Schedule A – Description of Work

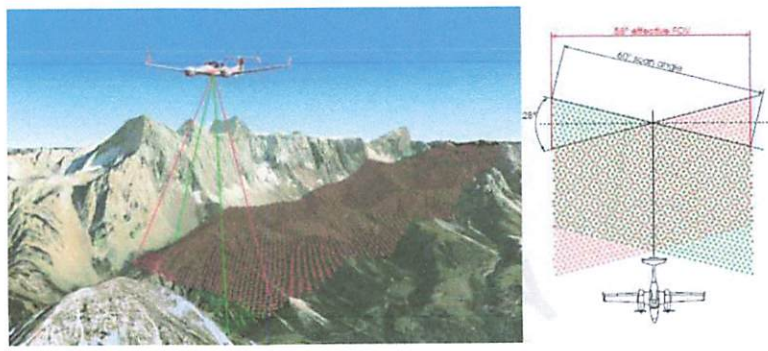
PHASE 1: PROJECT PLANNING AND DESIGN

Availability

For this project, we will deploy a comprehensive data collection approach that combines Airborne Imaging's aircraft-based LiDAR capabilities with Arctic UAV's local expertise and supplementary RPAS systems:

Airborne Imaging Resources: One Riegl VQ-1560-ii/S LiDAR sensor will be assigned for this project, equipped with a PhaseOne 150MP camera. The company operates 12 LiDAR sensors, aircraft and crew during the season and has plenty of capacity and redundancy.

Riegl VQ-1560ii with gyro-stabilized mount



Reigl VQ-1560ii Dual Scan Pattern

All sensors will be paired with a twin-engine Piper Navajo or Cessna 206 aircraft with a fresh maintenance schedule. The range of these aircraft is longer, allowing us to cover bigger areas in a single mission and it improves project safety and environmental hazards. By using fixed-wing, we can achieve the resolution and accuracy specs and be able to base out of a proper airport with paved landing strip, plentiful fuel and close to emergency services.

Piper PA-31 Navajo

Arctic UAV Resources: To complement the aircraft-based LiDAR collection, Arctic UAV will provide:

- **RPAS (Drone) Systems:**
  - **WingtraOne VTOL Mapping Drone**
    - Vertical takeoff and landing capability
    - Flight time: up to 59 minutes

        - Survey coverage: up to 400 ha (1,000 acres) at 3 cm/px
        - PPK GNSS receiver for high-precision geotagging
        - Equipped with RGB cameras for high-resolution imaging
    - **Trinity Pro Fixed-Wing RPAS**
        - Flight time: up to 90 minutes
        - Maximum range: 30 km
        - Quantum-Skynode autopilot with Linux mission computer
        - Enhanced computing power and storage
        - Next-generation sensor support
    - **YellowScan Qube 240 LiDAR System**
        - Weight: 1.8 kg including battery
        - Max range: 240 m
        - Precision: 10 cm absolute accuracy
        - Density: up to 40 pts/m^2 at 60 m AGL
        - Classification: up to 3 echoes per shot
        - 300,000 shots per second
        - Can be mounted on Trinity Pro for LiDAR collection
    - **Sony RGB61 Camera**
        - 61 MP full-frame sensor
        - Optimized for aerial photogrammetry
        - Compatible with WingtraOne Gen II RPAS
        - High dynamic range for challenging lighting conditions
        - 14-bit color depth for accurate color reproduction
        - Used with WingtraOne for high-resolution mapping
- GNSS Receiver for RTK/PPK workflows for ground control
- Expert local RPAS pilots for additional data collection
- Local logistics coordination and ground support
- Ground control establishment

Flight Conditions

Our team will plan flight collection with the following specifications:

- Atmospheric: limited cloud, smoke, fog, and no snow between aircraft and ground
- No unusual flooding or inundation

Parameter	Riegl VQ-1560ii/s Specification
Operating altitude	1100m AGL
Scan Angle	60° FOV
Aircraft Speed	160 knots
Laser pulse rate	800kHz
Sidelap	30%

Density	>5pts/m2
Orthophoto	10cm RGB

Conditions

Due to the variable and unpredictable conditions in the arctic, LiDAR acquisition will be prioritized. Orthophoto collection will be co-collected with the LiDAR and may include some cloud, shadow or other environmental. All attempts will be made to exploit good weather days for optimal orthophoto conditions, however with ample experience in the area it may be difficult.

Our team will provide calibration-per-mission in lieu of ground control targets. A set calibration site at or near the Iqaluit airport will be set up prior to flight operations. Base station setup and ground control will be coordinated by Arctic UAV's ground control coordinator, Livete Ataguyuk, who will work closely with Airborne's team to ensure data accuracy.

It is expected that we will mobilize the crew in late June or early July depending on weather conditions. With knowledge of weather and limited windows of opportunity, our team will ensure it is available during the month of July to take advantage of the best season weather window.

PHASE 2: FIELD OPERATIONS

Field operations will be a collaborative effort between Arctic UAV and Airborne Imaging, with Arctic UAV providing local expertise, ground support, and supplementary RPAS capabilities, while Airborne Imaging will lead the aircraft-based LiDAR acquisition.

Once the systems have been mobilized and missions are underway, each day begins with a morning operations/safety meeting where the combined crew discusses the weather forecast, objectives for the day and who will be responsible for various tasks. The Field Project Manager (Kirt Ejesiak from Arctic UAV) will coordinate with Airborne's team and surveyors to discuss a travel plan before they head out. This includes time estimate for travel to the site, time required on site and the return trip. Also, any safety related concerns are brought up and addressed prior to any field work.

Arctic UAV's local team will provide critical local knowledge, coordinate with local authorities, and handle logistical challenges that may arise. Pakak Picco, as RPAS/LiDAR Operator, will work alongside Airborne's team to ensure seamless integration of data collection efforts.

If a flight mission is to be attempted, the operators are responsible for ensuring that all data is collected in a manner consistent with our standards and keeping detailed notes for the mission and completing accurate flight logs (supplied in the final reports). They are responsible for ensuring that the data collected is contiguous with previous missions, ensuring that all lines are flown in opposition to adjacent lines (no race tracking) and ensuring that adequate cross tie lines are collected. After landing from collecting data, the operators collect the base station GNSS data, IMU/NAV data from the system and all the raw data from the mission and delivers it to the onsite project manager for review and initial field QC.

PHASE 3 -- LIDAR PROCESSING AND QUALITY CONTROL

Initial LiDAR Processing and QA/QC

Point cloud processing starts with processing the flight trajectory data. All GNSS data is processed using either the Applanix PosPac or Waypoints Inertial Explorer software. This trajectory is incorporated with the inertial data and the raw laser data to produce the preliminary calibrated point cloud. Once the point cloud has been generated, the Field Project Manager creates various raster products with the LAStools software from the mission's flight lines to control the quality of the data collected.

The following rasters are generated:

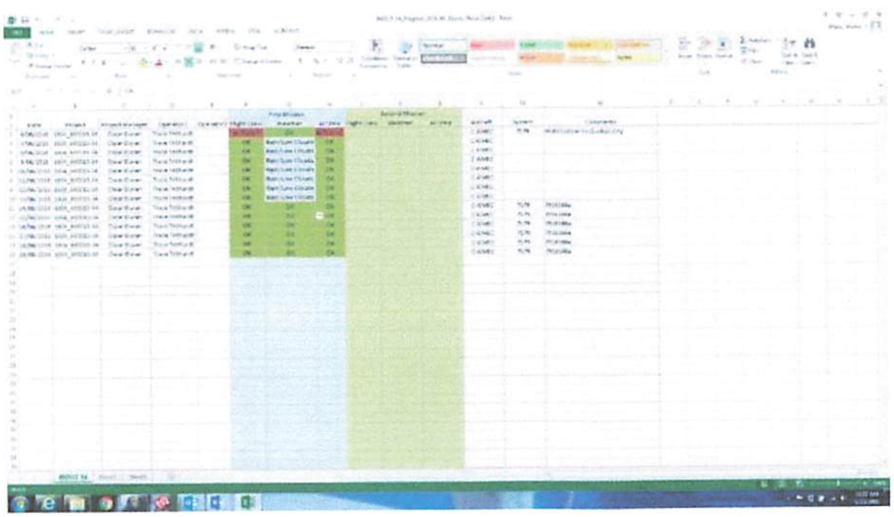
- Overlap coverage
- Vertical differences between flight lines
- Preliminary bare earth and full feature hill shade images, intensity images and density.

If any gaps in coverage are found or data is found not to meet the project tolerances, the aircraft is sent on the next mission to collect data over the affected areas. The Field Project Manager then makes duplicate copies of the raw data and the processed point cloud. One copy of the processed point cloud is shipped to the office (generally within 24-48hrs of acquisition) for calibration refinement, QC checks, tiling and classification/editing.

Mission details are forwarded to the office in the form of a processed trajectory and flight logs. This information is used to track progress and provide regular updates to the client. Both Arctic UAV and Airborne have systems in place for tracking, logging and archiving important project details. A sample of the Project flight logs and a sample of a set of mission logs can be provided if requested.

Daily / Weekly Progress Reporting

Our team has a daily reporting mechanism internally that is passed to the client on a weekly basis, typically on Tuesday of every week. For acquisition progress we supply both a spreadsheet (A) and an up to date kmz (B) file showing lines flown versus those yet to complete. The spreadsheet includes information for crew on the project, and which days they are successful and if missions were not flown, why they were not flown etc. The kmz (or shape file if preferred) itemize lines flown and correspond to spreadsheet A so that each line falls under a specific mission.



Field Progress Spreadsheet

Project Overview

In addition to the project acquisition updates every week, the Project Manager, Kirt Ejesiak, will forward an updated summary of which project areas have been flown, what stage the calibration, editing, processing and deliverables are at. This can also be supplied in a shape file format. During all phases of the project, Kirt Ejesiak will be in constant communication on project status. A weekly update will always be provided along with other milestone completions and will be available for any questions or concerns. Our team has refined a lean team approach to ensure proper lines of communication are adhered to provide effective coordination and satisfaction.

Example Processing Report for Clients

PHASE 4: DATA CALIBRATION AND QC

Calibration

Airborne periodically performs calibration flights to determine the boresight angular and distance values between the three main measuring components: the GPS antenna, the inertial unit and the laser scanner. The preliminary calibrated point cloud created by the Field Project manager is produced using the system's latest boresight values.

Once the point cloud data arrives in the office, an experienced calibration expert reviews the field results. A further calibration refinement is performed using Bayesmap's StripAlign software. Vertical comparisons are made against the ground truth points and vertical biases removed by shifting the strips if necessary.

Our team will perform an In-Situ calibration for the LiDAR system(s) before commencing the acquisition at design altitude. The calibration will always be repeated any time a sensor or system components are replaced. A calibration report will be provided with the project deliverables. We can provide the most recent calibration data if requested for the sensor(s) selected for the project.

Arctic UAV's ground control coordinator, Livete Ataguyuk, will work with Airborne's team to ensure proper calibration and ground control integration throughout the project.

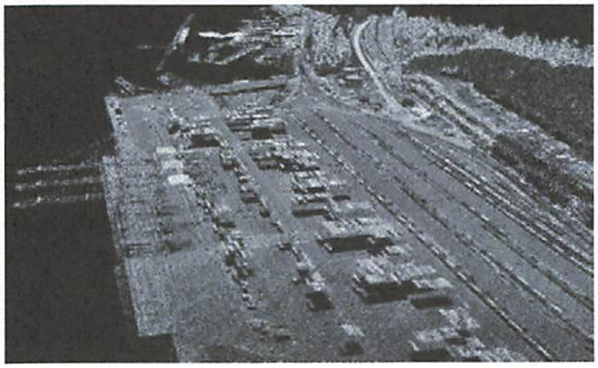
PHASE 5: DATA PROCESSING / QC

Tiling and Automated Classification

For ease of data manipulation, the large calibrated LiDAR strips are combined and saved in tiles of 1x1 km. The tiled point cloud is then processed with a series of algorithms to separate the "most-likely" ground returns from other returns. The point classification is done using the LAStools suite of software. The general premise of ground classification is that the lowest points are typically ground. Triangulation of surrounding points is computed and classified as ground and non-ground depending on set angles and distances. Outlier points far above or below the ground are normally detected as isolated points and classified as low and high noise (generally caused by atmospherics returns or noise in the data).

Data Classification

The raw LiDAR data is processed into calibrated point cloud strips corresponding to flight lines. The tiled point cloud is then processed with a series of algorithms to separate the "most-likely" ground returns from other returns. The point classification is done using a product by TerraSolid software running on MicroStation TerraScan and TerraModel. The points will be classified to the ASPRS classes required. Below is a description of the premises on which the classification is made and what point should be in what class in a final point cloud.



The software uses macros that are set-up to measure the angles and distances between points to determine what classification a point should be: ground, low, medium and high vegetation, other, etc. The angle and distance values in the macros can be adjusted to be aggressive with the classification of points by varying the incidence angles and estimated distances among neighboring points.

After the automated macro is run to determine classes, a systematic visual inspection is performed to fine tune the classification of points among the different categories. To better understand areas for improvement for the ground surface, the points that are classified as ground are extracted and turned into viewable TIN and grid surfaces. These surfaces are inspected for areas that appear rough, artificially flattened or truncated, no data areas, or have other viewable errors.

In cleaning up ground points, the focus is concentrated in areas where few ground points have been left in the bare earth model and the ground appears rough or lower and flatter than it may be. The scarcity of ground points may be a result from no penetration through a dense vegetation layer, water bodies, low reflectivity objects, or too aggressive values with the macro. A manual inspection of these areas plays a major role in resolving any issues or irregularities with the bare earth model.

Once the first edits are completed, a grid of the ground surface is re-exported and hill shade images produced to QC the edited ground surface. For occasional tiles where the QC pass required considerable "touch-ups", a second QC pass was performed to validate the classification changes. When the point cloud data has reached a satisfactory level of classification and accuracy, the final deliverables are produced.

PHASE 6: ORTHOPHOTO ACQUISITION AND PROCESSING

Pre-Production and Acquisition QC

Quality Control (QC) is paramount in every stage of the data collection and production processes. All flight plans are reviewed by at least two team members before the plan is released to the crew. When the data moves to the aircraft, the customized FMS provides the next level of quality assurance. The software is customized to provide the pilot and operator with all the necessary information about the lines to be flown and will not trigger the camera unless the aircraft is within the tolerances of the plan. This FMS allows pilots and operators to more precisely navigate and acquire imagery.

Survey pilots and sensor operators have the facilities and knowledge to make sure only quality imagery is acquired by the digital sensors before the imagery is downloaded. The Sensor Operator reviews acquired imagery after each flight as an initial step in confirming the quality of a collect. Any issues that can be identified in the field can be re-flown on the next flight. This allows the crew to perform a preliminary QC before they are shipped to the office. This portion of the process will catch camera errors, GPS/IMU errors, incorrect exposure values and other gross errors.

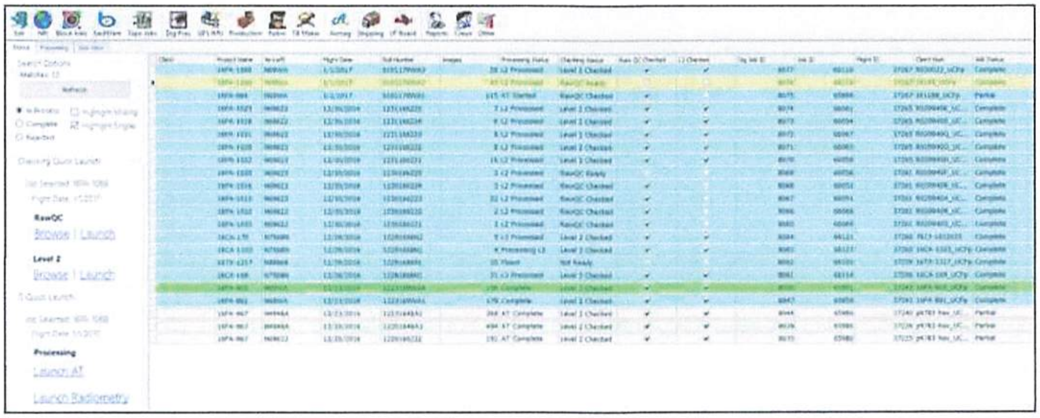
Office QC

The processing of digital imagery is a highly automated and documented process but is supplemented with quality control processes. AGPS/IMU processing and QC is logged, processing status can be viewed, and imagery QC is launched and updated. Under the direction of the project management team and the production manager, the QC team will monitor this screen in order to keep projects moving through the system.

They will go through the imagery at the Level 02 stage, checking the Red, Green, Blue and NIR bands for coverage, clouds, smoke, crab, tilt etc. If something is not within specifications or is questionable, the project manager will make the final judgement regarding a re-flight. If imagery is rejected, the QC person marks the images which updates the imagery project file for future processing. The team member QC'ing the imagery will use the reports from the update to reject the lines, which in turn is used by the crew. They will also update the QC sheet for the flight with all the checking and refection info.

AGPS and IMU Processing QC

The post-processed Airborne Global Positioning System and Inertial Measurement Unit data are checked for accuracy by a photogrammetrist reviewing processing reports and verifying event to camera imagery correlations before it is delivered.



Example QC

Aerial Triangulation and Mosaicking

Aerial Triangulation (AT) will be used to improve the direct geo-referencing data from the processed ABGPS/IMU and reference the aerial data to the ground control. This method increases the accuracy of the project and eliminates any residual frame-to-frame discrepancies.

The AAT will be performed using Inpho Match-AT software and the bundle block adjustment using Inpho InBlock. The computational output from the adjustment will provide statistics and an accuracy assessment of the AT on a model-by-model basis as well as creating the stereo model setups required for orthorectification.

A report for the AT results will be supplied including the photogrammetric block layout and a diagram showing the location and names of all the points that were used in the adjustment. Results of the computations and an accuracy analysis of the final adjustment with respect to the project specifications will be documented.

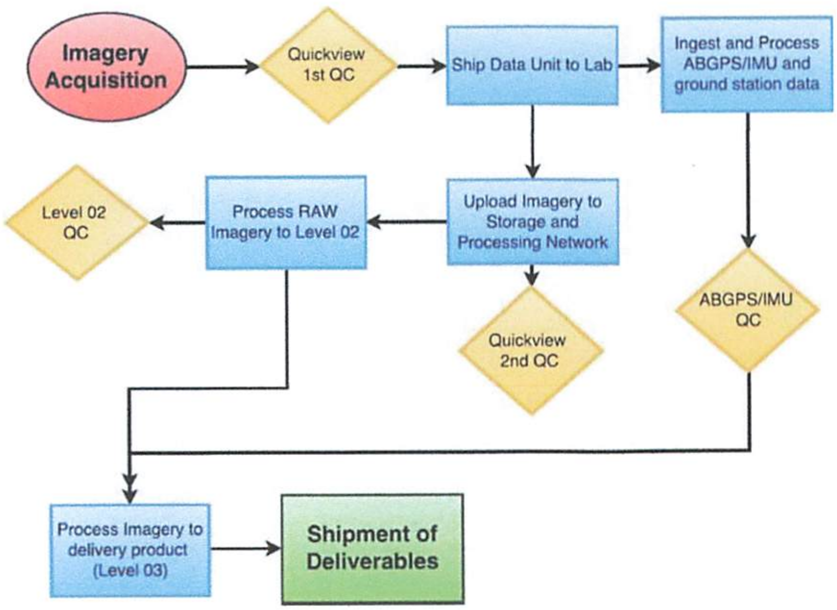
The radiometric team, under the direction of the production manager, is then notified through the same dashboard that the flight is ready for Level 03 processing. Because of the close correlation between systems, only the accepted imagery is available for the radiometric team to adjust. Proper color balance is a skill developed over time; the radiometric team are experienced with this work after processing countless images.

Digital orthophotos will be produced through the process of bi-cubic convolution on a frame by frame basis using the exterior orientation parameters calculated during the Aerial Triangulation and the ground level Digital Terrain Model (DTM).

Mosaicking of individual frames will be performed using the center (NADIR) area of each image. This reduces the amount of distortion in the final mosaic and only that part of the image with the best radiometric quality is retained. Images are radiometrically balanced and adaptive seamlines selected to ensure invisible joins between frames, thereby providing seamless imagery. Any areas of tall buildings will require special attention to minimize building lean or flattening. In these areas, the photography that was flown with 60% forward overlap and 30% side overlap will be used to facilitate a "true orthophoto" such that only the tops of the buildings are visible and little to no occluded areas remain in the product.

Seam lines are manually adapted to ensure that only the most vertical view of each building is retained in the orthophoto. The objective is to create the image mosaic such that only the tops of the buildings are visible and little to no occluded areas remain in the product. Bridges and overpasses that are flattened by DTM will be rectified to the appropriate plane. Furthermore, the orthophoto processing considers variables such as sun angle, time of day and season to ensure that the aerial images are as consistent as possible. Smearing caused by very steep terrain and drop-offs is minimized by using the acquired LiDAR DTM with break lines along the edges of steep areas. New DEM will be generated in the outlying areas of the city where the LiDAR data is unavailable to support orthophoto generation.

Final checks are performed on the orthophotos to ensure that all required tiles have been produced (extent, pixel size, units, etc.), are properly geo-referenced, tiled, are free of processing artefacts and are correctly named.



PHASE 7: DELIVERABLES

Our team will deliver the following LiDAR/Orthophoto products:

- Calibrated Classified LiDAR point data in LAZ 1.4 R15
- 1m DEM
- 1m DSM
- Canopy Height Model
- First Surface Data
- 1m Contours
- 10cm RGB Orthophotos and Mosaic
- Intensity images
- Metadata (FGDC) and shapefiles
- All other requirements stated in the RFP

Projections to be confirmed (UTM NAD83 CGVD28-HT2) and file formats can be adjusted as needed prior to mobilization.