

CALGARY 2025 ORTHOPHOTO MOSAIC

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Calgary 2025 Orthophoto Metadata

The orthophoto is a seamless mosaic of accurately positioned aerial images. These aerial images are geometrically corrected for camera perspective and terrain relief so that they have a consistent scale and can be used for direct positional measurements of ground features like a map.

The aerial photo was captured using a fixed wing aircraft equipped with a special aerial camera sensor and high accuracy GNSS/INS positioning systems to gather thousands of overlapping images in a grid pattern across the entire city. These stereo images were accurately geo-referenced and tied together using the airborne and ground control data in a photogrammetric aerial triangulation. The imagery was then orthorectified using the Calgary 2022-2024 lidar bare-earth DEM.

Orthophoto is considered a core geospatial dataset. It is commonly used for many applications such as geospatial analysis, engineering designs, asset management and as a base GIS dataset providing rich contextual information for anywhere in the city. The Calgary orthophoto is updated annually with a city-wide aerial survey flown each spring.

- Photo Date: Jul 1, 8 & Aug 12, 2025
- Pixel Size: 7.5 cm
- Bands: RGB Colour & NIR
- Airborne Sensor: Vexcel UltraCam Eagle M3 (with 210mm lens)
- Horizontal Accuracy: +/- 15 cm at 95% confidence level on flat ground surfaces (Confirmed with 70+ surveyed ground control points)

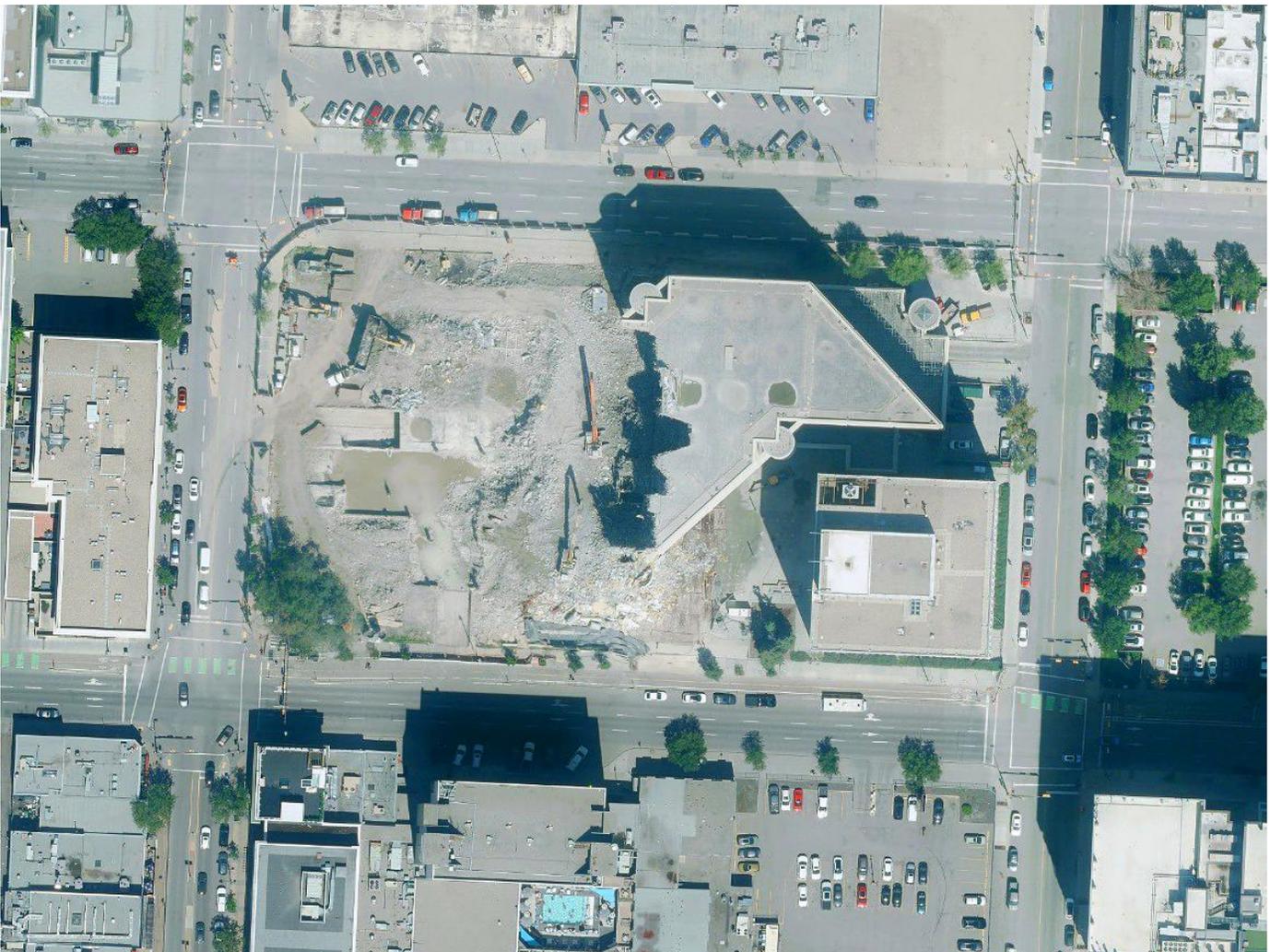
The City of Calgary Geospatial Coordinate System

- Name: 3TM NAD83 Alberta 114W
- EPSG Code: 3776
- Projection: Transverse Mercator – 3TM (3 degree zone width)
- Horizontal Datum: NAD83 (Adopted/Original)
- Ellipsoid: GRS80
- Central Meridian: 114°00'00.0" W
- Scale Factor: 0.9999
- Origin Latitude: 0°00'00.0" N
- False Easting: 0 m
- False Northing: 0 m
- Positive Axes: North and East
- Planar Units: Meters

- Vertical Datum: CGVD28
- Geoid Model: GSD95 (ITRF version)
- Elevations: Orthometric (above mean sea level)
- Vertical Units: Meters

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2025 Orthophoto snapshot: The old 6 storey TransAlta office building in Calgary's Beltline was captured part way through demolition. A new 37 storey, 334-unit residential tower will be built by ONE Properties in its place. 2025 was a busy year for development in the city as Calgary broke housing construction records and led the country in housing starts per capita. Calgary's building boom over the last few years has been led by multi-family projects, such as apartments, townhouses and office to residential conversions, with efforts by government and industry to improve housing supply coming to fruition.