



LAND USE PROPOSAL SUBMISSION FORM

Date Received by NAV CANADA	NC file N° / Ref N°	TC File N° / Ref N°
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GENERAL INFORMATION:

Company/Owner Name:			Contact Person:		
Address:			City:	Prov:	Postal Code:
Tel:	Fax:	Email:	24 Hour Emergency Number:		
Applicant:			Contact Person:		
Address:			City:	Prov:	Postal Code:
Tel:	Fax:	Email:	24 Hour Emergency Number:		
Airport Authority : (If within 6 km of a lighted aerodrome)			Airport Manager:		
Address:			City:	Prov:	
Postal Code:	Tel:	Fax:	Email:		

DETAILS OF PROPOSAL:

- Please provide the data in the highest resolution as it was obtained.
- For geographic coordinates, provide up to four (4) decimal places of a second.
- For ground elevation and tower height, provide up to four (4) decimal places of a metre or foot.

Project #, Street Address, etc.:			Nearest Town, Province:				
Geographic Coordinates of Site in NAD 83:		Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
Linear Structures:	Lat. N	/	/	/	Long. W	/	/
Indicate Starting Point on 1 st line and End Point 2 nd line:		Lat. N	/	/	Long. W	/	/
Type of Structure:	New Structure? <input type="checkbox"/> Yes <input type="checkbox"/> No		Height Added (If Existing)			<input type="checkbox"/> ft	<input type="checkbox"/> m
Cranes to be used? <input type="checkbox"/> Yes <input type="checkbox"/> No <i>If Yes, see instructions</i>			Ground Elevation (Above Sea Level)			<input type="checkbox"/> ft	<input type="checkbox"/> m
Dimensions:			Structure Height (Above Ground Level)			<input type="checkbox"/> ft	<input type="checkbox"/> m
Materials & Roof Shape (If Building):			Total Height (Above Sea Level)			<input type="checkbox"/> ft	<input type="checkbox"/> m
Proposed Construction Start Date:			Approximate Duration of Construction:				
If Temporary Structure, indicate Removal Date:			From:	hrs	To:	hrs	

Comments:

ELECTRONIC / TELECOMMUNICATION INTERFERENCE (Check off the items which may cause interference and provide details)

High Voltage Equipment	<input type="checkbox"/> Details
Arc Welding	<input type="checkbox"/> Details
Radar Emission	<input type="checkbox"/> Details
High Powered Transmissions	<input type="checkbox"/> Details
VHF Radio	<input type="checkbox"/> Details
Other	<input type="checkbox"/> Details

OBSTRUCTION TO VISION ON AIRPORT WITH NAV CANADA SERVICES/CONTROL TOWER, FSS, CARS:**Check the items which may cause obstructions to vision to the installation:**Line of Sight DetailsGeneration of Smoke/Vapour DetailsReflectivity DetailsAircraft Parking DetailsExterior Lighting Details**MAPS/DRAWINGS (Required for Supporting Documentation)****Proposals for structures not adjacent to an airport OR on airport without NAV CANADA Services**

- 1:50,000 topographical map section with the location of the proposed structure clearly marked. The map must contain a legend indicating the map datum (NAD27 or 83) and the contour interval.
- Legal survey (if available)

Proposals adjacent within 2 km from an airport with FSS, Control Tower, Localizer or ILS navigational aids

- 1:50,000 topographical map section with the location of the proposed structure clearly marked. The map must contain a legend indicating the map datum (NAD27 or 83) and the contour interval.
- For localizer/ILS runways, site plan at 1:2000 scale, with distance bar, showing 90° distances to nearest runway centre line/centre line extension, and distance to nearest runway threshold. Note: reference TP 1247 to determine requirement when along an extended centerline of a localizer/ILS runway up to 6 km.
- For buildings, architectural drawings in both plan view (with north arrow indicator) detailing orientation of building and dimensions; and profile view detailing maximum height of building (including rooftop structures) and elevation at grade level.

Proposals on an airport with FSS or Control Tower Services, Weather Services, Localizer or ILS navigational aids

- 1:50,000 topographical map section with the location of the proposed structure clearly marked. The map must contain a legend indicating the map datum (NAD27 or 83) and the contour interval.
- Airport plan at 1:500 scale, with distance bar, showing orientation of structures including vehicle and aircraft entry/exit points.
- For sites with localizer/ILS runways site plan at 1:2000 scale, with distance bar, showing 90° distances to nearest runway centre line/centre line extension, taxiway, and distance to nearest runway threshold. Note: will require drawings for structures up to 6km along the extended centreline of the localizer/ILS runway.
- Site plan depicting entire airport and location of proposed structures and excavations/trenching include depth.
- Site plans at 1:2000 scale, with distance bar, showing line of sight to the mandatory viewing areas (runways and taxiways) identifying existing structures along the sightline in both cross section (profile) view and plan view format. Refer to NAV CANADA sightline requirements for criteria of mandatory viewing areas.
- For buildings, architectural drawings in both plan view (with north arrow indicator) detailing orientation of building and dimensions; and profile view detailing maximum height of building (including rooftop structures) and elevation at grade level.

Applicant/Representative Signature

Print Name

Date

For a detailed description on NAV CANADA's requirements and additional information, refer to the NAV CANADA website at www.navcanada.ca > PRODUCTS & SERVICES > Land Use Program.

NAV CANADA's evaluation of land use proposals and construction proposals neither constitutes nor replaces any approvals or permits required by Transport Canada, other Federal Government Departments, Provincial or Municipal land use authorities, or any agency from which any approval is required.

Please Submit by email to landuse@navcanada.ca

Processing Times

NAV CANADA will endeavour to provide a response within 8 to 12 weeks of receipt of the proposal. The accuracy and completeness of the initial documentation provided to NAV CANADA, and consequently the cooperation of the proponent to quickly rectify any deficiencies/inaccuracies will go far to expedite the process and ensure a timely response. Electronic submissions will also decrease the time required to properly assess a submission.

Obstruction Marking and Lighting

Transport Canada is required to perform an assessment on the requirement for obstruction marking and lighting of man-made structures per Canadian Aviation Regulations (CAR). Obstructions are assessed by Transport Canada through the Aeronautical Obstruction Clearance Form Process. *Note: outages in obstruction lighting deemed a requirement by Transport Canada are to be reported to Transport Canada as per CAR 601.28.*

Contact Us

NAV CANADA
Aeronautical Information Services
Data Collection Unit / Land Use Office
1601 Tom Roberts
P.O. Box 9824, Station T
Ottawa, ON
K1G 6R2

Website: www.navcanada.ca > PRODUCTS & SERVICES > Land Use Program

Toll Free: (866) 577-0247

Fax: (613) 248-4094

Email: landuse@navcanada.ca ****Preferred method for submission**

Land Use Proposal Submission Form Instructions

This section provides additional instructions for each section of the Land Use Submission Form.

24 Hour Emergency Number: This number may be required for aviation safety purposes.

Airport Authority: If site location is within 6 km of a lighted aerodrome provide the name of the airport and contact information.

Applicant: If not the same as owner, the name of consultant, contractor, or other who is applying on behalf of the owner. Note: all correspondence will be forwarded to the applicant.

Approximate Duration of Construction: Specify time of operation for temporary structures of short duration. This may be required for NOTAMing purposes.

Arc Welding: If any construction taking place on your site requires arc welding, please complete this field. Specify the anticipated duration of arc welding. Welders can potentially interfere with the reliability of the ILS systems of an airport and must therefore be brought to our attention.

Blasting Operations: The following additional information will be required for blasting activities for a Land Use Assessment and possible NOTAM / publication action:

Blast Area: Geographic coordinates (latitude & longitude in NAD83) of the blasting area corners or centre coordinates with a blasting radius.

Blasting Times: specify period during the day (for example, daylight hours or 0800 to 1600 local time Monday to Friday, one-time event, etc.).

Duration of Operation: estimated amount of time (months/years) expected to operate at specified location.

Elevations: Highest ground elevation (above sea level) within blasting zone, maximum height of fly rock or debris (above ground level), and shockwave/overpressure height (above ground level, if applicable). Indicate use of blast mats (if applicable).

Topographical map: (1:50 000 scale) depicting the blasting area.

Company/Owner Name: Owner of the proposed structure or development.

Cranes: For construction projects (such as a new building, placement of roof top structures, flare stack, etc.) where a crane will be required and where the maximum operating height will be higher than the overall height of the proposed structure, the applicant is to provide details for both mobile and temporary cranes on a separate submission form **at least 30 working days in advance**. We ask that crane application(s) be cross referenced to the associated construction project and provide detailed crane specifications such as maximum height, boom length and swing radius. A drawing detailing the crane specifications and type would be beneficial, please reference the NAV CANADA Land Use Program web page for more details. *Note: A drawing showing the required specifications indicated below will be beneficial.*

Maximum Swing Radius: In a manner similar to a large structure, a crane with a large swing radius can create a severe horizontal angle with respect to Navigation/Communication/Surveillance equipment, thereby compromising coverage. The maximum swing radius shall be provided so we can properly assess the situation and determine whether or not the swing radius is within an acceptable level. *Note: maximum swing radius refers to the maximum that will be achieved during construction and not the maximum achievable swing of the crane (unless that specific setting is being used in the construction).*

Boom Length: This information is needed to determine the vertical angle of the crane with respect to any nearby NAV CANADA facilities.

Max Height Achieved During Construction: This information is needed to determine the worst case scenario for vertical angles between the crane and nearby NAV CANADA facilities.

Date Received: Represents the date the application was received by NAV CANADA Land Use.

Details of Proposal: Project Number, Street address, etc.: A project name, number or street address that can be traced should the owner/applicant require follow-up status on a project.

Dimensions: Indicate structure design specifications. Certain equipment used by NAV CANADA (the radar equipment in particular) can potentially be disrupted by those structures which possess large horizontal dimensions. Such scenarios are assessed by determining the structure's horizontal angle with respect to the NAV CANADA site. For Cranes, include maximum height to which the crane will be raised, boom length and swing radius. A drawing with the specs is desired.

From / To:

Indicate the time of the day when the structure will be raised. For example: 08:00, 13:00

Indicate the time of the day when the structure will be lowered. For example: 11:00, 17:00

Geographic Coordinates: The geographic location in latitude and longitude of the proposed structure/development. Coordinates must be provided in degrees, minutes, and seconds for NOTAM and database updating purposes. It is an ICAO (International Civil Aviation Organization) requirement to provide accuracy to within 1/100th of a second. For example, N46° 06' 44.67" W064° 40' 43.25".

Geodetic Datum: Coordinates are to be provided in NAD83 only. NAD 27 or UTM coordinates must be converted into the required format; the following are Natural Resources Canada online transformation links (these may change without notice):

NAD 27/83 and Geographic/UTM conversions: <http://webapp.geod.nrcan.gc.ca/geod/tools-outils/ntv2.php?locale=en>

NAD 27/83 and Geographic/UTM conversions: <http://webapp.geod.nrcan.gc.ca/geod/tools-outils/trx.php>

Reference the [Natural Resources Canada webpage](#) for information on this topic.

Ground Elevation: Should be consistent with the contour interval details shown on the 1:50,000 topographical chart. *Note: GPS readings (when not surveyed) or Google Earth readings are not considered reliable information. Please refer to topographical maps containing contour information or surveyed data. Where ground elevation has been surveyed, the finished grade is to be provided.*

Height Added: The structure currently exists. Specify any increase in height due to an addition.

High Powered Transmission: Such transmissions include AM, FM, or television broadcast signals. Such equipment should typically be located at least 8 km from NAV CANADA facilities. However, any equipment at the proposed site which falls under this category must be mentioned here.

High Voltage Equipment: Any equipment which carries a voltage of at least 2 kV must be mentioned here as such equipment can create electrical interference with NAV CANADA's radar systems. Voltages over 100 kV are especially worthy of mention, as they will potentially interfere with, not only the radar systems, but the ILS systems as well.

Linear Group of Structures: Cable crossing, telephone or power line, should have a beginning and end point of the line. Should there be intersection points along the route, applicant to provide a spreadsheet containing the geographic coordinates and ground elevation.

Note: Groups of Structures (Linear or Non-Linear): Groups of structures that are sufficiently close together can disrupt line of sight radio frequency (RF) coverage in a manner similar to a single, large structure. Therefore, a drawing of the group's layout is required in order to determine its bearing with respect to a NAV CANADA facility. From here, a horizontal angle between the site and the group of structures can be determined in order to assess the risk of coverage shadowing. Note: this requirement will be in addition to the map requirements listed on page 2 of the Land Use Proposal Submission Form.

MAPS/DRAWINGS

1:50,000 topographical map 8.5"x11" sectional with the location of the proposed structure clearly marked. The map submission must contain a legend indicating the map datum (NAD27 or 83) and the contour interval: NAV CANADA will accept the equivalent to the topographical maps produced by Natural Resources Canada which can be obtained digitally (by various mapping software companies) or in paper copy at most map supply stores. This will allow the Land Use Office to confirm possible discrepancies between the location shown on the map and the ground and geographic coordinates provided on the form. It will assist us in referencing where the proposed structure is with respect to the nearest airport, as well as any nearby NAV CANADA sites, and to reference the structures location within an instrument procedure design to determine possible penetration of the obstacle limitation surface on published instrument flight procedures.

Site Plan Depicting Entire Airport and Location of proposed structures: In cases where the proposed structure is close to an airport, within 6 km, or on an airport with a localizer/ILS (Instrument Landing System) runway, it is important to determine where the structure is with respect to any ILS at the airport. For this reason, site plans should include the *entire airport* and have the airport zoomed in as close as possible while still showing the proposed site in its entirety.

Proposals adjacent within 2 km from an airport with FSS or Control Tower: Certain equipment used by NAV CANADA (the radar equipment in particular) can potentially be disrupted by structures that possess large horizontal dimensions. Such scenarios are assessed by determining the structure's horizontal angle with respect to the site in question. This angle cannot be determined unless all horizontal dimensions and orientation of the structure are provided as well as the structure's bearing (that is, the map should include a north arrow).

For localizer/ILS runways, site plan with distance bar at 1:2,000 scale measure distances based at 90° to nearest runway centerline/extended runway centerline, and distance to nearest runway threshold. *Note: reference TP1247 to determine requirement when along an extended centerline of a localizer runway up to 6 km.*

Materials and Roof Shape: Indicate only the dominant materials of the structure, along with any metal which may exist. Indicate whether or not the roof (if applicable) of the structure is flat or sloped. *Note: Certain materials (such as metal) can cause undesirable reflections if they are sufficiently close to NAV CANADA equipment. Mentioning every material being used in the development is unnecessary, but metal in particular is worthy of mention, regardless of whether or not it is the dominant component of the structure. For example: A windmill made entirely of fibreglass with metal strips outlining the blades.*

Metres/Feet: Please identify whether heights provided are in feet or metres. All values will be converted into feet in the Land Use assessment and Notice of Construction as this is the required format for aeronautical publications and database purposes.

All metric/imperial conversions will be calculated as follows:

- Feet to Metres: To obtain metres, multiply the value (in feet) by 0.3048.
- Metres to Feet: To obtain feet, divide the value (in metres) by 0.3048.

NC File Number: If this submission is an amendment or is associated to a previous submission, applicant to indicate NAV CANADA file number assigned to the associated land use submission. For example, Revision to 07-0001 or Reference 07-0001 (building application).

Nearest Town: Closest town to where the development/project will take place.

New Structure: Replacement of a structure is considered a new structure; however, details on the old location and original owner are to be provided in the comments section for NAV CANADA database management. If submitting for an existing structure, NAV CANADA will consider the structure as 'new' if it is not currently recorded in our obstacle database.

OBSTRUCTION TO VISION ON OR ADJACENT TO AN AIRPORT WITH NAV CANADA SERVICES / CONTROL TOWER, FSS

CARS: Controller/Specialist visibility requirements are based on dimensions defined in TP312, Aerodrome Standards & Recommended Practices and TP308, Criteria for the Development of Instrument Procedures. These Transport Canada publications define the airspace around aerodromes that has to be maintained free from obstacles to protect aircraft during either "an entirely visual approach or during the visual segment of an instrument approach". An aircraft on approach should be somewhere within this defined airspace, thus, controllers and specialists require line-of-sight to the areas overlying (above) these obstacle limitation surfaces. It is important to note that structures which meet these obstacle limitation surfaces could still interfere with controller/specialist line-of-sight.

Line of Sight: All aerodrome manoeuvring surfaces, unobstructed line-of-sight from the Tower Cab to the mandatory viewing area shall be provided. Line-of-sight is defined as a straight line from the 'ideal' controller/specialist eye-level position, established at 122 cm (48 in or 4 ft) above the floor and 91 cm (36 in) back from the perpendicular glass line, to any object in the mandatory viewing area. Line-of-sight shall not be obstructed by structures, parked aircraft, large vehicles and surrounding terrain/landscaping. Line-of-sight over buildings or other structures shall have a suitable margin of clearance to allow for snow build-up.

Generation of Smoke/Vapour: Line-of-sight can be impaired by visible contaminants such as steam, or heat distortion patterns. Consideration shall also be given to local weather phenomena that would restrict visibility due to fog or industrial haze from off airport sources.

Reflectivity: Line-of-sight can be impaired by direct or indirect sun glare and external light sources such as apron lights, parking area lights, street lights, or reflective surfaces (water pooling).

Aircraft Parking: Line-of-sight can be obstructed by structures such as parked aircraft, large vehicles and surrounding terrain/landscaping.

Exterior Lighting: Line-of-sight can be impaired by external light sources such as apron lights, parking area lights, street lights.

Other: Any high-powered electronic or telecommunications equipment that does not fall under the preceding categories should be brought to our attention if they can potentially interfere with equipment.

Radar Emission: High powered radio frequencies (in the GHz range) will potentially interfere with NAV CANADA radar performance. Any high powered frequencies originating from your proposed structure must be brought to the attention of NAV CANADA.

Reference: TP1247 Land Use in the Vicinity of Airports

Runway Certification Changes: To ensure Instrument Procedures meet design criteria requirements, NAV CANADA must be informed of any changes to runway certification (for example, precision to non-precision, non-precision to non-instrument, etc.). This includes temporary certification changes or changes occurring during a runway closure (the instrument procedure serving a closed runway may still be used for circling or other purposes).

Structure Height: This is the overall height of the structure above ground level.

Buildings: Include roof top structures such as, antennas, advertising boards, architectural features or mechanical rooms above the building height.

Communication Towers: Include the tower structure itself plus all appurtenances such as antennas, lightning rods, equipment, and obstruction lights.

Wind turbines: Overall height of the structure including blade radius (blade in the 12 o'clock position); and to include height at the hub and blade length.

Cranes: Maximum heights to which the crane will be raised when on site include height of mobile crane if used to install a tower crane.

TC Number: Applicant to provide the Transport Canada file number if known.

Temporary Structure: For structures with a planned removal date such as drilling rigs, cranes, meteorological towers, etc., please indicate the estimated removal date.

Total Height: Ground elevation plus the structure height at its highest point.

Type of Structure: The type of structure; for example, Hotel, Drilling Rig, Cranes, Hangar, Development, Wind Turbine, Communication Tower, Meteorological Tower, Flare Stack, Telephone/Transmission line, Cable Crossing, etc. *Note, where the structure is a flag pole, dimensions of maximum flag size is to be stipulated.* Should cranes be required during building construction, please refer to the [Cranes](#) section.

Tower or Support Structures: Applicant to indicate whether they are guyed or self-support structures

Guyed Towers: Applicant may be required to provide drawing with specifications on number of guyed lines, orientation of the structure (with north arrow) in both plan and profile view if available. Drawings may be required if the proposed structure is in close proximity to a NAV CANADA facility.

Self-Support Towers: Applicant to provide a profile view detailing the dimensions of the structure if available. *Note: may be required if the proposed structure is located within 2 km of a NAV CANADA facility.*

Buildings: Require architectural drawings in both plan view (with a north arrow indicator detailing the orientation of the building) and a profile (elevation) view (detailing maximum height of building including rooftop structures such as mechanical room, air conditioners, elevator shaft, etc. with the ground elevation at grade level). The North arrow indicator is particularly important in order to identify how the structure is oriented for azimuth calculations. *Note: should cranes be required during construction an additional land use submission will be required for assessment.*

VHF Radio: Frequency and Transmitter Power

VHF consists of all frequencies between 30 MHz and 300 MHz. Such frequencies will potentially cause interference with NAV CANADA's communications equipment. Any frequencies originating from the proposed site which fall within this range must be mentioned here, in order to rule out the possibility of interference.

For situations in which VHF radio will exist at a proposed site, NAV CANADA engineers must perform intermodulation studies in order to ensure that the performance of NAV CANADA communication sites is not compromised. These studies cannot be performed unless the proponent indicates the *specific* VHF frequencies being used onsite. Specify the transmitter power, as this is required to determine whether or not an overlap in coverage will take place.

Wind Farm: For clusters consisting of more than one turbine, the applicant can use one land use proposal submission form with a spreadsheet listing all turbines including turbine number, geographic coordinates (latitude/longitude) in NAD83, ground elevation and structure height. The 'Multiple Obstacle Template' spreadsheet sample is provided on the 'Proposal Submission Procedures' portion of the web site.