

**BRESSA PHASE 4 LANDS
EIRFSS ADDENDUM #4**

TO

JOSHUA'S CREEK TRIBUTARIES EIRFSS

**TOWN OF OAKVILLE
REGION OF HALTON**

PROJECT NO. 07-336

**December 2020
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1.0 INTRODUCTION

1.1 Background and Study Purpose

The Joshua's Creek lands are located in the Town of Oakville, and form part of the North Oakville East Secondary plan. The Joshua's Creek lands are approximately 187 ha, and have been studied through the Final Joshua's Creek Tributaries Environmental Implementation Study and Functional Servicing Study (dated August 2019, Stoneybrook Consulting et al.).

The Final Joshua's Creek Tributaries EIRFSS (hereby referenced as *JCT EIRFSS*) was the basis for approval of two draft plans: Bressa Development Limited Phase 1 and 2 Lands, as well as Dunoak Development Inc. Phase 1 lands. Draft plan approval for these lands occurred in 2019. Please refer to **Figure 1.4A** for an illustration of the *JCT EIRFSS* study limits, the draft plan approved lands, active draft plan applications, and the Bressa Phase 4 Lands.

There are currently active draft plan applications on the Argo Diam Lands, and Redoak G. & A. Inc. and Capoak Inc. lands. There are currently four Addendums to the *JCT EIRFSS* in circulation with the agencies in support of said draft plans:

- Redoak/Capoak EIR/FSS Addendum #1 to the Final Joshua's Creek Tributaries EIRFSS
- Argo (Joshua Creek) EIRFSS Addendum #2 to the Final Joshua's Creek Tributaries EIRFSS
- Rampen Holdings INC. (Coscorp) EIRFSS Addendum #2 to the Final Joshua's Creek Tributaries EIRFSS (referred to in this report as Addendum #2B)
- Joshua's Creek Phase 3 EIRFSS Addendum #3 to the Final Joshua's Creek Tributaries EIRFSS

The Redoak/Capoak EIR/FSS Addendum #1 is for lands to the west of the Subject Lands identified in the JCT EIRFSS. Addendum #1 does not impact the Bressa Phase 4 Lands and therefore is not discussed further in this report. The Argo (Joshua Creek) EIR/FSS Addendum #2 is important to the draft plan approval of the Bressa Phase 4 Lands, and will be referred to regularly in this report. The Rampen Holdings INC. EIRFSS Addendum #2B is for lands located to the north west of the Subject Lands identified in the JCT EIRFSS. The Rampen Holdings INC. EIRFSS Addendum #2B does not impact the Bressa Phase 4 Lands and therefore is not discussed further in this report. Addendum #3 has been prepared for the remaining Dunoak Development Inc. Lands, as well as the Ontario 1564984 Ltd. (Dryland) and remaining Bressa Lands south of Core 11. Addendum #3 does not impact the Bressa Phase 4 lands, and is not discussed further in this report.

The purpose of this Bressa Phase 4 EIRFSS Addendum #4 to the Final Joshua's Creek EIRFSS is to support draft plan approval of the Bressa Phase 4 lands. The Bressa Phase 4 lands are located east of the Argo

(Joshua Creek) Lands and west of the draft plan approved Bressa Phase 1 and Phase 2 lands (hereby referenced as the Bressa Phase 4 Lands or BP4 Lands). Please refer to **Figure 1.4A** for the location of the Bressa Phase 4 Lands. This report demonstrates that the North Oakville Creeks Subwatershed Study EIRFSS Terms of Reference have been satisfied for the Bressa Phase 4 Lands. The EIRFSS terms of reference are included in *Appendix A-1* of the *JCT EIRFSS*.

1.1.1 Bressa Phase 4 Lands EIRFSS Addendum Overview

The *JCT EIRFSS* provides guidance on Addendum study requirements for lands within the *JCT EIRFSS* study area. An excerpt of the *JCT EIRFSS* is provided below.

“This EIR/FSS supports the draft plan applications submitted for the Bressa and Dunoak lands, and addresses EIR/FSS requirements for other lands in the FSS Study Area that do not currently have Draft Plans of Subdivision applications. Further study, including potential Addendums to this EIR/FSS, will be required to support draft plan approval of other lands within the Study Areas. Based on the extent of environmental and servicing work completed as part of this EIR/FSS specific to the Subject Lands, this further study may only be confirmation that information contained in this EIR/FSS remains current and is consistent with the Phase 4 draft plan application for the 1564984 Ontario Limited (1564984 Ontario Ltd) lands. Where this future draft plan may deviate from the development plans shown in this EIR/FSS, an update to the servicing plans may be required.”

The Bressa Phase 4 lands are within the FSS study area of the Final *JCT EIRFSS*. It should be noted that the draft plan application identified in the excerpt above “...applications submitted for Bressa and Dunoak lands...” did not include the Bressa Phase 4 Lands. There are two reasons the Bressa Phase 4 Lands were not included in the Bressa Phase 1 and Phase 2 draft plan approval; insufficient allocation, and the Bressa Phase 4 Lands contain a portion of Tributary JC-31 which is to be realigned under ultimate conditions when the Diam lands proceed. The proposed channel lowering and realignment of Tributary JC-31 in the *JCT EIRFSS* cannot be completed until the Diam lands proceed to construction, or grant permission for the works to be completed on their property. As such, the Bressa Phase 4 Lands were not included in the previous draft plan application with Bressa Phase 1 and Phase 2.

Subsequent to draft plan approval of Bressa Phase 1 and Bressa Phase 2, the Region of Halton has completed their latest Allocation Program. Bressa Phase 4 lands has executed an allocation agreement for development. The Argo Diam lands have also proceeded to make a draft plan submission with accompanying EIRFSS Addendum #2, and have executed an allocation agreement with the Region of Halton. The external factors that previously impeded the draft plan approval of the Bressa Phase 4 lands are no longer in place.

The focus of this Addendum #4 to the *JCT EIRFSS* is to highlight relevant updates to Tributary JC-31 design, and the associated Hydrologic Feature ‘B’ that have been updated in Addendum #2. Furthermore, to demonstrate that the Bressa Phase 4 draft plan is consistent with the material in the *JCT EIRFSS* and Addendum #2 such that these lands can proceed with draft plan approval.

To provide additional context, since the draft plan approval of Bressa Phase 1 and Phase 2 the neighbouring Diam lands were recently purchased by a participating landowner. The new participating landowner Argo (Joshua Creek) engaged in discussions with Bressa Development Limited to revise the development concept plan used in the *JCT EIRFSS* in the area of Tributary JC-31 and the Bressa Phase 4 Lands. The development concept plan was revised from what is shown in the *JCT EIRFSS* to reflect an

alternate alignment for Tributary JC-31. The revised development concept and Tributary JC-31 alignment is reflected in the Argo (Joshua Creek) EIRFSS Addendum #2. The draft plan for the Argo Diam lands presented in the *Argo EIRFSS Addendum* is consistent with the draft plan for the Bressa Phase 4 Lands presented in this report.

The Bressa Phase 4 Lands EIRFSS Addendum (hereby referenced as Addendum #4 and *BP4 EIRFSS*) does not reproduce the revised Tributary JC-31 design from the Argo EIRFSS Addendum. It is understood that the revised Tributary JC-31 design must be approved through the *Argo EIRFSS Addendum* in order to support the Bressa Phase 4 Phase draft plan approval. The *JCT EIRFSS* and *Argo EIRFSS Addendum* should be read in conjunction with this report. For additional discussion on this, please refer to **Section 5**.

1.1.2 Report Sections updated as part of *BP4 EIRFSS Addendum*

A substantial portion of information in the *JCT EIRFSS* remains unchanged for the Bressa Phase 4 Lands with the exception of the new Tributary JC-31 alignment and the resulting road network changes outlined in the *Argo EIRFSS Addendum*. That is to say, the information contained in Sections 1 through Section 4 of the *JCT EIRFSS* remain valid for the Bressa Phase 4 Lands. Section 5 addresses the changes to the Tributary JC-31 alignment which Bressa Phase 4 forms part of the future channel corridor. Section 6 is related related to the draft plan specifics of the Bressa Phase 4 Lands, which have been identified in this addendum. The stormwater management strategy, groundwater balance, water and wastewater servicing strategy for the lands are generally unchanged from the *JCT EIRFSS* in Section 7 through 9. There are no changes to Section 10, 11 and 12 of the *JCT EIRFSS*. Additional text in Section 13 identifies the recommendations for detailed design that are specific to Bressa Phase 4. Section headings have been reproduced in this report with a brief explanation of why the text remains relevant in the *JCT EIRFSS* for Bressa Phase 4, and highlight any relevant information from the *JCT EIRFSS* or Addendum #2 related to the Bressa Phase 4 lands draft plan approval.

1.1.3 Figures and Drawings updated as part of *BP4 EIRFSS Addendum*

There are updates to the figures and drawings from the *JCT EIRFSS*, however, these are primarily to reflect the concept plan and not a change in development strategy. For a specific discussion on the figures that have been updated from the *JCT EIRFSS*, or updated as part of the *Argo EIRFSS Addendum* please refer to **Table A**.

Table A: Figure & Drawing Revisions in *BP4 EIRFSS Addendum*

Figure / Drawing #	Figure Name	Status
Figure 1.1	Location of Subject Lands	No revision.
Figure 1.2	Subcatchment Areas Within Subject Lands	No revision.
NOCSS Fig 7.4.2	EIR Subcatchment Plan	No revision.
Figure 1.3	EIR Subcatchment Areas and FSS Study Area	No revision.
Figure 1.4	Land Ownership	Superseded by Addendum #2 Figure 1.4
Figure 1.4A	Land Ownership and Approval Status	New figure outlining the current status of draft plan approvals, EIRFSS Addendum Documents, and the properties referred to in this BP4 EIRFSS

Figure / Drawing #	Figure Name	Status
Figure 2.1	NHS Framework	No revision.
NOE3	Natural Heritage Component of Natural Heritage and Open Space System	No revision.
Figure 4.1	Drilling and Monitoring Locations	No revisions.
Figure 4.2	Topography and Subcatchment Boundaries	No revisions.
Figure 4.3	Surficial Geology	No revisions.
Figure 4.4	Bedrock Geology	No revisions.
Figure 4.5	Cross Section Location Key	No revisions.
Figure 4.6 to Figure 4.10	Schematic Cross-Section A-A to E-E	No revisions.
Figure 4.11	Interpreted Groundwater Flow	
Figure 5.1	Joshua's Creek Vegetation Conditions	No revisions.
Figure 5.1.1	Subcatchment Boundaries	No revisions.
Figure 5.2	Comparison of Drainage Boundaries	No revisions.
Figure 5.6 A to Figure 5.6 D	Preliminary Natural Channel Design Tributary JC-31	These figures have been superseded in Addendum #2 by DET-1 and DET 2, as well as GEO-1 to GEO-3
Figure 5.7	JC-31 NHS Corridor, Existing, and Phase 4 Limits, Areas by Ownership	This figure was initially intended to demonstrate that the JC-31 tributary proposed alignment was fairly shared between the Diam Property and Bressa Lands. Since the JCT EIRFSS was approved Diam lands have been purchased by a participating landowner Addendum #2 and the alignment of JC-31 has been coordinated. As such, this figure is no longer needed.
Figure 5.8A	JC-36 Upstream Conditions	No revisions.
Figure 5.8B	Historical Conditions of Upstream Portions of Reach JC-36	No revisions.
Figure 5.8C	Floodplain Refinement Upper End of JC-36	No revisions.
Figure 6.1	Master Plan	No revisions.
Figure 6.2	Composite Development Plan	Updated as Figure 6,2 in Addendum #2 to reflect new road layout on the Bressa Phase 4 Lands and Argo Diam Lands
Figure 6.3	Trails Master Plan	No revisions.
Figure 6.4	Sidewalk/Trail Location Plan	Updated as Figure 6.4 as part of Addendum #2 to reflect new road layout on the Bressa Phase 4 Lands and Argo Diam Lands
Figure 7.1	Conceptual Storm Servicing	Refer to Addendum #2, Drawing 7.2 for updated conceptual storm servicing
Figure 7.2	Post Development Drainage Areas	Refer to Addendum #2, Drawing 7.1 for updated conceptual storm drainage areas
Figure 7.2A	Interim Post Development Drainage Areas	The interim drainage conditions are only relevant to Pond 52 catchment, which is not in close proximity to Bressa Phase 4. Figure not updated.
Figure 7.3A to 7.3F	Conceptual Design of Pond 48, 50, 52, 54, 55, 56	No revisions for Ponds 48, 50, 53, 55 and 56, however, Pond 54 update is provided in the Argo EIRFSS Addendum #2, as Drawing 7.3D.
Figure 7.4	Sump Pump Detail	No revisions.
Figure 7.5A	JC-36 Upstream Conditions	No revisions.
Figure 7.5B	Historical Conditions of Reach 36	No revisions.
Figure 7.6	Conceptual Locations of LID Measures	Not updated to reflect new road layout on the Bressa Phase 4 Lands as the LID strategy does not change. The

Figure / Drawing #	Figure Name	Status
		revised road layout is provided in Figure 7.6 of Addendum #2, however, the hatching for the treatment is not applied to the Bressa Phase 4 lands. The LIDs suggested for the lots and boulevards are outlined in Section 7.4 of this report.
Figure 7.7	Post Development Drainage to Wetland	No revisions.
Figure 9.1	External Wastewater Projects	No revisions.
Figure 9.2	Conceptual Wastewater Servicing	Updated wastewater servicing as part of Addendum #2 is provided on Drawing 9.2B for the Argo Diam lands. Revised drawings shows coordinated servicing with Bressa Phase 4.
Figure 9.3	Existing Watermains	No revisions.
Figure 9.4	Conceptual Watermain Servicing	Updated water servicing as part of Addendum #2 is provided on Drawing 9.4A for the Argo Diam lands. Revised drawings shows coordinated servicing with Bressa Phase 4.
Figure 9.5	Bressa and Dunoak Areas for Holding Provisions	With the advancement of the Argo Diam lands as participant owners with an active draft plan applications this figure is obsolete. The servicing reliance of Mattamy lands on the Diam lands will no longer exist with Argo draft plan approval
Figure 10.1	Channel Crossing of JC-6	No revisions.
Figure 10.2	Channel Crossing of JC 27A	Updated as part of the Argo EIRFSS Addendum #2. Refer to Drawing 5.5C of that report.
Figure 10.3 to Figure 10.5	Standard Right of Way Cross Sections	No revisions.
Figure 10.6A	22m Local Road with Box Sewer (Option A)	No revisions.
Figure 10.6B	22m Local Road with Box Sewer (Option B)	No revisions.
Figure 13.1	Completion Status of NHS Boundaries	The corridor of JC-31 is to be revised through approval of the Argo EIRFSS Addendum #2. Being that that document is not approved at this time the line work on this figure remains the same, but is planned to be revised.
Drawing 1 to Drawing 4	Joshua's Creek Comparison of Drainage Areas	No revisions.
Drawing 5	JC-31 Channel Plan and Profile	JC-31 plan and profile design has been revised through Addendum #2, please see Drawing 5.5A, DET-1, DET-2, GEO1 to GEO3.
Drawing 6	Wetland Drainage Boundaries	No revisions.
Drawing 7A to 7C	Preliminary Grading Plans	No revisions.
Drawing 7D to 7I	Preliminary Grading Plans	Grading information updated as part of Argo EIRFSS Addendum #2. Refer to Drawings 7L.
Drawing 8A	Cross Sections	No revisions.
Drawing 8B	Cross Sections	No revisions.
Drawing 9	Drainage Area to SWM Facilities – Pre. Vs. Post.	No revisions. Post-development drainage areas to each pond and outlet are generally the same as JCT EIRFSS.
Drawing 10	Regional Floodplain, JC27A/JC36, Pre and Post	Updated as part of Argo EIRFSS Addendum #2. Refer to Drawings 5.5A.
NHS-1 to NHS-8	Natural Heritage System	Drawing NHS-2, NHS-3, NHS-7 and NHS-8 from the JCT EIRFSS are to be reviewed in conjunction with Drawing

Figure / Drawing #	Figure Name	Status
		3.3.2A and Drawing 3.3.2B from Addendum #2, which supersedes the delineation of NHS on the Argo Lands. All other NHS drawings from the JCT EIRFSS remain unchanged. It should be noted that the NHS delineation carried out in Addendum #2 do not impact the Bressa Phase 4 Lands

The updated figures that have been revised as part of this *BP4 EIRFSS Addendum* are included at the end of the text section of this report.

The relevant Drawings from Addendum #2 are outlined below, and referenced in this report:

- **Figure 1.4** Land Ownership Plan
- **Drawing 5.5A** Tributary JC-31 Design and Cross Sections
- **Drawing GEO-1 to GEO-3** Conceptual Channel Design
- **Drawing DET-1 to DET-2** Conceptual Channel Details
- **Figure 6.2** Composite Development Plan
- **Drawing 6.4A** Sidewalk and Trail Plan
- **Drawing 7.1** Post-Development Drainage Plan
- **Drawing 7.2** Argo Storm Servicing Plan
- **Drawing 7L** Preliminary Grading Plan
- **Drawing 9.2B** Preliminary Wastewater Servicing
- **Drawing 9.4B** Preliminary Watermain Sizing

1.1.4 Additional Study Requirements to be considered for *BP4 EIRFSS Addendum*

Section 13.1 of the *JCT EIRFSS* outlines specific technical requirements for future Addendums that were identified through preparation and review by the agencies of the *JCT EIRFSS*. The requirements of Section 13.1 have been reviewed, and there are no specific technical or study requirements identified for Phase 4 lands applicable to this addendum. Below is a table outlining why the requirements of Section 13.1 do not apply to the *BP4 EIRFSS*.

Table B: Phase 4 EIRFSS Addendum Study Requirements from JCT EIRFSS Section 13.1

Section 13.1 Item	Description*	Applicability to BP4 EIRFSS
13.1.1 (a)	Staking of features and delineation of the NHS boundaries on non-participating lands... (i) Argo lands western portion of Core 11, north and south sides of eastern reach of JC-36, and north and south sides of JC-27A (ii) to (vii) are for Memorial gardens, Joshua’s Creek Driving Range and Tennis Lands, Coscorp lands at Core 10 and at Reach JC7/8, Redoak Lands Core 10, Capoak	No additional NHS boundary staking required on the subject property. (i) The NHS limits to be delineated on the Argo lands as part of the Argo EIRFSS Addendum #2 do not impact the development limits of the draft plan on the Bressa Phase 4 Lands. (ii) to (vii) Are not adjacent to the proposed development, and do not impact the draft plan.

	Lands, Core 10, and Capobianco and Sons Ltd. east side of Reach JC-7/8.	
13.1.1 (b)	To complete the determination of the NHS limits in the vicinity (i.e., the remainder of Cores 10 and 11 and additional tributaries of Joshua's Creek south of Burnhamthorpe Road), additional staking exercises are required outside the EIR Subcatchment Areas (see Figure 13.1). Specifically, Core and corridor determination would be required on the Capobianco lands, on the Joshua Creek Driving Range and Tennis lands, and on the Memorial Gardens and Ontario Hydro lands.	The additional NHS staking is outside the EIRFSS subcatchment of the JCT EIRFSS, and do not impact the draft plan area for the Bressa Phase 4 Lands.
13.1.1 (c)	When the EIR/FSSs (Addendums) are prepared for any of these non-participating surrounding lands, SAR surveys will be required.	Species at risk surveys have been completed for the Argo lands to the west of the BP4 EIR/FSS Addendum Limits. There are no SAR or potential SAR identified in the vicinity of the BP4. Furthermore, the BP4 are covered by SAR surveys completed as part of the JCT EIRFSS and remain current.
13.1.1 (d)	When the lands around the upstream portion of Reach JC-7 proceed to development, access permission from the then-owners...	Not applicable to the BP4.
13.1.1 (e)	There are a number of wetlands located within the limits of the non-participating lands outside the current FSS Study Area. The scope of the studies required to assess the grading, drainage and water balance to these wetlands should be determined in consultation with CH. These include: (i) Argo Lands, non-PSW in the southwestern corner of Core 11... (ii) to (iv) Are located on the Coscorp Lands, Redoak Lands, and Capoak Lands	The BP4 lands are within the FSS Study area of the JCT EIRFSS and there are no wetlands on the property. (i) The non-PSW wetland on Argo located within Core 11 is not adjacent to the BP4, and have no impact the BP4 draft plan limits (ii) All of these external lands are nor adjacent to the draft plan limits and do not impact the BP4 draft plan
13.1.1 (f)	For a number of reaches, additional fisheries and aquatic information may be required as per the NOCSS EIR/FSS Terms of Reference and in consultation with CH, including: (i) Capobiano & Sons and Coscorp lands: Reaches JC-7 and JC-8; and, (ii) Argo lands: Reach JC-27A.	The BP4 Draft plan western limits is adjacent to Tributary JC-31. All fisheries related information for JC-31 is contained in the JCT EIRFSS and supplemented with additional field investigation through Addendum #2. (i) Not adjacent and not applicable to BP4 Draft Plan (ii) Tributary JC-27A is located on the Argo lands to the west, however is not immediately adjacent to the BP4 Draft Plan. Fisheries information for JC-27A and JC-31 contained in the Argo EIRFSS Addendum #2, and has no impact the BP4 draft plan
13.1.1 (g)	For the Redoak lands, the ultimate pond configuration, considering the Redoak lands, the Capoak lands, and the Dunoak lands, must be finalized.	Not adjacent and not applicable to BP4 Draft Plan
13.1.1 (h)	With respect to the proposed drainage area to Pond 52 as it relates to the adjacent 3.7ha from East Morrison Creek at Eighth Line and Dundas Street...	Not adjacent and not applicable to BP4 Draft Plan

13.1.1 (i)	There is a 1.2ha area of NHS located within the Capoak property where it is unclear whether drainage from this area ...	Not adjacent and not applicable to BP4 Draft Plan
13.1.1 (j)	For the Memorial Gardens lands, there is a small area east of Reach JC-13 (Subcatchment JC6) that drains southwesterly to Reach JC-13. Currently, it appears that there is an existing swale on the west side of the property...	Not adjacent and not applicable to BP4 Draft Plan
13.1.1 (k)	Confirm SWM proposed for the 1.2ha drainage area southwest of Capoak (i.e., onsite controls or drainage to Pond 52) and potential implications to JC-36...	Not adjacent and not applicable to BP4 Draft Plan
13.1.1 (l)	No pond stability analysis has been completed to date for Pond 54 since it is located on non-participants lands and access was not available to assess geotechnical conditions. When the Argo lands proceed to develop, this analysis should be completed for Pond 54. The need for subdrains or a perimeter drainage system to direct groundwater around the pond should be investigated at detailed design.	The Pond 54 design has been revised through the Argo EIRFSS Addendum #2. Please refer to that EIR/FSS for information related to berm stability and subdrains. The design of Pond 54 does not receive drainage from the BP4 draft plan, and does not impact the draft plan serviceability.
13.1.1 (m)	Consideration should be given to implementing the following pond design measure or measures for Pond 54 on the basis that such measures will not impact the pond block sizing: - 3m deep pools at the pond outlet; and/or, - Pocket wetlands at the outfall to shade the pond effluent before discharge to Joshua's Creek.	See response to 13.1.1 (l), above.
13.1.1 (n)	When the Argo lands proceed, the approach to the provision of Regional Storm controls on their Dundas Urban Core lands should be addressed. Section 7.7 of this (<i>JCT EIRFSS</i>) report outlines possible options.	The DUC lands on the Argo property are located south and west of Tributary JC-27A. The future stormwater management strategy of those lands do not impact BP4, as BP4 drains east to the main branch of Joshua's Creek via Pond 55.
13.1.1 (o)	When the Argo lands proceed, in consultation with Mattamy, the design of the realigned Reach JC-31 and the reconfiguration of the upstream wetland (also a HYDFB) will be finalized. The final limits of the NHS for this corridor will be established. Details of a monitoring plan for this natural channel design Reach JC-31 and its upstream wetland, including duration and frequency, will be addressed at the detailed design stage in consultation with Conservation Halton and the Town of Oakville.	Please refer to Section 5 of the <i>Argo EIRFSS Addendum #2</i> for a discussion on the proposed and coordinated realigned JC-31 design. Please refer to Section 12 of the <i>Argo EIRFSS Addendum #2</i> for a discussion on the proposed monitoring of JC-31 design. The BP4 draft plan limits are consistent with the JC-31 channel limits and base plan used in the <i>Argo EIRFSS Addendum #2</i> . The channel design and monitoring information is not replicated in this report.
13.1.1 (p)	The need for, and extent and form of quantity control from the neighbourhood park at the north end of JC-31 will have to be assessed in the Argo EIR/FSS Addendum.	The neighbourhood park is located partially on Dunoak Phase 2 and the Argo lands. Runoff from the park feeds the upper end of JC-31, which flows through the BP4 draft plan. The <i>JCT EIRFSS</i> provided potential solutions to deal with quantity controls of the park, but ultimately deferred to the <i>Argo EIRFSS Addendum #2</i> . The <i>Argo EIRFSS Addendum #2</i> defers the decision or quantity control to detailed design. The uncontrolled flows, if permitted, to JC-31 are to be fully contained within the channel corridor, and not impact the draft plan for BP4 or Argo. If that cannot be done, controls for the park will be required. This can be investigated at detailed

		design for Argo lands and does not impact the draft plan approval of the BP4 lands.
13.1.1 (q)	The EIR/FSS Addendum should reference the need for capture and release of aquatic species from the Reach JC-31 headwater wetland to suitable habitats in the vicinity. It should be stated that this would occur in advance of the redesign of Reach JC-31, and that suitable locations be identified in consultation with CH. Applicable permits from MNRF will be required to be obtained.	This recommendation is noted in the Argo EIRFSS Addendum #2 in Section 13.0 item (d).
13.1.1 (r)	When the Argo lands proceed, data and assessments in addition to the fisheries and aquatic requirements (bullet f) above) will be necessary in support of the road crossing of JC-27A, and: i. The crossing alignment and design will have to be confirmed. ii. The sizing of JC-27A road crossing should be reviewed to address the NHS boundary/crossing conditions and confirm the crossing size and span width... iii. Conformity with NOCSS management strategy and recommendations for this reach will have to be confirmed	The Argo EIRFSS Addendum #2 addresses the JC-27A crossing design as it relates to fisheries and aquatic species for item (i) to (iii). The design of the JC-27A crossing does not impact the BP4 draft plan.
13.1.1 (s)	When the Argo lands proceed, associated with the redesign of Reach JC-31 and the crossing of Reach JC-27A, DFO should be contacted to determine their level of interest related to these activities and the need for any approvals from them.	See response to 13.1.1 (r), above.
13.1.1 (t)	Watermain crossings are required under Reach JC-27A, which will have to be reviewed through the Argo EIR/FSS Addendum, and to be finalized at the detailed design stage for those lands.	The watermain crossings of JC-27A do not impact the BP4 Draft plan.
13.1.1 (u)	When the Argo lands proceed, the required quantity/quality controls (if required) for the park block should be determined in consultation with the Town of Oakville Park's staff and Engineering staff.	See response to 3.1.1 (p). The park quantity controls (if applicable) will not impact the channel corridor width. If the uncontrolled Regional or 100-year flows extend into the current proposed 7.5 m buffer shown on Drawing 5.5A (Argo EIRFSS Addendum #2), than controls will be required for the park to manage the flood elevations as to not impact development limits.
13.1.1 (v)	Determination of trail locations and designs will be required, in consultation with the Town and CH, as follows: i. For Argo, along portions of the western and southern sides of Core 11; ...(ii.) to (v) For Redoak, Capoak, Coscorp and Capobianco & Sons...	There are not portions of trails within the BP4 draft plan limits. The portion of trails on the Argo lands adjacent to Core 11 are not adjacent to the BP4 draft Plan limits, and have no impact the development concept plan. (ii) to (v) are not adjacent to the BP4 lands and do not impact the draft plan
13.1.1 (w)	The need for restoration/plantings and monitoring requirements associated with trails as outlined in Sections 6.3 and 12.3.4 must be incorporated into the EIR/FSS Addenda.	See responses to 13.1.1 (v) – there are no trails within the BP4 Draft Plan.

13.1.1 (x)	The habitat and SAR protection and mitigation requirements, as outlined in Section 5.1.2, for all trails and any other construction activities within the NHS, must be incorporated into the EIR/FSS.	Noted. There are no new SAR protection and mitigation measures required for the <i>BP4 EIRFSS Addendum</i> that are not already covered in the <i>JCT EIRFSS</i> and <i>Argo EIRFSS Addendum #2</i> .
13.1.1 (y)	An assessment should be completed to finalize the outlet location of the Core 10 to JC-36 clean water pipe to determine if the clean water pipe is required to extend through the Argo lands to address flooding concerns.	The Core 10 clean water pipe to JC-36 does not impact the BP4 Draft Plan.
The following summary presents additional work identified in Section 13.2.2 of the JCT EIRFSS that will be required on the other Mattamy lands prior to Draft Plan Approval. It should be noted that not all of these are applicable to the Bressa Phase 4 Lands, as Mattamy also owns other lands within the FSS Study Limit of the JCT EIRFSS that are not yet draft plan approved.		
Section 13.1 Item	Description*	Applicability to BP4 EIRFSS
13.1.2 (a)	Further discussions may be required with Coscorp (former Rampen lands), the owners of the lands to the west of the northwest portion of the Subject Lands to ensure that the location of 100m...	The Coscorp lands are not adjacent to the BP4 lands and do not impact the draft plan.
13.1.2 (b)	Additional fisheries and aquatic information may be required for Reaches JC-6 and JC-7 as per the NOCSS EIR-FSS Terms of Reference, and in consultation with CH.	Reaches JC-6 and JC-7 are not adjacent to the BP4 lands and the fisheries information will not impact the draft plan.
13.1.2 (c)	The water balance requirements for PSW 45 will need to be determined.	PSW 45 is not adjacent to the BP4 lands and the water balance requirements will not impact the BP4 draft plan.
13.1.2 (d)	The design of SWM Ponds 48 and 50 will need to be confirmed. The current EIR/FSS has confirmed their general locations....	The design of Pond 48 and Pond 50 will not impact the draft plan.
13.1.2 (e)	Consideration should be given to implementing the following pond design measure or measures for Ponds 48 and 50 on the basis that such measures will not impact the pond block sizing...	See response to 13.1.2 (e)
13.1.2 (f)	Data acquisition and assessments in addition to the fisheries and aquatic requirements (bullet b) above) will be necessary in support of the road crossing of JC-6, related to....	The crossing of JC-6 will not impact the BP4 draft plan.
13.1.2 (g)	Associated with the crossing of Reach JC-6, DFO should be contacted to determine their level of interest related to these activities and the need for any approvals from them.	See response to 13.1.2 (f), above.
13.1.2 (h)	Further SAR investigations related to bats will be required, including associated with the road alignment across Reach JC-6 and trail locations. Additional SAR investigations, and mitigation as necessary, and tree assessment related to trail locations will be required.	SAR investigations for the BP4 lands remain current. No additional SAR required for the BP4 draft plan.
13.1.2 (i)	Finalization of the trail locations and associated grading and drainage designs will be required, along the NHS limit along Reaches JC-6, JC-7, and JC-13, as well as across Reach JC-6, following the recommendations in Section 6.3 and Appendix N-1, and in consultation with the Town and CH.	There are no trails within the BP4 draft plan limits.
13.1.2 (j)	There are several areas where grading has the potential to alter the regulation limit and/or affect Phase 4 draft plans lotting/limits. Grading should be reviewed and revised in the following areas... ..Grading related to trails...Grading Related to Pond and Valleys...Grading Related to NHS Crossing...	There are no trails, ponds, or NHS crossings located within the draft plan limits. The grading identified in this item is not applicable to the BP4 draft plan limits.

13.1.2 (k)	The need for restoration/plantings and monitoring requirements associated with trails as outlined in Sections 6.3 and 12.3.4 must be incorporated into the EIR/FSS.	See response to 13.1.2 (i).
13.1.2 (l)	The habitat and SAR protection and mitigation requirements as outlined in Section 5.1.2 and Appendix N-2, for all trails and any other construction activities within the NHS will need to be determined.	See response to 13.1.2 (i). Additionally, there is no existing NHS within the BP4 draft plan limits. The realignment of JC-31 will require the entire area be cleared, re-graded, and stabilized and planted. The realigned JC-31 will form part of the NHS system once completed. Please refer to <i>Argo EIR/FSS Addendum #2 Section 5.2</i> related to habitat and SAR protection surrounding JC-31 channel corridor.
13.1.2 (m)	Watermain and wastewater crossings are required under Joshua's Creek Reaches JC-6. In order to minimize the impact on the creeks, the services crossings will be located in the proposed road allowances with details provided at the detailed design stage.	The JC-6 crossing does not impact the BP4 Draft Plan.
13.1.2 (n)	Review of location, ownership, maintenance access, drainage, and setbacks associated with proposed retaining walls shown on Drawings 7A and 7B. The risk due to failure of the proposed retaining wall adjacent to the Condominium block should be assessed.	The retaining walls illustrated on Drawing 7A and 7B are not located near the BP4 Draft Plan.
13.1.2 (o)	As part of the EIR/FSS Addenda for Mattamy lands, revisit 100yr and Regional Storm peak flow rates on River 1 Reaches 1 & 2 (Main Joshua's Creek) from Section 11.024 to upstream of Burnhamthorpe Road and compare to NOCSS unit area flow rates times drainage area. If required, update hydraulic modeling with consistent and appropriate flow data to ensure that the extent of the existing and proposed condition floodplain (including impacts from the proposed JC-6 crossing) and the associated regulated setback will be maintained within the proposed NHS.	Noted. The hydraulic model updates referenced on this report will not impact the BP4 Draft Plan, and can be carried out in a Phase 4 Addendum for Ontario 1564984 Ltd.
13.1.2 (p)	The location of the Core 10 to JC-36 clean water pipe will be finalized through discussions with Argo, as part of Dunoak Phase 2 detailed design.	The alignment and location of the Core 10 to JC-36 clean water pipe does not impact the BP4 Draft Plan.

* Some of the Descriptions from the JCT EIR/FSS have been shortened if they are clearly not applicable. For full version of description refer to Section 13.1.1 and 13.1.2 of the JCT EIR/FSS.

Section 13.2 of the *JCT EIR/FSS* identifies requirements for detailed design requirements for lands within the FSS Study Limits. The BP4 lands are located within the FSS Study Area of the *JCT EIR/FSS*, and items (b), (f), (g), (i), (p), and (q) to (u) of **Section 13.2** are applicable to detailed design of the BP4. Below is an excerpt of the relevant items from the *JCT EIR/FSS* to be considered for detailed design applicable to the BP4.

- b) *Further design of the reconfiguration of Reach JC-31 and its upstream wetland, will occur at the detailed design stage by the adjacent landowner, in consultation with Mattamy. It will integrate the final geometry for all channel components, wetland feature dimensions, including requirements for fish and herptiles, plan form layout, profile elevations, and feature edge elevations, and include restoration and monitoring plans.*

- f) *The form and type of LID techniques, including disconnected roof leaders, and grassed swales in sideyard and rear yard areas, bioswales in parking lots, and rooftop and parking lot storage, as appropriate depending upon various building forms, is to be finalized at detailed design. The use of LID techniques within public use lands can be explored at detailed design. This may include use of porous pavement in parking areas, directing surface flows from paved areas to landscaped gardens and/or the collection, storage and use of roof water for landscape irrigation.*
- g) *Proposed grading plans will be finalized at the detailed design stage. This includes interim grading solutions that may be needed through the Argo lands to service parts of the Mattamy Draft Plan.*
- i) *Prior to construction, all inactive water supply wells within the development footprint will have to be properly decommissioned by a licensed water well contractor according to Ontario Regulation 903. As well, all groundwater monitoring wells and standpipes installed for this study and not maintained during construction for monitoring, must be decommissioned in accordance with provincial regulations prior to or during the site development.*
- p) *The requirements for construction dewatering will be confirmed by geotechnical/hydrogeological investigations completed in support of detailed design.*
- q) *An Erosion and Sediment Control (ESC) strategy will be prepared and implemented in accordance with the Town and CH's "Erosion and Sediment Control Guideline for Urban Construction prior to any earthworks or grading activities on the Subject Lands. This strategy should employ a multi-barrier approach where appropriate to prevent soil erosion and sedimentation. The plan must be reviewed and approved by the Town prior to any clearing and grading.*
- r) *Areas within the development requiring sump pumps will be determined at the detailed design stage.*
- s) *In the event that Regional wastewater projects are not completed at the time of development, interim wastewater servicing alternatives will be investigated to meet the servicing requirements for the initial phases of the Subject Lands.*
- t) *Final watermain sizing for watermains less than the minimum 300mm diameter mains, modeled in the ASP, will be completed at the detailed design stage based on the actual development characteristics. Water modeling is required to confirm watermain sizing and address phasing and dead end watermains.*
- u) *In the event that Regional water projects are not completed at the time of development, interim water servicing alternatives will be investigated to meet the servicing requirements for the initial phases of the Subject Lands.*

The detailed design recommendations outlined above are to be considered in development of the BP4 draft plan.

1.2 EIR Subcatchment Area and FSS Study Area

There are no proposed revisions to this section of the *JCT EIRFSS*.

In accordance with OPA 272 requirements, Joshua's Creek Subcatchment Areas JC6, JC9A, JC12, JC16 and JC17 have been studied as part of this JCT EIRFSS. The FSS Study Area encompasses all of the Mattamy lands (JCT EIRFSS), Redoak/Capoak and the Argo lands within these subcatchments as updated through Addendum #1 and Addendum #2, respectively. The Bressa Phase 4 lands are fully contained within the *JCT EIRFSS* study area.

1.3 EIR/FSS Study Objectives

There are no proposed revisions to this section of the *JCT EIRFSS*.

1.4 EIR/FSS Study Team

There are no proposed revisions to this section of the *JCT EIRFSS*. It should be noted that due to the limited scope of this addendum that David Schaeffer Engineering Ltd. prepared this report independently.

1.5 Previous Studies, Reports and Planning Documents

The addition of Addendum #1 for the Redoak/Capoak Lands, Addendum #2 for the Argo Diam Lands, Addendum #2B for the Rampen Holdings INC. (Coscorp) Lands, and Addendum #3 for the Joshua's Creek Phase 3 Lands are to be added to the list of previous studies in this section of the *JCT EIR/FSS*. No other changes are proposed for the section of the *JCT EIRFSS*.

1.6 EIR/FSS Consultation

There are no proposed revisions to this section of the *JCT EIRFSS*.

2.0 NATURAL HERITAGE SYSTEM FRAMEWORK

2.1 Natural Heritage System Components

There is a Medium Constraint Stream (Tributary JC-31) located partially within the Bressa Phase 4 lands, however, Section 2.1 of the *JCT EIRFSS* does not need to be revised as part of this addendum as the information remains valid.

2.2 Permitted Uses in the Natural Heritage System

There are no proposed revisions to this section of the *JCT EIRFSS*.

3.0 NHS DELINEATION

As noted in Section 1, Addendum #1, Addendum #2, Addendum #2B, and Addendum #3 for the Redoak/Capoak Lands, Argo Diam Lands, Rampen Holdings, and Joshua's Creek Phase 3 respectively, have been prepared and submitted since the final *JCT EIRFSS* was approved. At the time of this report the four addendums are not yet approved, however, the fieldwork related to delineating the NHS has been completed. The fieldwork completed as part of the Argo Diam Addendum #2 does not impact the NHS delineation on the Bressa Phase 4 Lands. As such, there is nothing to update in this section of the *JCT EIRFSS* except mention that the other four addendums have been prepared to address some of the outstanding NHS delineation within the EIR study limits.

The remaining NHS delineations that require fieldwork on non-participating landowners properties within the *JCT EIRFSS* study limits is reduced to:

- Capobianco & Sons Ltd.: Stream Reaches JC-7 and JC-8; portion of Core 10
- Coscorp (formerly Leo Rampen): Stream Reach JC-7 and portion of Core 10
- Julie Baker: Stream Reach JC-7

3.1 Approach to Core Delineation

There are no proposed revisions to this section of the *JCT EIRFSS* pertaining to Bressa Phase 4.

3.2 Core 10

The Bressa Phase 4 lands is not located near Core 10, and there are no proposed revisions to this section of the *JCT EIRFSS* pertaining to Bressa Phase 4.

3.3 Core 11

Bressa Phase 4 lands are located south of Core 11, but do not bound directly on the Core. There are no proposed revisions to this section of the *JCT EIRFSS* pertaining to Bressa Phase 4.

4.0 GEOLOGY AND HYDROGEOLOGY

4.1 Scope of Work

There are no proposed revisions to this section of the *JCT EIRFSS*, as the Bressa Phase 4 lands were studied as part of the *JCT EIRFSS* Functional Servicing Study Area and Subject Lands

4.2 Physiography and Topography

See Section 4.1, above.

4.3 Drainage

See Section 4.1, above.

4.4 Climate

See Section 4.1, above.

4.5 Geology

See Section 4.1, above.

4.6 Hydrogeology

See Section 4.1, above.

4.7 Water Quality

See Section 4.1, above.

5.0 STREAM, AQUATIC AND TERRESTRIAL SYSTEMS, INCLUDING SPECIES AT RISK

5.1 Overview of Joshua's Creek Characteristics

There are no proposed revisions to this section of the *JCT EIRFSS*.

5.1.1 Overview of Joshua's Creek Characteristics

There are no proposed revisions to this section of the *JCT EIRFSS* to reflect the Bressa Phase 4 Lands.

It should be noted that in Addendum #2 for the Argo Diam Lands that this section appears as Section 5.2, and discusses Species at Risk (SAR). There are SAR updates through Addendum #2 for the Argo Diam Lands as they were not previously surveyed in detail due to their non-participant status. The Species at Risk assessments completed as part of Addendum #2 do not impact the development limits of Bressa Phase 4 or the proposed channel realignment of Tributary JC-31. Furthermore, there is no impact to the planned relocation and replication of function of the Hydrologic Feature 'B' at the upper end of Tributary JC-31 as envisioned in the *JCT EIRFSS* as revised through Addendum #2 for the Argo Diam Lands. The findings of Addendum #2 generally echo the findings of the *JCT EIRFSS* with the exception of the survey for turtles in *JCT EIRFSS* in 2014 identified species, whereas the Addendum #2 survey did not but did identify remnants of a nest and suitable habitat. The recommendations from both EIRFSSs to prepare a Wildlife Scientific Collectors Permit does not change.

Section 5.2 and Section 5.3 of Addendum #2 for the Argo Diam Lands are titled Terrestrial Ecology and Aquatic Ecology, respectively, and outline the additional investigation of the terrestrial and aquatic ecology works completed on the Argo property. The only notable update in these section of Addendum #2 pertain to fishing of Tributary JC-31 and the Hydrologic Feature 'B' at the top end. No species of fish were found. There are no impacts from the works completed in Addendum #2 that impact the findings of the *JCT EIRFSS* that supports the Bressa Phase 4 lands draft plan.

5.2 Comparison of EIR/FSS Drainage Area to NOCSS Drainage Area

There are no proposed revisions to this section of the *JCT EIRFSS*.

5.3 Confirmation of Joshua's Creek Reach Breaks

There are no proposed revisions to this section of the *JCT EIRFSS*.

5.4 Characteristics of Joshua's Creek Stream Reaches

There are no proposed revisions to this section of the *JCT EIRFSS*.

5.4.2 Overview of Joshua's Creek Characteristics

5.4.2.4 Blue Stream Reaches

The *JCT EIRFSS* identifies the characteristics of Tributary JC-31 that were identifiable from the Bressa property, and makes recommendation for additional study through a future addendum for the adjacent lands (Argo Diam Lands). The *JCT EIRFSS* identifies the characteristics that should be replicated for the channel realignment and the Hydrologic Feature 'B' replication.

Section 5.4.2.2 of Addendum #2 discusses Tributary JC-31. This section completes the recommendation from the *JCT EIRFSS* for additional fieldwork as part of a future addendum. There are no fundamental changes or updates to the information from the *JCT EIRFSS*, as it relates to Tributary JC-31 and the Hydrologic Feature 'B' at the upper end, resulting from the additional fieldwork.

5.5 Characteristics of Joshua's Creek Stream Reaches

There are no proposed changes to Section 5.5 of the *JCT EIRFSS*, with the exception of the information provided below. This EIRFSS does not reproduce the information from the *JCT EIRFSS* or from Addendum #2, but does identify some of relevant information to Tributary JC-31 design that has changed in Addendum #2 relative to the approved *JCT EIRFSS*. The updated information in Addendum #2 for Tributary JC-31 does not impact the channel corridor width. The channel corridor width is consistent between the *JCT EIRFSS* and Addendum #2 (30.5 m in width for channel, and 57.9 m for Hydrologic Feature), but the alignment has changed. The channel corridor width, and revised alignment is consistent between the Argo (Joshua's Creek) Draft plan and Bressa Phase 4. As such, the revised alignment represented in **Drawing 5.5A** of Addendum #2 is relevant in support of the Bressa Phase 4 Draft Plan.

Section 5.5 of the *JCT EIRFSS* provided channel limits and constraint lines for JC-31, and recommended that the final channel limits for JC-31 be determined through a future addendum. Section 5.5 of Addendum #2 addresses the additional analysis to be carried out for the Argo lands to delineate stream corridor boundaries. Below is a summary of the relevant findings of Addendum #2 as it relates to Tributary JC-31 existing and proposed design.

Argo (Joshua Creek) EIRFSS Addendum #2:

Section 5.5.1 Meander Belt Widths - of Addendum #2 channel limits for JC-31, and updates the recommendation for the meander belt from 3 m (Table 5-10 *JCT EIRFSS*) to 6 m – 7 m (Section 5.5.1 of Addendum #2).

Section 5.5.2 Existing Physical Top-of-Bank and Stable Slope Calculations - Confirms there is no defined TOB for Tributary JC-31, concurring with the findings of the *JCT EIRFSS*.

Section 5.5.3 Regulatory Floodplain - Updated based on the revised post-development alignment of Tributary JC-31, and refers the reader to Appendix F-4 of Addendum #2 for the memorandum outlining the update hydraulic modeling. It also notes that the water levels are consistent with the *JCT EIRFSS* and corresponding NHS limits. The proposed channel alignment modeled in Appendix F-4 of Addendum #2 is consistent with Bressa Phase 4 draft plan limits for the future JC-31 channel

corridor. That is to say, the Phase 4 draft plan was used to create updated Composite Development Plan **Figure 6.2** of Addendum #2

Section 5.5.4 Fisheries Setbacks - Requirements of 15 m do not change from the *JCT EIRFSS*.

Section 5.5.5 Hydrologic Feature A – Not relevant to Tributary JC-31.

Section 5.5.6.3 Stream Reach JC-31 - This section of Addendum #2 addresses the proposed new re-alignment design for Tributary JC-31, which is an update from the channel alignment provided in the *JCT EIRFSS*. The new proposed channel design for Tributary JC-31 is outlined in Appendix E-2 of Addendum #2, and on Drawings GEO-1 to GEO-4.

The information noted above from Addendum #2 supersedes the relevant information from Section 5.5.1.1 to 5.5.1.5, and Section 5.5.3.1 to 5.5.3.3 of the *JCT EIRFSS* as it relates to Tributary JC-31. Section 5.5.3.3 of the *JCT EIRFSS* is no longer relevant as the proposed channel alignment of JC-31 is consistent between the Argo (Joshua Creek) Draft Plan and the Bressa Phase 4 Draft Plan.

6.0 LAND USE

6.1 General Description of Development Plans

Bressa Phase 4 lands were included in the Subject Lands of the *JCT EIRFSS*. The road network from **Figure 6.2** of the *JCT EIRFSS* is superseded by the proposed road network of the Bressa Phase 4 Draft Plan. Refer to Addendum #2 **Figure 6.2** for the Composite Development Plan. The mix of units in Bressa Phase 4 are illustrated on the Draft Plan (March 31, 2020) shown in **Attachment 1**.

The proposed Draft Plan of Subdivision connects to the approved Bressa Phase 1 and Phase 2 Draft plan, and is consistent with the Draft Plan of Subdivision for the Argo Diam Lands submitted in December 2019 supported by Addendum #2. Lands in the proposed Draft Plan are primarily residential, municipal right-of-way, and the channel NHS block associated with Tributary JC-31.

Access to the lands is from the approved Bressa Phase 1 and Phase 2 lands to the east, which provided connection to Dundas Street to the south. Additional access is provided through the Argo Diam Lands to the west, once draft plan approved.

6.2 Trail Planning

There are no trails within the Bressa Phase 4 draft plan limits, and as such no proposed revisions to this section of the *JCT EIRFSS* text.

6.3 Trail Planning

There are no trails within the Bressa Phase 4 draft plan limits, and as such no proposed revisions to this section of the *JCT EIRFSS* text.

7.0 GRADING, DRAINAGE, AND STORMWATER MANAGEMENT

7.1 OPA 272 and NOCSS Recommendations

The SWM Strategy for the Bressa Phase 4 lands is consistent with the *JCT EIRFSS*, and there are no proposed revisions to the text.

7.2 Updated Subcatchment Boundaries

There are no proposed revisions to pre-development subcatchment boundaries as part of this addendum.

7.3 Pre-Development Flows and Dundas Street Culvert Capacities

There are no revisions to pre-development peak flows or culvert capacities as part of this addendum.

7.4 Stormwater Management Plan Selection Process

The Bressa Phase 4 lands are fully contained within the catchment of Pond 55 and Pond 56 under post-development conditions as outlined in the *JCT EIRFSS*, with the exception of the NHS Channel block for JC-31 which does not drain to a pond. Pond 55 and Pond 56 are located in draft plan approved lands of Bressa Phase 1 and Bressa Phase 2, respectively.

The drainage areas to Pond 54, Pond 55, and Pond 56 are generally the same between the *JCT EIRFSS* and Addendum #2, albeit the boundary has changed to reflect the new road network updated through Addendum #2. As previously noted, the road network in the Bressa Phase 4 Draft Plan is consistent with the Addendum #2 base plan and therefore no suggested changes to the drainage boundaries or grading design are necessary through this report. Refer to **Drawing 7.1** of Addendum #2 for the current drainage boundaries to Pond 55 and Pond 56.

The Low Impact Development (LID) strategy outlined in the *JCT EIRFSS* remains consistent for the Bressa Phase 4 lands. The road network has changed from the *JCT EIRFSS* and as a result line-work on **Figure 7.6** is not consistent, however, the LID strategy remains the same:

- Reduced lot grades;
- Disconnect roof leaders;
- Additional topsoil depth on the lots, and JC-31 channel corridor; and,
- tree pits in the boulevard

The recommendations for quality, quantity, and erosion control for Ponds 55 and Pond 56 do not change from the *JCT EIRFSS*.

7.5 Downstream Investigations Regional Storm Controls

There are no ponds located within Bressa Phase 4 Draft Plan, and the downstream Pond 55 and Pond 56 have been sized to accommodate these lands per the *JCT EIRFSS*.

7.6 Erosion Control Analyses

There are no ponds located within Bressa Phase 4 Draft Plan, and the *JCT EIRFSS* established erosion controls for downstream Pond 55 and Pond 56 that are not proposed to change through this report.

7.7 Proposed SWM Ponds

As noted in Section 7.4 of this report, the Bressa Phase 4 Draft Plan is tributary to Pond 55 and Pond 56, which are both draft plan approved and sized to accommodate these lands. There are no ponds within the Bressa Phase 4 draft plan limits.

7.8 Minor and Major System Designs

Minor and major system design for Bressa Phase 4 will be in keeping with the *JCT EIRFSS*. The road network in Bressa Phase 4 is different as compared to the composite plan used for the figures of the *JCT EIRFSS*. As such, there are minor differences in the graphics of the *JCT EIRFSS* but is consistent with the Addendum #2 graphics (**Drawing 7.1**). The conveyance design principle are the same as the approved *JCT EIRFSS*; 5-year minor system conveyance, and major system conveyance for 5-year up to and including 100-year peak flows using Town of Oakville Intensity Duration Frequency parameters.

The Bressa Phase 4 lands located north of Street B will convey external drainage from the Argo Diam Lands to the Bressa Phase 2 lands and ultimately Pond 56. The minor and major system for Bressa Phase 4 in this area will be designed to convey the flows from the Argo Diam Lands in accordance with **Drawing 7.2** from Addendum #2.

7.9 Joshua's Creek Subcatchment Drainage Area Modifications

The Bressa Phase 4 lands are consistent with the drainage areas illustrated in **Drawing 7.1** and **Drawing 7.2** of Addendum #2. No changes proposed to this section of the text.

7.10 PSW Drainage

There are no Provincially Significant Wetlands (PSWs) located on the Bressa Phase 4 lands, there are no PSWs that receive drainage from this property or discharge to this property. As such, there are no suggested changes to the text of the *JCT EIRFSS*. Addendum #2 does not introduce any new PSWs that impact the Bressa Phase 4 Draft Plan.

7.11 Preliminary Grading Plans

The road network for Bressa Phase 2 has been updated from the concept plan used in the *JCT EIRFSS*. The updated road network has been reflected in Addendum #2 grading design, illustrated on revised **Drawing**

7L. There are no changes proposed to the revised **Drawing 7L** as part of this report. The grading design from Addendum #2 reflects the alignment of channel JC-31 and the correct tie-in grade elevations for the Bressa Phase 1 and Phase 2 lands.

You will note that **Drawing 7.1** and the grading reflected on **Drawing 7L** propose to send the rear lots of Bressa Phase 4 backing onto Tributary JC-31 directly to the channel. It should be noted that these backyards can still technically drain Pond 55 in the event the lots are not permitted to drain directly to Tributary JC-31. The rear-yard grades on **Drawing 7L** along Tributary JC-31 range from 163 m to 164 m, and the permanent pool in Pond 55 is 156 m (approximately 7 m lower).

7.12 SWM Pond Operating Characteristics

The Bressa Phase 4 Draft Plan limits do not contain a SWM Pond. There are no suggested revisions to this section of the *JCT EIRFSS*.

8.0 GROUNDWATER IMPACT ASSESSMENT

There are no proposed changes to the groundwater assessment as a result of the Bressa Phase 4 Draft Plan changes. The draft plan has changed as compared to the concept plan for these lands used in the *JCT EIRFSS*, however, the land use is generally in keeping with the *JCT EIRFSS* so the global water balance is not updated through this report. A similar discussion for the Argo Diam lands is outlined in Addendum #2, Section 8.0.

9.0 WASTEWATER AND WATER SERVICING

9.1 North Oakville East – Area Servicing Plan (ASP)

The *JCT EIRFSS* outlines the Functional Servicing Study lands (inclusive of Bressa Phase 4) and how these lands are serviced on a community basis as outlined in the Area Servicing Plan. The Bressa Phase 4 draft plan does not impact the strategies of the ASP or *JCT EIRFSS*.

9.2 Wastewater Servicing

The Bressa Phase 4 lands are within the catchment to the Region of Halton Wastewater Pumping Station located at Dundas Street, west of Joshua’s Creek. There are no changes to the proposed servicing strategy from the *JCT EIRFSS*. The land use for the draft plan is in keeping with the assumptions from the *JCT EIRFSS* so the preliminary capacity analysis completed in the *JCT EIRFSS* does not need to be updated through this Addendum.

Bressa Phase 4 lands located north of Street ‘B’ will receive external wastewater flows from the neighbouring Argo Diam Lands and convey them to the trunk wastewater sewer in Street ‘A’ within the Bressa Phase 1 and Phase 2 draft plan limits. The wastewater drainage **Drawing #9.2B** in Addendum #2 reflects the Bressa Phase 4 draft plan road pattern and supersedes the *JCT EIRFSS* **Figure 9.2**.

There are no trunk sewers within the Bressa Phase 4 draft plan, and the plan will be serviced by local sewers connected to the Bressa Phase 1 and Phase 2 draft plan approved lands in keeping with Addendum #2 and the *JCT EIRFSS*.

9.3 Water Servicing

There are no proposed changes to this section of the *JCT EIRFSS*.

The Bressa Phase 4 lands will be serviced by connection to the Bressa Phase 1 and Bressa Phase 2 draft plan approved lands, which are serviced by a trunk watermain in Dundas Street. The need for dead end watermains or single feeds can be further explored through detailed design of Bressa Phase 4, if applicable. See **Drawing 9.4A** from Addendum #2 for preliminary watermain sizes.

9.4 Servicing Implications to Development Timing

As noted above, Bressa Phase 4 is serviced through Bressa Phase 1 and Bressa Phase 2 for water and wastewater. There is no servicing reliance on external landowners for the Bressa Phase 4 lands.

10.0 ROADS

10.1 Policy Direction

The policy descriptions in this section of the *JCT EIRFSS* are related to road crossings of the natural Heritage Section, and of natural features such as streams. The Bressa Phase 4 lands do not have a natural feature crossing or NHS crossing. As such, there are no proposed changes to this section of the *JCT EIRFSS*.

10.2 Creek Road Crossing Design Requirements

See discussion in Section 10.1, above.

10.3 Road Allowance Design

The Bressa Phase 4 draft plan proposes standard road cross section widths and typical Town of Oakville cross sections. The plan includes 7.5 m laneways, and 17 m local roads. The standard road cross section are provided in **Appendix J** of the *JCT EIRFSS*.

10.4 Sidewalk Design

The sidewalk locations have been revised from the *JCT EIRFSS* to reflect the Bressa Phase 4 draft plan and Argo Diam lands draft plan. The revised sidewalk plan, including the Bressa Phase 4 draft plan layout, is included in Addendum #2 as **Drawing 6.4A**.

10.5 Utility Crossings of Creeks

See discussion in Section 10.1, above.

11.0 CONSTRUCTION PRACTISES

11.1 Summary of Key Geotechnical Findings

There are no proposed revisions the geotechnical information provided in Section 11.1 of the *JCT EIRFSS* for the Bressa lands, which contain the Bressa Phase 4 lands.

11.2 Erosion and Sediment Controls

Erosion and sediment controls for the Bressa Phase 4 lands recommended through the *JCT EIRFSS* remain unchanged. It should be noted that the ultimate channel design for Tributary JC-31 will require staging, construction, and erosion and sediment control drawings that should be prepared through detailed design in coordination with Argo Diam lands. This requirement is noted in Section 13 of this report.

11.3 Construction Phasing

There is no construction phasing for the Bressa Phase 4 lands. This section of the *JCT EIRFSS* addresses Creek Relocations at a very high level of detail. These recommendations remain valid for staging the channel construction (Tributary JC-31 in this instance), and more refined detailed plans should be provided through detailed design in coordination with Argo Diam. This requirement is noted in Section 13 of this report.

11.4 Dewatering Requirements

There are no revisions to the recommendations for dewatering outlined in Section 11.4 of *JCT EIRFSS* applicable to the Bressa Phase 4 lands.

11.5 Private Water Wells

The recommendations for house-to-house well surveys to ensure the construction of Bressa Phase 4 does not impact well usage in the area, as outlined in Section 11.4 of *JCT EIRFSS*, do not change as part of this addendum.

11.6 Well Decommissioning

There are no known wells within the Bressa Phase 4 lands. Should one be discovered during construction the recommendation in Section 11.6 of the *JCT EIRFSS* should be followed.

11.7 Topsoil Management

The LID measures identified in the JCT EIRFSS and echoed in this Addendum recommend additional topsoil depth on most pervious surfaces. Topsoil should be managed on site to protect the viability for use as an LID, and for use in the channel corridor of Tributary JC-31.

12.0 MONITORING PROGRAM

12.1 OPA 272 MONITORING REQUIREMENTS

There are no proposed revisions to this section in the *JCT EIRFSS*.

12.2 NOCSS MONITORING REQUIREMENTS

There are no proposed revisions to this section in the *JCT EIRFSS*.

12.3 PROPOSED MONITORING

A detailed monitoring plan for Tributary JC-31 will be prepared as part of detailed design for the channel in coordination with Argo Diam lands. The preliminary requirements for monitoring of Tributary JC-31 are outlined in Section 12.3.3 of the *JCT EIRFSS*. The revised alignment proposed through Addendum #2, and as reflected in the Bressa Phase 2 draft plan, do not impact these monitoring requirements. Additional information on monitoring of the modified channel is also provided in **Appendix E-2A** of Addendum #2.

The Bressa Phase 4 lands drain to SWM Pond 55 and Pond 56, which are both draft plan approved and have the requirement for monitoring per the NOCSS outlined in the draft plan conditions.

13.0 SUMMARY OF RECOMMENDATIONS

As noted in Section 1.0 of this report, the *JCT EIRFSS* identified the requirements for future addendum reports. The specific recommendations of Section 13.1 and Section 13.2 from the *JCT EIRFSS* are discussed in Section 1 of this addendum. There are no additional recommendations for future EIRFSS Addendums suggested through this report.

The items identified through this addendum are related to Tributary JC-31 detailed design, construction staging plans, and monitoring should be coordinated with Argo Diam lands and in accordance with the *JCT EIRFSS* and NOCSS recommendations. Additionally, the final watermain network (dead-ends, single feed) should be addressed through a detailed hydraulic analysis at detailed design. Please also see Section 1.1.3 of this report for more information on Detailed Design.

Table C: Summary of EIR/FSS Recommendations and Mitigative Measures

Topic	Recommendations	Report Section for Further Details
Background and Study Purpose	The Bressa Phase 4 lands were previously studied in the <i>JCT EIRFSS</i> . The Addendum #2 completed for the Argo Diam lands proposed a revised alignment of Tributary JC-31. This report outlines the relevance of the updates to JC-31 for the Bressa Phase 4 lands. Additionally, Section 1.1 of this report addresses additional study requirements outline in Section 13 of the <i>JCT EIRFSS</i> and the relevance to Bressa Phase 4	1.1
Tributary JC-31	<p>Tributary JC-31 design parameters were revisited through Addendum #2. Section 5.1, Section 5.4, and Section 5.5 outline the relevant updates from the <i>JCT EIRFSS</i> to Addendum #2 as it relates to Tributary JC-31. Additionally, this section confirms the corridor width does not change, and simply has a new alignment. The relevant graphics and design information from Addendum #2 supersede the <i>JCT EIRFSS</i> information for Tributary JC-31. Bressa Phase 4 draft plan is consistent with the base plan used in Addendum #2, therefore the revised JC-31 alignment is consistent between the draft plans.</p> <p>Construction staging and erosion and sediment measures are discussed in Section 11. It is recommended at detailed design that a coordinated and strategic staging, as well as erosion and sediment control plan be developed with Argo for JC-31</p>	<p>5.1, 5.4 and 5.5</p> <p>11</p>
Draft Plans of Subdivision	The Bressa Phase 4 draft plan and the Composite Development Plan used in Addendum #2 are consistent. Bressa Phase 4 consists of low-rise residential, municipal roads, and NHS corridor associated with Tributary JC-31. The interface with Argo's Draft Plan and the Bressa Phase 1 and Phase 2 draft plans is consistent in the graphics of Addendum #2. The Bressa Phase 4 draft plan is included as Attachment 1 .	6.1

Table C: Summary of EIR/FSS Recommendations and Mitigative Measures

Topic	Recommendations	Report Section for Further Details
Stormwater Management and Grading	The road network in Addendum #2 (and on Bressa Phase 4 lands) has changed from the <i>JCT EIRFSS</i> , however the drainage areas to Pond 54, Pond 55, and Pond 56 are generally the same between the two reports. The strategy is the same. Bressa Phase 4 drains to Pond 55 and Pond 56 which are owned by the same applicant and draft plan approved. A small backyard area is proposed to drain to Tributary JC-31 through Addendum #2. The grading design on Drawing 7L of Addendum #2 provides the grading design of the Bressa Phase 4 lands, and is consistent with the relevant grades in <i>JCT EIRFSS</i> .	7.4, 7.8, and 7.11
Water and Wastewater Servicing	The Bressa Phase 4 lands are serviced for water and wastewater through the Bressa Phase 1 and Phase 2 lands, which are owned by the same applicant and draft plan approved. There is no reliance on external landowners for servicing of the Bressa Phase 4 lands. The Bressa Phase 4 lands north of Street B will convey external flows from the Argo lands to the Bressa Phase 2 lands. Refer to Drawing 9.2B and Drawing 9.4A for wastewater and water servicing, respectively, from Addendum #2.	9.5 and 9.6
Monitoring	The construction monitoring recommendations for Tributary JC-31 are discussed in Section 12.3. The <i>JCT EIRFSS</i> recommendations generally do not change with the revised alignment of JC-31 outlined in Addendum #2. It is recommended that at detailed design a coordinated and comprehensive monitoring plan be developed for Tributary JC-31 in coordination with Argo.	12.3
Detailed Design Requirements for Bressa Phase 4	<ul style="list-style-type: none"> • Further design of the reconfiguration of Reach JC-31 and its upstream wetland, will occur at the detailed design stage by the adjacent landowner, in consultation with Mattamy. It will integrate the final geometry for all channel components, wetland feature dimensions, including requirements for fish and herptiles, plan form layout, profile elevations, and feature edge elevations, and include restoration and monitoring plans. • The requirements for construction dewatering will be confirmed by geotechnical/ hydrogeological investigations completed in support of detailed design. • An Erosion and Sediment Control (ESC) strategy will be prepared and implemented in accordance with the Town and CH's "Erosion and Sediment Control Guideline for Urban Construction prior to any earthworks or grading activities on the Subject Lands. This strategy should employ a multi-barrier approach where appropriate to prevent soil erosion and sedimentation. The plan must be reviewed and approved by the Town prior to any clearing and grading. • Areas within the development requiring sump pumps will be determined at the detailed design stage. • Final watermain sizing for watermain less than the minimum 300mm diameter mains, modeled in the ASP, will be completed at the detailed design stage based on the actual development characteristics. Water modeling is 	1.1.3 and 13

Table C: Summary of EIR/FSS Recommendations and Mitigative Measures

Topic	Recommendations	Report Section for Further Details
	required to confirm watermain sizing and address phasing and dead end watermains.	

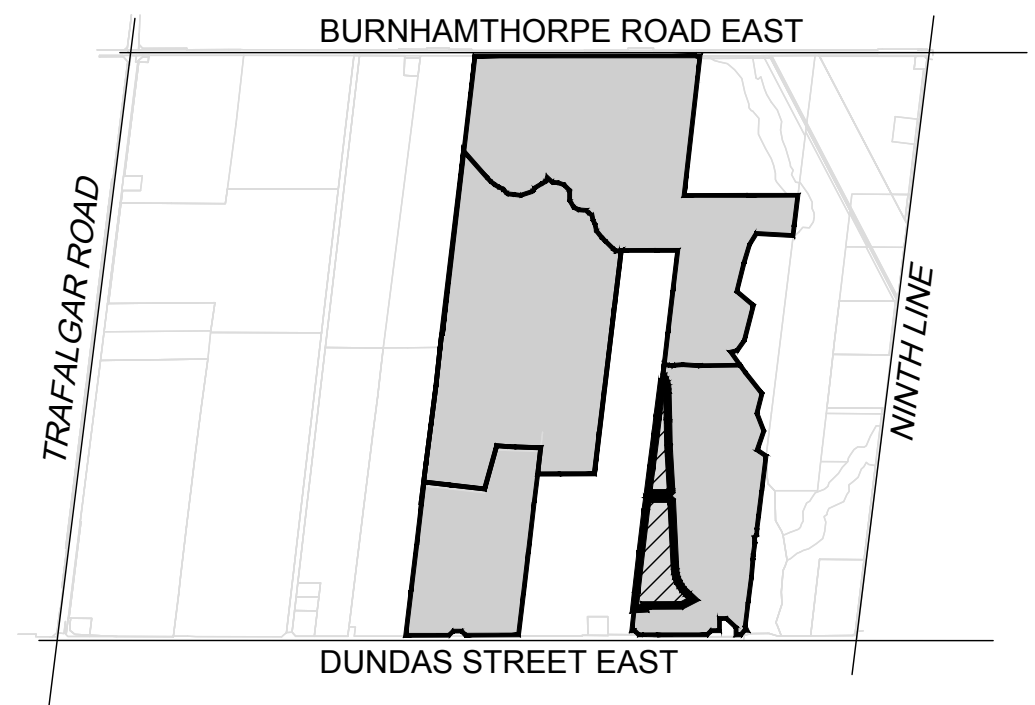
ATTACHMENTS

ATTACHMENT 1: Draft Plan For Bressa Phase 4 Lands
(March 2020)

DRAFT PLAN OF SUBDIVISION 24T-Mattamy (Joshua Creek) Limited PHASE 4

PART OF LOT 7
CONCESSION 1, NORTH OF DUNDAS STREET

GEOGRAPHIC TOWNSHIP OF TRAFALGAR
NOW IN THE
TOWN OF OAKVILLE
REGIONAL MUNICIPALITY OF HALTON



KEY MAP
N.T.S.

Subject Lands
 Additional Lands Owned by Applicant

OWNER'S AUTHORIZATION
I HEREBY AUTHORIZE KORSIAK URBAN PLANNING TO PREPARE AND SUBMIT THIS DRAFT PLAN OF SUBDIVISION TO THE TOWN OF OAKVILLE FOR APPROVAL.

SIGNED _____ DATE _____
Gary Gregoris, A.S.O.
GARY GREGORIS
MATTAMY (JOSHUA CREEK) LIMITED
433 STEELES AVENUE EAST SUITE 110
MILTON, ON L9T 8Z4

SURVEYOR'S CERTIFICATE
I HEREBY CERTIFY THAT THE BOUNDARIES OF THE LANDS TO BE SUBDIVIDED AS SHOWN ON THIS PLAN AND THEIR RELATIONSHIP TO ADJACENT LANDS ARE CORRECTLY AND ACCURATELY SHOWN.

SIGNED DATE February 27, 2020
Ross DenBroeder, Ontario Land Surveyor
rpe R-PE Surveying LTD.
ONTARIO LAND SURVEYORS
643 CHRISLEA ROAD, SUITE 7, WOODBRIDGE, ONTARIO L4L 8A3
Tel: (416) 635-5000 Fax: (416) 635-5001

ADDITIONAL INFORMATION (UNDER SECTION 51 (17) OF THE PLANNING ACT)

A) SHOWN ON PLAN	G) SHOWN ON PLAN
B) SHOWN ON PLAN	H) MUNICIPAL AND PIPED WATER TO BE PROVIDED
C) SHOWN ON PLAN	I) CLAY LOAM
D) SHOWN ON PLAN	J) SHOWN ON PLAN
E) SHOWN ON PLAN	K) SANITARY AND STORM SEWERS TO BE PROVIDED
F) SHOWN ON PLAN	L) SHOWN ON PLAN

LAND USE SCHEDULE

Land Use	Lots/Blocks	Block Total	Area (ha)	Units
△ Single Detached (11.6m)	1, 8-13, 16-23, 25-30, 34-39, 43, 46, 50, 52-56, 60, 64, 65, 68-74, 80, 83-91, 95, 98-101, 104, 107, 108, 112, 114, 118	66	2.32	66
□ Single Detached (10.4m)	2-7, 31-33, 40-42, 47-49, 57-59, 61-63, 75-79, 92-94, 96, 97, 105, 106, 109-111, 113, 115-117	40	1.21	40
○ Single Detached (13.75m)	14, 15, 24, 44, 45, 51, 66, 67, 81, 82, 102, 103	12	0.45	12
Rear Lane Townhouses (6.05m)	119-125	7	0.46	36
Natural Heritage System (NHS)	126	1	0.78	
Residential Reserve	127-139	13	0.18	
7.5m ROW (127m)			0.10	
17m ROW (835m)			1.44	
Totals		139	6.94	154

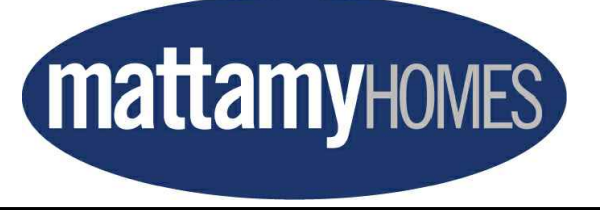
24T-12004 SDE CALCULATIONS

Unit Type	Lots/Blocks	Units	SDE*
Single Detached	1-118	118	118.0
Townhouse	119-125	36	27.4
Total		154	145.4

* SDE Factors:
Detached - 1.00
Townhouse - 0.76

Mar 31, 2020	Original Submission	A	SP
DATE	REVISION	DWG	BY

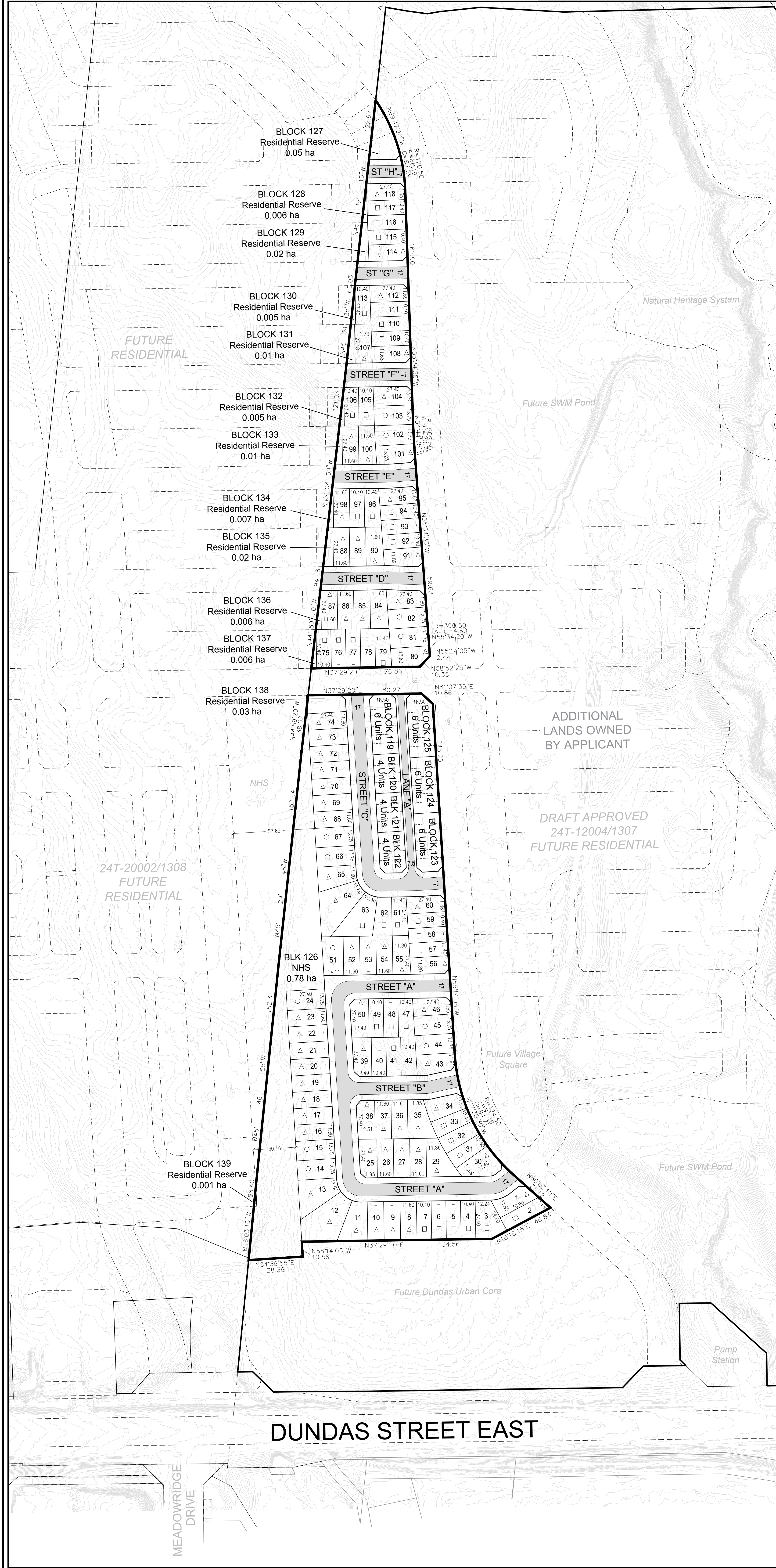
NOTES:
- Pavement illustration is diagrammatic
- Connector or Avenue to Connector or Avenue daylight triangle = 7.5m
- All other daylight triangles = 3.5m



SCALE 1:1250 March 31, 2020
DRAWN BY: SP CHECKED BY: KC

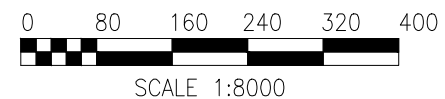
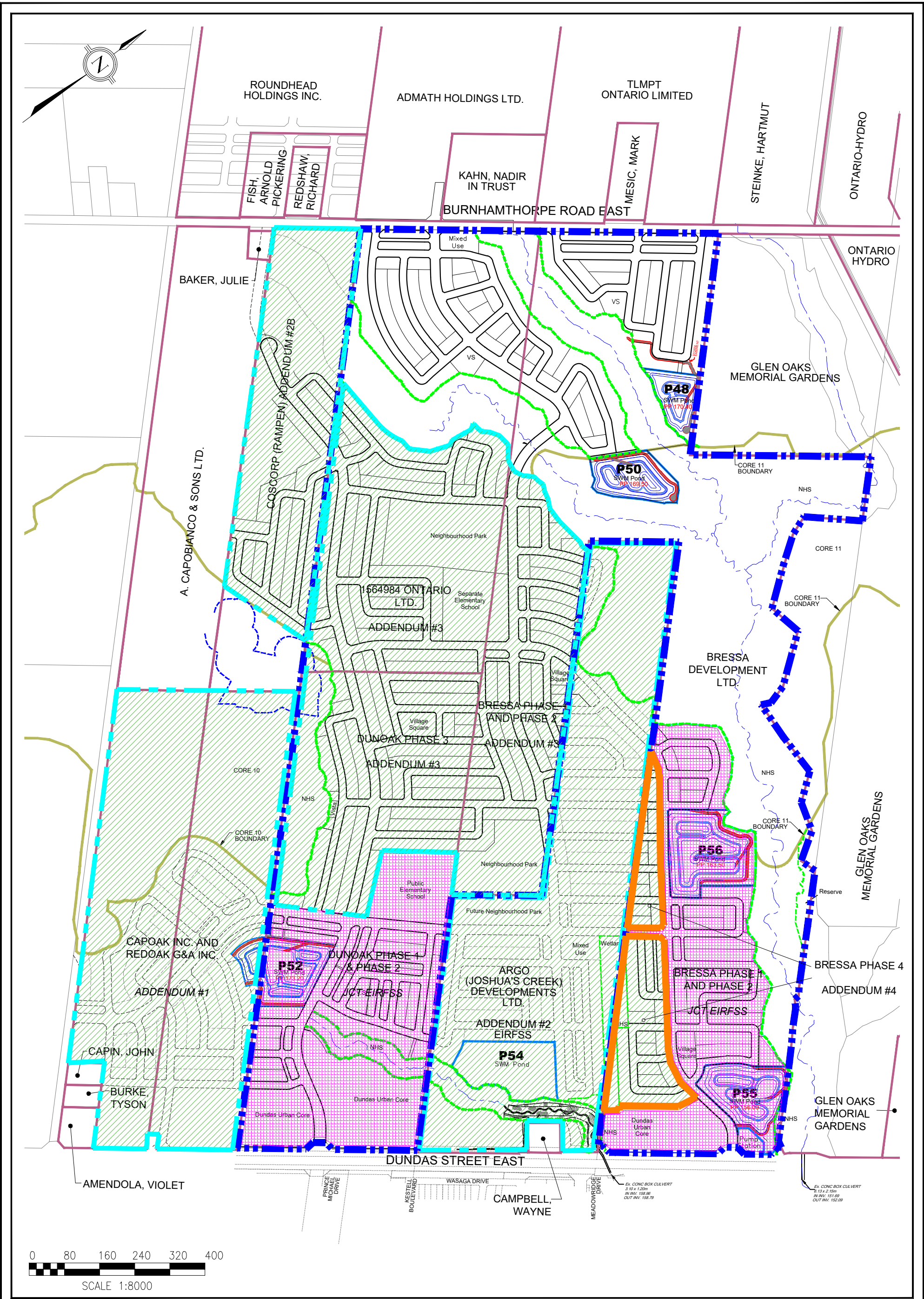


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info@korsiak.com



DUNDAS STREET EAST

FIGURES



Legend

- Draft Plan Approved
- Draft Plan Application Submitted
- Subject Lands Per Final Joshua's Creek Tributaries EIRFSS
- Subject Lands Expanded through EIRFSS Addendum #1, #2, #2B AND #3
- Ownership Boundary
- Bressa Phase 4 Lands (EIRFSS Addendum #4)
- NHS Limits

BRESSA PHASE 4 ADDENDUM #4 TO THE JOSHUA'S CREEK TRIBUTARIES EIRFSS

David Schaeffer Engineering Ltd.

FIGURE 1.4A
LAND OWNERSHIP & STATUS

DECEMBER 2020