

Appendix E



Stantec Consulting Ltd.
100-140 Ouellette Place,
Windsor ON N8X 1L9

October 29, 2018
File: 165620102.211

Attention: Mr. Andrew Plancke
Director of Municipal Services

Town of Kingsville
2021 Division Road North
Kingsville, Ontario, N9Y 2Y9

Dear Andrew,

Reference: Cronos Growing Company Inc.
Proposed 13.8 Acre Greenhouse Development
575 Road 3 East - Water Availability

We have examined the "Application for Greenhouse Water Supply/Connection" submitted by Mr. George Dekker of Cronos Growing Company Inc. (CGC) with regards to water availability, flow control and onsite storage in support of a proposed greenhouse development and report below.

CGC's application seeks the Town of Kingsville's (Town) approval to use municipal water to service a proposed 13.8-acre cannabis greenhouse development at Municipal No. 575 Road 3 East located immediately west of Graham Sideroad as shown in attached Figure-1.

The proposed development represents Phase 1 of an overall 4-phase plan to expand to an ultimate 54 acres. Since both water delivery and water treatment capacity cannot be reserved for future expansions or developments; considerations of future phases (if contemplated) are not included in this assessment. Future phases (when contemplated) would require CGC to submit a new application at time of expansion with no assurances that additional water delivery and/or treatment capacity will be available.

Per Figure 1, the proposed first phase of the greenhouse development is to be situated on land designated as Municipal No. 575 Road 3 East with Roll No. 371-1350-000-03100 owned by 2623991 Ontario Ltd. operating as CGC.

Background

The proposed site is comprised of vacant, unserviced agricultural farm land bordered by the existing 150mm dia. municipal watermain along Road 3 East.

Evaluation

Per CGC's application and revisions/correspondence thereto, the proposed 13.8-acre greenhouse operation is to be used to grow cannabis having a projected maximum water consumption rate of up to 0.43 Imp. gallons per plant per day (Igpdpd) at a projected plant density of up to 14,000 plants per acre (ppa). This arrangement would result in a projected maximum day water demand of approximately 6,000 lgal per acre per day (Igpapd) and a projected total maximum day water demand of approximately 82,800 Imperial gallons per day (Igpdp).

To support the above projected total maximum daily water demand will require the municipal water distribution system to be capable of delivering water at a regulated uniform rate of 58 lgpdp over a 24-hour period to an on-site fresh-water storage reservoir system having a minimum working capacity of approximately 69,000 Imperial gallons (Igal).

In accordance with Town policies and bylaws controlling greenhouse operations, expansions and developments, the municipal water supply to the entire greenhouse development/operation shall be regulated



October 29, 2018
Mr. Andrew Plancke
Director of Municipal Services
Page 2 of 4

**Reference: Cronos Growing Company Inc.
Proposed 13.8 Acre Greenhouse Development
575 Road 3 East - Water Availability**

using an automatic water flow control system (WFCS) together with a properly sized onsite fresh water reservoir system.

Further, greenhouse operations are not to be spread out over multiple land parcels nor are land parcels to have multiple water service connections nor can the municipal water supply be redistributed across property lines by their respective land owners. The above policy does not apply to this initial development; however, it may apply to future expansions.

Note that this assessment purposely ignores the benefit of any supplemental water that is or could be provided by on-site wells and/or recycling initiatives due to reliability of supply issues. A mechanical breakdown, loss of water quality or quantity from onsite wells or bacteriological contamination from recycling leach water would require the municipal water system to be available as backup and capable of supplying the total projected water demand.

Water Availability

➤ Water Treatment Capacity

A total treatment capacity of 82,800 Igpd will be required from the Union Water Supply System (UWSS) as a condition of supporting the proposed 13.8-acre Phase 1 greenhouse development.

An application for sufficient water treatment plant capacity to support the proposed development has been submitted to the UWSS by the Town and is currently under consideration. Final review and approval is on hold pending the submission and approval of this Engineer's report.

➤ Water Delivery Capacity

Based on preliminary site plan drawings prepared by NJ Peralta Engineering Ltd. (Peralta) dated October 1, 2018, the proposed greenhouse development would draw water from the existing 600mm dia. Union trunk watermain running along Road 2 East using a new 300mm dia. fire-main routed along a proposed north-south easement from Road 2 East near Kratz Sideroad.

With the aid of the UWSS hydraulic computer model using existing and future residential population projections, the existing 600mm dia. Union trunk watermain has sufficient unreserved capacity to deliver the proposed 58 Igpm peak flow rate to support Phase 1 of the greenhouse development without having a significant impact on the remainder of the water distribution system.

Further, with the aid of the UWSS hydraulic computer model, it was observed that there would be a notable benefit to the water distribution system if the proposed 300mm dia. fire-main were looped with the existing 150mm dia. municipal watermain running along Road 3 East. It is our suggestion that this alternative routing be explored further with consideration towards developing a new municipal right-of-way from Road 2 East to Road 3 East under the site plan control process.

➤ Water Service Connection

Per CGC's application and preliminary site plans prepared by Peralta dated October 1, 2018, it is our opinion that the proposed 1,300-meter-long new 300mm dia. fire-main and 150mm dia. water service connection off the existing 600mm dia. Union trunk watermain along Road 2 East would be sufficient to deliver the projected regulated flow rate of 58 Igpm to the Phase 1 development without experiencing a significant loss in pressure at the new greenhouse structure and adequately service the development.

It is also our opinion that the above noted proposed new 300mm dia. fire-main would also be capable of servicing future expansions (all things being equal) without experiencing a significant loss in pressure at the existing greenhouse structures.



October 29, 2018
Mr. Andrew Plancke
Director of Municipal Services
Page 3 of 4

**Reference: Cronos Growing Company Inc.
Proposed 13.8 Acre Greenhouse Development
575 Road 3 East - Water Availability**

In all cases, it will be CGC's responsibility to ensure that the design of the proposed fire-main and water service connection piping is carried out in conjunction with the design of the new WFCS to ensure proper operation can be achieved during both present and future scenarios to prevent a shortage of water to the greenhouse.

Fire Protection

Specific requirements for fire protection have not been assessed in this report. Fire protection requirements are under the jurisdiction of the Kingsville Building Department and its Chief Building Official (CBO). Consideration of any fire protection schemes using a fire-main concept would require a significantly larger municipal water supply and water service connection than that required to supply only the domestic & irrigational demands of the greenhouse operation.

With the aid of the UWSS hydraulic computer model, it was observed that the existing 600mm dia. Union trunk watermain along Road 2 East where it would connect to the proposed 300mm dia. fire-main has sufficient capacity to convey fire flows in excess of 2,000 lpgm while maintaining the required min. 20 psi residual pressure benchmark in the remainder of the water distribution system during maximum day flow conditions.

Further, with the aid of the UWSS hydraulic computer model, it was also observed that the proposed 300mm dia. fire-main would also have sufficient capacity to convey fire flows in excess of the min. 2,000 lpgm everywhere along its north-south routing while maintaining the required min. 20 psi residual pressure benchmark in the remainder of the water distribution system during maximum day flow conditions. Obtaining this fire flow rate would require the use of multiple hydrants strategically located along the proposed fire-main.

Hence, the above water distribution system performance will need to be acknowledged when considering fire protection strategies and alternatives should fire protection be a requirement of the development and the CBO currently or in the future.

Recommendations

Based on the above considerations, it is our recommendation that;

“CGC be granted access to the municipal water distribution system on the existing 600mm dia. Union trunk watermain along Road 2 East to service the proposed 13.8-acre Phase 1 greenhouse development at 575 Road 3 East; and that granting of water treatment and water delivery capacity be contingent on all the following conditions”:

- 1. That CGC receive written approval from the UWSS for 82,800 lpgd of water treatment capacity, all to the satisfaction of the Town.*
- 2. That CGC receive written approval from the Town for 82,800 lpgd of water delivery capacity.*
- 3. That CGC execute an indemnity agreement with the Town with respect to “understanding of water availability” and “limits of liability” for the proposed 13.8-acre greenhouse development.*
- 4. That CGC provide and implement a WFCS that will regulate total water inflow into the proposed greenhouse development at one common location at a rate not exceeding 58 lpgm to limit total water delivery volume to the proposed total treatment capacity allocation of 82,800 lpgd over a 24-hour period; all to the satisfaction and technical requirements of the Town.*



October 29, 2018
Mr. Andrew Plancke
Director of Municipal Services
Page 4 of 4

**Reference: Cronos Growing Company Inc.
Proposed 13.8 Acre Greenhouse Development
575 Road 3 East - Water Availability**

5. *That CGC assess the requirements and size of their proposed new fire-main / water service connection supplying the proposed development at the time of its design in conjunction with the requirements of their new WFCS in coordination with each other to ensure proper operation as applicable; all to the satisfaction of the Town.*
6. *That CGC implements and maintains an onsite fresh-water storage reservoir system having a minimum total working capacity of 69,000 lgal or greater to service the proposed 13.8-acre Phase 1 development only and that additional working capacity will be required to service future expansions; all to the satisfaction and technical requirements of the Town.*
7. *That the Town and its Agents retain the right to enter onto private property to ensure that all the above conditions have been complied with.*
8. *Should CGC be granted access to the municipal water system to support the development irrespective of size, while abiding by all of the conditions imposed above; then CGC shall be:*
 - a. *Given a time limit of 6 months to obtain a building permit from the Town for the proposed development corresponding to the size approved herein from the date of municipal council and/or administration approval or the approval for treatment capacity from the UWSS and delivery capacity from the Town shall lapse;*
 - b. *Given a time limit of 12 months to use the availed treatment & delivery capacity from the date of issuance of a municipal building permit (subject to condition 1 above) or the approval for treatment capacity from the UWSS and delivery capacity from the Town shall lapse*
 - c. *Advised that approval is issued for the applicant & property designated in the application and shall not be transferable to another property or to another applicant without the express written consent of the Town and the UWSS.*

Please contact me directly should you have any questions or concerns or require additional information.

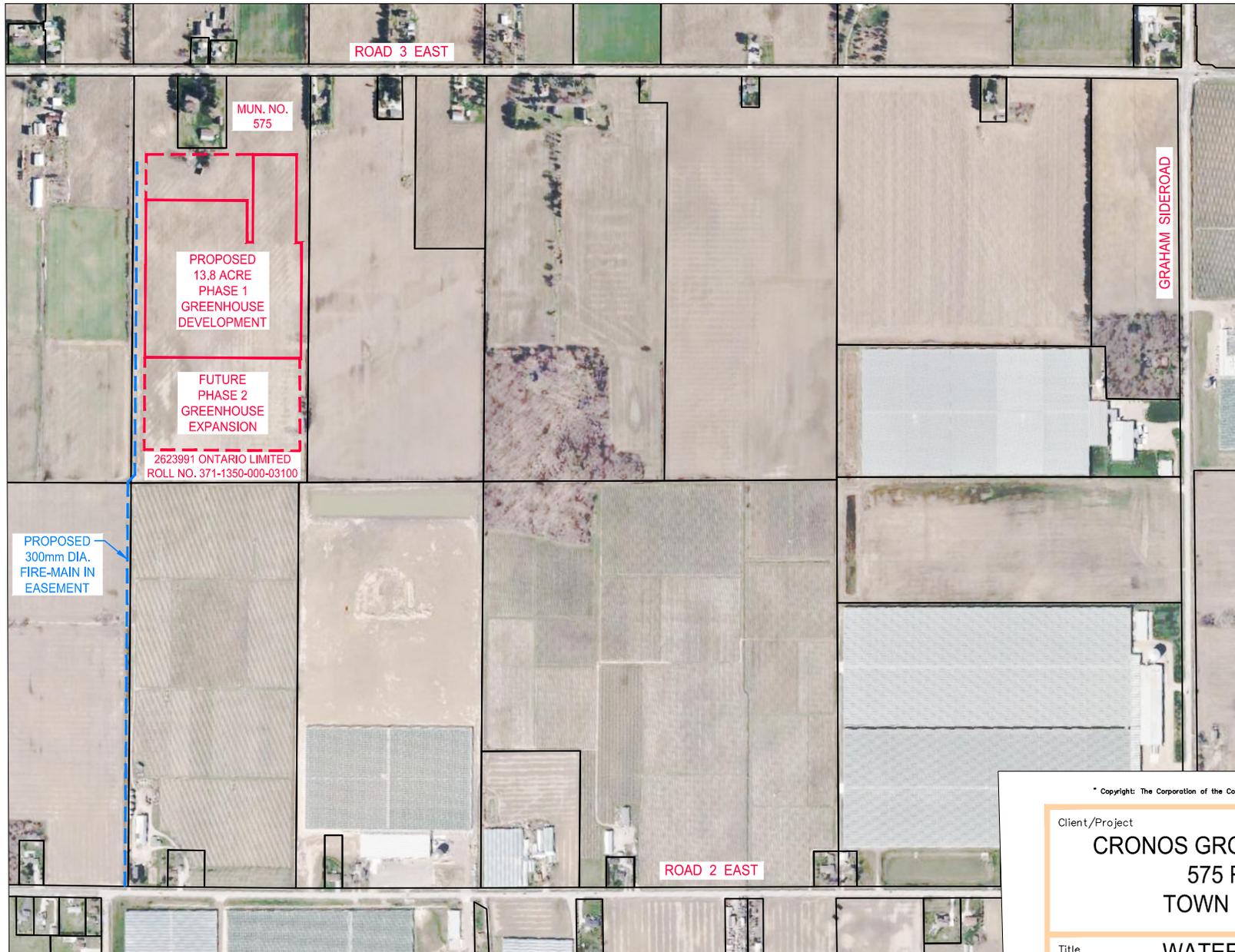
Sincerely yours,

Stantec Consulting Ltd.

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Attachment: Figure 1

- c. Peter Valore - Chief Building Official – Kingsville
Robert Brown – Manager of Planning & Development - Kingsville
Rodney Bouchard – General Manager - Union Water Supply System
Heide Mikkelsen, P.Eng. – Principal - NJ Peralta Engineering Ltd.
George Dekker – Project Manager – Boem Berry Farms Inc.
Katrina Brcic, MSc, BURPI – Town Planner - Kingsville



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Client/Project

CRONOS GROWING COMPANY INC.
575 ROAD 3 EAST
TOWN OF KINGSVILLE

Title

WATER AVAILABILITY
PROPOSED 13.8 ACRE PHASE 1
GREENHOUSE DEVELOPMENT

Scale

1:10,000

Project

165620102-211

FIGURE-1