Wood Buffalo Environmental Association

Ambient Air Monitoring Station Site Documentation

Athabasca Valley

LAST UPDATED: MARCH 27, 2024

Table of Contents

Tables and Figures

General Site Information

Revision Date: March 27, 2024

Station

Station ID	AMS 07
Station name	Athabasca Valley
Date station established	1977

Location

Station street address	Located on MacDonald Drive, Near the Athabasca River and McDonald Island
Legal land description	9-20-089-09 W4
Airshed Zone	Wood Buffalo Environmental Association
Latitude	56°44’00.21”N
Longitude	111°23’25.80”W
UTM East	476105.865
UTM North	6287773.834
Nearest community	Fort McMurray
Community population	75,186
Census Year	2021

Owner/Operator/Approval Holder

Operating Agency	Wood Buffalo Environmental Association
Address of Operating Agency	Unit 3-805 Memorial Drive, Fort McMurray, Alberta T9K 0K4
Name of Approval Holder	N/A
Approval number	N/A
Contact Name	Wood Buffalo Environmental Association
Address	Unit 3-805 Memorial Drive, Fort McMurray, Alberta T9K 0K4
Phone number	780-799-4420
Email address	info@wbea.org

Site Description

Land use by sector	0 – 90 degrees	Residential
	91 – 180 degrees	Residential
	181 – 270 degrees	Residential
	271 – 360 degrees	River
Site elevation (m) (above sea level)	497 m	
Angle of elevation to nearby buildings	Greatest angle	3
	Building direction	West
Airflow restrictions	North	None

	East	None
	South	None
	West	House
Sample manifold	Type	All glass
	Inlet height above roof	1 metre
Wind Sensors	Type	Cup and vane
	Height above ground (m)	10 m
	Distance from station (m)	Attached to North end of monitoring station

Site Influences

Localized Sources (within 20 metres of station)

Type	Distance (m)	Description
Wood Smoke	10m	Wood Stove from shelter (due West)

Roadway Influences

Type	Traffic Volume	Distance (m)	Description
Asphalt road	Medium	15	Access road to MacDonald Island
Highway	High	300	Hwy 63
Asphalt Road	Medium	330	City street

Major Point Sources

Facility Name	Source Type	Distance from site (km)	Compass direction from site
Fort McMurray Water treatment Plant	Water treatment Plant	1.22	SW
McDonald Island	Sports Complex	0.265	NE
Eveready	Asphalt Plant	3.71	NW
Fort McMurray Waste Water Treatment Plant	Waste Water Treatment Plant	3.84	NW
Diversified	Main Bus Depo	4.48	NW
Suncor	Oil Sands Plant	26.81	N
Suncor	Tailings Pond	15.81	N
LaFarge	Concrete Plant	3.06	NW
Inland	Concrete Plant	3.32	NW
Burnco	Concrete Plant	4.24	NW

Station Equipment

Equipment Owner: Alberta EPA and WBEA

Analytical Equipment

Parameter	Make	Model	Serial Number	Date Instrument Installed	WBEA Data Start Date
Continuous					
SO_2	Thermo Scientific	43i-LTE	1507864683	2020	January, 1999
TRS	Thermo Scientific	43i-LTE	1180540018	2019	January, 1999
TRS conv	CD-Nova	CDN-101	551	2019	-
$NO_x/NO/NO_2$	Thermo Scientific	42i	1160120024	2021	January, 1999
$THC/CH_4/NMHC$	Thermo Scientific	55i	12300522720	2024	January, 1999
O_3	Thermo Scientific	49i	1507964700	2019	January, 1999
CO	Thermo Scientific	48i-LTE	1408761381	2016	January, 1999
$PM_{2.5}$	Teledyne	T640	645	2024	January, 1999
Time-Integrated					
PM_{10}	Thermo Scientific	2000i	2000i 0361 1305	2016	-
PM_{10}	Thermo Scientific	2000i	2000iW206921702	2021	-
$PM_{2.5}$	Thermo Scientific	2000i	2000i2 0370 1306	2018	-
$PM_{2.5}$	Thermo Scientific	2000i	2000i2 0433 1312	2019	-
PAH	Tisch Environmental	TE-PIF+BL	1001057	2016	-
VOC	Global Analyzer Systems	G23MTS-2CH	2021-101	2023	-
VOC	Global Analyzer Systems	G23MTS-2CH	2021-102	2023	-
Dustfall	Advantage Manufacturing	-	-	2022	-

Meteorological Equipment

Parameter	Make	Model	Serial Number	WMO Site Class	Date Sensor Installed	WBEA Data Start Date
AT/RH	Vaisala	HMP155	G0840069	3	2020	January, 1999
WD	Met One	020C-1	G3212	3	2021	January, 1999
WS	Met One	010C-1	R14656	3	2019	January, 1999
BP	Young	61302V-10	BPA4395	3	2016	December, 2012

Support Equipment

Name	Description	Make	Model	Serial Number
Datalogger	Datalogger	Campbell Scientific	CR3000	8205
Gas Dilution Calibrator	Dynamic dilution calibrator	Teledyne/API	T700	3805
Zero air generator	Zero Air Generator	Teledyne/API	T701H	198
Shelter / Building	Air monitoring portable	ITB	8 x 16 trailer	N/A

HVAC	Heating and air conditioning system. Wall mount unit	BARD	1 ton	

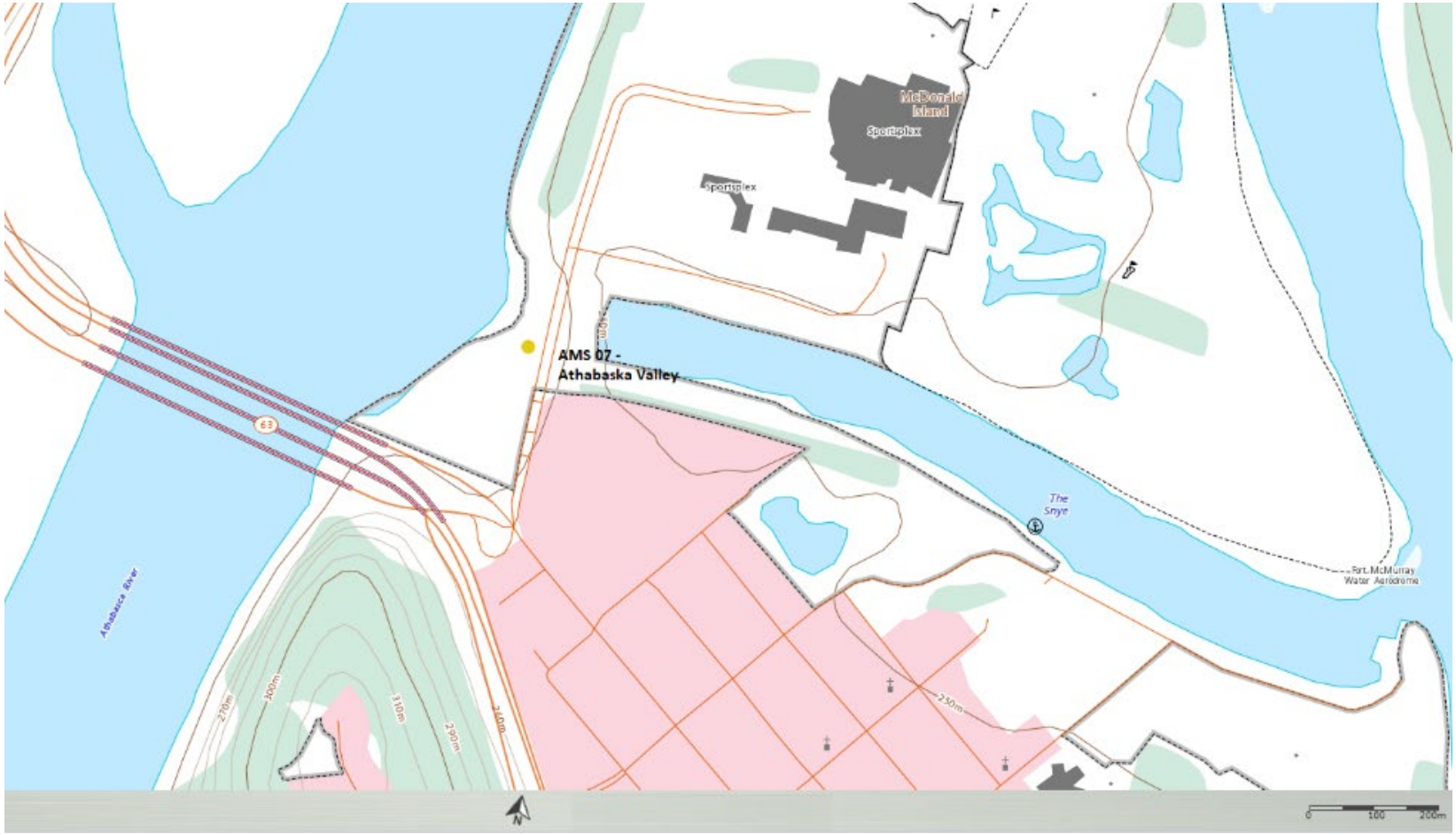

Figure 1 – Area topographic map showing AMS 07

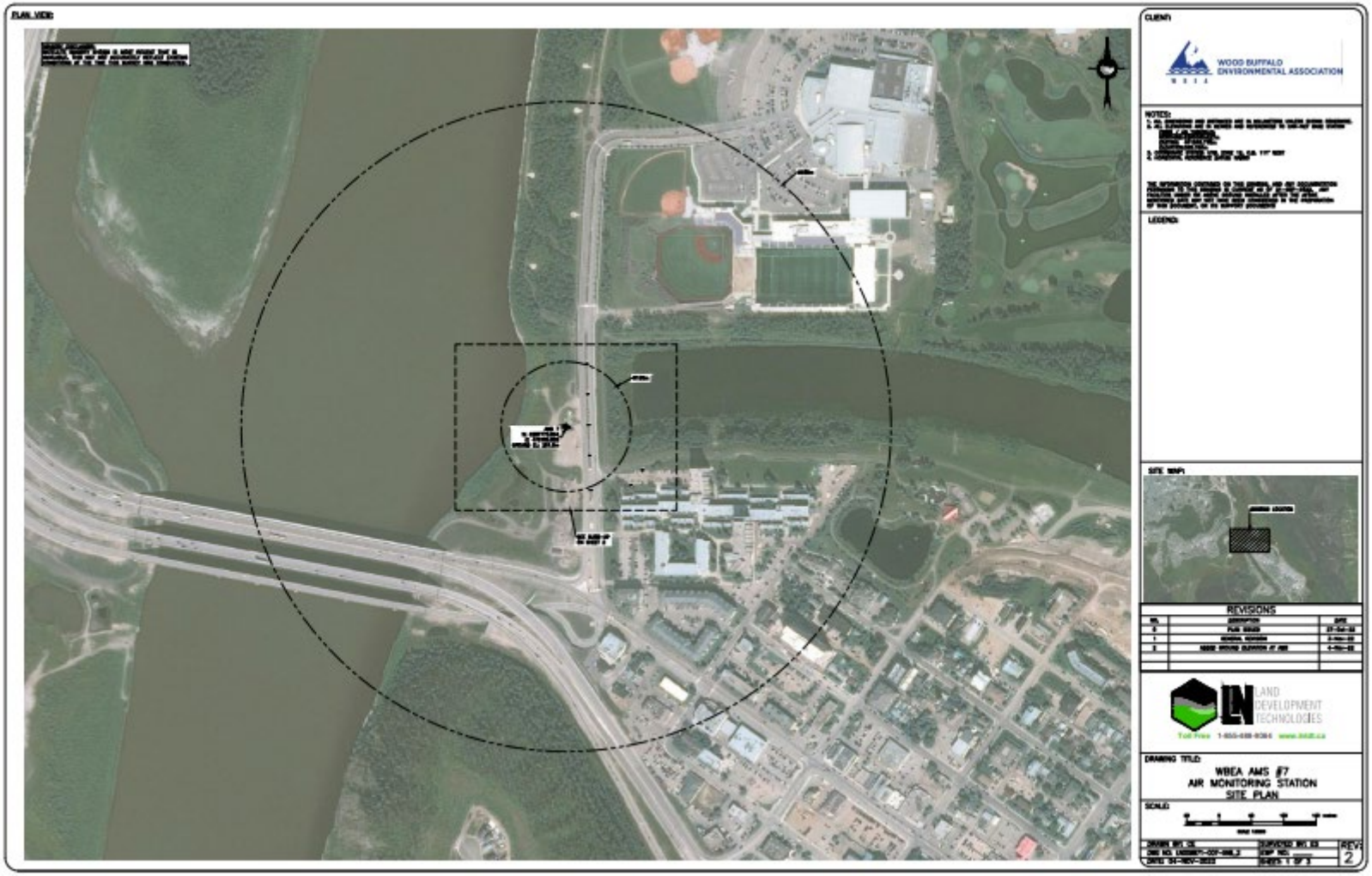

Figure 2 – Aerial image showing AMS 07

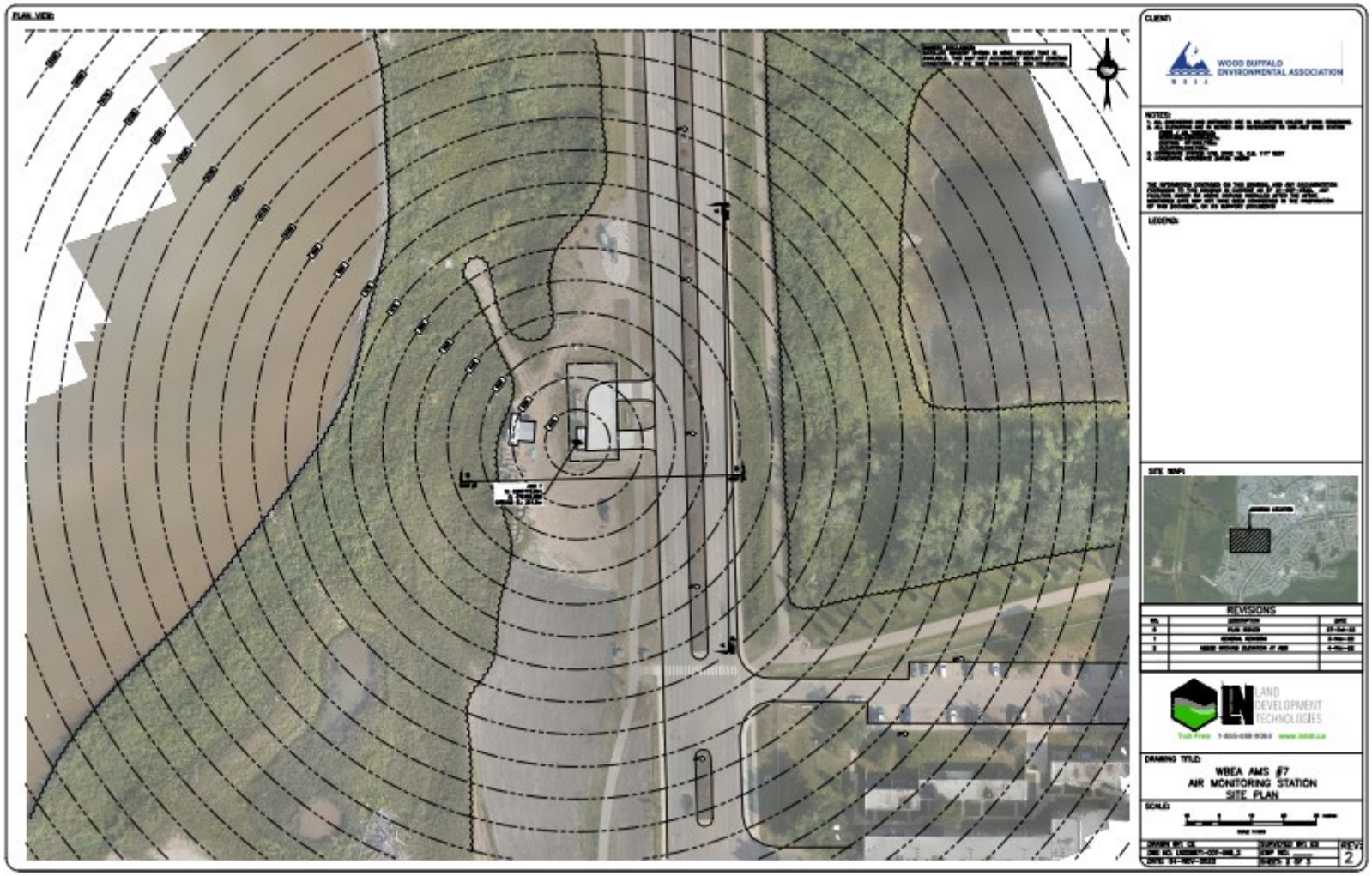

Figure 3 – Plan view image for AMS 07 site

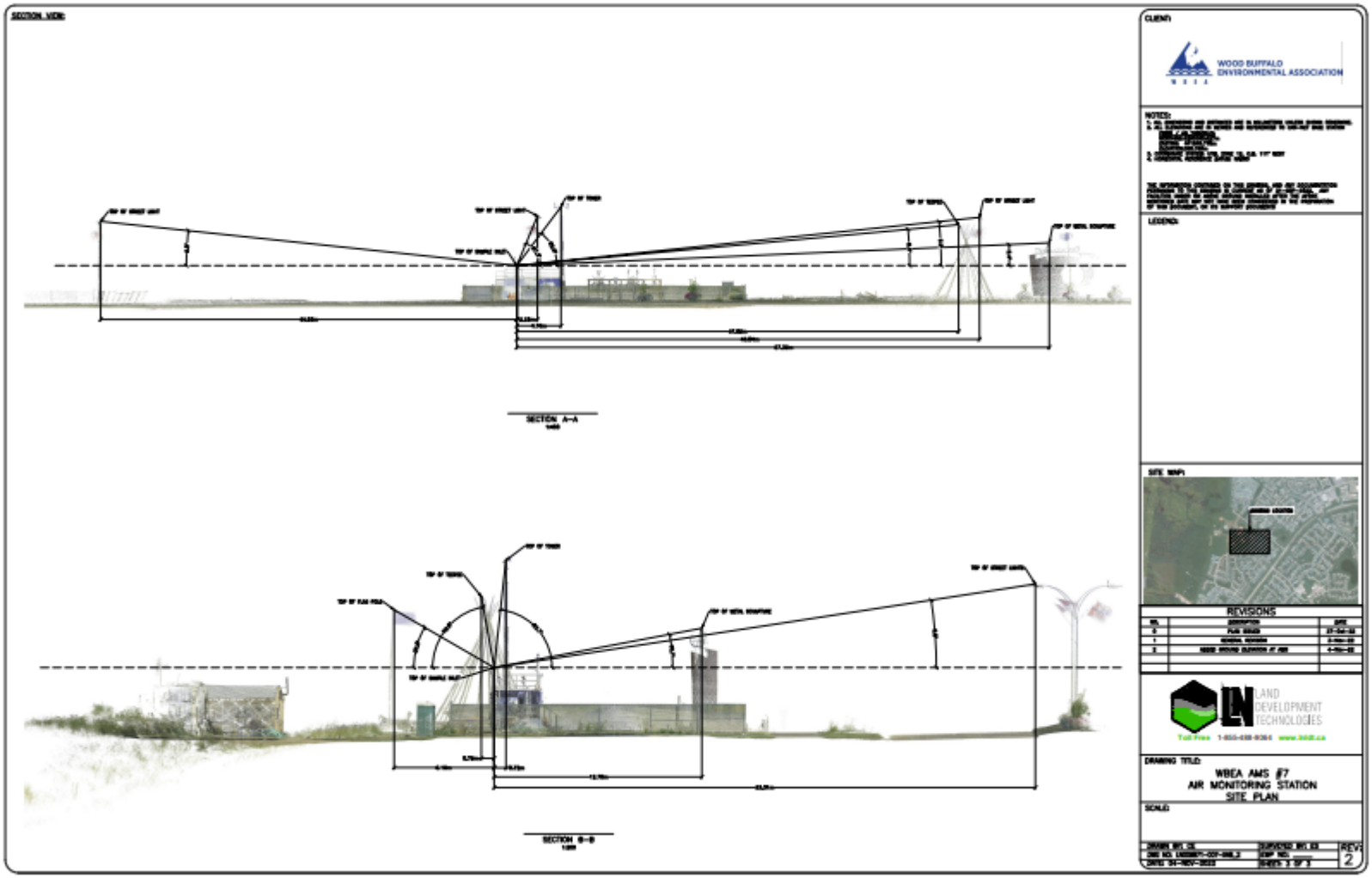

Figure 4 – Elevation view image for AMS 07 site

Site photos

The following photos show the environment surrounding the monitoring station.

Figure 5 – Environment looking North

Figure 6 – Environment looking East

Figure 7 – Environment looking South

Figure 8 – Environment looking West

Figure 9 – Meteorological Tower

Station Photos

The following photos show the monitoring station and instrumentation.

Figure 10 – Photo showing the inlet and sample manifold

Figure 11 – Curb shot of the monitoring station

Figure 12 –Photo of the front and the back of instrument rack

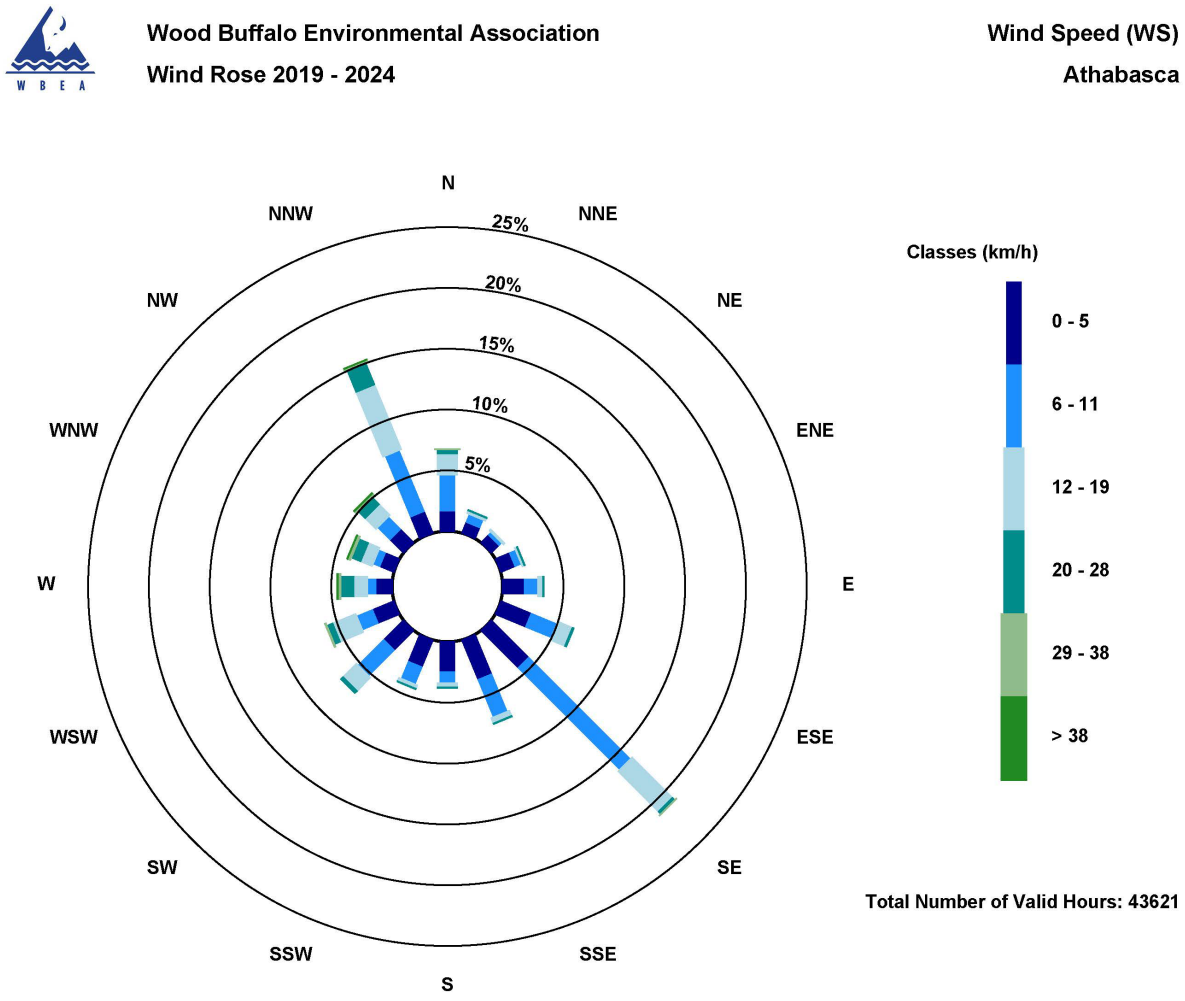

Figure 13 – Windrose (2019-2024)