

Appendix B



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

April 11, 2019
File: 165620102.212

Attention: Mr. Andrew Plancke
Director of Municipal Services

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

Dear Andrew,

Reference: JC Fresh Farms Ltd.
Proposed 63.8 Acre Greenhouse Development – Plant 2
1233 Road 4 East - Water Availability

We have examined the “Application for Greenhouse Water Supply/Connection” submitted by Mr. Gerry Pannunzio of JC Fresh Farms Ltd. (JCF) with regards to water availability, flow control and onsite storage in support of a proposed greenhouse development and report below.

JCF’s application seeks the Town of Kingsville’s (Town) approval to use municipal water to service a proposed 63.8-acre vegetable greenhouse development on vacant farm land at Municipal No. 1233 Road 4 East located immediately east of Graham Sideroad as shown in the attached Figure 1.

The proposed 63.8-acre development represents Phase’s 1+2+3 of an overall 3-phase plan to expand to an ultimate 63.8 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 JCF 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 3 phases of the greenhouse development are to be spread out over two separate land parcels designated as Municipal No. 1233 Road 4 East having PIN No. 751450248 owned by Jeremia Capussi of JCF; and Municipal No. 2400 Graham Sideroad having PIN No. 751450363 owned by JD Marketing. Since greenhouse operations are not to be spread out over separate land parcels, JCF will be required to merge and consolidate all land parcels under 1233 Road 4 East as a condition of the development. Based on preliminary site plans of the development prepared by Dillon Consulting Ltd. dated January 18, 2019, it would appear that the above subject land parcels are to be merged and consolidated.

Background

The proposed site is currently comprised of vacant agricultural farm land with a residential farm house fronting Road 4 East and which is to be removed to make way for the new greenhouse development. The farm house is currently serviced with a 19mm dia. residential water service connection (WSC) from the existing 100mm dia. municipal watermain running along Road 4 East. Prior to demolition, the WSC will need to be capped and abandoned at the watermain.

Overall, the proposed site is bordered by the existing 100mm dia. municipal watermain along Road 4 East to the north and 600mm dia. municipal trunk watermain along the Carol easement to the east.



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Evaluation

Based on JCF's application and revisions/correspondence thereto, the total proposed 63.8-acre greenhouse development is to be used to grow a variety of vegetables having an average projected maximum water consumption rate of up to 0.60 Imp. gallons per plant per day (Igpplpd) at a projected plant density of up to 10,000 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 382,800 Imperial gallons per day (Igpd).

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 266 lgp/m over a 24-hour period to an on-site fresh-water storage system having a minimum working capacity of approximately 382,800 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 using an automatic water flow control system (WFCS) together with a properly sized onsite fresh water storage 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.

In this case, JCF will be required to merge and consolidate all subject land parcels as well as disconnect and abandon the existing WSC to the existing farm house at 1233 Road 4 East (which is slated to be demolished) to avoid having more than one WSC per land parcel.

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

In January 2000, former land owners, Great Northern Hydroponics (GNH) and Performance Produce Ltd. operating as 1403433 Ontario Inc. each applied and purchased separate water delivery capacity allocations of 220,000 lgp/d and 180,000 lgp/d from the Town under the Northeast Area Trunk Watermain project to support a future 22-acre greenhouse development on lands designated as 1233 Road 4 East having short Roll No. 340-000-03200; and a future 18-acre greenhouse development on vacant lands adjacent to and east of Mun. No. 1233 having short Roll No. 340-000-03300 respectively. These two land parcels were subsequently sold to current land owner Jeremia Capussi of JCF in 2011 who has since merged and consolidated the two parcels into one parcel having PIN No. 751450248.

In accordance with the Transfer and Bill of Sale received from JCF and GNH as part of this review, the above total 400,000 lgp/d (220,000 +180,000) of water delivery allocations were included with the land sale to JCF and to remain with the above designated land parcels now merged and identified as PIN No. 751450248. This water delivery capacity is currently assigned to the existing 150mm dia. WSC stub off the existing 600mm dia. trunk watermain located within the Carol Easement fronting JCF's lands to the west.



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➤ Water Treatment Capacity

A total treatment capacity of 382,800 lpgd will be required from the Union Water Supply System (UWSS) as a condition of supporting the proposed 63.8-acre Phase 1+2+3 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 are on hold pending the submission and approval of this Engineer's report.

➤ Water Delivery Capacity

Based on preliminary site plans of the proposed development prepared by Dillon Consulting Ltd. dated January 18, 2019, the proposed greenhouse development would draw water from the existing 150mm dia. WSC stub off the existing 600mm dia. trunk watermain running along the Carol Easement.

With the aid of the UWSS hydraulic computer model using existing and future residential population projections, the existing 600mm dia. trunk watermain has sufficient unreserved capacity to deliver the proposed 266 lpgm peak flow rate in support of the 63.8-acre greenhouse development without having a significant impact on the remainder of the water distribution system.

➤ Water Service Connection

Per JCF's application and preliminary site plans prepared by Dillon Consulting Ltd. dated January 18, 2019, it is our opinion that the proposed 240-meter-long 150mm dia. WSC off the existing 600mm dia. trunk watermain along the Carol Easement will be sufficient to deliver the projected regulated flow rate of 266 lpgm to the proposed 63.8-acre development without experiencing a significant loss in pressure in the new greenhouse service building.

Further, should fire protection be required by JCF and/or by the Chief Building Official (CBO), then a larger 300mm dia. combination fire-main/wsc will be required in accordance with recommendations in the section below on "Fire Protection".

In all cases, it will be JCF's responsibility to ensure that the design of the proposed new WSC or combination fire-main/wsc 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 for this development 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 WSC 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 100mm dia. watermain along Road 4 East where it fronts the proposed greenhouse development does not have sufficient capacity to provide any level of fire protection due to its small size.

However, with the aid of the UWSS hydraulic computer model, it was also observed that the existing 600mm dia. trunk watermain along the Carol Easement where it fronts the proposed greenhouse development to the west has sufficient conveyance capacity to convey fire flows in excess of the min. 2,000 lpgm threshold while maintaining the required min. 20 psi residual pressure benchmark in the



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remainder of the water distribution system during maximum day flow conditions. Obtaining this fire flow rate will require the use of multiple hydrants strategically placed along the existing trunk watermain within the Carol Easement and limits of the JCF lands.

Further, to convey the min. 2,000 l/gpm fire-flow threshold onto private property within the proposed greenhouse facility will require that the proposed 150mm dia. WSC be augmented to a combination 300mm dia. fire-main/wsc with multiple hydrants placed at strategic locations.

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;

“JCF be granted access to the municipal water distribution system on the existing 600mm dia. municipal trunk watermain along the Carol Easement between Highway No. 3 and Road 4 East to service a proposed 63.8-acre Phase 1+2+3 greenhouse development at 1233 Road 4 East; and that granting of water treatment and water delivery capacity be contingent on all the following conditions”:

- 1. That JCF receive written approval from the UWSS for 382,800 l/gpd of water treatment capacity, all to the satisfaction of the Town.*
- 2. That JCF execute an indemnity agreement with the Town with respect to “understanding of water availability” and “limits of liability” for the proposed 63.8-acre greenhouse development.*
- 3. That JCF 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 266 l/gpm to limit total water delivery volume to the proposed total treatment capacity allocation of 382,800 l/gpd over a 24-hour period; all to the satisfaction and technical requirements of the Town.*
- 4. That JCF assess the requirements and size of their proposed new WSC and/or combination fire-main/wsc 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.*
- 5. That JCF implements and maintains an onsite fresh-water storage system having a minimum total working capacity of 382,800 lgal or greater to service the proposed 63.8-acre Phase 1+2+3 development only and that additional storage will be required to support any future expansions; all to the satisfaction and technical requirements of the Town.*
- 6. That JCF arrange to have the two subject land parcels having PIN No’s 751450248 (1233 Road 4 East) and 751450363 (2400 Graham Sideroad) merged and consolidated into one land parcel under 1233 Road 4 East, all to the satisfaction of the Town.*
- 7. That JCF disconnect and cap the existing water service connection supplying the existing farm house at 1233 Road 4 East at the existing 100mm dia. watermain along Road 4 East prior to demolition; all to the satisfaction of the Town.*
- 8. 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.*



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9. *Should JCF 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 JCF 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 this report and shall not be transferable to another property or to another applicant / land owner without the express written permission of the Town and the UWSS.*

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

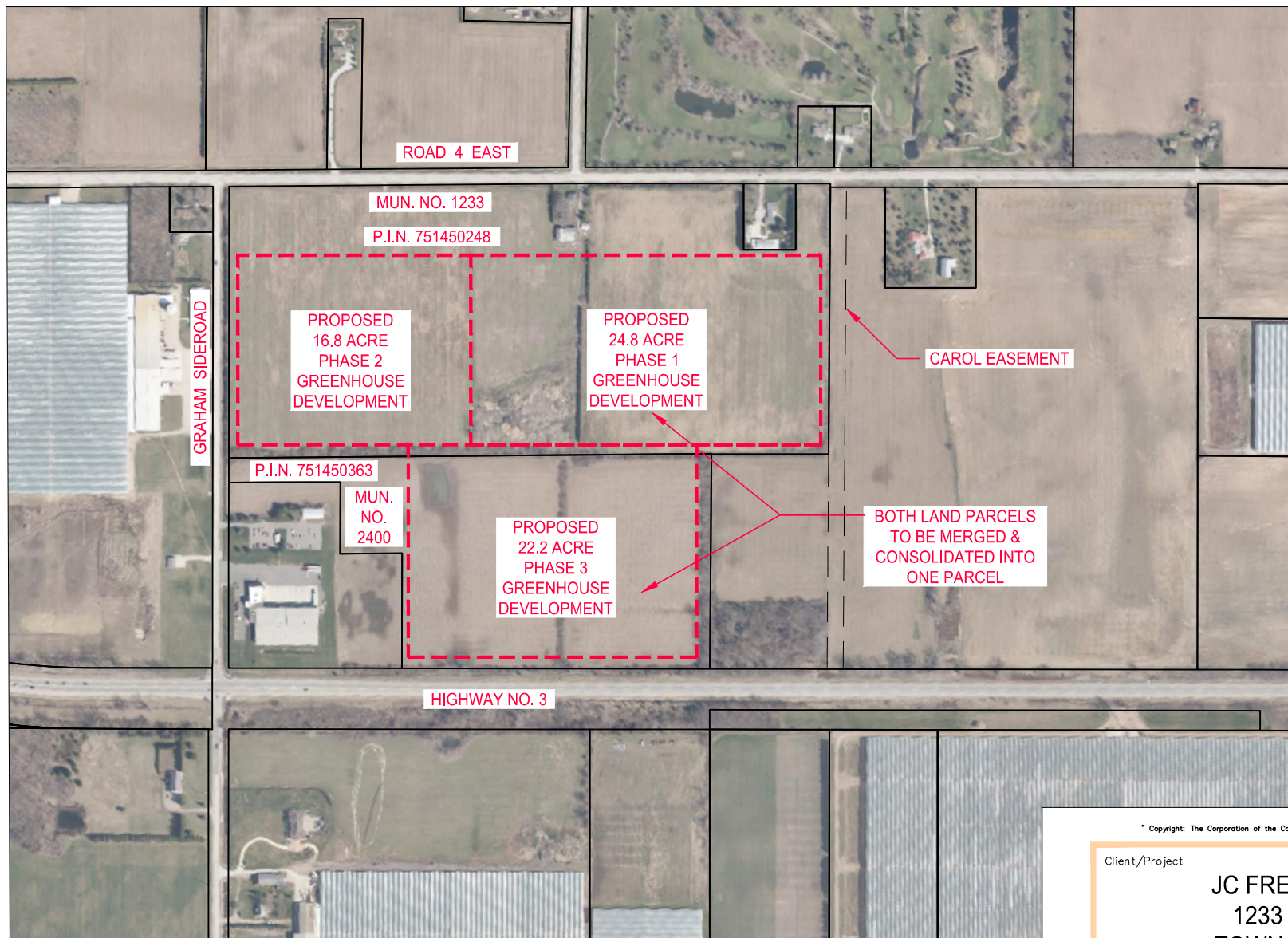
Sincerely yours,

Stantec Consulting Ltd.

Tony Berardi, P.Eng.
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Attachment: Figure 1

- c. Peter Valore - Chief Building Official – Kingsville
Robert Brown – Manager of Planning & Development - Kingsville
Katrina Brcic, MSc, BURPI – Town Planner - Kingsville
George Robinson –Interim Town Planner - Kingsville
Rodney Bouchard – General Manager - Union Water Supply System
Gerry Pannunzio – Manager - JC Fresh Farms Ltd.
Robert Molliconi, P.Eng. – Dillon Consulting Ltd.



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Client/Project	JC FRESH FARMS LTD. 1233 ROAD 4 EAST TOWN OF KINGSVILLE		
Title	WATER AVAILABILITY PROPOSED 63.8 ACRE PHASE 1+2+3 GREENHOUSE DEVELOPMENT		
Scale	1:7,500	Project	165620102-212
			FIGURE-1