Dane County Contract Addendum Cover Sheet

Revised 06/2021

Res 232
significant

Contract # Admin will assign	15213B

Dept./Division	Information Management/Land Information Office	**Vendor Name**	Ayres Associates
Brief Addendum Title/Description	The processing and development of terrain data and enhanced derivative terrain related products and services for Dane County.	**Vendor MUNIS #**	606
		Addendum Term	11/1/2025 - 12/31/2026
		Amount ($)	$ 211,620.00

Department Contact Information		Vendor Contact Information	
Contact	Frederic Iausly	**Contact**	Adam Derringer(AyresAssociates)
Phone #	608-266-4398	**Phone #**	608-443-1200
Email	iausly@danecounty.gov	**Email**	DerringerA@AyresAssociates.com
Purchasing Officer	Megan Rogan		

Purchase Order – Maintenance or New PO

☐	**PO Maintenance Needed**	**Org:**		**Obj:**	**Proj:**	
	PO#	**Org:**		**Obj:**	**Proj:**	
☐	**No PO Maintenance Needed –** *this addendum does not change the dollar amount of the contract.*					
■	**New PO / Req. Submitted**	**Org:** LIO		**Obj:** 57472	**Proj:**	$ 211,620.00
	Req# TBD	**Org:**		**Obj:**	**Proj:**	

Budget Amendment

☐ A Budget Amendment has been requested via a Funds Transfer or Resolution. Upon addendum approval and budget amendment completion, the department shall update the requisition in MUNIS accordingly.

Total Contracted Amount – List the Original contract info, then subsequent addenda including this new addendum

A resolution is required when the total contracted amount first exceeds $100,000.

Additional resolutions are then required whenever the sum(s) of any additional addenda exceed(s) $100,000

Addendum #	Term	Amount	Resolution	
Original	10/1/2023 - 12/31/2025	$ 100,000.00	☐ None	Res# 2023 RES-157
A	12/1/2023 - 12/31/2025	$ 125,000.00	☐ None	Res# 2023 RES-262
B	11/3/2025 - 12/31/2026	$ 211,620.00	☐ None	Res# 2025 RES-232
			☐ None	Res#
			☐ None	Res#
			☐ None	Res#
Total Contracted Amount		$ 436,620.00		

Contract Language Pre-Approval – prior to internal routing, this contract has been reviewed/approved by:

☐ Corporation Counsel: ☐ Risk Management: ■ No Pre-Approval

APPROVAL	
Dept. Head / Authorized Designee	
Olson, Sam	Digitally signed by Olson, Sam DN: DC=us, DC=daneco, OU=Dept, OU=Information Management, CN="Olson, Sam", E=Olson@danecounty.gov Reason: I am the author of this document Location: Date: 2025.11.20 13:08:53-06'00' Foxit PDF Editor Version: 14.0.1

APPROVAL – Contracts Exceeding $100,000	
Director of Administration	**Corporation Counsel**
Greg Brockmeyer	David Gault

APPROVAL – Internal Contract Review – Routed Electronically – Approvals Will Be Attached

DOA:	Date In: 11/20/25	Date Out: _____	☒ Controller, Purchasing, Corp Counsel, Risk Management

Goldade, Michelle

From: Goldade, Michelle
Sent: Thursday, November 20, 2025 1:05 PM
To: Hicklin, Charles; Rogan, Megan; Gault, David; Cotillier, Joshua
Cc: Stavn, Stephanie; Oby, Joe
Subject: Contract #15213B
Attachments: 15213B.pdf

Importance: High

Tracking:

Recipient	Read	Response
Hicklin, Charles	Read: 11/20/2025 1:55 PM	Approve: 11/20/2025 1:55 PM
Rogan, Megan	Read: 11/20/2025 1:35 PM	Approve: 11/20/2025 1:35 PM
Gault, David	Read: 11/20/2025 2:26 PM	Approve: 11/20/2025 2:28 PM
Cotillier, Joshua	Read: 11/20/2025 1:15 PM	Approve: 11/20/2025 1:17 PM
Stavn, Stephanie		
Oby, Joe		

Please review the contract and indicate using the vote button above if you approve or disapprove of this contract.

Contract #15213B
Department: Land Information
Vendor: Ayres Associates
Contract Description: Processing & Development of Terrain Data & Enhanced Derivative Terrain (Res 232)
Contract Term: 11/1/25 – 12/31/26
Contract Amount: $211,620.00

Michelle Goldade
Administrative Manager
Dane County Department of Administration
Room 425, City-County Building
210 Martin Luther King, Jr. Boulevard
Madison, WI 53703
PH: 608/266-4941
Fax: 608/266-4425
TDD: Call WI Relay 711

Please Note: I currently have a modified work schedule...I am in the office Mondays and Wednesdays and working remotely Tuesdays, Thursdays and Fridays.

2025 RES-232

CONTRACT ADDENDUM FOR THE PROCESSING AND DEVELOPMENT OF DIGITAL TERRAIN DATA AND ENHANCED DERIVATIVE TERRAIN RELATED PRODUCTS AND SERVICES BETWEEN AYRES ASSOCIATES AND DANE COUNTY

Under contract #15213 Dane County contracted with Ayres Associates for Fly Dane 2024. Also in 2024 Dane County contracted with the Wisconsin Department of Administration, Division of Intergovernmental Relations (DOA-DIR), Wisconsin Land Information Program (WLIP) and the United States Geological Survey (USGS) 3D Elevation Program (3DEP) to acquire QL1 LiDAR data for five counties in the State of Wisconsin. The USGS has completed the development of the base terrain data and made that data available to Dane County. The contract addendum is for Dane County to contract with Ayres Associates for the enhancing and developing of derivative terrain data products from USGS base data. The total contract cost of this project is $211,620.00. The contract leverages the work already done with the WLIP and USGS to develop the enhanced terrain data needed by Dane County.

NOW, THEREFORE, BE IT RESOLVED, that the following contract addendum is approved for the period through December 31, 2026;

Ayres Associates
5201 E Terrace Drive, Suite 200
Madison, WI 53718

BE IT FURTHER RESOLVED, that any unexpended or unrealized funds at 12/31/2025 be carried forward to 2026.

NOW BE IT FINALLY RESOLVED that the County Executive and County Clerk are authorized to sign the contract addendum.

DANE COUNTY CONTRACT

ADDENDUM # 15213B

Revised 11/2024

THIS ADDENDUM, made and entered into effective as of the date by which both parties hereto have executed this document, by and between the County of Dane (hereinafter referred to as "County") and Ayres Associates (hereinafter, "Provider").

WITNESSETH:

WHEREAS Provider and County, by a separate document (hereinafter, the "Master Agreement"), Dane County Contract # 15213 , have previously entered into a contractual relationship pursuant to which Provider for the purpose of acquiring photogrammetric services and products, and

WHEREAS County and Provider wish to amend the Master Agreement in order to include the processing and development of terrain data and enhanced derivative terrain related products and services.

NOW, THEREFORE, in consideration of the above premises and the mutual covenants of the parties hereinafter set forth, the receipt and sufficiency of which is hereby acknowledged by each party for itself, the parties do agree as follows:

1. The Master Agreement shall remain in full force and effect unchanged in any manner by this addendum except as changes are expressly set forth herein. This addendum shall control only to the extent of any conflict between the terms of the Master Agreement and this addendum.

2. The Master Agreement, and any amendment or addendum to it, may be executed and transmitted to any other party by legible facsimile reproduction or by scanned legible electronic PDF copy, and utilized in all respects as, an original, wet-inked manually executed document. Further, the Master Agreement and any amendment or addendum thereto, may be stored and reproduced by each party electronically, photographically, by photocopy or other similar process, and each party may at its option destroy any original document so reproduced. All parties hereto stipulate that any such legible reproduction shall be admissible in evidence as the original itself in any judicial, arbitration or administrative proceeding whether or not the original is in existence and whether or not such reproduction was made by each party in the regular course of business. This term does not apply to the service of notices under the Master Agreement, or any subsequent amendment or addendum.

3. The term of the contract is extended through December 31, 2026 to continue the program for the processing and development of terrain data and related enhanced terrain products, at an additional cost of $211,620.00.

4. The following shall be added to schedule A:

A.6 TERRAIN DATA

A.6.1 Lidar was captured in the spring 2024, as part of Contract 15499 between the Division of Intergovernmental Relations, Department of Administration, State of Wisconsin and Dane County.

A.6.2 The deliverables as part of the contract between the State of Wisconsin and Dane County will include:

A.6.2.1 Quality Level 1 (QL1) point density Lidar data

A.6.2.2 Base classified point cloud (does not include buildings or vegetation), LAS format

A.6.2.3 Hydro flattened breaklines (100-ft streams and 2 acre ponds), Esri file geodatabase format

A.6.2.4 Bare earth DEM, 32-floating point grid

A.6.2.5 Vertical accuracy report (NVS and VVA)

A.6.2.6 Data acquisition and processing QC reports

A.6.2.7 Tile schematic, Esri file geodatabase format

A.6.3 All datasets will be referenced to WISCRS Dane County Coordinates, NAD83(11) horizontal datum and NAVD88 (geoid 12B) vertical datum.

A.6.4 Provider will perform topographic mapping services and deliver enhancements and derivative datasets using the Lidar base data collected by USGS (referred to as ‘original data’ in this agreement) in spring 2024.

A.6.4.1 Provider is not responsible for the vertical accuracy, point cloud classification accuracy, or completeness of the original data. Provider will not collect new Lidar data or perform additional ground control to assess or improve accuracy of the original data.

A.6.5 Base product enhancements and derivatives will include:

A.6.5.1 Compile hydro-flattened breaklines for ponded water that is 1 acre or greater and double lined streams with a minimum width of eight feet. The streams will break at road crossings (culvert locations). The hydrographic features will be flattened as per the criteria outlined in “National Geospatial

Program Lidar Base Specification 2020 rev. A" (the road fills will not be removed from the DEM, streams will not break at bridges, and when the identification of a feature as a bridge or culvert cannot be made reliably, the feature will be regarded as a culvert). The hydro breaklines will be delivered in ESRI polyline Z feature class.

A.6.5.2 Prepare project-wide 1-foot contours from the original data and the breaklines.

A.6.5.2.1 Create contours from largest blocks of bare earth points that is achievable within the limitations of the Lidar processing software.

A.6.5.2.2 Apply COUNTY-selected contour smoothing routine from three options provided by Provider.

A.6.5.2.3 Add index depression and intermediate depression contour types to the contour attributes.

A.6.5.2.4 Run topology tests for contour type and contour location across the entire contour dataset.

A.6.5.2.5 Manually fix contours that do not meet topology rules.

A.6.5.3 Add building and high vegetation classifications to the original data.

A.6.5.3.1 Use automated routines to classify vegetation points that exist 10 feet or greater above the ground. The high vegetation points will be placed in Class 5 of the classified point cloud.

A.6.5.3.2 Use automated routines to classify building points that exist 10 feet or greater above the ground. The building points will be placed in Class 6 of the classified point cloud.

A.6.5.4 Generate a bare earth Digital Elevation Model (DEM) from classified bare earth points (Class 2) and improved breaklines. Water bodies and streams will be hydro-flattened within the DEM. The cell size will be 1.0 foot. The delivery format will be tiles, GeoTIFF format.

A.6.5.4 Prepare Lidar intensity images using first return values within the original data. The intensity images will be delivered as 8-bit, 256 color gray scale, GeoTIFF format images.

A.6.5.5 Generate a Digital Surface Model (DSM)

A.6.5.5.1 Use first return Lidar points to create a countywide DSM.

A.6.5.5.2 Delivery format will be tiles, GeoTiff format.

A.6.5.6 Generate bare-earth point datasets from calibrated point cloud.

A.6.5.6.1 Export bare earth points to .txt or .las file format.

A.6.5.7 Data will be delivered in a file geodatabase format.

A.6.6 Additional Lidar enhancements and derivatives for consideration:

A.6.6.1 Extract two-dimensional (2D) building outlines from classified point cloud.

A.6.6.1.1 Use building point classification to extract 2D vectors that geometrically define building rooftops. Only buildings that are classified will be extracted.

A.6.6.1.2 Perform manual editing to clean up areas where vegetation partially obscures building. Editing of building shapes elsewhere will be limited and will be a product of the point density achieved on rooftops throughout the project area.

A.6.6.2 Extract two dimensional (2D) high vegetation canopy polygons from the classified point cloud. The output will be the result of an automated process and constrained to the ability of the LiDAR data's ability to detect and geometrically define vegetation detail.

A.6.6.2.1 Use high vegetation point classification to extract 2D vectors that geometrically define high vegetation canopy. Only high vegetation that are classified will be extracted.

A.6.6.2.2 Manual editing of high vegetation shapes will be limited and will be a product of the point density achieved on high vegetation throughout the project area.

A.6.6.3 Provide geospatial data processing services using the County's existing lidar DEM to produce a slope ranges dataset.

A.6.6.3.1 Use automated routines to model slope ranges categories

A.6.6.3.2 Generate automated slope ranges (6-12%,12-20% and >20%)

A.6.6.4 Provide geospatial data processing services using the County's existing aerial imagery data collected in 2024 and LiDAR data collected in 2024 to produce culvert-related datasets.

A.6.6.4.1 Compile culverts dataset using 2024 stereo imagery and 2024 LiDAR.

- Collect culvert lines at 1"=100' map scale.
- Collect culverts that are visually identifiable on both sides of the embankment in the stereo imagery.

A.6.6.4.2 Create 3D breaklines using county provided culverts and compiled culvert lines

- Drape culvert lines to LiDAR bare earth points.
- Extract 3D lines at the lowest elevations determined by the LiDAR.
- Classify LiDAR points as ground using a 1-meter buffer around the culvert breakline.

A.6.6.4.3 Generate hydro-enforced bare earth digital elevation model (DEM) using 3D breaklines and the LiDAR bare earth points.

- Resulting hydro-enforced DEM will have a cut through embankments where culvert lines are mapped.
- Generate DEM with a pixel size of 2-foot in GeoTiff format.
- Cut DEM tiles according to the OWNER's existing tile scheme.

A.6.6.5 Generate hydro-enforced DEM

A.6.6.5.1 Use culvert breaklines with one-meter buffer to classify Lidar points as breakline proximity.

A.6.6.5.2 Hydro-enforce the DEM using the culvert breaklines and re-classified points in proximity to the culvert.

A.6.6.5.3 Produce countywide DEM that represents cuts in the surface model where culverts exist.

A.6.6.6 Provide geospatial data processing services using the County's existing hydro-enforced DEM and culvert data to produce a closed depression dataset.

A.6.6.6.1 Use automated hydrologic routines to model maximum capacity of low areas

A.6.6.6.2 Generate automated potential closed depression raster layer for areas greater than 0.1 acre

A.6.6.6.3 Minimal manual editing will be performed to depression layer

A.6.6.6.4 Generate polygon boundary for individual surface depression

A.6.6.7 Provide geospatial data processing services using the County's existing hydro-enforced DEM, culvert data, hydrologic breaklines and closed depressions to produce flow accumulation and catchment datasets.

A.6.6.7.1 Use automated hydrologic routines to model flow paths and catchments outside of hydrologic breaklines.

A.6.6.7.2 Generate automated accumulated flow paths with acreage attributes for contribution areas greater than 0.1 acre.

A.6.6.7.3 Generate automated catchments based on the flow line output at three flow accumulation intervals (6 acres, 20 acres and 40 acres).

A.6.6.7.4 Minimal manual editing will be performed to flow accumulation and catchment layers.

A.6.7 TIMELINE

A.6.7.1 The Provider will deliver all the final products for the Terrain project by Sept 30, 2026.

Deliverables	Approximate Time Frame
2D building outlines generated from building classified points	June 2026
Automated classification of building and vegetation	September 2026
Improved hydro breaklines	September 2026
1-ft contours	September 2026
Bare earth dataset – class 2 point only	September 2026
Intensity imagery raster	September 2026
Digital Surface Model (DSM) of first return	September 2026
Waterbody flattening for bare earth and first return surfaces	September 2026
2D Tree Canopy generated from High vegetation classified points	September 2026
6% / 12% / 20%+ countywide slope model	September 2026
Culvert collection and hydro-enforced DEM	September 2026
Closed depression mapping	September 2026
Accumulated Flow model and catchments	September 2026

5. The following shall be added to Schedule B:

B.3 TERRAIN DATA PRICING

General requirements of the contract for the Terrain Data

Total Fees not to exceed:	$211,620.00

The following price breakdown for Base Lidar enhancements and derivatives for county wide project:

Product	Fee
Improved hydro breaklines (8-ft and wider streams and 1 acre ponds)	$79,800.00
1-ft contours (topologically cleaned, all types)	Inc.
Automated classification of building and vegetation	Inc.
Bare earth dataset – class 2 point only	Inc.
Intensity imagery raster	Inc.
Digital Surface Model (DSM) of first return	Inc.

The following price breakdown for additional Lidar enhancements and derivatives for county wide project:

Product	Fee
2D building outlines	$24,720.00
2D Tree Canopy outlines	$14,000.00

6% / 12% / 20%+ countywide slope model	$ 5,100.00
Culvert collection and hydro-enforced DEM	$49,700.00
Closed depression mapping	$18,500.00
Accumulated Flow model and catchments	$19,800.00

IN WITNESS WHEREOF, the parties, by their respective authorized representatives, have set their hands and seals as of the dates set forth below.

FOR PROVIDER:

November 6, 2025

NAME Zachary J. Nienow
TITLE Manager - Aerial Mapping

November 6, 2025

NAME Adam Derringer
TITLE Senior Project Manager

* * *

FOR COUNTY:

Melissa Agard
Dane County Executive

Date

Scott McDonell
Dane County Clerk

Date