



**APPENDIX 1 – DRAFT ENVIRONMENTAL
STUDY REPORT: EXECUTIVE SUMMARY**



Executive Summary

Schedule 'C' Class Environmental Assessment for Ninth
Line from Eglinton Avenue West to Derry Road West

City of Mississauga

June 2021

DRAFT





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Introduction

The City of Mississauga has completed a Schedule ‘C’ Municipal Class Environmental Assessment (Class EA) Study for Ninth Line Improvements between Eglinton Avenue West and Derry Road West. This Environmental Study Report (ESR) documents the study consultation and decision making rationale, following the planning and design process for Schedule ‘C’ projects as outlined in the Municipal Engineers Association (MEA), Municipal Class Environmental Assessment (October 2000, as amended in 2007, 2011, and 2015).

Ninth Line is a north-south arterial road in the City of Mississauga. The study area spans approx. 6.2 km from Eglinton Avenue West to Derry Road West and consists of a 2 lane semi-rural road cross-section with a centre two-way left-turn lane. Ninth Line is adjacent to the last remaining greenfield land in Mississauga, which is planned to be sustainable, transit-supportive, connected and distinct. Current and future Ninth Line residents will have access to a linked natural heritage system, multi-use trails, parks and open spaces. Higher-order transit, community use and facilities, a variety of housing choices, and employment opportunities are also anticipated to realize this vision for the emerging neighbourhood, as outlined in the Shaping Ninth Line Study.

Study Purpose

The purpose of this study was to confirm the need for multi-modal improvements to Ninth Line that support new development and improved mobility for all road users. The study explored alternative solutions and identified a preferred solution. Alternative designs were developed to address the preferred solution, evaluated and a preferred design was selected striking a balance between transportation engineering and environmental protection principles. The Preferred Preliminary Design was developed to a 30% design level of detail, and incorporated feedback from stakeholders and identified opportunities to support the City’s vision for “everyone and everything to have the freedom to move safely, easily, and efficiently to anywhere at any time”.

Study Area

Ninth Line is a north-south arterial road in the western part of the City of Mississauga in the Region of Peel. It connects Highway 403 to the south and Highway 401 to the north. The City of Mississauga’s Ninth Line jurisdiction begins at Highway 407, continuing north across Highway 401 where it terminates at Steeles Avenue in Halton Region. The study area spans the segment of Ninth Line between Eglinton Avenue West and Derry Road West.

Within the study limits, Ninth Line currently has a posted speed limit of 70 km/h and a 2-lane semi-rural road cross-section (one lane in each direction) with a centre two-way left-turn lane. Sidewalks are discontinuous and cycling facilities do not exist for the majority of the study area. The total length of roadway for the project is approximately 6.2 km, as shown in **Exhibit ES- 1**.

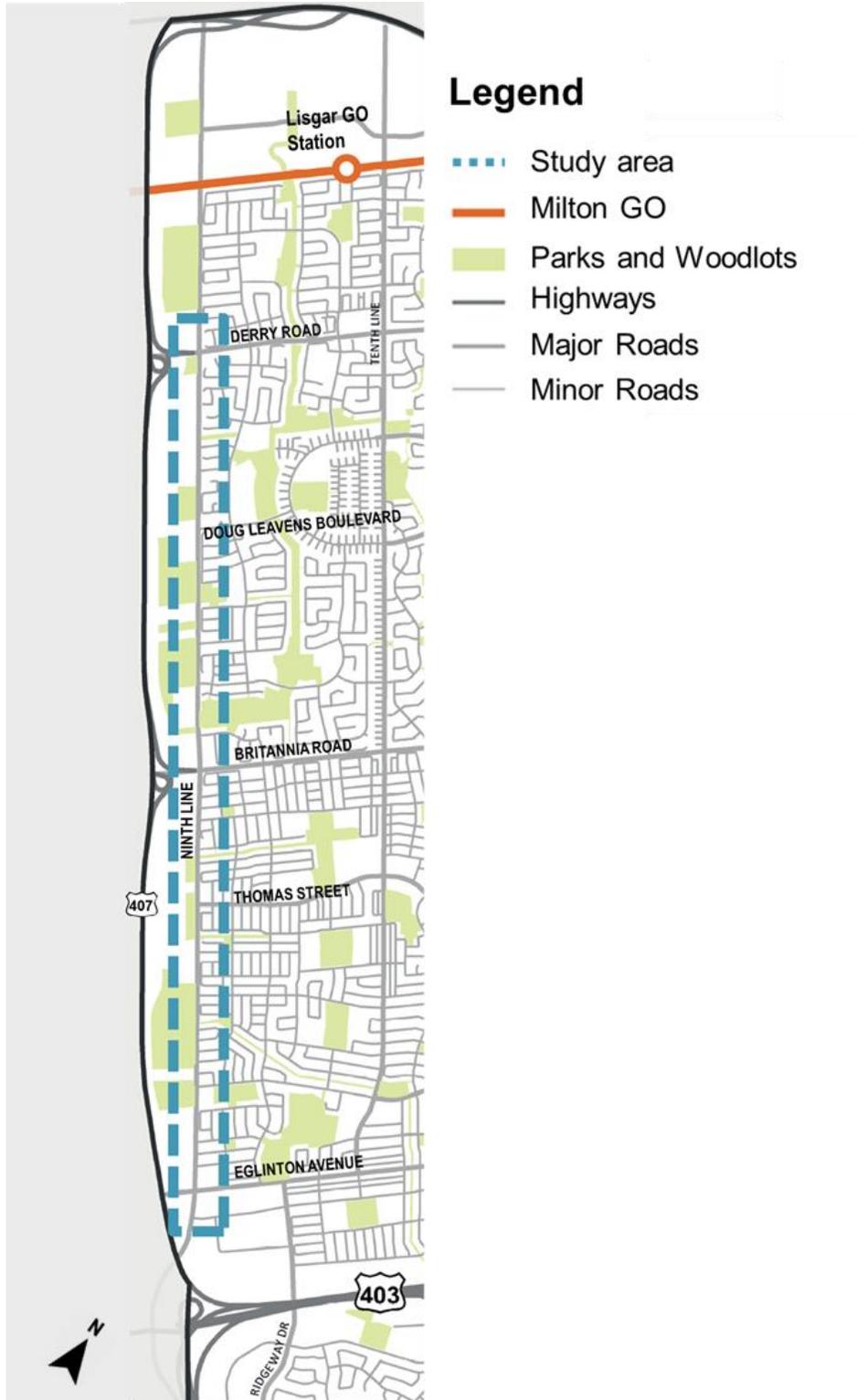


Exhibit ES- 1: Study Area

Problems and Opportunities

There are opportunities to improve Ninth Line between Eglinton Avenue West and Derry Road West for all travel modes – cyclists, pedestrians, transit users, and motorists. Improvements to the Ninth Line corridor are needed to accommodate increased traffic volumes and active transportation facilities. The improved transportation corridor will serve the needs of the transportation system and area growth to 2041.

A summary of the problems and opportunities identified for the study corridor are provided in Error! Reference source not found..

Table ES- 2: Summary of Problem and Opportunities within the Study Corridor

	Problem		Opportunity
	Existing road and intersections cannot accommodate future traffic volumes.		Improve Ninth Line’s capacity to accommodate projected traffic demand and maximize person carrying capacity
	Lack of continuous pedestrian and cycling facilities creates unfavourable conditions for non-drivers.		Providing enhanced active transportation infrastructure to improve pedestrian and cycling conditions and encourage travel choices that can reduce reliance on the single occupant automobile
	Transit service is impacted by congestion resulting in delays, especially during peak periods		Improve the efficiency and reliability of transit through increased roadway capacity and intersection improvements
	Inconsistent roadway typology and transitions from urban to rural cross-section		Consider a continuous urban roadway to create a corridor with consistent drainage infrastructure

	Problem	Opportunity
	Under existing conditions, Ninth Line is unable to service future growth, does not recognize its role as a gateway to the City and is not consistent with the future vision for the area and adjacent developments	
		Design Ninth Line as a complete street to serve study area residents and visitors alike, people of all ages and abilities and commuting and recreational users. Acknowledging Ninth Line's role as a gateway to the City of Mississauga

Existing Conditions

Existing conditions of the study area were collected and reviewed, including the following:

- Various background studies and reports (i.e. stormwater management reports, etc.);
- Data provided by the City of Mississauga (i.e. traffic data, tree survey data, etc.);
- Investigations undertaken as part of this Class EA Study;
- Meetings with the Project Team;
- Meetings and correspondence with agencies including Ministry of Transportation and Halton Region;
- Consultation with members of the public; and
- Site visits.

The existing conditions of the study area are discussed below:

Socio-Economic Environment

In July 2018, the City of Mississauga Official Plan Amendment 90 created a new Neighbourhood Character Area for the Ninth Line Lands, west of the study area, and removed the Special Study Area identification over those lands. Following the completion of the Shaping Ninth Line Study in 2018, the Official Plan ratified area policies and Zoning By-law amendments for the Ninth Line Lands.

The Ninth Line Lands are Mississauga's last remaining greenfield lands. They are approximately 350 hectares (870 acres) in size and bound by Highway 407 to the west, Ninth Line to the east, Highway 401 to the north and the Highway 403/407 interchange to the south. These lands became part of the Region of Peel and the City of Mississauga on January 1, 2010 as a result of a municipal boundary realignment with Halton Region and the Town of Milton.

The plans for the Ninth Line Lands are in line with the vision of the Provincial Growth Plan and the regional and municipal Official Plans for compact, vibrant and complete communities that

support healthy, active living. The development form is intended to be compact and efficient to better support walking, cycling and transit services.

Natural Environment

A Natural Environment Assessment was conducted to document existing conditions, assess potential impacts to any natural heritage features present within the study area and provide recommendations and supporting documentation for the study.

Natural features are located on the west side of the Ninth Line corridor and are primarily open cultural meadow, stormwater management ponds and anthropogenic land uses, with smaller areas of woodlands and wetlands.

Significant Vegetation

A total of 17 regionally rare vegetation species were inventoried within the Ninth Line Lands during the Subwatershed Study. The study also identified Provincially Significant Kentucky Coffee-Tree but these plants were not considered significant as they were not naturally occurring. Ten (10) regionally rare species were identified in the Ninth Line Corridor Study (NSE 2012, AFW 2015). The locations were not mapped and therefore cannot be confirmed if adjacent or within the EA study area.

During the EA study area field surveys, no federally or provincially significant species were inventoried. However, the EA study area field surveys inventoried eleven regionally significant species. Of which one species, White Spruce, although listed as regionally significant, is considered non-significant where it is located in the study area. The remaining ten regionally significant species were identified closer to the road.

Significant Woodlands

Based on the City of Mississauga's Natural Heritage and Urban Forest Strategy Report's criteria for woodland significance, the following woodlands within the Ninth Line EA study area are considered significant:

- Fresh-Moist Sugar Maple Harwood-Deciduous Forest (FOD6-5), located opposite Erin Centre Boulevard, immediately west of Ninth Line,
- Mineral Cultural Woodland/Fresh-Moist Green Ash-Hardwood Lowland Deciduous Forest (FOD7-2), located opposite Osprey Boulevard, immediately west of Ninth Line, and
- Fresh-Moist Sugar Maple-White Elm Deciduous Forest (FOD6-4), comprised of three adjacent mapped units, south of Derry Road West and immediately west of Ninth Line.

No woodlands exist on lands to the immediate east of Ninth Line that could be impacted by changes to the Ninth Line cross-section.

Wetlands

Several wetland features were mapped within the Ninth Line Lands, some of which fall within the EA study area. No Ontario Ministry of Natural Resources and Forestry (MNR) wetlands

occur within the EA study area to the east of Ninth Line. No Provincially Significant Wetlands occur within the study area. However, the Ninth Line Corridor Study (North-South Environmental 2012) identified all wetlands within the Ninth Line Lands to be locally significant due to the scarcity of wetland cover within Mississauga Watercourses and Fish Habitat.

According to the Mississauga Official Plan criteria for wetland significance, certain wetlands within the study area would be deemed significant due to their size being >0.5ha. Within or immediately adjacent to the ROW, this only includes the Graminoid Mineral Meadow Marsh located opposite Doug Leavens Boulevard, whereas the other City-significant wetlands are further removed from the road right-of-way and are less likely to be impacted.

Wetlands immediately west of Ninth Line that may be impacted by the undertaking comprise meadow marsh features that have originated from past land use activities, such as where they have formed along narrow agricultural drainage swales, or where surface water collects over relatively low-pervious soils in idle/former agricultural fields. These features have low levels of biological diversity and provide relatively poor quality wetland habitat.

Watercourses and Fish Habitat

The aquatic features within the study area consist of two non-regulated drainage features (Drainage Feature B and C) and one regulated watercourse (NLT-1). The three (3) drainage features, all within Conservation Halton jurisdiction, exist within the Ninth Line study area:

- Crossing 1 (SWM Pond B): Unregulated watercourse, located approximately 1.2 km south of Britannia Road, to the East Lisgar Branch.
- Crossing 2 (SWM Pond C): Unregulated watercourse, located approximately 630 m south of Britannia Road West, to the East Lisgar Branch.
- Crossing 3 (Osprey Marsh): Regulated watercourse, located approximately 335m north of Britannia Road, previously referred to as NLT-1 (AFW 2017) to the East Lisgar Branch.

Watercourse NLT-1 provides a corridor for fish movement between the East Lisgar Branch and the Osprey Marsh stormwater management complex, and is managed as warmwater fish habitat. No Species at Risk (SAR) fish are identified. As fish habitat, this watercourse also falls under the protections of the federal Fisheries Act. Under the Act, actions that would cause the Harmful Alteration, Disruption or Destruction of fish habitat (HADD) are prohibited.

The existing culvert at watercourse NLT-1 provides for the passage of small to medium wildlife, and it is recommended to maintain this continuous ecological linkage with the road improvements.

Wildlife and Wildlife Habitat

Ninety (90) bird species were recorded within 10km of the study area. Of the forty-one (41) bird species recorded during the bird surveys, thirty-seven (37) species displayed evidence of breeding. Three bird Species At Risk (SAR) were identified during the surveys within the study area: Barn Swallow (*Hirundo rustica*), Bobolink (*Dolichonyx oryzivorus*), and Eastern

Meadowlark (*Sturnella magna*). One bird Species, Eastern Wood-Pewee of Conservation Concern (SCC) was recorded during the surveys.

Twenty-six (26) reptile and amphibian species were recorded within 10km of the study area. No herpetofauna species were observed incidentally during site investigations.

Thirty-one (31) mammal species were recorded within 10km of the study area. Five (5) species were observed during site investigations. Potential SAR habitat was identified for Bats in four trees. No significant mammal species were documented in the earlier survey work within the study area (AFW 215, NSE 2012, Savanta 2020, LGL 2020b).

Sixty-three (63) butterfly species and forty-two (42) odonate species are known within 10 km of the study area. No butterfly or ordante species were recorded during the site visit. One SCC butterfly, Monarch (*Danaus plexipus*) was documented in the Ninth Line Lands during earlier surveys (AFW 2015, NSE 2012) and observed foraging within open meadows and considered likely breeding in areas containing milkweed. No SAR or SCC odonates were identified in earlier studies (AFW 2015, NSE 2012).

Species at Risk (SAR)

Previous field studies identified the presence of three SAR within the study area: Barn Swallow (*Hirundo rustica*), Bobolink (*Dolichonyx oryzivorus*), and Eastern Meadowlark (*Sturnella magna*).

- Barn Swallow –Barn Swallow was observed during the EA study surveys and through previous studies with evidence of possible nesting habitat within agricultural structures on the Ninth Line Lands that are well removed from the Ninth Line ROW and are not anticipated to be impacted. The study area also contains foraging habitat for Barn Swallows that nest in the immediate vicinity of the Ninth Line study area. Barn Swallow foraging habitat that is located within 200 m of a nest is defined as part of the general habitat for the species and is protected by the Endangered Species Act. However, the planned road improvement undertaking is anticipated to have negligible to no impact on available Barn Swallow foraging habitat in the vicinity. Impacts to Barn Swallow habitat are therefore not anticipated. Nonetheless, due to the atypical but periodic occurrences of Barn Swallow nesting within culverts, inspections of these culverts for nesting evidence must be completed prior to culvert works or replacements.
- Bobolink and Eastern Meadowlark – have been documented as breeding in large open field habitats within the Ninth Line Lands. The planned undertaking is not expected to have any impact on these breeding habitats due to the negligible amount of field edge that may be impacted along the road ROW boundaries. Construction disturbances would be temporary and should be designed to mitigate impact to the species

Potential SAR and Species of Conservation Concern (SCC) Habitat

- Bat Species at Risk – detailed surveys of potential bat roosting or maternity colony habitat have not been completed throughout the entirety of the study area to date. However, the woodlands that fall within the study area were previously noted as containing suitable habitat for bats due to the presence of several large tree snags. These woodlands may therefore provide habitat for SAR bats. Following a conservative approach four potential bat habitat trees were identified in the EA study area that may provide suitable bat roosting habitat. As the habitat is assumed for Species at Risk, impact to these trees is prohibited unless permitted/ authorized by MECP under the Endangered Species Act (ESA).
- Suitable habitat for Species at Risk Chimney Swift was confirmed within the study area based on the presence of houses with chimneys adjacent to the road right-of-way. However, no Chimney Swifts were observed during the EA site visits. Road improvements are not anticipated to impact hose chimney structures and as such habitat impacts are not anticipated.
- Breeding habitat for the Species of Conservation Concern (SCC) Eastern Wood-Pewee was confirmed within the Fresh-Moist Sugar Maple-Hardwood Deciduous Forest (FOD6-5) during both the subwatershed studies field investigations (AFW 2015) as well as during the EA fieldwork. However, there is no anticipated impact to their breeding territories from the narrow encroachment, and construction-stage disturbances can be mitigated if removals are done outside of the bird nesting period.

Phase One Environmental Site Assessment

A Phase One Environmental Site Assessment (ESA) was completed to identify evidence of actual and/or potential contamination within the study area which may pose implications on the management of materials generated during the improvement of works. A review was conducted of available historical records and a reconnaissance of the study area to identify properties with potentially contaminating activities (PCAs) on the Site and the surrounding properties that may be contributors to areas of potential environmental concern (APECs) at the Site.

Based on the information from the records review and Site Reconnaissance, the Phase One Property has been used for the Ninth Line Right-of-Way (ROW) since at least 1946. In general, the surrounding area was used for agricultural lands until approximately the 1990s when urbanized residential development occurred on the east side of the road. A natural gas compressor station was initially observed in 1992 (aerial photograph) in the northwest portion of the Phase One Study Area. Community plazas with gas stations and dry cleaners were identified on the east side of the Site following the urban development. A number of contractors' yards were randomly located on rural properties that existed adjacent to the agricultural fields to the west of the Site.

The findings of the Phase One ESA identified both on-Site PCAs and off-site PCAs that may contribute to APECs within the Site limits. The on-Site PCAs included roadway associated activities such as fill materials, vehicle fluid spills and de-icing salt applications. The identified off-Site PCAs that contribute to APECs included dry cleaners, gas stations, a release from a private fuel storage tank, an excavation and landscaping contractor, a pesticides operator, a

pesticides vendor, and a natural gas compressor station.

On this basis, 10 APECs were identified on the Phase One Property. A subsurface investigation (i.e. Phase Two ESA) involving sampling and analysis of soil and groundwater within the excavation depths for the proposed construction works would be required to confirm or refute the potential for contamination from the identified PCAs and associated APECs on the Site that may impose implications on the management of materials generated during construction of the proposed works. The soil and groundwater analytical program for the Phase Two ESA should be based on the locations of the APECs, as well as the corresponding contaminants of potential concern.

Cultural Environment

Stage 1 Archaeological Assessment

A Stage 1 Archaeological Assessment (AA) was conducted to determine the potential for archaeological resources within the study area. The review of existing conditions entailed the investigation of past and present land use, the settlement history and any other relevant historical and geographical information pertaining to the study area.

The Stage 1 background study determined that 46 previously registered archaeological sites are located within one kilometre of the Study Area, four of which are within the Study Area but do not exhibit cultural heritage value or interest (CHVI). The property inspection determined that some portions of the study area exhibit archaeological potential and will require Stage 2 Archaeological Assessment. It was also identified that a Stage 3 Cemetery Investigation will be required on any lands impacted by the project within 10 metres of the cemetery property (St. Peter's Catholic Cemetery) to confirm the presence or absence of unmarked graves. Prior to undertaking Stage 3 investigations, Stage 2 survey should be conducted within areas of impact to locate any near-surface finds.

The remainder of the study corridor contains no archaeological potential due to previous disturbance by past earth-moving construction activities. At these locations, since the study corridor does not contain archaeological potential, further assessment is not required.

Built Heritage and Cultural Landscape

A Cultural Heritage Resource Assessment (CHRA) was prepared to identify cultural heritage resources in the study area. The purpose of the assessment is to inform the existing conditions review for the Ninth Line Class EA and present a built heritage and cultural landscape inventory of above-ground cultural heritage resources. The assessment summarizes legislation and municipal heritage policy context, the historical development within the study area including Indigenous and European land use and settlement, and reviews historical mapping and existing heritage inventories.

The findings from background historical research and secondary source material indicate a study area with a rural land use history dating back to the late nineteenth century. One built heritage resource (BHR) and four cultural heritage landscapes (CHL) were identified within and/or adjacent to the Ninth Line study area from Eglinton Avenue West to Derry Road West.

Three (3) cultural heritage landscape resources are listed in the Heritage Register for Mississauga and one built heritage resource (1) is designated under Part IV of the Ontario Heritage Act. The City of Mississauga confirmed that CHL 2 was removed from the Heritage Register for Mississauga as of March 21, 2021. The identified cultural heritage resources are historically, architecturally, and contextually associated with land use patterns in the City of Mississauga.

Drainage and Stormwater Management

Conservation Halton (CH) has jurisdiction with respect to drainage and stormwater management of the Sixteen Mile Creek Watershed within the Ninth Line Class EA project limits. A small portion of the study corridor is located within the Credit Valley Conservation's (CVC) Sawmill Creek Subwatershed; however, since there are no watercourses/tributaries to Sawmill Creek within this portion, the CH criteria for stormwater management is applied to the entire study corridor. The study area also falls under the jurisdiction of the Ministry of Natural Resources and Forestry (MNRF) Aurora District.

A hydraulic assessment of the existing crossings was conducted to determine the hydraulic performance under existing conditions and were undertaken in accordance to City of Mississauga Storm Drainage Design Requirements. The one regulated watercourse crossing C-3 (NLT-1) and two unregulated watercourses crossings C-1 and C-2 (Drainage Features B and C respectively) were assessed. The results indicate that the 100 year and Regional Storm events do not overtop the road at Crossings C-1 and C-2. The Regional Storm event overtops the roadway at Crossing C-3 by 0.68 m, because of the large flows from NLT-1 and the high tailwater levels at the downstream East Lisgar Branch.

Noise Assessment

A Noise Assessment was completed, based on the Ontario Ministry of Transportation (MTO)/Ministry of the Environment, Conservation and Parks (MECP) Noise Protocol, where an existing roadway is proposed to be modified/widened adjacent to a Noise Sensitive Area (NSA). MECP requires that the future noise levels without the proposed improvements be compared to the future noise level with the proposed improvements. The assessment is completed at the Outdoor Living Area (typically backyards) of each NSA. The provision of noise mitigation is to be investigated should the future noise level with the proposed improvements result in a greater than 5 dBA increase over the future noise level without the proposed improvements. If noise mitigation is provided, the objective is a minimum 5 dBA reduction. Mitigation will attempt to achieve levels as close to, or lower than, the objective level as is technically, economically and administratively feasible.

In total, 23 receiver locations located adjacent to Ninth Line were selected to represent the potential noise impact to noise sensitive areas in proximity to Ninth Line between Eglinton Avenue and Derry Road.

Based on analysis using approved simulation techniques and software, the potential change in noise levels are predicted to be less than 5 dBA for all receiver locations on the east side of

Ninth Line between Eglinton Avenue and Derry Road, as a result of the proposed improvements to Ninth Line when compared to the future without roadway improvements condition.

It should be noted that any future new residential subdivision development (west side) along the Ninth Line corridor will have to carry out noise analyses in accordance with MECP requirements as part of the development application process under the Planning Act. These studies would recommend the provision of outdoor and indoor noise attenuation measures and the inclusion of noise warning clauses on title of affected properties; these are outside the scope of the Ninth Line EA Study.

Therefore, the consideration of noise mitigation is not warranted based on MTO/MECP Noise Protocol.

Utilities

The Ninth Line corridor includes a number of existing utilities within the study area.

- Hydro – overhead hydro lines are located along the east side of Ninth Line between Eglinton Avenue and Derry Road for most of the study area. Approximately 250 m north of Doug Leavens Boulevard, the hydro corridor crosses over Ninth Line to the west side for a short segment before reverting back to the east side of the street.
- Gas – there are two pressure gas mains crossing Ninth Line between Beacham Street and Baggins Court. Additionally, underground gas pipelines in the north-south direction are between Derry Road West and Elgin Avenue West, Doug Leavens Boulevard and 30m south of Foxwood Avenue, and Britannia Road West and Tacc Drive. In there are some service gas mains crossing Ninth Line.
- Sun Canadian Pipeline – there are two existing high-pressure oil pipelines that are 200mm and 300mm in size, crossing Ninth Line 50m north of Janice Drive.
- Telecom – There are existing buried telecommunication conduits and aerial lines that run along the east side of Ninth Line.
- Water – Region of Peel operates an extensive and mature water distribution system in northwestern Mississauga. Along Ninth Line the existing watermain facilities include a 400-mm watermain spanning from Britannia Road to Eglinton Avenue, a 300mm watermain spanning Parkgate Drive to Foxwood Avenue, and a 300mm watermain between Beacham Street and 100m north of Beacham Street. There is one 50mm watermain crossing that is located north of Beacham Street that services the Enbridge/Union Gas/TransCanada Joint Operating Facility.
- Wastewater – the existing sanitary sewers below Ninth Line includes a 1050mm dia. pipe from Erin Centre Boulevard to Britannia Road West, 900mm dia. pipe from Britannia Road West to Parkgate Drive, and a 450m dia. pipe from 30m south of Foxwood Avenue to 65m north of Foxwood Avenue.
- Stormwater - A single-storm sewer pipe runs along Ninth Line from Eglinton Avenue West to Erin Centre Boulevard and 300m north of Foxwood Avenue to Derry Road West. A two-storm sewer system runs along Ninth Line from Erin Centre Boulevard to 300m north of Foxwood Avenue

Alternative Solutions

A variety of Alternative Solutions were developed for the study area. These alternatives vary in complexity, construction cost and their potential ability to address the study area issues. **Table ES-** presents the list of alternative solutions considered to address the problems and opportunities identified for the Ninth Line study corridor.

Table ES-3 List of Alternative Solutions Considered

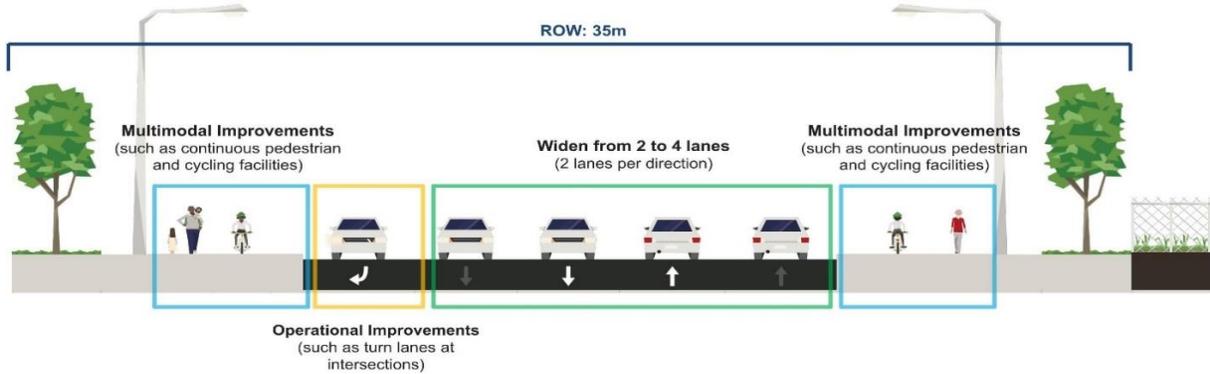
Alternative Solution	Description
1. Do Nothing	Existing conditions will be maintained, and the study area (Ninth Line) remains unchanged.
2. Limit Development	Limit land development within and adjacent to the study area to curb growth and transportation demand in the study area.
3. Improve Other Roads	Improve other roads outside of the study area to address future transportation demand. No changes would be made to the study area (Ninth Line).
4. Operational Improvements (including localized intersections)	Localized improvements within the study area, for example at intersections, where dedicated turn-lanes are provided to improve traffic operations.
5. Multimodal Improvements including improved streetscaping opportunities	Implement improvements for transit, cyclists, and pedestrians only. No road widening to Ninth Line corridor to be implemented for this stand-alone alternative.
6. Widen from 2 Lanes to 4 Lanes	Widen Ninth Line from 2 lanes to 4 lanes. No cycling or pedestrian improvements to be implemented for this stand-alone alternative.

Alternatives 1, 2, and 3 were not recommended to be carried forward as they do not address the current and future transportation needs of the corridor. A combination of **Alternatives #4 – Operational Improvements (including localized intersections), Alternative #5 – Multimodal Improvements (including improved streetscaping), and Alternative #6 – Widen from 2 Lanes to 4 Lanes**, was recommended to be carried forward to address the needs of all travel modes while also considering the contextual aspect of the Ninth Line corridor.

The preferred solution, presented in **Exhibit ES- 4**, is consistent with the City of Mississauga Transportation Master Plan and the Shaping Ninth Line Study and will help manage growth and facilitate the transportation system’s essential role in city-building. The preferred solution supports:

-  Widening Ninth Line from 2 to 4 lanes
-  Improving pedestrian and cycling facilities
-  Operational improvements at intersections

Exhibit ES- 4: Summary of Preferred Alternative Solution



Alternative Designs

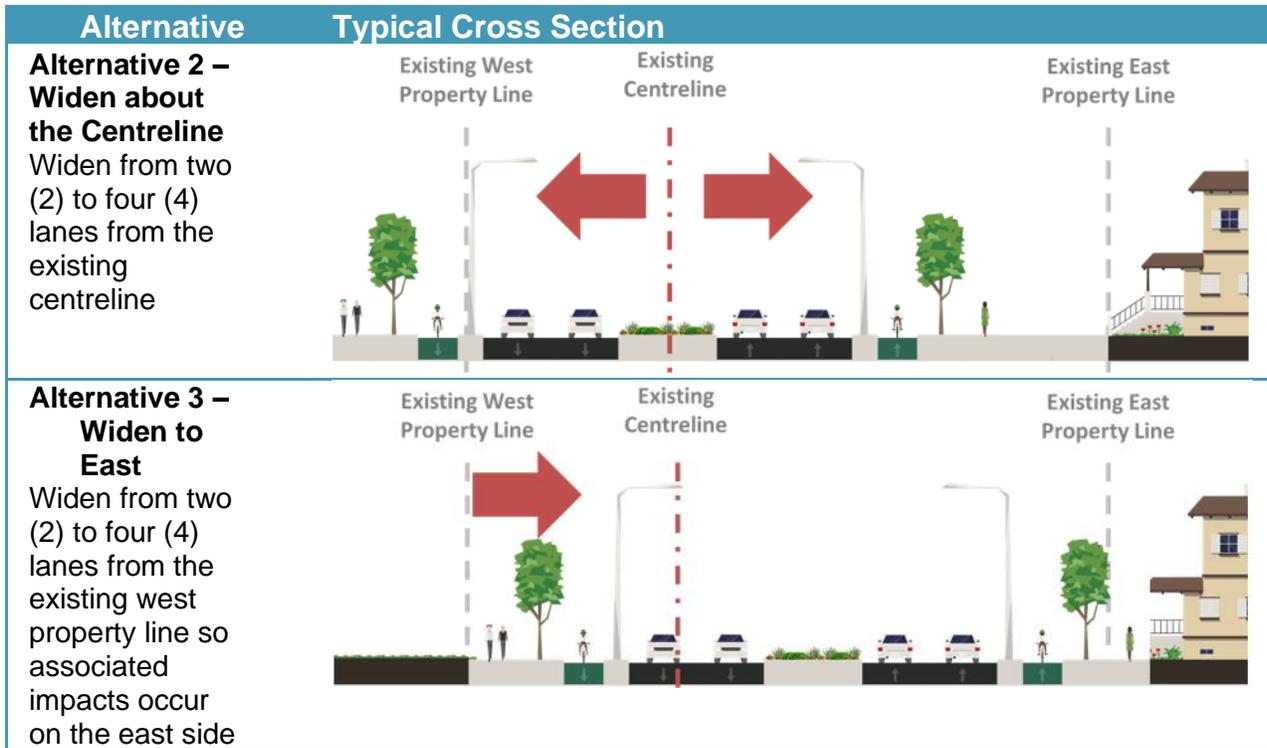
The development and evaluation of Alternative Designs was undertaken to address the Preferred Solution. The Alternative Designs considered, and findings from the screenings, evaluations and recommendations are outlined.

Road Widening Alternatives & Evaluation:

The Road Widening alternatives considered to widen Ninth Line from two to four lanes and to obtain the City of Mississauga’s Official Plan 35m right-of-way (ROW) are presented in **Table ES-5**.

Table ES- 5: Road Widening Alternatives

Alternative	Typical Cross Section
<p>Alternative 1 – Widen to West</p> <p>Widen from two (2) to four (4) lanes from the existing east property line so associated impacts occur on the west side</p>	

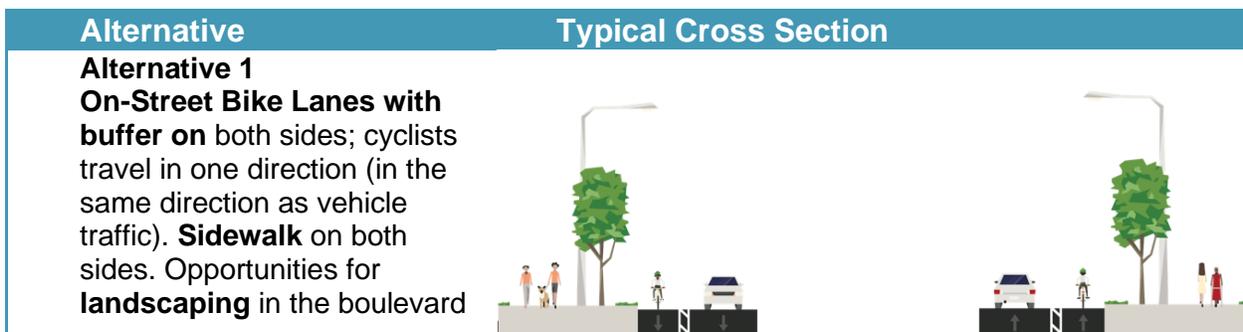


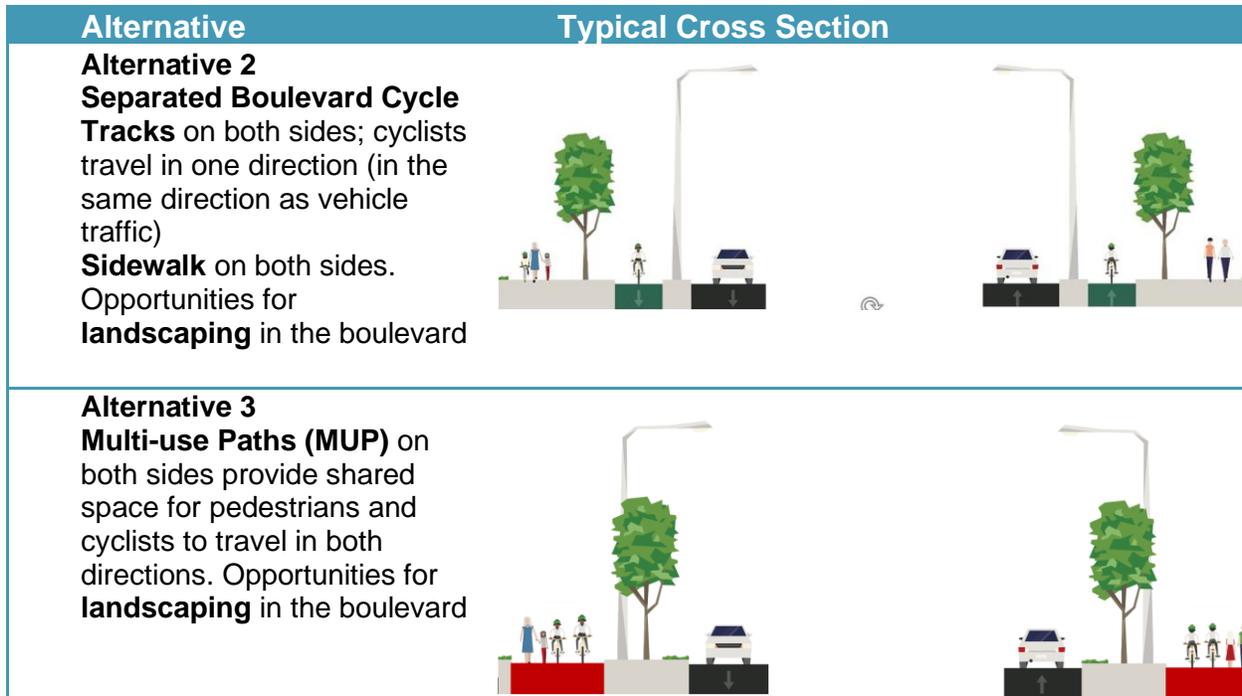
Alternative 1: Widen to the West was recommended as this option achieves the transportation, economic, environmental, and social objectives of the study. There will be only minor impacts to existing and planned developments on the west side of Ninth Line, as well as a moderate shift of the roadway to the east side. In addition, planned developments on the west can accommodate property impacts through development applications, and this alternative was strongly supported by the public at PIC 1.

Active Transportation Alternatives & Evaluation:

The Active Transportation (AT) alternatives carried forward for consideration are outlined in **Table ES- 6**.

Table ES- 6: Active Transportation Alternatives





Alternative 2: Separated boulevard cycle track and sidewalk (both sides) was recommended as this AT facility separates pedestrians from cyclists within the boulevard to minimize conflicts. This alternative provides the greatest physical separation between all users, including cyclists from vehicular traffic.

Roundabout Screening

All existing and proposed signalized intersections along the Ninth Line corridor were considered for roundabouts. A roundabout is an intersection at which traffic moves in one direction around a central island to reach one of the adjacent roads. Where roundabouts are installed, traffic signals are not required. There are several safety benefits such as lower speeds, fewer conflict points, reduction in likelihood for serious collision and injury, etc.

The roundabout screening included two stages:

- Stage 1: Screening Phase
- Stage 2: Assessment Phase

Both stages consisted of a suitability check and feasibility check. Based on the preliminary screening criteria (Stage 1) both the suitability and feasibility criteria were not met for all existing and proposed signalized intersections, except for the Regional intersections at Britannia Road and Derry Road. As a result, both Regional intersections were analyzed at an assessment Phase (Stage 2).

The Stage 2 Assessment was completed for the Britannia Road and Derry Road intersections and concluded that roundabouts are **not recommended** along the Ninth Line corridor for the following reasons:

- Requires a large (multi-lane) physical footprint for the roundabout, resulting in property impacts
- Intersection spacing (with and without traffic signals) are too close to each other
- Future traffic queue spilling back from Highway 407 ramps onto roundabouts (at Britannia Road and Derry Road)

Consultation Plan

Public input was an important part of the Ninth Line EA Study. The project team engaged the general public, agencies and Indigenous Communities, through mail and email notifications, as well as in-person (Open House) and virtual (PIC) meetings to ensure opportunities for participation in the planning process. Key consultation milestones are listed in Error! Reference source not found.7.

Table ES- 7: Key Consultation Events

Consultation Event	Date
Notice of Study Commencement and Introductory Open House	February 13, 2020
Introductory Open House (<i>in-person</i>)	February 20, 2020
Notice of Public Information Centre #1	June 10 and June 17, 2020
Public Information Centre #1 (<i>virtual</i>)	June 25 to July 17, 2020
Notice of Public Information Centre #2	December 31, 2020 and January 7, 2021
Public Information Centre #2 (<i>virtual</i>)	January 13 to February 3, 2021
Notice of Study Completion	June 2021 (TBC)

Communication with agencies, stakeholders, Indigenous Communities and the public took place through:

- Letters
- Emails
- Meetings
- Phone calls
- Notices and Postcards
- Online surveys
- Mobile Road Signs
- Open House/PIC's
- Newspaper advertisements (Mississauga newspapers)
- Project website (<http://www.mississauga.ca/NinthLineEA>)
- City of Mississauga website (<http://www.mississauga.ca>)
- Social Media (Mississauga Facebook, Mississauga Twitter)

Residents living along the study corridor directly received mailed notices. Following the study commencement, individuals who expressed interest in the project and as requested, were added to the project mailing list (mail or email) to receive regular updates on the study progress.

To maximize public awareness, efforts such as mobile roadside signage, social media posts (Facebook and Twitter), newspaper advertisements, and regular updates to the project website

provided information. Online feedback forms (online surveys) were available on the project website, which allowed individuals to remotely participate in the study.

A Technical Advisory Committee (TAC) was formed comprising representatives from the City of Mississauga, Region of Peel, Halton Region, Conservation Halton, Credit Valley Conservation, Peel District School Board, Peel EMS, Dufferin-Peel Catholic District School Board, 407 ETR, Ontario Provincial Police, Ministry of Transportation, Ministry of the Environment, Conservation and Parks (MECP), and Ministry of Natural Resources and Forestry (MNRF). TAC meetings were held to discuss input, concerns, and technical details at various decision-making points throughout the study. TAC meetings took place on June 4, 2020 and December 6, 2021. Individual agency meetings were held as required throughout the project.

Indigenous Communities were engaged throughout the study and were provided with electronic study notices and communicated through email. They were invited to participate in the study by providing input and feedback and review Open House/PIC materials available on the project website.

Introductory Open House

The City held an Introductory Open House at the beginning of the study on February 20, 2020 from 7 to 8:30 p.m. at Osprey Woods Public School at 6135 Lisgar Drive. The purpose of the Open House was to:

- Introduce the project to the community
- Receive initial feedback on issues and opportunities
- Provide background on the EA process being followed for this study
- Obtain public input and answer questions
- Provide information on how the public can be involved throughout the study
- Discuss next steps

Public Information Centre #1

The first PIC (PIC #1) was held online, and community members participated by:

- Viewing materials on the City website from June 25 to July 17, 2020
- Completing the online comment form
- Emailing additional comments to the City

The purpose of PIC#1 included the following:

- Present background information on the study and findings to date
- Provide information and receive input on alternative solutions to address problems and opportunities along Ninth Line
- Receive input on how many travel lanes Ninth Line should have in the future
- Receive input on how cyclists and pedestrians should be accommodated along Ninth Line
- Receive additional comments and suggestions for the City to consider
- Provide information on how the public can continue to be involved throughout the study

- Discuss next steps

Public Information Centre #2

The second PIC (PIC #2) was held online, and community members participated by:

- Viewing the materials on the City website from January 13 to February 3, 2021
- Completing the online comment form
- Emailing additional comments to the City

The purpose of PIC #2 included the following:

- Share key feedback received on the project
- Present the design approach, alternatives considered, evaluations and preliminary recommendations for Ninth Line improvements
- Present the Preferred Preliminary Design
- Receive input regarding the project and recommendations
- Discuss next steps

Recommended Design Concept

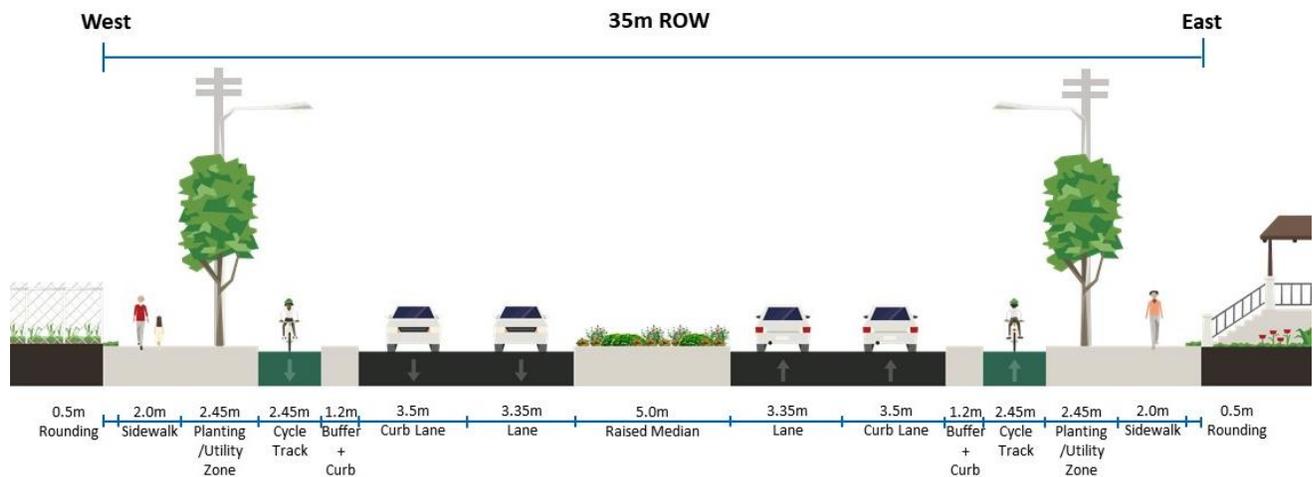
The preferred design for Ninth Line was identified in consideration of multi-modal improvements for all road users (pedestrians, cyclists, transit riders and motorists) and potential impacts to the natural environment, community, cultural heritage, operations, aesthetics, driveway access, property requirements, and capital construction and maintenance costs. The preferred design best meets the goals of the project with regards to transportation service improvements, while also considering the overall impact of the project and mitigation measures. The preferred design was selected, developed, and refined through consultation with agencies, stakeholders, impacted property owners and the public. Key features of the recommended design concept include:

- A design speed of 70km/h with a posted speed of 60km/h
- Horizontal alignment for a 70km/h design speed of Ninth Line as an urban cross-section generally following the existing centreline with localized shifts east and west to minimize impacts to adjacent properties and features
- Vertical alignment with a 70km/h design speed matches the existing road profile where possible
- Four general purpose lanes (two in each direction). Through lanes will be 3.35m and curb lanes will be 3.5 metres.
- Separated 2.0m boulevard cycle tracks (traveling in the same direction as the road) and 2.0m sidewalks on both sides of the roadway
- 5.0m centre median (either painted or raised with landscaping). The median width also accommodates left turns at intersections
- Landscaping within the boulevard and median as feasible, allowing for space to accommodate utilities and bus pads
- 0.5m curb and gutter with 0.5m rounding buffer
- Accessibility for Ontarians with Disabilities (AODA) compliant intersections

- New traffic signals proposed at Skyview Street, Tacc Drive, McDowell Drive and Beacham Street
- Crossrides at intersections for pedestrians and cyclists.
- Culvert extension at Osprey Marsh culvert
- Illumination throughout the corridor
- Integrated Halton Region’s Ninth Line Class EA design from Highway 407 to Eglinton Avenue West
- Potential transit stop locations and transit infrastructure in consultation with Mi-Way
- Property requirements with grading generally contained within the proposed right-of-way on the east side where feasible. Temporary and permanent easements for construction, maintenance, and grading purposes
- Utility relocations

The typical section for the corridor for the designated 35.0m official plan ROW is presented in **Exhibit ES-8**.

Exhibit ES- 8: Ninth Line Typical Section



The preliminary design plan plates are presented at the end of this Executive Summary.

Renderings

Three (3) renderings were developed, based on the preferred preliminary design concepts at different locations along the Ninth Line corridor, presented in **Exhibits ES-9 to ES-11**.

Exhibit ES- 9: Rendering A (Between Deepwood Heights and Brinwood Gate, looking north)



- Four lanes (two lanes in each direction)
- Raised centre median with low-lying shrubs and/or grass
- Separated boulevard cycle tracks and sidewalks (both sides)
- Landscaping between cycle tracks and sidewalks (both sides)

Exhibit ES- 10: Rendering B (between Manatee Way and Freeman Terrace, looking north)



- Four lanes (two lanes in each direction)
- Centre left-turn lane to maintain access to side streets and driveways
- Separated boulevard cycle tracks and sidewalks (both sides)

- Landscaping between vehicular lane and boulevard cycle tracks (east side)
- Landscaping between cycle tracks and sidewalks (west side)

Exhibit ES- 11: Rendering C (Between Osprey Boulevard and Foxwood Avenue, looking north)



- Four lanes (two lanes in each direction), with a dedicated left-turn lane
- Raised concrete median beside the left-turn lane transitioning into a raised centre median with low-lying shrubs and/or grass
- Separated boulevard cycle tracks and sidewalks (both sides)
- Landscaping between cycle tracks and sidewalks (both sides)

Preliminary Cost Estimate

Based on preliminary estimates, the cost of the recommended improvements is estimated to be approximately \$51.6M. This preliminary cost estimate includes costs for road work, utility relocation, addition of streetlights and traffic signals, culvert modifications, landscaping, traffic control, and engineering services; however, property acquisition costs are not included in the estimate.

Environmental Impacts and Mitigation

Anticipated impacts to the natural, socio-economic, and cultural environments, together with proposed mitigation measures, were identified to address the implementation of the preferred design. Anticipated impacts and proposed mitigation are provided for the following factors:

- Land Use and Socio-Economic Impacts
- Archaeology and Cultural Heritage
- Noise
- Property Requirements
- Climate Change
- Air Quality

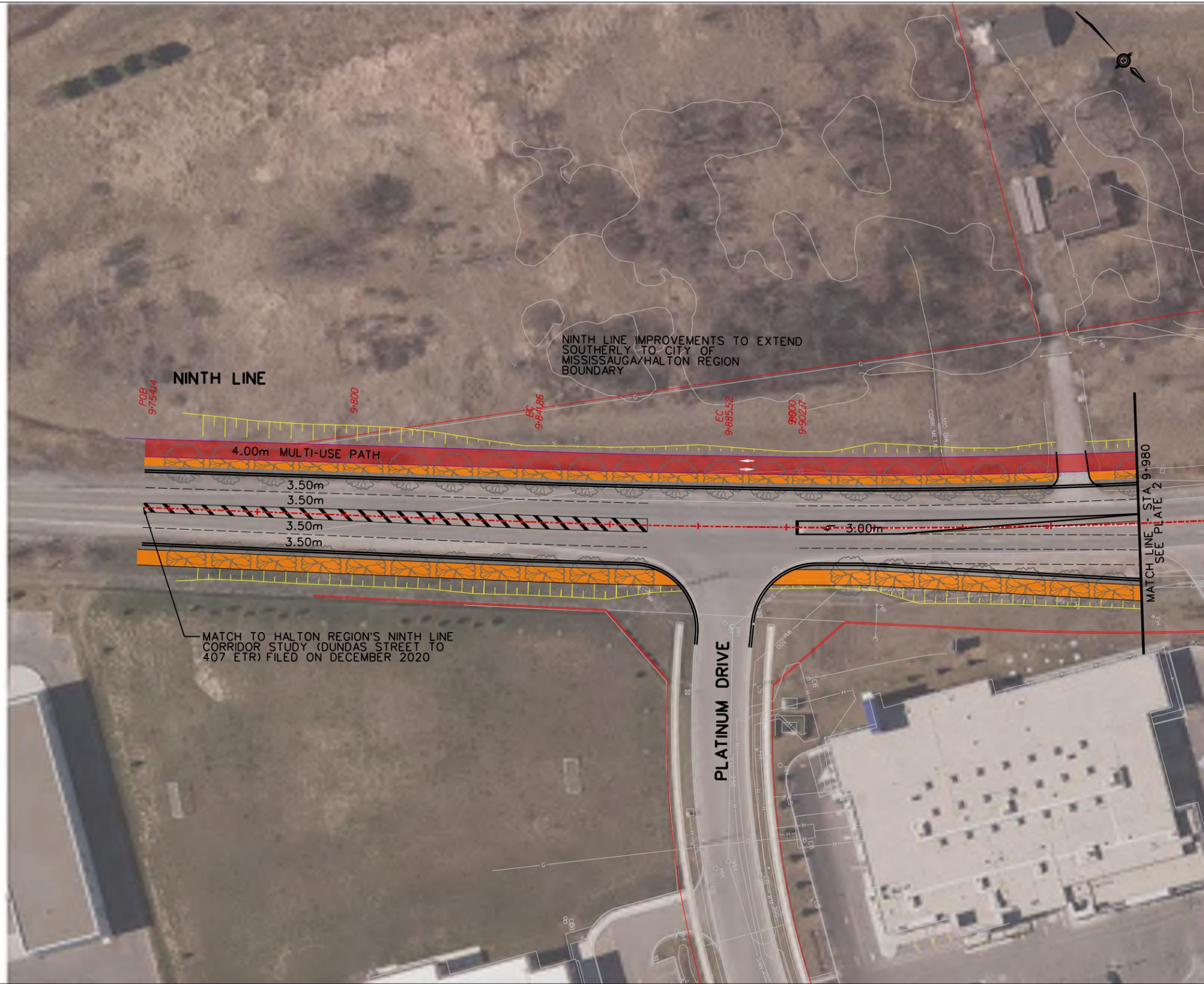
- Source Water Protection
- Streetscaping / Urban Design
- Utilities
- Construction
- Vegetation and Vegetation Communities
- Fisheries and Aquatic Habitat
- Wildlife and Wildlife Habitat
- Groundwater
- Surface Water
- Soil Removal and Contaminants

Commitment of Future Work

This Environmental Study Report (ESR) identifies specific items to be reviewed and confirmed during the Detailed Design phase. Some of these commitments will address specific concerns raised by property owners and review agencies during the EA process. Items to be addressed during Detailed Design phase, include but are not limited to, resolution of outstanding concerns and any permits and approvals.

Timing of Improvements

Timing of improvements will be confirmed during Detailed Design. The Development Charges Background Study (2019) identified the need to widen Ninth Line between Eglinton Avenue West and Derry Road West from two (2) to four (4) lanes, with an estimated timing year of implementation in 2023 – 2024. Start of construction timing is subject to annual Council review and prioritization.



NOTE: PROPOSED BOULEVARD TREE LOCATIONS AND SPACING ARE CONCEPTUAL AND WILL BE CONFIRMED DURING DETAILED DESIGN

LEGEND

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|-------------------------------|------------------------|------------------------|
| PROPOSED CENTRELINE | PROPOSED GRADING LIMIT | PROPOSED BUS STOPS |
| PROPOSED RIGHT-OF-WAY (ROW) | PROPOSED GRADING | PROPOSED RAISED MEDIAN |
| PROPOSED SIDEWALK | PROPOSED CURB | EXISTING CENTRELINE |
| PROPOSED CYCLE TRACK | PROPOSED DAYLIGHTING | EXISTING PROPERTY LINE |
| PROPOSED MULTI-USE PATH (MUP) | PROPOSED BOULEVARD | EXISTING WATERCOURSE |



NINTH LINE IMPROVEMENTS
(EGLINTON AVE W TO DERRY RD W)
ENVIRONMENTAL ASSESSMENT
PLAN

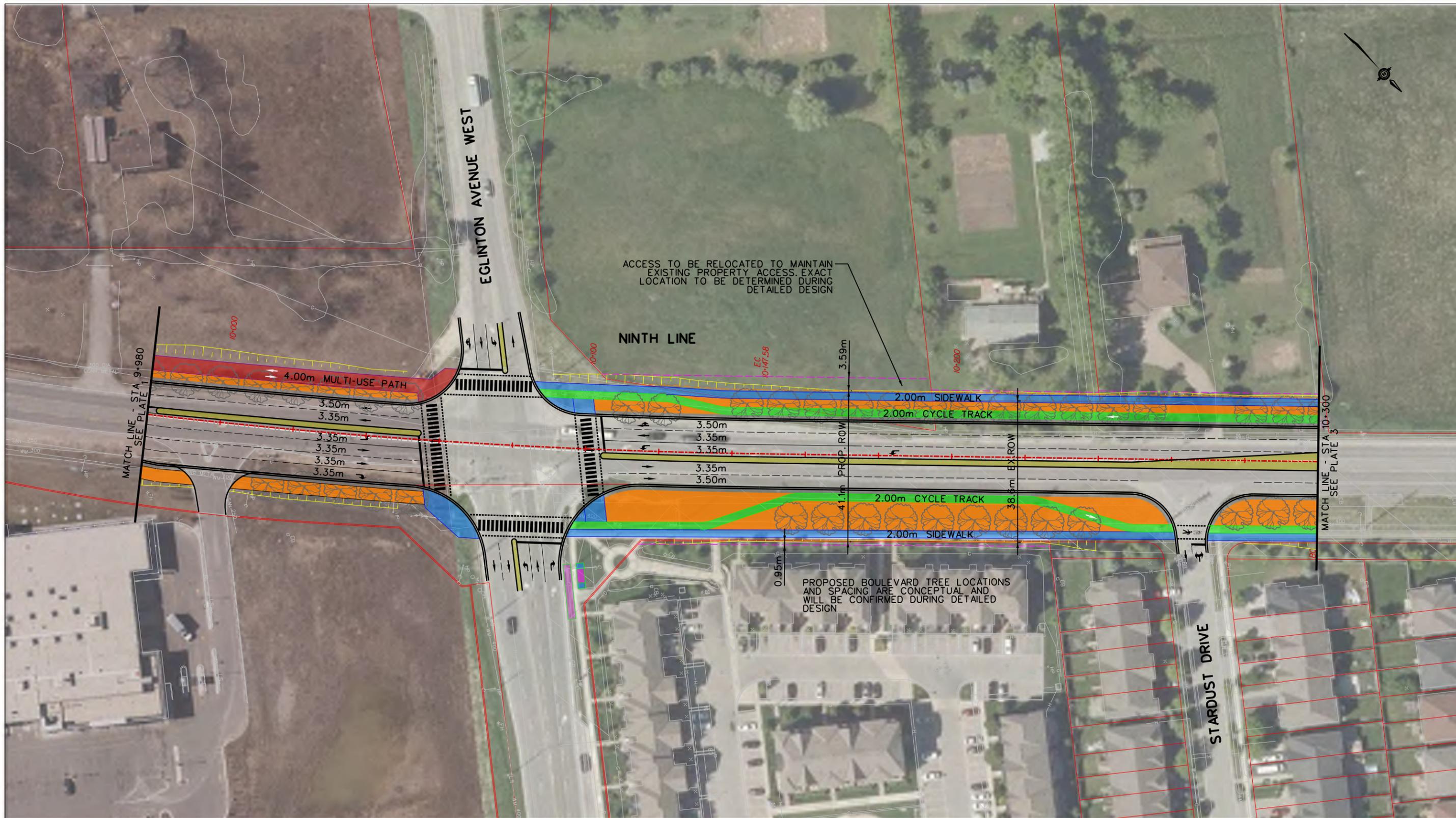
9+754 TO 9+980

PLAN NO.

P-01

SCALE
H 1:1000

DATE
JUNE 2021



NOTE: PROPOSED BOULEVARD TREE LOCATIONS AND SPACING ARE CONCEPTUAL AND WILL BE CONFIRMED DURING DETAILED DESIGN

LEGEND

- - - PROPOSED CENTRELINE
- - - PROPOSED RIGHT-OF-WAY (ROW)
- - - PROPOSED SIDEWALK
- - - PROPOSED CYCLE TRACK
- - - PROPOSED MULTI-USE PATH (MUP)
- - - PROPOSED GRADING LIMIT
- - - PROPOSED GRADING
- - - PROPOSED CURB
- - - PROPOSED DAYLIGHTING
- - - PROPOSED BOULEVARD
- - - PROPOSED BUS STOPS
- - - PROPOSED RAISED MEDIAN
- - - EXISTING CENTRELINE
- - - EXISTING PROPERTY LINE
- - - EXISTING WATERCOURSE



NINTH LINE IMPROVEMENTS
(EGLINTON AVE W TO DERRY RD W)
ENVIRONMENTAL ASSESSMENT
PLAN

9+980 TO 10+300

PLAN NO.

P-02

SCALE

H 1:1000

DATE

JUNE 2021



NOTE: PROPOSED BOULEVARD TREE LOCATIONS AND SPACING ARE CONCEPTUAL AND WILL BE CONFIRMED DURING DETAILED DESIGN

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|-------------------------------|------------------------|------------------------|
| PROPOSED CENTRELINE | PROPOSED GRADING LIMIT | PROPOSED BUS STOPS |
| PROPOSED RIGHT-OF-WAY (ROW) | PROPOSED GRADING | PROPOSED RAISED MEDIAN |
| PROPOSED SIDEWALK | PROPOSED CURB | EXISTING CENTRELINE |
| PROPOSED CYCLE TRACK | PROPOSED DAYLIGHTING | EXISTING PROPERTY LINE |
| PROPOSED MULTI-USE PATH (MUP) | PROPOSED BOULEVARD | EXISTING WATERCOURSE |



NINTH LINE IMPROVEMENTS
(EGLINTON AVE W TO DERRY RD W)
ENVIRONMENTAL ASSESSMENT
PLAN

10+300 TO 10+660

PLAN NO.

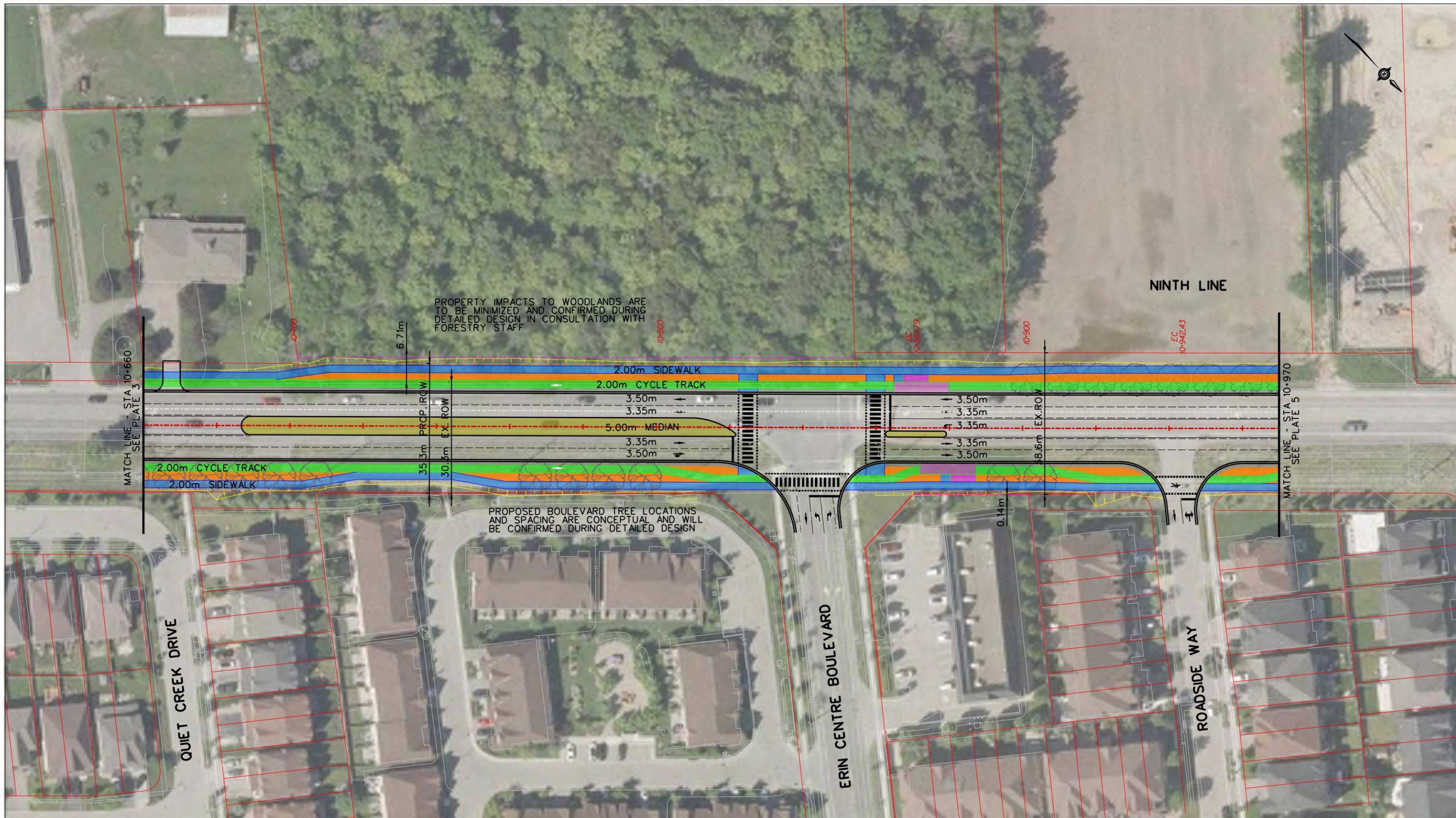
P-03

SCALE

H 1:1000

DATE

JUNE 2021



NOTE: PROPOSED BOULEVARD TREE LOCATIONS AND SPACING ARE CONCEPTUAL AND WILL BE CONFIRMED DURING DETAILED DESIGN

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| PROPOSED CENTRELINE | PROPOSED GRADING LIMIT | PROPOSED BUS STOPS |
| PROPOSED RIGHT-OF-WAY (ROW) | PROPOSED GRADING | PROPOSED RAISED MEDIAN |
| PROPOSED SIDEWALK | PROPOSED CURB | EXISTING CENTRELINE |
| PROPOSED CYCLE TRACK | PROPOSED DAYLIGHTING | EXISTING PROPERTY LINE |
| PROPOSED MULTI-USE PATH (MUP) | PROPOSED BOULEVARD | EXISTING WATERCOURSE |



NINTH LINE IMPROVEMENTS
(EGLINTON AVE W TO DERRY RD W)
ENVIRONMENTAL ASSESSMENT
PLAN

10+660 TO 10+970

PLAN NO.

P-04

SCALE
H 1:1000

DATE
JUNE 2021



NOTE: PROPOSED BOULEVARD TREE LOCATIONS AND SPACING ARE CONCEPTUAL AND WILL BE CONFIRMED DURING DETAILED DESIGN

LEGEND

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| PROPOSED CENTRELINE | PROPOSED GRADING LIMIT | PROPOSED BUS STOPS |
| PROPOSED RIGHT-OF-WAY (ROW) | PROPOSED GRADING | PROPOSED RAISED MEDIAN |
| PROPOSED SIDEWALK | PROPOSED CURB | EXISTING CENTRELINE |
| PROPOSED CYCLE TRACK | PROPOSED DAYLIGHTING | EXISTING PROPERTY LINE |
| PROPOSED MULTI-USE PATH (MUP) | PROPOSED BOULEVARD | EXISTING WATERCOURSE |



NINTH LINE IMPROVEMENTS
(EGLINTON AVE W TO DERRY RD W)
ENVIRONMENTAL ASSESSMENT
PLAN

10+970 TO 11+280

PLAN NO.

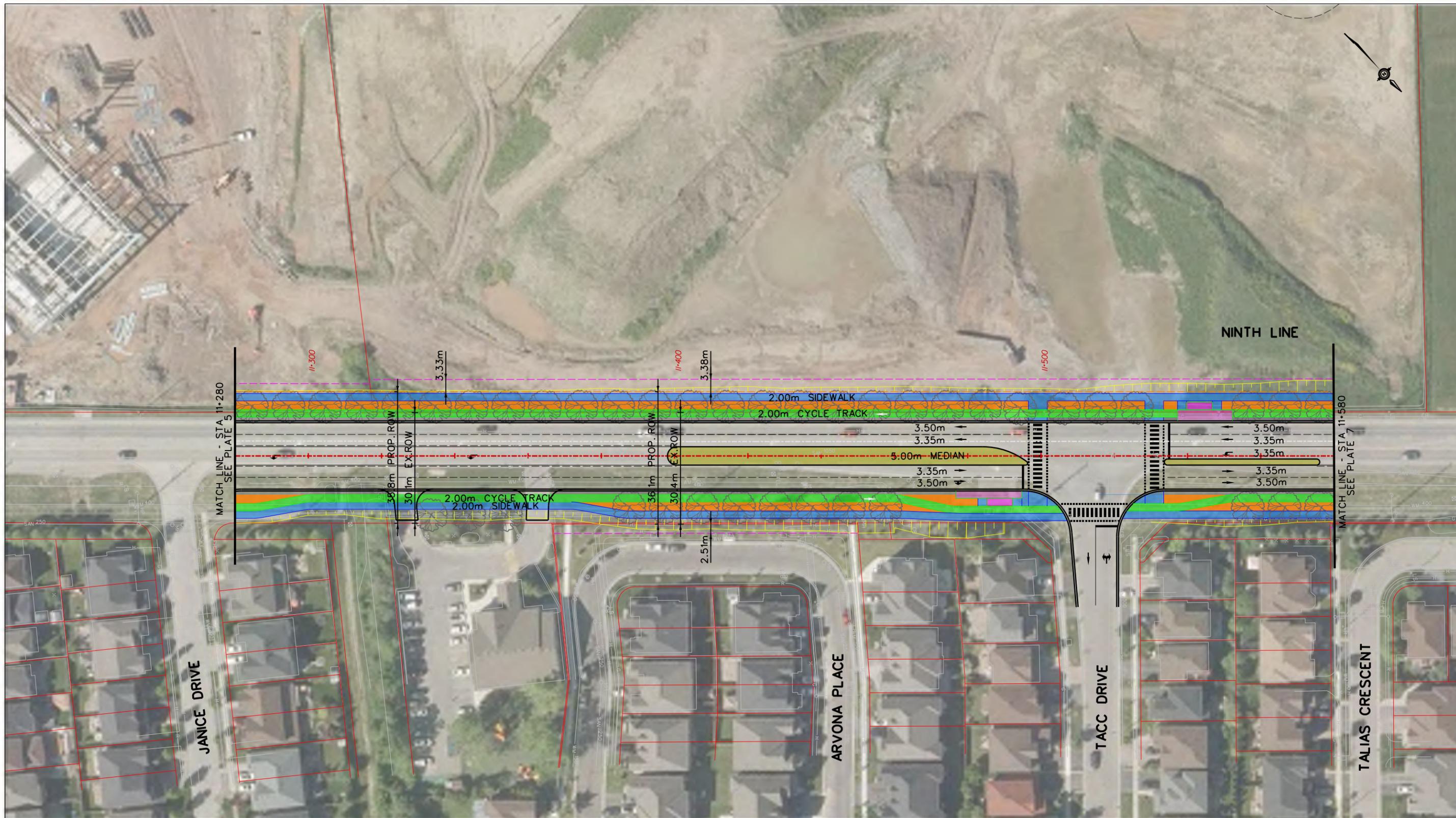
P-05

SCALE

H 1:1000

DATE

JUNE 2021



NOTE: PROPOSED BOULEVARD TREE LOCATIONS AND SPACING ARE CONCEPTUAL AND WILL BE CONFIRMED DURING DETAILED DESIGN

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| PROPOSED CENTRELINE | PROPOSED GRADING LIMIT | PROPOSED BUS STOPS |
| PROPOSED RIGHT-OF-WAY (ROW) | PROPOSED GRADING | PROPOSED RAISED MEDIAN |
| PROPOSED SIDEWALK | PROPOSED CURB | EXISTING CENTRELINE |
| PROPOSED CYCLE TRACK | PROPOSED DAYLIGHTING | EXISTING PROPERTY LINE |
| PROPOSED MULTI-USE PATH (MUP) | PROPOSED BOULEVARD | EXISTING WATERCOURSE |



NINTH LINE IMPROVEMENTS
(EGLINTON AVE W TO DERRY RD W)
ENVIRONMENTAL ASSESSMENT
PLAN

11+280 TO 11+580

PLAN NO.

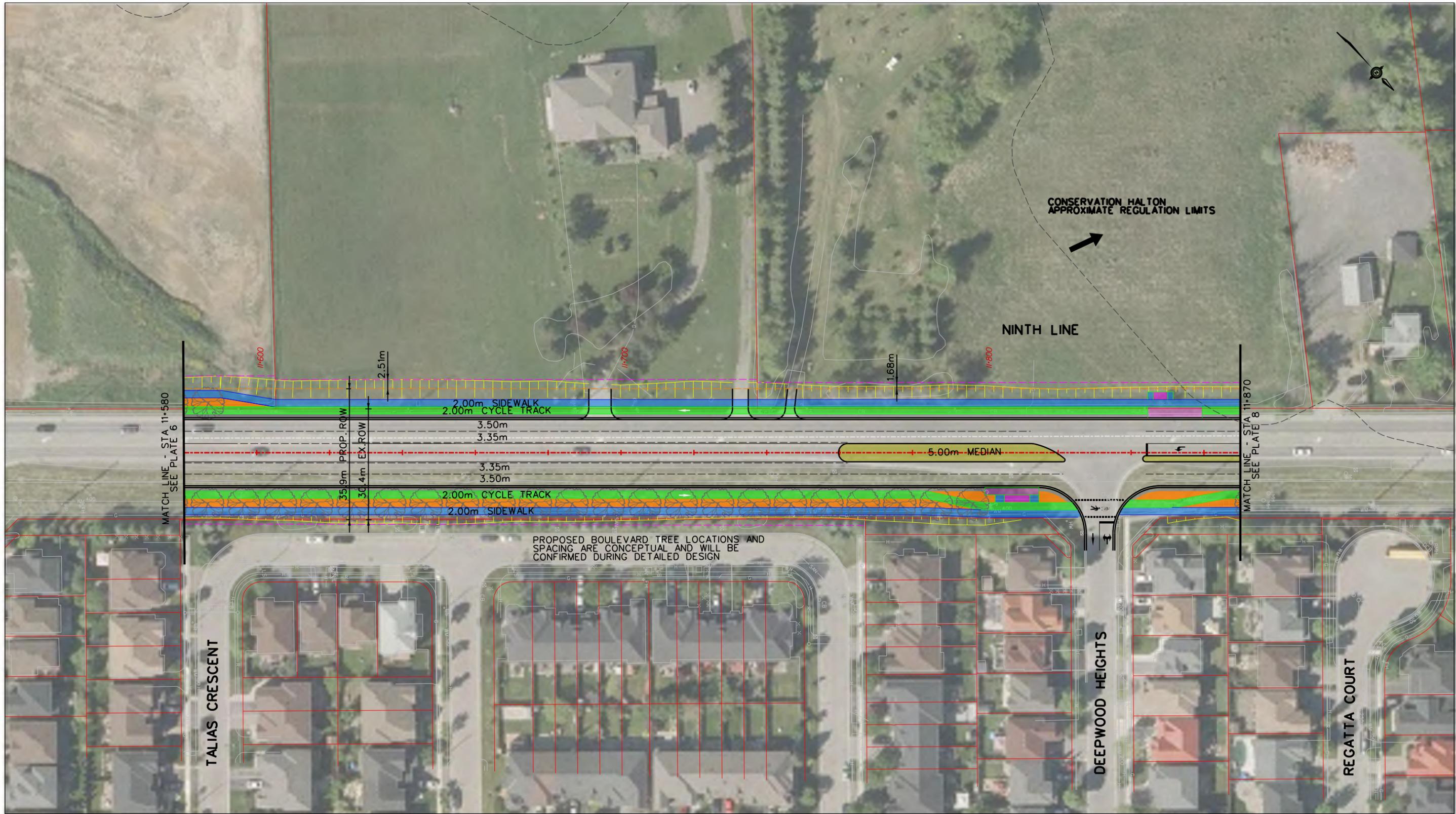
P-06

SCALE

H 1:1000

DATE

JUNE 2021



NOTE: PROPOSED BOULEVARD TREE LOCATIONS AND SPACING ARE CONCEPTUAL AND WILL BE CONFIRMED DURING DETAILED DESIGN

LEGEND

- - - - - PROPOSED CENTRELINE
- - - - - PROPOSED RIGHT-OF-WAY (ROW)
- - - - - PROPOSED SIDEWALK
- - - - - PROPOSED CYCLE TRACK
- - - - - PROPOSED MULTI-USE PATH (MUP)
- - - - - PROPOSED GRADING LIMIT
- - - - - PROPOSED GRADING
- - - - - PROPOSED CURB
- - - - - PROPOSED DAYLIGHTING
- - - - - PROPOSED BOULEVARD
- - - - - PROPOSED BUS STOPS
- - - - - PROPOSED RAISED MEDIAN
- - - - - EXISTING CENTRELINE
- - - - - EXISTING PROPERTY LINE
- - - - - EXISTING WATERCOURSE



NINTH LINE IMPROVEMENTS
(EGLINTON AVE W TO DERRY RD W)
ENVIRONMENTAL ASSESSMENT
PLAN

11+580 TO 11+870

PLAN NO.

P-07

SCALE

H 1:1000

DATE

JUNE 2021



NOTE: PROPOSED BOULEVARD TREE LOCATIONS AND SPACING ARE CONCEPTUAL AND WILL BE CONFIRMED DURING DETAILED DESIGN

LEGEND

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| PROPOSED CENTRELINE | PROPOSED GRADING LIMIT | PROPOSED BUS STOPS |
| PROPOSED RIGHT-OF-WAY (ROW) | PROPOSED GRADING | PROPOSED RAISED MEDIAN |
| PROPOSED SIDEWALK | PROPOSED CURB | EXISTING CENTRELINE |
| PROPOSED CYCLE TRACK | PROPOSED DAYLIGHTING | EXISTING PROPERTY LINE |
| PROPOSED MULTI-USE PATH (MUP) | PROPOSED BOULEVARD | EXISTING WATERCOURSE |



NINTH LINE IMPROVEMENTS
(EGLINTON AVE W TO DERRY RD W)
ENVIRONMENTAL ASSESSMENT
PLAN

11+870 TO 12+250

PLAN NO.

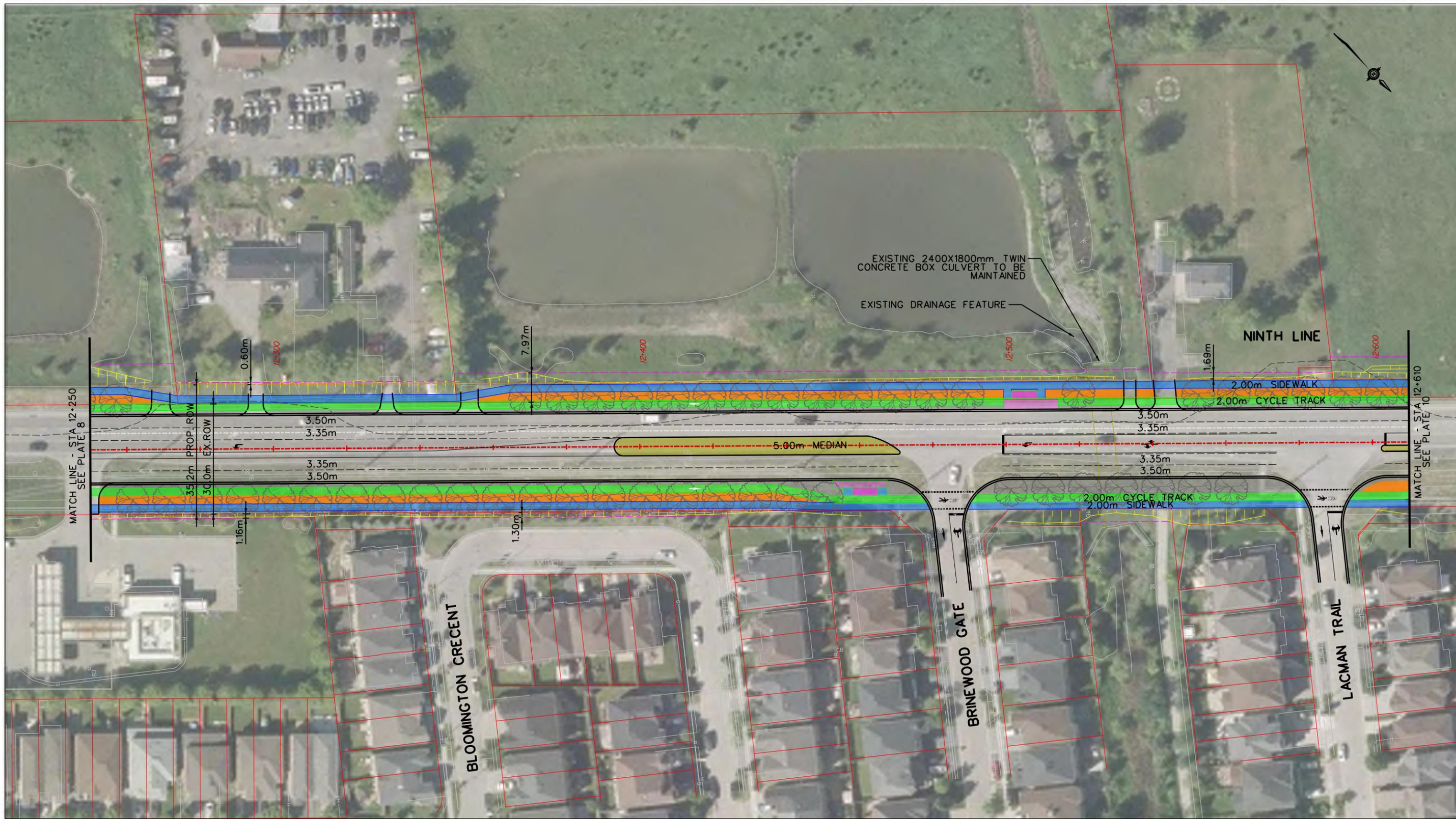
P-08

SCALE

H 1:1000

DATE

JUNE 2021



NOTE: PROPOSED BOULEVARD TREE LOCATIONS AND SPACING ARE CONCEPTUAL AND WILL BE CONFIRMED DURING DETAILED DESIGN

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| PROPOSED RIGHT-OF-WAY (ROW) | PROPOSED GRADING | PROPOSED RAISED MEDIAN |
| PROPOSED SIDEWALK | PROPOSED CURB | EXISTING CENTRELINE |
| PROPOSED CYCLE TRACK | PROPOSED DAYLIGHTING | EXISTING PROPERTY LINE |
| PROPOSED MULTI-USE PATH (MUP) | PROPOSED BOULEVARD | EXISTING WATERCOURSE |



NINTH LINE IMPROVEMENTS
(EGLINTON AVE W TO DERRY RD W)
ENVIRONMENTAL ASSESSMENT
PLAN

12+250 TO 12+610

PLAN NO.

P-09

SCALE
H 1:1000

DATE
JUNE 2021



NOTE: PROPOSED BOULEVARD TREE LOCATIONS AND SPACING ARE CONCEPTUAL AND WILL BE CONFIRMED DURING DETAILED DESIGN

LEGEND

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| PROPOSED CENTRELINE | PROPOSED GRADING LIMIT | PROPOSED BUS STOPS |
| PROPOSED RIGHT-OF-WAY (ROW) | PROPOSED GRADING | PROPOSED RAISED MEDIAN |
| PROPOSED SIDEWALK | PROPOSED CURB | EXISTING CENTRELINE |
| PROPOSED CYCLE TRACK | PROPOSED DAYLIGHTING | EXISTING PROPERTY LINE |
| PROPOSED MULTI-USE PATH (MUP) | PROPOSED BOULEVARD | EXISTING WATERCOURSE |



NINTH LINE IMPROVEMENTS
(EGLINTON AVE W TO DERRY RD W)
ENVIRONMENTAL ASSESSMENT
PLAN

12+610 TO 12+990

PLAN NO.

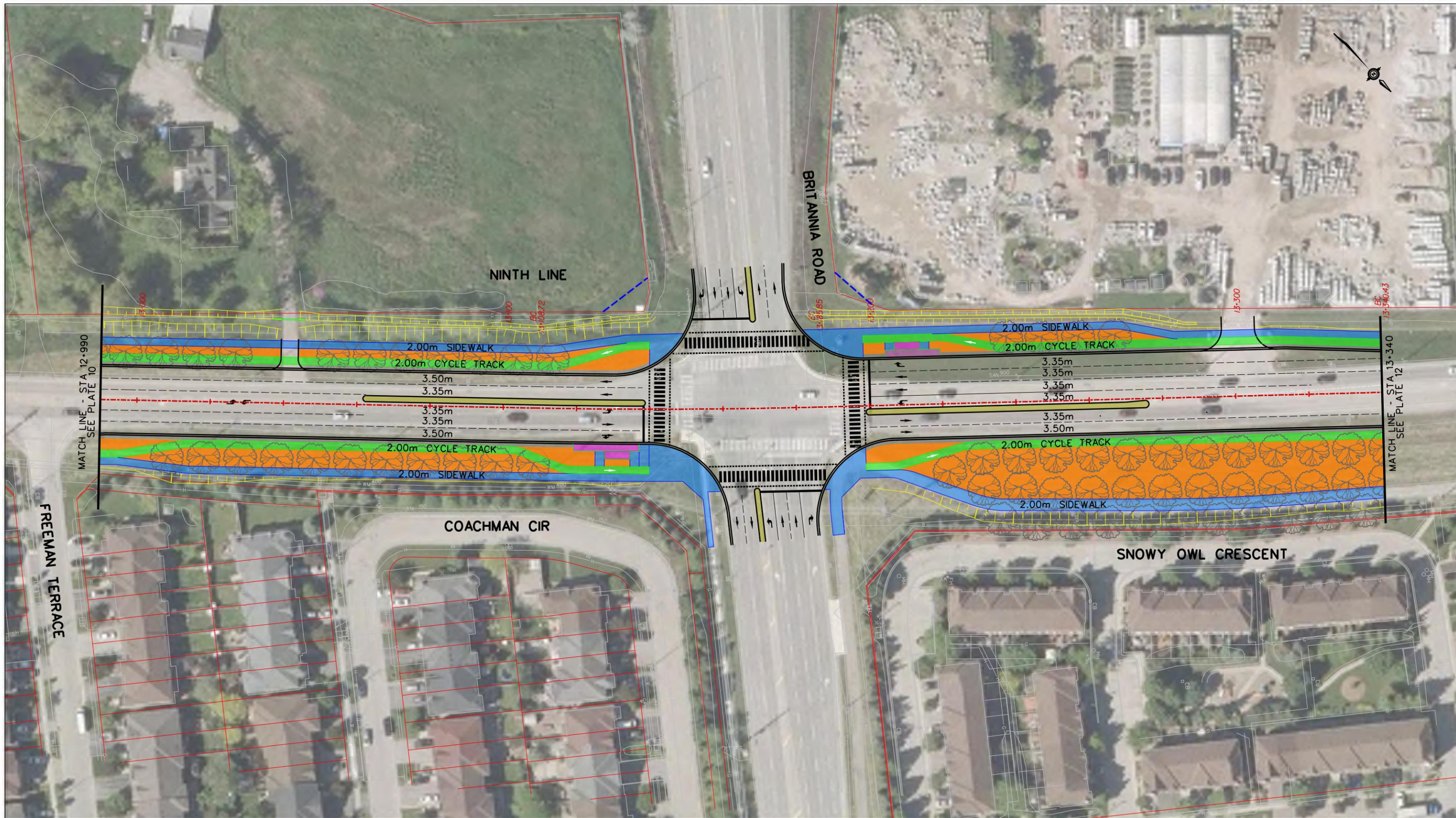
P-10

SCALE

H 1:1000

DATE

JUNE 2021



NOTE: PROPOSED BOULEVARD TREE LOCATIONS AND SPACING ARE CONCEPTUAL AND WILL BE CONFIRMED DURING DETAILED DESIGN

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| PROPOSED CENTRELINE | PROPOSED GRADING LIMIT | PROPOSED BUS STOPS |
| PROPOSED RIGHT-OF-WAY (ROW) | PROPOSED GRADING | PROPOSED RAISED MEDIAN |
| PROPOSED SIDEWALK | PROPOSED CURB | EXISTING CENTRELINE |
| PROPOSED CYCLE TRACK | PROPOSED DAYLIGHTING | EXISTING PROPERTY LINE |
| PROPOSED MULTI-USE PATH (MUP) | PROPOSED BOULEVARD | EXISTING WATERCOURSE |



NINTH LINE IMPROVEMENTS
(EGLINTON AVE W TO DERRY RD W)
ENVIRONMENTAL ASSESSMENT
PLAN

12+990 TO 13+340

PLAN NO.

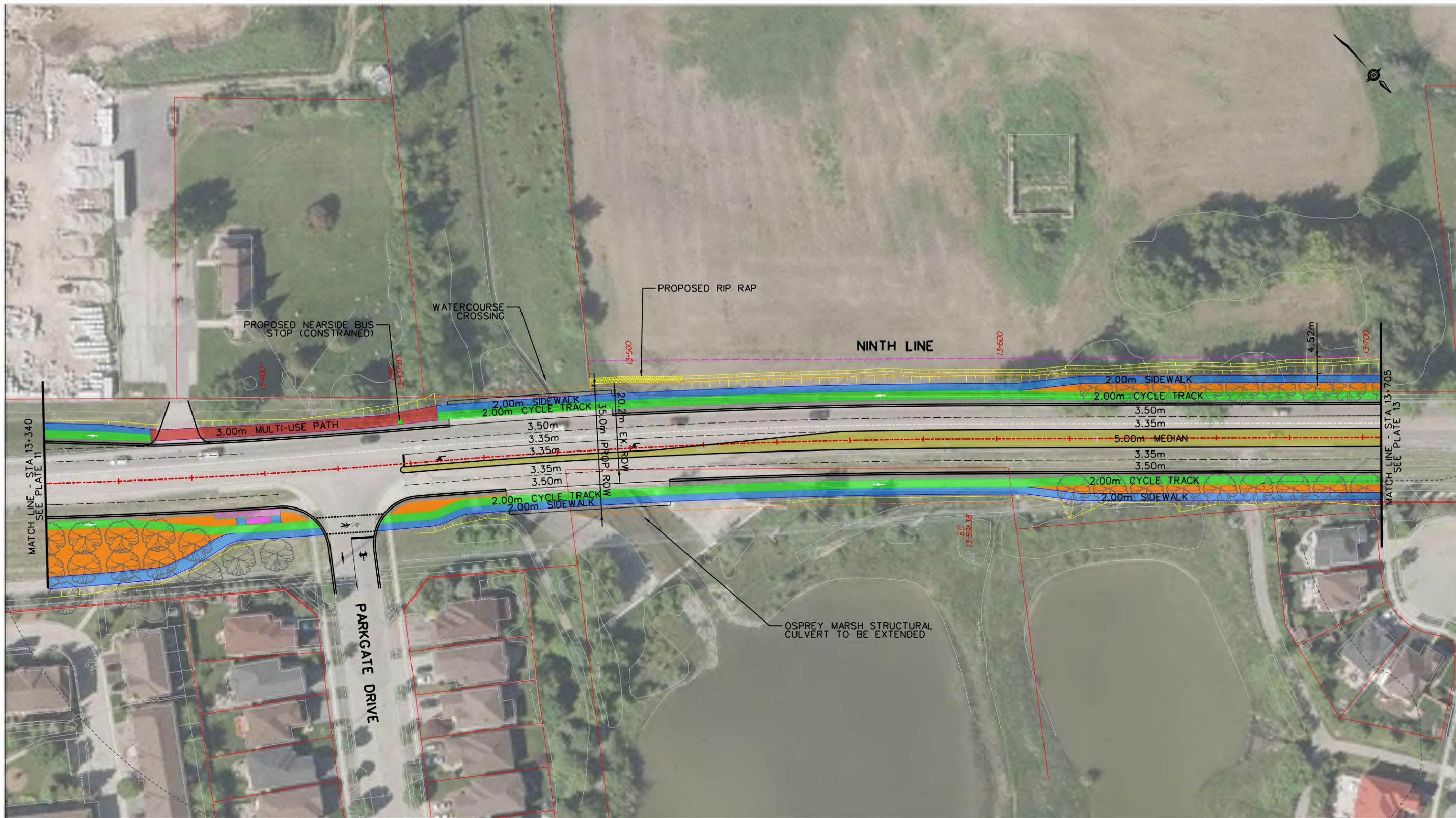
P-11

SCALE

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DATE

JUNE 2021



NOTE: PROPOSED BOULEVARD TREE LOCATIONS AND SPACING ARE CONCEPTUAL AND WILL BE CONFIRMED DURING DETAILED DESIGN

LEGEND

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| PROPOSED CENTRELINE | PROPOSED GRADING LIMIT | PROPOSED BUS STOPS |
| PROPOSED RIGHT-OF-WAY (ROW) | PROPOSED GRADING | PROPOSED RAISED MEDIAN |
| PROPOSED SIDEWALK | PROPOSED CURB | EXISTING CENTRELINE |
| PROPOSED CYCLE TRACK | PROPOSED DAYLIGHTING | EXISTING PROPERTY LINE |
| PROPOSED MULTI-USE PATH (MUP) | PROPOSED BOULEVARD | EXISTING WATERCOURSE |



NINTH LINE IMPROVEMENTS
(EGLINTON AVE W TO DERRY RD W)
ENVIRONMENTAL ASSESSMENT
PLAN

13+340 TO 13+705

PLAN NO.

P-12

SCALE

H 1:1000

DATE

JUNE 2021



NOTE: PROPOSED BOULEVARD TREE LOCATIONS AND SPACING ARE CONCEPTUAL AND WILL BE CONFIRMED DURING DETAILED DESIGN

LEGEND

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| PROPOSED CENTRELINE | PROPOSED GRADING LIMIT | PROPOSED BUS STOPS |
| PROPOSED RIGHT-OF-WAY (ROW) | PROPOSED GRADING | PROPOSED RAISED MEDIAN |
| PROPOSED SIDEWALK | PROPOSED CURB | EXISTING CENTRELINE |
| PROPOSED CYCLE TRACK | PROPOSED DAYLIGHTING | EXISTING PROPERTY LINE |
| PROPOSED MULTI-USE PATH (MUP) | PROPOSED BOULEVARD | EXISTING WATERCOURSE |



NINTH LINE IMPROVEMENTS
(EGLINTON AVE W TO DERRY RD W)
ENVIRONMENTAL ASSESSMENT
PLAN

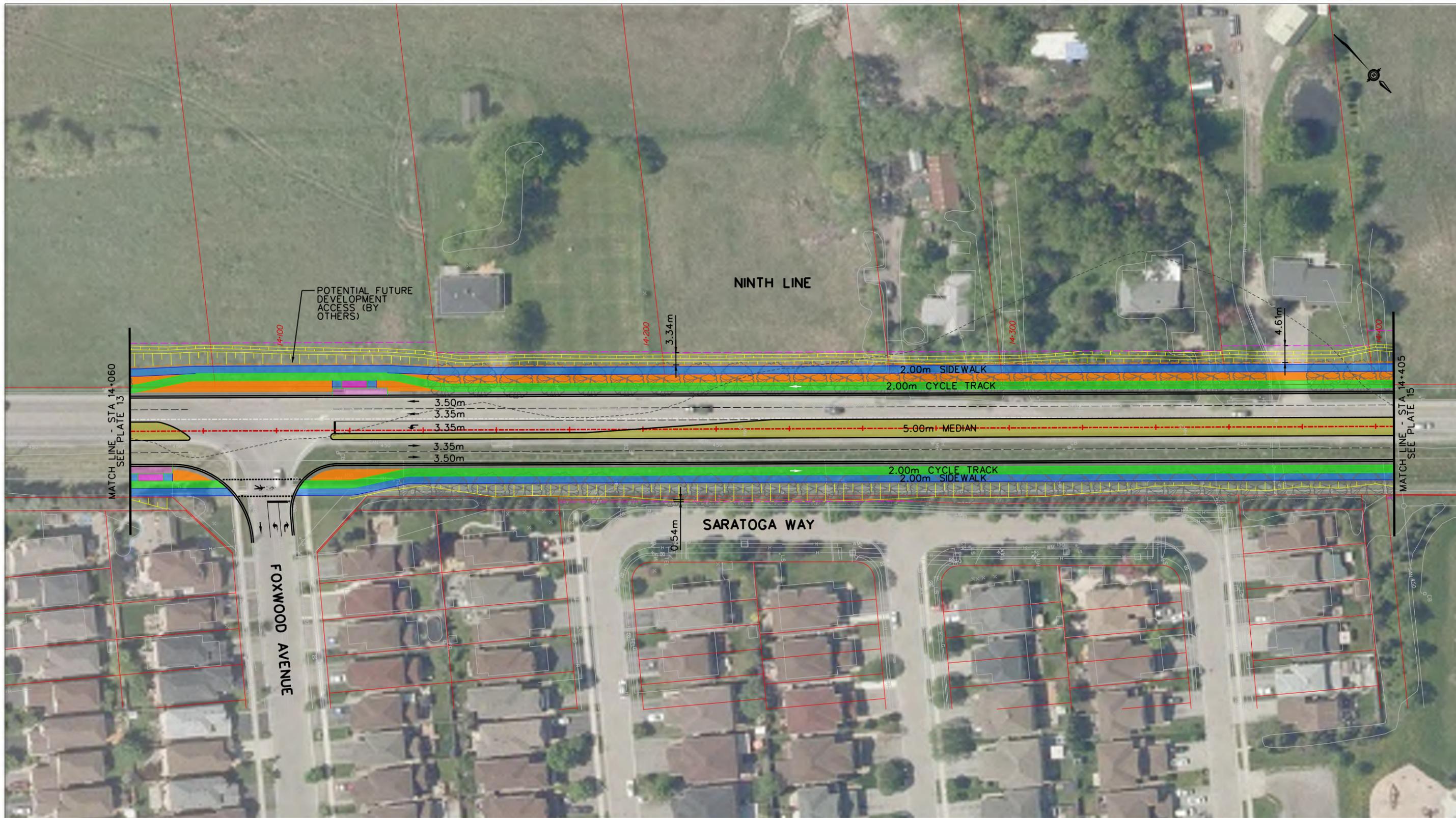
13+705 TO 14+060

PLAN NO.

P-13

SCALE
H 1:1000

DATE
JUNE 2021



NOTE: PROPOSED BOULEVARD TREE LOCATIONS AND SPACING ARE CONCEPTUAL AND WILL BE CONFIRMED DURING DETAILED DESIGN

LEGEND

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| PROPOSED CENTRELINE | PROPOSED GRADING LIMIT | PROPOSED BUS STOPS |
| PROPOSED RIGHT-OF-WAY (ROW) | PROPOSED GRADING | PROPOSED RAISED MEDIAN |
| PROPOSED SIDEWALK | PROPOSED CURB | EXISTING CENTRELINE |
| PROPOSED CYCLE TRACK | PROPOSED DAYLIGHTING | EXISTING PROPERTY LINE |
| PROPOSED MULTI-USE PATH (MUP) | PROPOSED BOULEVARD | EXISTING WATERCOURSE |



NINTH LINE IMPROVEMENTS
(EGLINTON AVE W TO DERRY RD W)
ENVIRONMENTAL ASSESSMENT
PLAN

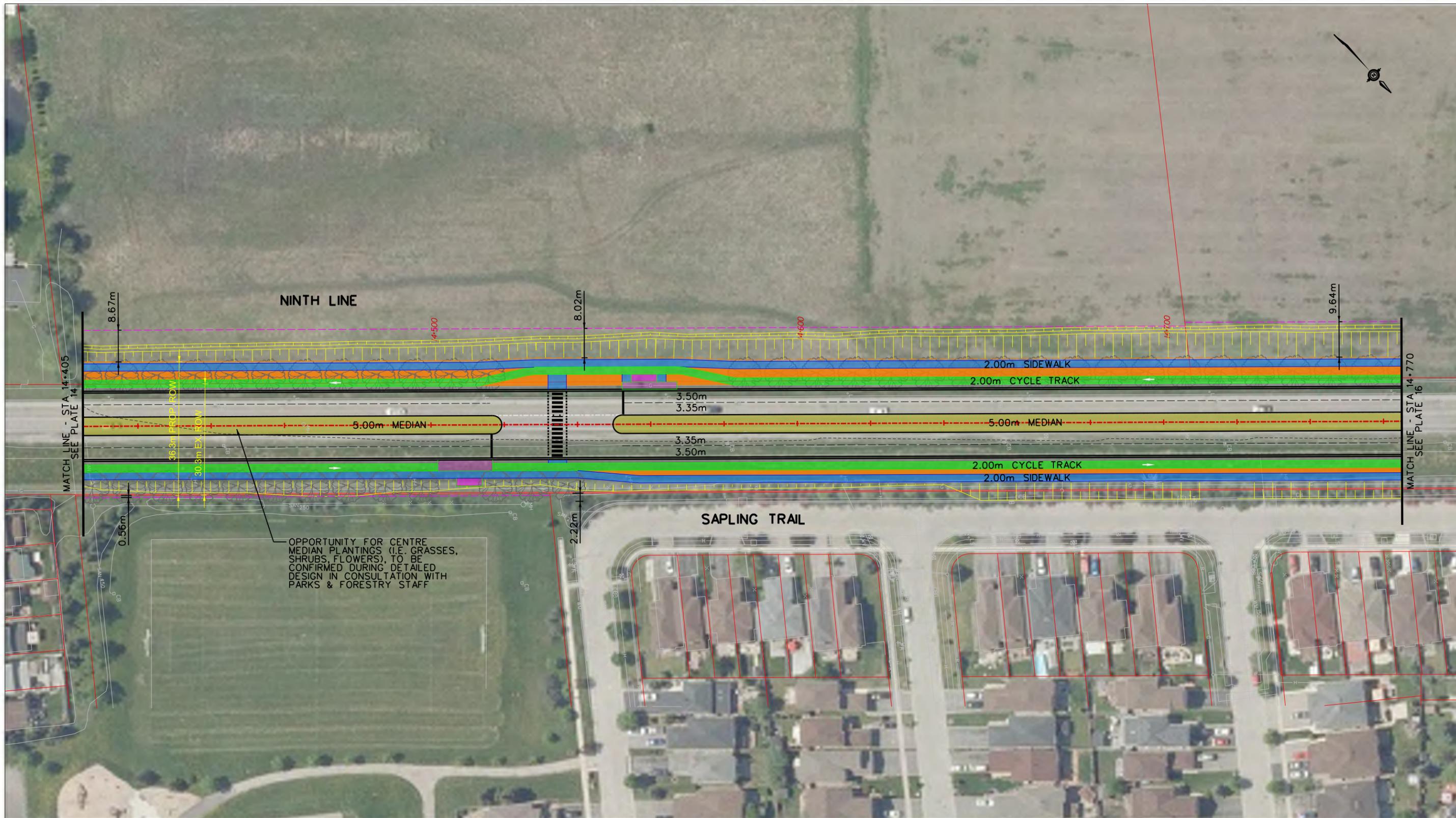
14+060 TO 14+405

PLAN NO.

P-14

SCALE
H 1:1000

DATE
JUNE 2021



NOTE: PROPOSED BOULEVARD TREE LOCATIONS AND SPACING ARE CONCEPTUAL AND WILL BE CONFIRMED DURING DETAILED DESIGN

LEGEND

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|-------------------------------|------------------------|------------------------|
| PROPOSED CENTRELINE | PROPOSED GRADING LIMIT | PROPOSED BUS STOPS |
| PROPOSED RIGHT-OF-WAY (ROW) | PROPOSED GRADING | PROPOSED RAISED MEDIAN |
| PROPOSED SIDEWALK | PROPOSED CURB | EXISTING CENTRELINE |
| PROPOSED CYCLE TRACK | PROPOSED DAYLIGHTING | EXISTING PROPERTY LINE |
| PROPOSED MULTI-USE PATH (MUP) | PROPOSED BOULEVARD | EXISTING WATERCOURSE |



NINTH LINE IMPROVEMENTS
(EGLINTON AVE W TO DERRY RD W)
ENVIRONMENTAL ASSESSMENT
PLAN

14+405 TO 14+770

PLAN NO.

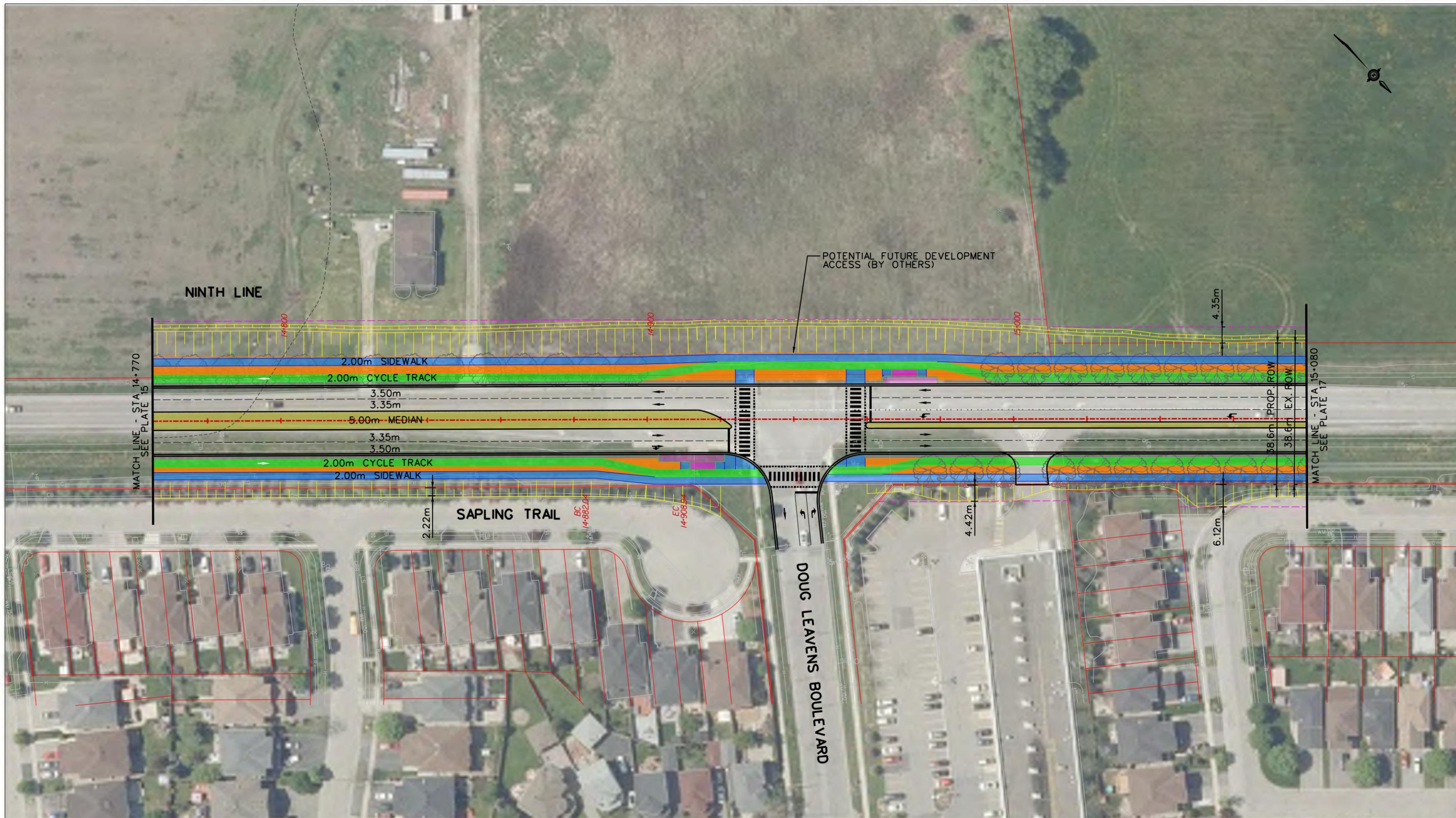
P-15

SCALE

H 1:1000

DATE

JUNE 2021



NOTE: PROPOSED BOULEVARD TREE LOCATIONS AND SPACING ARE CONCEPTUAL AND WILL BE CONFIRMED DURING DETAILED DESIGN

LEGEND

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|-------------------------------|------------------------|------------------------|
| PROPOSED CENTRELINE | PROPOSED GRADING LIMIT | PROPOSED BUS STOPS |
| PROPOSED RIGHT-OF-WAY (ROW) | PROPOSED GRADING | PROPOSED RAISED MEDIAN |
| PROPOSED SIDEWALK | PROPOSED CURB | EXISTING CENTRELINE |
| PROPOSED CYCLE TRACK | PROPOSED DAYLIGHTING | EXISTING PROPERTY LINE |
| PROPOSED MULTI-USE PATH (MUP) | PROPOSED BOULEVARD | EXISTING WATERCOURSE |



NINTH LINE IMPROVEMENTS
(EGLINTON AVE W TO DERRY RD W)
ENVIRONMENTAL ASSESSMENT
PLAN

14+770 TO 15+080

PLAN NO.

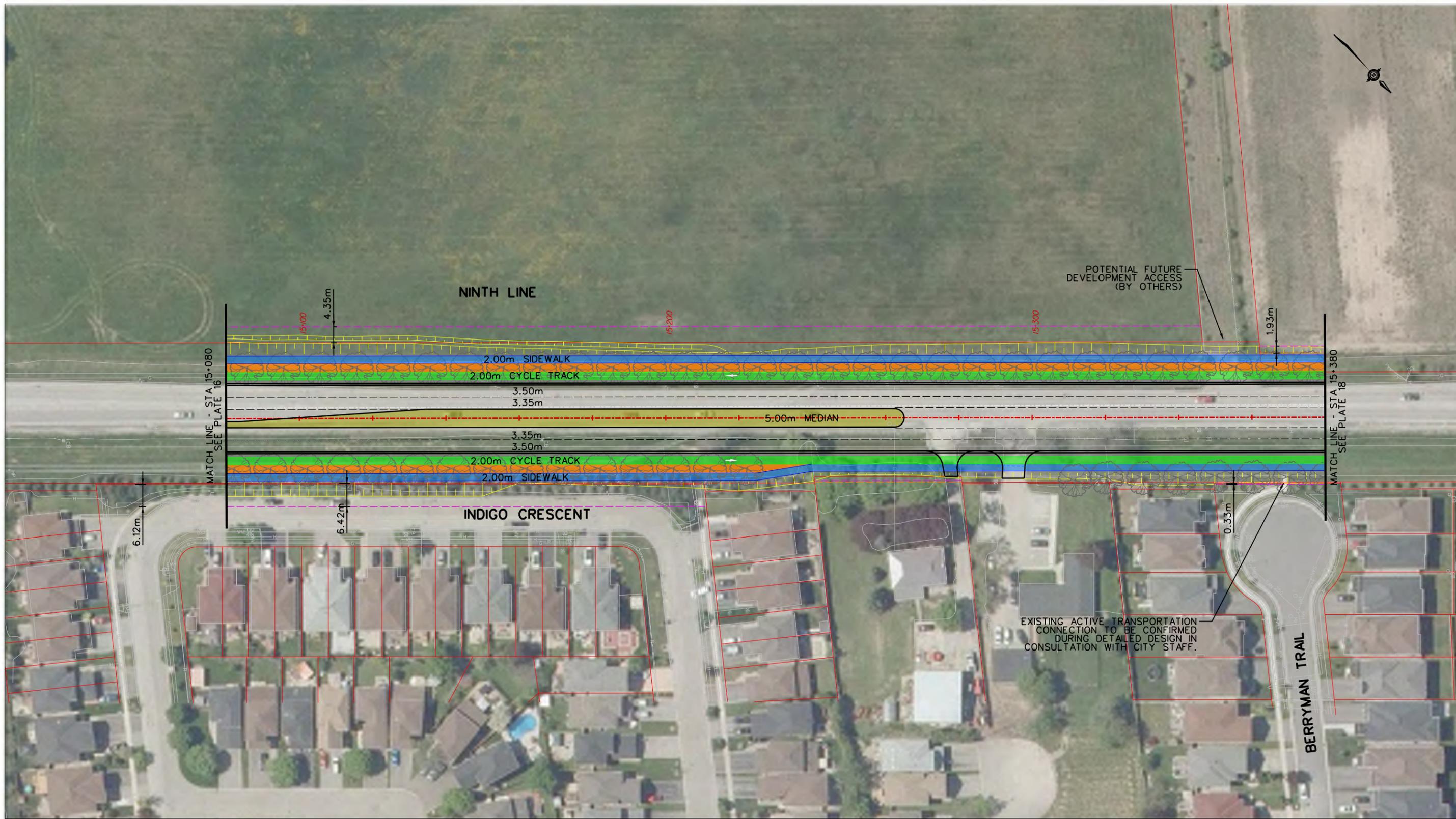
P-16

SCALE

H 1:1000

DATE

JUNE 2021



NOTE: PROPOSED BOULEVARD TREE LOCATIONS AND SPACING ARE CONCEPTUAL AND WILL BE CONFIRMED DURING DETAILED DESIGN

LEGEND

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| PROPOSED CENTRELINE | PROPOSED GRADING LIMIT | PROPOSED BUS STOPS |
| PROPOSED RIGHT-OF-WAY (ROW) | PROPOSED GRADING | PROPOSED RAISED MEDIAN |
| PROPOSED SIDEWALK | PROPOSED CURB | EXISTING CENTRELINE |
| PROPOSED CYCLE TRACK | PROPOSED DAYLIGHTING | EXISTING PROPERTY LINE |
| PROPOSED MULTI-USE PATH (MUP) | PROPOSED BOULEVARD | EXISTING WATERCOURSE |



NINTH LINE IMPROVEMENTS
(EGLINTON AVE W TO DERRY RD W)
ENVIRONMENTAL ASSESSMENT
PLAN

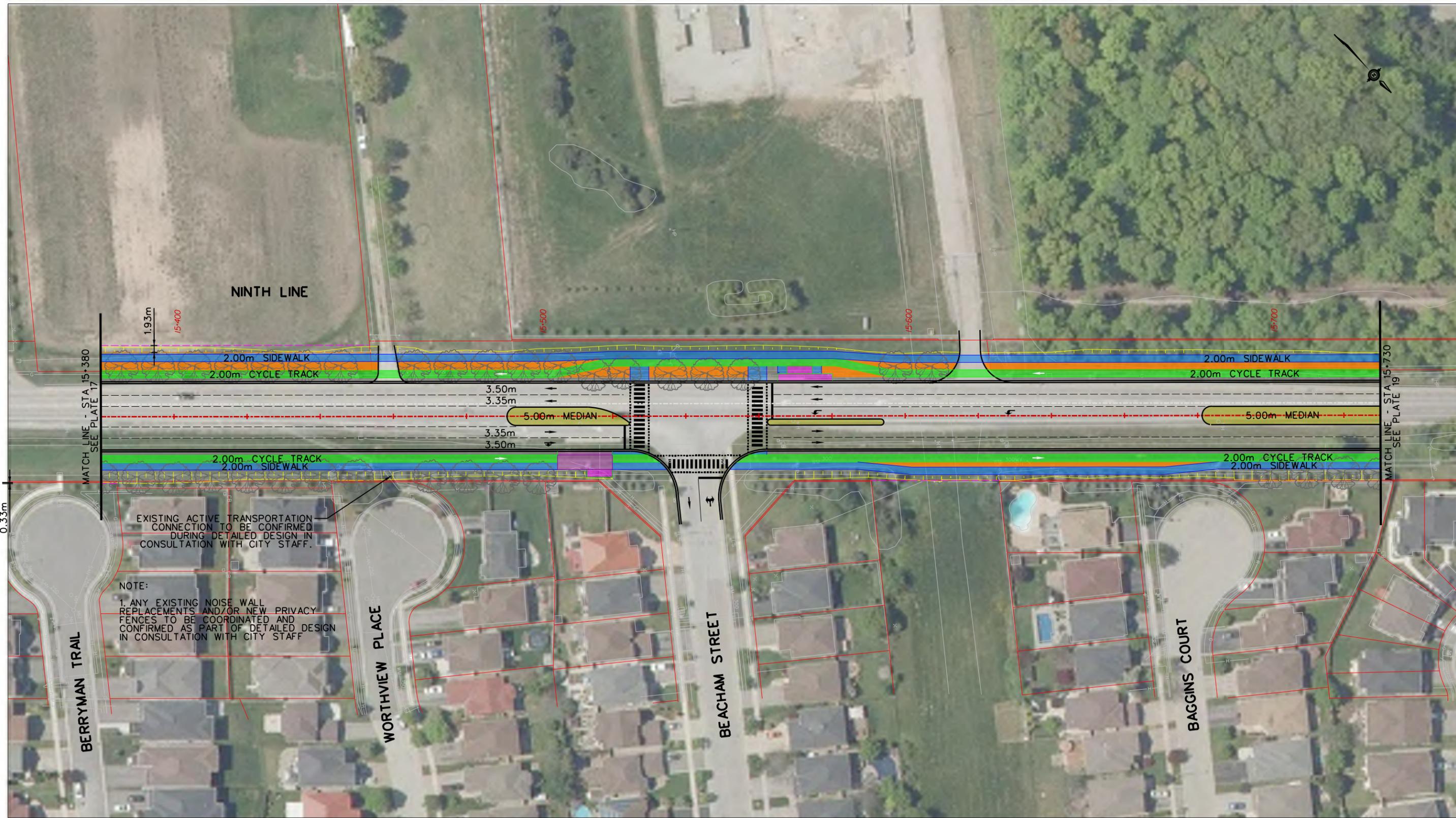
15+080 TO 15+380

PLAN NO.

P-17

SCALE
H 1:1000

DATE
JUNE 2021

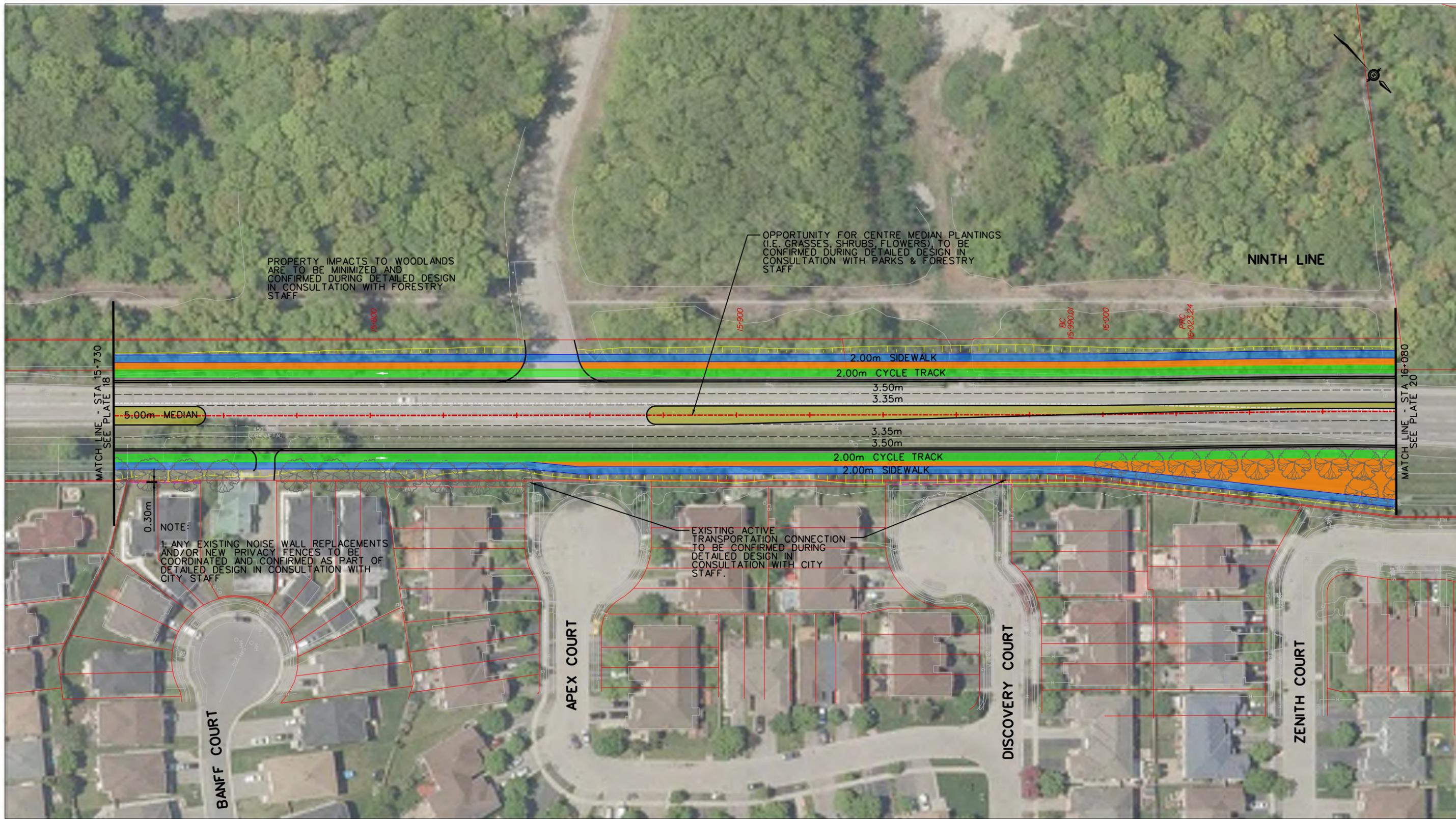


NOTE: PROPOSED BOULEVARD TREE LOCATIONS AND SPACING ARE CONCEPTUAL AND WILL BE CONFIRMED DURING DETAILED DESIGN

LEGEND			
	PROPOSED CENTRELINE		PROPOSED BUS STOPS
	PROPOSED RIGHT-OF-WAY (ROW)		PROPOSED RAISED MEDIAN
	PROPOSED SIDEWALK		EXISTING CENTRELINE
	PROPOSED CYCLE TRACK		EXISTING PROPERTY LINE
	PROPOSED MULTI-USE PATH (MUP)		EXISTING WATERCOURSE
	PROPOSED GRADING LIMIT		
	PROPOSED GRADING		
	PROPOSED CURB		
	PROPOSED DAYLIGHTING		
	PROPOSED BOULEVARD		

	PLAN NO. P-18
	SCALE H 1:1000
	DATE JUNE 2021

NINTH LINE IMPROVEMENTS
 (EGLINTON AVE W TO DERRY RD W)
 ENVIRONMENTAL ASSESSMENT
 PLAN
 15+380 TO 15+730



NOTE: PROPOSED BOULEVARD TREE LOCATIONS AND SPACING ARE CONCEPTUAL AND WILL BE CONFIRMED DURING DETAILED DESIGN

LEGEND					
	PROPOSED CENTRELINE		PROPOSED GRADING LIMIT		PROPOSED BUS STOPS
	PROPOSED RIGHT-OF-WAY (ROW)		PROPOSED GRADING		PROPOSED RAISED MEDIAN
	PROPOSED SIDEWALK		PROPOSED CURB		EXISTING CENTRELINE
	PROPOSED CYCLE TRACK		PROPOSED DAYLIGHTING		EXISTING PROPERTY LINE
	PROPOSED MULTI-USE PATH (MUP)		PROPOSED BOULEVARD		EXISTING WATERCOURSE



NINTH LINE IMPROVEMENTS
(EGLINTON AVE W TO DERRY RD W)
ENVIRONMENTAL ASSESSMENT
PLAN

15+730 TO 16+080

PLAN NO.

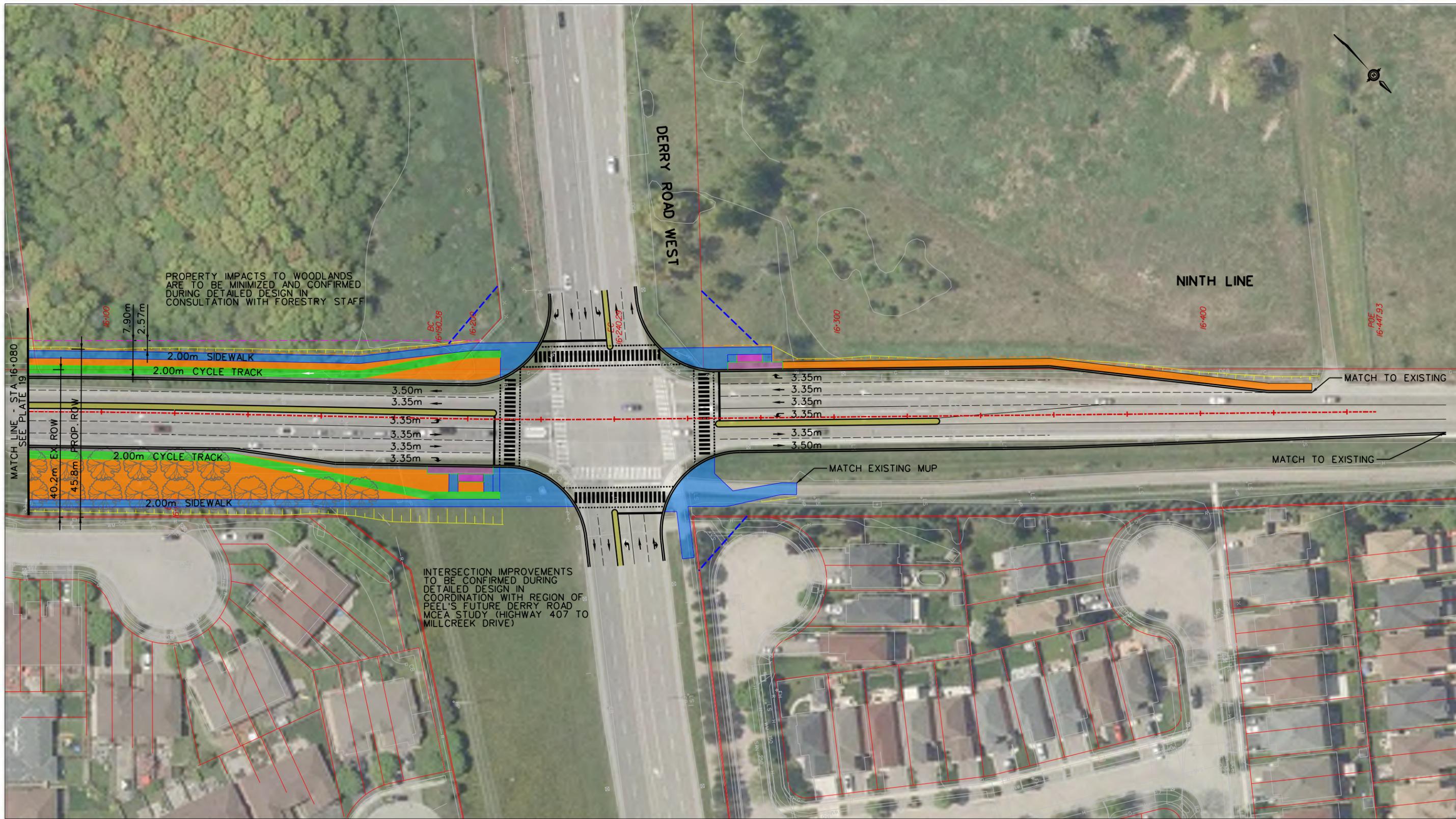
P-19

SCALE

H 1:1000

DATE

JUNE 2021



NOTE: PROPOSED BOULEVARD TREE LOCATIONS AND SPACING ARE CONCEPTUAL AND WILL BE CONFIRMED DURING DETAILED DESIGN

LEGEND

- | | | |
|-------------------------------|------------------------|------------------------|
| PROPOSED CENTRELINE | PROPOSED GRADING LIMIT | PROPOSED BUS STOPS |
| PROPOSED RIGHT-OF-WAY (ROW) | PROPOSED GRADING | PROPOSED RAISED MEDIAN |
| PROPOSED SIDEWALK | PROPOSED CURB | EXISTING CENTRELINE |
| PROPOSED CYCLE TRACK | PROPOSED DAYLIGHTING | EXISTING PROPERTY LINE |
| PROPOSED MULTI-USE PATH (MUP) | PROPOSED BOULEVARD | EXISTING WATERCOURSE |



NINTH LINE IMPROVEMENTS
(EGLINTON AVE W TO DERRY RD W)
ENVIRONMENTAL ASSESSMENT
PLAN

16+080 TO 16+448

PLAN NO.

P-20

SCALE

H 1:1000

DATE

JUNE 2021