



**2596 Carp Road
Cavanagh Concrete Batch Plant
Planning Rationale Report**

September 18, 2018

Prepared for:

Cavanagh Construction Ltd.

Prepared by:

Stantec Consulting Ltd.

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1.0 INTRODUCTION

Stantec Consulting Ltd. has prepared this Planning Rationale for our client, Cavanagh Construction Ltd., in support of a Zoning By-law Amendment and Site Plan Control application for their property at 2596 Carp Road. Cavanagh proposes to construct a concrete batching plant on a portion of the property.

2.0 SITE LOCATION AND DEVELOPMENT PROPOSAL

2.1 SITE LOCATION AND SURROUNDING USES

The property is in the City of Ottawa along the Carp Road corridor, a six-kilometre corridor of commercial and industrial development north of Stittsville. More specifically, the property is located north and east of the intersection of Carp Road and Richardson Side Road. The property's civic address is 2596 Carp Road and is legally described as *Part of Lot 6, Concession 2, former Township of West Carleton, Part 1 on 4R-11656, save and except Parts 1 and 2 on 4R-17194 and Parts 1 to 10 on 4R-17391, City of Ottawa* (PIN: 045370750). The property is a through lot with an area of 28.4ha (70.2 acres), 26.0m of frontage on Carp Road (arterial) and 20.0m of frontage on Newill Place (local road).

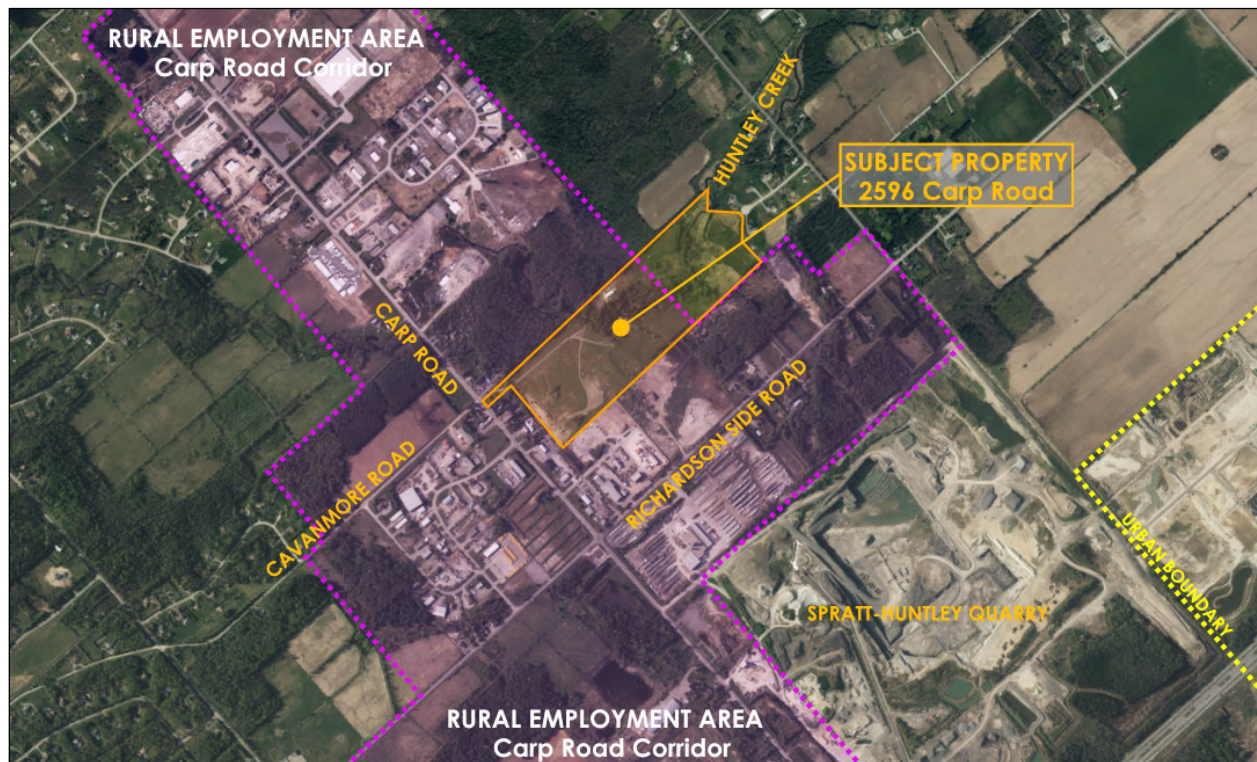


Figure 1 Site Location



The Carp Road corridor includes a variety of highway commercial, heavy and light industrial, warehousing and office uses, as well as mineral aggregate pits and quarries. While many uses have direct private access onto Carp Road there are also a number of commercial-industrial subdivisions. There are also a number of historical dwellings and private service country estate lot subdivisions along and adjacent to the corridor.

Several mineral aggregate quarries are located near the property. The closest, the Spratt-Huntley Quarry operated by Karson, is located 630m south of the property. The Clark Quarry and the Stittsville-Bell Quarry are also located within six kilometres of the property.

The property is generally flat and slopes toward Huntley Creek, which passes through the property. The creek corridor is sinuous and heavily treed, whereas the remainder of the property is cleared, with areas closer to Carp Road being used to stockpile aggregate and store heavy equipment. A detached dwelling on private services is located in the centre of the property adjacent to Huntley Creek and approximately 500m from Carp Road. A crossing over Huntley Creek provides access to a temporary garage and limited outdoor storage.

The following uses surround the property:

North: Two large lots are located north of the property; 2636 Carp Road is forested, bisected by Huntley Creek and a dwelling is located 200m north of the common property line. 717 Oak Creek Road is occupied by forest, cultivated fields and hedgerows and a detached dwelling approximately 275m north of the common property line.

East: Nine detached dwellings on private services are located east of the property, fronting on Newill Place and Oak Creek Road.

South: Several lots with frontage on Richardson Side Road and Westhunt Road are located south of the property. A material recovery and recycling centre, operated by Tomlinson, is located at 117 Westhunt Road. Other properties are industrial or vacant.

West: Several commercial and industrial uses fronting on Carp Road bound the property to the west. A narrow portion of the property abuts Carp Road near the intersection of Carp Road and Cavanmore Road.

The property is located within the Rural Employment Area designation in the Official Plan. Three separate zones cover the property. The westernmost portion of the property (within 335m of Carp Road is zoned Rural General Industrial RG5. The central portion (335m to 788m from Carp Road) is zoned Rural General Industrial RG5(275r) with a holding provision which requires a site plan, consent or subdivision to be approved prior to its lifting. The remainder of the property is zoned Rural Countryside RU.



2.2 DEVELOPMENT PROPOSAL

Cavanagh proposes to construct a concrete batching plant on the property. Batching plants are designed to dispense measured amounts cement powder, stone aggregates and water into concrete mix trucks which combine the materials enroute to a delivery.

A batching plant is comprised of the following components:

- Aggregate piles: open storage areas for stone and aggregate of varying sizes. Front-end loaders are used to move aggregate to a conveyor which transports the aggregate into the batching plant.
- Cement bin: cement powder is stored in a large silo.
- Batching plant and batch office: a large, enclosed structure with aggregate and cement storage bins and a series of chutes to measure and transfer aggregate and cement powder to waiting concrete mix trucks. Operations in the plant are controlled from the batch office.
- Wash rack and washout pond: returning trucks are cleaned of remnant concrete. Tailings from the cleaning process are discharged into a washout pond where particulate settles out from the water, which is then reused for cleaning and concrete mixes.

The batching plant is surrounded by a combination of concrete, asphalt and gravel surfaces to facilitate the movement and parking of heavy equipment, concrete mix trucks, dump trucks and employee vehicles. A 7.0m-wide access road will be constructed from Carp Road at the intersection of Carp Road and Cavanmore Road into the site.

The cost of transportation is a significant factor in the production of concrete; both raw material (stone aggregate) and product (concrete) are lower-cost bulk materials. To minimize transportation costs (including energy consumption and emissions) batching plants should be sited close to raw materials as well as end users. The batching plant takes advantage of the property's proximity to several stone and aggregate quarries as well as easy access to 400-series highways and Ottawa's rapidly-developing communities of Kanata and Stittsville.

The existing dwelling will be retained and re-purposed as an administrative building for Cavanagh Concrete. The existing septic system and well are sufficiently sized to service the administrative building and will not require modification.

The area of development has been located to not impact Huntley Creek. From the creek's meanderbelt allowance setback, all development has been set back an additional 15m.

Figure 2 is the Site Plan.



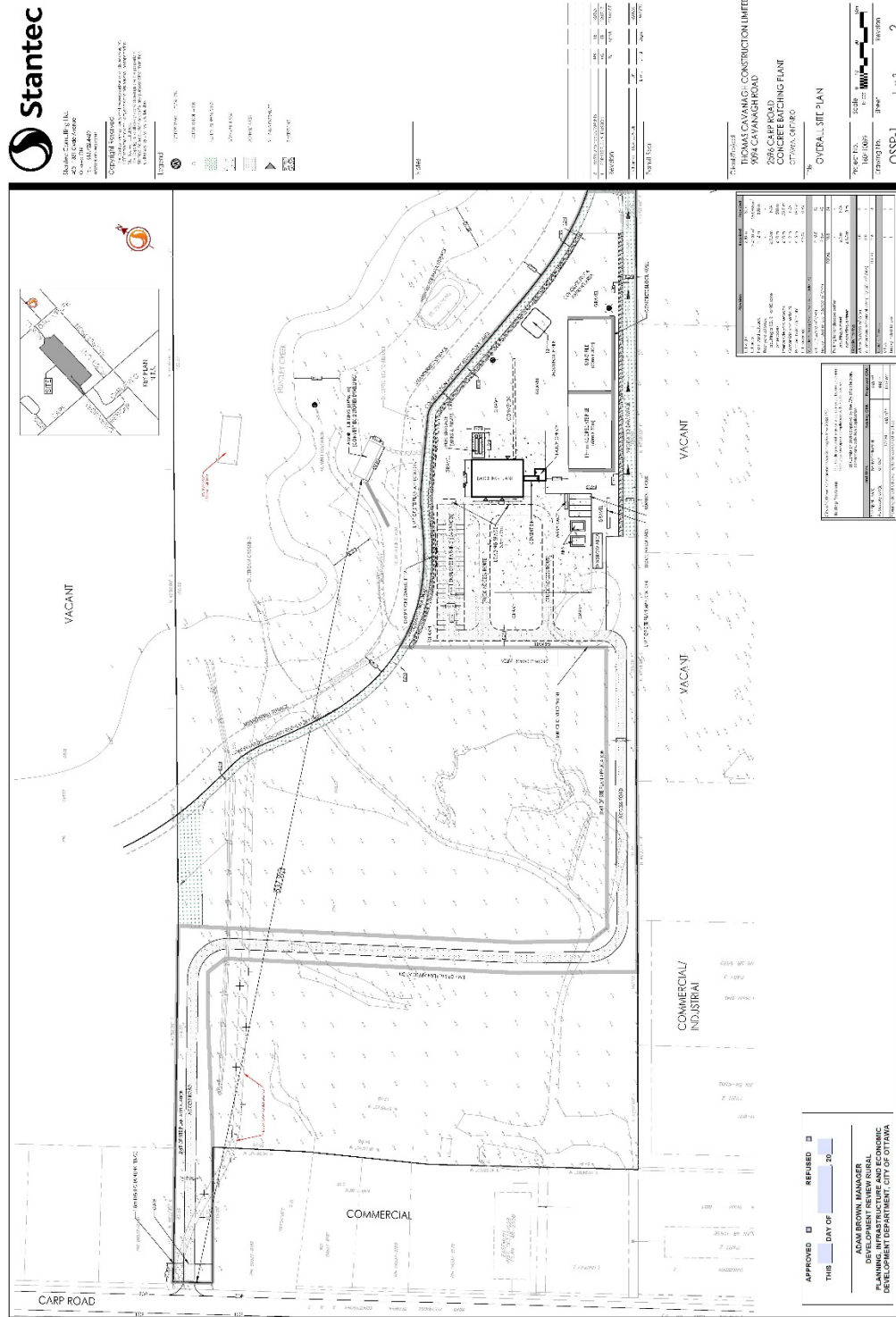


Figure 2 Site Plan



2.2.1 Proposed Zoning By-law Amendment

A concrete batching plant is defined as a 'heavy industrial use' as it involves the manufacture or processing of products from raw materials. Heavy industrial uses are not permitted in the Rural General Industrial RG5 Zone. To permit the proposed development an amendment to the Zoning By-law is required. **Figure 3** shows the existing Zoning of the property.

As mentioned previously, the batching plant is a large, enclosed structure. The plant building will be 18.3m in height, more than the 15m height limit in the RG5 zone and so an amendment to the Zoning By-law is requested to allow a slight increase in building height.

Although the site has an area of 28.4ha, not all the site is requested to be rezoned. Only the western portion of the site towards Carp Road is the subject of this application. The land at the east side of the site is to be left in its current Rural Countryside RU zoning.

A concrete batching plant is a Class II industrial use based on Ministry of the Environment, Conservation, and Parks Guidelines. The Guideline recommends a 70m setback for a Class II facility to any sensitive land use such as a residential dwelling, a school, etc. The site plan provides a much greater than 70m separation distance between the proposed concrete batching plant and the homes on Newill Place.



Figure 3 Existing Zoning



3.0 POLICY AND REGULATORY FRAMEWORK

3.1 PROVINCIAL POLICY STATEMENT

The Provincial Policy Statement 2014 (PPS) provides policy direction on land use planning and development matters of provincial interest. Under Section 3 of the *Planning Act*, decisions affecting planning matters “shall be consistent with” the PPS.

3.1.1 Rural Areas in Municipalities

The PPS defines ‘rural lands’ as those that are not within a ‘settlement area’, nor designated ‘prime agricultural area’. Section 1.1.5 of the PPS states that development that is compatible with the rural landscape and can be sustained by rural service levels should be promoted.

Policy 1.1.5.6 states that opportunities should be retained to locate new or expanded land uses that require separation distances from other uses.

Policy 1.1.5.7 states that opportunities to support a diversified rural economy should be promoted by protecting agricultural and other resource-related uses and directing non-related development to areas where it will minimize constraints on these uses.

The proposed batching plant is in a Rural Employment Area designation in the Official Plan and will not impact or place constraints on agricultural or resource-related uses. The proposed use will produce limited noxious emissions such as dust and noise and as such has been set back from sensitive uses to minimize any potential impact. The proposed development can be sustained by rural service levels including services by private water and wastewater infrastructure.

3.1.2 Land Use Compatibility

Policy 1.2.6.1 discusses ‘major facilities’ such as airports, industries or resource extraction activities. Major facilities and sensitive land uses should be appropriately designed, buffered or separated to prevent or mitigate any adverse effects from odour, noise, and other contaminants to ensure the long-term viability of major facilities.

The closest dwelling is located at 2087 Richardson Side Road, south of the property, on a large lot. A vacant, forested intervening lot (2075 Richardson Side Road) separates the development area from the existing dwelling. The development will be located approximately 200m from the dwelling, and approximately 300m from the next closest dwelling on Newill Place. This separation distance is greater than that recommended by Ministry Guidelines for Class II industrial facilities.

3.1.3 Sewage, Water and Stormwater

Section 1.6.6.4 of the PPS states that individual, on-site water and wastewater services may be used if site conditions are suitable for their long-term provision without negative impacts. Hydrogeological (September



2018) by Golder Associates Ltd. and Geotechnical (September 2018) Reports by GEMTEC Consulting Engineers and Scientists Ltd. were completed for the proposed development. The reports demonstrate there is sufficient quantity and quality of groundwater to service the proposed development, and soil conditions are conducive to the continued operation of the septic system without any negative impacts on surrounding drinking water or environmental features. Further detail is provided in Section 4 of this Report.

3.1.4 Wise Use and Management of Resources

Section 2.0 of the PPS provides further policies related to the protection natural resources, summarized below.

- Section 2.1 (Natural Heritage): The proposed development will occupy a limited area of the larger property, and will not impact any significant wetlands, woodlands, valleylands or areas of natural or scientific interest. The proposed development has been set back 15m from the Huntley Creek meanderbelt allowance setback to ensure there are no impacts from the development on natural heritage features.
- Section 2.2 (Water): The development will not impact groundwater features, natural heritage features or municipal drinking water supplies. The proposed development has been set back 15m from the Huntley Creek meanderbelt allowance setback to ensure that the use will not impact surface water features. Further information is provided in the hydrogeological assessment and environmental impact statement, summarized in Section 4.
- Section 2.3 (Agriculture): The property is not located on lands with any identified agricultural potential.
- Section 2.4 (Minerals and Petroleum): There are no mineral or petroleum resources on the property.
- Section 2.5 (Mineral Aggregate Resources): The property is not designated as a mineral aggregate resource area. The batching plant is a heavy industrial use and is compatible with surrounding rural and resource extraction uses.
- Section 2.6 (Cultural Heritage and Archaeology): There are no buildings of cultural significance on the property. Adams Heritage prepared a Stage 1 and Stage 2 Archaeological Assessment. A single archaeological site was identified was identified was subject to Stage 3 testing. The remainder of the property was considered free from archaeological sites. The results of the Stage 3 testing are described in Section 4.

3.1.5 Protecting Public Health and Safety

Section 3.0 of the PPS provides policies related to reducing the potential public cost and protection of residents from natural or human-made hazards.

- Section 3.1 (Natural Hazards): The property is not located on lands impacted by hazardous sites, erosion and/or dynamic beach hazards, or large inland lakes. A Geotechnical Investigation prepared by GEMTEC (September 2018) did not identify any natural hazards present on-site. Additional details are provided in Section 4 of this Rationale.



- Section 3.2 (Human-Made Hazards): No mining, aggregate operation or petroleum resource operation hazards exist within 500m of the property. Golder Associates was retained to conduct Phase 1 and Phase 2 Environmental Site Assessments (ESA) (September 2018) of the property. The reports concluded that the APECs identified on-site are not located near the proposed concrete plant.

3.2 OTTAWA OFFICIAL PLAN

The property is designated Rural Employment Area on Schedule A of the Official Plan (OP). Section 3.7.5 of the OP states that Rural Employment Areas are intended to support clustering of primarily industrial uses not suitable in the Urban Area or General Rural Area. **Figure 4** is an excerpt of Schedule A Rural Policy Plan to the Official Plan that shows the Official Plan designation on the site.

Policy 2 of Section 3.7.5 states that uses permitted within rural employment areas include (emphasis added):

- a) New heavy and light industrial uses, such as steel and concrete fabrication, farm equipment and supply centres, machine and vehicle sales service and repair, construction yards, building products yards, landscape contractors, nurseries;
- c) Uses that are noxious by their noise, odour, dust or other emissions or that have potential for impact on air quality or surface water or groundwater, such as salvage or recycling yards, composting or transfer facilities; concrete plants; the treatment of aggregate products; and abattoirs; these uses shall not be located adjacent to a highway unless suitable screening and landscaping are provided.

The concrete batching plant is considered a heavy industrial use and is specifically referenced as a permitted use in the designation. The proposed use will be located over 500m from Carp Road and 300m from Richardson Side Road; limited landscaping will be provided at the entrance to the site.

Section 3.7.5.1 of the OP provides provisions for the Carp Road Corridor and references the existing community design plan for the corridor. The Carp Road Corridor Community Design Plan is discussed further in Section 3.3 of this Rationale.

3.2.1 Water and Wastewater Servicing

Section 4.4 of the OP outlines policies regarding the provision of water and wastewater services. The proposed development is located outside the City's Public Service Area and will be serviced by a private well and septic systems.

Golder Associates prepared a Hydrogeology Investigation, Terrain Analysis and Impact Assessment that proves the site has an adequate supply of groundwater to support the concrete batching plant and administration building. Their report also confirms that private services can service the site. Further information about this Report is in Section 4.



3.2.2 Archaeological Resources

Section 4.6.2 requires that an archaeological resource assessment be conducted where archaeological potential exists. Adams Heritage prepared a Stage 1 and Stage 2 Archaeological Assessment. A single archaeological site was identified was identified was subject to Stage 3 testing. The remainder of the property was considered free from archaeological sites. The results of the Stage 3 testing are described in Section 4.

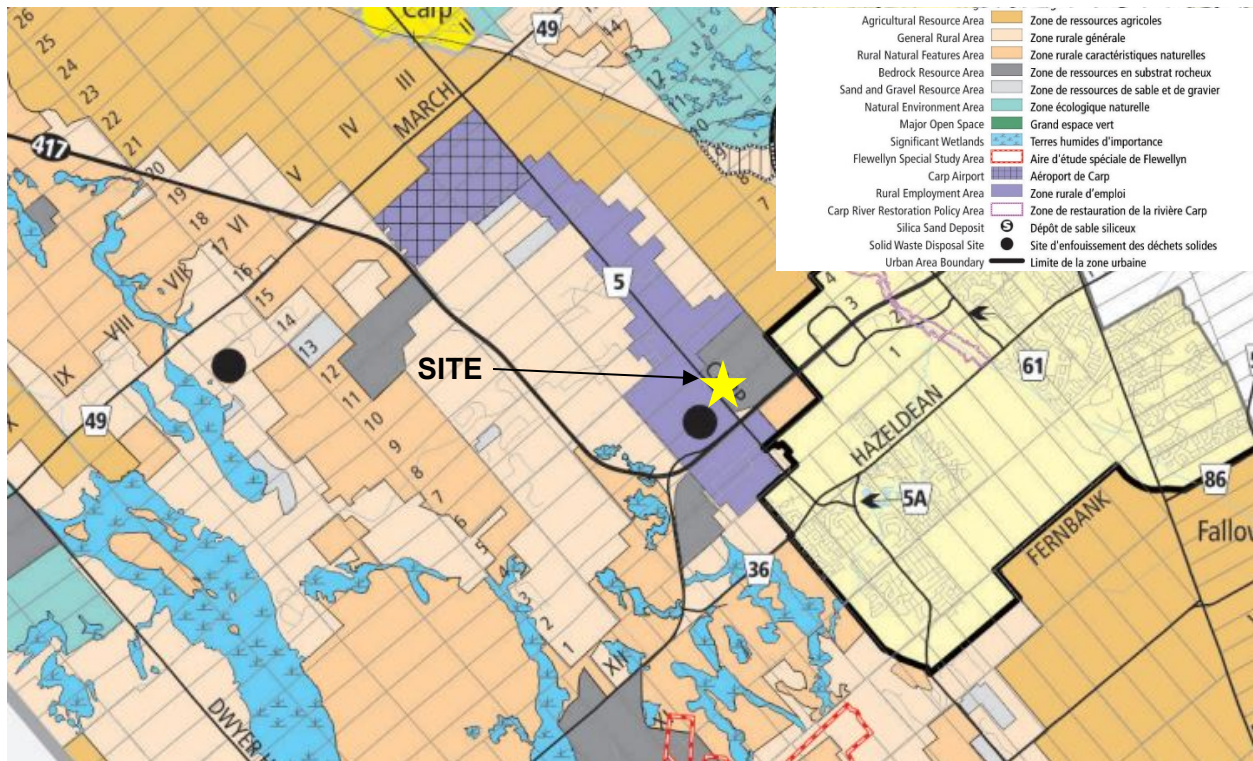


Figure 4 Official Plan Designation

3.2.3 Environmental Protection

Section 4.7 of the Official Plan discusses protection of natural features and functions, including the protection of watercourses and identification of endangered or threatened species and their habitat.

Muncaster Environmental Planning Inc. prepared an Environmental Impact Statement and Tree Conservation Report that recommends mitigation measures to minimize the impacts to the natural environment features within and adjacent to the site. A summary of their Report is contained in Section 4.



3.2.4 Protection of Health and Safety

There are no natural hazards or human-made hazards that would be cause for concern with this project

In conclusion, the proposed amendment to the Zoning By-law and application for Site Plan Control is in conformity with the Official Plan.

3.3 CARP ROAD CORRIDOR COMMUNITY DESIGN PLAN (CDP)

The Carp Road Corridor Community Design Plan was approved in 2004 and covers the lands abutting Carp Road from Rothbourne Road, south of Highway 417 in the south to March Road in the north.

The vision for the Carp Road Corridor is that it be recognized as an employment area for a wide range of commercial and industrial uses; as a business area with good access to transportation; as a rural landscape; and as rural area to live, work and play.

One of the objectives of the Plan is that the Corridor be promoted as a rural employment area for a wide range of industrial and commercial uses. The Community Design Plan created a series of sub-categories to provide guidance as to the type of land uses that should locate there in the future. **Figure 5** is Schedule 1 to the Community Land Use Plan that sets out land use designations. The site is designated as Light Industrial Area, Open Space Area and Marginal Resource Area on Schedule 1.

The Light Industrial designation applies to the westerly portion and over one-half of the area of the site. Uses include manufacturing plants, warehouses, storage uses, contractor or construction related uses. A concrete batching plant is a permitted use under this range of uses. The policies include having a well-designed site that minimizes interference with uses on adjacent lands. The site plan shows the proposed layout of the concrete batch plant, parking, etc. that has the uses located far from lot lines of abutting properties as a means of minimizing interference.

None of the proposed site development is proposed on Marginal Resource Area lands. Industrial and commercial uses are not permitted on these lands.

The lands designated as Open Space abut watercourses in the CDP. The intent of this designation is that these lands are maintained in their natural state as much as possible. No new development is proposed adjacent to the watercourse on site.



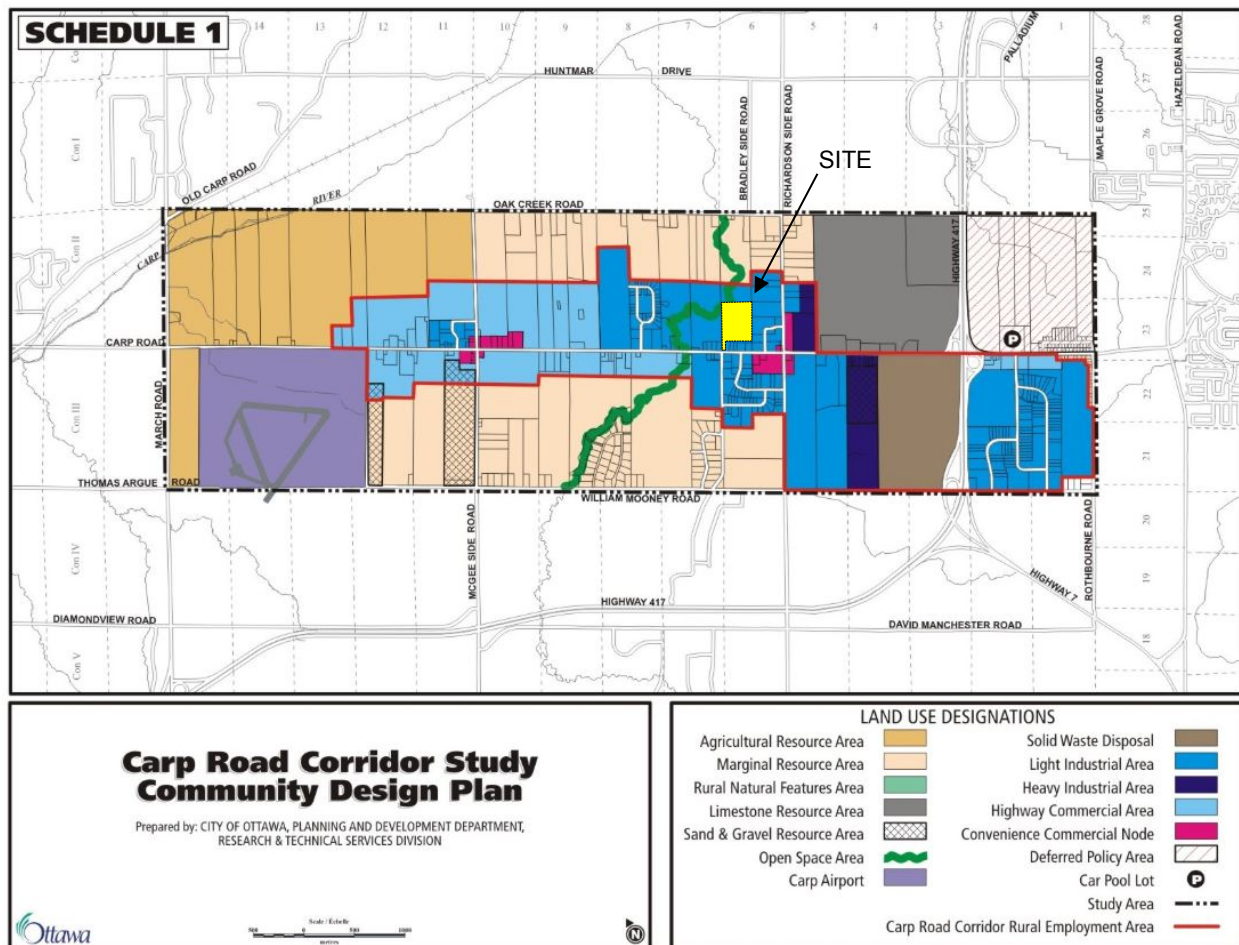


Figure 5 Schedule 1 to Carp Road Corridor CDP

Another objective of the CDP is to protect and enhance natural features in the Carp Road Corridor. The site plan does not propose to disturb the areas adjacent to the watercourse and the landscape proposes new plantings of native plant materials as a means of improvement to existing natural features.

A third objective of the CDP is to ensure that adequate servicing is provided. The hydrogeology report that was submitted as part of these applications proves there is an adequate supply of water. There is an existing well that services the residence which is being converted to an office use.

A further objective is to ensure that Carp Road continues to function as a major arterial road. The site plan shows that a reconstructed driveway onto Carp Road is to be used for access purposes.

A final objective is to enhance the visual appearance of the corridor and maintain the rural landscape. For industrial land uses, limited access is to be provided to Carp Road. The site plan proposes that the existing driveway onto Carp Road be improved as a paved means of access and egress. Parking areas are to be provided in locations that are distant from property lines and have a large separation distance between the proposed parking lot and the existing property lines.



Storage and service areas are to be at the rear of buildings. The intent is to use buildings as a means of screening these uses from view. The proposed location of storage and service uses is distant from existing uses, so there is no need to be concerned about them being located behind buildings.

Existing trees are to be preserved as much as possible and additional landscaping provided. The tree conservation plan shows the extent of removal of trees and the landscape plan shows how tree removal has been compensated and additional plant material added to the site.

In conclusion, the applications for Zoning By-law Amendment and Site Plan Control are in conformity with the Carp Road Corridor Community Design Plan.

3.4 ZONING BY-LAW 2008-250

3.4.1 Proposed Zoning By-law Amendment

The western portion of the site that is the subject of this application is presently zoned Rural General Industrial Zone RG5 and Rural General Industrial Zone RG5, Rural Exception 275 Holding, RG5(275r)-h. The land at the east end of the site, abutting Newill Place will remain in its current Rural Countryside RU Zone.

The Rural General Industrial Zone permits industrial uses such as automobile body shops; heavy equipment and vehicle sales, rental and servicing; light industrial uses; limited types of retail; stores; service and repair shops; truck transport terminals and warehouses - uses that are appropriate for the Carp Road Corridor. Table 220B sets out the development standards of the RG4 and RG5 Zones, both of which are considered appropriate for the Carp Road Corridor.

TABLE 220B – RG4 AND RG5 SUBZONE PROVISIONS

I ZONING MECHANISMS		PROVISIONS	
		II RG4	III RG5
(a) Minimum lot width (m)		30	30
(b) Minimum lot area (m ²)		1800	4000
(c) Minimum front yard setback (m)		12	12
(d) Minimum rear yard setback (m)	(i) Abutting a RG, RH or RC zone	7.5	7.5
	(ii) Other cases	10	10
(e) Minimum interior side yard	(i) Abutting a RG, RH or RC zone	4.5	4.5



setback (m)	(ii) Other cases	10	10
(f) Minimum corner side yard setback (m)		12	12
(g) Maximum principal building height (m)		15	15
(h) Maximum lot coverage (%)		50	50
(i) Outdoor storage		(a) outside storage is not permitted within any required front yard or corner side yard (b) outside storage must be screened from abutting residential uses or zones and public streets by an opaque screen at least 1.8 m in height from finished grade	

Exception 275r places limitations on the types of uses allowed on the site until the holding symbol is lifted. To have the holding symbol lifted, a site plan, subdivision or consent application must be filed for the lands. As an application for Site Plan Control is filed concurrently with the amendment to the Zoning By-law, this application requests that the holding symbol be removed.

A concrete batch plant is a use within the definition of a “heavy industrial use” in the Zoning By-law because it involves the manufacture or processing of products from raw materials and includes the storage of these products and materials.

Here is the wording of Rural Exception 275:

275r (By-law 2017-148) (OMB Order, File #PL080959 issued July 13, 2009) (By-law 2008-326) (By-law 2008-457)	RC9-h, RG5[275r]-h	- the following interim uses are permitted until the holding symbol is removed: - agriculture use: - environmental preserve and education area - conservation use - forestry operation - home-based business	- the holding symbol may only be removed by amendment to this by-law upon compliance with the following: (a) submission and approval by the City of a site plan, consent or subdivision application - despite the wording of Section 128 that restricts the regulations therein to being applicable only on lots zoned RU or AG, any home-based business located at 2485 Carp Road, is subject to the regulations of Section 128 - parcels of land 1.65 ha and smaller are not subject to the holding symbol provisions and the uses in the underlying zone are permitted.
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In summary, this application for Zoning By-law Amendment requests;

- That a “heavy industrial use” be added as a permitted use on the land subject to this application;
- That the maximum permitted building height be increased from 15m to 18.3m;
- That the holding symbol be removed from the lands zoned RG5(265r)-h.



4.0 OVERVIEW OF TECHNICAL STUDIES

4.1 HYDROGEOLOGICAL ASSESSMENT, TERRAIN ANALYSIS AND IMPACT ASSESSMENT

Golder Associates prepared a Hydrogeological Assessment, a Terrain Analysis and Impact Assessment Report. The objectives were to;

- Determine the shallow soil subsurface and groundwater conditions
- Investigate the potential quantity and quality of groundwater available from drilled wells for concrete production and office water supply
- Assess the potential impact of the on-site sewage systems on downgradient groundwater and/or surface water resources
- Complete a water balance assessment of the proposed development

An investigation of mapping of the surrounding area lead to the conclusion that the bedrock is considered the principal source for water supply where municipal services are not available. This was confirmed by reviewing water well records. There are 7 well records within 500m of the site for water supply wells. All wells were completed in limestone bedrock at depths varying between 20 to 87 metres. Water was found at depths of between 7 to 31 metres in the wells.

The proposed water supply for the concrete plant site will be by two on-site water supply wells. The anticipated average daily water taking rate at the concrete plant is 210l/min for 12 hours/day or 150,000l/day. The concrete plant would also have two 10,000-L water storage tanks to supplement production. The two wells will also supply water for up to 50 employees at the concrete plant (included in the rates above).

A terrain analysis was carried out by Golder between 2015 and 2017. In 2015, 5 boreholes were advanced. In 2017, 11 test pits were dug as well. Monitoring wells were sealed into all 5 boreholes to allow for water sampling and hydraulic testing. Three shallow monitoring wells were installed beside Huntley Creek to monitor the response of the creek level during the pumping test.

A permit to take water (PTTW) was obtained to allow a maximum taking of 340 L/min for up to 3 days at each of the wells on-site. The well at the administration building was tested at a lower rate. As required by the PTTW, all occupants of 9 residences or buildings having a well within 500m of the site were contacted and advised in advance of the proposed test. Written permission was requested to access their wells for monitoring groundwater levels before, during and after the pumping tests.

While the pumping tests were in progress, water samples were taken for chemical, physical and bacteriological testing. The two test wells, while having exceedances of ODWQS parameters were found



to be suitable for concrete production. The house well also had several exceedances. If the exceedance for coliforms persists, bottled water supply will be necessary.

The results of the impact of the pumping test on wells in the immediate area was that some drawdown occurred but within acceptable levels given that the pump test was at larger than average pumping rate over a 48-hour period. Golder concluded that based on their test results, the water taking from the bedrock aquifer for the concrete batching plant will not adversely affect shallow groundwater levels or surface water level near Huntley Creek.

A water balance assessment for current and proposed land uses, with and without LID mitigation measures was completed. This considered land use data, soil types and meteorological conditions. The assessment estimated the amount of total annual runoff from the site and the total annual infiltration under existing conditions. Next, a calculation was made of the post-development water balance for the concrete plant without LID features (bioretention facilities). Under post development conditions, infiltration on-site was forecast to decrease by 10% and runoff to increase by 34%.

The main LID feature comprises two bioretention facilities that will contain stormwater runoff and provide cleaning before discharging into Huntley Creek. This will capture runoff from the concrete plant for approximately 82% of the runoff from the concrete plant facility based on annual precipitation activity in Ottawa. With the implementation of the LID feature, the annual mitigated development runoff and the estimated annual infiltration was calculated. The results between pre-development and post-development mitigated conditions was an estimated increase in the infiltration on-site by 19% and the runoff increase by 1%.

The key conclusions to the Golder site investigation are;

- Pumping tests suggest that both wells supplying the concrete batching plant can supply a higher than anticipated average pumping rate over a 12-hour period than that required under normal operation of the plant. Similarly, the pumping test of the well at the house provided a higher than required supply of water for use by staff.
- While ODWQS exceedances were found in all three wells, the two wells supplying the concrete batching plant do not require treatment as they will not be used for drinking purposes. If exceedances persist at the house well for coliform content, an alternative drinking water supply such as bottled water will be necessary.
- The shallow groundwater levels near Huntley Creek were not affected by the pumping activity at all three wells. Golder concluded that they do not anticipate water taking for the concrete plant will not adversely affect the shallow groundwater levels or surface water levels near Huntley Creek.
- The pumping of any or all test wells are not anticipated to have a significant impact on the available drawdown at nearby water supply wells.
- From the results of the water balance assessment, by implementing the proposed mitigation measures, the site development is likely to increase the average annual infiltration by about 19% while increasing the average annual runoff by about 1% compared to the existing conditions.



- Adverse water quality impacts to the surface water are not anticipated. The theoretical nitrate concentration at the location of groundwater discharge to Huntley Creek was calculated to be within Provincial parameters. The proposed sewage system will be constructed at an appropriate setback from the creek to meet Ontario Building Code and City of Ottawa requirements. As such, no adverse impacts to surface water are anticipated.

4.2 GEOTECHNICAL INVESTIGATION

GEMTEC Consulting Engineers and Scientists Ltd. prepared a Geotechnical Investigation of the site dated August 31, 2018. The purpose of the investigation was to identify the general subsurface conditions at the site using the results of 11 boreholes drilled on the property and analysing the samples taken. The boreholes were drilled to depths of between 1.5 to 2.9m below surface grade. Groundwater conditions were also observed.

The surface comprised topsoil to a depth of 30 to 80 millimetres. Below that was a layer fill material in four of the eleven boreholes that comprised silty sand with gravel, clay, cobbles and boulders interspersed. Deposits of sand with silt and gravel were found in another two borehole locations with silty sand and sandy silt found in the remaining boreholes below the topsoil level.

In some cases, bedrock was found below the second layer and in other instances, glacial till was found.

The groundwater level was measured in mid- 2018 where water was encountered at depths of between 0.7 and 1.5m below existing ground surface. These levels may be higher during wet periods of the year including spring.

The report concluded by making recommendations for excavation, roadway design, footing design and seismic design of proposed buildings or structures as well as design considerations for the proposed driveway.

4.3 ENVIRONMENTAL SITE ASSESSMENTS

Golder Associates Ltd. prepared a Phase 1 Environmental Site Assessment (ESA) Report. The activities included an update of the Phase 1 ESA completed in May 2016, a site visit to verify site conditions and preparation of a Phase 1ESA Update Memo. The Report completed in 2016 included additional properties that are beyond the limits of the current site.

The updated Phase ESA identified no new areas of potential concern (APEC) beyond those identified two years ago.

In 2016, the Potential Concern Areas (PCAs) included;

- Imported fill of unknown quality brought to the site
- Industrial Use - commercial or industrial use of the property – heavy equipment, transformer storage, etc.



- Commercial Automotive Sites – U-Haul, former Nortax property (heavy equipment sales); Riviera Autos on adjacent sites to the west
- Industrial Land Use – concrete product manufacturing south of Richardson Side Road
- Waste Disposal and Waste Management – Recycling facilities on Richardson Side Road and Westhunt Road

These activities resulted in APECs on the site;

1. The presence for soil and groundwater impacts based on reported presence of fill on-site.
2. Potential for soil and groundwater impacts based on former industrial uses on-site as well as off-site industrial uses encroaching onto the site.

Based on the findings of the Phase 1 ESA, a Phase 2 ESA was recommended for the site. Existing monitoring wells on the site, identified in the 2016 Study, may be used to evaluate groundwater impacts related to some of the APECs.

In September 2018, Golder Associates completed a Phase 2 ESA. To complete this endeavour, Golder drilled eleven boreholes and five of these were used for ground water sampling purposes. All the APECs identified in Phase 1 were investigated. Two APECs related to unknown fill quality were found to have soil impacts in one sample each; two other APECs related to unknown fill quality were found to have cobalt impacts in groundwater and one APEC was found to have gasoline and associated products at a former above ground storage tank. Golder opined that cobalt may be naturally occurring in the groundwater at the two locations surveyed as it was not identified in the MOECP Table 8 Standards in soil on the site.

The proposed concrete plant is not located where impacts were identified in the Phase 2 ESA Report. As such, Golder concluded that the APECs identified are not likely to impact the planned concrete plant. There is no requirement for a Record of Site Condition as the redevelopment is not to a more sensitive land use. Excess fill, if any, created during construction will be managed in accordance with current MOECP guidance.

4.4 ENVIRONMENTAL IMPACT ASSESSMENT & TREE CONSERVATION REPORT

Muncaster Environmental Planning Inc. prepared an Environmental Impact Assessment (EIS) and a Tree Conservation Report (TCR). The EIS concluded that outside of the Huntley Creek corridor, no natural heritage features of significance are present on-site or on adjacent property, including no species at risk utilization. The project proposes no disturbance within 80m of the Huntley Creek channel and the woody vegetation along the creek corridor will remain undisturbed.

Most the site where development is proposed comprises regenerating meadow or thicket habitat because of topsoil stripping activities that occurred in the 1990's. Cultural woodlands occur sporadically on the site. There are also coniferous and deciduous hedgerows along the south side of the site abutting the rear of lots on Richardson Side Road. **Figure 6** shows the identified vegetation communities on-site.



Under the City's Natural Heritage Reference Manual, the on-site and adjacent contiguous forests to the north of the site would be considered significant due to the presence of fish habitat in Huntley Creek, a significant natural heritage feature within 50m of the forest, the overall forest size which is greater than 50ha and the interior forest habitat on the site to the north. The Huntley Creek corridor would be considered as significant valleylands due to the slope of the corridor cross-section, a watercourse that supports sensitive fish habitat and well-treed valley slopes.

There were no threatened or endangered species identified on-site nor was habitat suitable for such species observed. The potential for Species at Risk was also reviewed and it was determined that none were present nor was there suitable habitat potential.

The Huntley Creek corridor is considered a significant natural heritage feature with sensitive fish habitat, significant woodlands and significant valley lands. The site plan has been design to retain the Huntley Creek corridor including woody vegetation. **Figure 7** is a map from the TCR that shows the extensive tree conservation and protection that is proposed on-site. The closest site alteration will be 80 metres from the normal high water mark of Huntley Creek. Tree removal will be minimal with retained trees near of the limit of development being protected with fencing around the trees' critical root zones.

The EIS / TCR Report concludes with a series of recommended mitigation measures including planting native trees and shrubs as part of the landscape plan; removal of woody vegetation outside the breeding bird period; installation of silt fencing and sediment and erosion control measures; no discharges being directed towards Huntley Creek; and permanent fencing being installed along the north limit of the area of disturbance.

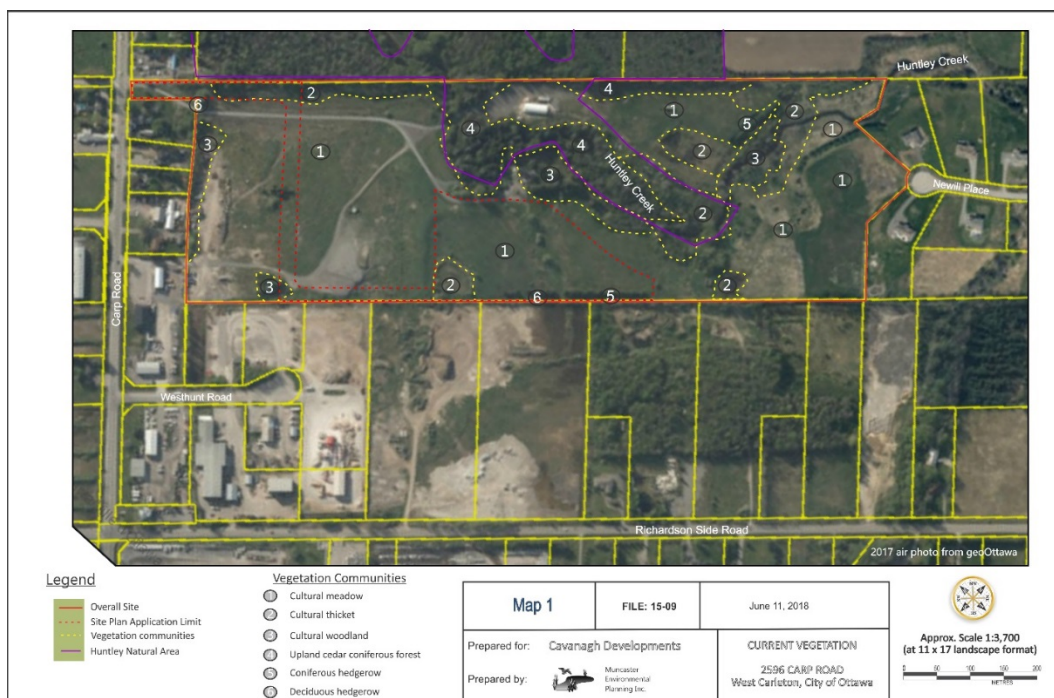


Figure 6 Vegetation Communities



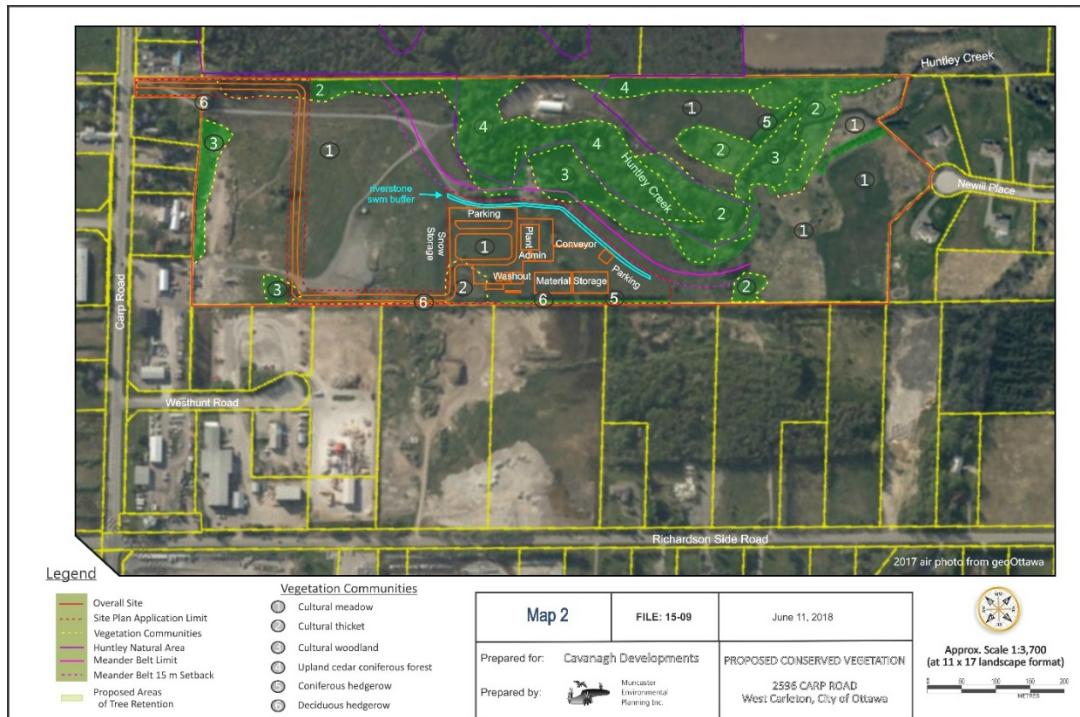


Figure 7 Proposed Conserved Vegetation

4.5 STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT AND STAGE 3 INVESTIGATION

Adams Heritage produced a Stage 1 and 2 Archaeological Assessment in May 2018. Parts of the site are within 100m of an early settlement road – Carp Road and the presence of a tributary creek of the Carp River made the site of interest from a historical archaeological potential and from a Pre-contact First Nations and historic Euro-Canadian archaeological perspective.

All areas on-site capable of having supported past human settlement were investigated. Much of the site has been subject to comprehensive disturbance, thereby eliminating its archaeological potential. However, one area was found to contain historic Euro-Canadian artifacts and may represent the location of a dwelling identified in maps and atlases from the 1860's and 1870's.

The Stage 2 investigation concluded that most of the site does not contain archaeological sites and therefore is considered free from any archaeological constraints. However, the location where artifacts were found was registered and testing was done using a 5 metre grid.

In the Stage 3 investigation, a total of 65 artifacts were recovered from 11 test pits. Finds related to items found near a 19th or 29th century domestic dwelling – architectural items such as iron nails, window glass, mortar fragments and household debris – broken crockery, smoking pipe fragments, bottle glass, buttons, etc.



The Stage 3 Investigation addressed mitigation of the potential impacts on the registered archaeological by recommending avoidance and protection. Site development is not proposed near this location. During construction activity, a temporary barrier such as snow fencing is to be installed to prevent migration of construction related activity into this area.

4.6 SERVICING AND STORMWATER MANAGEMENT REPORT

Robinson Land Development prepared a Servicing and Stormwater Management Report for the proposed development.

For most of the site, the design is not to impede existing drainage patterns towards Huntley Creek. For the site area where the proposed batching plant and associated facilities are located, grading will direct drainage by sheet flow towards a LID stormwater management facility. The proposed new access roadway will be a rural cross-section that will be grassed and will convey stormwater to the LID stormwater facility.

In terms of water service, the existing well that serves the residence will continue to serve the building after its conversion to office space.

The Hydrogeology Investigation, Terrain Analysis and Impact Assessment by Golder Associates concludes that there is an adequate supply of groundwater available for both the concrete plant use and the administration building.

For sanitary servicing, there is an existing septic system that serves the administration building. GEMTEC has confirmed the adequacy of the system. GEMTEC designed a new on-site septic system to adequately treat all sewage flows generated from the concrete mixing plant.

For stormwater management, the presence of Huntley Creek, a tributary of the Carp River, requires a high level of protection due to the presence of fish present in the watercourse that are uncommon to the Ottawa area. MVCA requires that an enhanced level (80% TSS) of removal be provided; thermal control of 25 degrees Celsius; and that no development occur in the floodplain or in the meanderbelt.

To achieve an enhanced level of quality control of stormwater runoff, two bioretention facilities will be used across the site to capture stormwater runoff and provide cleansing before discharging into Huntley Creek. Also to achieve enhanced level protection, infiltration type stormwater measures are proposed.

Runoff from the access road and side ditches will be handled by a sequence of passing over grassed roadside ditches; by a rip-rap treatment strip; and by a vegetated swale before discharging into the existing ditch, and finally into Huntley Creek.

Pre-treatment of stormwater will be provided mainly by a 3m wide rip-rap pre-treatment strip along the outer edge of the concrete batching plant portion of the site. This will dissipate energy and provide a settling basin for large sediments.



Temperature control will be achieved by several design features;

- Use of bioretention facilities instead of ponds
- Bioretention facilities designed to allow stormwater to infiltrate into the ground before entering the Creek
- Layers of bioretention filters, including a gravel storage layer, that promotes the cooling process
- Use of plantings that provide shading to the vegetated swales and bioretention facilities

Sediment and erosion control will be provided using silt fences and straw bale check dams. These measures require regular inspection and maintenance.

5.0 CONCLUSION

It is our opinion that approval of the application for Zoning By-law Amendment and Site Plan Control to permit a concrete batching plant at 2596 Carp Road should be granted for the following reasons;

1. The approval of the applications is consistent with the Provincial Policy Statement 2014.
2. The applications are in conformity with the Official Plan.
3. The applications are in conformity with the Carp Road Corridor Community Design Plan.
4. The Site Plan Control application is in compliance with the Zoning By-law as amended.
5. The proposed development is an appropriate use of land and is compatible with adjacent land uses.
6. The approval of the applications represents good land use planning.
7. It is in the public interest to approve the applications.

Respectfully submitted,



David Krajaefski, MCIP, RPP
Senior Project Manager

