# Appendix E.2
# Natural Heritage Report

# NATURAL HERITAGE REPORT

## HIGHWAY 50 FROM CASTLEMORE ROAD TO MAYFIELD ROAD
## MAYFIELD ROAD FROM HIGHWAY 50 TO COLERAINE DRIVE
## MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT STUDY

***prepared for:***

HDR | iTRANS

***prepared by:***

LGL LIMITED
environmental research associates

**JANUARY 2012**

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## MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT STUDY


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# 1.0 INTRODUCTION

The Regional Municipality of Peel is undertaking a Schedule "C" Municipal Class Environmental Assessment (Class EA) for improvements to Highway 50 from Rutherford Road/Castlemore Road to Mayfield Road, and Mayfield Road from Highway 50 to Coleraine Drive. The study limits are presented in **Figure 1**.

This Class EA is being conducted by HDR | iTRANS Consulting Inc. on behalf of the Regional Municipality of Peel. LGL Limited, as a sub-consultant to HDR | iTRANS, is providing natural heritage services. This Natural Heritage Report documents the results of data collection and analysis in the fall of 2009 and the potential effects of this project on natural heritage features, including environmental protection measures.

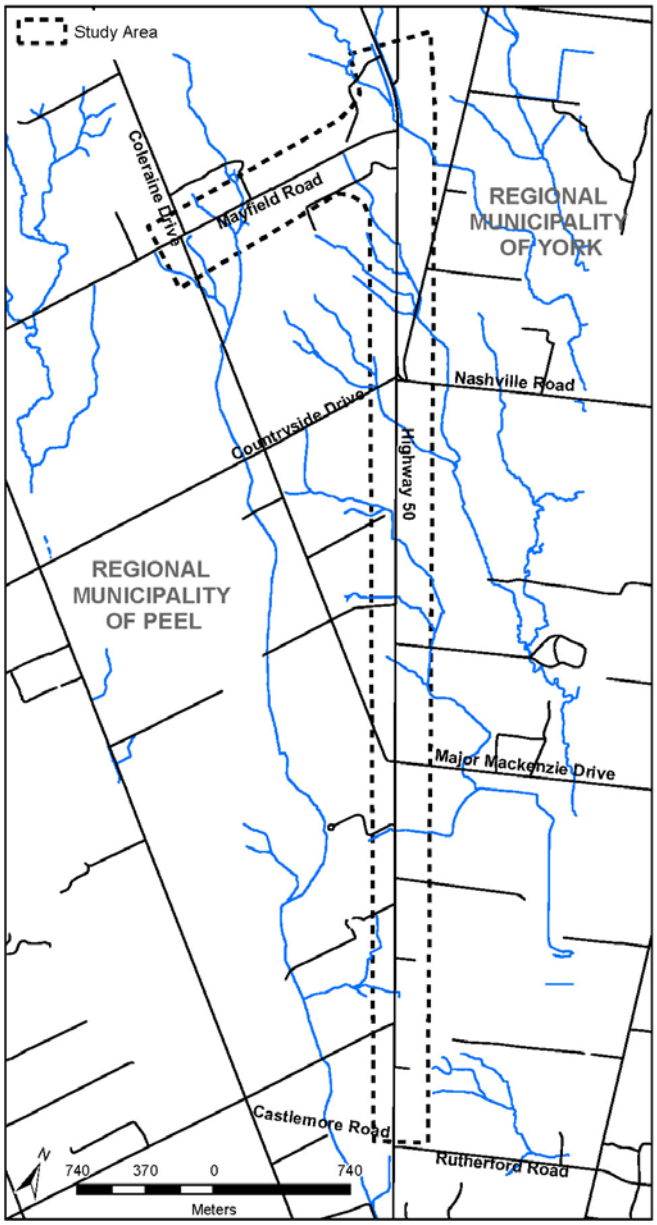



**FIGURE 1. KEY PLAN**

# 2.0 EXISTING CONDITIONS

The following discussion outlines the existing environmental conditions within the study area and identifies natural heritage areas and/or features of environmental sensitivity and/or significance.

## 2.1 Physiography and Soils

The study area is located within the Peel Plain physiographic region, which extends through the central portions of the Regions of Halton, Peel and York and ranges in elevation from 150 m to 230 m above sea level. The Peel Plain is a level to undulating tract of clay soils with imperfect drainage, through which the Credit, Humber, Don and Rouge Rivers have carved deep valleys (Chapman and Putnam 1984). The study area is entirely comprised of Peel clay soils (Hoffman and Richards 1953 and 1955), and is described further in the following section.

### 2.1.1 Peel clay

Peel clay is part of the Cashel catena, which developed on high lime lacustrine clays and underlying fine textured clay till. Peel clay is imperfectly drained, and is a neutral to slightly acidic soil with clay till at depths of up to 0.9 m. Areas with Peel clay soils have a gently sloping topography with slight potential for erosion. Internal drainage and runoff is low, except when slopes are steep enough to increase external drainage (Hoffman and Richards 1953 and 1955).

## 2.2 Aquatic Habitats and Communities

The study area is located in the Humber River watershed (Main Humber River subwatershed, Rainbow Creek secondary subwatershed; TRCA 2008). According to the mapping presented in the Humber River Fisheries Management Plan (OMNR & TRCA 2005), three first order streams cross Mayfield Road on either side of the Highway 50 intersection (two in the northwest and one in the northeast) and converge approximately 75 m to the south where the watercourse flows in a generally southeasterly direction. Ontario Base Mapping data illustrate two watercourses in the northwest portion of the intersection and approximately six crossings of Highway 50 between Mayfield Road and Castlemore Road. OMNR and TRCA (2005) mapping indicates that there are two first order stream crossings of Highway 50 between Mayfield Road and Castlemore Road. The Humber River falls under the jurisdiction of the Toronto and Region Conservation Authority (TRCA) and the Ministry of Natural Resources (MNR) Aurora District.

LGL Limited was involved in the Municipal Class Environmental Assessment Study for improvements to the intersection of Regional Road (Highway) 50 and Mayfield Road. The watercourses in that study area are encompassed by this project's study area and are considered to be small riverine warmwater habitat, and are managed for darter species (OMNR & TRCA 2005). No fish species at risk have been reported from the watercourses within the study area. The habitat in the vicinity of the intersection supports a warmwater baitfish community.

Historic data are unavailable for the watercourses within the study area. However, similar to the watercourses crossing Mayfield Road, the watercourses crossing Highway 50 within the study area have been classified as small riverine warmwater systems that are managed for darter species (OMNR & TRCA 2005).

LGL conducted a survey of aquatic habitat on November 10, 2009 to characterize the aquatic habitat within the study area. The fish habitat was assessed approximately 50 m upstream and 100 m downstream of each crossing, where applicable. Physical habitat features were surveyed in sufficient detail to enable mapping and identification of key habitat types. The physical habitat attributes assessed included: (a) instream cover, (b) bank stability, (c) substrate characteristics, (d) stream dimensions, (e)

barriers, (f) stream morphology, (g) terrain characteristics, (h) stream canopy cover, (i) stream gradient, (j) aquatic vegetation, (k) ground water seepage areas, and (l) general comments. Habitat conditions were noted in the field and representative photographs were taken. Field work was previously conducted at the intersection of Mayfield Road and Highway 50 on November 23, 2006 by LGL Limited, and the existing conditions information from this visit has been included in this report. **Figures 2A** and **2B** present the location of the crossings and a summary of the aquatic habitat is presented below. Photos of the crossings are provided in **Appendix A**.

### 2.2.1 Site 1

This drainage feature crosses under Highway 50 from east to west through a small diameter corrugated steel pipe (CSP) culvert. Upstream (east), it consisted of a roadside ditch adjacent to the landscaped property of an industrial facility. Downstream of Highway 50 (west), the feature consisted of a swale through an agricultural field. Although the swale had been planted with crops (corn), the corn plants in and around the channel were stunted or absent, indicating that the swale is wet for much of the growing season. No water flow was evident during the November 10, 2009 field visit, but standing water was present in some areas. The drainage feature at Site 1 is considered a watercourse by the TRCA on the downstream (west) side only. Because of its proximity to a downstream watercourse managed as small riverine warmwater habitat by the TRCA (OMNR and TRCA 2005), the watercourse at Site 1 should be considered indirect fish habitat.

### 2.2.2 Site 2

This drainage feature crosses under Highway 50 from west to east through a medium diameter CSP culvert. Upstream, it consisted of a dry, shallow ditch along the south side of Cadetta Road. To the south was an agricultural field. Downstream (east) of Highway 50, the feature consisted of a northerly flowing ditch located between a berm (to the west) and an industrial property (to the east). The ditch was lined with *Phragmites* and cattails. It runs between the berm and the industrial property for approximately 220 m before curving to the east. No water flow or standing water was evident during the field investigation on November 10, 2009. The downstream (east) portion of the drainage feature at Site 2 is considered a watercourse by the TRCA. It is likely that this watercourse does not constitute direct fish habitat. However, because the watercourse at Site 2 flows to a downstream watercourse managed as small riverine warmwater habitat by the TRCA (OMNR and TRCA 2005), it should be considered indirect fish habitat. In addition, water from the Site 2 feature eventually contributes to known Redside Dace (*Clinostomus elongatus*) habitat in Rainbow Creek but, at this crossing, the watercourse is still considered to be warmwater fish habitat.

### 2.2.3 Site 3

The watercourse at Site 3 crosses Highway 50 through a medium diameter CSP culvert from west to east approximately 550 m north of Major Mackenzie Drive. Upstream, the feature consisted of a small ditch dug through an agricultural field. Downstream of the roadway the watercourse consisted of a swale through an agricultural field. At the downstream end of the culvert, a dense stand of *Phragmites* was present within the right-of-way (ROW). No water flow was evident during the November 10, 2009 field visit, but standing water was present in some areas. The TRCA considers the feature at Site 3 to be a warmwater watercourse on both sides of Highway 50. It should be noted that water conveyed across the roadway at this crossing flows into Redside Dace habitat in Rainbow Creek downstream.

### 2.2.4 Site 4

The watercourse at Site 4 crosses Highway 50 through a concrete box culvert from west to east approximately 345 m north of Site 3. Upstream, the feature consisted of a small manicured ditch running in a straight line near the edge of a residential property. Adjacent land use surrounding the residence was

agricultural. Located approximately 210 m upstream (west) of the crossing is a farm pond from which the water in the ditch apparently originates. Downstream of the roadway water flow has been blocked by a large berm in front of a residential property. As such, the water exits the culvert into a large ditch that parallels the roadway for approximately 15 m. This ditch, which contains abundant cattail growth, ends at its south end at a medium diameter CSP that conveys water through the berm and exits outside of the ROW. The downstream channel is located within a manicured area, although a small buffer of natural vegetation (cattails, grasses) was left immediately adjacent to the watercourse. No water flow was evident during the November 10, 2009 field visit, but standing water was present inside the culvert and near and within the upstream end of the CSP. The TRCA considers the feature at Site 4 to be a warmwater watercourse on both sides of Highway 50. It should be noted that water conveyed across the roadway at this crossing flows into Redside Dace habitat in Rainbow Creek downstream.

### 2.2.5 Site 5

The watercourse at Site 5 crosses Highway 50 through a concrete box culvert from west to east approximately 310 m north of Site 4. Upstream, the feature consisted of a wide, flat ditch/swale paralleling the roadway adjacent to an agricultural field. The ditch/swale was approximately 135 m long and apparently conveys water from a series of agricultural swales to the northwest of the crossing. The ditch/swale was lined with *Phragmites* and its channel features were poorly defined. Downstream of the roadway the drainage feature consisted of a dug channel through an agricultural field. Between the downstream end of the culvert and the edge of the ROW (fence), no channel definition was evident and much cattail growth was present. Once in the agricultural field, the channel became defined (likely as a result of maintenance by the farmer) with exposed soil/clay banks that were near vertical. Substrates consisted of exposed clay with scattered boulder and cobble. No water flow was evident during the November 10, 2009 field investigation, but standing water was present in the downstream channel. The TRCA considers the feature at Site 5 to be a warmwater watercourse on both sides of Highway 50. It should be noted that water conveyed across the roadway at this crossing flows into Redside Dace habitat in Rainbow Creek downstream.

### 2.2.6 Site 6

The watercourse at Site 6 crosses Highway 50 through fairly large twin CSP culverts from west to east approximately 225 m south of Countryside Drive/Nashville Road. Upstream of the Highway 50 crossing, the watercourse flowed through a natural area consisting of old field vegetation and a small cattail marsh/ponded area. This natural area is located in the entire northwest corner of the Countryside Drive-Highway 50 intersection and has been mapped as “meadow” habitat by the TRCA, with the corridor in which the watercourse is located classified as “potential natural cover” in the TRCA’s Terrestrial Natural Heritage System. The channel is well defined, narrow (<1 m) and overhung with terrestrial herbaceous vegetation. There was debris present in the channel (wooden pallets) and the banks appeared to be undercut, although the upstream channel was on private property outside of the Highway 50 ROW and thus this was difficult to ascertain. Substrates were likely fine as no coarse material was observed from the ROW.

At the fence, upstream of the culverts, a small berm had been constructed which formed a barrier to fish movement from downstream. Standing water was present in the channel upstream of the berm, but no flow over the berm was evident.

Downstream of the roadway the watercourse was very similar to that observed at Site 5 and consisted of a dug channel through an agricultural field. Like Site 5, no defined channel was present between the downstream end of the culvert and the edge of the ROW (fence), and much cattail growth was present. At Site 6, however, there was a steep drop in channel elevation at the fenceline and a large pool was present. The pool contained standing water and much filamentous green algae growth. As at the previous

site, once in the agricultural field, the channel became defined (likely as a result of maintenance by the farmer) with exposed soil/clay banks that were near vertical. Substrates consisted of exposed clay with scattered boulder and cobble. No water flow was evident during the November 10, 2009 field investigation, but standing water was present in the downstream channel. The TRCA considers the feature at Site 6 to be a warmwater watercourse on both sides of Highway 50. It should be noted that water conveyed across the roadway at this crossing flows into Redside Dace habitat in Rainbow Creek downstream. The downstream area around the watercourse is located within the Regulation Limit of the TRCA.

### 2.2.7 Site 7

The drainage feature at Site 7 crosses Highway 50 through small diameter twin CSP culverts from west to east approximately 370 m north of Countryside Drive/Nashville Road. Upstream, the feature consisted of a dry, poorly defined swale through an agricultural field. Downstream of the roadway the watercourse consisted of a dry, poorly defined channel through old field vegetation. At the downstream end of the culvert, a stand of cattails was present within the ROW. No water flow was evident during the November 10, 2009 field visit, and no standing water was observed. The TRCA considers the feature at Site 7 to be a watercourse (warmwater) only on the downstream (east) side of Highway 50. It should be noted that water conveyed across the roadway at this crossing flows into Redside Dace habitat in Robinson Creek downstream. The downstream area around the watercourse is located within the Regulation Limit of the TRCA.

### 2.2.8 Site 8

The drainage feature at Site 8 crosses Highway 50 through medium diameter twin CSP culverts from west to east approximately 105 m north of Site 7. Similarly to Site 7, upstream, the feature consisted of a dry, poorly defined swale through an agricultural field. Downstream of the roadway, a new berm has been created immediately to the east of the ROW that has completely blocked flow. As a result, an approximately 10 m long pooled area has formed in the ditch. This pooled area then continues along both sides of the fence parallel to the roadway and berm and is approximately 20 m long. It contained some cattail growth and standing water during the November 10, 2009 field investigation. However, no water flow was observed and it is not clear as to where these pooled areas drain, as no connection to a downstream channel was evident. The TRCA considers the feature at Site 8 to be a watercourse (warmwater) only on the downstream (east) side of Highway 50. It should be noted that water conveyed across the roadway at this crossing flows into Redside Dace habitat in Robinson Creek downstream. The downstream area around the watercourse is located within the Regulation Limit of the TRCA.

### 2.2.9 Site 9

The drainage feature at Site 9 crosses Highway 50 through medium diameter twin CSP culverts from west to east approximately 110 m north of Site 8. Upstream, the feature consisted of a wide, poorly defined swale through an area of old field vegetation. Within the ROW, a roadside ditch vegetated with terrestrial species (grasses) conveys flows to the culverts. Downstream of the roadway, a small area of cattails was present within the ROW through which water would flow diffusely. Beyond the ROW, a more defined channel was present that coursed through old field vegetation. No flow was evident during the November 10, 2009 field investigation, but some standing water was present at the downstream end of the culvert and in the channel downstream of the ROW. The TRCA considers the feature at Site 9 to be a warmwater watercourse on both sides of Highway 50. It should be noted that water conveyed across the roadway at this crossing flows into Redside Dace habitat in Robinson Creek downstream. Both the upstream and downstream areas around the watercourse are within the Regulation Limit of the TRCA.

### 2.2.10 Site 10

The drainage feature at Site 10 crosses Highway 50 through medium diameter twin CSP culverts from west to east approximately 130 m north of Site 9. These culverts are positioned at a strong skew to the roadway. Upstream, the feature consisted of a dry, poorly defined swale through an agricultural field. Within the ROW, a roadside ditch vegetated with terrestrial species (grasses) conveys flows to the culverts. Downstream of the roadway, a poorly defined channel conveys water through cattails toward Cold Creek Road. No flow was evident during the November 10, 2009 field investigation, and very little standing water was present in the downstream channel. The TRCA considers the feature at Site 10 to be a warmwater watercourse on both sides of Highway 50. It should be noted that water conveyed across the roadway at this crossing flows into Redside Dace habitat in Robinson Creek downstream. Both the upstream and downstream areas around the watercourse are within the Regulation Limit of the TRCA.

### 2.2.11 Site 11

Sites 11 to 14 are all located within or adjacent to the Mayfield Road/Albion-Vaughan Road and Highway 50 intersection and are tributaries of Robinson Creek. These watercourses are considered to be Small Riverine Warmwater Habitat and are managed for darter species (OMNR & TRCA 2005). All are within the Regulation Limit of the TRCA. Although they flow into Redside Dace habitat (Robinson Creek), the TRCA regard these sites as warmwater habitat.

Site 11, located in the southwest quadrant of the intersection receives water from both Sites 13 and 14 and contributes to the watercourse at Site 12. Water from the northwest quadrant (Sites 13 and 14) was conveyed through a concrete culvert into the southwest quadrant. Habitat in this area consisted of a roadside ditch which was lined with rip rap and densely vegetated with cattails. The channel was approximately 30 m long. Substrates consisted of muck overlying the rip rap and much matted algae was present. Instream cover consisted of exposed rip rap and emergent vegetation.

A small pool was present at the downstream end of the channel where it entered the concrete culvert that conveyed flows under Highway 50. This pool did not contain cattails and was approximately 2.5 m wide with a water depth that varied from 10 cm to 25 cm. Several cyprinids were observed during previous (November 23, 2006) and current field work, and at least one was identified as a Creek Chub (*Semotilus atromaculatus*). As such, Site 11 constitutes direct fish habitat.

### 2.2.12 Site 12

Site 12 encompasses a watercourse that has been channelized and runs parallel to Highway 50 from north (upstream) of the study area to approximately 80 m south of Albion-Vaughan Road, where it receives flows from Site 11 and continues east away from the roadway. It passes under Albion-Vaughan Road through a large concrete box culvert.

Upstream of this crossing, the watercourse consisted of a rip rap-lined channel in a large ditch with much instream vegetation (both tall and short emergent grasses with patches of cattails). Substrates ranged from silt and clay in vegetated areas, to gravel to small cobble and exposed rip rap. Morphology was a mix of riffles and runs with widths from 0.2 m to 1.0 m and depths between 10 cm and 20 cm. In many places the channel was braided through vegetation. The water in the channel was clear.

At the downstream end of the channel in the northeast quadrant of the intersection (i.e., directly upstream of the Albion-Vaughan Road culvert), a rip rap berm exists across the channel through which water was diffusely flowing during both the November 10, 2009 field visit and previous field work (November 23, 2006). This berm likely forms a barrier to fish passage during low flow conditions. Directly downstream of the berm, a pool existed that was contiguous with pooled open water which ran through the culvert and

throughout the channel in the southeast quadrant of the intersection. Several fish were observed during the November 23, 2006 site investigation inside the culvert and one (which was captured) was identified as a Brook Stickleback (*Culaea inconstans*). Similarly, Brook Stickleback were observed during the November 10, 2009 site investigation in the same location. In addition, cyprinids and Brook Stickleback were observed in many places throughout the channel in the northeast quadrant upstream of the berm. As such, Site 12 constitutes direct fish habitat.

From the southwest quadrant (Site 11), water flowed under Highway 50 through a large concrete culvert situated on a skew. A very large and sparsely vegetated pool existed at the downstream end of the culvert which was approximately 10 m wide and 30 cm to 40 cm deep. It was part of a large, pooled, open water area that extended to the north in the watercourse/ditch that received flow from the northeast quadrant (Site 12; see above). The pool, and the entire ditch (which was approximately 80 m long), was lined with rip rap and much of it was vegetated with dense cattails. Substrates were fine (silt and clay) and the water was relatively turbid, especially at the downstream end of the north-south portion of the channel. The large pool is the location in which two Robinson Creek tributaries, one from the western quadrants (Sites 11, 13, 14) and one from the northeast (Site 12), converge. From the pool, the watercourse is conveyed through a narrow, cattail-lined channel in a southeasterly direction. No fish were observed in this portion of Site 12 during both site investigations (November 10, 2009 and November 23, 2006).

### 2.2.13 Site 13

The habitat in the northwest quadrant of the intersection consisted of a single channel that extended from approximately 100 m north of the intersection as a roadside ditch on the west side of Highway 50 and flowed in a southerly direction. At its upstream extent, the channel was approximately 0.1 m wide and 2 cm deep. The substrates consisted of exposed clay with some gravel and large cobbles. During the November 23, 2006 field investigation evidence of recent ditch clean-out was present in the form of debris piles and exposed clay banks. During both site visits a rock check dam was present that formed a barrier to fish movement. Water was pooled upstream of the dam and only diffuse flow through the rip rap was getting through (i.e., no flow over dam).

Downstream of the rock check the channel was narrow (0.1 m) and shallow (2 cm to 5 cm), but widened closer to the culvert at Mayfield Road. Approximately 20 m upstream of the culvert, the water was pooled and the channel was lined with rip rap. Dense instream vegetation (cattails, grasses) was present for approximately 10 m upstream of the culvert. The portion of the pooled area not densely vegetated contained much matted algae. Riparian vegetation consisted of old field vegetation between Highway 50 and the ditch, and cattails on the west bank of the ditch. Much of the riparian vegetation in the upstream portion of the watercourse was removed during the ditch clean-out mentioned above. Instream cover consisted of rip rap and emergent vegetation, which was limited to the downstream portion of the watercourse. A single cyprinid was observed in the pooled area just upstream of the dense cattail growth on November 23, 2006.

Since the 2006 site visit, a new concrete pipe culvert has been installed across the ditch approximately 9 m upstream of the concrete box culvert conveying flows under Mayfield Road. This culvert was placed there to provide access to a pipe conveying flows that apparently come from the watercourse that used to be present to the west of the intersection (Site 14; see below). The pool mentioned above that was present upstream of the Mayfield Road culvert has been enlarged to accommodate the outfall from the pipe. The pool was approximately 7 m long and 4 m wide with a depth of approximately 0.25 m. Sparse submerged vegetation was present within this pool. Although fish were not observed in the pool on November 10, 2009, the Site 13 watercourse downstream of the rock check dam should be considered to contain direct fish habitat as fish were observed here in the past and at Site 11 on the date of the 2009 site visit.

### 2.2.14 Site 14

Another tributary that was shown on available mapping as joining the watercourse at Site 13 from the northwest no longer exists in its mapped form. Instead, a new linear pond north of Mayfield Road was observed that likely receives the flows that comprised the old watercourse. The pond outlets through the pipe discussed in the Site 13 description (**Section 2.2.13**) into the large pool upstream of the Mayfield Road culvert between Sites 13 and 11. Evidence of the old channel existed on November 23, 2006 in the form of an area of rip rap embedded into the western bank of the watercourse at Site 13 through which seepage was evident. The land in the northwest portion of the intersection was being developed at that time and it is likely that the mapped watercourse had been altered during the construction of the site. Some pooled water and cattails were observed in the vicinity of the old watercourse on November 10, 2009, but active grading activities upstream were occurring and large mounds of earth occupied the area where the watercourse used to exist. Because the watercourse flow has been redirected to the linear pond feature mentioned above and it has direct connection to fish habitat in Sites 13 and 11, it was not considered a watercourse feature by the TRCA but is considered to be warmwater fish habitat.

### 2.2.15 Site 15

Site 15, located approximately 375 m west of Highway 50, consists of a swale through an agricultural field that begins at the edge of the ROW from a small diameter CSP culvert that conveys roadside drainage across Mayfield Road from the north to the south. Upstream of the crossing, only a roadside ditch was present that was dry during the November 10, 2009 site visit. Downstream (south) of the crossing, the feature consists of a shallow swale through an active agricultural field. No water flow was evident during the November 10, 2009 field visit downstream of the crossing and no standing water was present. The drainage feature at Site 15 is considered a watercourse (warmwater) by the TRCA on the downstream (south) side only. It should be noted that water conveyed across the roadway at this crossing flows into Redside Dace habitat in Robinson Creek downstream. The downstream area around the watercourse south of the Mayfield Road ROW is within the Regulation Limit of the TRCA.

### 2.2.16 Site 16

The drainage feature at Site 16 crosses Mayfield Road through a medium diameter CSP culvert from north to south approximately 365 m east of Coleraine Drive. Upstream, the feature consisted of a cattail and grass-lined channel running in a southerly direction toward Mayfield Road. As the channel approached the roadway, it bends 90° into the roadside ditch on the north side of Mayfield Road. From there it enters the culvert. The adjacent properties are residential (east) and commercial (west). Armourstone lined the west bank of the watercourse along the edge of the commercial property. The channel was poorly defined and densely vegetated with a mean channel width of 0.5 m and a depth of 15 cm. Morphology was a single long run/flat with silt/clay/detritus substrates.

Downstream of the roadway, a defined channel conveyed water through grasses in an area of old field vegetation adjacent to an agricultural field. The channel was approximately 0.75 m wide and 10 cm to 15 cm deep and was dominated by runs/flats. Further downstream, a small area of riffles existed. From the old field, the channel enters the active agricultural area and is joined by flows from Site 17 (see below). Much flow was evident during the November 10, 2009 field visit. Pump noise was heard from the northern end of the commercial property in the vicinity of an online pond. It is not known whether the flows were natural or whether they were the result of pumping. It seems likely that the latter was true as no other watercourses were conveying large flows during the field investigation. The water was relatively clear. No fish were observed or captured (a dipnet was used to sample near the culvert), although a green frog tadpole was captured in the roadside ditch adjacent to the upstream end of the culvert.

The TRCA considers the feature at Site 16 to be a watercourse on both sides of Mayfield Road and, although it flows into Rainbow Creek downstream (known habitat for Redside Dace), the TRCA regards it as warmwater habitat. At the least, this watercourse should be considered to constitute indirect fish habitat. Only the downstream area around the watercourse is within the Regulation Limit of the TRCA.

### 2.2.17 Site 17

The drainage feature at Site 17 crosses Mayfield Road through a medium diameter plastic pipe culvert from north to south approximately 220 m east of Coleraine Drive. Upstream, the feature consisted of a roadside ditch. No natural channel was present. Downstream of Mayfield Road, a defined channel conveyed water through an agricultural field. The channel was comprised of exposed clay and was eroded along much of its area in the vicinity of the roadway. Another plastic pipe discharges water to the same area and it appears that this pipe conveys water from the newly urbanized area immediately to the west of the crossing. As such, this pipe conveys water from a storm sewer catchment. It appeared from the eroded nature of the channel downstream of this outfall pipe that the majority of flows in this watercourse originate here. At the time of the field investigation, very little flow was evident.

No fish were observed and very little water was present. The TRCA considers the feature at Site 17 to be a watercourse downstream of Mayfield Road and, although it flows into Rainbow Creek downstream (known habitat for Redside Dace), the TRCA regards it as warmwater habitat. At the least, this watercourse should be considered indirect fish habitat. Only the downstream area around the watercourse is within the Regulation Limit of the TRCA.

### 2.2.18 Site 18

The drainage feature at Site 18 consists of a wet depression within an agricultural field in the southeast corner of the Mayfield Road/Coleraine Drive intersection. From the depression, a poorly defined swale conveys water in a southerly direction parallel to Coleraine Drive. The TRCA did not consider this feature to be a watercourse and it was dry during the November 10, 2009 site visit.

### 2.2.19 Species at Risk

No aquatic species at risk are known to inhabit the watercourses within this study area. However, all watercourses/drainage features located within the study area (with the exception of Site 1) convey flows to Redside Dace habitat downstream, a fact that should be considered when designing erosion and sediment controls to protect downstream habitats during construction. Redside Dace are ranked as Endangered both provincially and federally. This species is regulated as 'Endangered' under the Ontario *Endangered Species Act*, 2007. Federally, Redside Dace is designated as 'Endangered' by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), but is regulated as 'Special Concern' (Schedule 3) under the federal *Species at Risk Act*. The MNR manages fish habitat, in concert with the TRCA under Fisheries Management Plans, and provides direction in the classification of watercourses as warmwater, coldwater and/or Redside Dace habitat.

## 2.3 Vegetation and Vegetation Communities

The geographical extent, composition, structure and function of the vegetation communities were identified through air photo interpretation and a field investigation. Air photos were interpreted to determine the limits and characteristics of the vegetation communities in the study area. A field investigation of the vegetation communities along Highway 50 from Rutherford Road/Castlemore Road to Mayfield Road, and along Mayfield Road from Highway 50 to Coleraine Drive was conducted on November 9, 2009 within the road rights-of-way and adjacent habitat, to the extent possible. The field investigation was carried out to ground truth the boundaries of vegetation communities and to conduct a

vegetation survey. Areas within privately owned residential properties were not surveyed as a part of this field investigation.

The vegetation communities were classified according to the *Ecological Land Classification for Southern Ontario: First Approximation and Its Application* (Lee *et al*. 1998). A plant list and a description of the general structure of vegetation were obtained during the field surveys of the study area. Plant species status was reviewed for Ontario (Oldham 2009), and for the Region of Peel and the Region of York (Varga 2000). Vascular plant nomenclature follows Newmaster *et al*. (1998) with a few exceptions that have been updated to Newmaster *et al.* (2005).

The Toronto Region Conservation Authority (TRCA) provided LGL Limited with the boundaries of several areas of natural cover within the study area. During LGL's vegetation survey it was noted that several of these areas no longer contain natural vegetation cover; these changes have been noted on **Figures 2A** and **2B**.

### 2.3.1 Vegetation Communities

Vegetation communities within the study area primarily consist of a mixture of cultural meadows, abandoned or active agricultural fields, and manicured areas with planted trees and mown grass. Along most of Highway 50 the land has been cleared of original forest cover to accommodate agricultural, industrial and residential land uses. Agricultural lands are currently becoming increasingly cleared for industrial development.

A total of seven different ELC community types have been identified within the study limits during LGL's vegetation survey. These communities include cultural meadow (CUM1-1 and CUM1-1a to f), and cultural plantation (CUP3). These vegetation communities are considered widespread and common in Ontario and secure globally.

There are several areas that are not identified by the ELC such as Manicured (M) areas which include mown lawns, gardens and planted trees. All vegetation communities identified within the study area are delineated on **Figure 2A** and **2B** and are described in **Table 1**.

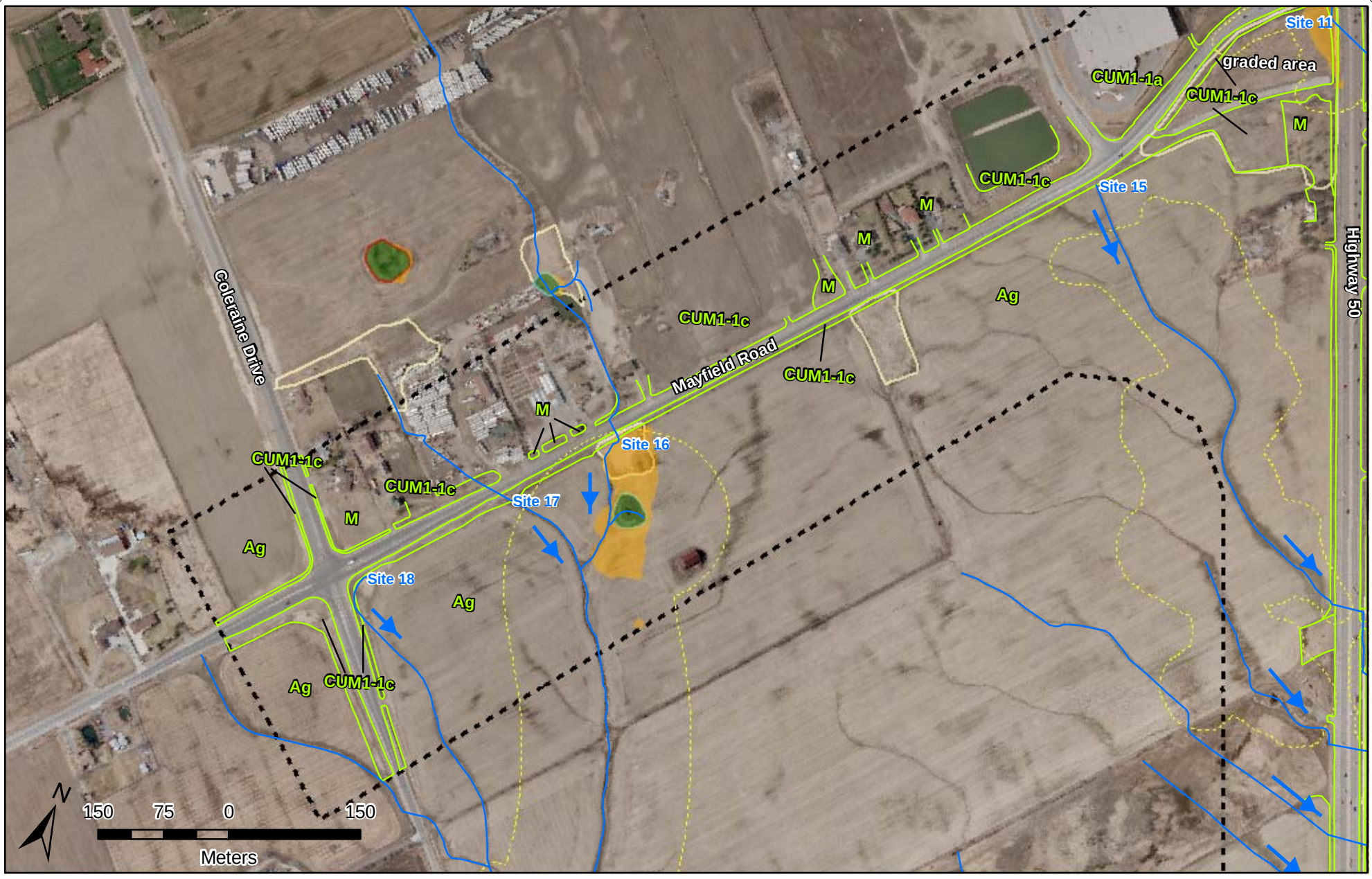
### 2.3.2 Flora

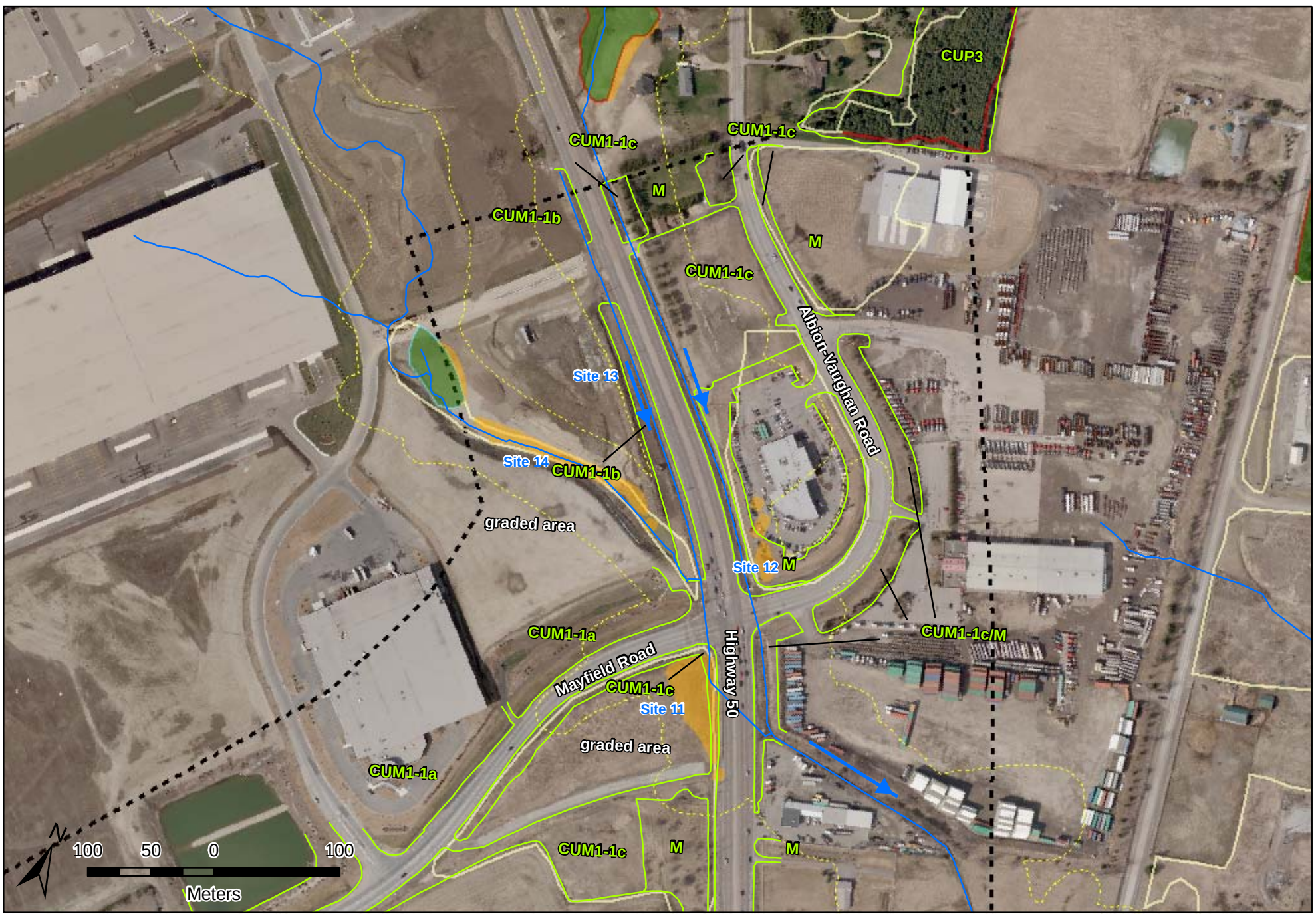
A total of 80 vascular plant species have been recorded within the study area. Two of these plants could only be identified to genus and are not included in the following calculations. Thirty-three (42%) plant species identified are native to Ontario and 45 (58%) plant species are considered introduced and non-native to Ontario. A working vascular plant checklist is presented in **Appendix B**.

### 2.3.3 Species at Risk

No plant species that are regulated under the Ontario *Endangered Species Act* or the federal *Species at Risk Act* were encountered during the vegetation survey. **Table 2** outlines the uncommon and rare species found within the study area. None of the species outlined in **Table 2** are provincial plant species of concern (S1 to S3). All of these species have populations that are considered secure and apparently secure provincially (S4 and S5). Plant species rarity definitions are presented in **Appendix C**.

Many of the trees listed in **Table 2** have been planted, especially those that occur in the cultural meadows. Six plants are listed in **Table 2** and these are mostly planted as part of the restoration around stormwater ponds, including the stormwater pond (CUM1-1b) at the northwest corner of Highway 50 and Mayfield Road. Other species such as tall wormwood (*Artemisia campestris ssp. caudata*) grow well in sandy substrates where there is some form of disturbance. White spruce (*Picea glauca*), red pine (*Pinus*




# Natural Heritage Existing Conditions

- Study Area
- TRCA Regulation Limit
- Site # — Watercourse Site Numbers
- Watercourses
- Revised Watercourse Location
- Flow Direction

**TRCA Natural Cover**

- Forest
- Meadow
- Wetland

**TRCA Natural Heritage System**

- Existing Natural Cover
- Potential Natural Cover

- ELC Vegetation Community

**ELC Vegetation Communities**

- CUM1-1a to f — Dry-Moist Old Field Meadow
- CUP3 — Coniferous Plantation
- M — Manicured
- Ag — Agriculture

*Data Source*: LGL Limited Field Investigations, 2009

LGL LIMITED

| | | | |
|---|---|---|---|
| **Project** | TA4872 | **Figure** | 2A |
| **Date** | January 2010 | **Prepared By** | KSM |
| **Scale** | 1:6,000 | **Verified By** | NMF |

# Natural Heritage Existing Conditions

Study Area
TRCA Regulation Limit
Site # Watercourse Site Numbers
Watercourses
Revised Watercourse Location
Flow Direction

**TRCA Natural Cover**
Forest
Meadow
Wetland

**TRCA Natural Heritage System**
Existing Natural Cover
Potential Natural Cover

ELC Vegetation Community

**ELC Vegetation Communities**

| | |
|---|---|
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*Data Source*: LGL Limited Field Investigations, 2009

LGL LIMITED

| | | | |
|---|---|---|---|
| Project | TA4872 | Figure | 2B |
| Date | January 2010 | Prepared By | KSM |
| Scale | 1:6,000 | Verified By | NMF |

## TABLE 1.
## SUMMARY OF ECOLOGICAL LAND CLASSIFICATION VEGETATION COMMUNITIES

| ELC Code | Vegetation Type | Species Association | Community Characteristics |
|---|---|---|---|
| **TERRESTRIAL – CULTURAL** | | | |
| CUM | Cultural Meadow | | |
| CUM1-1 (a-f) | Dry-Moist Old Field Meadow | **Canopy:** Norway Maple (*Acer platanoides*), sugar maple (*Acer saccharum* var. *saccharum*), Manitoba maple (*Acer negundo*), Austrian pine (*Pinus nigra*), red pine (*P. resinosa*), white pine (*P. strobus*), Scotch pine (*P. sylvestris*), and white spruce (*Picea glauca*).<br>**Understorey:** common buckthorn (*Rhamnus cathartica*) and red-osier dogwood (*Cornus sericea* ssp. *sericea*).<br>**Ground Cover:** includes awnless brome (*Bromus inermis*), orchard grass (*Elymus repens*), nodding wild rye (*Elymus canadensis*), bluegrass (*Poa* sp.), bird's-foot trefoil (*Lotus corniculata*), white clover (*Trifolium repens*), red clover (*Trifolium pratense*), white sweet clover (*Melilotus alba*), goldenrods (*Solidago* sp.), field penny-cress (*Thlaspi arvense*), wild carrot (*Daucus carota*), and reed canary grass (*Phalaris arundinacea*). | Tree cover and shrub cover < 25 % (CUM).<br>This community can occur on a wide range of soil moisture regimes (Dry-Moist) (1-1).<br>Grass and forb dominant (a).<br>Community resulting from, or maintained by, anthropogenic-based influences. |
| CUP | Cultural Plantation | | |
| CUP3 | Coniferous Plantation | **Canopy:** includes white spruce, white pine, eastern white cedar (*Thuja occidentalis*), and red pine.<br>**Ground Cover:** includes common evening-primrose (*Oenothera biennis*), catnip (*Nepeta cataria*), and calico aster (*Symphyotrichum lateriflorus* var. *lateriflorus*). | Tree cover > 60 % (CU).<br>Plantation (P).<br>Coniferous tree species > 75 % of canopy cover (3).<br>Community resulting from, or maintained by, cultural or anthropogenic-based disturbances. |
| OTHER* | Manicured/Hedgerow | | |
| M | Manicured Areas (grasses/shrubs/trees and/or hedgerows) | Areas where large expanses of grass/shrubs/trees are maintained and/or planted.<br>**Planted trees/shrubs:** includes sugar maple, Norway maple, white spruce, red pine, white pine and Colorado spruce.<br>**Grasses**: includes Canada and Kentucky bluegrasses (*Poa* sp.). | |

**Codes not defined by ELC.*

*resinosa*) and common juniper (*Juniperus communis*) were most often found in planted rows of trees especially at the northeast corner of Highway 50 and Mayfield Road, around residential homes and in the cultural plantation (CUP3) at the far northeast limit of the study area, adjacent to Albion-Vaughan Road and Kirby Road.

**TABLE 2.**
**SIGNIFICANT PLANT SPECIES IDENTIFIED WITHIN THE STUDY AREA**

| Scientific Name | Common Name | Vegetation Community | Status* | | |
|---|---|---|---|---|---|
| | | | TRCA | Peel Region | York Region |
| *Picea glauca* | white spruce | CUM1-1 (a and c), CUP3 | L3 | R3 | |
| *Pinus resinosa* | red pine | CUM1-1c, CUP3 | L1 | R1 | |
| *Juniperus communis* | common juniper | CUM1-1 (c and e) | L3 | | |
| *Physocarpus opulifolius* | ninebark | CUM1-1 (a and c) | L3 | R1 | |
| *Artemisia campestris ssp. caudata* | tall wormwood | CUM1-1 (c and f) | L2 | R1 | |
| *Elymus canadensis* | nodding wild rye | CUM1-1b | L3 | E | R1 |

*Definitions of plant status used in this table are provided in **Appendix C**.

## 2.4 Tree Inventory

A certified Arborist conducted an inventory of tree resources located within the study area along Mayfield Road from Coleraine Drive to Highway 50 and along Highway 50 from 330 meters north of Mayfield Road to Rutherford Road on November 10 and 11, 2009. Trees within and 10 meters outside of the ROW were examined. For trees located on private property that could not be accessed, measurements and their locations were estimated from the edge of the ROW.

The following information was gathered during the tree inventory: species, diameter at breast height (DBH), and tree condition. Tree condition was determined using standardized methods of assessing tree condition, tree form, and trunk and twig condition. Tree locations were captures using a Lawrence IFinder GPS and the information was translated for geographical information system (GIS) mapping. All living trees that had a diameter at breast height greater than 10 cm were recorded. A list of the trees located within the study area is included in **Appendix D** and the location of these trees is presented on **Figure 3A**. For ease of reference, more detailed maps are provided in **Appendix D** for areas that have high concentrations of trees (**Figures 3B to 3P**). Trees are identified on **Figures 3A to P** using the Waypoint number rather than the tree number.

Surveyed trees were screened for rare species listed in the Ministry of Natural Resources (MNR) Natural Heritage Information Centre (NHIC) which includes classifications of Endangered, Threatened, and Special Concern both at the provincial and federal scale.

### 2.4.1 Tree Species

A total of 576 trees consisting of 24 species were examined along the study area road rights-of-way. The majority of the trees observed were planted in the south eastern portion of the study area adjacent to a Sears distribution centre between the property fence and the ROW. These plantings consisted of Austrian pine (*Pinus nigra*), blue spruce (*Picea pungens*), fir (*Abies* sp.), red oak (*Quercus rubra*), silver/freeman maple (*Acer saccharinum*), little leaf linden (*Tilia cordata*) and black walnut (*Juglans nigra*). The remainder of the trees were scattered through the study area and were concentrated near residential and commercial properties. Very few trees greater than 10 cm were found along the agricultural lands along Mayfield Drive and Highway 50.


# Highway 50

Tree Locations

### Waypoint Tree Identification Number

Study Area

*Data Source*: Field Investigations by an LGL Certified Aborist, 2009

LGL LIMITED
environmental research associates

| | | | |
|---|---|---|---|
| **Project** | TA4872 | **Figure** | 3A |
| **Date** | January, 2010 | **Prepared By** | KC |
| **Scale** | 1:18,000 | **Verified By** | JCN |

The majority of the trees within the study area are located at or near the fence lines between the ROW and the adjacent properties. Trees ranged in size from 9 cm to 64 cm diameter at breast height (DBH) with the average measuring at 17 cm. Tree conditions ranged from poor to good. Since field investigations were undertaken late in the season, the trees did not have leaves and crown vigour was based on visible concentrations of buds. The majority of the deciduous trees along Highway 50 exhibited signs of stress with epicormic growth along the trunk and in the crown and some of the conifers were defoliating on the side of the tree adjacent to the road. This is likely due to snow removal and salt spray in the winter. Nests were found within a few of the planted conifers adjacent to the Sears distribution centre. These trees are providing an ecological function for wildlife and are a sensitive feature in landscape.

Species found within the study area include: apple (*Malus pumila*), Austrian pine, Scott pine (*Pinus sylvestris*), black cherry (*Prunus serotina*), black walnut, blue spruce, white spruce (*Pica glauca*), bur oak (*Quercus macrocarpa*), red oak (*Quercus rubra*), fir species, little leaf linden (*Tilia cordata*), Manitoba maple (*Acer negundo*), Norway maple (*Acer platanoides*), red ash (*Fraxinus americana*), white ash (*Fraxinus pennsylvanica*), red cedar (*Juniperus virginiana*), silver maple, sugar maple (*Acer saccharum*), willow (*Salix x rubens, S. x sepulcralis*), white elm (*Ulmus americana*), Siberian elm (*Ulmus pumila*), crab apple (*Malus baccata*), Russian olive (*Elaeagnus angustifolia*), and white mulberry (*Morus alba*).

### 2.4.2 Species at Risk

None of the tree species observed within the study area are considered rare, threatened or endangered regionally or provincially, or are regulated under the Ontario *Endangered Species Act* or federally under the *Species at Risk Act*.

## 2.4 Wildlife and Wildlife Habitat

Field investigations along Highway 50 were conducted within and directly adjacent to the study area rights-of-way on November 10, 2009 to document wildlife and wildlife habitat and to characterize the nature, extent and significance of animal usage within the project limits. Direct observations, calls, tracks, scats and runways were used to record wildlife present within the study area. Weather conditions were 8 degrees Celsius with partly clouded skies.

Prior to field investigations, secondary source data from the Ministry of Natural Resources (MNR) was reviewed to screen for wildlife species presence or absence and to screen for species at risk. It should be noted that due to the timing of surveys, all observations should be treated as incidental, including the inventory of mammal and herpetofauna species.

### 2.4.1 Wildlife Habitat

Much of the study area along the Highway 50 ROW (including adjacent lands) consists of highly disturbed and human impacted habitat. The study area is composed primarily of agricultural (crop) lands with lesser extents of cultural meadow, active land clearing for development, industrial lands, residences, and cultural plantation. The anthropogenic setting mentioned above supports minimal natural heritage features and consequently supports fewer wildlife species. Lands within and directly adjacent to the study areas are best characterized as low quality and highly disturbed.

Wildlife and wildlife habitat was found to be distributed across the entire study area, however areas with more natural or productive habitat for wildlife were documented. Aquatic and associated riparian habitats such as storm ponds, watercourses, and swales provided some of the strongest natural heritage features within the lands examined. However, extensive land development and general habitat degradation has resulted in the environments described above largely supporting wildlife species considered urban or tolerant of human presence and disturbance.

### 2.4.2 Fauna

Sixteen species of wildlife could be verified in the study area based on field observations and the majority of these recordings came from visual and auditory identification of bird, mammal, and herpetofauna species. However, by comparing the natural heritage features found in the study area with secondary source information that describes wildlife previously recorded within this region, the potential number of wildlife species for the area is 50 species (**Table 3**).

A total of 11 species of birds were observed in the study area during field investigations. Based on the habitat types present in the study area and secondary source information an additional 24 species of birds are likely to inhabit the study area. Bird species were found to be distributed across the entire study area. Despite species diversity being low within the study area, a number of priority species for conservation such as Field Sparrow (*Spizella pusilla*) and Northern Mockingbird (*Mimus polyglottos*) were documented.

Four mammal species were observed within the study area during field investigations. Based on habitat types present in the study area and secondary source information, eight more species are likely to inhabit the study area. Mammal species documented represent an assemblage that readily utilizes human influenced landscapes. All watercourse crossing structures (CSP or concrete box) were utilized as corridors by resident mammal species.

Due to late season field investigations, only a single herpetofauna species was observed in the study area. Based on the habitats present within the study area and secondary source information, three species of herpetofauna are likely to inhabit the study area. Herpetofauna abundance and distribution has likely been diminished throughout the study area, due to the magnitude of habitat fragmentation and degradation.

A summary of wildlife documented in the study area during field investigations and through secondary source information is presented in **Table 3**.

### 2.4.3 Species at Risk

Background information indicated that of the 50 wildlife species recorded within the study area, none are regulated under the Ontario *Endangered Species Act* or the federal *Species at Risk Act*. Twenty-five species of bird recorded are regulated under the *Migratory Birds Convention Act* (MBCA) while three species are regulated under the *Fish and Wildlife Conservation Act* (FWCA). Ten bird species found within the study area are recommended by Bird Studies Canada as priority species for conservation. Nine of the twelve species of mammal recorded are regulated under the FWCA.

One species, the Northern Harrier (*Circus cyaneus*), is considered to be of regional concern by the Toronto and Region Conservation Authority. However, it is likely that the Northern Harrier was using lands within and adjacent to the study area as a fall migration stop-over (staging) point. Based on the highly disturbed environment, it is unlikely that this species breeds within the study area.

**TABLE 3.**
**WILDLIFE SPECIES DOCUMENTED WITHIN THE STUDY AREA**

| Wildlife | Scientific Name | Common Name | COSEWIC | OMNR | TRCA | Local | Legal Status | Others |
|---|---|---|---|---|---|---|---|---|
| **Herpetofauna** | *Bufo Americanus* | American Toad | | | L4 | | | * |
| | *Rana clamitans* | Green Frog | | | L4 | | | |
| | *Thamnophis sirtalis* | Eastern Gartersnake | | | L4 | | | * |
| **Birds** | *Branta canadensis* | Canada Goose | | | L5 | | MBCA | |
| | *Anas platyrhynchos* | Mallard | | | L5 | | MBCA | |
| | *Ardea herodias* | Great Blue Heron | | | L3 | | MBCA | * |
| | *Charadrius vociferus* | Killdeer | | | L5 | | MBCA | |
| | *Actitis macularia* | Spotted Sandpiper | | | L4 | BSC | MBCA | * |
| | *Larus delawarensis* | Ring-billed Gull | | | L5 | | MBCA | |
| | *Circus cyaneus* | Northern Harrier | NAR | NAR | L3 | | FWCA(P) | |
| | *Buteo jamaicensis* | Red-tailed Hawk | | | L5 | | FWCA(P) | |
| | *Columba livia* | Rock Dove | | | L+ | | | * |
| | *Zenaida macroura* | Mourning Dove | | | L5 | | MBCA | |
| | *Picoides pubescens* | Downy Woodpecker | | | L5 | | MBCA | * |
| | *Picoides villosus* | Hairy Woodpecker | | | L4 | | MBCA | * |
| | *Tyrannus tyrannus* | Eastern Kingbird | | | L5 | BSC | MBCA | * |
| | *Cyanocitta cristata* | Blue Jay | | | L5 | | FWCA(P) | * |
| | *Corveus brachyrhynchos* | American Crow | | | L5 | | | |
| | *Eremophilia alpestris* | Horned Lark | | | L4 | BSC | MBCA | * |
| | *Hirundo rustica* | Barn Swallow | | | L5 | BSC | MBCA | * |
| | *Poecile atricapiilla* | Black-capped Chickadee | | | L5 | BSC | MBCA | * |
| | *Sitta carolinensis* | White-breasted Nuthatch | | | L4 | | MBCA | * |
| | *Troglodytes aedon* | House Wren | | | L5 | | MBCA | * |
| | *Turdus migratorius* | American Robin | | | L5 | | MBCA | * |
| | *Mimus polyglottos* | Northern Mockingbird | | | L4 | BSC | MBCA | * |
| | *Bombycilla cedrorum* | Cedar Waxwing | | | L5 | | MBCA | * |
| | *Sturnus vulgaris* | European Starling | | | L+ | | | |
| | *Cardinalis cardinalis* | Northern Cardinal | | | L5 | | MBCA | * |

## TABLE 3.
## WILDLIFE SPECIES DOCUMENTED WITHIN THE STUDY AREA

| Wildlife | Scientific Name | Common Name | COSEWIC | OMNR | TRCA | Local | Legal Status | Others |
|---|---|---|---|---|---|---|---|---|
| | *Spizella passerina* | Chipping Sparrow | | | L5 | | MBCA | * |
| | *Spizella pusilla* | Field Sparrow | | | L3 | BSC | MBCA | * |
| | *Passerculus sandwichensis* | Savannah Sparrow | | | L4 | BSC | MBCA | * |
| | *Melospiza melodia* | Song Sparrow | | | L5 | | MBCA | * |
| | *Dolichonyx oryzivorus* | Bobolink | THR | THR | L3 | BSC | MBCA | * |
| | *Agelaius phoeniceus* | Red-winged Blackbird | | | L5 | | | * |
| | *Quiscalus quiscula* | Common Grackle | | | L5 | | | * |
| | *Molothrus ater* | Brown-headed Cowbird | | | L5 | | | * |
| | *Carduelis tristis* | American Goldfinch | | | L5 | BSC | MBCA | |
| | *Passer domesticus* | House Sparrow | | | L+ | | | |
| **Mammals** | *Microtus pennsylvanicus* | Meadow Vole | | | | | | |
| | *Didelphis virginiana* | Virginia Opossum | | | | | FWCA(F) | * |
| | *Sylvilagus floridanus* | Eastern Cottontail | | | | | FWCA(G) | * |
| | *Marmota monax* | Groundhog | | | | | | * |
| | *Sciurus carolinensis* | Gray Squirrel | | | | | FWCA(G) | |
| | *Peromyscus sp.* | White-footed (Deer) Mouse | | | | | | * |
| | *Tamiasciurus hudsonicus* | Red Squirrel | | | | | FWCA(F) | * |
| | *Ondatra zibethiucs* | Muskrat | | | | | FWCA(F) | * |
| | *Canis latrans* | Coyote | | | | | FWCA(F) | |
| | *Procyon lotor* | Raccoon | | | | | FWCA(F) | |
| | *Mustela vison* | Mink | | | | | FWCA(F) | * |
| | *Mephitis mephitis* | Striped Skunk | | | | | FWCA(F) | * |

***** Species recorded by others within the study area.

COSEWIC - Committee on the Status of Endangered Wildlife in Canada:
- END - Endangered
- THR - Threatened
- SC - Special Concern

OMNR - Ontario Ministry of Natural Resources
- END - Endangered
- THR - Threatened
- SC - Special Concern

Legal Status:
- MBCA - Migratory Birds Convention Act
- ESA - Endangered Species Act
- SARA - Species at Risk Act
- FWCA - Fish and Wildlife Conservation Act
- (P) Protected Species (G) Game species
- (F) Furbearing mammals

TRCA – Toronto and Region Conservation Authority
- L-rank (1-5) For definitions of species ranks, refer to **Appendix C**.

## 2.5 Designated Natural Areas

Designated natural areas include areas identified for protection by the Ontario Ministry of Natural Resources (OMNR), Toronto and Region Conservation Authority (TRCA) and the Regional Municipalities of Peel and York. A review of the OMNR Natural Heritage Information Centre (NHIC 2009) and data provided by the TRCA indicates that there are no Provincially Significant Wetlands (PSWs), Areas of Natural and Scientific Interest (ANSIs), or Environmentally Significant/Sensitive Areas (ESAs) on lands within 120 m of the study area. Several areas within the study area are identified as 'Existing' or 'Potential' Natural Cover as part of the TRCA Targeted Terrestrial Natural Heritage System Strategy.

# 3.0 PROJECT DESCRIPTION

The Region of Peel is undertaking a 'Schedule C' Municipal Class Environmental Assessment Study to improve Highway 50 from Castlemore Road to north of Mayfield Road, and Mayfield Road from Highway 50 to Coleraine Drive. The preferred alternative for the study area includes the widening of the Highway 50 corridor to six lanes with a flush median centre left turn lane, and widening of the Mayfield Road corridor to four lanes with a flush median centre left turn lane.

The centreline will remain on the existing alignment, with some exceptions, to avoid sensitive features. The Highway 50 alignment is shifted slightly to avoid impacting the cemetery on the west side of the ROW. The Mayfield Road alignment is shifted at the intersection of Pillsworth Road to minimize impacts to residents located along Mayfield Road. Given the sensitivity of the fish community on the east side of Highway 50 just north of Mayfield Road, widening will be shifted to the west side, to minimize impacts to fish and fish habitat.

# 4.0 IMPACT ASSESSMENT AND ENVIRONMENTAL PROTECTION

## *4.1 Physiography and Soils*

The soils found within the study area are classified predominantly as Peel clay. Peel clay is characterized as having imperfect drainage. Soil disturbance within the Highway 50 and Mayfield Road rights-of-way will be limited to the already disturbed areas adjacent to existing land uses. Impacts resulting from any excavating or cut and fill operations will be temporary in nature. Erosion and sedimentation mitigation measures will be implemented prior to and during the construction phase. These control measures will include:

- limiting the geographical extent and duration that soils are exposed to the elements;

- implementing standard erosion and sedimentation control measures in accordance with Ontario Provincial Standard Specification (OPSS) 577 Construction Specification for Temporary Erosion and Sediment Control Measures and TRCA Erosion and Sediment Control Guidelines for Urban Construction including: silt fence placed along the margins of areas of soil disturbance; applying conventional seed and mulch and/or erosion control blanket in areas of soil disturbance to provide adequate slope protection and long term slope stabilization; and,

- managing surface water outside of work areas to prevent water from coming in contact with exposed soils.

Monitoring of these erosion and sedimentation control measures during and after construction will be implemented to ensure their effectiveness. These environmental measures will greatly reduce/minimize adverse environmental impacts.

## *4.2 Fisheries and Aquatic Ecosystems*

Two of the watercourses within the project limits support direct fish habitat (at Sites 11, 12 and 13), two are not fish habitat (Sites 14 and 18) while the remainder constitute indirect fish habitat only. **Figures 2A** and **2B** present the locations of all Sites. Because the majority of the watercourses at the crossing locations constitute some form of fish habitat, the proposed culvert and channel works discussed above have the potential to result in a harmful alteration, disruption or destruction (HADD) of fish habitat due to the following effects:

- temporary disruption of site-specific habitat;
- changes to water quality and quantity;
- changes in water temperature; and,
- barriers to fish passage.

The TRCA has a Level 3 agreement with the Department of Fisheries and Oceans (DFO), which establishes a streamlined approach to addressing issues pertaining to the federal *Fisheries Act*. Conservation Authorities with a Level 3 Agreement determine whether the proposal has a potential for a HADD of fish habitat. TRCA staff will work with the proponent to suggest ways to mitigate the HADD, and if mitigatable, write Letters of Advice on behalf of DFO. If the TRCA determines that the HADD cannot be mitigated, then they will provide a skeleton of a Letter of Intent and a DFO application in order for the proponent to prepare a compensation package. Note that only the DFO through the Minister of Fisheries and Oceans can authorize compensation regarding a HADD pursuant to Section 35(2) of the federal *Fisheries Act*.

### 4.2.1 Temporary Disruption of Site-Specific Habitat

The culvert extensions/replacements at all locations, except for Sites 14 and 18, the channel works at Sites 5, 12 and 13, and the enclosure of the small reach of watercourse at Site 11 have the potential to result in temporary disruption of localized fish habitat. In order to minimize HADD potential, the extensions will be as short as possible. All culvert extensions will be constructed in-the-dry using temporary flow bypass systems and pea gravel bag cofferdams to isolate the work areas.

The channel realignments at Sites 5, 12 and 13 will also be undertaken in-the-dry. The watercourse at Site 5 is intermittent and work can be done in the dry during a period when the channel is not conveying flow. Flows in the watercourse at Sites 11 and 13 are small, and isolation of flows can be achieved through damming (with pea gravel bags) and pumping (to ensure water continues to reach downstream habitats). Pea gravel bag cofferdams (with plastic sheeting) will be used to isolate the existing channel from the work areas at Site 12. Flows in this watercourse are larger and will need to be maintained either through pumping or via flumes. Once constructed, the water will be allowed to flow through new channel sections and culvert extensions as the cofferdams are removed. It should be noted that the short (40 m) section of channel at Site 11 is being altered to reduce/minimize impacts to the larger reach of better quality habitat associated with the section of watercourse at Site 12 downstream of Albion-Vaughan Road. Because of the widening of the road platform at this intersection, impacts to Site 12 could not be avoided. All realigned channels will have characteristics similar to what exists currently. With the channel at Site 12, higher quality habitat can be created. Currently there is a monoculture of dense cattail growth throughout most of this reach and the area that does not contain cattails is featureless. Also, much debris currently resides within this channel. Habitat features can be added to the new channel (riffles,

pools) with coarse substrates and, potentially, a larger variety of native emergent and submerged vegetation can be planted to add diversity while providing shade and instream cover. Bank vegetation can also be planted along the banks to aid in the shading of the channel and to provide a buffer between the road and the watercourse. All debris currently within the channel will be removed.

The works at Sites 11, 12 and 13 have the potential to strand fish when unwatering occurs. As such, qualified fisheries biologists will be on site during these operations to capture and release (in good condition) all fish stranded by the flow diversions.

To reduce the potential for a harmful alteration of fish habitat, the following environmental protection measures should be implemented:

- an in-water construction timing restriction should be implemented to protect spawning fish, incubating eggs and fry emergence; based on the fish communities present and information provided by the TRCA no in-water work should be permitted from April 1 to June 30;
- work areas should be delineated with construction fencing to minimize the area of disturbance;
- appropriate sediment control structures should be installed prior to and maintained during construction to prevent entry of sediments into the watercourse;
- where cofferdams are to be employed, unwatering effluent should be treated prior to discharge to receiving watercourse;
- cofferdams should be constructed using pea gravel bags to isolate the work area and maintain flow;
- fish isolated by construction activities should be captured and safely released to the watercourse;
- good housekeeping practices related to materials storage/stockpiling, equipment fuelling/ maintenance, etc. should be implemented during construction; and,
- disturbed riparian areas should be vegetated and/or covered with an erosion control blanket as quickly as possible to stabilize the banks and minimize the potential for erosion and sedimentation.

These environmental protection measures will greatly reduce the potential adverse effects to fish and fish habitat resulting from construction activities.

### 4.2.2 Temporary Change to Water Quality

The construction associated with the proposed works has the potential to alter water quality through on-site erosion of exposed materials and the subsequent impairment of downstream water quality with sediments and road-related contaminants.

Standard erosion and sediment controls (silt fencing, straw bale flow checks, etc.) will be employed to prevent the sediments from reaching the watercourses from exposed soils associated with the construction activities upslope from the streams. Exposed areas will be planted/seeded as soon as possible after construction works have been completed to reduce erosion potential.

### 4.2.3 Changes in Water Temperature

The thermal regime of a receiving watercourse may be altered by storm water runoff or removal of riparian vegetation that shades the watercourse. In the summer, runoff can become superheated through contact with paved surfaces, which, when discharged to a receiving watercourse can result in thermal

shock, thereby injuring or killing aquatic organisms. Coldwater or coolwater streams are usually considered more sensitive to changes in water temperature than warmwater streams.

Shading of the stream channel at Site 12 can provide some thermal benefits by planting vegetation along the channel. The watercourses at all other crossings are generally open and devoid of woody vegetation. It is expected that temperatures will not increase as a result of the proposed works.

### 4.2.4 Barriers to Fish Passage

No barriers to fish passage will result from this project. Flow will be maintained throughout the construction works and fish passage interruptions will be minimized through proper site management and planning (e.g., having all materials on-site prior to commencement of passage disruptions).

### 4.2.5 TRCA Regulation Limit

The Toronto and Region Conservation Authority (TRCA) administers Ontario Regulation 166/06 *Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses*. The limits of the Regulation Area are delineated on **Figures 2A** and **2B**. Permits under O. Reg. 166/06 will be required for the areas that are located within the Regulation Limits.

## *4.3 Vegetation and Vegetation Communities*

The improvements along Highway 50 from Castlemore Road to north of Mayfield Road, and Mayfield Road from Highway 50 to Coleraine Drive as noted in **Section 3.0** will result in impacts related to the displacement of or disturbance to vegetation and vegetation communities.

### 4.3.1 Disturbance/Displacement of Vegetation and Vegetation Communities

Clearing of vegetation will be required to accommodate widening along the Highway 50 and Mayfield Road corridors. Culturally influenced vegetation communities will be impacted by the proposed changes and these include cultural meadows (CUM1-1a to CUM1-1f), several edges of agricultural fields, and several areas of manicured lawn that include trees planted within these manicured areas located along the front of several homes, agricultural fields and businesses.

**Table 4** provides a breakdown of vegetation removals required to accommodate the changes along Highway 50 and Mayfield Road. A total of 10.53 ha of cultural meadow will be impacted by the improvements.

**TABLE 4.**
**IMPACTS TO VEGETATION COMMUNITIES IDENTIFIED WITHIN THE STUDY AREA**

| Vegetation Community | Area (ha) |
|---|---|
| Agricultural Field (Ag) | 0.09 |
| Mineral Cultural Meadow (CUM1-1a) | 0.47 |
| Mineral Cultural Meadow (CUM1-1b) | 0.32 |
| Mineral Cultural Meadow (CUM1-1c) | 1.78 |
| Mineral Cultural Meadow (CUM1-1c/M) | 0.48 |
| Mineral Cultural Meadow (CUM1-1d) | 1.46 |
| Mineral Cultural Meadow (CUM1-1e) | 2.44 |
| Mineral Cultural Meadow (CUM1-1f) | 3.58 |
| Manicured (M) | 1.94 |

A review of the preliminary design of the preferred alternative indicates that the overall impacts resulting from the displacement of portions of the vegetation areas and communities as presented in **Table 4** are considered to be minor, and in areas where TRCA species of concern (also noted as rare in Peel and/or York Region) will be impacted, mitigation recommendations include transplanting those species into other suitable areas prior to construction.

***Cultural Meadow (CUM1-1a to CUM1-1f)***
There are numerous areas of cultural meadow that will be impacted due to the expansion of Highway 50 and Mayfield Road. Overall, these vegetation communities are dominated by non-native plant species that are well adapted to persist in areas that are regularly disturbed.

***Manicured Areas***
Three Manicured areas (M), where large expanses of grass are mown and plants/shrubs/trees are planted, were identified within the study area. These areas are generally associated with the front of existing residential lots, and an old small cemetery located on the west side of Highway 50.

It is unlikely that any planted trees in manicured areas will be impacted as a result of improvements along Highway 50 or Mayfield Road. However, any grading changes that exceed -/+ 0.5 m could negatively impact root systems of those trees located adjacent to graded areas. Where planted trees are removed or negatively impacted as a result of grading, and the remaining landscaped area still provides enough space for tree planting, trees should be planted as part of compensation to provide a natural screen between those residential lots and Highway 50 or Mayfield Road.

### 4.3.2 Displacement of Rare, Threatened or Endangered Vegetation or Significant Vegetation Communities

No plant species regulated under the Ontario *Endangered Species Act* or the Canada *Species at Risk Act* were noted during field investigations.

As noted in **Sections 2.3.3** there are six plant species identified as TRCA species of concern. White spruce (*Picea glauca*) and red pine (*Pinus resinosa*) are identified as L3 and L1 TRCA plant species of concern, respectively (see **Table 2**). These trees are located in CUM1-1a and CUM1-1c and are not expected to be impacted as a result of improvements along Highway 50 or Mayfield Road as long as grading changes are less than -/+ 0.5 m (cut or fill). Grading changes that exceed -/+ 0.5 m could negatively impact root systems of those trees located adjacent to graded areas.

It is likely that there will be some impacts to the following plant species: common juniper (*Juniperus communis*), ninebark (*Physocarpus opulifolius*), and tall wormwood (*Artemisia campestris ssp. caudata*) identified in CUM1-1a, CUM1-1c, CUM1-1e and CUM1-1f. Common juniper and ninebark are identified as L3 TRCA plant species of concern and tall wormwood is identified by the TRCA as L2; provincially these plants are ranked as secure to apparently secure. It is recommended that these plants be flagged in the field and transplanted into protected areas prior to construction or that appropriate native seed or seedling stock be used when replanting manicured buffers adjacent to the new cleared ROW.

Nodding wild rye (*Elymus Canadensis*) is located in CUM1-1b and is identified as an L3 TRCA plant species of concern. This grass was planted or seeded in as part of a previous channel realignment on the northwest corner of Highway 50 and Mayfield Road. No impacts to this grass species are expected as a result of the proposed improvements to Highway 50 or Mayfield Road.

## *4.4 Tree Resources*

The preliminary design will involve the widening of Highway 50 from Castlemore Road to just north of Mayfield Road and along Mayfield Road from Highway 50 west to Coleraine Drive. There are approximately 162 trees anticipated to be removed as a result of the proposed improvements. **Table 5** presents a list of tree species and number of individuals expected to be removed to accommodate construction and grading. These trees are located in naturalized areas along property lines or have been planted as part of landscaping within yards or fencerows. Trees identified for removal range in size from 5 to 59 cm diameter at breast height (dbh), with an average around 22 cm. Forty seven percent of the trees are less than 20 cm dbh and thirty six percent of the trees measure between 31 and 40 cm dbh. The more mature trees are located within front yards. Additional trees located near the intersection of Coleraine Drive and Highway 50, not surveyed during the field investigation, will also require removal for road improvements.

Prior to construction, tree protection barriers or fences should be placed around groups of trees that will be preserved to reduce potential for damage. Protection fencing is recommended near the residential properties along Mayfield Road. Any trees that are damaged during construction should be replaced with a tree of similar or native species.

Trees that are removed as a result of widening of Highway 50 should be replaced with trees native to Ontario and salt-tolerant, if planting is to occur within the right-of-way. Species such as green ash (*Fraxinus pennsylvanica*), shagbark hickory (*Carya ovata var. ovata*), large tooth aspen (*Populus grandidentata*), red oak (*Quercus rubra*) and eastern red cedar (*Juniperus communis*) should be considered when replacement plantings are chosen.

**TABLE 5.**
**TREES TO BE IMPACTED BY THE PROPOSED IMPROVEMENTS**

| Common Name | Scientific Name | Status | No. of Trees to be removed |
|---|---|---|---|
| Manitoba Maple | *Acer negundo* | Native | 2 |
| Norway Maple | *Acer platanoides* | Non-native | 6 |
| Silver Maple | *Acer sacharinum* | Native | 4 |
| White Ash | *Fraxinus americana* | Native | 1 |
| Red Ash | *Fraxinus pennsylvanica* | Native | 37 |
| Red Cedar | *Juniperus communis* | Native | 3 |
| Crab Apple | *Malus baccata* | Non-native | 1 |
| Apple | *Malus pumila* | Non-native | 3 |
| White Mulberry | *Morus alba* | Non-native | 1 |
| White Spruce | *Picea glauca* | Native | 1 |
| Blue Spruce | *Picea pungens* | Non-native | 2 |
| Scott Pine | *Pinus sylvestris* | Non-native | 81 |
| Hybrid Willow | *Salix x rubens* | Non-native | 6 |
| Linden | *Tilia cordata* | Non-native | 6 |
| White Elm | *Ulmus americana* | Native | 6 |
| Siberian elm | *Ulmus pumila* | Non-native | 2 |
| | | **TOTAL** | **162** |

## *4.5 Wildlife and Wildlife Habitat*

Improvements and widening of Highway 50 and Mayfield Road have the potential to result in the displacement of and disturbance to wildlife and wildlife habitat. Effects on wildlife related to these improvements could include:

- displacement of wildlife and wildlife habitat;
- barrier effects on wildlife passage;
- wildlife/vehicle conflicts; and,
- disturbance to wildlife from noise, light and visual intrusion.

### 4.5.1 Displacement of Wildlife and Wildlife Habitat

Highway 50 and Mayfield Road improvements and widening will be undertaken within and extending beyond the existing ROW. The areas potentially impacted by the works described above consist almost entirely of agricultural and urbanized areas of previously modified/disturbed terrestrial wildlife habitat with low habitat structure/diversity and limited habitat potential. Natural heritage features within the study area were limited to small fragmented areas of cultural meadow, abandoned agricultural lands, and planted trees. Consequently, widening and improvements to Highway 50 and Mayfield Road will have limited effect on wildlife and habitat utilized by wildlife.

Numerous bird species located within the project limits are listed under the *Migratory Birds Convention Act* (MBCA). The MBCA prohibits the killing, capturing, injuring, taking or disturbing of migratory birds (including eggs) or damaging, destroying, removing or disturbing of nests. Migratory insectivorous and non-game birds are protected year-round and migratory game birds are protected from March 10 to September 1. No permits are issued for the destruction of migratory birds or their nests incidental to some other undertaking or activity and project works or activities are not specifically prohibited under the *Act*. To meet the requirements of the MBCA, no vegetation removals should occur during the nesting season. With several exceptions, this includes the period from April 1 to July 31. If vegetation clearing is required during this period, a bird nest survey should be carried out by a qualified avian biologist prior to construction. If active nests are found, a site-specific mitigation plan should be prepared in consultation with the Canadian Wildlife Service. No nests of migratory bird species were identified within any culverts or bridges located within the study area.

### 4.5.2 Barrier Effects on Wildlife Passage

No new migratory barriers to wildlife will be created as a result of widening and improvements to Highway 50 and Mayfield Road. The existing barrier posed by Highway 50 and Mayfield Road will be greater due to proposed widening. However, given the urban nature of the study area, the improvements will have no significant impact on wildlife passage.

### 4.5.3 Wildlife/Vehicle Conflicts

Improvements and widening of Highway 50 and Mayfield Road will increase the width of the travelled surface resulting in an increased risk of mortality for wildlife that elect to cross the road. Highway 50 and Mayfield Road currently poses a potential barrier to wildlife movement. While the increase in width of Highway 50 and Mayfield Road increases exposure of wildlife to vehicle conflicts, the potential increase in wildlife mortality above existing conditions is considered minor.

### 4.5.4 Disturbance to Wildlife from Noise, Light and Visual Intrusion

Noise, light and visual intrusion may alter wildlife activities and patterns. In urban settings, such as the study area, wildlife has become acclimatized to urban conditions and only those fauna that are tolerant of human activities remain. Given that wildlife are acclimatized to the presence of Highway 50 and Mayfield Road in the study area, the tolerance of the wildlife assemblage to human activities and the limited zone of influence of the proposed widening, disturbance to wildlife from noise, light and visual intrusion will have no significant adverse effects.

### 4.5.5 Displacement of Rare, Threatened or Endangered Wildlife or Significant Wildlife Habitat

During field investigations, suitable habitat for Bobolink (*Dolichonyx oryzivorus*) was identified, as this species typically nests in agricultural fields. Recently, Bobolink has been added to the Species at Risk in Ontario List, and is now regulated as "Threatened" under the Ontario *Endangered Species Act*. The potential presence of this species should be further investigated during detail design.

No other rare, threatened or endangered wildlife or significant wildlife habitat was documented within the study area.

## *4.6 Designated Natural Areas*

There are no Provincially Significant Wetlands, Areas of Natural and Scientific Interest, or Environmentally Significant/Sensitive Areas within the study area.

Several areas within the study area are identified as 'Existing' or 'Potential' Natural Cover as part of the TRCA Targeted Terrestrial Natural Heritage System Strategy as noted in **Section 2.5**. Some of these identified areas with natural cover had already been removed, as noted during the field surveys. Some other identified areas will be impacted as a result of the proposed improvements, however, these patches are generally less than 0.5 ha, and are immediately surrounded by development, infrastructure and agricultural fields. In addition, most of these areas consist of cultural meadow which tends to be comprised primarily of non-native, disturbance tolerant plant species. Consequently, impacts to the patches of primarily "Potential Natural Cover" as a result of the proposed Highway 50 improvements is not expected to significantly impact vegetation communities or plant species populations within the area.

# 5.0 MONITORING

To ensure that erosion and sediment controls are installed prior to and maintained during construction, an Erosion and Sediment Control (ESC) Plan will be prepared in accordance with the TRCA *Erosion and Sediment Control Guideline for Urban Construction* (2006). The ESC Plan will provide details regarding the inspection, maintenance (e.g. need for repair), and documentation procedures during all stages of construction. An environmental inspector will monitor the site during construction to ensure that construction fencing, tree protection barriers and erosion and sedimentation control measures are installed correctly and are functional.

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# APPENDIX A
# PHOTOGRAPHIC RECORD

**PROJECT # TA4872**
**November 2009**

# FISHERIES
# PHOTO APPENDIX

LGL LIMITED
environmental research associates

Site 1 upstream (east) of Highway 50 facing south at ditch

Site 1 downstream (west) of Highway 50 facing west at *Phragmites* within right-of-way and agricultural field beyond

Site 2 upstream (west) of Highway 50 at Cadetta Road facing northwest

Site 2 downstream (east) of Highway 50 facing east at channel that has been diverted to the north and around the industrial facility

Site 3 upstream (west) of Highway 50 facing north at culvert and ditch

Site 3 upstream (west) of Highway 50 right-of-way facing west at channel leading to culvert

PROJECT # TA4872
November 2009

# FISHERIES
# PHOTO APPENDIX

LGL LIMITED
environmental research associates

Site 3 downstream (east) of Highway 50 facing east

Site 4 upstream (west) of Highway 50 facing west

Site 4 downstream (east) of Highway 50 facing east: note berm that has blocked channel and forced it to the south in the ditch

Site 4 downstream end of channel from Highway 50 culvert facing east at CSP through berm

Site 4 channel downstream of berm culvert facing east over berm

Site 5 upstream (west) of Highway 50 facing north from culvert at channel paralleling road

PROJECT # TA4872
November 2009

# FISHERIES
# PHOTO APPENDIX

LGL LIMITED
environmental research associates

Site 5 downstream (east) of Highway 50 facing east at downstream channel through agricultural field

Site 6 upstream (west) of Highway 50 facing northwest at natural area surrounding watercourse

Site 6 downstream (east) of Highway 50 facing southwest at channel through agricultural field

Site 7 upstream (west) of Highway 50 facing west at right-of-way and wet area in agricultural field

Site 7 downstream (east) of Highway 50 facing east at right-of-way and downstream habitat

Site 8 upstream (west) of Highway 50 facing west at right-of-way and agricultural field

PROJECT # TA4872
November 2009

# FISHERIES
# PHOTO APPENDIX

LGL LIMITED
environmental research associates

Site 8 downstream (east) of Highway 50 facing south along right-of-way at pooled area downstream of culvert: note berm just outside of right-of-way on left side of photo

Site 8 downstream (east) of Highway 50 facing east at pooled area within and outside of right-of-way and berm and fill area outside of right-of-way

Site 9 upstream (west) of Highway 50 facing northwest at right-of-way and upstream natural area

Site 9 downstream (east) of Highway 50 facing east at right-of-way and downstream habitat

Site 10 upstream (west) of Highway 50 facing northwest at right-of-way and agricultural swale

Site 10 downstream (east) of Highway 50 facing southeast at right-of-way and downstream habitat

PROJECT # TA4872
November 2009

# FISHERIES
# PHOTO APPENDIX

LGL LIMITED
environmental research associates

Site 11 facing downstream (south) from downstream end of Mayfield Road culvert

Site 11 pool at upstream end of culvert under Highway 50 where fish were observed during November 23, 2006 and November 10, 2009 field investigations

Site 12 facing downstream (south) from northern edge of study limits at ditched channel running parallel to Highway 50

Site 12 facing downstream between northern limit of study area and Albion-Vaughan Road crossing: note rip rap substrates and mixed instream vegetation (short & tall grasses, cattails)

Site 12 facing upstream (north) from Albion-Vaughan Road culvert at rip rap rock check that allows only diffuse flow through when water conditions are low

Site 12 facing downstream (south) at upstream end of Albion-Vaughan Road culvert

PROJECT # TA4872
November 2009

# FISHERIES
# PHOTO APPENDIX

LGL LIMITED
environmental research associates

Site 12 downstream (south) of Albion-Vaughan Road facing south

Site 12 facing upstream (north) from where water from Site 11 enters (note culvert to left) and where channel bends to southeast (bottom right of photo)

Site 12 facing northwest at downstream end of culvert under Highway 50 conveying water from Site 11

Site 12 facing downstream (southwest) at location where channel bends to southwest: note photo was taken from downstream end of culvert from Site 11

Site 13 facing downstream (south) along channel/ditch within right-of-way

Site 13 facing upstream (north) at new pipe culvert that provides access to new pond that likely receives from Site 14

PROJECT # TA4872
November 2009

# FISHERIES
# PHOTO APPENDIX

LGL LIMITED
environmental research associates

Site 13 facing downstream (south) from new pipe culvert at upstream end of Mayfield Road culvert: note water to right of culvert likely from Site 14

Site 13 facing west at pool upstream of Mayfield Road culvert (left side of photo) and at pipe likely conveying flows from Site 14: note submerged vegetation in foreground of pool

Site 14 location where watercourse was in which grading has been modified

Site 14 remnant of historic channel facing northwest from access to new pond

Site 14 location where channel used to connect with Site 13 facing east

Site 14 new pond that likely receives flows from historic watercourse facing upstream (west) from pool area in Site 13

PROJECT # TA4872
November 2009

# FISHERIES
# PHOTO APPENDIX

LGL LIMITED
environmental research associates

Site 15 facing downstream (south) from Mayfield Road at right-of-way and agricultural swale

Site 16 facing upstream (north) of Mayfield Road at roadside ditch and armourstone retaining wall: note watercourse flows from right side of photo

Site 16 facing upstream (north) of Mayfield Road from east of culvert at natural area surrounding watercourse

Site 16 downstream (south) of Mayfield Road at natural area and downstream agricultural fields

Site 16 channel downstream (south) of Mayfield Road right-of-way facing south

Site 17 upstream (north) of Mayfield Road facing northwest at roadside ditch

PROJECT # TA4872
November 2009

# FISHERIES
# PHOTO APPENDIX

LGL LIMITED
environmental research associates

Site 17 downstream (south) of Mayfield Road facing south at right-of-way and channel through agricultural fields

Site 17 storm water outfall and surface drainage chute from Mayfield Road located to south of roadway just west of the Site 17 crossing

Site 17 facing downstream (southeast) from storm water outfall pipe at Site 17 channel: note water from Mayfield Road culvert enters channel from left of photo

Site 17 downstream (south) of Mayfield Road right-of-way where water from Mayfield Road crossing and storm water outfall join

Site 18 wet patch and swale in agricultural field south of Mayfield Road at Coleraine Drive intersection facing southwest

# APPENDIX B
# VASCULAR PLANT LIST

## APPENDIX B
## VASCULAR PLANT LIST

| | Scientific Name | Common Name | SRank | MNR | COSEWIC | TRCA | Peel | York | CUM1-1a | CUM1-1b | CUM1-1c | CUM1-1d | CUM1-1e | CUM1-1f | CUP3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **PINACEAE** | **PINE FAMILY** | | | | | | | | | | | | | |
| * | *Picea pungens* | Colorado spruce | SE1 | | | L+ | | | | X | X | X | X | X | X |
| | *Picea glauca* | white spruce | S5 | | | L3 | R3 | X | X | | X | | | | X |
| * | *Pinus nigra* | Austrian pine | SE2 | | | L+ | | | | | | | | X | |
| | *Pinus resinosa* | red pine | S5 | | | L1 | R1 | X+ | | | X | | | | X |
| | *Pinus strobus* | eastern white pine | S5 | | | L4 | X | X | X | | | | | | X |
| * | *Pinus sylvestris* | Scotch pine | SE5 | | | L+ | X | X | | | X | | X | X | |
| * | *Picea abies* | Norway spruce | SE3 | | | L+ | X | X | | | | | X | X | |
| | **CUPRESSACEAE** | **CEDAR FAMILY** | | | | | | | | | | | | | |
| | *Juniperus communis* | common juniper | S5 | | | L3 | | | | | X | | X | | |
| | *Thuja occidentalis* | eastern white cedar | S5 | | | L4 | X | X | | | X | X | | | X |
| | **ULMACEAE** | **ELM FAMILY** | | | | | | | | | | | | | |
| * | *Ulmus pumila* | Siberian elm | SE3 | | | L+ | X | X | | | X | | X | | |
| | *Ulmus americana* | white elm | S5 | | | L5 | X | X | | | X | | | | |
| | **MORACEAE** | **MULBERRY FAMILY** | | | | | | | | | | | | | |
| * | *Morus alba* | white mulberry | SE5 | | | L+ | X | X-SR | | | | X | | | |
| | **JUGLANDACEAE** | **WALNUT FAMILY** | | | | | | | | | | | | | |
| | *Carya cordiformis* | bitternut hickory | S5 | | | L4 | X | X | | | X | | | | |
| | **FAGACEAE** | **BEECH FAMILY** | | | | | | | | | | | | | |
| | *Quercus rubra* | red oak | S5 | | | L4 | X | X | | | | | | X | |
| | *Quercus macrocarpa* | bur oak | S5 | | | L4 | X | X | X | | | | | | |
| | **POLYGONACEAE** | **SMARTWEED FAMILY** | | | | | | | | | | | | | |
| * | *Rumex crispus* | curly-leaf dock | SE5 | | | L+ | X | X | X | X | X | X | X | X | |
| | **SALICACEAE** | **WILLOW FAMILY** | | | | | | | | | | | | | |
| * | *Salix purpurea* | basket willow | SE4 | | | L+ | X | X | X | | X | | | | |

## APPENDIX B
## VASCULAR PLANT LIST

| | Scientific Name | Common Name | SRank | MNR | COSEWIC | TRCA | Peel | York | CUM1-1a | CUM1-1b | CUM1-1c | CUM1-1d | CUM1-1e | CUM1-1f | CUP3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| * | *Salix alba* | white willow | SE4 | | | L+ | X | X | | | X | | | | |
| | **BRASSICACEAE** | **MUSTARD FAMILY** | | | | | | | | | | | | | |
| * | *Thlaspi arvense* | field penny-cress | SE5 | | | L+ | X | X-SR | X | X | X | | | | |
| | **ROSACEAE** | **ROSE FAMILY** | | | | | | | | | | | | | |
| | *Geum aleppicum* | yellow avens | S5 | | | L5 | X | X | | | X | | | | |
| | *Physocarpus opulifolius* | ninebark | S5 | | | L3 | R1 | | X | | X | | | | |
| | *Rubus occidentalis* | thimble-berry | S5 | | | L5 | X | X | | | X | | | | |
| | *Prunus virginiana* var. *virginiana* | choke cherry | S5 | | | L5 | X | X | | | | | X | | |
| | **FABACEAE** | **PEA FAMILY** | | | | | | | | | | | | | |
| * | *Trifolium repens* | white clover | SE5 | | | L+ | X | X | | | X | | | | |
| * | *Vicia cracca* | tufted vetch | SE5 | | | L+ | X | X | X | | X | X | | | |
| * | *Coronilla varia* | variable crown-vetch | SE5 | | | L+ | X | X | X | | | | | | |
| * | *Lotus corniculatus* | bird's-foot trefoil | SE5 | | | L+ | X | X | | X | | | | | |
| * | *Melilotus alba* | white sweet-clover | SE5 | | | L+ | X | X | X | X | X | X | X | X | |
| * | *Trifolium pratense* | red clover | SE5 | | | L+ | X | X | X | | | | | | |
| | **ELAEAGNACEAE** | **OLEASTER FAMILY** | | | | | | | | | | | | | |
| * | *Elaeagnus angustifolia* | Russian olive | SE3 | | | L+ | X | X | | | X | | | X | |
| | **ONAGRACEAE** | **EVENING-PRIMROSE FAMILY** | | | | | | | | | | | | | |
| | *Oenothera biennis* | common evening-primrose | S5 | | | L5 | U | U | | | | | | X | X |
| * | *Epilobium hirsutum* | great hairy willow-herb | SE5 | | | L+ | X | X | | | X | | | X | |
| | **CORNACEAE** | **DOGWOOD FAMILY** | | | | | | | | | | | | | |
| | *Cornus sericea* ssp. *sericea* | red-osier dogwood | S5 | | | L5 | X | X | X | | X | | | | |
| | **RHAMNACEAE** | **BUCKTHORN FAMILY** | | | | | | | | | | | | | |
| * | *Rhamnus cathartica* | common buckthorn | SE5 | | | L+ | X | X | | X | X | X | X | X | X |

## APPENDIX B
## VASCULAR PLANT LIST

| | Scientific Name | Common Name | SRank | MNR | COSEWIC | TRCA | Peel | York | CUM1-1a | CUM1-1b | CUM1-1c | CUM1-1d | CUM1-1e | CUM1-1f | CUP3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **ACERACEAE** | **MAPLE FAMILY** | | | | | | | | | | | | | |
| * | *Acer platanoides* | Norway maple | SE5 | | | L+ | X | X | | | X | | | X | |
| | *Acer saccharinum* | silver maple | S5 | | | L4 | X | X | | | | | | X | |
| | *Acer saccharum* var. *saccharum* | sugar maple | S5 | | | L5 | X | X | | | X | | X | | |
| | *Acer negundo* | Manitoba maple | S5 | | | L+? | X | X | | | X | | | X | X |
| | **ANACARDIACEAE** | **SUMAC FAMILY** | | | | | | | | | | | | | |
| | *Rhus hirta* | staghorn sumac | S5 | | | L5 | X | X | | | X | | | | |
| | **APIACEAE** | **PARSLEY FAMILY** | | | | | | | | | | | | | |
| * | *Daucus carota* | wild carrot | SE5 | | | L+ | X | X | X | X | X | X | X | X | |
| | **ASCLEPIADACEAE** | **MILKWEED FAMILY** | | | | | | | | | | | | | |
| | *Asclepias syriaca* | common milkweed | S5 | | | L5 | X | X | | | X | | | | |
| | **SOLANACEAE** | **POTATO FAMILY** | | | | | | | | | | | | | |
| * | *Solanum dulcamara* | bitter nightshade | SE5 | | | L+ | X | X | | | | X | | | |
| | **VERBENACEAE** | **VERVAIN FAMILY** | | | | | | | | | | | | | |
| | *Verbena urticifolia* | white vervain | S5 | | | L5 | X | X | | | X | | | | |
| | **LAMIACEAE** | **MINT FAMILY** | | | | | | | | | | | | | |
| * | *Nepeta cataria* | catnip | SE5 | | | L+ | X | X | | | | X | | | X |
| * | *Leonurus cardiaca* ssp. *cardiaca* | common motherwort | SE5 | | | L+ | X | X | | | | X | | X | |
| | **PLANTAGINACEAE** | **PLANTAIN FAMILY** | | | | | | | | | | | | | |
| * | *Plantago major* | common plantain | SE5 | | | L+ | X | X | X | | X | X | | | |
| | **OLEACEAE** | **OLIVE FAMILY** | | | | | | | | | | | | | |
| * | *Syringa vulgaris* | common lilac | SE5 | | | L+ | X | X | | | | | | X | |
| | **SCROPHULARIACEAE** | **FIGWORT FAMILY** | | | | | | | | | | | | | |
| * | *Linaria vulgaris* | butter-and-eggs | SE5 | | | L+ | X | X | | X | | X | X | X | |
| | **DIPSACACEAE** | **TEASEL FAMILY** | | | | | | | | | | | | | |

## APPENDIX B
## VASCULAR PLANT LIST

| | Scientific Name | Common Name | SRank | MNR | COSEWIC | TRCA | Peel | York | CUM1-1a | CUM1-1b | CUM1-1c | CUM1-1d | CUM1-1e | CUM1-1f | CUP3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| * | *Dipsacus fullonum* ssp. *sylvestris* | wild teasel | SE5 | | | L+ | X | X | | | | | X | X | |
| | **ASTERACEAE** | **ASTER FAMILY** | | | | | | | | | | | | | |
| | *Ambrosia artemisiifolia* | common ragweed | S5 | | | L5 | X | X | | | X | X | | | |
| * | *Anthemis tinctoria* | yellow chamomille | SE1 | | | | X | | X | | | | | | |
| | *Artemisia campestris* ssp. *caudata* | tall wormwood | S4S5 | | | L2 | R1 | | | | X | | | X | |
| * | *Arctium minus* | common burdock | SE5 | | | L+ | X | X | | | X | | X | X | |
| * | *Achillea millefolium* var. *millefolium* | common yarrow | SE? | | | L+ | X | X | X | X | X | | | | |
| | *Symphyotrichum novae-angliae* | New England aster | S5 | | | L5 | X | X | | X | X | | X | X | |
| | *Symphyotrichum lateriflorus* var. *lateriflorus* | calico aster | S5 | | | | | | | | X | X | X | X | X |
| * | *Cirsium arvense* | Canada thistle | SE5 | | | L+ | X | X | X | | X | X | X | | |
| * | *Cichorium intybus* | chicory | SE5 | | | L+ | X | X | | | X | | X | X | |
| | *Conyza canadensis* | horseweed | S5 | | | L5 | X | X | | X | X | X | X | X | |
| | *Euthamia graminifolia* | flat-topped bushy goldenrod | S5 | | | | X | X | | | | X | | X | |
| | *Solidago canadensis* | canada goldenrod | S5 | | | L5 | X | X | | X | X | X | X | X | |
| | *Solidago* sp. | goldenrod | | | | | | | | | | | X | X | |
| * | *Sonchus arvensis* ssp. *arvensis* | field sow-thistle | SE5 | | | L+ | X | X | | X | | | | | |
| * | *Taraxacum officinale* | common dandelion | SE5 | | | L+ | X | X | X | X | X | X | X | X | |
| * | *Tussilago farfara* | coltsfoot | SE5 | | | L+ | X | X | | | X | | | X | |
| * | *Cirsium vulgare* | bull thistle | SE5 | | | L+ | X | X | X | | | | | X | |
| | *Solidago canadensis* var. *scabra* | tall goldenrod | S5 | | | L5 | X | X | | | X | | | | X |
| | **POACEAE** | **GRASS FAMILY** | | | | | | | | | | | | | |
| | *Poa* sp. | blue grass | | | | | | | | | X | | X | X | |
| * | *Alopecurus pratensis* | meadow foxtail | SE5 | | | L+ | X | | | | | X | | X | |

## APPENDIX B
## VASCULAR PLANT LIST

| | Scientific Name | Common Name | SRank | MNR | COSEWIC | TRCA | Peel | York | CUM1-1a | CUM1-1b | CUM1-1c | CUM1-1d | CUM1-1e | CUM1-1f | CUP3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| * | *Bromus inermis* ssp. *inermis* | awnless brome | SE5 | | | L+ | X | X | X | X | X | X | X | X | |
| * | *Dactylis glomerata* | orchard grass | SE5 | | | L+ | X | X | | | X | X | | | |
| * | *Echinochloa crusgalli* | common barnyard grass | SE5 | | | L+ | X | X | X | | X | | | | |
| | *Elymus canadensis* | nodding wild rye | S4S5 | | | L3 | E | R1 | | X | | | | | |
| * | *Elymus repens* | quack grass | SE5 | | | L+ | X | X | X | X | | | | | |
| | *Phalaris arundinacea* | reed canary grass | S5 | | | L+? | X | X | | X | X | X | X | X | |
| * | *Phleum pratense* | timothy | SE5 | | | L+ | X | X | X | | | | | X | |
| | *Phragmites australis* | common reed | S5 | | | L+? | X | X | | | X | X | X | X | |
| * | *Agrostis gigantea* | red-top | SE5 | | | L+ | X | X | | | X | | | | |
| | **TYPHACEAE** | **CATTAIL FAMILY** | | | | | | | | | | | | | |
| | *Typha angustifolia* | narrow-leaved cattail | S5 | | | L+ | X | X | X | X | X | X | | X | |
| | **LILIACEAE** | **LILY FAMILY** | | | | | | | | | | | | | |
| * | *Asparagus officinalis* | garden asparagus | SE5 | | | L+ | X | X | | X | X | | | | |

* Non-native species
X present
Refer to **Appendix C** for species rank definitions

# APPENDIX C
# ACRONYMS AND DEFINITIONS USED IN SPECIES LISTS

**Appendix A. Species Rank**

**SRANK Provincial Rank**

Provincial (or Sub-national) ranks are used by the Ontario Ministry of Natural Resources Natural Heritage Information Centre (NHIC) to set protection priorities for rare species and natural communities. These ranks are not legal designations. Provincial ranks are assigned in a manner similar to that described for global ranks, but consider only those factors within the political boundaries of Ontario. By comparing the global and provincial ranks, the status, rarity, and the urgency of conservation needs can be ascertained. The NHIC evaluates provincial ranks on a continual basis and produces updated lists at least annually.

| | |
|---|---|
| S1 | **Critically Imperiled** in Ontario because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation. |
| S2 | **Imperiled** in Ontario because of rarity due to very restricted range, very few populations (often 20 or fewer occurrences) steep declines or other factors making it very vulnerable to extirpation. |
| S3 | **Vulnerable** in Ontario due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation. |
| S4 | **Apparently Secure**—Uncommon but not rare; some cause for long-term concern due to declines or other factors. |
| S5 | **Secure**—Common, widespread, and abundant in Ontario. |
| SX | **Presumed Extirpated** – Species or community is believed to be extirpated from Ontario. |
| SH | **Possibly Extirpated** – Species or community occurred historically in Ontario and there is some possibility that it may be rediscovered. |
| SNR | **Unranked**—Conservation status in Ontario not yet assessed |
| SU | **Unrankable**—Currently unrankable due to lack of information or due to substantially conflicting information about status or trends. |
| SNA | **Not Applicable** —A conservation status rank is not applicable because the species is not a suitable target for conservation activities. |
| S#S# | **Range Rank** —A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community. Ranges cannot skip more than one rank (e.g., SU is used rather than S1S4). |

| **COSEWIC (Committee on the Status of Endangered Wildlife in Canada):** | | **OMNR (Ontario Ministry of Natural Resources):** | |
|---|---|---|---|
| END | Endangered | END | Endangered |
| THR | Threatened | THR | Threatened |
| SC | Special Concern | SC | Special Concern |
| **Local Status:** Peel and York | | **Legal Status:** | |
| E | Extirpated native species that has not been refound at its known locations or its habitat is gone (i.e. urbanized, cleared, etc.) | SARA | *Species at Risk Act* – Schedules (1), (2), (3) |
| R1-R10 | Rarity Status (1-10 denotes number of stations at which a locally rare species is found) (Varga *et al*. 2000) | ESA | *Endangered Species Act* |
| **Toronto Region Conservation Authority** | | | |
| L1-L3 | Species of Concern (see next page) | | |

| RANK | LEVEL OF CONSERVATION CONCERN OF FLORA AND FAUNA IN TRCA REGION (TRCA 2003) |
|---|---|
| L5 | Able to withstand high levels of disturbance; generally secure throughout the jurisdiction, including the urban matrix. May be of very localized concern in highly degraded areas. |
| L4 | Able to withstand some disturbance; generally secure in rural matrix; of concern in urban matrix. |
| L3 | Able to withstand minor disturbance; generally secure in natural matrix; considered to be of regional concern. |
| L2 | Unable to withstand disturbance; some criteria are very limiting factors; generally occur in high-quality natural areas, in natural matrix; probably rare in the TRCA jurisdiction; of concern regionally. |
| L1 | Unable to withstand disturbance; many criteria are limiting factors; generally occur in high-quality natural areas in natural matrix; almost certainly rare in the TRCA jurisdiction; of concern regionally. |
| LX | Extirpated from our region with remote chance of rediscovery. Presumably highly sensitive. |
| LH | Hybrid between two native species. Usually not scored unless highly stable and behaves like a species (e.g. Equisetum x nelsonii) |
| L+ | Exotic. Not native to TRCA jurisdiction. Includes hybrids between a native species and an exotic |
| L+? | Origin uncertain or disputed, i.e. may or may not be native. |

# APPENDIX D
# TREE INVENTORY RESULTS

**Project**: TA4872 Hwy 50
**Client**: HDR | iTRANS Consulting **Date**: November 2009
**Collectors**: JCN and MJO **Area**: Roadside Assessment

| LGL ID | SPECIES | DBH (cm) | WP | CONDITION | | | | | | | | | fenceline | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TI | CS | CV | DL (m) | CDB | Cavity | Wound | Epicormic | Frost Crack | | |
| 1 | Hybrid willow (Salix x rubens) | 9 | 65 | f | g | g | 2 | | | x | | | | wound on trunk and on branch |
| 2 | Hybrid willow (Salix x rubens) | 21 | 67 | g | g | g | 4 | | | | | | | |
| 3 | Hybrid willow (Salix x rubens) | 30 | 68 | g | g | g | 5 | | | | | | | |
| 4 | Red ash (Fraxinus pennsylvanica) | 17 | 66 | g | g | g | 3 | | | | | | | |
| 5 | Hybrid willow (Salix x rubens) | 13, 18, 11 | 69 | g | g | g | 2 | | | | | | | |
| 6 | Hybrid willow (Salix x rubens) | 31, 29 | 70 | g | g | g | 5 | | | | | | | |
| 7 | Red ash (Fraxinus pennsylvanica) | 21 | 71 | g | g | g | 5 | | | | | | | |
| 8 | Red Cedar (Juniperus communis) | 10 | 72 | g | g | g | 2 | | | | | | | |
| 9 | Red Cedar (Juniperus communis) | 10 | 73 | g | g | g | 2 | | | | | | | |
| 10 | Red Cedar (Juniperus communis) | 10 | 73 | g | g | g | 2 | | | | | | | |
| 11 | Blue Spruce (Picea pungens) | 31 | 74 | g | g | g | 3 | | | | | | | |
| 12 | White mulburry (Morus alba) | 48 | 75 | f | f | f | 5 | | | | x | | | |
| 13 | White Spruce (Picea glauca) | 31 | 76 | g | g | g | 3 | | | | | | | |
| 14 | Black Cherry (Prunus cerotina) | 40 | 77 | g | g | g | 4 | | | | x | | | minor epicormic branching, codominant stems |
| 15 | Red ash (Fraxinus pennsylvanica) | 27, 21 | 78 | g | g | g | 5 | | | x | | | | codominant stem |
| 16 | | | 79 | d | d | d | | | | | | | | |
| 17 | Wheeping willow (Salix x selpulcralis) | 64 | 80 | g | g | g | 10 | | | | | | | |

**Project**: TA4872 Hwy 50
**Client**: HDR | iTRANS Consulting **Date**: November 2009
**Collectors**: JCN and MJO **Area**: Roadside Assessment

| LGL ID | SPECIES | DBH (cm) | WP | CONDITION | | | | | | | | | fenceline | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TI | CS | CV | DL (m) | CDB | Cavity | Wound | Epicormic | Frost Crack | | |
| 18 | Norway maple (Acer platanoides) | 18 | | g | g | g | 3 | | | | | | | |
| 19 | Red ash (Fraxinus pennsylvanica) | 35 | 81 | g | f | g | | | | | | | | top of leader cut off |
| 20 | Norway maple (Acer platanoides) | 25 | 82 | g | g | g | | | | | x | | | minor epicormic branching |
| 21 | Norway maple (Acer platanoides) | 29 | 83 | g | g | g | | | | | | x | | |
| 22 | Red ash (Fraxinus pennsylvanica) | 22 | 84 | g | g | g | | | | | | | | |
| 23 | Norway maple (Acer platanoides) | 25 | 85 | g | g | g | | | | | x | | | minor epicormic branching |
| 24 | Norway maple (Acer platanoides) | 30 | 86 | g | f | f | 5 | | | | x | | | |
| 25 | Red Cedar (Juniperus communis) | 13 | 87 | g | g | g | 2 | | | | | | | |
| 26 | Sugar maple (Acer saccharum) | 11 | 88 | g | g | g | 3 | | | | | | | being shaded by adjacent cedars and spruces |
| 27 | White Spruce (Picea glauca) | 28 | 89 | g | g | g | 3 | | | | | | | |
| 28 | Blue Spruce (Picea pungens) | 28 | 90 | g | g | g | 3 | | | | | | | |
| 29 | Blue Spruce (Picea pungens) | 23 | 90 | g | g | g | 3 | | | | | | | |
| 30 | Blue Spruce (Picea pungens) | 22 | 90 | g | g | g | 3 | | | | | | | |
| 31 | Blue Spruce (Picea pungens) | 19 | 90 | g | g | g | 3 | | | | | | | Bottom of spruce branches have been pruned |
| 32 | Blue Spruce (Picea pungens) | 20 | 90 | g | g | g | 3 | | | | | | | |
| 33 | Blue Spruce (Picea pungens) | 21 | 90 | g | g | g | 3 | | | | | | | |

**Project**: TA4872 Hwy 50
**Client**: HDR | iTRANS Consulting **Date**: November 2009
**Collectors**: JCN and MJO **Area**: Roadside Assessment

| LGL ID | SPECIES | DBH (cm) | WP | CONDITION | | | | | | | | | fenceline | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TI | CS | CV | DL (m) | CDB | Cavity | Wound | Epicormic | Frost Crack | | |
| 34 | Blue Spruce (Picea pungens) | 27 | 90 | g | g | g | 3 | | | | | | | |
| 35 | Blue Spruce (Picea pungens) | 20 | 90 | g | g | g | 3 | | | | | | | |
| 36 | Blue Spruce (Picea pungens) | 20 | 90 | g | g | g | 3 | | | | | | | |
| 37 | Blue Spruce (Picea pungens) | 29 | 91 | g | g | g | 3 | | | | | | | |
| 38 | Blue Spruce (Picea pungens) | 23 | 92 | g | g | g | 3 | | | | | | | |
| 39 | Blue Spruce (Picea pungens) | 25 | 92 | g | g | g | 3 | | | | | | | |
| 40 | Blue Spruce (Picea pungens) | 26 | 93 | g | g | g | 3 | | | | | | | |
| 41 | Norway maple (Acer platanoides) | 20 | 94 | g | g | g | 2 | | | | | | | |
| 42 | Norway maple (Acer platanoides) | 18 | 95 | g | g | g | 2 | | | | | | | |
| 43 | Blue Spruce (Picea pungens) | 21 | 96 | g | g | g | 3 | | | | | | | |
| 44 | Norway maple (Acer platanoides) | 15 | 97 | g | g | g | 2 | | | | | | | |
| 45 | Silver maple (Acer sacharinum) | 12, 9, 14, 10 | 98 | g | g | g | 3 | | | | | | | |
| 46 | White Spruce (Picea glauca) | 27 | 99 | g | g | g | 3 | | | x | | | | wound at base of trunk, pruned on side closest to the road |
| 47 | White Spruce (Picea glauca) | 23 | 99 | g | g | g | 3 | | | | | | | |
| 48 | White Spruce (Picea glauca) | 26 | 99 | g | g | g | 3 | | | | | | | |
| 49 | White Spruce (Picea glauca) | 27 | 99 | g | g | g | 3 | | | | | | | |
| 50 | White Spruce (Picea glauca) | 33 | 99 | g | g | g | 3 | | | x | | | | wound at base of tree |
| 51 | White Spruce (Picea glauca) | 28 | 99 | g | g | g | 3 | | | | | | | |
| 52 | White Spruce (Picea glauca) | 25 | 99 | g | g | g | 3 | | | | | | | |
| 53 | White Spruce (Picea glauca) | 30 | 99 | g | g | g | 3 | | | | | | | |

**Project**: TA4872 Hwy 50
**Client**: HDR | iTRANS Consulting **Date**: November 2009
**Collectors**: JCN and MJO **Area**: Roadside Assessment

| LGL ID | SPECIES | DBH (cm) | WP | CONDITION | | | | | | | | | fenceline | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TI | CS | CV | DL (m) | CDB | Cavity | Wound | Epicormic | Frost Crack | | |
| 54 | White Spruce (Picea glauca) | 36 | 99 | g | g | g | 3 | | | | | | | |
| 55 | White Spruce (Picea glauca) | 25 | 99 | g | g | g | 3 | | | | | | | |
| 56 | White Spruce (Picea glauca) | 28 | 100 | g | g | g | 3 | | | | | | | |
| 57 | White Spruce (Picea glauca) | 39 | 101 | g | g | g | 3 | | | | | | | |
| 58 | White Spruce (Picea glauca) | 34 | 102 | f | g | g | 2 | | | | | | | damaged roots |
| 59 | Austrian Pine (Pinus nigra) | 40 | 103 | f | g | g | 5 | | | x | | | | leaning, wound at base |
| 60 | Austrian Pine (Pinus nigra) | 44 | 104 | g | g | g | 5 | | | | | | | |
| 61 | Austrian Pine (Pinus nigra) | 41 | 105 | g | g | g | 5 | | | x | | | | heavily leaning, wound on trunk, codominant stem |
| 62 | Austrian Pine (Pinus nigra) | 32 | 106 | g | g | g | 2 | | | x | | | | wound 3 m up trunk, codominant stem |
| 63 | Austrian Pine (Pinus nigra) | 35 | 107 | g | g | g | 4 | | | | | | | |
| 64 | Austrian Pine (Pinus nigra) | 28 | 108 | g | g | g | 4 | | | | | | | |
| 65 | Austrian Pine (Pinus nigra) | 26 | | g | g | g | 3 | | | | | | | |
| 66 | Austrian Pine (Pinus nigra) | 38 | | g | g | g | 4 | | | | | | | |
| 67 | Austrian Pine (Pinus nigra) | 40 | | g | g | g | 4 | | | | | | | |
| 68 | Austrian Pine (Pinus nigra) | 31 | | g | g | g | 2 | | | | | | | |
| 69 | Austrian Pine (Pinus nigra) | 33 | | g | g | g | 3 | | | | | | | |
| 70 | Austrian Pine (Pinus nigra) | 27 | | g | g | g | 3 | | | | | | | codominant stem at 5 m above ground |
| 71 | Austrian Pine (Pinus nigra) | 54 | | g | g | g | 4 | | | | | | | included bark from codominant stems 2 m up tree |
| 72 | Austrian Pine (Pinus nigra) | 32 | | f | g | g | 4 | | | x | | | | wound at base of tree, tree leaning |
| 73 | Austrian Pine (Pinus nigra) | 28 | | g | g | g | 3 | | | | | | | |
| 74 | Austrian Pine (Pinus nigra) | 28 | 109 | d | d | d | | | | | | | | recommend removal |

**Project**: TA4872 Hwy 50
**Client**: HDR | iTRANS Consulting **Date**: November 2009
**Collectors**: JCN and MJO **Area**: Roadside Assessment

| LGL ID | SPECIES | DBH (cm) | WP | CONDITION | | | | | | | | | fenceline | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TI | CS | CV | DL (m) | CDB | Cavity | Wound | Epicormic | Frost Crack | | |
| 75 | Austrian Pine (Pinus nigra) | 39 | 110 | g | g | g | 4 | | | | | | | codominant stems |
| 76 | Siberian elm (Ulmus pumila) | 9, 8, 10 | 111 | g | f | f | 2 | | | | x | | | major epicormic branching |
| 77 | Siberian elm (Ulmus pumila) | 14, 15 | 112 | g | f | f | 1 | | | | x | | | major epicormic branching |
| 78 | Apple (Malus pumila) | 19, 23 | 113 | g | f | f | | | | | x | | x | |
| 79 | Apple (Malus pumila) | 40 | 114 | f | f | f | | 30 | | | x | | x | epicormic branching |
| 80 | Apple (Malus pumila) | 30 | 115 | g | f | f | | 15 | | | | | x | |
| 81 | Scott Pine (Pinus sylvestris) | 18 | 116 | g | g | f-p | | | | | | | x | major dieback |
| 82 | Manitoba maple (Acer negundo) | 13 | 117 | g | f | g | | | | | | | x | major dieback |
| 83 | Red ash (Fraxinus pennsylvanica) | 13 | 118 | g | f | f | | | | x | x | | | wound at base |
| 84 | Crab apple (Malus baccata) | 34 | 119 | g | f | f | | | | | x | | x | major epicormic branching, on private property |
| 85 | Red ash (Fraxinus pennsylvanica) | 10 | 120 | g | f | f | | | | | x | | x | major epicormic branching |
| 86 | White elm (Ulmus americana) | 34 | 121 | g | g | g | 6 | | | | | | | |
| 87 | Scott Pine (Pinus sylvestris) | 34 | 122 | g | g | g | 5 | | | | | | | |
| 88 | Linden (Tilia cordata) | 40 | 123 | g | f | f | | | | | x | | | |
| 89 | Scott Pine (Pinus sylvestris) | 26 | 124 | g | p | f | | | | | | | | topped |
| 90 | Scott Pine (Pinus sylvestris) | 34 | 125 | g | g | g | | | | | | | | |
| 91 | Linden (Tilia cordata) | 32 | 126 | g | f | f | | | | | x | | | |
| 92 | Scott Pine (Pinus sylvestris) | 22 | 127 | g | f | f | | | | | | | | pruned for wire |
| 93 | Linden (Tilia cordata) | 29 | 128 | g | f | f | | | | | x | | | wound at base and in canopy |
| 94 | White ash (Fraxinus americana) | 59 | 129 | g | g | g | 10 | | | | | | | codominant stems with included bark, pruned due to overhead wires |
| 95 | Red ash (Fraxinus | 29 | 130 | g | g | g | | | | | x | | | some epicormic branching |

**Project**: TA4872 Hwy 50
**Client**: HDR | iTRANS Consulting **Date**: November 2009
**Collectors**: JCN and MJO **Area**: Roadside Assessment

| LGL ID | SPECIES | DBH (cm) | WP | CONDITION | | | | | | | | | fenceline | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TI | CS | CV | DL (m) | CDB | Cavity | Wound | Epicormic | Frost Crack | | |
| | pennsylvanica) | | | | | | | | | | | | | |
| 96 | Red ash (Fraxinus pennsylvanica) | 32 | 131 | f | f | f | | | | | x | | | epicormic branches along trunk |
| 97 | Scott Pine (Pinus sylvestris) | 28 | 132 | g | g | g | | | | | | | | |
| 98 | Linden (Tilia cordata) | 33 | 133 | g | g | g | | | | | | | | |
| 99 | Red ash (Fraxinus pennsylvanica) | 36 | 134 | g | f | g | | | | | | | | all branches facing road dead |
| 100 | Red ash (Fraxinus pennsylvanica) | 34 | 135 | g | f | f | | | | | x | | | major epicormic branches |
| 101 | Red ash (Fraxinus pennsylvanica) | 33 | 136 | g | g | g | | | | | | | | |
| 102 | Red ash (Fraxinus pennsylvanica) | 32 | 137 | g | g | g | | | | | | | | |
| 103 | White elm (Ulmus americana) | 38 | 138 | g | f | f | | | | | x | | | |
| 104 | Red ash (Fraxinus pennsylvanica) | 34 | 139 | g | g | g | | | | | | | | |
| 105 | Scott Pine (Pinus sylvestris) | 30 | 140 | g | g | g | | | | | | | | |
| 106 | Scott Pine (Pinus sylvestris) | 28 | 141 | g | g | g | | | | | | | | |
| 107 | Scott Pine (Pinus sylvestris) | 22 | 142 | g | g | g | | | | | | | | |
| 108 | Scott Pine (Pinus sylvestris) | 21 | 143 | g | f | g | | | | | | | | |
| 109 | Scott Pine (Pinus sylvestris) | 26 | 144 | g | g | g | | | | | | | | |
| 110 | Scott Pine (Pinus sylvestris) | 25 | 145 | g | p | p | | | | | | | | tree topped one live branch remaining |
| 111 | Scott Pine (Pinus sylvestris) | 16 | 146 | g | g | g | | | | | | | | |
| 112 | Scott Pine (Pinus sylvestris) | 27 | 147 | g | g | g | | | | | | | | |
| 113 | Scott Pine (Pinus sylvestris) | 21 | 148 | f | f | g | | | | | x | | | leader died, branch new leader, |

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| LGL ID | SPECIES | DBH (cm) | WP | CONDITION | | | | | | | | | fenceline | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TI | CS | CV | DL (m) | CDB | Cavity | Wound | Epicormic | Frost Crack | | |
| | | | | | | | | | | | | | | wound down entire trunk |
| 114 | Scott Pine (Pinus sylvestris) | 20 | 149 | g | g | g | | | | | | | | dieback of branches along roadside |
| 115 | Scott Pine (Pinus sylvestris) | 28 | 150 | g | f | g | | | | | | | | dieback of branches along roadside |
| 116 | Scott Pine (Pinus sylvestris) | 21 | 151 | f | p | f | | | | | | | | |
| 117 | Scott Pine (Pinus sylvestris) | 20 | 152 | f | g | g | | | | | | | | |
| 118 | Scott Pine (Pinus sylvestris) | 20 | 153 | g | g | g | | | | | | | | |
| 119 | Scott Pine (Pinus sylvestris) | 25 | | g | f | g | | | | | | | | bend in leader |
| 120 | Scott Pine (Pinus sylvestris) | 23 | | g | g | g | | | | | | | | |
| 121 | Scott Pine (Pinus sylvestris) | 22 | | g | g | g | | | | | | | | |
| 122 | Scott Pine (Pinus sylvestris) | 22 | | g | g | g | | | | | | | | |
| 123 | Scott Pine (Pinus sylvestris) | 19 | 154 | g | g | g | | | | | | | | |
| 124 | Scott Pine (Pinus sylvestris) | 43 | 155 | g | g | g | | | | | | | | pruned due to overhead wires |
| 125 | Silver maple (Acer sacharinum) | 54 | 156 | g | f | f | | | | x | x | | | |
| 126 | Red ash (Fraxinus pennsylvanica) | 30, 38 | 157 | g | f | f | | | | x | x | | | codominant stems, short branches |
| 127 | Hybrid willow (Salix x rubens) | 29-61 | 158 | g | f | f | | | | | x | | | major epicormic branching, multistem tree (6) |
| 128 | Red ash (Fraxinus pennsylvanica) | 21, 13 | 159 | g | g | f | | | | | x | | | minor epicormic branching |
| 129 | Scott Pine (Pinus sylvestris) | 26 | 160 | g | g | g | | | | | | | | currently there is fill up to 1m from tree |
| 130 | Scott Pine (Pinus sylvestris) | 30 | 161 | g | g | g | | | | | | | | currently there is fill up to 1m from tree |
| 131 | Scott Pine (Pinus sylvestris) | 27 | 162 | g | g | g | | | | | | | | currently there is fill up to 1m |

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| LGL ID | SPECIES | DBH (cm) | WP | CONDITION | | | | | | | | | fenceline | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TI | CS | CV | DL (m) | CDB | Cavity | Wound | Epicormic | Frost Crack | | |
| | | | | | | | | | | | | | | from tree |
| 132 | Scott Pine (Pinus sylvestris) | 26 | 163 | g | g | g | | | | | | | | currently there is fill up to 1m from tree |
| 133 | Scott Pine (Pinus sylvestris) | 34 | 164 | g | g | f | | | | | | | | some dieback in canopy |
| 134 | Scott Pine (Pinus sylvestris) | 25 | 165 | g | g | g | | | | | | | | need pruning for overhead wires |
| 135 | Scott Pine (Pinus sylvestris) | 11 | 166 | g | g | g | | | | | | | | |
| 136 | Scott Pine (Pinus sylvestris) | 24 | 167 | g | g | g | | | | | | | | |
| 137 | Scott Pine (Pinus sylvestris) | 28 | 168 | g | g | g | | | | | | | | |
| 138 | Red ash (Fraxinus pennsylvanica) | 20 | 169 | g | f | f | | | | | | | | short branches |
| 139 | Scott Pine (Pinus sylvestris) | 22 | 170 | g | g | g | | | | | | | | |
| 140 | Scott Pine (Pinus sylvestris) | 10 | 171 | g | g | p | | | | | | | | |
| 141 | Red ash (Fraxinus pennsylvanica) | 16, 19 | 172 | g | g | g | | | | | | | | |
| 142 | Red ash (Fraxinus pennsylvanica) | 14 | 172 | g | f | f | | | | | x | | | major epicormic branching |
| 143 | Red ash (Fraxinus pennsylvanica) | 11 | 173 | g | f | f | 3 | | | | x | | | major epicormic branching |
| 144 | Red ash (Fraxinus pennsylvanica) | 10 | 174 | g | g | g | 4 | | | | | | | |
| 145 | Red ash (Fraxinus pennsylvanica) | 10 | 175 | g | f | f | 3 | | | | x | | | minor epicormic branching |
| 146 | Red ash (Fraxinus pennsylvanica) | 18 | 176 | g | g | g | 4 | | | | x | | | minor epicormic branching |
| 147 | Red ash (Fraxinus pennsylvanica) | 12 | 177 | g | f | f | 3 | | | | x | | | major epicormic branching |
| 148 | Red ash (Fraxinus | 17, 13 | 178 | g | f | f | 5 | | | | x | | | major epicormic branching |

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| LGL ID | SPECIES | DBH (cm) | WP | CONDITION | | | | | | | | | fenceline | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TI | CS | CV | DL (m) | CDB | Cavity | Wound | Epicormic | Frost Crack | | |
| | pennsylvanica) | | | | | | | | | | | | | |
| 149 | Manitoba maple (Acer negundo) | 14-24 | 179 | f | f | f | 5 | | | | x | | | major epicormic branching, multistem |
| 150 | Red ash (Fraxinus pennsylvanica) | 9, 10 | 180 | g | g | g | 3 | | | | | | | |
| 151 | Manitoba maple (Acer negundo) | 27 | 181 | f | f | f | 4 | | | | x | | | major epicormic branching |
| 152 | Red ash (Fraxinus pennsylvanica) | 18, 19 | 182 | g | f | f | 5 | | | | x | | | some epicormic branching |
| 153 | Red ash (Fraxinus pennsylvanica) | 12, 10 | 183 | g | f | f | 5 | | | | x | | | major epicormic branching |
| 154 | Scott Pine (Pinus sylvestris) | 15 | 184 | g | p | p | 1 | | | | | | | |
| 155 | Silver maple (Acer sacharinum) | 13-18 | 185 | f | f | f | 5 | | x | | x | | | major epicormic branching, multistem |
| 156 | Norway maple (Acer platanoides) | 21 | 186 | g | f | f | 5 | | | | x | | | major epicormic branching, requires pruning |
| 157 | Norway maple (Acer platanoides) | 26 | 187 | g | f | f | 6 | | | | x | | | one branch removed due to overhead wires |
| 158 | Norway maple (Acer platanoides) | 18 | 188 | g | f | f | 3 | | | | x | | | requires pruning |
| 159 | Norway maple (Acer platanoides) | 27 | 189 | g | f | f | 4 | | | | x | | | |
| 160 | Red ash (Fraxinus pennsylvanica) | 16 | 190 | g | f | f | 2 | | | | x | | | trunk girdled |
| 161 | Russian olive (Elaeagnus angustifolia) | 17 | 191 | g | g | g | 3 | | | | | x | | |
| 162 | Russian olive (Elaeagnus angustifolia) | 25 | 192 | g | g | g | 3 | | | | | x | | |

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| LGL ID | SPECIES | DBH (cm) | WP | CONDITION | | | | | | | | | fenceline | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TI | CS | CV | DL (m) | CDB | Cavity | Wound | Epicormic | Frost Crack | | |
| 163 | Scott Pine (Pinus sylvestris) | 27 | 193 | g | g | g | 3 | | | | | x | | |
| 164 | Scott Pine (Pinus sylvestris) | 22 | 194 | g | g | g | 3 | 5 | | | | x | | minor dieback |
| 165 | Scott Pine (Pinus sylvestris) | 18 | 195 | g | g | g | 3 | | | | | | | |
| 166 | Austrian Pine (Pinus nigra) | 18 | 196 | g | g | g | 3 | | | | | | | |
| 167 | Austrian Pine (Pinus nigra) | 16 | 197 | g | g | g | | | | | | | | 1m wound from base |
| 168 | Silver maple (Acer sacharinum) | 13 | 198 | g | f | f | | | | x | x | | | west side of Hwy 50, north of Rutherford adjacent to Sears building |
| 169 | Silver maple (Acer sacharinum) | 11 | 199 | g | f | f | | | | x | x | | | |
| 170 | Blue Spruce (Picea pungens) | 18 | 200 | g | g | g | | | | | | | | |
| 171 | Austrian Pine (Pinus nigra) | 19 | 201 | g | g | g | | | | | | | | |
| 172 | Austrian Pine (Pinus nigra) | 16 | 202 | g | g | g | | | | | | | | |
| 173 | Blue Spruce (Picea pungens) | 16 | 203 | g | g | g | | | | | | | | |
| 174 | Norway maple (Acer platanoides) | 13 | 204 | g | f | f | | | | | x | | | |
| 175 | White Spruce (Picea glauca) | 15 | 205 | g | g | f | | | | | | | | tree being girdled by support |
| 176 | White Spruce (Picea glauca) | 13 | 206 | g | g | g | | | | | | | | min dieback |
| 177 | White Spruce (Picea glauca) | 14 | 207 | g | g | g | | | | | x | | | |
| 178 | Silver maple (Acer sacharinum) | 11 | 208 | g | f | g | | | | | x | | | |
| 179 | Silver maple (Acer sacharinum) | 9 | 209 | g | g | g | | | | | | | | |
| 180 | Silver maple (Acer sacharinum) | 14 | 210 | g | f | f | | | | | x | | | |
| 181 | Scott Pine (Pinus sylvestris) | 11 | 211 | g | g | f | | | | | x | | | |
| 182 | Scott Pine (Pinus sylvestris) | 15 | 212 | g | g | f | | | | | x | | | |
| 183 | Silver maple (Acer sacharinum) | 9 | 213 | g | g | g | | | | | | | | |
| 184 | Scott Pine (Pinus sylvestris) | 13 | 214 | g | g | g | | | | | | | | |

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| LGL ID | SPECIES | DBH (cm) | WP | CONDITION | | | | | | | | | fenceline | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TI | CS | CV | DL (m) | CDB | Cavity | Wound | Epicormic | Frost Crack | | |
| 185 | Red oak (Quercus rubra) | 10 | 215 | g | f | f | | | | x | x | | | major epicormic branching |
| 186 | Blue Spruce (Picea pungens) | 14 | 216 | g | g | g | | | | | | | | |
| 187 | Blue Spruce (Picea pungens) | 13 | | g | g | g | | | | | | | | |
| 188 | Blue Spruce (Picea pungens) | 13 | | g | g | g | | | | | | | | |
| 189 | Blue Spruce (Picea pungens) | 13 | | g | g | g | | | | | | | | |
| 190 | Blue Spruce (Picea pungens) | 13 | 217 | g | g | g | | | | | | | | |
| 191 | Red oak (Quercus rubra) | 10 | 218 | g | f | f | | | x | x | x | | | |
| 192 | Red oak (Quercus rubra) | 9 | 219 | g | p | f | | | | | x | | | major epicormic branching |
| 193 | Red oak (Quercus rubra) | 9 | 220 | g | p | f | | | | | x | | | |
| 194 | Red oak (Quercus rubra) | 9 | 221 | g | p | f | | | | | x | | | |
| 195 | Black Walnut (Juglans nigra) | 13 | 222 | g | f | f | | | | | x | | | |
| 196 | Black Walnut (Juglans nigra) | 13 | 223 | g | f | f | | | | | x | | | |
| 197 | Black Walnut (Juglans nigra) | 13 | 224 | g | g | g | | | | | | | | |
| 198 | Black Walnut (Juglans nigra) | 15 | 225 | g | g | f | | | | x | x | | | minor epicormic branching with 1.6 m uptrunk and at base mower |
| 199 | Black Walnut (Juglans nigra) | 13 | 226 | g | g | f | | | | | x | | | minor epicormic branching at base |
| 200 | Black Walnut (Juglans nigra) | 13 | 227 | g | g | f | | | | | x | | | minor epicormic branching |
| 201 | Black Walnut (Juglans nigra) | 10 | 228 | g | g | f | | | | | x | | | minor epicormic branching |
| 202 | Blue Spruce (Picea pungens) | 11 | 229 | g | g | g | | | | | | | | |
| 203 | Blue Spruce (Picea pungens) | 13 | | g | g | g | | | | | | | | |
| 204 | Blue Spruce (Picea pungens) | 12 | | g | g | g | | | | | | | | |
| 205 | Blue Spruce (Picea pungens) | 14 | | g | g | g | | | | | | | | |
| 206 | Blue Spruce (Picea pungens) | 13 | | g | g | g | | | | | | | | |
| 207 | Blue Spruce (Picea pungens) | 11 | | g | g | g | | | | | | | | |

**Project**: TA4872 Hwy 50
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| LGL ID | SPECIES | DBH (cm) | WP | CONDITION | | | | | | | | | fenceline | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TI | CS | CV | DL (m) | CDB | Cavity | Wound | Epicormic | Frost Crack | | |
| 208 | Blue Spruce (Picea pungens) | 15 | 230 | g | g | g | | | | | | | | |
| 209 | Norway maple (Acer platanoides) | 13 | 231 | g | f | f | | | | x | x | | | need mulch, exposed roots |
| 210 | Norway maple (Acer platanoides) | 13 | 232 | g | g | f | | | | x | x | | | mower, exposed roots |
| 211 | Norway maple (Acer platanoides) | 14 | 233 | g | g | f | | | | x | x | | | |
| 212 | Linden (Tilia cordata) | 14 | 234 | p | p | f | | | | x | x | | | 70 cm long at base |
| 213 | Austrian Pine (Pinus nigra) | 15 | 235 | g | g | g | | | | | | | | |
| 214 | Austrian Pine (Pinus nigra) | 16 | 236 | g | g | g | | | | | | | | |
| 215 | Silver maple (Acer sacharinum) | 13 | 237 | g | f | f | 2 | | | | x | | | major epicormic branching |
| 216 | Austrian Pine (Pinus nigra) | 13 | 238 | g | g | g | 2 | | | | | | | |
| 217 | Austrian Pine (Pinus nigra) | 15 | 239 | g | g | g | 2 | | | | | | | |
| 218 | Austrian Pine (Pinus nigra) | 18 | 240 | g | g | g | 2 | | | | | | | |
| 219 | Silver maple (Acer sacharinum) | 11 | 241 | g | f | f | 2 | | | x | x | | | at crotch union |
| 220 | Silver maple (Acer sacharinum) | 9 | 242 | g | f | f | 3 | | | | x | | | |
| 221 | Silver maple (Acer sacharinum) | 10 | 243 | g | g | f | 2 | | | x | x | | | 60 cm upstream for 40 cm |
| 222 | Blue Spruce (Picea pungens) | 11 | 244 | g | f | p | 1.5 | | | | | | | |
| 223 | Blue Spruce (Picea pungens) | 12 | 245 | g | g | g | | | | | | | | |
| 224 | Red oak (Quercus rubra) | 9 | 246 | g | p | f | | | | x | x | | | |
| 225 | Silver maple (Acer sacharinum) | 11 | 247 | g | g | f | | | | x | x | | | |
| 226 | Silver maple (Acer sacharinum) | 10 | 248 | g | g | f | | | | | x | | | minor epicormic branching |
| 227 | Scott Pine (Pinus sylvestris) | 11 | 249 | g | g | g | | | | | | | | |
| 228 | Scott Pine (Pinus sylvestris) | 10 | 250 | g | g | g | | | | | | | | |
| 229 | Scott Pine (Pinus sylvestris) | 11 | 251 | g | g | g | | | | | | | | |

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| LGL ID | SPECIES | DBH (cm) | WP | CONDITION | | | | | | | | | fenceline | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TI | CS | CV | DL (m) | CDB | Cavity | Wound | Epicormic | Frost Crack | | |
| 230 | Silver maple (Acer sacharinum) | 7, 15, 8 | 252 | f | f | f | | | | | x | | | |
| 231 | Blue Spruce (Picea pungens) | 14 | 253 | g | g | g | | | | | | | | |
| 232 | Blue Spruce (Picea pungens) | 12 | 254 | g | g | g | | | | | | | | |
| 233 | Blue Spruce (Picea pungens) | 16 | 255 | g | g | g | | | | | | | | |
| 234 | Red oak (Quercus rubra) | 9 | 256 | g | p | f | | | | x | x | | | |
| 235 | Red oak (Quercus rubra) | 10 | 257 | g | p | f | | | | x | x | | | at base |
| 236 | Red oak (Quercus rubra) | 10 | 258 | g | p | f | | | | x | x | | | major epicormic branching |
| 237 | Red oak (Quercus rubra) | 9 | | g | p | f | | | | | x | | | major epicormic branching |
| 238 | Austrian Pine (Pinus nigra) | 18 | 259 | g | g | g | | | | | | | | |
| 239 | Austrian Pine (Pinus nigra) | 20 | 260 | g | g | g | 2 | | | | | | | |
| 240 | Austrian Pine (Pinus nigra) | 15 | 261 | g | g | g | 2 | | | | | | | |
| 241 | Austrian Pine (Pinus nigra) | 15 | 262 | g | g | g | 2 | | | | | | | |
| 242 | Norway maple (Acer platanoides) | 12 | 263 | g | f | f | 2 | | | | x | | | |
| 243 | Silver maple (Acer sacharinum) | <10 | 264 | p | f | f | 3 | | | | x | | | multi stem |
| 244 | Austrian Pine (Pinus nigra) | 13,13 | 265 | f | g | g | 2 | | | | | | | codom stems |
| 245 | Austrian Pine (Pinus nigra) | 14 | 266 | g | g | g | 2 | | | | | | | |
| 246 | Norway maple (Acer platanoides) | 5 | 267 | g | g | f | 2 | | | x | x | | | at base mower exposed root, needs mulch |
| 247 | Norway maple (Acer platanoides) | 11 | 268 | g | g | f | 2 | | | | | | | |
| 248 | Norway maple (Acer platanoides) | 14 | 269 | g | g | f | 2 | | | x | | | | at base mower |
| 249 | Silver maple (Acer sacharinum) | <10 | 270 | p | f | f | 2 | | | | | | | |
| 250 | Silver maple (Acer sacharinum) | 9 | 271 | g | f | f | 2 | | | | | | | |
| 251 | Silver maple (Acer sacharinum) | 10 | | f | f | f | 2 | | | | | | | |

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| LGL ID | SPECIES | DBH (cm) | WP | CONDITION | | | | | | | | | fenceline | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TI | CS | CV | DL (m) | CDB | Cavity | Wound | Epicormic | Frost Crack | | |
| 252 | Fir (Abies sp.) | 10 | 272 | g | g | g | 1 | | | | | | | |
| 253 | Fir (Abies sp.) | 9 | 273 | g | g | g | 2 | | | | | | | |
| 254 | Fir (Abies sp.) | 13 | 274 | g | g | g | 2 | | | | | | | |
| 255 | Blue Spruce (Picea pungens) | 15 | 275 | g | g | g | 2 | | | | | | | |
| 256 | Blue Spruce (Picea pungens) | 14 | 276 | g | g | g | 2 | | | | | | | |
| 257 | White ash (Fraxinus americana) | 9, 8 | 277 | g | f | f | | | | | | | x | codominant stem |
| 258 | Red ash (Fraxinus pennsylvanica) | 12, 8 | 278 | g | f | f | | | | | x | | x | codominant on small stem |
| 259 | Red ash (Fraxinus pennsylvanica) | 10, 9 | 279 | g | f | f | | | | | | | x | codominant stem |
| 260 | Red ash (Fraxinus pennsylvanica) | 10 | 280 | g | g | f | | | | | x | | | at base |
| 261 | Blue Spruce (Picea pungens) | 14 | 281 | g | g | g | | | | | | | | cluster |
| 262 | Blue Spruce (Picea pungens) | 13 | | g | g | g | | | | | | | | |
| 263 | Blue Spruce (Picea pungens) | 13 | | g | g | g | 2 | | | | | | | |
| 264 | Blue Spruce (Picea pungens) | 14 | | g | g | g | 2 | | | | | | | |
| 265 | Blue Spruce (Picea pungens) | 14 | | g | g | g | 2 | | | | | | | |
| 266 | Blue Spruce (Picea pungens) | 16 | 282 | g | g | g | 2 | | | | | | | |
| 267 | Blue Spruce (Picea pungens) | 13 | 283 | g | g | g | 2 | | | | | | | |
| 268 | Blue Spruce (Picea pungens) | 14 | 284 | g | g | g | 2 | | | | | | | |
| 269 | Austrian Pine (Pinus nigra) | 17 | 285 | g | g | g | 2 | | | | | | | |
| 270 | Austrian Pine (Pinus nigra) | 16 | 286 | g | g | g | 2 | | | | | | | |
| 271 | Austrian Pine (Pinus nigra) | 16 | 287 | g | g | g | 2 | | | | | | | |
| 272 | Austrian Pine (Pinus nigra) | 14 | 288 | g | g | g | 2 | | | | | | | |
| 273 | Austrian Pine (Pinus nigra) | 15 | 289 | g | g | g | 2 | | | | | | | |

**Project**: TA4872 Hwy 50
**Client**: HDR | iTRANS Consulting **Date**: November 2009
**Collectors**: JCN and MJO **Area**: Roadside Assessment

| LGL ID | SPECIES | DBH (cm) | WP | CONDITION | | | | | | | | | fenceline | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TI | CS | CV | DL (m) | CDB | Cavity | Wound | Epicormic | Frost Crack | | |
| 274 | Norway maple (Acer platanoides) | 13 | 290 | g | g | f | 3 | | | | x | | | |
| 275 | Norway maple (Acer platanoides) | 17 | 291 | g | g | f | 2 | | | x | x | | | |
| 276 | Silver maple (Acer sacharinum) | 12 | 292 | g | g | f | 2 | | | | x | | | exposed roots, mulch required |
| 277 | Blue Spruce (Picea pungens) | 13 | 293 | g | g | g | 2 | | | | | | | |
| 278 | Blue Spruce (Picea pungens) | 14 | 294 | g | g | g | 2 | | | | | | | |
| 279 | Blue Spruce (Picea pungens) | 15 | 295 | g | g | g | 2 | | | | | | | |
| 280 | Red ash (Fraxinus pennsylvanica) | 10 | 296 | g | p | f | 1 | | | | x | | | |
| 281 | Red ash (Fraxinus pennsylvanica) | 14 | 297 | g | f | f | 1 | | | | x | | | |
| 282 | Red ash (Fraxinus pennsylvanica) | 15 | 298 | g | f | f | 2 | | | | x | | | |
| 283 | Silver maple (Acer sacharinum) | 14 | 299 | g | f | f | 2 | | | | x | | | |
| 284 | Blue Spruce (Picea pungens) | 12 | 300 | g | g | g | 1 | | | | | | | some dieback facing road |
| 285 | Blue Spruce (Picea pungens) | 14 | 301 | g | g | g | 2 | | | | | | | |
| 286 | Blue Spruce (Picea pungens) | 12 | 302 | g | g | g | | | | | | | | minor dieback at base facing road |
| 287 | Blue Spruce (Picea pungens) | 13 | 303 | g | g | g | | | | | | | | |
| 288 | Blue Spruce (Picea pungens) | 14 | 304 | g | g | g | | | | | | | | |
| 289 | Red oak (Quercus rubra) | 10 | 305 | f | p | f | | | | x | x | | | wounds on trunk |
| 290 | Blue Spruce (Picea pungens) | 13 | 306 | g | g | g | | | | | | | | |
| 291 | Blue Spruce (Picea pungens) | 14 | 307 | g | g | g | | | | | | | | |
| 292 | Scott Pine (Pinus sylvestris) | 12 | 308 | g | g | g | | | | | | | | |
| 293 | Scott Pine (Pinus sylvestris) | 15 | 309 | g | f | g | | | | | | | | |

**Project**: TA4872 Hwy 50
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**Collectors**: JCN and MJO **Area**: Roadside Assessment

| LGL ID | SPECIES | DBH (cm) | WP | CONDITION | | | | | | | | | fenceline | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TI | CS | CV | DL (m) | CDB | Cavity | Wound | Epicormic | Frost Crack | | |
| 294 | Scott Pine (Pinus sylvestris) | 12 | 310 | g | f | g | | | | | | | | |
| 295 | Norway maple (Acer platanoides) | 13 | 311 | g | g | f | | | | x | x | | | |
| 296 | Norway maple (Acer platanoides) | 11 | 312 | g | g | f | | | | | x | | | |
| 297 | Norway maple (Acer platanoides) | 13 | 313 | g | f | f | | | | | x | | | |
| 298 | Silver maple (Acer sacharinum) | 10, 10 | 314 | f | f | f | | | | | x | | | |
| 299 | Blue Spruce (Picea pungens) | 11 | 315 | g | g | g | | | | | x | | | |
| 300 | Linden (Tilia cordata) | 12 | 316 | f | p | f | | | | x | | | | at base |
| 301 | Silver maple (Acer sacharinum) | 14 | 317 | g | f | f | | | | x | x | | | |
| 302 | Blue Spruce (Picea pungens) | 14 | 318 | g | g | g | | | | | | | | |
| 303 | Blue Spruce (Picea pungens) | 14 | 319 | g | g | g | | | | | | | | |
| 304 | Blue Spruce (Picea pungens) | 17 | 320 | g | g | g | | | | | | | | |
| 305 | White ash (Fraxinus americana) | 9 | 321 | p | p | f | | | | | x | | | topped |
| 306 | Fir (Abies sp.) | 8 | 322 | g | p | f | | | | | | | | top dead |
| 307 | Fir (Abies sp.) | 8 | 323 | g | p | p | | | | | | | | salt |
| 308 | Red ash (Fraxinus pennsylvanica) | 11 | 324 | g | f | f | | | | | x | | | |
| 309 | Red ash (Fraxinus pennsylvanica) | 13 | 325 | p | p | p | | | | | x | | | |
| 310 | Red ash (Fraxinus pennsylvanica) | 7 | 326 | g | p | f | | | | | x | | | |
| 311 | Red oak (Quercus rubra) | 10 | 327 | g | p | f | 1 | | | | x | | | all have birds nest |
| 312 | Blue Spruce (Picea pungens) | 13 | 328 | g | g | g | | | | | | | | |
| 313 | Blue Spruce (Picea pungens) | 13 | 329 | g | g | g | | | | | | | | |

**Project**: TA4872 Hwy 50
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| LGL ID | SPECIES | DBH (cm) | WP | CONDITION | | | | | | | | | fenceline | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TI | CS | CV | DL (m) | CDB | Cavity | Wound | Epicormic | Frost Crack | | |
| 314 | Blue Spruce (Picea pungens) | 14 | 330 | g | g | g | | | | | | | | |
| 315 | Blue Spruce (Picea pungens) | 15 | 331 | g | g | g | | | | | | | | |
| 316 | Blue Spruce (Picea pungens) | 15 | 332 | g | g | g | | | | | | | | |
| 317 | Blue Spruce (Picea pungens) | 14 | 333 | g | g | g | | | | | | | | |
| 318 | Blue Spruce (Picea pungens) | 16 | 334 | g | g | g | | | | | | | | |
| 319 | Blue Spruce (Picea pungens) | 15 | 335 | g | g | g | | | | | | | | |
| 320 | Red oak (Quercus rubra) | 7 | 336 | g | p | f | | | | | x | | x | |
| 321 | Red oak (Quercus rubra) | 9 | 337 | g | f | f | | | | x | x | | | |
| 322 | Red oak (Quercus rubra) | 8 | 338 | g | p | f | | | | x | x | | | |
| 323 | Blue Spruce (Picea pungens) | 13 | 339 | g | p | f | | 9 | | | | | | |
| 324 | Fir (Abies sp.) | 7 | 340 | g | g | g | | | | | | | | |
| 325 | Fir (Abies sp.) | 10 | 341 | g | g | f | | | | | | | | top dead |
| 326 | Blue Spruce (Picea pungens) | 13 | 342 | g | g | f | | | | | | | | |
| 327 | Blue Spruce (Picea pungens) | 13 | 343 | g | g | f | | | | | | | | |
| 328 | Fir (Abies sp.) | 9 | 344 | g | g | g | | | | | | | | with nest |
| 329 | Austrian Pine (Pinus nigra) | 16 | 345 | g | g | g | | | | | | | | |
| 330 | Austrian Pine (Pinus nigra) | 19 | 346 | g | g | g | | | | | | | | |
| 331 | Austrian Pine (Pinus nigra) | 18 | 347 | g | g | g | | | | | | | | codominant stems |
| 332 | Austrian Pine (Pinus nigra) | 18 | 348 | g | g | g | | | | | | | | |
| 333 | Austrian Pine (Pinus nigra) | 19 | 349 | g | g | g | | | | | | | | |
| 334 | Austrian Pine (Pinus nigra) | 15 | 350 | g | g | g | | | | | | | | |
| 335 | Austrian Pine (Pinus nigra) | 15 | 351 | g | g | g | 2 | | | | | | | |
| 336 | Austrian Pine (Pinus nigra) | 15 | 352 | g | g | g | | | | | | | | |
| 337 | Austrian Pine (Pinus nigra) | 17 | 353 | g | g | g | | | | | | | | |
| 338 | Austrian Pine (Pinus nigra) | 13 | 354 | g | g | g | | | | | | | | |

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**Client**: HDR | iTRANS Consulting **Date**: November 2009
**Collectors**: JCN and MJO **Area**: Roadside Assessment

| LGL ID | SPECIES | DBH (cm) | WP | CONDITION | | | | | | | | | fenceline | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TI | CS | CV | DL (m) | CDB | Cavity | Wound | Epicormic | Frost Crack | | |
| 339 | Silver maple (Acer sacharinum) | 7 | 355 | f | f | f | 1 | | | x | x | | | |
| 340 | Red oak (Quercus rubra) | 7 | 356 | p | f | f | 1 | | | | x | | | |
| 341 | Linden (Tilia cordata) | 12 | 357 | f | f | f | 1 | | | x | x | | | 2 wounds at base |
| 342 | Blue Spruce (Picea pungens) | 15 | 358 | g | g | g | 2 | | | | | | | |
| 343 | Blue Spruce (Picea pungens) | 13 | 359 | g | g | g | | | | | | | | |
| 344 | Blue Spruce (Picea pungens) | 9 | 360 | g | g | p | | | | | | | | |
| 345 | Red ash (Fraxinus pennsylvanica) | 9 | 361 | g | f | f | | | | | x | | | |
| 346 | Red ash (Fraxinus pennsylvanica) | 10 | 362 | p | p | f | | | | | x | | | |
| 347 | Red ash (Fraxinus pennsylvanica) | 10 | 363 | f | f | f | | | | | x | | | |
| 348 | Red ash (Fraxinus pennsylvanica) | 7 | 364 | f | f | f | | | | | x | | | |
| 349 | Fir (Abies sp.) | 9 | 365 | g | g | f | | | | | | | | |
| 350 | Blue Spruce (Picea pungens) | 13 | 366 | g | g | f | 60 | | | | | | | |
| 351 | Blue Spruce (Picea pungens) | 12 | 367 | g | g | g | 10 | | | | | | | |
| 352 | Blue Spruce (Picea pungens) | 11 | 368 | g | g | g | | | | | | | | |
| 353 | Blue Spruce (Picea pungens) | 10 | 369 | g | f | g | | | | | | | | broken leader |
| 354 | Blue Spruce (Picea pungens) | 13 | 370 | g | g | g | | | | | | | | |
| 355 | Blue Spruce (Picea pungens) | 12 | 371 | g | g | f | 10 | | | | | | | |
| 356 | Blue Spruce (Picea pungens) | 6 | 372 | g | g | g | | | | | | | | |
| 357 | Fir (Abies sp.) | 7 | 373 | g | f | f | 30 | | | | | | | dead leader |
| 358 | Austrian Pine (Pinus nigra) | 14 | 374 | g | g | g | | | | | | | | |
| 359 | Austrian Pine (Pinus nigra) | 17 | 375 | g | g | g | | | | | | | | |
| 360 | Scott Pine (Pinus sylvestris) | 15 | 376 | g | g | f | | 30 | | | | | | |

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| LGL ID | SPECIES | DBH (cm) | WP | CONDITION | | | | | | | | | fenceline | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TI | CS | CV | DL (m) | CDB | Cavity | Wound | Epicormic | Frost Crack | | |
| 361 | Scott Pine (Pinus sylvestris) | 16 | 377 | g | g | f | | 40 | | | | | | |
| 362 | Scott Pine (Pinus sylvestris) | 10 | 378 | g | f | f | | | | | | | | |
| 363 | Scott Pine (Pinus sylvestris) | 12 | 379 | g | g | g | | | | | | | | |
| 364 | Scott Pine (Pinus sylvestris) | 11 | 380 | g | g | | | | | | | | | |
| 365 | Norway maple (Acer platanoides) | 9 | 381 | g | f | f | | | | | x | | | |
| 366 | Scott Pine (Pinus sylvestris) | 12 | 382 | g | g | f | | 30 | | | | | | |
| 367 | Norway maple (Acer platanoides) | 7 | 383 | f | p | p | | | | | x | | | |
| 368 | Silver maple (Acer sacharinum) | 12 | 384 | g | g | f | | | | | x | | | |
| 369 | Silver maple (Acer sacharinum) | 13 | 385 | g | g | f | | | | | x | | | |
| 370 | Linden (Tilia cordata) | 12 | 386 | f | p | f | | | | | x | | | replace |
| 371 | Linden (Tilia cordata) | 13 | 387 | f | p | f | | | | x | x | | | leaning, replace |
| 372 | Blue Spruce (Picea pungens) | 14 | 388 | g | g | g | | | | | | | | |
| 373 | Blue Spruce (Picea pungens) | 13 | 389 | g | g | g | | | | | | | | |
| 374 | Blue Spruce (Picea pungens) | 16 | 390 | g | g | g | | | | | | | | |
| 375 | Fir (Abies sp.) | 9 | 391 | g | g | f | | 40 | | | | | | leader dead |
| 376 | Fir (Abies sp.) | 8 | 392 | g | g | f | | 40 | | | | | | |
| 377 | Red ash (Fraxinus pennsylvanica) | 10 | 393 | g | f | f | | | | | | | | |
| 378 | Red ash (Fraxinus pennsylvanica) | 8 | 394 | g | g | f | | | | | | | | |
| 379 | Red oak (Quercus rubra) | 8 | 395 | g | f | f | | | | | | | | |
| 380 | Red ash (Fraxinus pennsylvanica) | 11 | 396 | g | f | f | | | | | | | | |
| 381 | Blue Spruce (Picea pungens) | 14 | 397 | g | g | g | | | | | | | | |

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| LGL ID | SPECIES | DBH (cm) | WP | CONDITION | | | | | | | | | fenceline | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TI | CS | CV | DL (m) | CDB | Cavity | Wound | Epicormic | Frost Crack | | |
| 382 | Blue Spruce (Picea pungens) | 14 | 398 | g | g | g | | 10 | | | | | | |
| 383 | Blue Spruce (Picea pungens) | 15 | 399 | g | g | g | | | | | | | | |
| 384 | Blue Spruce (Picea pungens) | 14 | 400 | g | g | g | | | | | | | | |
| 385 | Blue Spruce (Picea pungens) | 14 | 401 | g | g | g | | | | | | | | |
| 386 | Blue Spruce (Picea pungens) | 12 | 402 | g | g | g | | | | | | | | |
| 387 | Blue Spruce (Picea pungens) | 13 | 403 | g | g | g | | | | | | | | |
| 388 | Blue Spruce (Picea pungens) | 15 | 404 | g | g | g | | | | | | | | |
| 389 | Blue Spruce (Picea pungens) | 13 | 405 | g | g | g | | | | | | | | |
| 390 | Blue Spruce (Picea pungens) | 17 | 406 | g | g | g | | | | | | | | |
| 391 | Fir (Abies sp.) | 7 | 407 | g | g | f | | 15 | | | | | | dead leader |
| 392 | Austrian Pine (Pinus nigra) | 16 | 408 | g | g | g | | | | | | | | |
| 393 | Austrian Pine (Pinus nigra) | 16 | 409 | g | g | g | | | | | | | | |
| 394 | Austrian Pine (Pinus nigra) | 15 | 410 | g | g | g | | | | | | | | |
| 395 | Austrian Pine (Pinus nigra) | 16 | 411 | g | g | g | | | | | | | | |
| 396 | Austrian Pine (Pinus nigra) | 18 | 412 | g | g | g | | | | | | | | |
| 397 | Austrian Pine (Pinus nigra) | 15 | 413 | g | g | g | | | | | | | | |
| 398 | Silver maple (Acer sacharinum) | 14 | 414 | g | g | f | | | | | x | | | |
| 399 | Silver maple (Acer sacharinum) | 10 | 415 | g | g | f | | | | | x | | | |
| 400 | Blue Spruce (Picea pungens) | 9 | 416 | g | g | g | | | | x | x | | | |
| 401 | Silver maple (Acer sacharinum) | 10 | 417 | g | g | f | | | | | | | | |
| 402 | Silver maple (Acer sacharinum) | 10 | 418 | g | g | f | | | | x | x | | | |
| 403 | Blue Spruce (Picea pungens) | 12 | 419 | g | g | g | | | | | | | | |
| 404 | Blue Spruce (Picea pungens) | 11 | 420 | g | g | g | | | | | | | | |
| 405 | Blue Spruce (Picea pungens) | 11 | 421 | g | g | g | | | | | | | | |
| 406 | Blue Spruce (Picea pungens) | 11 | 422 | g | g | g | | | | | | | | |

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| LGL ID | SPECIES | DBH (cm) | WP | CONDITION | | | | | | | | | fenceline | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TI | CS | CV | DL (m) | CDB | Cavity | Wound | Epicormic | Frost Crack | | |
| 407 | Blue Spruce (Picea pungens) | 8 | 423 | g | g | g | | | | | | | | |
| 408 | Red ash (Fraxinus pennsylvanica) | 10,10 | 424 | g | f | g | | | | | x | | | |
| 409 | Red ash (Fraxinus pennsylvanica) | 8,8 | 425 | g | f | g | | | | | x | | | |
| 410 | Red ash (Fraxinus pennsylvanica) | 8,9 | 426 | g | f | g | | | | | | | | |
| 411 | Blue Spruce (Picea pungens) | 14 | 427 | g | f | f | | | | | x | | | |
| 412 | Blue Spruce (Picea pungens) | 14 | 428 | g | g | g | | | | | | | | |
| 413 | Blue Spruce (Picea pungens) | 15 | 429 | g | g | g | | | | | | | | |
| 414 | Blue Spruce (Picea pungens) | 15 | 430 | g | g | g | | | | | | | | |
| 415 | Blue Spruce (Picea pungens) | 14 | 431 | g | g | g | | | | | | | | |
| 416 | Red oak (Quercus rubra) | 9 | 432 | g | p | f | | | | | x | | | |
| 417 | Red oak (Quercus rubra) | 8 | 433 | g | f | f | | | | x | x | | | |
| 418 | Red oak (Quercus rubra) | 13 | 434 | g | f | f | | | | x | x | | | |
| 419 | Red oak (Quercus rubra) | 8 | 435 | g | f | f | | | | | x | | | |
| 420 | Scott Pine (Pinus sylvestris) | 14 | 436 | g | g | f | | 40 | | | | | | |
| 421 | Scott Pine (Pinus sylvestris) | 14 | 437 | g | g | f | | | | | | | | |
| 422 | Scott Pine (Pinus sylvestris) | 12 | 438 | g | g | g | | | | | | | | |
| 423 | Silver maple (Acer sacharinum) | 9, 7 | 439 | f | f | f | | | | | x | | | |
| 424 | Silver maple (Acer sacharinum) | 9 | 440 | g | g | g | | | | | | | | pruned |
| 425 | Silver maple (Acer sacharinum) | 8 | 441 | f | g | g | | | | x | | | | codominant, prune |
| 426 | Silver maple (Acer sacharinum) | 7 | 442 | f | f | f | | | | x | x | | | codomominant, prune |
| 427 | Silver maple (Acer sacharinum) | 5 | 443 | g | g | f | | | | | x | | | |
| 428 | Silver maple (Acer sacharinum) | 12 | 444 | g | g | f | | | | | x | | | codominant stem |

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| LGL ID | SPECIES | DBH (cm) | WP | CONDITION | | | | | | | | | fenceline | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TI | CS | CV | DL (m) | CDB | Cavity | Wound | Epicormic | Frost Crack | | |
| 429 | Silver maple (Acer sacharinum) | 9 | 445 | g | g | g | | | | | x | | | |
| 430 | Blue Spruce (Picea pungens) | 12 | 446 | g | g | g | | | | | | | | |
| 431 | Fir (Abies sp.) | 7 | 447 | g | g | f | | 50 | | | | | | dead leader |
| 432 | Silver maple (Acer sacharinum) | 7 | 448 | f | p | f | | | | | x | | | multi stem |
| 433 | Blue Spruce (Picea pungens) | 14 | 449 | g | g | g | | | | | | | | |
| 434 | Blue Spruce (Picea pungens) | 11 | 450 | g | g | g | | | | | | | | |
| 435 | Blue Spruce (Picea pungens) | 11 | 451 | g | g | g | | | | | | | | |
| 436 | Blue Spruce (Picea pungens) | 11 | 452 | g | g | g | | | | | | | x | |
| 437 | Red ash (Fraxinus pennsylvanica) | 12,9,6 | 453 | g | f | f | | | | | | | x | |
| 438 | Red ash (Fraxinus pennsylvanica) | 8,8,5 | 454 | g | f | f | | | | | | | | |
| 439 | Red ash (Fraxinus pennsylvanica) | 12 | 455 | g | g | g | | | | | | | x | |
| 440 | Silver maple (Acer sacharinum) | 7,7 | 456 | p | f | f | | | | | | | x | minor epicormic branching |
| 441 | Blue Spruce (Picea pungens) | 16 | 457 | g | g | g | | | | | | | | |
| 442 | Blue Spruce (Picea pungens) | 15 | 458 | g | g | g | | | | | | | | |
| 443 | Blue Spruce (Picea pungens) | 14 | 459 | g | g | g | | | | | | | | |
| 444 | Blue Spruce (Picea pungens) | 13 | 460 | g | g | g | | | | | | | | |
| 445 | Silver maple (Acer sacharinum) | 9 | 461 | g | f | f | | | | | x | | x | at base and trunk |
| 446 | Silver maple (Acer sacharinum) | 8 | 462 | g | f | f | | | | | x | | x | at base |
| 447 | Silver maple (Acer sacharinum) | 4 | 463 | p | f | f | | | | | | | | |
| 448 | Austrian Pine (Pinus nigra) | 13 | 464 | g | g | g | | | | | | | | |
| 449 | Austrian Pine (Pinus nigra) | 14 | 465 | g | g | g | | | | | | | | |
| 450 | Austrian Pine (Pinus nigra) | 13 | 466 | g | g | g | | | | | | | | |

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| LGL ID | SPECIES | DBH (cm) | WP | CONDITION | | | | | | | | | fenceline | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TI | CS | CV | DL (m) | CDB | Cavity | Wound | Epicormic | Frost Crack | | |
| 451 | Austrian Pine (Pinus nigra) | 13 | 467 | g | g | g | | | | | | | | |
| 452 | Silver maple (Acer sacharinum) | 9,6 | 468 | g | g | f | | | | | x | | x | codominant stem |
| 453 | Scott Pine (Pinus sylvestris) | 11 | 469 | g | f | g | | | | | | | | dead leader |
| 454 | Scott Pine (Pinus sylvestris) | 8 | 470 | g | g | g | | | | | | | | |
| 455 | Red oak (Quercus rubra) | 9 | 471 | g | p | f | | | | | x | | | |
| 456 | Red oak (Quercus rubra) | 9 | 472 | g | p | f | | | | | x | | | |
| 457 | Blue Spruce (Picea pungens) | 4 | 473 | g | g | g | | | | | | | | |
| 458 | Blue Spruce (Picea pungens) | 8 | 474 | g | g | g | | | | | | | | |
| 459 | Black Walnut (Juglans nigra) | 12 | 475 | g | g | g | | | | x | x | | | minor epicormic branching |
| 460 | Black Walnut (Juglans nigra) | 10 | 476 | g | g | f | | | | | x | | | |
| 461 | Blue Spruce (Picea pungens) | 10 | 477 | g | g | g | | | | | | | | |
| 462 | Silver maple (Acer sacharinum) | 15 | 478 | p | f | f | | | | | x | | | |
| 463 | Linden (Tilia cordata) | 9 | 479 | g | g | g | | | | x | | | | dead; topped at base |
| 464 | Linden (Tilia cordata) | 10 | 480 | p | p | p | | | | | | | | topped |
| 465 | Austrian Pine (Pinus nigra) | 7 | 481 | g | g | g | | | | | | | | |
| 466 | Austrian Pine (Pinus nigra) | 12 | 482 | g | g | g | | | | | | | | |
| 467 | Austrian Pine (Pinus nigra) | 15 | 483 | g | g | g | | | | | | | | |
| 468 | Scott Pine (Pinus sylvestris) | 12 | 484 | g | g | g | | | | | | | | |
| 469 | Scott Pine (Pinus sylvestris) | 13 | 485 | g | g | f | | 20 | | | | | | |
| 470 | Scott Pine (Pinus sylvestris) | 14 | 486 | g | g | g | | | | | | | | |
| 471 | Scott Pine (Pinus sylvestris) | 10 | 487 | g | g | g | | | | | | | | |
| 472 | Silver maple (Acer sacharinum) | 13 | 488 | g | g | f | | | | | x | | | |
| 473 | Silver maple (Acer sacharinum) | 13 | 489 | g | g | f | | | | | x | | | |
| 474 | Silver maple (Acer sacharinum) | 13 | 490 | g | f | f | | | | x | x | | | at base |
| 475 | Silver maple (Acer sacharinum) | 13 | 491 | g | g | f | | | | x | x | | | at base |

**Project**: TA4872 Hwy 50
**Client**: HDR | iTRANS Consulting **Date**: November 2009
**Collectors**: JCN and MJO **Area**: Roadside Assessment

| LGL ID | SPECIES | DBH (cm) | WP | CONDITION | | | | | | | | | fenceline | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TI | CS | CV | DL (m) | CDB | Cavity | Wound | Epicormic | Frost Crack | | |
| 476 | Silver maple (Acer sacharinum) | 17 | 492 | g | g | f | | | | | | | | |
| 477 | Blue Spruce (Picea pungens) | 11 | 493 | g | g | f | | | | | | | | |
| 478 | Blue Spruce (Picea pungens) | 11 | 494 | g | g | f | | 30 | | | | | | |
| 479 | Blue Spruce (Picea pungens) | 11 | 495 | g | g | g | | 10 | | | | | | |
| 480 | Blue Spruce (Picea pungens) | 11 | 496 | g | g | g | | | | | | | | |
| 481 | Red oak (Quercus rubra) | 9 | 497 | g | p | f | | | | | x | | | |
| 482 | Blue Spruce (Picea pungens) | 8 | 498 | g | g | g | | | | | | | | |
| 483 | Blue Spruce (Picea pungens) | 5 | 499 | g | g | f | | 40 | | | | | | |
| 484 | Black Cherry (Prunus cerotina) | 7 | 500 | g | g | g | | | | | x | | | minor |
| 485 | Black Cherry (Prunus cerotina) | 10 | 501 | g | g | g | | | | | | | | |
| 486 | Blue Spruce (Picea pungens) | 5 | 502 | g | g | g | | | | | | | | |
| 487 | Blue Spruce (Picea pungens) | 9 | 503 | g | g | g | | | | | | | | |
| 488 | Blue Spruce (Picea pungens) | 9 | 504 | g | g | g | | | | | | | | |
| 489 | Black Cherry (Prunus cerotina) | 10 | 505 | g | g | g | | | | | x | | | |
| 490 | Black Cherry (Prunus cerotina) | 10 | 506 | g | g | g | | | | | x | | | |
| 491 | Black Cherry (Prunus cerotina) | 9 | 507 | g | g | g | | | | | x | | | |
| 492 | Black Cherry (Prunus cerotina) | 9 | 508 | g | g | g | | | | | x | | | |
| 493 | Scott Pine (Pinus sylvestris) | 25 | 509 | g | g | g | | | | | | | | |
| 494 | Scott Pine (Pinus sylvestris) | 23 | 510 | g | g | g | | | | | | | | |
| 495 | Scott Pine (Pinus sylvestris) | 18 | 511 | g | g | g | | | | | | | | |
| 496 | Scott Pine (Pinus sylvestris) | 30 | 512 | g | g | g | | | | | | | | leaning away from road |
| 497 | Scott Pine (Pinus sylvestris) | 21 | 513 | g | g | f | | | | | | | | some dieback |
| 498 | Scott Pine (Pinus sylvestris) | 21 | 514 | g | g | g | | | | | | | | |
| 499 | Scott Pine (Pinus sylvestris) | 18 | 515 | g | g | f | | | | | | | | some dieback, small crown |
| 500 | Scott Pine (Pinus sylvestris) | 26 | 516 | g | g | g | | | | | | | | |

**Project**: TA4872 Hwy 50
**Client**: HDR | iTRANS Consulting **Date**: November 2009
**Collectors**: JCN and MJO **Area**: Roadside Assessment

| LGL ID | SPECIES | DBH (cm) | WP | CONDITION | | | | | | | | | fenceline | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TI | CS | CV | DL (m) | CDB | Cavity | Wound | Epicormic | Frost Crack | | |
| 501 | Scott Pine (Pinus sylvestris) | 16 | 517 | g | g | f | | | | | | | | out competition with buckthorn |
| 502 | Scott Pine (Pinus sylvestris) | 15 | 518 | g | g | g | 1 | | | | | | | |
| 503 | Scott Pine (Pinus sylvestris) | 15 | 519 | g | g | g | | | | | | | | |
| 504 | Scott Pine (Pinus sylvestris) | 31 | 520 | g | g | g | | | | | | | | |
| 505 | Scott Pine (Pinus sylvestris) | 25 | 521 | g | g | g | | | | | | | | |
| 506 | Scott Pine (Pinus sylvestris) | 22 | 522 | g | g | g | | | | | | | | |
| 507 | Scott Pine (Pinus sylvestris) | 17 | 523 | g | g | g | | | | | | | | |
| 508 | White elm (Ulmus americana) | 8 | 524 | g | g | g | | | | | | | | |
| 509 | White elm (Ulmus americana) | 13 | 525 | g | g | g | | | | | | | | |
| 510 | Scott Pine (Pinus sylvestris) | 19 | 526 | g | g | g | | | | | | | | |
| 511 | Scott Pine (Pinus sylvestris) | 22 | 527 | g | g | g | | | | | | | | |
| 512 | White elm (Ulmus americana) | 9 | 528 | g | g | g | | | | | | | x | |
| 513 | Scott Pine (Pinus sylvestris) | 15 | 529 | g | g | g | | | | | | | | |
| 514 | Scott Pine (Pinus sylvestris) | 10 | 530 | g | g | g | | 5 | | | | | | small canopy, competition |
| 515 | Scott Pine (Pinus sylvestris) | 20 | 531 | g | g | g | | | | | | | | |
| 516 | Scott Pine (Pinus sylvestris) | 20 | 532 | g | g | g | | | | | | | | |
| 517 | Scott Pine (Pinus sylvestris) | 18 | 533 | g | g | g | | | | | | | | |
| 518 | Scott Pine (Pinus sylvestris) | 20 | 534 | g | g | g | | | | | | | | |
| 519 | Scott Pine (Pinus sylvestris) | 25 | 535 | g | g | g | | | | | | | | |
| 520 | Scott Pine (Pinus sylvestris) | 20 | 536 | g | g | g | | | | | | | | |
| 521 | Scott Pine (Pinus sylvestris) | 14 | 537 | g | g | g | | | | | | | | |
| 522 | Scott Pine (Pinus sylvestris) | 21 | 538 | g | g | g | | | | | | | | |
| 523 | Scott Pine (Pinus sylvestris) | 31 | 539 | g | g | g | | | | | | | | |
| 524 | Scott Pine (Pinus sylvestris) | 12 | 540 | g | g | g | | | | | | | | |
| 525 | Scott Pine (Pinus sylvestris) | 16 | 541 | g | g | g | | | | | | | | |

**Project**: TA4872 Hwy 50
**Client**: HDR | iTRANS Consulting **Date**: November 2009
**Collectors**: JCN and MJO **Area**: Roadside Assessment

| LGL ID | SPECIES | DBH (cm) | WP | CONDITION | | | | | | | | | fenceline | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TI | CS | CV | DL (m) | CDB | Cavity | Wound | Epicormic | Frost Crack | | |
| 526 | Scott Pine (Pinus sylvestris) | 19 | 542 | g | g | g | | | | | | | | |
| 527 | Scott Pine (Pinus sylvestris) | 27 | 543 | g | g | g | 2 | | | | | | | |
| 528 | Scott Pine (Pinus sylvestris) | 17 | 544 | g | g | g | 2 | | | | | | | |
| 529 | Scott Pine (Pinus sylvestris) | 34 | 545 | g | g | g | 2 | | | | | | | |
| 530 | Scott Pine (Pinus sylvestris) | 21 | 546 | g | g | g | 2 | | | | | | | |
| 531 | Scott Pine (Pinus sylvestris) | 25 | 547 | g | g | g | 2 | | | | | | | |
| 532 | Scott Pine (Pinus sylvestris) | 24 | 548 | g | g | g | 2 | | | | | | | |
| 533 | Scott Pine (Pinus sylvestris) | 25 | 549 | g | g | g | 2 | | | | | | | codominant stem at 4 m |
| 534 | Scott Pine (Pinus sylvestris) | 14 | 550 | g | g | g | 2 | | | | | | | |
| 535 | Scott Pine (Pinus sylvestris) | 22 | 551 | g | g | g | 2 | | | | | | | |
| 536 | Scott Pine (Pinus sylvestris) | 23 | 552 | g | g | g | 2 | | | | | | | |
| 537 | Scott Pine (Pinus sylvestris) | 17 | 553 | f | g | g | | | | | | | | tree has bend, lost leader, codominant stem |
| 538 | Scott Pine (Pinus sylvestris) | 34 | 554 | g | g | g | | | | | | | | |
| 539 | Scott Pine (Pinus sylvestris) | 23 | 555 | g | g | g | | | | | | | | |
| 540 | Scott Pine (Pinus sylvestris) | 20 | 556 | g | g | g | | | | | | | | |
| 541 | White elm (Ulmus americana) | 34 | 557 | f | g | g | | | | | | | | leaning codominant stem, twisted, leaning due to fallen branch |
| 542 | Scott Pine (Pinus sylvestris) | 26 | 558 | g | g | g | | | | | | | | |
| 543 | Scott Pine (Pinus sylvestris) | 22 | 559 | g | g | g | | | | | | | | |
| 544 | White elm (Ulmus americana) | 26 | 560 | g | g | f | | | | | | | x | |
| 545 | Scott Pine (Pinus sylvestris) | 15 | 561 | g | g | f | | 40 | | | | x | | 3 m into fence |
| 546 | Bur oak (Quercus macrocarpa) | 15 | 562 | g | f | f | | | | | | x | x | |
| 547 | Bur oak (Quercus macrocarpa) | 15 | 563 | g | f | f | | | | | | x | x | |

**Project**: TA4872 Hwy 50
**Client**: HDR | iTRANS Consulting **Date**: November 2009
**Collectors**: JCN and MJO **Area**: Roadside Assessment

| LGL ID | SPECIES | DBH (cm) | WP | CONDITION | | | | | | | | | fenceline | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TI | CS | CV | DL (m) | CDB | Cavity | Wound | Epicormic | Frost Crack | | |
| 548 | Red ash (Fraxinus pennsylvanica) | 5 | 564 | f | f | f | | | | | | | x | |
| 549 | Red ash (Fraxinus pennsylvanica) | 7 | 565 | g | f | f | | | | | | | x | |
| 550 | Red ash (Fraxinus pennsylvanica) | 11 | 566 | f | f | f | | | | | | | x | |
| 553 | Red ash (Fraxinus pennsylvanica) | 10 | 567 | g | f | f | | | | | | | x | |
| 554 | Red ash (Fraxinus pennsylvanica) | 9 | 568 | g | g | g | | | | | | | x | |
| 555 | Red ash (Fraxinus pennsylvanica) | 14 | 569 | g | g | g | | | | | | | x | |
| 556 | Red ash (Fraxinus pennsylvanica) | 5 | 570 | p | f | f | | | | | | | x | |
| 557 | Red ash (Fraxinus pennsylvanica) | 7 | 571 | p | f | f | | | | | | | x | |
| 558 | Red ash (Fraxinus pennsylvanica) | 7 | 572 | p | f | f | | | | | | | x | |
| 559 | Red ash (Fraxinus pennsylvanica) | 6 | 573 | p | f | f | | | | | | | x | |
| 560 | Red ash (Fraxinus pennsylvanica) | 10 | 574 | | f | f | | | | | | | x | |
| 561 | Red ash (Fraxinus pennsylvanica) | 8 | 575 | f | f | f | | | | | | | x | |
| 562 | Red ash (Fraxinus pennsylvanica) | 11 | 576 | f | f | f | | | | | | | x | bird nest |
| 563 | Apple (Malus pumila) | 30 | 577 | g | f | f | | | | | | x | x | |
| 564 | White Spruce (Picea glauca) | 28 | 578 | p | p | p | | | | | | x | | estimated |

**Project**: TA4872 Hwy 50
**Client**: HDR | iTRANS Consulting **Date**: November 2009
**Collectors**: JCN and MJO **Area**: Roadside Assessment

| LGL ID | SPECIES | DBH (cm) | WP | CONDITION | | | | | | | | | fenceline | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TI | CS | CV | DL (m) | CDB | Cavity | Wound | Epicormic | Frost Crack | | |
| 565 | Red Cedar (Juniperus communis) | 26 | 578 | p | p | p | | | | | | x | | within property |
| 566 | Scott Pine (Pinus sylvestris) | 13 | 579 | g | f | f | | | | | | x | | 5 m from fence with property |
| 567 | Silver maple (Acer sacharinum) | 20, 18 | 579 | g | g | g | | | | | | | | 3 stem |
| 568 | Silver maple (Acer sacharinum) | 21, 18, 10 | 579 | g | g | g | | | | | | | x | minor epicormic |
| 569 | White elm (Ulmus americana) | 10, 8, 9 | 579 | g | g | f | | | | | | | x | major, lilac bushes have bird nests |
| 570 | White elm (Ulmus americana) | 14 | 579 | g | g | g | | | | | | | x | minor epicormic |
| 571 | Silver maple (Acer sacharinum) | 30 | 580 | g | f | f | | | | | | x | x | pruned 15 m from road |
| 572 | Silver maple (Acer sacharinum) | 32 | 580 | g | f | f | | | | | | x | x | pruned |
| 573 | Linden (Tilia cordata) | 8 | 581 | g | g | g | | | | | | | | |
| 574 | Linden (Tilia cordata) | 9 | 581 | g | g | g | | | | | | | | |
| 575 | Norway maple (Acer platanoides) | 14 | 581 | g | f | f | | | | | | | x | frost crack on trunk, codominant |
| 576 | Norway maple (Acer platanoides) | 18 | 581 | g | g | f | | | | | x | | x | |

**Definitions**
DBH: Diameter at breast height
TI: Trunk Integrity
CS: Crown Structure
CV: Crown vigour
CDB: Crown Dieback
DL(m): Dripline (metres)
X: Present

*Condition rating:*
g: good
f: fair
p: poor


# Highway 50

- Tree Locations
- ### Waypoint Tree Identification Number
- Hedgerows
- Study Area

*Data Source*: Field Investigations by an LGL Certified Aborist, 2009

LGL LIMITED
environmental research associates

| | | | |
|---|---|---|---|
| **Project** | TA4872 | **Figure** | 3B |
| **Date** | January, 2010 | **Prepared By** | KC |
| **Scale** | 1:1,500 | **Verified By** | JCN |


# Highway 50

- Tree Locations
- ### Waypoint Tree Identification Number
- Hedgerows
- Study Area

*Data Source*: Field Investigations by an LGL Certified Aborist, 2009

LGL LIMITED
environmental research associates

| | | | |
|---|---|---|---|
| **Project** | TA4872 | **Figure** | 3C |
| **Date** | January, 2010 | **Prepared By** | KC |
| **Scale** | 1:1,000 | **Verified By** | JCN |


# Highway 50

- Tree Locations
- ### Waypoint Tree Identification Number
- Hedgerows
- Study Area

*Data Source*: Field Investigations by an LGL Certified Aborist, 2009

LGL LIMITED
environmental research associates

| | | | |
|---|---|---|---|
| **Project** | TA4872 | **Figure** | 3D |
| **Date** | January, 2010 | **Prepared By** | KC |
| **Scale** | 1:1,000 | **Verified By** | JCN |


# Highway 50

- Tree Locations
- ### Waypoint Tree Identification Number
- Hedgerows
- Study Area

*Data Source*: Field Investigations by an LGL Certified Aborist, 2009

LGL LIMITED
environmental research associates

| | | | |
|---|---|---|---|
| **Project** | TA4872 | **Figure** | 3E |
| **Date** | January, 2010 | **Prepared By** | KC |
| **Scale** | 1:800 | **Verified By** | JCN |


# Highway 50

- Tree Locations
- ### Waypoint Tree Identification Number
- Hedgerows
- Study Area

*Data Source*: Field Investigations by an LGL Certified Aborist, 2009

LGL LIMITED
environmental research associates

| | | | |
|---|---|---|---|
| **Project** | TA4872 | **Figure** | 3F |
| **Date** | January, 2010 | **Prepared By** | KC |
| **Scale** | 1:800 | **Verified By** | JCN |


# Highway 50

- Tree Locations
- ### Waypoint Tree Identification Number
- Hedgerows
- Study Area

*Data Source*: Field Investigations by an LGL Certified Aborist, 2009

LGL LIMITED
environmental research associates

| | | | |
|---|---|---|---|
| **Project** | TA4872 | **Figure** | 3G |
| **Date** | January, 2010 | **Prepared By** | KC |
| **Scale** | 1:600 | **Verified By** | JCN |


# Highway 50

- Tree Locations
- ### Waypoint Tree Identification Number
- Hedgerows
- Study Area

*Data Source*: Field Investigations by an LGL Certified Aborist, 2009

LGL LIMITED
environmental research associates

| | | | |
|---|---|---|---|
| **Project** | TA4872 | **Figure** | 3H |
| **Date** | January, 2010 | **Prepared By** | KC |
| **Scale** | 1:600 | **Verified By** | JCN |


# Highway 50

- Tree Locations
- Waypoint Tree Identification Number
- Hedgerows
- Study Area

*Data Source*: Field Investigations by an LGL Certified Aborist, 2009

LGL LIMITED
environmental research associates

| | | | |
|---|---|---|---|
| **Project** | TA4872 | **Figure** | 3I |
| **Date** | January, 2010 | **Prepared By** | KC |
| **Scale** | 1:800 | **Verified By** | JCN |


# Highway 50

Tree Locations

Waypoint Tree Identification Number

Hedgerows

Study Area

*Data Source*: Field Investigations by an LGL Certified Aborist, 2009

LGL LIMITED
environmental research associates

| | | | |
|---|---|---|---|
| **Project** | TA4872 | **Figure** | 3J |
| **Date** | January, 2010 | **Prepared By** | KC |
| **Scale** | 1:800 | **Verified By** | JCN |


# Highway 50

Tree Locations

### Waypoint Tree Identification Number

Hedgerows

Study Area

*Data Source*: Field Investigations by an LGL Certified Aborist, 2009

LGL LIMITED
environmental research associates

| | | | |
|---|---|---|---|
| **Project** | TA4872 | **Figure** | 3K |
| **Date** | January, 2010 | **Prepared By** | KC |
| **Scale** | 1:600 | **Verified By** | JCN |


# Highway 50

Tree Locations

### Waypoint Tree Identification Number

Hedgerows

Study Area

*Data Source*: Field Investigations by an LGL Certified Aborist, 2009

LGL LIMITED
environmental research associates

| | | | |
|---|---|---|---|
| **Project** | TA4872 | **Figure** | 3L |
| **Date** | January, 2010 | **Prepared By** | KC |
| **Scale** | 1:600 | **Verified By** | JCN |


# Highway 50

- Tree Locations
- ### Waypoint Tree Identification Number
- Hedgerows
- Study Area

*Data Source*: Field Investigations by an LGL Certified Aborist, 2009

LGL LIMITED
environmental research associates

| | | | |
|---|---|---|---|
| **Project** | TA4872 | **Figure** | 3M |
| **Date** | January, 2010 | **Prepared By** | KC |
| **Scale** | 1:600 | **Verified By** | JCN |


# Highway 50

Tree Locations

### Waypoint Tree Identification Number

Hedgerows

Study Area

*Data Source*: Field Investigations by an LGL Certified Aborist, 2009

LGL LIMITED
environmental research associates

| | | | |
|---|---|---|---|
| **Project** | TA4872 | **Figure** | 3N |
| **Date** | January, 2010 | **Prepared By** | KC |
| **Scale** | 1:600 | **Verified By** | JCN |


# Highway 50

Tree Locations

### Waypoint Tree Identification Number (* represents multiple trees)

Hedgerows

Study Area

*Data Source*: Field Investigations by an LGL Certified Aborist, 2009

LGL LIMITED
environmental research associates

| | | | |
|---|---|---|---|
| **Project** | TA4872 | **Figure** | 3O |
| **Date** | January, 2010 | **Prepared By** | KC |
| **Scale** | 1:600 | **Verified By** | JCN |


# Highway 50

- Tree Locations
- ### Waypoint Tree Identification Number
- Hedgerows
- Study Area

*Data Source*: Field Investigations by an LGL Certified Aborist, 2009

LGL LIMITED
environmental research associates

| | | | |
|---|---|---|---|
| **Project** | TA4872 | **Figure** | 3P |
| **Date** | January, 2010 | **Prepared By** | KC |
| **Scale** | 1:600 | **Verified By** | JCN |