counterpoint ENGINEERING

A SUBSIDIARY OF DILLON CONSULTING LIMITED

Enclosure

To:	Per Lundberg, Planner, Township of Selwyn
CC:	Azher Albayati, Owner/Developer Iain Mudd, Director of Planning, County of Peterborough Robert Kelly, Manager, Building and Planning, Township of Selwyn Adam Tobin, Manager, Public Works, Township of Selwyn Donald Allin, Manager, Plan Review and Permitting Services, Otonabee Conservation Chris Proctor, P.Eng. Manager, DM Wills Eric St. Pierre, P. Eng. Project Engineer, DM Wills
From:	Victor Szeghalmi, C.E.T., Senior Project Manager, Counterpoint Engineering/Dillon Consulting
Date:	March 4, 2025

Re:	45 Bishop Street, Draft Plan of Subdivision Township of Selwyn 3rd Submission – Plan of Subdivision, Official Plan Amendment and Zoning By-law Amendment
File #:	Township of Selwyn C-04-21 County of Peterborough 15T-21002 and 15OP-21007

Counterpoint Engineering, A Subsidiary of Dillon Consulting Limited (Dillon) on behalf of our Client Pro Floor Plan (Client), are pleased to provide you with the third engineering submission in support of the proposed, Draft Plan of Subdivision, Official Plan Amendment and Zoning By-law Amendment (the Applications) for the redevelopment of 45 Bishop Street in the Township of Selwyn.

This submission addresses the Peer Review Comments by DM Wills, dated August 24, 2024.

Dillon notes that the Otonabee Region Conservation Authority has given their clearance in support of the Applications and have provided their Conditions of Draft Plan Approval in their letter dated May 24, 2024. This letter was addressed to Iain Mudd, Director of Planning at the County of Peterborough and Per Lundberg, Planner at the Township of Selwyn.

Please find the following 3rd Submission documents enclosed:

- 3rd Submission Comment Response Matrix dated March 4, 2025 (Response to Township Comments dated August 24, 2024)
- Preliminary Servicing Figure dated February 28, 2025
- Preliminary Cost Estimate for the Urbanization of Bishop Street dated March 4, 2025

Supplementary to the enclosed submission documents, Dillon would also like to provide the following commentary on matters raised during the meeting with the Township on February 4, 2025. These matters include the following:

- The Township's suggestion to place a Hold on the Zoning By-Law Amendment for the purpose of restricting Building Permit availability until such time that the subdivision is registered;
- The Township's suggestion to urbanize the Bishop Street right-of-way; and
- The Township's suggestion that a new sidewalk may be required within the proposed Street A cul-de-sac.

Hold On Zoning By-law Amendment

During the meeting with the Township on February 4, 2025 and as noted in the Meeting Minutes for the same, the Township suggested that a Hold (H) be applied to the Zoning By-law Amendment for the proposed subdivision. The Township noted that the purpose of the H is to restrict the availability of building permits until such time that the Plan of Subdivision is registered.

The process of applying an H to a Zoning By-law Amendment until such time that the Plan of Subdivision is registered is an uncharacteristic process in all municipal jurisdictions that Dillon has worked in. In Dillon's experience, the typical instrument which grants building permit availability for a Plan of Subdivision is the clearing of Draft Plan Conditions, the execution of the Subdivision Agreement with the Municipality and the Registering the Subdivision. Dillon hopes that the Township agrees that placing an H on the Zoning By-law Amendment adds an unnecessary layer of administrative process to an already extensive building permit application process. Dillon on behalf of our Client, requests that typical process be followed for the availability of building permits as stated above (clearing of specific Draft Plan Conditions, Execution of the Subdivision Agreement and Registration of the Subdivision).

Bishop Street Urbanization

During the meeting with the Township on February 4, 2025 and as noted in the Meeting Minutes for the same, the Township suggested that although there are no plans for the urbanization of Bishop Street, if significant disturbances cannot be avoided, the Township may require urbanization of the south side of the roadway with curb, gutter and catchbasins to service the existing residences.

As noted in the response to the Township's comment 5.2 in the attached Comment Response Matrix, the storm sewer that is proposed to be constructed on Bishop Street (to service the proposed

development) will only be 250 mm in diameter. The construction of the storm sewer would be isolated to a single trench parallel to the north edge of asphalt, along Bishop Street. The length of the proposed storm sewer is estimated to be 170 m and outlet to the south ditch of Bishop Street, immediately west of 29 Bishop Street. If desired by the Township at the detailed design stage and as a Condition of Draft Plan Approval, a topo survey of the Bishop Street ditches can be completed in support of a capacity analysis of the same. Based on the analysis, ditch improvements (shaping) can be implemented if required, to improve stormwater conveyance, reduce stormwater storage requirements within the proposed development (i.e. superpipe) and minimize municipal infrastructure. This solution is current and second best suited for the proposed development and will minimize disturbance along Bishop Street.

Primary to the above-described solution, Dillon recommends the pursuit of a storm outfall to the south of the property in accordance with existing drainage patterns and as previously proposed through the first engineering submission in support of the Applications. This solution would reduce proposed stormwater storage requirements and municipal stormwater infrastructure. An outfall to the south of the development could be achieved through an agreement with the neighboring landowner and a municipal drain in accordance with Ontario surface water drainage conflict case law (please refer to the following LINK). On behalf of Dillon's Client, Dillon requests that this solution be added as a viable option to be considered and reviewed at the Detailed Design Stage as a Condition of Draft Plan Approval.

The Township's suggested urbanization of Bishop Street is unnecessary and cost prohibitive to this small development as demonstrated through the Preliminary Cost Estimate that is included with this submission. Consideration must also be given to the added costs of the "Exclusions" identified in the Cost Estimate which are unknown at this time and could add hundreds of thousands of dollars to the urbanization in addition to the expected delays it would cause due to additional design and study requirements which must be completed.

In consideration of the above, Dillon on behalf of our Client kindly requests that urbanization of Bishop St. be dismissed for the greater good of constructing a viable development and providing housing in support of the Province of Ontario's mandate to prioritize expeditious home construction.

Proposed Sidewalk Along Proposed Street A Cul-de-sac

During the meeting with the Township on February 4, 2025 and as noted in the Meeting Minutes for the same, the Township noted that a new sidewalk requirement policy was passed by Township Council in late 2024 which requires the construction of a sidewalk on proposed cul-de-sacs which are proposed to have a number of units greater than 12.

Street A intersects with Bishop Street which is a rural right-of-way with no existing sidewalk and no plans for urbanization as noted in the Town's comment 5.2. Therefore, notwithstanding the new sidewalk policy, the Township acknowledged that a proposed sidewalk along proposed Street A would be an inefficient use of resources. Accordingly, the Township noted that a sidewalk exemption request to Council would have to be made due to the lack of sidewalk connection to Bishop St. and with the

understanding that the urbanization of Bishop Street would be cost prohibitive to the proposed development.

In consideration of the above, Dillon on behalf of our Client, requests that the sidewalk exemption request to Council be made, concurrent to Staff's recommendation for OPA, ZBA and Draft Plan Approval.

We trust that our responses and the accompanying documentation address the 2nd submission comments raised by the Township. We are committed to continuing our collaborative efforts to ensure to ensure the successful advancement of Staff's Report to Township's Council for the approval of this application.

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

Respectfully,

DILLON CONSULTING LIMITED

Victor Szeghalmi, C.E.T.

Senior Project Manager

Encl: 3rd Submission Comment Response Matrix dated March 4, 2025 (Response to Township Comments dated August 24, 2024) by Dillon

Preliminary Servicing Figure dated February 28, 2025 by Dillon

Preliminary Cost Estimate for the Urbanization of Bishop Street dated March 4, 2025 by Dillon

Dillon file: 20013 and 22088

8395 Jane Street
Suite 100
Vaughan, Ontario
Canada
L4K 5Y2
Telephone
905.326.1404

3rd Submission Comment Response Matrix as of March 4, 2025

No.	1st Submission Comment (June 17, 2021)	Response from Applicant	2nd Submission Comment (August 2, 2024)	Accepted	Response from Applicant
1.0	**Grading and Draft Plan Layout**				
1.1	Please ensure that all roadway grades provide a minimum gutter grade of 1.0% around the cul-de-sac.	Noted.	No further comment.	Y	Acknowledged. No further action required.
1.2	Please confirm that there are no utility conflicts with the majority of the boulevard within the rural section being occupied with LID features.	Not applicable as the LID features have been removed from the proposed ROW.	No further comment.	Y	Acknowledged. No further action required.
1.3	A minimum of 5 m of usable (<=5%) rear yard space should be provided for each lot. This may require shifting the south LID feature or adjusting the dimensions of the feature near Lots 7 to 10.	See Typical LID detail	No further comment.	Y	Acknowledged. No further action required.
2.0	**Water Servicing**				
2.1	The Township/Fire Department has confirmed that the available fire flows on Concession Street are acceptable for the development to proceed.	Noted, thank you.	No further comment.	Y	Acknowledged. No further action required.
2.2	Concession Street has been determined to be acceptable for fire flows, the proposed watermain can be 50 mm and a flushing hydrant (clearly indicating that it is not for firefighting purposes) is to be placed at the south limit of the cul-de-sac for flushing and testing. The looped watermain is not required.	Schematic watermain drawing updated with notation as requested.	The flushing hydrant location shall be placed at the end of the watermain (not necessarily the extreme south of the cul-de-sac) and should not located within the access easement. This can be revised during detailed design.	N	The flushing hydrant has been relocated to the end of the proposed 50 mm watermain, on the Servicing figure, included with this submission. It is acknowledged that the final location will be determined during the detailed design stage, as a Condition of Draft Plan Approval.
2.3	An air relief valve is to be included for the proposed watermain based on the elevation and location of the development.	Noted, thank you. To be added to detailed design	No further comment.	Y	Acknowledged. No further action required.
3.0	**Sanitary Servicing**				
3.1	We do not have any concerns with respect to the required downstream sanitary sewer capacity.	Noted, thank you.	No further comment.	Y	Acknowledged. No further action required.
3.2	Service laterals will not be permitted to connect directly to the maintenance hole structures. As such, the final sanitary sewer layout may need to be extend.	Noted as a consideration for detailed design.	No further comment.	Y	Acknowledged. No further action required.

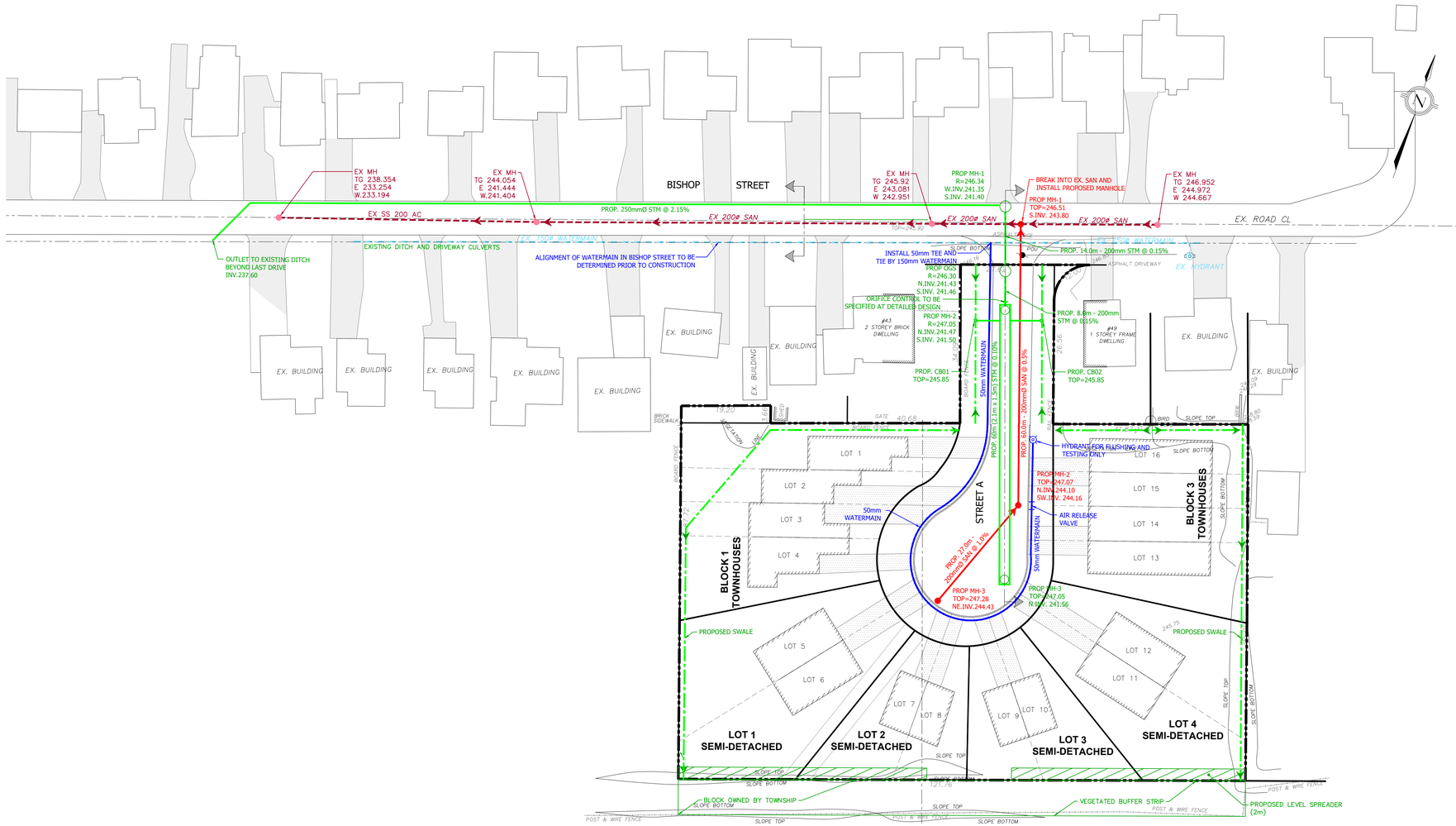
No.	1st Submission Comment (June 17, 2021)	Response from Applicant	2nd Submission Comment (August 2, 2024)	Accepted	Response from Applicant
4.0	**Stormwater Management**				
4.1	Existing catchment boundaries should be revised as the portion of existing flow directed to Bishop Street is overestimated and external drainage areas have not been defined. Based on the contour data provided, Catchment 101, as delineated, includes a low point that will actually spill into Catchment 102 and not to Bishop Street (see sketch below). Furthermore, external estimated and external drainage areas have not been defined. Drainage entering the property should be delineated.	Noted, the predevelopment drainage areas have been updated per comments. Based on our site visit, the areas may be per the original report but the revision shows a 'worst case' calculation for storage volume requirements due to minimal allowable release rate to Bishop Street.	Catchment boundaries have been revised to match Wills comments.	Y	Acknowledged. No further action required.
4.2	Target flow rates have been established based on existing peak flow rates to each outlet location; however, it is preferred to direct as much runoff as possible to Bishop Street, as the south outlet is poorly defined and is in private ownership. As such, we recommend matching predevelopment peak flow rates for the entire site, regardless of the existing outlet and directing as little runoff as possible to the south outlet.	This approach could help alleviate the storage requirements by assigning some allowable release rate to the Bishop Street outlet. In an effort to demonstrate serviceability in the absence of complete information for the downstream conveyance system, this FSR shows the storage requirements for post to pre to the Bishop Street outlet with the conservative estimate of pre-development area directed to this outlet.	Pre-development peak flow rates have been matched for both outlets.	Y	Acknowledged. No further action required.
4.3	Please clarify how the proposed storm sewer configuration will function in series and provide a table within the body of the report summarizing existing and proposed controlled peak flow rates at each outlet location, for each return period. For Catchment 201, it appears that the water quality storm will be captured by the east and west LIDs, the minor storms (2 to 5- year?) will be controlled within the storm sewer and directed to the south outlet and the major storms (5 to 100-year?) will be controlled by a weir and directed to Bishop Street. For Catchment 202, it appears that the water quality will be captured by the south LID; however, no controls are proposed for larger storm events. If this is the case, there will be no outflow to Bishop Street other than major storm events.	Not applicable based on the revised design.	Under the revised site plan an OGS will be the only means of quality control for Catchment 201. Ensure 80% TSS removal can be achieved by one OGS unit in order to meet the Enhanced "Level 1" quality control requirements under the CA ETV particle size distribution.	N	As agreed upon during our meeting on February 4, 2025 the Township and their peer reviewer DM Wills have agreed that this comment will be addressed at the detailed design stage, as a Condition of Draft Plan Approval.

No.	1st Submission Comment (June 17, 2021)	Response from Applicant	2nd Submission Comment (August 2, 2024)	Accepted	Response from Applicant
4.4	The estimated storage volume required should be increased by 25% or a hydrologic model should be used to confirm the modified rational method results. While the modified rational method is acceptable for the Draft Plan Approval stage, it has a tendency to underestimate the storage volumes required when compared to hydrograph based methods. As such, we request that an additional factor of safety be included in the storage volumes calculations. A hydrologic model will be required during detailed design.	Noted. As noted above the storage solution is considered 'worst case' based on the conservative release rate applied to Bishop Street. Accordingly, we have not increased the storage volume estimate by 25%. However, the 100 year runoff coefficient values used have been factored up by 25% for the 100 year event.	Acceptable for Draft Plan Approval, however a hydrologic model will be required as part of detailed design.	N	Acknowledged, this comment will be addressed at the detailed design stage, as a Condition of Draft Plan Approval.
4.5	The storage volume provided within the MH structures should be revised as flows will spill to Bishop Street before reaching the rim elevations of MH-2 and MH-3.	Not applicable based on the revised design.	No further comment.	Y	Acknowledged. No further action required.
4.6	Please provide typical sections for the east, west and south LID features. It is unclear if these are on the surface, underground or a combination.	Not applicable based on the revised design. However, ORCA has also requested a cross-section of the level spreader and vegetated filter strip along the south property line and a section is included on the grading plan.	No further comment.	Y	Acknowledged. No further action required.
4.7	As the LID features are an integral part of the proposed stormwater design, a hydrogeology investigation is required during draft plan approval to confirm in-situ infiltration rates and groundwater elevations at the location of the proposed LID features.	A hydrogeological study has been provided and in-situ testing was completed to estimate infiltration rates of the soils on site.	The hydrogeological study does not include in-situ infiltration rates, however it is recognized that the current stormwater design does not rely upon infiltration as the primary means of quantity or quality control. As such, in-situ infiltration rates should be collected during detailed design.	N	Acknowledged, this comment will be addressed at the detailed design stage, as a Condition of Draft Plan Approval.
	In particular, a minimum separation of 1 m between the bottom of the LID features to the seasonally high groundwater level and drawdown of the LID features within 48 hours (including factor of safety) should be confirmed.	No infiltration measures are proposed.	The proposed vegetated filter strip will provide some infiltration, however 1 m separation will be maintained as per the groundwater elevations in the hydrogeological study.	Y	Acknowledged. No further action required.
4.8	The expected maintenance requirements for the LID features, including routine and non-routine items should be discussed in the report. A standalone operation and maintenance manual will be required during detailed design.	No maintenance of the level spreader or vegetated filter strip are anticipated. Maintenance of the OGS unit will be per manufacturers Operations and Maintenance recommendation.	Inspection and maintenance of the vegetated filter strip should be included in a standalone report. Inspection and maintenance activities: https://wiki.sustainabletechnologies.ca/wiki/Inspection_and_Maintenance:_Vegetated_Filter_Strips	Y	Acknowledged. No further action required.

No.	1st Submission Comment (June 17, 2021)	Response from Applicant	2nd Submission Comment (August 2, 2024)	Accepted	Response from Applicant
4.9	The south LID should be located in an easement or block accessible to the Township for maintenance and inspections. The design should also include a flow spreader such that concentrated runoff will not increase erosion potential to downstream properties.	Noted. The Township could request the inclusion of an access block for access, or the purchase of the Township owned block at the south limit of the lands at the draft plan stage. At the current rezoning stage, the FSR proposes only private rear yard drainage discharging to the south in keeping with the comments above, and provides a level spreader on private property. The existing Township block is proposed to act as a vegetated filter strip which is not anticipated to required maintenance.	The vegetated filter strip will require routine and non-routine inspection and maintenance which will require access by the Township of Selwyn staff.	N	During our meeting on February 4, 2025, the Township confirmed that they have no desire to maintain ownership of the Block (at the south limits of the proposed development lands) which will contain the vegetated filter strip. The Township has offered the sale of the Block to the Developer/Owner/Applicant for a sum of $68,000. Negotiations are ongoing between the Developer/Owner/Applicant, their real estate agent and the Township regarding the sale of the Block. The sale of the Block to the Developer/Owner/Applicant is expected between March and April of 2025.
4.10	The Water Balance Analysis should be completed based on the Conservation Authority Guidelines for Hydrogeological Assessments and should demonstrate that post development runoff volumes will not exceed pre-development runoff volumes, to the south outlet, on an average annual basis. Matching runoff volume to Bishop Street will not be required.	None.	Water balance calculations are provided in the Hydrogeological Report noting an increase in runoff for the entire site, but no discussion is provided on how runoff volumes to the south outlet will be impacted. Please update the water balance analysis to confirm post development runoff volumes to each outlet in existing and proposed conditions and confirm no increase to the south outlet.	N	As agreed upon during our meeting on February 4, 2025 the Township and their peer reviewer DM Wills have agreed that this comment will be addressed at the detailed design stage, as a Condition of Draft Plan Approval.
5.0	**Bishop Street Storm Sewer**				
5.1	New Comment		Confirm the location of the existing services on Bishop Street and demonstrate that the proposed storm sewer alignment can be accommodated meeting the required offsets from the watermain and sanitary sewer system.	N	During our meeting on February 4, 2025 the Township and their peer reviewer DM Wills agreed that this comment can be addressed by the submission of a preliminary cross section and plan view demonstrating the location of existing services in relation to the proposed storm sewer on Bishop Street. Accordingly, a Servicing Figure and Cross Section is included in this submission. The preliminary location of the Storm Sewer is proposed on the north side of Bishop Street to isolate disturbance and allow for the flow of traffic.

No.	1st Submission Comment (June 17, 2021)	Response from Applicant	2nd Submission Comment (August 2, 2024)	Accepted	Response from Applicant
5.2	New Comment		Bishop Street is not planned for urbanization in the foreseeable future; therefore, the proposed storm sewer will essentially only service a single development. As such, please review the storm sewer alignment and existing ditch inverts on both sides of Bishop Street to minimize the length of the sewer and area of disturbance within the existing roadway. If significant disturbances to Bishop Street cannot be avoided, the Township may require urbanization of the south side of the roadway with curb, gutter and catchbasins to service the existing residences.	N	As discussed during our meeting on February 4, 2025, the disturbance associated with the proposed storm sewer on Bishop St. would be isolated to a single trench. The daylight location of the sewer to the ditch is demonstrated adequately on a functional level. The final location of the storm sewer ditch outlet will be addressed at the detailed design stage, as a Condition of Draft Plan Approval. At the detailed design stage, as a Condition of Draft Plan Approval, a topo survey of the entirety of the Bishop St. ditches can be completed in support of a capacity analysis of the same. Based on the analysis, ditch improvements (shaping) can be implemented if required, to improve stormwater conveyance, reduce stormwater storage requirements (i.e. superpipe) and minimize municipal infrastructure. As stated during the same meeting, the urbanization of Bishop St. is unnecessary and cost prohibitive to this small development. Accordingly, the Owner/Developer/Applicant requests that urbanization of Bishop St. be dismissed in consideration of the greater good of providing housing in the current housing crisis climate. In support of the dismissal of the urbanization of Bishop St. the Township requested a preliminary cost estimate for the urbanization of Bishop St. A cost estimate is included with this submission.
6.0	**Hydrogeological Investigation**				
6.1	New Comment		The inverts of the proposed storm sewer are approximately 241.50, which is significantly below the recorded groundwater elevations. As such, the construction dewatering section should be revised accordingly.	N	As agreed upon during our meeting on February 4, 2025 the Township and their peer reviewer DM Wills have agreed that this comment will be addressed at the detailed design stage, as a Condition of Draft Plan Approval.
7.0	**Traffic Impact Brief**				
7.1	Include a table showing trip rates used in the calculation of the generated trips.	Incorporated. Refer to revised report	No further comment.	Y	Acknowledged. No further action required.

No.	1st Submission Comment (June 17, 2021)	Response from Applicant	2nd Submission Comment (August 2, 2024)	Accepted	Response from Applicant
7.2	Comment on the sightline at the entrance of the development.	Incorporated. Refer to revised report	No further comment.	Y	Acknowledged. No further action required.



BISHOP STREET

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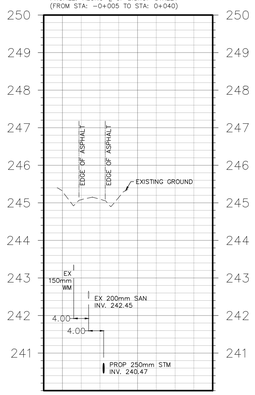
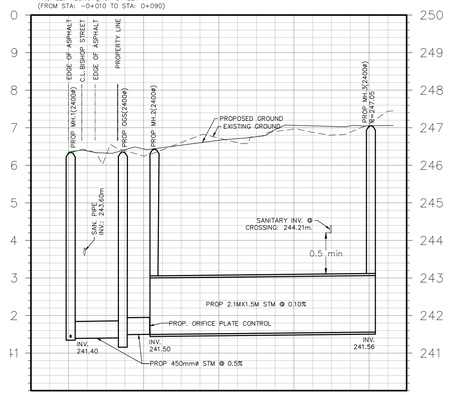
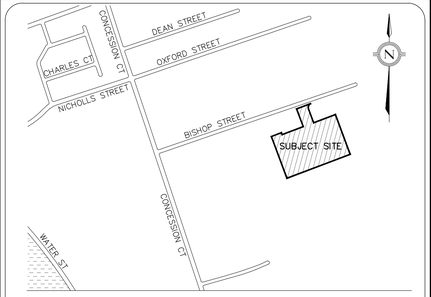
HORIZONTAL SCALE 1:500
PROFILE: ALONG ℄ OF BISHOP STREET
(FROM STA: -0+005 TO STA: 0+040)



STREET A

VERTICAL SCALE 1:50
HORIZONTAL SCALE 1:500
PROFILE: ALONG ℄ OF STREET A
(FROM STA: -0+010 TO STA: 0+090)





KEY PLAN

LEGEND

- PROPERTY LINE
- PROPOSED STORM CATCHBASIN MANHOLE
- PROPOSED STORM CATCHBASIN
- PROPOSED LEVEL SPREADER
- PROPOSED SWALE
- PROPOSED STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING SANITARY MANHOLE
- PROPOSED SANITARY SEWER
- PROPOSED SANITARY MANHOLE
- EXISTING WATERMAIN
- EXISTING HYDRANT
- PROPOSED WATERMAIN
- PROPOSED HYDRANT

COUNTERPOINT LAND DEVELOPMENT BY | DILLON CONSULTING

SITE LOCATION:

RESIDENTIAL DEVELOPMENT
45 BISHOP STREET
LAKEFIELD, ONTARIO

SITE PLAN FILE No.:

22088_SERVICING

DESIGNED BY:	VS	CHECKED BY:	VS	DATE:	FEBRUARY 2025
DRAWING BY:	MTL	CHECKED BY:	VS	PROJECT NO.	20013
SWM BY:	VS	CHECKED BY:	VS		
SCALE: 1:500m	0m 5m 10m 20m 30m			DRAWING NO.	8

Bishop Street Urbanization Preliminary Cost Estimate

Bishop Street Right-of-way width	20	m
Bishop Street Righ-of-way length =	355	m
Existing Asphalt Width =	7	m
Propsed Ashpalt Width =	8.5	m

		Unit	Price ($)	Quantity	Total Cost ($)
1	**Site Preparation, Removals and Erosion Control**				
	Insurance, Mobilization & Demobilization	LS	$16,500.00	1	$16,500.00
	Erosion and Sediment Control (incl. fencing, traffic control and ongoing maintenance)	LS	$50,000.00	1	$50,000.00
	Remove 450 mm road base (granular) and dispose	m3	$ 50.00	1118	$ 55,912.50
	Remove 150 mm top course asphalt and dispose	m3	$ 25.00	373	$ 9,318.75
	Strip 300 mm topsoil within existing boulevard and dispose	m3	$ 20.00	1385	$ 27,690.00
	Subtotal: Site Preparation, Removals and Erosion Control				**$159,421.25**
2	**Storm**				
	BISHOP STREET				
	NOTE - Based on correspondance from the geotechnical consultant, there is a possibility of encountering bedrock in sub-surface conditions between 4m to 6m below finished grade. Based on the preliminary design, it is expected that approximatly 150m of the proposed storm sewer may be within bedrock. Bedrock trench excavation is calculated at 2m depth x 1.05 m width x 150 m length = 315 m3.				
	Bedrock Construction (4m-6m depth)				
	Blasting	m3	$ 120.00	315	$ 37,800.00
	Excavate and stockpile blasted material on-site	m3	$ 14.00	315	$ 4,410.00
	Mobile crushing facility	L.S.	$ 40,000.00	1	$ 40,000.00
	Crush blasted material for sewer bedding re-use (1.7 tonnes / m3 conversion)	tonne	$ 18.00	536	$ 9,639.00
	1200 mm diameter conc. Manhole	each	$ 14,000.00	3	$ 42,000.00
	450 mm conc. sewer	m	$ 650.00	150	$ 97,500.00
	Typical Construction				
	1200 mm diameter conc. Manhole	each	$ 5,700.00	3	$ 17,100.00
	450 mm conc. sewer	m	$ 300.00	205	$ 61,500.00
	Catchbasins	each	$ 6,000.00	12	$ 72,000.00
	150mm ø Storm Service Lateral	ea	$ 1,500.00	31	$ 46,500.00
	Clean, Flush and Video Inspection of Storm Sewers	m	$ 8.00	355	$ 2,840.00
	Subtotal: Storm				**$431,289.00**
3	**Road**				
	Base Road Works:				
	BISHOP STREET				
	Granular 'B' 300mm Depth	m^2	$ 15.00	3018	$ 45,262.50
	Granular 'A' 150mm Depth	m^2	$ 8.50	3018	$ 25,648.75
	HL8 Asphalt Binder Course 100mm Depth	m^2	$ 28.00	3018	$ 84,490.00
	Concrete Barrier Curb with Standard Gutter (OPSD 600.070) Single Stage Stage	m	$ 110.00	710	$ 78,100.00
	150 mm Dia Road Subdrains	m	$ 20.00	710	$ 14,200.00
	Road Maintenance - On and Off Site Street Cleaning, Inc. weekly through the summer	L.S.	$ 25,000.00	1	$ 25,000.00
	Subtotal: Road (to Base Asphalt)				**$ 272,701.25**
	Top Road Works:				
	Raise frames, grate, and covers to surface course asphalt elevations.				
	Catchbasins	each	$ 500.00	12	$ 6,000.00
	Manholes STM	each	$ 500.00	6	$ 3,000.00
	HL1 Asphalt Surface Course 50 mm Depth	m^2	$ 13.00	3018	$ 39,227.50
	1.5 m wide sidewalk	m	$ 100.00	710	$ 71,000.00
	Unassumed Road Signs	LS	$ 1,200.00	1	$ 1,200.00
	Boulevards - Topsoil and Sod	m^2	$ 3.00	4083	$ 12,247.50
	Dead End Barrier and Signage	ea	$ 1,500.00	2	$ 3,000.00
	Subtotal: Road (Top Works Only)				**$ 135,675.00**
	Subtotal (Items 1 - 3)				**$999,086.50**
4	**Engineering and Contingency**				
	20% Construction Contingency				$199,817.30
	25% Consultant Design Fees (i.e. topo surveys, civil engineering, geotechnical, hydrogeological, environmental, transportation, landscape, utilities, photometrics, etc.)				$249,771.63
	***Subtotal**				**$1,448,675.43**
	H.S.T - 13%				$188,327.81
	Total Construction Costs				**$1,637,003.23**