Runoff Coefficient Calculations

Land Use	Area (ha)	C	Weighted Average C
Pervious	0.00	0.25	0.00
Impervious	10.70	0.90	0.90
Total Subcatchment	**10.7**	**-**	**0.90**

TIMP	**0.99**
XIMP	**0.99**

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)
Pervious	5	0.000
Impervious	1	10.70
Total	1.0	10.70

Flow Length Calculations

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2.0	40.00	0.25
Impervious	1.0	2.0	269.57 (AUTO)	0.013

Project Name: Prologis Humber Station
Project No: 0624-6777
Date: 2024.11.04
Designed by: HL/MF
Reviewed by: RA

Humber River Unitary Flow Rates Summary - Phase 1A - Interim Conditions
Outlet to Clarkway Drive Tributary

Clarway Trib Area = **9.56** ha

Humber River Watershed Sub-Basin 36	
Return Period	**Controlled Release Rate** (L/s/ha)
2-Year	7.9
5-Year	12.1
10-Year	14.9
25-Year	18.7
50-Year	21.9
100-Year	24.7

NOTE:
1) Q - unit flow (L/s/ha - litres per second per hectare)
2) A - area in hectares (ha).
3) Pre-development unit flow rate area
4) Equation: 29.912-2.316*LN(Area)

Sub-Basin ID **36**

Return Period	**Calculated Unit Flow Rate**	
	L/s	(m^3/s)
2-Year	75.4	0.075
5-Year	115.6	0.116
10-Year	142.0	0.142
25-Year	178.9	0.179
50-Year	209.0	0.209
100-Year	236.0	0.236

Project Name: Prologis Humber Station
Project No: 0624-6777
Date: 2024.11.04
Designed by: HL/MF
Reviewed by: RA

Humber River Unitary Flow Rates Summary - Phase 1A - Ultimate Conditions
Outlet to SWM Pond 3

CEISMP Area **64.22** ha

Humber River Watershed Sub-Basin 36	
Return Period	**Controlled Release Rate** (L/s/ha)
2-Year	6.51
5-Year	9.92
10-Year	12.24
25-Year	15.39
50-Year	17.90
100-Year	20.27

NOTE:
1) Q - unit flow (L/s/ha - litres per second per hectare)
2) A - area in hectares (ha).
3) Pre-development unit flow rate area
4) Equation: 29.912-2.316*LN(Area)
5) The controlled release rates are calculated with 64.22 ha, and consistent with Table 4.12 in the CEISMP Phase 2 Report (Schaeffers, July 2025).

Sub-Basin ID **36**
Existing Contributing Area **29.28** ha

Return Period	**Calculated Unit Flow Rate**	
	L/s	(m^3/s)
2-Year	190.7	0.191
5-Year	290.6	0.291
10-Year	358.4	0.358
25-Year	450.7	0.451
50-Year	524.1	0.524
100-Year	593.6	0.594

NOTE:
1) Existing contributing areas are based on Drawing C120: Pre-development Drainage Plan.

Regional Flow Criteria

Humber River Catchment ID	**Colour (Outlet)**	**Regional Release Rate** (L/s/ha)
43.10	Blue (HDF-6)	136.0
43.03	Orange (HDF-8)	71.0
43.06	Green (HDF-14)	102.5

Description	**Existing Contributing Area** (ha)	**Humber River Catchment ID**	**Colour (Outlet)**	**Regional Release Rate** (L/s/ha)	**Total Regional Release Rate** (m^3/s)
Phase 1A	1.36	43.10	Green (HDF-14)	139.4	2.200
	26.72	43.03	Orange (HDF-8)	1897.1	
	1.20	43.06	Blue (HDF-6)	163.2	
Street A	1.18	43.03	Orange (HDF-8)	83.8	0.160
	0.74	43.06	Green (HDF-14)	75.9	

NOTE:
1) Street A will be George Bolton Parkway in the ultimate condition.

Project Name: Prologis Humber Station
Project No: 0624-6777
Date: 11-20-2024
Updated: 07-31-25
Designed by: MF
Reviewed by: RA

Diverted Area Changes

CATCHMENT ID	AREA (ha)	DIVERTED SITE CATCHMENTS	DIVERTED SITE CATCHMENT AREA (ha)	AREA W/O DIVERTED AREA (ha)
41.07	101.08	UC02	0.15	95.60
		UC03	0.38	
		C201	0.10	
		C201R	0.40	
		C204	1.73	
		C204R	1.97	
		C205	0.69	
		C205R	0.05	
TOTAL			**5.48**	
43.10	202.72	UC01	0.49	196.42
		UC02	0.23	
		C201	1.32	
		C201R	1.00	
		C202	1.70	
		C202R	0.55	
		C203	0.81	
		C203R	0.22	
TOTAL			**6.31**	
43.06	35.79	UC01	0.59	32.98
		C203	0.49	
		C203R	0.20	
		C207B	0.80	
		C209A	0.29	
		UC04	0.43	
TOTAL			**2.80**	
43.03	63.04	C202R	1.82	47.13
		C203R	2.01	
		C204R	0.45	
		C205	1.10	
		C205R	2.31	
		C206	1.36	
		C206R	2.42	
		C207A	1.06	
		C207B	0.40	
		C208A	0.42	
		C209A	0.89	
		UC04	0.65	
		C201R	1.03	
TOTAL			**15.92**	

Project Name: Prologis Humber Station
Project No: 0624-6777
Updated: 11-20-2024
Date: 07-31-25
Designed by: MF
Reviewed by: RA

2 Year Results

J124

ADDHYD	Storm Event	Scenario	Phase 1A Release Rate (m3/s)	Phase 1A Storage (ha.m)	Pre-dev Peak Flow (m3/s)			Post-dev Peak Flow (m3/s)			Percent Increase (%)		
					6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR
J124	2 YEAR	Uncontrolled	2.556	0.0000	6.0467	6.2021	5.8029	6.1314	6.3087	5.8970	1.4	1.7	1.6
		Unit Flow Rate	0.075	1.0200				5.9592	6.1105	5.7175	-1.4	-1.5	-1.5
		Unit Flow Rate x 3	0.225	0.8067				6.1113	6.2669	5.8633	1.1	1.0	1.0
		Unit Flow Rate x 4	0.300	0.7461				6.1872	6.3412	5.9279	2.3	2.2	2.2
		Proposed Solution	0.191	0.7667				6.0428	6.2028	5.8140	-0.1	0.0	0.2

J4200.683

ADDHYD	Storm Event	Scenario	Phase 1A Release Rate (m3/s)	Phase 1A Storage (ha.m)	Pre-dev Peak Flow (m3/s)			Post-dev Peak Flow (m3/s)			Percent Increase (%)		
					6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR
J4200.683	2 YEAR	Uncontrolled	2.556	0.0000	6.1701	6.6232	6.2572	6.2764	6.7556	6.3897	1.7	2.0	2.1
		Unit Flow Rate	0.075	1.0200				6.0953	6.5413	6.1816	-1.2	-1.2	-1.2
		Unit Flow Rate x 3	0.225	0.8067				6.2415	6.6941	6.3256	1.2	1.1	1.1
		Unit Flow Rate x 4	0.300	0.7461				6.3124	6.7643	6.3875	2.3	2.1	2.1
		Proposed Solution	0.191	0.7667				6.1844	6.6405	6.2845	0.2	0.3	0.4

J1700.594

ADDHYD	Storm Event	Scenario	Phase 1A Release Rate (m3/s)	Phase 1A Storage (ha.m)	Pre-dev Peak Flow (m3/s)			Post-dev Peak Flow (m3/s)			Percent Increase (%)		
					6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR
J1700.594	2 YEAR	Uncontrolled	2.556	0.0000	6.0538	7.0807	6.7715	6.2476	7.1953	6.9555	3.2	1.6	2.7
		Unit Flow Rate	0.075	1.0200				5.9829	6.9904	6.6929	-1.2	-1.3	-1.2
		Unit Flow Rate x 3	0.225	0.8067				6.1521	7.1479	6.8693	1.6	0.9	1.4
		Unit Flow Rate x 4	0.300	0.7461				6.2253	7.2055	6.9688	2.8	1.8	2.9
		Proposed Solution	0.191	0.7667				6.0970	7.1072	6.8218	0.7	0.4	0.7

Scenarios:

Uncontrolled	Divereted all flows from Phase 1A without controls
Unit Flow Rate	Phase 1A controlled to unitary flow rates
Unit Flow Rate x 4	Phase 1A controlled to unitary flow rates x 4
Proposed Solution	Phase 1A controlled to CEISMP requirements

Project Name: Prologis Humber Station
Project No: 0624-6777
Date: 11-20-2024
Updated: 07-31-25
Designed by: MF
Reviewed by: RA

5 Year Results

J124

ADDHYD	Storm Event	Scenario	Phase 1A Release Rate (m3/s)	Phase 1A Storage (ha.m)	Pre-dev Peak Flow (m3/s)			Post-dev Peak Flow (m3/s)			Percent Increase (%)		
					6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR
J124	5 YEAR	Uncontrolled	3.422	0.0000	10.2711	9.8055	8.8349	10.5275	10.0966	8.8704	2.5	3.0	0.4
		Unit Flow Rate	0.116	1.2808				10.0729	9.6209	8.6457	-1.9	-1.9	-2.1
		Unit Flow Rate x 3	0.348	1.0339				10.3225	9.8662	8.8626	0.5	0.6	0.3
		Unit Flow Rate x 4	0.464	0.9643				10.4437	9.9783	8.9496	1.7	1.8	1.3
		Proposed Solution	0.291	1.0948				10.1561	9.7111	8.7357	-1.1	-1.0	-1.1

J4200.683

ADDHYD	Storm Event	Scenario	Phase 1A Release Rate (m3/s)	Phase 1A Storage (ha.m)	Pre-dev Peak Flow (m3/s)			Post-dev Peak Flow (m3/s)			Percent Increase (%)		
					6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR
J4200.683	5 YEAR	Uncontrolled	3.422	0.0000	10.1732	10.3162	9.4213	10.3565	10.4973	9.5700	1.8	1.8	1.6
		Unit Flow Rate	0.116	1.2808				10.0218	10.1734	9.2725	-1.5	-1.4	-1.6
		Unit Flow Rate x 3	0.348	1.0339				10.2651	10.4165	9.4938	0.9	1.0	0.8
		Unit Flow Rate x 4	0.464	0.9643				10.3746	10.5176	9.5780	2.0	2.0	1.7
		Proposed Solution	0.291	1.0948				10.1216	10.2807	9.3888	-0.5	-0.3	-0.3

J1700.594

ADDHYD	Storm Event	Scenario	Phase 1A Release Rate (m3/s)	Phase 1A Storage (ha.m)	Pre-dev Peak Flow (m3/s)			Post-dev Peak Flow (m3/s)			Percent Increase (%)		
					6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR
J1700.594	5 YEAR	Uncontrolled	3.422	0.0000	10.1163	10.7774	10.1334	10.3023	10.9471	10.2685	1.8	1.6	1.3
		Unit Flow Rate	0.116	1.2808				10.0166	10.6719	10.0242	-1.0	-1.0	-1.1
		Unit Flow Rate x 3	0.348	1.0339				10.2083	10.8766	10.2115	0.9	0.9	0.8
		Unit Flow Rate x 4	0.464	0.9643				10.2889	10.9548	10.2756	1.7	1.6	1.4
		Proposed Solution	0.291	1.0948				10.1138	10.7823	10.1371	0.0	0.0	0.0

Scenarios:

Uncontrolled	Divereted all flows from Phase 1A without controls
Unit Flow Rate	Phase 1A controlled to unitary flow rates
Unit Flow Rate x 4	Phase 1A controlled to unitary flow rates x 4
Proposed Solution	Phase 1A controlled to CEISMP requriements

Project Name: Prologis Humber Station
Project No: 0624-6777
Date: 11-20-2024
Updated: 07-31-25
Designed by: MF
Reviewed by: RA

10 Year Results

J124

ADDHYD	Storm Event	Scenario	Phase 1A Release Rate (m3/s)	Phase 1A Storage (ha.m)	Pre-dev Peak Flow (m3/s)			Post-dev Peak Flow (m3/s)			Percent Increase (%)		
					6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR
J124	10 YEAR	Uncontrolled	4.002	0.0000	21.3820	19.8690	16.5170	21.4859	20.0085	16.4301	0.5	0.7	-0.5
		Unit Flow Rate	0.142	1.4647				20.9528	19.4932	16.1823	-2.0	-1.9	-2.0
		Unit Flow Rate x 4	0.568	1.1036				21.3935	19.8812	16.5494	0.1	0.1	0.2
		Proposed Solution	0.358	1.2359				21.0952	19.5962	16.2970	-1.3	-1.4	-1.3

J4200.683

ADDHYD	Storm Event	Scenario	Phase 1A Release Rate (m3/s)	Phase 1A Storage (ha.m)	Pre-dev Peak Flow (m3/s)			Post-dev Peak Flow (m3/s)			Percent Increase (%)		
					6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR
J4200.683	10 YEAR	Uncontrolled	4.002	0.0000	21.6590	21.0790	18.4790	21.8376	21.2004	18.4711	0.8	0.6	0.0
		Unit Flow Rate	0.142	1.4647				21.2951	20.7173	18.1229	-1.7	-1.7	-1.9
		Unit Flow Rate x 4	0.568	1.1036				21.7568	21.1548	18.5008	0.5	0.4	0.1
		Proposed Solution	0.358	1.2359				21.4558	20.8614	18.2517	-0.9	-1.0	-1.2

J1700.594

ADDHYD	Storm Event	Scenario	Phase 1A Release Rate (m3/s)	Phase 1A Storage (ha.m)	Pre-dev Peak Flow (m3/s)			Post-dev Peak Flow (m3/s)			Percent Increase (%)		
					6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR
J1700.594	10 YEAR	Uncontrolled	4.002	0.0000	20.0460	20.6260	18.7660	20.2453	20.7835	18.8323	1.0	0.8	0.4
		Unit Flow Rate	0.142	1.4647				19.7568	20.3198	18.4886	-1.4	-1.5	-1.5
		Unit Flow Rate x 4	0.568	1.1036				20.1450	20.7098	18.7820	0.5	0.4	0.1
		Proposed Solution	0.358	1.236				19.8944	20.4641	18.6036	-0.8	-0.8	-0.9

Scenarios:

Uncontrolled	Divereted all flows from Phase 1A without controls
Unit Flow Rate	Phase 1A controlled to unitary flow rates
Unit Flow Rate x 4	Phase 1A controlled to unitary flow rates x 4
Proposed Solution	Phase 1A controlled to CEISMP requriements

Project Name: Prologis Humber Station
Project No: 0624-6777
Date: 11-20-2024
Update: 07-31-25
Designed by: MF
Reviewed by: RA

25 Year Results

J124

ADDHYD	Storm Event	Scenario	Phase 1A Release Rate (m3/s)	Phase 1A Storage (ha.m)	Pre-dev Peak Flow (m3/s)			Post-dev Peak Flow (m3/s)			Percent Increase (%)		
					6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR
J124	25 YEAR	Uncontrolled	4.736	0.0000	28.3070	25.2970	20.4620	28.6098	25.3810	20.3116	1.1	0.3	-0.7
		Unit Flow Rate	0.179	1.7128				27.4770	24.7305	20.0202	-2.9	-2.2	-2.2
		Unit Flow Rate x 4	0.716	1.2983				28.0422	25.2476	20.4521	-0.9	-0.2	0.0
		Proposed Solution	0.451	1.4551				27.6783	24.9062	20.1617	-2.2	-1.5	-1.5

J4200.683

ADDHYD	Storm Event	Scenario	Phase 1A Release Rate (m3/s)	Phase 1A Storage (ha.m)	Pre-dev Peak Flow (m3/s)			Post-dev Peak Flow (m3/s)			Percent Increase (%)		
					6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR
J4200.683	25 YEAR	Uncontrolled	4.74	0.0000	27.4340	26.4360	22.8570	27.8230	26.7835	22.8768	1.4	1.3	0.1
		Unit Flow Rate	0.179	1.7128				26.9742	26.0282	22.4223	-1.7	-1.5	-1.9
		Unit Flow Rate x 4	0.716	1.2983				27.5771	26.5469	22.8791	0.5	0.4	0.1
		Proposed Solution	0.451	1.4551				27.1770	26.2318	22.5867	-0.9	-0.8	-1.2

J1700.594

ADDHYD	Storm Event	Scenario	Phase 1A Release Rate (m3/s)	Phase 1A Storage (ha.m)	Pre-dev Peak Flow (m3/s)			Post-dev Peak Flow (m3/s)			Percent Increase (%)		
					6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR
J1700.594	25 YEAR	Uncontrolled	4.74	0.0000	25.3590	25.6030	23.0450	25.5992	25.8162	23.1976	0.9	0.8	0.7
		Unit Flow Rate	0.179	1.7128				25.0092	25.2517	22.7004	-1.4	-1.4	-1.5
		Unit Flow Rate x 4	0.716	1.2983				25.4791	25.7034	23.1010	0.5	0.4	0.2
		Proposed Solution	0.451	1.4551				25.1913	25.4379	22.8721	-0.7	-0.6	-0.8

Scenarios:

Uncontrolled	Divereted all flows from Phase 1A without controls
Unit Flow Rate	Phase 1A controlled to unitary flow rates
Unit Flow Rate x 4	Phase 1A controlled to unitary flow rates x 4
Proposed Solution	Phase 1A controlled to CEISMP requriements

Project Name: Prologis Humber Station
Project No: 0624-6777
Date: 11-20-2024
Update: 07-31-25
Designed by: MF
Reviewed by: RA

50 Year Results

J124

ADDHYD	Storm Event	Scenario	Phase 1A Release Rate (m3/s)	Phase 1A Storage (ha.m)	Pre-dev Peak Flow (m3/s)			Post-dev Peak Flow (m3/s)			Percent Increase (%)		
					6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR
J124	50 YEAR	Uncontrolled	5.286	0.0000	33.3970	29.7340	23.6230	33.5690	29.9305	23.4671	0.5	0.7	-0.7
		Unit Flow Rate	0.209	1.8926				32.7396	29.2060	23.1529	-2.0	-1.8	-2.0
		Unit Flow Rate x 4	0.836	1.4386				33.4007	29.8015	23.6462	0.0	0.2	0.1
		Proposed Solution	0.524	1.6074				32.9728	29.4136	23.3252	-1.3	-1.1	-1.3

J4200.683

ADDHYD	Storm Event	Scenario	Phase 1A Release Rate (m3/s)	Phase 1A Storage (ha.m)	Pre-dev Peak Flow (m3/s)			Post-dev Peak Flow (m3/s)			Percent Increase (%)		
					6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR
J4200.683	50 YEAR	Uncontrolled	5.29	0.0000	33.6830	30.9840	26.4310	34.0516	31.3251	26.4266	1.1	1.1	0.0
		Unit Flow Rate	0.209	1.8926				33.0355	30.2479	25.9257	-1.9	-2.4	-1.9
		Unit Flow Rate x 4	0.836	1.4386				33.6668	31.0301	26.4591	0.0	0.1	0.1
		Proposed Solution	0.524	1.6074				33.2758	30.5597	26.1428	-1.2	-1.4	-1.1

J1700.594

ADDHYD	Storm Event	Scenario	Phase 1A Release Rate (m3/s)	Phase 1A Storage (ha.m)	Pre-dev Peak Flow (m3/s)			Post-dev Peak Flow (m3/s)			Percent Increase (%)		
					6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR
J1700.594	50 YEAR	Uncontrolled	5.29	0.0000	29.4870	29.2690	26.2610	29.7870	29.5369	26.4337	1.0	0.9	0.7
		Unit Flow Rate	0.209	1.8926				29.0431	28.8693	25.8706	-1.5	-1.4	-1.5
		Unit Flow Rate x 4	0.836	1.4386				29.6229	29.3947	26.3263	0.5	0.4	0.2
		Proposed Solution	0.52	1.6074				29.2733	29.0862	26.0705	-0.7	-0.6	-0.7

Scenarios:

Uncontrolled	Divereted all flows from Phase 1A without controls
Unit Flow Rate	Phase 1A controlled to unitary flow rates
Unit Flow Rate x 4	Phase 1A controlled to unitary flow rates x 4
Proposed Solution	Phase 1A controlled to CEISMP requriements

Project Name: Prologis Humber Station
Project No: 0624-6777
Date: 11-20-2024
Update: 07-31-25
Designed by: MF
Reviewed by: RA

100 Year Results

J124

ADDHYD	Storm Event	Scenario	Phase 1A Release Rate (m3/s)	Phase 1A Storage (ha.m)	Pre-dev Peak Flow (m3/s)			Post-dev Peak Flow (m3/s)			Percent Increase (%)		
					6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR
J124	100 YEAR	Uncontrolled	5.835	0.0000	39.2180	34.1350	27.2080	39.2671	34.3074	26.9751	0.1	0.5	-0.9
		Unit Flow Rate	0.236	2.0731				38.4869	33.5308	26.6319	-1.9	-1.8	-2.1
		Unit Flow Rate x 4	0.944	1.5789				39.2298	34.2050	27.1939	0.0	0.2	-0.1
		Proposed Solution	0.594	1.7974				38.7892	33.7904	26.8358	-1.1	-1.0	-1.4

J4200.683

ADDHYD	Storm Event	Scenario	Phase 1A Release Rate (m3/s)	Phase 1A Storage (ha.m)	Pre-dev Peak Flow (m3/s)			Post-dev Peak Flow (m3/s)			Percent Increase (%)		
					6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR
J4200.683	100 YEAR	Uncontrolled	5.835	0.0000	39.4150	35.9640	30.4670	39.8531	36.2357	30.4076	1.1	0.8	-0.2
		Unit Flow Rate	0.236	2.0731				38.7571	35.3575	29.8393	-1.7	-1.7	-2.1
		Unit Flow Rate x 4	0.944	1.5789				39.4939	36.0090	30.4847	0.2	0.1	0.1
		Proposed Solution	0.594	1.7974				39.0593	35.6158	30.0855	-0.9	-1.0	-1.3

J1700.594

ADDHYD	Storm Event	Scenario	Phase 1A Release Rate (m3/s)	Phase 1A Storage (ha.m)	Pre-dev Peak Flow (m3/s)			Post-dev Peak Flow (m3/s)			Percent Increase (%)		
					6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR	6 HOUR	12 HOUR	24 HOUR
J1700.594	100 YEAR	Uncontrolled	5.835	0.0000	34.2010	33.2860	29.5160	34.6549	33.6334	29.7272	1.3	1.0	0.7
		Unit Flow Rate	0.236	2.0731				33.6038	32.7470	29.0905	-1.7	-1.6	-1.4
		Unit Flow Rate x 4	0.944	1.5789				34.3568	33.4223	29.5997	0.5	0.4	0.3
		Proposed Solution	0.594	1.7974				33.9112	33.0246	29.3103	-0.8	-0.8	-0.7

Scenarios:

Uncontrolled	Divereted all flows from Phase 1A without controls
Unit Flow Rate	Phase 1A controlled to unitary flow rates
Unit Flow Rate x 4	Phase 1A controlled to unitary flow rates x 4
Proposed Solution	Phase 1A controlled to CEISMP requriements

Project Name: Prologis Humber Station
Project No: 0624-6777
Date: 11-20-2024
Update: 07-31-25
Designed by: MF
Reviewed by: RA

Regional Results

J124

ADDHYD	Storm Event	Scenario	Phase 1A Release Rate (m3/s)	Phase 1A Storage (ha.m)	Pre-dev Peak Flow (m3/s)	Post-dev Peak Flow (m3/s)	Percent Increase (%)
J124	Hazel	Uncontrolled	4.206	0.000	76.1430	77.4473	1.7
		Unit Flow Rate	0.679	4.882		74.8870	-1.6
		Unit Flow Rate x 2.5	1.697	3.266		75.7932	-0.5
		CEISMP	2.200	2.484		76.2732	0.2

J4200.683

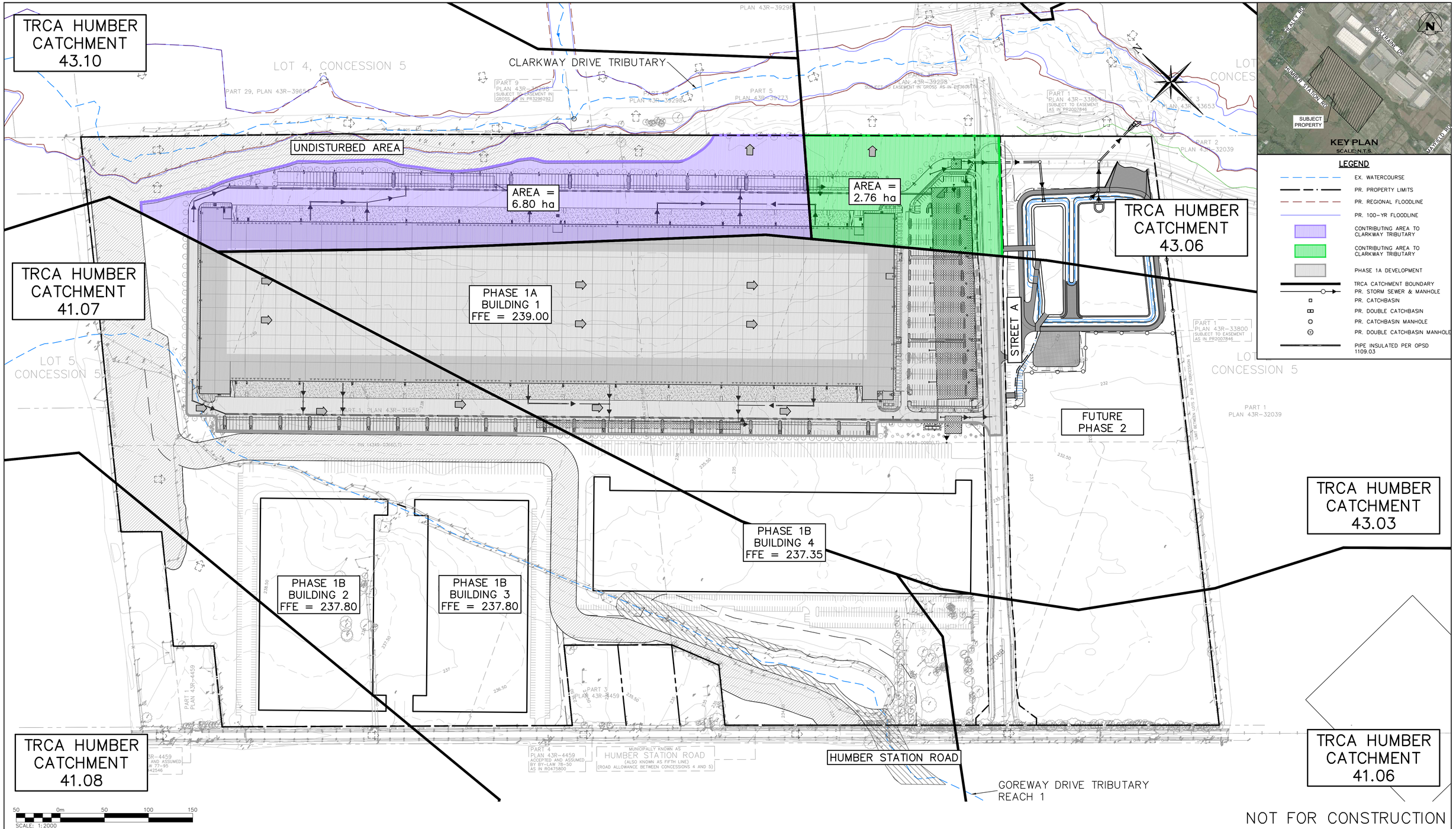
ADDHYD	Storm Event	Scenario	Phase 1A Release Rate (m3/s)	Phase 1A Storage (ha.m)	Pre-dev Peak Flow (m3/s)	Post-dev Peak Flow (m3/s)	Percent Increase (%)
J4200.683	Hazel	Uncontrolled	4.206	0.000	90.2880	91.9444	1.8
		Unit Flow Rate	0.679	4.882		88.9745	-1.5
		Unit Flow Rate x 2.5	1.697	3.266		89.9248	-0.4
		CEISMP	2.200	2.484		90.4275	0.2

J1700.594

ADDHYD	Storm Event	Scenario	Phase 1A Release Rate (m3/s)	Phase 1A Storage (ha.m)	Pre-dev Peak Flow (m3/s)	Post-dev Peak Flow (m3/s)	Percent Increase (%)
J1700.594	Hazel	Uncontrolled	4.206	0.000	110.6160	112.3286	1.5
		Unit Flow Rate	0.679	4.882		109.5369	-1.0
		Unit Flow Rate x 2.5	1.697	3.266		110.3355	-0.3
		CEISMP	2.200	2.484		110.7469	0.1

Scenarios:

Uncontrolled	Divereted all flows from Phase 1A without controls
Unit Flow Rate	Phase 1A controlled to regional unitary flow rates
Unit Flow Rate x 2.5	Phase 1A controlled to regional unitary flow rates x 2.5
CEISMP	Phase 1A controlled to CEISMP requirements



NOT FOR CONSTRUCTION

1. THIS DRAWING IS THE EXCLUSIVE PROPERTY OF C.F. CROZIER & ASSOCIATES INC. AND THE MODIFICATION AND/OR REPRODUCTION OF ANY PART OF THIS DRAWING IS STRICTLY PROHIBITED WITHOUT WRITTEN AUTHORIZATION FROM THIS OFFICE.
2. THE DIGITAL FILES CONTAIN INTELLECTUAL AND DIGITAL DATA PROPERTY THAT IS THE EXCLUSIVE PROPERTY OF C.F. CROZIER & ASSOCIATES INC.
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, LEVELS, AND DATUMS ON SITE AND REPORT ANY DISCREPANCIES OR OMISSIONS TO C.F. CROZIER & ASSOCIATES INC. PRIOR TO CONSTRUCTION.
4. THIS DRAWING IS TO BE READ AND UNDERSTOOD IN CONJUNCTION WITH ALL OTHER PLANS AND DOCUMENTS APPLICABLE TO THIS PROJECT.
5. ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
6. DO NOT SCALE DRAWINGS.

TEMPORARY BENCHMARKS:

ELEVATION ARE REFERRED TO THE REGION OF PEEL BENCHMARK No. 40 LOCATED ON THE SOUTH FACE AT THE WEST CORNER OF SOUTH END OF A CONCRETE BOX CULVERT ACROSS MAYFIELD ROAD APPROXIMATELY 0.56 km EAST OF CLARKWAY DRIVE, HAVING AN ELEVATION OF 222.165 m. VERTICAL DATUM: CANADIAN GEODETIC DATUM, 1928 (1978 SOUTHERN ONTARIO READJUSTMENT)

SITE PLAN NOTES:

DESIGN ELEMENTS ARE BASED ON SITE PLAN PETROFF.
DRAWING No.: A100.0, DATED: 25/JUL/2025
PROJECT No.: 22095.00

Town

No.	ISSUE	DATE: MMM/DD/YYYY
1	ISSUED FOR SPA SUBMISSION	NOV/22/2024
2	RE-ISSUED FOR SPA SUBMISSION	AUG/06/2025

Engineer

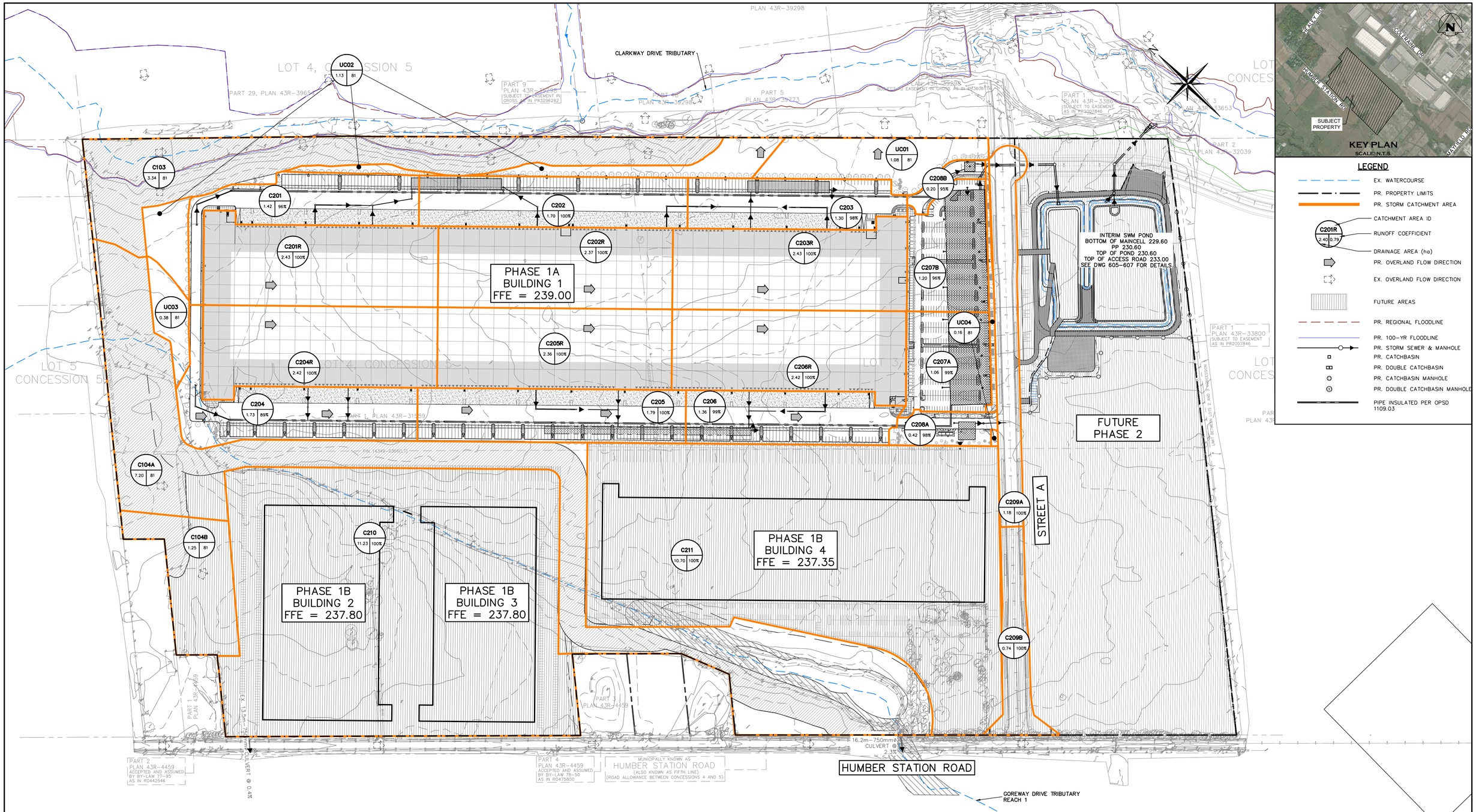
Engineer

Project
HUMBER STATION DISTRIBUTION CENTRE
TOWN OF CALEDON

Drowing
INTERIM CONDITIONS TARGET RELEASE RATE

CROZIER CONSULTING ENGINEERS

Drawn By	Design By	Project
Y.K.	M.F.	624-6777
Check By	Check By	Drowing
R.A.	R.A.	FIG 01



50 0m 50 100 150
SCALE: 1:2000

NOT FOR CONSTRUCTION

1. THIS DRAWING IS THE EXCLUSIVE PROPERTY OF C.F. CROZIER & ASSOCIATES INC. AND THE MODIFICATION AND/OR REPRODUCTION OF ANY PART OF THIS DRAWING IS STRICTLY PROHIBITED WITHOUT WRITTEN AUTHORIZATION FROM THIS OFFICE.
2. THE DIGITAL FILES CONTAIN INTELLECTUAL AND DIGITAL DATA PROPERTY THAT IS THE EXCLUSIVE PROPERTY OF C.F. CROZIER & ASSOCIATES INC.
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, LEVELS, AND DATUMS ON SITE AND REPORT ANY DISCREPANCIES OR OMISSIONS TO C.F. CROZIER & ASSOCIATES INC. PRIOR TO CONSTRUCTION.
4. THIS DRAWING IS TO BE READ AND UNDERSTOOD IN CONJUNCTION WITH ALL OTHER PLANS AND DOCUMENTS APPLICABLE TO THIS PROJECT.
5. ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
6. DO NOT SCALE DRAWINGS.

TEMPORARY BENCHMARKS:

ELEVATION ARE REFERRED TO THE REGION OF PEEL BENCHMARK No. 40 LOCATED ON THE SOUTH FACE AT THE WEST CORNER OF SOUTH END OF A CONCRETE BOX CULVERT ACROSS MAYFIELD ROAD APPROXIMATELY 0.56 km EAST OF CLARKWAY DRIVE, HAVING AN ELEVATION OF 222.165 m. VERTICAL DATUM: CANADIAN GEODETIC DATUM, 1928 (1978 SOUTHERN ONTARIO READJUSTMENT)

SITE PLAN NOTES:

DESIGN ELEMENTS ARE BASED ON SITE PLAN PETROFF.
DRAWING No.: A100.0, DATED: 25/JUL/2025
PROJECT No.: 22095.00

Town

No.	ISSUE	DATE: MMM/DD/YYYY
1	ISSUED FOR SPA SUBMISSION	NOV/22/2024
2	RE-ISSUED FOR SPA SUBMISSION	AUG/06/2025

Engineer

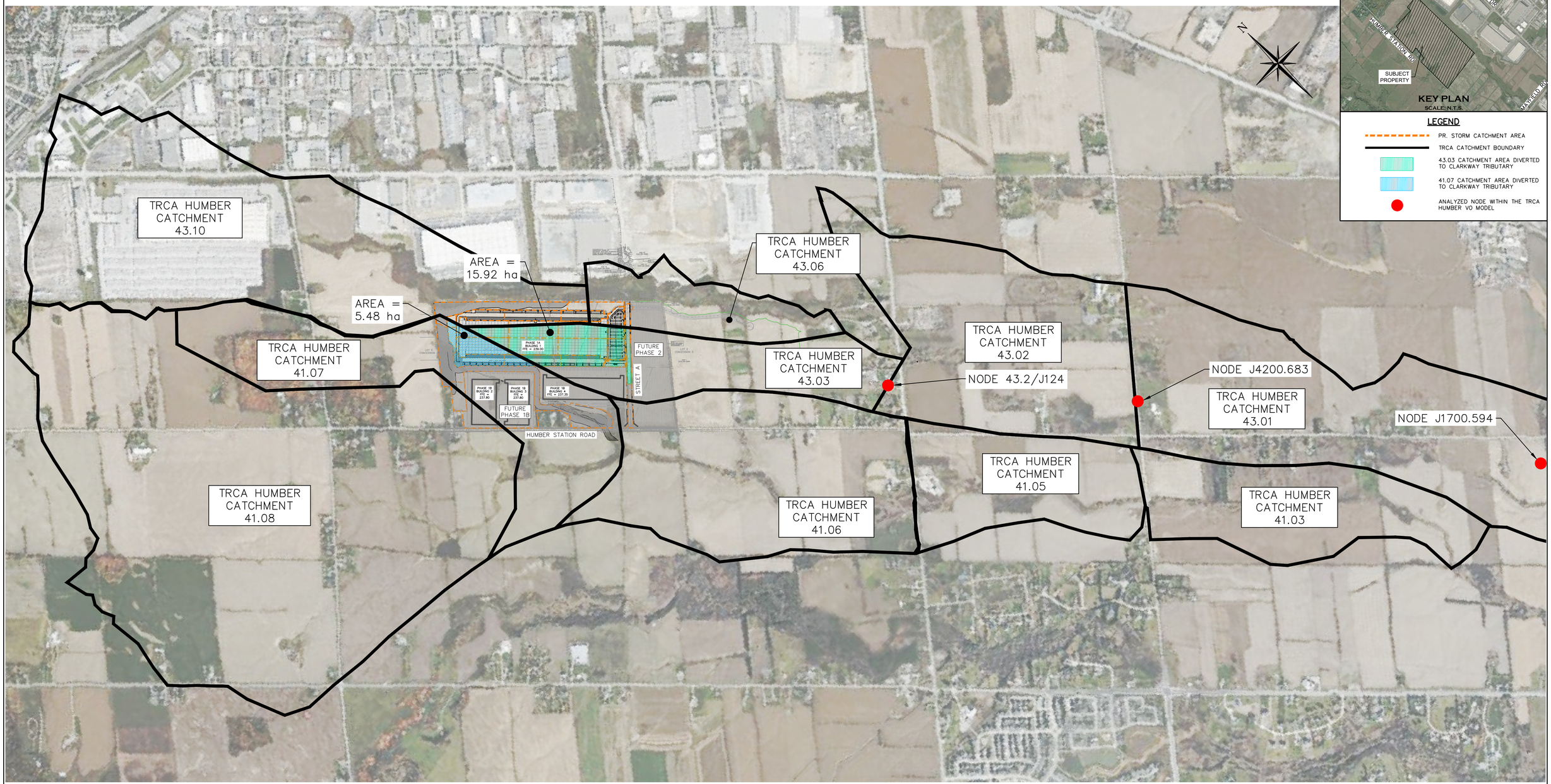
Engineer

Project
HUMBER STATION DISTRIBUTION CENTRE
TOWN OF CALEDON

Drawing
INTERIM CONDITIONS DRAINAGE FIGURE

CROZIER CONSULTING ENGINEERS

Drawn By	Design By	Project
Y.K.	M.F.	624-6777
Check By	Check By	Drawing
R.A.	R.A.	FIG 02



200 0m 200 400 600 800
SCALE: 1:10 000

NOT FOR CONSTRUCTION

1. THIS DRAWING IS THE EXCLUSIVE PROPERTY OF C.F. CROZIER & ASSOCIATES INC. AND THE MODIFICATION AND/OR REPRODUCTION OF ANY PART OF THIS DRAWING IS STRICTLY PROHIBITED WITHOUT WRITTEN AUTHORIZATION FROM THIS OFFICE.
2. THE DIGITAL FILES CONTAIN INTELLECTUAL AND DIGITAL DATA PROPERTY THAT IS THE EXCLUSIVE PROPERTY OF C.F. CROZIER & ASSOCIATES INC.
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, LEVELS, AND DATUMS ON SITE AND REPORT ANY DISCREPANCIES OR OMISSIONS TO C.F. CROZIER & ASSOCIATES INC. PRIOR TO CONSTRUCTION.
4. THIS DRAWING IS TO BE READ AND UNDERSTOOD IN CONJUNCTION WITH ALL OTHER PLANS AND DOCUMENTS APPLICABLE TO THIS PROJECT.
5. ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
6. DO NOT SCALE DRAWINGS.

TEMPORARY BENCHMARKS:

ELEVATION ARE REFERRED TO THE REGION OF PEEL BENCHMARK No. 40 LOCATED ON THE SOUTH FACE AT THE WEST CORNER OF SOUTH END OF A CONCRETE BOX CULVERT ACROSS MAYFIELD ROAD APPROXIMATELY 0.56 km EAST OF CLARKWAY DRIVE, HAVING AN ELEVATION OF 222.165 m. VERTICAL DATUM: CANADIAN GEODETIC DATUM, 1928 (1978 SOUTHERN ONTARIO READJUSTMENT)

SITE PLAN NOTES:

DESIGN ELEMENTS ARE BASED ON SITE PLAN PETROFF.
DRAWING No.: A100.0, DATED: 25/JUL/2025
PROJECT No.: 22095.00

Town

No.	ISSUE	DATE: MM/DD/YYYY
1	ISSUED FOR SPA SUBMISSION	NOV/22/2024
2	RE-ISSUED FOR SPA SUBMISSION	AUG/06/2025

Engineer

Engineer

Project
HUMBER STATION DISTRIBUTION CENTRE
TOWN OF CALEDON

Drawing
INTERIM CONDITIONS DIVERTED DRAINAGE AREAS

CROZIER CONSULTING ENGINEERS

Drawn By	Design By	Project
Y.K.	M.F.	624-6777
Check By	Check By	Drawing
R.A.	R.A.	FIG 03