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| U.S. Geological Survey – Chesapeake Bay, VA QL2 LiDAR  Delivery Report Produced for U.S. Geological Survey  USGS Contract: G10PC00013  Task Order: G15PD00714  Reporteport Date: 10/09/2012 | | |
| Report Date: August 8, 2016 | |
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**USGS Chesapeake Bay, VA QL2 LiDAR**

**Deliverables Overview Checklist**

**Raw Point Cloud Data**

LAS version 1.4

Georeferenced

GPS Times are included

Intensity values are included

Full swaths

1 file per swath

**Classified Point Cloud Data**

LAS Version 1.4

Correct Georeference Information

Contains GPS Times

Contains Intensity Values

Tile to 5000’ x 5000’ Tile Grid

Classified with class 1-unclassified, 2-Ground, 7-Noise, 8-Model Key Point, 9-Water, 10-ignored ground,

17-bridge decks, 18-high noise. Overlap and withheld flags used.

**Bare Earth Surface (Raster DEM)**

Cell size of 2.5’

ERDAS .img File format

Georeference info included (xml files)

Tiled with no overlap

Reviewed for edgematching and artifacts

Free of void areas

Hydrographic features have been flattened according to SOW

**Metadata**

FGDC Compliant metadata for:

Deliverables (Boundary, Tile Grid, LAS Extent, LAS, DEM, DSM, Breaklines, Intensity Imagery, Lifts, Contours, Survey Checkpoints, Calibration Points, and Project)

**Project Reports**

Collection Report detailing mission planning, flight logs, acquisition, and calibration

Control Points used by Acquisition Partner are listed

Processing report

QA/QC Reports

**Extents**

Tile grid in Shapefile format derived from the LiDAR Deliverable

Tile grid according to VBMP format, 5000 ft x 5000 ft, and in Shapefile format

Project Boundary buffered 100 meters and delivered as shapefile

**Breakline Data**

Breakline Data in GDB

Breakline Data as Shapefiles

**Intensity Imagery**

Intensity imagery in GeoTIFF format and 2.5’ pixel size

# Raw Point Cloud Data

Raw Point Cloud Data is currently being updated to the new WKT guidance. The raw point cloud data will be included in the next delivery.

# Classified Point Cloud

Classified point cloud data has been delivered tiled to 5000’ x 5000’ tiles that are named according to the VBMP. The delivery consists of 4,255 LiDAR tiles that meet the project specified requirement.

# Bare Earth Surface (Raster DEM)

A total 4,255 5000’ x 5000’ tiled bare earth raster DEMs in ERDAS IMG format have been delivered for this project. All tiles have a cell size of 2.5’ and have been reviewed to ensure that they meet the project required specifications.

# Metadata

Project level metadata for each of the deliverables (Swaths or Lifts, fully classified LiDAR, breaklines, bare-earth DEMs, intensity imagery, and project) in XML format is included in this delivery. Metadata has been reviewed through the USGS metaparser tool to ensure that it is FGDC compliant.

# Extents

Six ESRI shapefiles are included with this delivery. Two shapefiles are the boundary of the project area buffered by 100 m in both Virginia State Plane North and Virginia State Plane South and is the processing boundary for all project data. Two shapefiles are the tile grids in both state plane zones, created and named according to the VBMP format. Two others shapefiles are for the extents of the actual LAS deliverable in both state plane zones to ensure that all delivered LiDAR have been accounted for. The extents have been verified against the project boundary to ensure that there is full coverage for the project.

# Breakline Data

Breaklines have been delivered in an ESRI file geodatabase and as shapefiles. Breaklines were derived to meet the project specifications as outlined in the SOW.

# Intensity Imagery

Intensity imagery is delivered tiled to 5000’ x 5000’ tiles that are named to according to the project tile grid. The imagery is in GeoTIFF format with 2.5 ft pixel size. The intensity imagery is created from the full point cloud LiDAR data. The delivery consists of 4,255 GeoTIFF tiles.

# Other Comments

Please note this delivery is split between three hard drives: Sea Gate S/N NA7R43TV, Western Digital S/N WXV1E75AHYE5, Western Digital S/N WX31AA557URU.