



## 4 Description of the Undertaking

This section provides a general description of the Webequie Supply Road Project (“the undertaking”). The project description provided in this ToR represents a “Base Case” or preliminary description of the Project. A more detailed description of the undertaking will be provided in the EA. The description within the EA will be sufficiently detailed to enable the identification and assessment of potential effects for the construction and operation phases of the Project.

The Project consists of a new all-season road of approximately 107 km in length from WFN to the mineral deposit development area near McFaulds Lake (refer to **Figure 1.1**).

The proposed preliminary corridor for the all-season road consists of a northwest-southeast segment running 51 km from the Webequie First Nation community to a 56 km segment running east before terminating near McFaulds Lake. A total of 17 km of the road corridor is within the Webequie First Nation Reserve lands. The preliminary preferred corridor for the Project for the purposes of the EA and consideration of routing alternatives is approximately 2 km in width, as shown in **Figure 4.1**. Section 5 of this ToR (Description of and Rationale for Alternatives) describes how the proposed preliminary corridor was identified.

A corridor of 35 metres (m) in width, within the broader 2 km wide proposed preliminary corridor, is proposed for the Project to accommodate a permanent two (2)-lane gravel surface all-season road. Waterbody crossing structures, aggregate extraction and processing areas, construction camps and storage and laydown yards form part of the project components and are discussed further in this section.



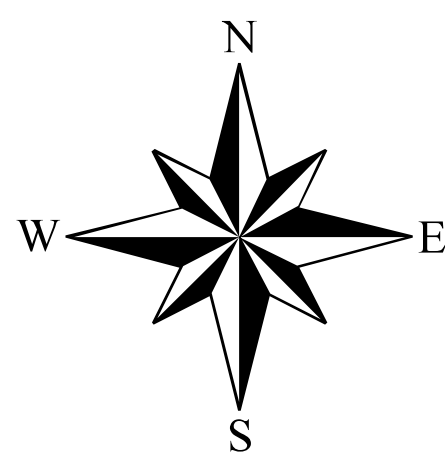
# Webequie Supply Road

Figure 4.1  
Preliminary Preferred Corridor Resulting from Additional Webequie Community Engagement



Proposed Mining Development

Preliminary Preferred Corridor for Webequie Supply Road



0 2 4 6 8 km  
Coordinate System: NAD 1983 Ontario MNR Lambert  
Projection: Lambert Conformal Conic  
Datum: North American 1983





## 4.1 Design Considerations and Criteria

Design considerations will be incorporated and evaluated in the EA, and will be aligned with the purpose of the Project. Alternative design considerations, such as those involving waterbody crossing structure types (i.e., culverts, bridges) and span lengths, road alignment and aggregate extraction areas will be evaluated based on site-specific environmental, technical and cost considerations, with input from Indigenous communities (e.g., Indigenous Knowledge), government agencies, the public and stakeholders. Further discussion on design alternatives for consideration, and the approach for their evaluation, is included in Sections 5 and 8 of this ToR.

Changes to the project design may be made to accommodate Indigenous community, government agency, public or stakeholder concerns, such as protection/avoidance of cultural or spiritual significant sites, sensitive traditional land use areas (e.g., hunting, gathering, trapping, etc.) and environmental features of importance that include, among others: Environmentally Sensitive Areas (ESAs), waterbodies, wetlands, rare vegetation communities or Significant Wildlife Habitat (SWH). WFN will document how design decisions were made in the context of the issues raised by other First Nation communities, provincial/federal agencies, the public and stakeholders.

Basic elements to be included in the road design, or that may be considered to mitigate potential environmental effects, include:

- › Structure types (i.e., culverts, bridges), span length, lifecycle, and construction staging methods at waterbody crossings;
- › Road attributes, including horizontal alignment, vertical alignment (elevation/profile) and adjustments to the cross-section and right-of-way (ROW) width of the corridor;
- › Alternative sites for supportive infrastructure (i.e., temporary laydown and storage areas, construction camps, including access roads to these areas);
- › Alternative sites for temporary and/or permanent aggregate extraction pits and production facilities needed for construction and operation of the road, including access roads to these sites; and
- › Construction timing (seasonal) and staging along the ROW to minimize potential effects on the natural environment and traditional Indigenous land and resource use.

### 4.1.1 Preliminary Design Criteria

For the purposes of developing the preliminary design criteria for the WSR, a relatively low Annual Average Daily Traffic (AADT) volume of less than 500 vehicles has been assumed for the Project. The design standards for the WSR with respect to vertical curvature, maximum grade and minimum road shoulder width will adhere to those established by the Ministry of Transportation of Ontario (MTO) for provincial highways. The design speed for the WSR is 100 km/h, with an anticipated posted speed limit of 80 km/h.

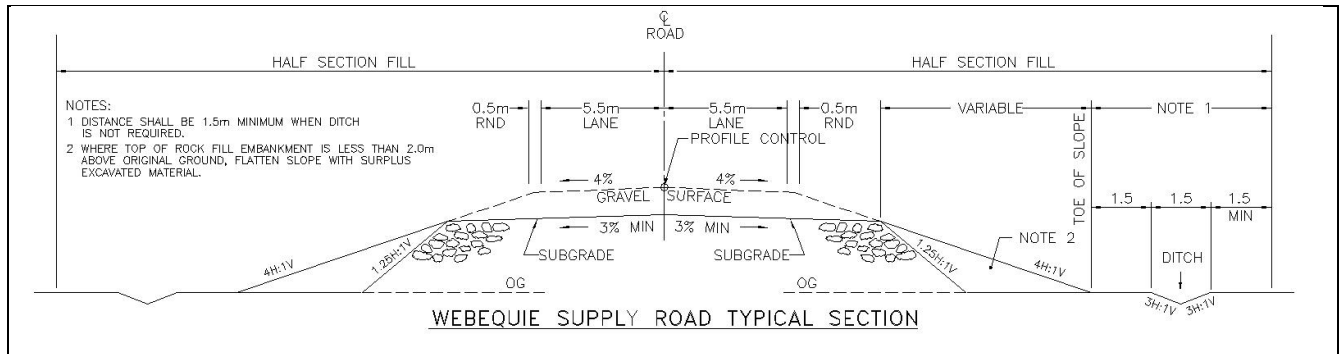
The road will be gravel surfaced, including shoulders, with material from aggregate source areas that have suitable sand and gravel deposits (e.g., eskers). The design of the underlying subgrade material and its depth below the granular surface of the road will have consideration for the typical vehicle types (e.g., light pick-up trucks, heavy commercial transport trucks and trailers, etc.) that are envisioned to use the road, including their weight/load.

For the purposes of drainage, the gravel surface of the road will have a cross-fall of 4%. All roadside ditches will be sized for the 25-year storm return period (probability of occurring once every 25 years). Culverts are to be a minimum of 600 mm in diameter, with 2% grade in the direction of flow. Culverts at watercourse

crossings will be sized to handle flow equivalent to the 100-year storm return period. Structural design for bridges and culverts exceeding a 3.0 m clear span at waterbody crossings will be carried out upon selection of a preferred road alignment and will take into consideration remote access constraints, material availabilities and the Canadian Highway Bridge Design Code.

A typical cross-section for the WSR is provided in **Figure 4.2**.

**Figure 4.2: Typical Cross-Section for the Webeque Supply Road**



Road intersections will be designed in accordance with Transportation Association of Canada (TAC) Geometric Design Standards and the MTO/TAC supplemental standards used for municipal roads and provincial highways. Road intersections, as well as other design elements, such as signage, illumination, and commercial/recreational entrances, will be considered in the detail design phase of the Project.

Roadside safety is paramount to the undertaking and, as such, the WSR will be designed in accordance with the MTO Roadside Design Guide (December 2017).

## 4.2 Components and Activities of the Project

The major components and activities for the Project are as follows:

- › Field surveys and investigations to support the road design and EA, such as LiDAR survey, Ground Penetrating Radar (GPR) survey, geotechnical and environmental;
- › Vegetation clearing and grubbing of road right-of-way and supportive infrastructure (access road, camps, laydown areas aggregate extraction areas);
- › Road construction within an approximately 35 m right-of-way width over a distance of 107 km:
  - earth excavation and grading activities, including drainage ditches;
  - construction/installation of permanent culverts and bridges at minor and major waterbody crossings;
  - bridge multi-span waterbody crossings ranging in length from 20 m to 250 m;
  - bridge single-span or culvert waterbody crossings ranging in length from 5 m to 20 m;
  - placement, grading and compaction of aggregate material for roadbed;
- › Construction of supportive infrastructure:
  - Storage and laydown yards;
  - Temporary access roads/trails;
  - construction camps;



- › Development of aggregate extraction and production (crushing/processing) areas, including the transport and delivery of materials from source areas to the road ROW;
- › Post-construction clean-up and site restoration;
- › Road operation and maintenance:
  - Inspection and maintenance/repairs of road and structures at waterbody crossings, including emergency repairs;
  - Localized surface repairs and full granular resurfacing of road base and shoulder;
  - Winter maintenance – snow clearing and de-icing;
  - Management of vegetation/brush within the corridor;
  - Road drainage system – clean-out/repairs to culverts, ditches and outfalls or ditch inlet structures;
- › Environmental effects and compliance monitoring during construction and operation phases.

## 4.3 Project Phases

Implementation of the Project will occur in phases. The potential interactions with the natural, cultural and socio-economic environments and the potential occurrence of residual impacts are anticipated to be different in each phase. In order to focus the impact assessment, the above key activities can be divided into the three main phases:

- › **Construction Phase:** All the activities associated with the initial development of the road and supportive infrastructure;
- › **Operation and Maintenance Phase:** All activities associated with operation and maintenance of the road and any other permanent supportive infrastructure (e.g., operation and maintenance yard, aggregate pits) that will be needed for the life of the road; and,
- › **Decommissioning/Closure Phase:** All activities required to decommission/close the road. The Project will be operated for an indeterminate time period; therefore, retirement (or decommissioning) is not anticipated.

### 4.3.1 Construction Phase

The construction and commissioning of the WSR is expected to occur within an approximately 30-month period, after securing all the necessary approvals, permits, licences, authorizations and clearances to construct. Pre-construction activities will include field delineation of vegetation buffers and known nearby features of cultural or environment importance that may require specialized application of mitigation measures or monitoring during construction. Construction activities will continue year-round, with some construction activities being staged and implemented to avoid or minimize potential effects to Indigenous traditional land and resource use areas and/or culturally sensitive areas/uses, and life cycle periods of wildlife, such as avoiding the clearing of vegetation during the migratory bird nesting period.

The detailed construction staging and sequencing of the Project will be determined in the detail design phase through discussions between Indigenous communities and the construction contractor. Construction activities will typically occur during the working hours of 07:00 to 19:00 from Monday to Friday. However, regularly scheduled weekend work may be required to address schedule delays caused by weather or other unexpected conditions. Commissioning of the road for operation will occur shortly after construction is deemed substantially complete. The main construction activities that have the potential to affect the natural, cultural and socio-economic environments include the following:



- › Field surveys, staking and layout;
- › Vegetation clearing and grubbing;
- › Construction of supportive temporary infrastructure that includes storage and laydown yards, access roads/trails, construction camps and aggregate extraction areas;
- › Earth and aggregate hauling operations;
- › Construction of the road, including waterbody crossings;
- › Emissions, discharges and waste:
  - transport, handling and storage of fuel for equipment and vehicles;
  - handling and disposal of waste oil, lubricants and other fluid products used for the maintenance of equipment and vehicles;
  - storage, handling and disposal of solid waste generated at temporary construction camps/work sites and during operations and maintenance activities (e.g., construction waste, domestic waste, wood, cardboard, plastics, foods, metals, etc.);
  - management and/or disposal of wastewater and sewage both hazardous and non-hazardous, in the form of liquid effluent generated by the temporary workforce/construction camps;
  - air emissions from the operation of equipment and vehicles, including engine exhaust and dust generation;
  - greenhouse gas (GHG) emissions as result of the construction and operation of the Project;
  - noise emissions from equipment and vehicles;
  - sediment mobilization and discharges from earthwork activities; and.
- › Post-construction clean-up and site restoration.

#### 4.3.2 Operation and Maintenance Phase

During the operation and maintenance phase of the Project, activities such as the assessment of the condition and operating performance of the road surface, drainage system and structures at waterbody crossings will be conducted regularly along the road corridor. The objective of these routine inspections will be to ensure the road meets the minimum standards for roadside safety and is a reliable connection to allow for the movement of materials, supplies and people from WFN in support of mineral exploration and mine developments in the McFaulds Lake area.

The operator of the WSR is unknown at this time and is part of future discussions and agreement on the ownership and governance of the facility. However, it is expected that the designated operator of the WSR will develop specific operational and maintenance procedures and standards for the road that will be consistent with municipal and/or provincial guidelines for level of service. It is anticipated that the operating and maintenance activities to be conducted for the Project will include:

- › Visual patrols and inspections of the road and structures (bridges/culverts) at waterbody crossings;
- › Localized surface repairs and full granular resurfacing of road base and shoulder;
- › Dust control;
- › Control of vegetation/brush within the ROW;
- › Winter maintenance – snow clearing and de-icing; and
- › Road drainage system maintenance work – clean-out/repairs to culverts, ditches and outfalls or ditch inlet structures.

There will also be consideration of a number of road use controls that will be discussed between the Webequie First Nation and the Province of Ontario during the EA process. How these controls will be executed and enforced will be a function of road ownership and jurisdictional aspects of road operation. It



will be particularly important to clarify this for the portion of the roadway that will cross the Webequie First Nation Reserve lands, which fall under federal jurisdiction and are controlled by the First Nation. Some of the road control elements to be discussed include:

- › Road access (who will be allowed to use the road and under what conditions);
- › Access to and use of adjacent lands for traditional uses or other activities (e.g., mineral exploration, outfitters);
- › Vehicle and operator licensing requirements;
- › Insurance coverage requirements and general liability; and
- › Enforcement/policing responsibility.

#### 4.3.3 Decommissioning Phase

The Project will be operated for an indeterminate time period and decommissioning of the WSR is not anticipated. Should decommissioning activities eventually be considered for some or all project components, decommissioning will be planned and conducted in accordance with the relevant standards and regulatory requirements in effect at that time. If decommissioning activities are required, a detailed review of the potential environmental effects and mitigation measures will be conducted. Consideration of the permanency or temporary nature of supporting infrastructure will be incorporated in EA process. In addition, a description and consideration of project lifecycle phases (i.e., pre-construction, decommissioning, maintenance and monitoring) will be addressed within the EA.