



Geomatics and Digital Solutions to Support Field Planning, Data Collection, Collaboration, Reporting – A Case Study from AltaLink 716L Soil Salvage Assessment

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In 2023 - 2024, Matrix Solutions supported AltaLink on a soil salvage assessment for sixty

structures along AltaLink's 716L Transmission RoW (13.6 km long) between Ponoka and Wetaskiwin on the Samson 137 and Ermineskin 138 First Nations. Matrix undertook processing approximately 3,400 hand auger samples, 1,500 borehole samples, 250 boreholes logs, and compilation of data collected by three other consultants amounting to an additional 2,900 samples to develop remediation plans for all 60 structures. Needless to say – robust data management was essential for the efficiency and collaboration that the project demanded. For project delivery, Matrix was required to include: a prescribed spatial sampling design, reporting and structure attribute data collection, photograph catalogues, and detailed site mapping for each structure.

Matrix deployed ArcGIS Portal, ArcGIS Field Maps and ArcGIS Pro, as well as platform agnostic principles around relational data modeling and design to augment standard approaches to facilitate the compilation of this dataset to AltaLink's specific requirements. In this presentation, we will focus on the techniques and platforms we used to:

- incorporate spatial analysis to support spatial sample design for field crews,
- provide web mapping to promote an organized and collaborative experience between
- Matrix and AltaLink team members to validate data, integrate field observation attributes with analytical data using data-driven techniques
- deliver catalogued photograph documentation, customized site plan mapping solutions and results reporting across 60 individual transmission line structures
- discussion of different solution patterns when trying to find the best fit for your project

Matt Wilkinson

Mr. Matt Wilkinson is a Senior GIS Analyst at Matrix Solutions Inc., A Montrose Environmental Company. With experience spanning 16 years, he has demonstrated expertise in providing GIS services in spatial analysis, GIS production, and spatial data modeling and management for assessment, remediation and reclamation studies, water resources and engineering, environmental and regulatory permitting, and terrestrial ecology applications. Data management and integrity, data modeling and design, method documentation, and metadata are key elements incorporated into all workflows to ensure assessments are reproducible and defensible. Mr. Wilkinson works closely with Matrix's various teams to ensure spatial datasets, either collected in the field or generated through spatial modelling tasks, are compliant and fit-for-purpose with client, reporting, and project requirements and objectives.