# LAR-IAC4 Status and User Group Meeting

### October 8, 2015





imagery acquisition consortium



# Agenda

- LARIAC Imagery Update
  - LARIAC Status Update
  - LARIAC Update and Training Schedule
  - LARIAC Data Access Methods
  - Additional Derived Data
- User Presentations
  - DPW Street View Project
  - Participant Presentations
  - DPW LIDAR pilot
- Lunch
- LIDAR
  - LIDAR Benefits
  - LIDAR and GIS
  - LIDAR Project Plan
  - LIDAR QAQC
- Questions and Discussion

# What is LAR-IAC?

 Los Angeles Regional Imagery Acquisition Consortium (LAR-IAC)

"LAR-IAC is multi-jurisdictional purchasing arrangement that enables participating local governments and agencies to benefit from combined economies of scale to efficiently and cost-effectively acquire high definition aerial data."

 Established in 2003 by LA County Regional Planning and Chief Information Office.

### **LAR-IAC4 Product Matrix**

Data Types	LARIAC1 2006	LARIAC2 2008	LARIAC3 2011	LARIAC4 2014	
Orthogonal Imagery (4-inch)	X (including Infrared)	X	X	X (including Infrared and 1-foot imagery from 2012 and 2013)	
Oblique Imagery	x	x	x	x	
Building Outlines		X		X	
Elevation Data	x			X	
Derived Data Tree Canopy Solar Insolation NDVI (Permeability) Slope Hillshade Height	x			X	



### **Current Status**

- Everyone has received data except:
  - LA City
  - MTA
  - Sanitation Districts
  - These should arrive this week or next (Dewberry
    - copying drives now)
- Countywide ECW still processing.

## **Current Finances**

- Current LARIAC4 costs \$4.4 million
  - Oblique: \$1.2 million
  - Ortho: \$811,000
  - Buildings: \$135,000
  - LIDAR costs: \$1.6 million
  - QAQC: \$600,000
- \$4.6 million in commitments
  - \$3.4 million received
- Summary estimate a \$200K surplus

What are you getting?

### LARIAC DATA DISCUSSION

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### **Data Delivery Formats**

LAR-IAC4

Delivery Product	Format 1	Format 2	Format 3	Format 4
Orthophoto (color) (4" and 1')	GeoTIFF & JPG2000 (raw format – 180 Mb per tile)	File Geodatabase (compressed, seamless)	ECW mosaics (compressed, seamless)	Map Services from LA County.
Pictometry oblique imagery (4" and 1')	Medium Compressed JPG format	Online Access		
Building Outlines	ArcGIS shapefile	ArcGIS Shapefile of new construction, changes, and demolition		
Digital Terrain Model (2015)	.las format files (RAW)	Digital Elevation and Surface model (rasters)	Other related formats	

LARIAC4\_DeliveryStructure

Building\_Footprints GIS Deliverables

SLDS\_Boundary Tile Index

Oblique\_Deliverables

Software

Warehouse

DEMs

Maps\_and\_GIS Ortho\_Mosaic\_Tiles

Ortho\_Deliverables 2012\_1foot 2013\_1foot 2014\_4inch ECW

> GEOTIFF JPEG2000 Raster Dataset

Reports

Accuracy\_Assessment\_Checkpoints Oblique\_Image\_Polygon\_Shapefiles

Ortho Image Seamlines

Documentation\_and\_Training

Area\_Wide\_Mosaics CALOSA13\_XXXXX

FGDC\_Metadata\_Files

SLDS NAME

### Folder Structure

- Building Folder
- GIS Folder
- Oblique folder
- Ortho folder
- Reports Folder

### **Oblique Image Access**

Method	Description	Use			
Electronic Field Study (EFS)	Desktop Application connecting to data delivered on hard disk	Disconnected situations. Use rarely.			
Pictometry Online (POL)	Online Application for access	Day to day use – will be deprecated soon – can pass parameters to it.			
Pictometry Connect Explorer	Online Application for Access	Day to day use – also mobile - can pass parameters to it.			
Pictometry iPAD Application	Mobile Access	Mobile Access			
ArcMap Plugin	Connect to POL inside ArcMap	Desktop GIS users			
Integrated Pictometry Application (IPA)	Embed oblique imagery inside applications	Enhance existing apps.			
Pictometry Gateway	Get multiple shots at one time.	Reporting			



# **Oblique Imagery on Disk**

- Warehouse and EFS
  - For disconnected situations
  - If you don't join LARIAC5
  - You need EFS software (included) to use.
  - Very large

# **Ortho Imagery**





# **Orthogonal Imagery**

- Raw imagery
  - .tiff files the source data
  - JPEG 2000 files
- Compiled format
  - Raster Dataset (60% JPEG compression)
  - Combined to look like one image
  - Use right away
- Compressed format
  - ECW compression (20:1) for in vehicle use, etc.
- Online access from LA County
  - ESRI map service for inclusion in web sites (example)

### **Image tone**

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# **Cached Map Services**

- LA County has cached the imagery and provides as a service
  - Fast
  - Easy to integrate into apps
  - No need to create your own
- Access from Web:
  - <u>http://cache.gis.lacounty.gov/cache/rest/services/LACounty\_Cache/</u>
- Access via ArcMap
  - <u>http://cache.gis.lacounty.gov/cache/services</u>
- Password Protected (token based)
- Contact LA County for the password

# **Building Outlines**

- Two shapefiles
  - Current buildings
  - Deleted buildings
- Current Building Data Structure
  - CODE (Building or courtyard)
  - BLD\_ID Unique ID
  - HEIGHT (Height in feet)
  - Elevation (Ground elevation)
  - Area (Building roofline in Square Feet)
  - Source (which provenance)
  - Date (data acquired)
  - AIN (Parcel ID)
  - Status (Unchanged, New, Replacement, Modified)
  - OLD\_BLD\_ID (connects to the Deleted Buildings ID)

# **Building Outlines**

- Deleted Building Data Structure
  - CODE (Building or courtyard)
  - BLD\_ID Unique ID
  - HEIGHT (Height in feet)
  - Elevation (Ground elevation)
  - Area (Building roofline in Square Feet)
  - Source (which provenance)
  - Date (data acquired)
  - AIN (Parcel ID)
  - Status (Destroyed, Modified)
  - NEW\_BLD\_ID (connects to the Current Buildings ID)

### **COUNTY GIS REPOSITORY**

# LA County GIS Repository

- A new feature of LARIAC
- Provide direct, read-only access to the County Enterprise GIS Repository.
- Enable participants to access our authoritative data directly – no need to download data from our data portal
- Eliminate duplicate effort.

## What is the Repository

- 13 databases
- Organized by FGDC Theme
- Over 400 GIS data layers
- Many different sources

EGISDBP1 - AERIAL2011 as viewer.sde
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# **COUNTY GIS SERVICES TO CITIES**

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### **GIS Services**

- County maintains a GIS infrastructure and GIS expertise
  - Cities may not have the resources to fully leverage GIS
  - Are the opportunities for the County to support cities with standard GIS tools and services?
  - Leverage collaboration to reduce cost to cities.
- Cities can subscribe to LARIAC capabilities (slightly lower cost, less access)

### Los Angeles Region – Imagery Acquisition Consortium (LAR-IAC4)

# **Questions/Comments?**





#### Prepared by: Los Angeles County