CAECD Board of Managers | Agenda

10:30 a.m., or upon adjournment of the CAPCOG Executive Committee
Wednesday, November 13, 2024
CAPCOG Lantana Room
6800 Burleson Road, Building 310, Suite 155
Austin, Texas 78744

Mayor Lew White, *City of Lockhart*, **Chair**
Judge Brett Bray, *Blanco County*, **1st Vice Chair**
Mr. Matthew Baker, *City of Round Rock*, **2nd Vice Chair**
Judge Ron Cunningham, *Llano County*, **Secretary & Parliamentarian**
Judge James Oakley, *Burnet County*, **Immediate Past Chair**
Council Member Mackenzie Kelly, *City of Austin*
Commissioner Clara Beckett, *Bastrop County*
Mayor Lyle Nelson, *City of Bastrop*
Council Member Kevin Hight, *City of Bee Cave*
Commissioner Joe Don Dockery, *Burnet County*
Judge Hoppy Haden, *Caldwell County*
Judge Dan Mueller, *Fayette County*
Council Member Ron Garland, *City of Georgetown*
Mayor Pro Tem Steve Hougen, *City of Granite Shoals*
Commissioner Walt Smith, *Hays County*
Ms. Esmeralda Mattke Longoria, *City of Leander*
Commissioner Steven Knobloch, *Lee County*
Mayor Pro Tem Doug Weiss, *City of Pflugerville*
Mayor Jane Hughson, *City of San Marcos*
Ms. Janice Bruno, *City of Smithville*
Mr. Brandt Rydell, *City of Taylor*
Judge Andy Brown, *Travis County*
Commissioner Ann Howard, *Travis County*
Commissioner Russ Boles, *Williamson County*
Commissioner Cynthia Long, *Williamson County*
Senator Pete Flores
Representative Stan Gerdes
Representative Vikki Goodwin

1. **Call to Order and Opening Remarks by the Chair**

2. **Consider Approving Minutes for the August 14, 2024, Meeting**

3. **Consider Accepting the Financial Report for the Period October 1, 2023, to August 31, 2024**
   Silvia Alvarado, Director of Finance

4. **Consider Amending FY 2025 Budget to Carry Forward Unfinished FY 2024 Projects**
   Andrew Hoekzema, Deputy Executive Director

5. **Consider Approving New 5-Year AT&T ESInet Next Generation 9-1-1 Core Routing Services Contract**
   Richard Morales, Director of Emergency Communications

6. **Consider Temporary Extension of GeoComm Mapping Services through November 2024**
   Richard Morales, Director of Emergency Communications

7. **Consider Approval of Aerial Imagery Acquisition for 2025**
   Charles Simon, Director of Regional Planning and Services

8. **Consider Approving Committee Appointments**
   Chris Miller, Executive Director

9. **Staff Reports**
   Chris Miller, Executive Director

10. **Adjourn**

A closed executive session may be held on any of the above agenda items when legally justified pursuant to Subchapter D of the Texas Open Meetings Act (Texas Government Code Chapter 551).

CAECD Board of Managers | Summary Minutes

10:30 a.m. or upon adjournment of the Executive Committee, Wednesday, Aug. 14, 2024
6800 Burleson Road
Building 310, Suite 165
Austin, Texas 78744

Present (19)

Mayor Lew White, City of Lockhart, **Chair**
Judge Brett Bray, Blanco County, **1st Vice Chair**
Mr. Matthew Baker, City of Round Rock, **2nd Vice Chair**
Judge Ron Cunningham, Llano County, **Secretary & Parliamentarian**
Judge James Oakley, Burnet County, **Immediate Past Chair**
Commissioner Clara Beckett, Bastrop County
Mayor Lyle Nelson, City of Bastrop
Council Member Kevin Hight, City of Bee Cave
Commissioner Joe Don Dockery, Burnet County
Judge Hoppy Haden, Caldwell County
Council Member Ron Garland, City of Georgetown
Mayor Pro Tem Steve Hougen, City of Granite Shoals
Commissioner Walt Smith, Hays County
Ms. Esme Mattke Longoria, City of Leander
Mayor Pro Tem Doug Weiss, City of Pflugerville
Mayor Jane Hughson, City of San Marcos
Mr. Brandt Rydell, City of Taylor
Commissioner Russ Boles, Williamson County
Commissioner Cynthia Long, Williamson County
Commissioner Ann Howard, Travis County

Absent (6)

Mr. Matthew Baker, City of Round Rock, **2nd Vice Chair**
Council Member Mackenzie Kelly, City of Austin
Judge Dan Mueller, Fayette County
Commissioner Steven Knobloch, Lee County
Mayor Pro Tem Doug Weiss, City of Pflugerville
Judge Andy Brown, Travis County

1. **Call to Order and Opening Remarks by the Chair**
   Mayor White called the meeting to order at 11:13 a.m.

2. **Consider Approving Minutes for the July 10, 2024, CAECD Board of Managers Meeting**
   Mayor White asked for action on the July 10, 2024 CAECD Board of Manager Meeting minutes. Judge Oakley made a motion to approve the minutes. Judge Haden seconded the motion. It passed unanimously.

3. **Consider Adopting a Resolution Providing Signature Authority to Individuals for the Capital Area Emergency Communications District**
   Silvia Alvarado, Director of Finance
   Ms. Alvarado said this item is similar to action taken during the CAPCOG Executive Committee and would update the signature authority for the CAECD's accounts with Forst Bank to include Executive Director Miller and Board Secretary Judge Cunningham.

   Mayor Hughson made a motion to adopt a resolution that provides Executive Director Miller and Judge Cunningham with signature authority for the Capital Area Emergency Communications District. Ms. Bruno seconded the motion. The motion passed unanimously.

4. **Consider Approving ILA with Burnet County Regarding the Completion and Reimbursement of the Radio System and Recorder Integration Project**
   Richard Morales, Director of Emergency Communications
   Mr. Morales said back in March Burnet County requested a reallocation of funds from the City of Austin/Caldwell County/Burnet County Radio Project, which was to update Burnet County's recording capabilities for radio and telecom calls. Austin notified Burnet County that they would not be able to contract with them, so CAPCOG has recommended that Burnet County make use of its current contract

with Motorola or a co-op contract to make the purchase and then contract directly with CAPCOG for reimbursement. CAPCOG also strongly encouraged Motorola to keep its previously quoted and discounted pricing. Mr. Morales said the ILA shouldn't exceed $173,036.

Ms. Voights said this was the very last project on the eight-year Motorola contract and that the city of Austin was handling all the contracts but couldn't get an ILA done in time with Burnet County.

Commissioner Becket made a motion to approve the ILA with Burnet County regarding the completion and reimbursement of the Radio System and Recorder Integration Project. Judge Haden seconded the motion. It passed unanimously.

5. **Consider Approving ILA with Cedar Park for Reimbursement of Recorder Installation Costs**
Richard Morales, Director of Emergency Communications

Mr. Morales said Cedar Park is requesting partial reimbursement of its telecom and radio recording project. The total cost of the project was $457,872, and CAPCOG staff reviewed the system and decided that just more than 31 percent of the project's scope was specific to 9-1-1 applications. Mr. Morales said it is very important to ensure that CAPCOG isn't diverting any funds to non-emergency communications functions. He said the cost of the eligible reimbursement would be $139,905.

Commissioner Long made a motion to approve the ILA with Cedar Park for the reimbursement of recorder installation cost. Commissioner Beckett seconded the motion. It passed unanimously.

6. **Consider Approving Committee Appointments**
Betty Voights, Executive Director

Ms. Voights said there were no appointments at this time.

7. **Staff Reports**
Betty Voights, Executive Director

Mr. Morales said the region suffered a TDDoS attack on August 4 that more than tripled the City of Austin's 9-1-1 calls and caused more than 1,000 percent increase in calls to Round Rock and Travis County Sheriff's office. The attack entered the system through testing numbers, said Mr. Morales, noting that it was not a deliberate but rather a constant attack that is always looking for numbers to use. He said it didn't deny actual 9-1-1 calls; however, it meant more staff was needed to keep up with the call volume and that the system rerouted the overload of calls being received from the attack. Those calls either contained information about a website or would be dead air.

Ms. Voights said that the new call-handling equipment that had been installed at some of the PSAPs in the region was not impacted by this attack, which will be a benefit as the systems are installed around the region.

8. **Adjourn**

Mayor White adjourned the meeting at 11:23 a.m.

_____ _____

Judge Ron Cunningham, Secretary Date
Board of Managers
Capital Area Emergency Communications District

CAPITAL AREA EMERGENCY COMMUNICATIONS DISTRICT
BOARD OF MANAGERS MEETING

MEETING DATE: **November 13, 2024**

AGENDA ITEM: **#3 Consider Accepting the Financial Report for the Period of October 1, 2023, to August 31, 2024**

GENERAL DESCRIPTION OF ITEM:

This is the fiscal year to date financial report for CAECD, for the eleven months beginning October 1, 2023, to August 31, 2024. Included in the report is the Balance Sheet indicating total assets, liabilities, and fund equity, and the Statement of Revenues and Expenditures. The fund equity balance of $46,198,370 represents resources planned to be used to support continuing operations, for meeting existing obligations, and for maintaining the reserves set aside to cover contingency emergency operations, and equipment replacement.

Total Revenues as of August 31, 2024,	$ 36,876,578
Total Expenditures as of August 31, 2024,	$ 21,308,645

The financial statements have been prepared in accordance with applicable state and federal requirements and are unaudited.

THIS ITEM REPRESENTS A:

- ☐ New issue, project, or purchase
- ☒ Routine, regularly scheduled item
- ☐ Follow-up to previously discussed item
- ☐ Special item requested by board member
- ☐ Other

PRIMARY CONTACT/STAFF MEMBER: **Silvia Alvarado, CAPCOG Director of Finance**

BUDGETARY IMPACT OF AGENDA ITEM:

Total estimated cost: N/A
Source of funds:

Is item already included in fiscal year budget?	☐ Yes	☐ No
Does item represent a new expenditure?	☐ Yes	☐ No
Does item represent a pass-through purchase?	☐ Yes	☐ No

If so, for what city/county/etc.? _____

PROCUREMENT: N/A

ACTIONS REQUESTED:
Accept the financial report for the period of October 1, 2023, to August 31, 2024.

BACK-UP DOCUMENTS ATTACHED:

1. Unaudited Balance Sheet as of August 31, 2024.
2. Unaudited Statement of Revenues and Expenditures as of August 31, 2024.

BACK-UP DOCUMENTS NOT ATTACHED (*to be sent prior to meeting* or *will be a handout at the meeting*): None

Capital Area Emergency Communications District
Balance Sheet - **Unaudited**
August 31, 2024

Assets		
Cash and Short Term Investments	$	43,151,168
Accounts Receivable	$	4,993,444
Other Assets	$	166,543
Total Assets	$	48,311,155
Liabilities and Fund Equity		
Accounts Payable	$	1,770,576
Due to CAPCOG	$	342,209
Total Liabilities	$	2,112,785
Beginning Fund Balance	$	30,630,437
Change in Fund Balance	$	15,567,933
Total in Fund Equity	$	46,198,370
Total Liabilities and Fund Equity	$	48,311,155

Capital Area Emergency Communications District
Statement of Revenue and Expenditures - **Unaudited**
For the Eleven Months Ending August 31, 2024

	Fiscal Year to Date Actual	Total Budget	Percent of Total Budget Remaining
Revenue			
Proposition 8 Funding	$ 12,400,329	$ 12,400,329	0 %
State Grants Applied	7,227,168	8,835,500	(18) %
Checking Account Interest	1,142	100	1,042 %
Investment Interest	1,613,945	720,000	124 %
911 Wireline Fees	2,310,304	2,575,833	(10) %
911 Wireless Fees	11,988,978	12,734,869	(6)%
911 Prepaid Wireless Fees	1,044,017	1,031,515	1 %
911 Private Switch	29,430	65,000	(55)%
911 Other Revenues	261,264	20,050	1,203 %
Total Revenue	$ 36,876,578	$ 38,383,196	(4)%
Expenditures			
911-Program Management	$ 2,714,618	$ 3,101,808	12 %
911-Network	5,437,532	5,176,073	(5)%
911-GIS/DB Maintenance	1,942,763	2,804,935	31 %
911-Equipment Maintenance	846,115	1,200,976	30 %
911-PSAP Services	1,517,495	2,495,265	39 %
911-Training & Education	225,498	326,250	31 %
911-NG911 Call Equipment	7,539,568	11,483,610	34 %
911-Capital Projects	509,542	1,558,388	67 %
Regional Notification System	425,404	522,810	19 %
WebEOC	150,109	193,597	22 %
Total Expenditures	$ 21,308,645	$ 28,863,712	26 %
Net Revenue Over/(Under) Expenditures	$ 15,567,933	$ 9,519,485	

CAPITAL AREA EMERGENCY COMMUNICATIONS DISTRICT
BOARD OF MANAGERS MEETING

MEETING DATE: **November 13, 2024**

AGENDA ITEM: **#4 Consider Amending FY 2025 Budget to Carry Forward Unfinished FY 2024 Projects**

GENERAL DESCRIPTION OF ITEM:
Each October we include an agenda item for a budget amendment to carry forward finished portions of several capital projects that were included in the prior year's budget. This amendment updates the budget for each project and adds the associated expenditures and portion of the fund balance to the current year budget.

- Console Replacement and Integration $3,133,446
- Generator Replacement $300,000
- BUC/RBUC/DSR (including Burnet County) $243,267
- Best Practices Study $200,000
- Llano County Radio Dispatch and Network Connectivity $110,477

Two other projects in the FY 2024 budget were either completed or cancelled:

1. Caldwell County Tower Site: completed, $1,344,858 total expenditures, including $384,852 in FY 2024
2. Solocom Console Replacement and Spares $225,000 total budget: cancelled;
    a. $139,905 re-allocated to Cedar Park Recorder Maintenance, FY 2024; and
    b. $85,905 re-allocated to Console Replacement and Integration project.

THIS ITEM REPRESENTS A:

- ☐ New issue, project, or purchase
- ☒ Routine, regularly scheduled item
- ☐ Follow-up to previously discussed item
- ☐ Special item requested by board member
- ☐ Other

PRIMARY CONTACT/STAFF MEMBER: **Andrew Hoekzema, Deputy Executive Director**

BUDGETARY IMPACT OF AGENDA ITEM:

Total estimated cost: $3,987,190
Source of funds: FY 2024 year-end fund balance

Is item already included in fiscal year budget?	☐ Yes	☒ No
Does item represent a new expenditure?	☐ Yes	☒ No
Does item represent a pass-through purchase?	☐ Yes	☒ No

If so, for what city/county/etc.? N/A

PROCUREMENT: N/A

ACTION REQUESTED:
Approve an Amendment to the FY 2025 CAECD Budget as Indicated in Attached Summary

BACK-UP DOCUMENTS ATTACHED:
Proposed FY 2025 Budget Amendment Summary

BACK-UP DOCUMENTS NOT ATTACHED (*to be sent prior to meeting* or *will be a handout at the meeting*): None

FY 2025 CAECD Budget Amendment Summary

Project Title	Existing Project Budget as of 10/11/2023	Change to Project Budget during FY 2024	Updated Project Budget	Expenditures through 9/30/2024	Carried forward to FY 2025 10/9/2024
Console Replacement and Integration	$11,337,919	$859,742	$12,197,661	$9,064,215	$3,133,446
Generator Replacement	$300,000	$0	$300,000	$0	$300,000
BUC/RBUC/DSR (Including Burnet County)	$1,930,811	$0	$1,930,811	$1,687,544	$243,267
Contracted Services (Best Practices Study)	$200,000	$0	$200,000	$0	$200,000
Llano County Radio Dispatch and Network Connectivity	$1,246,900	$48,132	$1,295,032	$1,184,555	$110,477
Total	**$15,015,630**	**$907,874**	**$15,923,504**	**$11,936,314**	**$3,987,190**

CAPITAL AREA EMERGENCY COMMUNICATIONS DISTRICT
BOARD OF MANAGERS MEETING

MEETING DATE: **November 13, 2024**

AGENDA ITEM: **#5 Consider Approving New 5-Year AT&T ESInet Next Generation 9-1-1 Core Routing Services Contract**

GENERAL DESCRIPTION OF ITEM:
In 2018, the District executed a 5-year contract for ESInet (Emergency Services Internet Protocol Network) Core Routing Services with AT&T, including Data Management Services that went into effect starting October 2019. This solution facilitated a transition from the antiquated legacy 9-1-1 infrastructure to a next generation network.

Due to the region's population growth over the past five years, the cost for continuing these services for an additional 5 years has increased by $441,555 per year (19%). This increased cost is covered with the $1.5 million budgeted for network contingencies. As depicted on the attached cost breakdown and comparison, many of the ongoing costs have remained the same or lowered, though annual costs for call routing and data management services are calculated based on population and have therefore increased.

Renewal of the ESInet services ensures the continued delivery of advanced, reliable, and scalable emergency communications essential for our region. Maintaining this service guarantees that our 9-1-1 infrastructure remains capable of meeting the demands of modern emergency response, thereby enhancing public safety and improving response times. We are not proposing to include several optional services that AT&T offered (items 37-39 on the quote sheet) at this time.

THIS ITEM REPRESENTS A:

- ☒ New issue, project or purchase
- ☐ Routine, regularly scheduled item
- ☐ Follow-up to previously discussed item
- ☐ Special item requested by board member.
- ☐ Other

PRIMARY CONTACT/STAFF MEMBER: **Richard Morales, Jr., Director of Emergency Communications**

BUDGETARY IMPACT OF AGENDA ITEM:

Total estimated cost: $13,659,119.40 ($2,731,823.88 per year)
Source of funds: 9-1-1 Fees

Is item already included in fiscal year budget?	☒ Yes	☐ No
Does item represent a new expenditure?	☐ Yes	☒ No
Does item represent a pass-through purchase?	☐ Yes	☒ No

If so, for what

PROCUREMENT: AT&T Master Agreement (Cooperative Purchasing Agreement)

ACTIONS REQUESTED:
Authorize Execution of Pricing Schedule under AT&T Master Agreement for ESInet Core Routing Services.

BACK-UP DOCUMENTS ATTACHED:

1. AT&T ESInet Pricing Schedule
2. Cost Breakdown and Comparison for 2018 and 2024

BACK-UP DOCUMENTS NOT ATTACHED: None

AT&T ESInet™ (Emergency Services IP Network)
PRICING SCHEDULE

AT&T MA Reference No. 201511069640UA

Please sign by November 20, 2024

Customer	**AT&T**
Capital Area Emergency Communications District Street Address: 6800 Burleson Road, Bldg 310, Ste. 165 City: Austin State/Province: TX Zip Code: 78744 Country: USA	AT&T Enterprises, LLC
Customer Contact (for Notices)	**AT&T Contact (for Notices)**
Name: Richard Morales Title: Director of Emergency Communications Street Address: 6800 Burleson Road, Bldg 310, Ste. 165 City: Austin State/Province: TX Zip Code: 78744 Country: USA Telephone: (512) 916-6044 Email: rmorales@capcog.org	Name: Donna Pair Street Address: 1361 Wald Rd City: New Braunfels State/Province: TX Zip Code: 78132 Country: USA Telephone: 830-946-2049 Email: donna.pair@att.com Sales/Branch Manager: Dustin Alexander SCVP Name: Mike Guerra Sales Strata: GEM Sales Region: West **With a copy (for Notices) to:** AT&T 208 S. Akard Street Dallas, TX 75202 ATTN: Master Agreement Support Team Email: mast@att.com

This Pricing Schedule is part of the Agreement between AT&T and Customer referenced above and includes Attachment A Service Order.

Customer (by its authorized representative)	**AT&T** (by its authorized representative)
By:	By:
Name:	Name:
Title:	Title:
Date:	Date:

	For AT&T Administrative Use Only **Master Agreement No. _____** **Pricing Schedule No. _____** **Original Effective Date: _____** **Effective Date of Amendment: _____**

AT&T ESInet™
PRICING SCHEDULE

1. SERVICES

Service	Service Publication Location
AT&T Emergency Service IP Network™ (AT&T ESInet™)	See Exhibit A

AT&T ESInet™ will become generally available when the Service Guide is published and available at http://new.serviceguide.att.com or such other AT&T-designated location. Upon publication, such service description and other terms shall supersede the provisions of the Interim Service Guide, attached to this Pricing Schedule as Exhibit A.

2. PRICING SCHEDULE TERM AND EFFECTIVE DATES

Pricing Schedule Term	60 months
Automatic Term Extension of Pricing Schedule	Where permitted by applicable law, successive 12 month periods, unless either party terminates the Automatic Term Extension via written notice to the other party, given at least sixty (60) days prior to the expiration date of Initial Term or then-current Automatic Term Extension. Where permitted by law, each party waives any right to receive notice prior to any such automatic extension.
Pricing Schedule Term Start Date	Effective Date of this Pricing Schedule.
Effective Date of Rates and Discounts	Effective Date of this Pricing Schedule.

3. MINIMUM PAYMENT PERIOD

Service Components	Percent of Monthly Service Fees Due Upon Termination Prior to Completion of Minimum Payment Period	Minimum Payment Period per Service Component
Legacy Connections	100%	36 months
ESInet Network Connection	100%	36 months
ESInet Call Routing	100%	36 months
Local Access Connections	100%	36 months
Other Charges	100%	36 months

AT&T ESInet™
PRICING SCHEDULE

4. NOTICE OF WITHDRAWAL

Service and Service Component Withdrawals during Pricing Schedule Term	
Prior Notice Required from AT&T to Withdraw and Terminate a Service	12 months
Prior Notice Required from AT&T to Withdraw and Terminate a Service Component	120 days

5. PRICING

5.1. Addition of Components to Customer's Schedule of Charges.

Discounts are applied at the Sub-Discount Category Level as specified below - No other discounts apply.

5.1.1 AT&T ESInet™ Sub-Discount Category – Legacy Connections

AT&T ESInet™ Sub-Discount Category – Legacy Connections	**DISCOUNT: 64.50%**
Service Component	**Undiscounted Monthly Recurring Charge**
Legacy Connection	$22.00

5.1.2 AT&T ESInet™ Sub-Discount Category – ESInet Network Connections

AT&T ESInet™ Sub-Discount Category – ESInet Network Connections	**DISCOUNT: 64.50%**
Service Component	**Undiscounted Monthly Recurring Charge**
Mngd T1 Primary PSAP/Host Connection	$1,690.00
Mngd 3MB Primary PSAP/Host Connection	$1,710.00
Mngd 6MB Primary PSAP/Host Connection	$1,755.00
Mngd 10MB Primary PSAP/Host Connection	$1,805.00
Mngd 20MB Primary PSAP/Host Connection	$1,905.00
Mngd 50MB Primary PSAP/Host Connection	$2,140.00
Mngd 100MB Primary PSAP/Host Connection	$2,415.00
Mngd T1 Secondary PSAP/Host Connection	$305.00
Mngd 3MB Secondary PSAP/Host Connection	$625.00
Mngd 6MB Secondary PSAP/Host Connection	$670.00
Mngd 10MB Secondary PSAP/Host Connection	$720.00
Mngd 20MB Secondary PSAP/Host Connection	$820.00
Mngd 50MB Secondary PSAP/Host Connection	$1,055.00
Mngd 100MB Secondary PSAP/Host Connection	$1,330.00

	For AT&T Administrative Use Only **Master Agreement No. _____** **Pricing Schedule No. _____** **Original Effective Date: _____** **Effective Date of Amendment: _____**

AT&T ESInet™
PRICING SCHEDULE

5.1.3 AT&T ESInet™ Sub-Discount Category – ESInet Call Routing Service

AT&T ESInet™ Sub-Discount Category – ESInet 9-1-1 Call Routing	
Total Contract Population Size / Undiscounted Monthly Recurring Charge*	**DISCOUNT:**
1M-2,999,999 Population / MRC= $200.00	64.50%
*Rate shown is based on Total Contract Population. Population is calculated to the nearest thousand, rounded up. Each PSAP will be charged by multiplying this rate by the PSAP population served.	

5.1.4 AT&T ESInet™ Sub-Discount Category – Local Access Primary Connections

Customer acknowledges that the election to NOT install diverse circuits covering the Last Mile connection to the PSAP. (i.e. the connection the APVN circuit demarcation and Customer Premises) results in a single connection. A single connection may result in a PSAP outage during routine or emergency maintenance, fiber cuts, or other events. AT&T strongly recommends the Customer purchase full last mile diversity.

AT&T ESInet™ Sub-Discount Category – Local Access Primary Connections	No Discounts applicable to below rates
Service Component	**Monthly Recurring Charge**
6800 Burleson Rd, Bldg 310, Ste 165 Austin, TX 78744 (Nodes 1 & 2)	$ 1,163.84
5010 Old Manor Rd Austin, TX 78723 (Nodes 3 & 4)	$ 1,163.84
911 Tracy Chambers Ln Georgetown, TX 78626 (Nodes 5 & 6)	$ 1,163.84
6800 Burleson Rd, Bldg 310, Ste 165 Austin, TX 78744 (Training Node)	$ 1,163.84
Special Construction Charge, if applicable, may apply under a separate contract.	

5.1.5 AT&T ESInet™ Sub-Discount Category – Local Access Secondary Connections

Customer acknowledges that the election to NOT install diverse circuits covering the Last Mile connection to the PSAP. (i.e. the connection the APVN circuit demarcation and Customer Premises) results in a single connection. A single connection may result in a PSAP outage during routine or emergency maintenance, fiber cuts, or other events. AT&T strongly recommends the Customer purchase full last mile diversity.

AT&T ESInet™ Sub-Discount Category – Local Access Secondary Connections	No Discounts applicable to below rates
Service Component	**Monthly Recurring Charge**
6800 Burleson Rd, Bldg 310, Ste 165 Austin, TX 78744 (Nodes 1 & 2)	$ 1,163.84
5010 Old Manor Rd Austin, TX 78723 (Nodes 3 & 4)	$ 1,163.84
911 Tracy Chambers Ln Georgetown, TX 78626 (Nodes 5 & 6)	$ 1,163.84
6800 Burleson Rd, Bldg 310, Ste 165 Austin, TX 78744 (Training Node)	$ 1,163.84
Special Construction Charge, if applicable, may apply under a separate contract.	

AT&T ESInet™
PRICING SCHEDULE

5.1.6 AT&T ESInet™ Sub-Discount Category – Professional Services

AT&T ESInet™ Sub-Discount Category – Professional Services **Service Component**	**Monthly Recurring Charge**	**Non-Recurring Charge***
Prof Svcs - Addtnl Install & Materials	$100.00	$500.00
Professional Svcs - Custom Reports	$100.00	$500.00
Professional Svcs - GIS Services	$100.00	$500.00
*Non-Recurring Charge is billed in $500 per hour increments		

5.1.7 AT&T ESInet™ Sub-Discount Category – Other Charges or Credits

AT&T ESInet™ Sub-Discount Category – Other Charges	No Discounts applicable to below rates	
	Monthly Recurring Charge	**Non-Recurring Charge**
Secondary or Backup PSAP Charge	$ 500.00	$ 0.00
Transitional Data Management Service (Population 2,580,380)	$ 22,446.00	$ 0.00
SafetyNet Recording (per PSAP)	$ 145.00	$ 900.00
FirstNet Wireless Backup Service (per Node)	$ 600.00	$ 3,000
Executive Network Dashboard (NRC = per PSAP; MRC = per user license)	$ 190.00	$ 3,200

6. Initial Order

This Pricing Schedule is Customer's order for new Services and/or Service Components – See Attachment A.

Customer may request additional, or changes to, Services and/or Service Components by submitting a subsequent signed Change Order – see Attachment B.

	For AT&T Administrative Use Only **Master Agreement No. _____** **Pricing Schedule No. _____** **Original Effective Date: _____** **Effective Date of Amendment: _____**

AT&T ESInet™
PRICING SCHEDULE

ATTACHMENT A – AT&T ESInet™ INITIAL SERVICE ORDER

This Initial Service Order by and between AT&T Enterprises, LLC ("AT&T") and Capital Area Emergency Communications District ("Customer") represents Customer's order for Service Components as specified below.

NOW, THEREFORE, in accordance with the mutually agreed upon change control process, AT&T and Customer hereby agree to amend the Pricing Schedule as follows:

1. **Initial Order:** Add Service Components as set forth below.

2. The Minimum Payment Period in the Pricing Schedule applies to all Service Components.

3. **Order Rates and Charges:** The Rates and Charges in the AT&T ESInet™ Pricing Schedule apply to all Service Components ordered under this Initial Service Order. The quantities listed below must include all Service Components, including quantities. ordered under this Initial Service Order. The parties understand that any changes requested are cumulative to the original Service Order.

PSAP INFORMATION	
PSAP / Host Information	**PSAP / Host Contact**
Legal Name: Capital Area Emergency Communications District	Name: Richard Morales
Street Address: 6800 Burleson Road, Bldg 310, Ste. 165	Title: Director of Emergency Communications
City: Austin State: TX Zip: 78744	Tel #: (512) 916-6044
PSAP Population Served 2,580,380	Email: rmorales@capcog.org
Total Customer Population Contracted 2,580,380	

AT&T CONTACT INFORMATION	
AT&T Sales Contact - Primary Contact	**AT&T Contact - Additional Contact**
Name: Donna Pair	Name: Billy Blankenship
Title: Application Sales Executive	Title: Sales Systems Engineer
Tel #: 830-946-2049	Tel #: 512-870-4111
Email: donna.pair@att.com	Email: billyb@att.com

LEGACY CONNECTIONS (Connection between the OSP demarc and AT&T ESInet demarc)	
DESCRIPTION	**QUANTITY**
Legacy Connection (Per DS0 Port)	535
ESInet NETWORK CONNECTIONS – PRIMARY CONNECTION (Connection from the Core Call Processing Node to the Customer demarc)	
DESCRIPTION	**QUANTITY**
Managed T1 Primary PSAP/Host Connection	
Managed 3MB Primary PSAP/Host Connection	
Managed 6MB Primary PSAP/Host Connection	
Managed 10MB Primary PSAP/Host Connection	
Managed 20MB Primary PSAP/Host Connection	
Managed 50MB Primary PSAP/Host Connection	4
Managed 100MB Primary PSAP/Host Connection	

AT&T ESInet™
PRICING SCHEDULE

ESInet NETWORK CONNECTIONS – SECONDARY CONNECTION (Redundant Connection from the Core Call Processing Node to the Customer Demarc	
DESCRIPTION	**QUANTITY**
Managed T1 Secondary PSAP/Host Connection	
Managed 3MB Secondary PSAP/Host Connection	
Managed 6MB Secondary PSAP/Host Connection	
Managed 10MB Secondary PSAP/Host Connection	
Managed 20MB Secondary PSAP/Host Connection	
Managed 50MB Secondary PSAP/Host Connection	4
Managed 100MB Secondary PSAP/Host Connection	
LOCAL ACCESS PRIMARY CONNECTION	
LOCATION	**QUANTITY**
6800 Burleson Rd, Bldg 310, Ste 165 Austin, TX 78744 (Nodes 1 & 2)	1
5010 Old Manor Rd Austin, TX 78723 (Nodes 3 & 4)	1
911 Tracy Chambers Ln Georgetown, TX 78626 (Nodes 5 & 6)	1
6800 Burleson Rd, Bldg 310, Ste 165 Austin, TX 78744 (Training Node)	1
LOCAL ACCESS SECONDARY CONNECTION*	
LOCATION	**QUANTITY**
6800 Burleson Rd, Bldg 310, Ste 165 Austin, TX 78744 (Nodes 1 & 2)	1
5010 Old Manor Rd Austin, TX 78723 (Nodes 3 & 4)	1
911 Tracy Chambers Ln Georgetown, TX 78626 (Nodes 5 & 6)	1
6800 Burleson Rd, Bldg 310, Ste 165 Austin, TX 78744 (Training Node)	1
***Special Construction Charge, if applicable, may apply under a separate contract.**	
9-1-1 CALL ROUTING PLATFORM (9-1-1 Call Routing charges are based on the Total Customer Population contracted. Population is calculated to the nearest thousand, rounded up.)	
Population Size / Monthly Recurring Charge	1M-2,999,999 Population / MRC= $200.00

PROFESSIONAL SERVICES		
SERVICE COMPONENT	**QUANTITY**	**NUMBER OF HOURS**
Prof Svcs - Addtnl Install & Materials	0	0
Professional Svcs - Custom Reports	0	0
Professional Svcs - GIS Services	0	0
*Non-Recurring Charge is billed in $500 per hour increments		

OTHER CHARGES	
DESCRIPTION	**QUANTITY**
Secondary or Backup PSAP Charge	8

ESInet Cost Breakdown and Comparison

	10/10/2018			10/9/2024		
Description	**Quantity**	**Unit MRC**	**Total MRC**	**Quantity**	**Unit MRC**	**Total MRC**
Legacy Connections	535	$7.81	$4,178.35	535	$7.81	$4,178.35
Call Routing Per Person (Population)	2,010,965	$0.071	$142,778.52	2,580,000	$0.071	$183,180.00
Managed 50Mb Connection (Primary)	4	$759.70	$3,038.80	4	$759.70	$3,038.80
Managed 50Mb Connection (Secondary)	4	$374.53	$1,498.12	4	$374.53	$1,498.12
Local Access 100Mb Ethernet (Primary Host)	3	$1,163.84	$3,491.52	0	$0.00	$0.00
Local Access 100Mb Ethernet (Primary Host)*	1	$1,398.49	$1,398.49	0	$0.00	$0.00
Local Access 100Mb Ethernet (Primary Host)	3	$1,163.84	$3,491.52	0	$0.00	$0.00
Local Access 100Mb Ethernet (Secondary Host)*	1	$1,398.49	$1,398.49	0	$0.00	$0.00
Switched Ethernet 100Mb (Primary Nodes)	0	$0.00	$0.00	8	$1,163.84	$9,310.72
Backup / Secondary PSAP Charge	8	$1,360.00	$10,880.00	8	$500.00	$4,000.00
Data Management Services Per Person (Population)	2,010,965	$0.0093	$18,701.97	2,580,000	$0.0087	$22,446.00
Monthly Recurring Cost			$190,855.78			$227,651.99
Annual Cost Total			$2,290,269.35			$2,731,823.88
60-Month Total			$11,451,346.77			$13,659,119.40

CAPITAL AREA EMERGENCY COMMUNICATIONS DISTRICT
BOARD OF MANAGERS MEETING

MEETING DATE: **November 13, 2024**

AGENDA ITEM: **#6 Consider Approval of Temporary Extension of GeoComm Mapping Subscription Through November 2024**

GENERAL DESCRIPTION OF ITEM:
GeoComm's mapping services have been utilized by PSAPs in the region since 2015 to assist in locating and processing 9-1-1 calls. While a new mapping provider will provide enhanced services for NG9-1-1, it remains necessary to maintain the current GeoComm mapping subscription until the CHE deployment is completed and accepted. The AT&T pricing schedule reflects the cost for GeoComm MAPS Standard Subscription with support and maintenance for the existing 96 licenses. The total cost for the extension through November 30, 2024, is $53,500.00.

THIS ITEM REPRESENTS A:

- ☒ New issue, project or purchase
- ☐ Routine, regularly scheduled item
- ☐ Follow-up to previously discussed item
- ☐ Special item requested by board member.
- ☐ Other

PRIMARY CONTACT/STAFF MEMBER: **Richard Morales Jr., Director of Emergency Communications**

BUDGETARY IMPACT OF AGENDA ITEM:

Total estimated cost: **$53,500.00**
Source of funds: 9-1-1 Fees

Is item already included in fiscal year budget?	☒ Yes	☐ No
Does item represent a new expenditure?	☐ Yes	☒ No
Does item represent a pass-through purchase?	☐ Yes	☒ No

If so, for what city/county/etc.? _____

PROCUREMENT: AT&T Unified Master Agreement

ACTIONS REQUESTED:
Consider approving the temporary extension of the GeoComm Mapping Subscription as indicated on the AT&T Pricing Schedule through November 30, 2024.

BACK-UP DOCUMENTS ATTACHED:

1. AT&T Quote
2. AT&T Pricing Schedule

BACK-UP DOCUMENTS NOT ATTACHED (*to be sent prior to meeting* or *will be a handout at the meeting*):
None

AT&T

AT&T Public Safety Solutions
GeoComm Map Subscription Renewal

A Quotation for

911 Agency: Capital Area Council of Governments
Contact: Renee Bell
Email: rhoover@capcog.org
Phone: (512) 916-6068

Quotation Information

Quote Date : **10**/14/2024
Quote Expiration : 11/30/2024
911 Application Sales Executive: Donna Pair
911 Technical Sales Consultant: Billy Blankenship

Line #	Part #	Description	Qty	Unit Sell Price	Extended Sell Price
1	GeoCommRenew	GeoComm Maps Standard Subscription: 79 Active and 17 Training Subscriptions Services will be provided from June 1, 2024 through November 30, 2024. A description of the software support services covered under this contract can be found at www.geocomm.com/legal	1	$ 53,500.00	$ 53,500.00
				TOTAL NRC	**$ 53,500.00**

Notes:

Pricing does not include any Municipal/Regulatory charges.
Net 30, payment terms and order acceptance based upon prior credit approval.
This Quotation excludes all applicable taxes and shipping charges.
Please verify your shipment is correct by reviewing the packing list before opening.
Return policies vary by manufacturer and are time sensitive. Please contact your local AT&T representative regarding any return questions or requests.
All returns are subject to manufacturer's terms and conditions.
Restocking charges may apply. Return authorizations are required prior to return.

AT&T NG9-1-1 Public Safety PSAP Solutions
CPE Purchase Pricing Schedule

AT&T MA Reference Number: _____
AT&T Pricing Schedule Number: _____

Customer Legal Name ("Customer")	**AT&T ("AT&T")**
Capital Area Council of Governments	AT&T Enterprises, LLC
Customer Address	**AT&T Address**
Street Address: 6800 Burleson Road Building 310, Suite 165 City: Austin State/Province: Texas Country: Domestic/International Zip Code: 78744	208 S. Akard St. Dallas, TX USA 75202
Customer Contact (for notices)	**AT&T Sales Contact Information and for Contract Notices ☒ Primary Sales Contact**
Name: Richard Morales Title: Director- Emergency Communications Street Address: 6800 Burleson Road Building 310, Suite 165 City: Austin State/Province: Texas Zip Code: 78744 Country: USA Telephone: 512-916-6044 Fax: N/A Email: rmorales@capcog.org Customer Account Number or Master Account Number:	Name: Donna Pair Street Address: 1361 Wald Rd City: New Braunfels State/Province: Texas Zip Code: 78132 Country: USA Telephone: 830-946-20249 Fax: N/A Email: donna.pair@att.com Sales/Branch Manager: Dustin Alexander SCVP Name: Mike Guerra Sales Strata: GEM Sales Region: EAST With a copy to: AT&T Enterprises, LLC 208 S. Akard St. Dallas, TX 75202 ATTN: Master Agreement Support Team Email: mast@att.com
AT&T Authorized Agent or Representative Information (if applicable) ☐ Primary Sales Contact	
Name: Company Name: Agent Street Address: City: State: Zip Code: Telephone: Fax: Email: Agent Code	

This Pricing Schedule is part of the Agreement between AT&T and the Customer referenced above.

This Pricing Schedule consists of this Pricing Schedule and any Attachments hereto (e.g., Statement of Work ("SOW"); Scope of Work ("SCOW"); Inventory Schedule and Payment Terms; Bill of Material; Project Implementation Guide; Implementation Timeline; or Certificate of Acceptance) that currently, or may in the future, reference this Pricing Schedule. In the event of a conflict between this Pricing Schedule and any Attachments hereto, this Pricing Schedule shall take precedence.

CUSTOMER	**AT&T**
By:_____ (by its authorized representative)	By:_____ (by its authorized representative)
(Typed or Printed Name)	(Typed or Printed Name)
(Title)	(Title)
(Date)	(Date)

GENERAL TERMS APPLICABLE TO AT&T PUBLIC SAFETY EQUIPMENT RESALE AND RELATED SERVICES

1. SERVICES AND PURCHASED EQUIPMENT

- "Purchased Equipment" – means equipment (including Software) sold and Software separately sold by AT&T to Customer pursuant to this Pricing Schedule. "Purchased Equipment" includes replacement hardware and Software provided in connection with AT&T-Provided Maintenance and Warranty Services.
- "Software" – means software purchased separately or software included with the equipment purchased, pursuant to this Pricing Schedule.
- "Services" – per applicable Riders and Sub-Riders.

2. QUOTE

AT&T may provide a quote for the price of Purchased Equipment or Services to Customer ("Quote") or include such information in a Statement of Work ("SOW"). Such Quote will expire thirty (30) days after the date of the Quote unless a different time period for expiration is stated in the Quote. All such pricing is applicable only to the project or purchase specified in such Quote unless stated otherwise in the SOW or Sub-Rider.

3. ORDERS

a) Order means an order for Purchased Equipment or Services, including Statements of Work and requests to change an Order, that Customer submits to AT&T in writing (or other method specifically authorized by AT&T). AT&T reserves the right not to accept any Order. Except for information required by AT&T to fulfill the Order, no terms and conditions, or other language contained in any Customer-supplied document or purchase order shall apply.

b) Telephone Orders may be accepted for moves, adds, or changes to Purchased Equipment that do not require design engineering support from AT&T or the supplier and can be ordered off the shelf without being configured or designed with other components.

4. TAX EXEMPTION

Customer must present a tax exemption certificate to AT&T, valid in the place of delivery, prior to or with an Order to receive exemption status.

5. TERMINATION

a) Either party may terminate this Pricing Schedule upon thirty (30) days' prior written notice, except that all work under any outstanding Orders will be completed unless one party notifies the other otherwise in writing.

b) Customer may terminate an Order on five (5) days prior written notice. AT&T may recover all amounts owing under the Order for any time, materials and expenses incurred through to the effective date of termination, and any third-party charges resulting from the termination.

6. LIMITATION OF LIABILITY

a) EACH PARTY'S LIABILITY SHALL BE LIMITED TO PROVEN DIRECT DAMAGES NOT TO EXCEED PER CLAIM (OR IN THE AGGREGATE FOR CLAIMS ARISING DURING ANY TWELVE-MONTH PERIOD) TWICE THE NET PURCHASE PRICE OF THE PURCHASED EQUIPMENT OR SERVICES IN THE ORDER GIVING RISE TO THE LIABILITY. THE LIMITATION IN THIS SECTION SHALL NOT LIMIT CUSTOMER'S RESPONSIBILITY FOR THE PAYMENT OF ALL PROPERLY DUE CHARGES.

b) Except for AT&T-Provided Service, AT&T SHALL HAVE NO DUTY TO DEFEND, INDEMNIFY, OR HOLD CUSTOMER HARMLESS FROM OR AGAINST ANY SETTLEMENTS, DAMAGES, COSTS AND OTHER AMOUNTS INCURRED BY CUSTOMER ARISING FROM THE ACTUAL OR ALLEGED INFRINGEMENT OR MISAPPROPRIATION OF INTELLECTUAL PROPERTY BASED ON OR INVOLVING EQUIPMENT, SOFTWARE OR SERVICES FURNISHED UNDER THIS PRICING SCHEDULE.

7. PURCHASED EQUIPMENT WARRANTY AND LIMITATION ON USE

a) AT&T shall pass through to Customer any warranties available from Purchased Equipment manufacturers or licensors. The manufacturer or licensor and not AT&T is responsible for any such warranties.

b) Except as set out in Section 7(a), ALL PURCHASED EQUIPMENT IS PROVIDED TO CUSTOMER ON AN "AS IS" BASIS. AT&T DISCLAIMS ANY AND ALL REPRESENTATIONS OR WARRANTIES, EXPRESSED OR IMPLIED OF ANY KIND (INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, NON-INFRINGEMENT, SATISFACTORY QUALITY, NON-INTERFERENCE, ACCURACY OF INFORMATIONAL CONTENT, OR ANY WARRANTY ARISING BY USAGE OF TRADE OR COURSE OF DEALING). These disclaimers shall apply even if the express warranties from equipment manufacturers or licensors fail of their essential purpose.

8. MAINTENANCE CHARGES

AT&T may invoice maintenance charges in full in advance of the term for AT&T-Provided and Manufacturer-Provided maintenance services. Such maintenance charges are non-refundable.

Rider A – Purchased Equipment

1. AVAILABILITY AND DELIVERY SCHEDULE

AT&T's delivery of Purchased Equipment is contingent upon the availability and the delivery schedule of the manufacturer or supplier. AT&T cannot guarantee availability or firm delivery dates. Purchased Equipment is deemed accepted by Customer upon passage of title and risk of loss.

2. TITLE AND RISK OF LOSS

Title to and risk of loss of Purchased Equipment passes to Customer on delivery by manufacturer or supplier to a carrier for shipment; provided that if AT&T also provides Services (other than Warranty Services or Maintenance Services) in connection with the Purchased Equipment, title and risk of loss passes to Customer on delivery to Customer.

3. SHIPPING AND STORAGE

a) Shipping Charges.
   i. Standard Fee for AT&T-provided shipping: One percent (1%) of the total purchase price for the Purchased Equipment (other than Software) shipped.
   ii. Customer may request in an Order to be invoiced by the carrier of its choice by providing AT&T the identification of the shipper, Customer's account information, and method of shipment.
   iii. If Customer requires overnight shipping, Customer should make such a request in writing and AT&T will quote the pricing associated with such delivery on a case-by-case basis.

b) Storage Charges. Any storage charges for Purchased Equipment following transfer of title and risk of loss are the sole responsibility of Customer and are not included in shipping charges.

4. INVOICING; CREDIT TERMS

AT&T may invoice Customer for Purchased Equipment upon delivery to the carrier. AT&T retains a lien and purchase money security interest in each item of Purchased Equipment and Software until Customer pays all sums due. AT&T is authorized to sign and file a financing statement to perfect such security interest.

5. PURCHASED EQUIPMENT RETURNS

(a) Warranty Returns. If Purchased Equipment requires return during its respective warranty period, and the manufacturer or supplier determines such Purchased Equipment qualifies for a return, AT&T will obtain a Return Material Authorization ("RMA") and instructions from the manufacturer or supplier. Upon AT&T providing the RMA to Customer, Customer will return the Purchased Equipment according to the manufacturer's or supplier's policies and instructions.

(b) Non-defective Returns. If Customer seeks to return Purchased Equipment that is non-defective or not otherwise covered by a warranty, Customer must contact AT&T in time for AT&T to obtain an RMA with instructions from the manufacturer or supplier within fifteen (15) days following delivery of such Purchased Equipment to the ship-to address in the applicable Order; however, if the Purchased Equipment is delivered to an AT&T staging facility prior to delivery to the ship-to address, Customer must contact AT&T within fifteen (15) days following notice to Customer of delivery to the staging facility. Any such return shall be at the sole discretion of the manufacturer or supplier. If the return is authorized, Customer will be responsible for payment of any associated return or restocking fee, return shipping costs, and risk of loss of the Purchased Equipment. Notwithstanding the foregoing, ONCE AT&T'S CONFIGURATION OF PURCHASED EQUIPMENT FOR USE BY CUSTOMER HAS COMMENCED, NON-DEFECTIVE RETURN IS NOT AVAILABLE.

(c) Maintenance Returns. To return Purchased Equipment covered by a maintenance service, Customer must contact the applicable maintenance service provider to obtain an RMA and instructions.

6. MANUFACTURER-PROVIDED SERVICES

Manufacturer-Provided Services identified in Customer's Order with the manufacturer's stock-keeping unit number are provided directly to Customer by the manufacturer under a separate agreement between Customer and the manufacturer. Customer shall assent to and comply with the terms of the agreement with the manufacturer. AT&T is not a party to that agreement. AT&T's sole responsibility is to place Customer's orders for Manufacturer Provided Services, except that AT&T may invoice Customer for the Manufacturer-Provided Services.

7. LICENSES, RESTRICTIONS, REQUIREMENTS

(a) Software is provided subject to the terms of the Software licensor's license agreement which is a separate agreement between Customer and the licensor. Customer must assent to and comply with the license agreement.

(b) Purchased Equipment may be subject to additional requirements or restrictions imposed by manufacturer or licensor. Customer must assent to and comply with all such requirements or restrictions.

Rider B – AT&T-Provided Services

1. SERVICE

- Per applicable Sub-Rider
- Services have an end date and do not continue under a month-to-month service arrangement after the end of a term unless specifically identified as such in the applicable Sub-Rider.

2. INTELLECTUAL PROPERTY RIGHTS

(a) All intellectual property rights used in providing, or arising by virtue of AT&T's performance, of the Services are and will be the sole and exclusive property of AT&T, and neither ownership nor title to any such property will pass to Customer.

(b) Customer shall own copies of any reports produced and furnished to Customer by AT&T ("Reports"), and AT&T grants Customer a perpetual, nonexclusive, personal and non-transferable right to reproduce and modify Reports solely for Customer's own internal business purposes. For avoidance of doubt, "internal business purposes" exclude public distribution, resale to third parties and revenue generation purposes.

(c) AT&T grants to Customer the non-exclusive, personal, and non-transferable right to use any items other than Reports produced and furnished to Customer by AT&T under this Pricing Schedule, solely (i) for Customer's own internal business purposes during the term of this Pricing Schedule or (ii) for such other purposes as may be agreed in writing by the parties.

(d) Except as otherwise specified in this Pricing Schedule, no other right or license to or under any of AT&T's intellectual property rights is either granted or implied under this Pricing Schedule.

3. WORKMANSHIP

The provision of Services under this Pricing Schedule shall be performed in a workmanlike manner that would meet commercial industry standards in the field to which the work pertains. AT&T's obligation under this Section expires upon Customer's acceptance of the Services.

4. INDEPENDENT CONTRACTOR

AT&T is an independent contractor for the Services performed under Pricing Schedule.

5. ACCEPTANCE

Upon completion of professional and implementation Services ("Service Completion Date"), Customer either shall sign the acceptance document AT&T presents or shall provide within five (5) Business Days of the Service Completion Date written notice to AT&T identifying any non-conforming professional or implementation Service. "Business Day" means Monday through Friday, excluding AT&T-recognized holidays. If Customer fails to provide such notice, Customer is deemed to have accepted the Service as of the Service Completion Date. AT&T may invoice Customer for professional and implementation Services upon acceptance.

6. NON-SOLICITATION

Customer agrees not to directly solicit for employment any personnel of AT&T or its subcontractors or agents performing Services hereunder until one
(1) year following the completion or termination of applicable Order pursuant to which the Services were performed without the prior written consent of AT&T.

7. DELAYS

If there is a delay in providing Services that was not caused by AT&T, Customer may incur additional labor or other charges. AT&T shall not be liable for such a delay. Such a delay may also impact future schedules.

8. REMOTE ACCESS TO EQUIPMENT

Customer shall provide remote access to equipment during installation and maintenance for trouble isolation, monitoring and resolution. Customer may satisfy this requirement: (i) by providing in-band or out-of-band connection; (ii) providing technical personnel on Site; or (iii) as otherwise described in the applicable Service Guide.

9. EQUIPMENT STORAGE

On the premises where the Services are being performed, AT&T or its subcontractors may store, at no charge, a reasonable amount of equipment, materials, tools, and other items necessary for the performance of Services in a secure location provided by Customer ("Storage Location"). Customer will take reasonable precautions to protect and maintain the integrity of any such items. Customer agrees to accept delivery of any such items, to place them or direct their placement in the Storage Location and to notify AT&T of the delivery and Storage Location.

10. SERVICES SUPPLIER

If an AT&T supplier necessary for the delivery of Services ceases to provide all or a portion of such Services, either Party may terminate the affected portion of the Services, and Customer will receive a pro-rata refund of any amounts prepaid for such terminated Services.

Rider B1 – AT&T-Provided 911 Voice Maintenance Services

1. SERVICES; SERVICE PUBLICATIONS

Service	Service Publication Location
AT&T 911 Voice Maintenance Solutions ("911VMS")	*Pending Approval*

AT&T provides AT&T 911 Voice Maintenance Solutions Services ("Maintenance Services") for certain equipment ("Supported Equipment"), in accordance with this Pricing Schedule, the applicable SOW and the applicable Service Guide. Supported Equipment covered by Maintenance Services is specified in an SOW or the Service Guide.

2. CERTIFICATION AND REVIEWS

(a) Manufacturer's Certification for Supported Equipment. If an item of equipment is not covered by the manufacturer's warranty or by a manufacturer approved maintenance service immediately before AT&T begins providing the Maintenance Service for the equipment, Customer must provide a manufacturer's certification that equipment is in working order and eligible to be included in a maintenance plan.

(b) Changes in Supported Equipment covered by Maintenance Services. AT&T may conduct periodic equipment reviews for additions or deletions of Supported Equipment that is being maintained and will make any appropriate adjustments to Maintenance Services.

(c) Neither Customer nor any party other than AT&T or its designated agents may alter, repair, or maintain any Supported Equipment.

3. MAINTENANCE TERM AND RENEWAL

The term for Maintenance Services (the "Maintenance Term") and level of Maintenance Service are set forth in the applicable Order. UNLESS EITHER PARTY TERMINATES BY WRITTEN NOTICE ON COMPANY LETTERHEAD WITH A HANDWRITTEN SIGNATURE AT LEAST THIRTY (30) BUSINESS DAYS PRIOR TO EXPIRATION OF THE THEN-CURRENT MAINTENANCE TERM, AND IF THE LEVEL OF MAINTENANCE SERVICE REFLECTED IN SUCH ORDER REMAINS AVAILABLE UNDER THE APPLICABLE SERVICE PUBLICATION AT TIME OF RENEWAL, THE MAINTENANCE TERM WITH REGARD TO SUCH ORDER AUTOMATICALLY RENEWS: (I) FOR VOICE SUPPORTED EQUIPMENT, FOR AN ADDITIONAL ONE (1) YEAR. AT&T MAY, AT THE COMMENCEMENT OF ANY RENEWAL MAINTENANCE TERM, CHANGE THE PRICE OF SERVICE UPON AT LEAST THIRTY (30) DAYS PRIOR WRITTEN NOTICE.

4. PRICE CHANGES

AT&T also may change the price of Maintenance Services on written notice for Supported Equipment at the time it is changed, upgraded or added.

5. REPLACEMENT PRODUCTS; END-OF-SUPPORT; RETURN OF DEFECTIVE EQUIPMENT

(a) Spare parts and equipment ("Replacement Products") may be new or reconditioned if equivalent to new in performance. AT&T's provision of Replacement Products during the Maintenance Term is contingent upon the delivery schedule of the manufacturer or supplier. AT&T has no liability for delays in any delivery schedule. AT&T cannot guarantee firm delivery dates.

(b) If an item of Supported Equipment is discontinued or placed at end-of-life or end-of-support status by the manufacturer, AT&T shall only be obligated to use commercially reasonable efforts to obtain replacement parts and provide Maintenance Service for the item of Supported Equipment for which additional charges may apply or AT&T may delete such item of Supported Equipment from Maintenance Services and provide a pro-rata refund.

(c) AT&T will provide an RMA number for defective Supported Equipment ("Defective Item"). Customer shall return the Defective Item within thirty (30) days after the date of the RMA, or Customer will be invoiced, and shall pay, for the corresponding Replacement Product. Defective Items are the property of AT&T upon delivery to the carrier.

6. EXCLUSIONS FOR AT&T-PROVIDED MAINTENANCE SERVICES.

(a) AT&T will perform Maintenance Services only for damage to, substandard performance of or failure of Supported Equipment resulting only from Supported Equipment defects or normal wear and tear ("Covered Maintenance").

(b) Covered Maintenance does not include hardware defects or software failures resulting from any cause whatsoever not attributable to AT&T, including, but not limited to: (i) mishandling, abuse, misuse, improper storage, improper installation, improper maintenance, improper electrical voltage or current or improper operation (including use in conjunction with equipment electrically or mechanically incompatible); (ii) accident; (iii) theft; (iv) force majeure events, including, fire, explosion (other than fire or explosion directly attributable to a Supported Equipment defect), power failure, lightning or other induced power surge, flood, wind, war, terrorism, virus and acts of God; (v) Customer-caused programming errors in software or applications; (vi) Customer-performed system configurations; (vii) Customer's failure to maintain a proper operating environment, to back up its data or to secure its network environment; (viii) Customer's failure to follow manufacturer/licensor recommendations; and, (ix) repair, relocation, damage or alteration of the Supported Equipment by anyone other than AT&T or its designated agents. Supported Equipment supporting IP telephony may experience certain compromises in performance, reliability and security even when performing as warranted; diagnostic and repair work in response to such compromises is not included in Covered Maintenance.

(c) Diagnostic and repair work AT&T performs outside of Covered Maintenance is invoiced at AT&T's prevailing rates for time and materials.

Rider B2 – AT&T-Provided 911 Voice Warranty Services

1. WARRANTY SERVICES

(a) AT&T Warranty Services, as described in this Sub-Rider, apply to Purchased Equipment used in 911 CPE call handling solutions purchased from and installed by AT&T. Purchased Equipment covered by AT&T Warranty Services is specified in a SOW or the Service Guide. Basic Warranty Service is provided without additional charge. AT&T may invoice in full for warranty upgrades in advance of the Warranty Period.

(b) The standard "Warranty Period" is one (1) year from installation of the Purchased Equipment. The Warranty Period will not restart or increase due to or as a result of any repair, replacement or move of or addition or change to any Purchased Equipment.

(c) During the Warranty Period, if the Purchased Equipment other than Software does not conform to the manufacturer's warranty, Customer shall notify AT&T of such nonconformance. AT&T shall, at AT&T's sole option, repair or replace any non-conforming, warranted hardware.

(d) During the specified Warranty Period, if any item of Software that is properly installed and operating on the Purchased Equipment for which it is originally licensed does not conform to the Software warranty or if the media on which the Software is provided is defective in materials or workmanship under normal use, Customer shall notify AT&T of such nonconformance. AT&T shall, at AT&T's sole option, (i) provide a suitable fix, patch, or workaround any non-conforming warranted Software; or (ii) will replace at no charge any non-conforming warranted Software media if it is delivered to carrier for shipment to AT&T during the Warranty Period along with proof of date of shipment to Customer.

(e) If AT&T determines that any remedy set forth in Section 1(c) or 1(d) is not reasonably available, then AT&T may issue a refund, at its sole option, of an amount (e.g., using Customer's federal income tax depreciation schedule) based upon: (i) the price paid by Customer in the case of defective warranted hardware, or (ii) the one-time fee paid in the case of defective warranted Software.

2. REPLACEMENT PRODUCTS; RETURN OF DEFECTIVE EQUIPMENT

(a) Spare parts and equipment ("Replacement Products") may be new or reconditioned if equivalent to new in performance. AT&T's provision of Replacement Products during the Warranty Period is contingent on the delivery schedule of the manufacturer or supplier. AT&T has no liability for delays in any delivery schedule. AT&T cannot guarantee firm delivery dates. If an item of Purchased Equipment is placed at end-of-life status by the manufacturer, AT&T shall only be obligated to use commercially reasonable efforts to provide Replacement Products for an item of Purchased Equipment.

(b) AT&T will provide an RMA number for a defective warranted hardware ("Defective Item"). Customer shall return the Defective Item within thirty (30) days after the RMA is generated, or Customer will be invoiced for the corresponding Replacement Product. Defective Items are the property of AT&T.

If the returned warranted hardware is found not to be defective, Customer will be charged for the Replacement Products at Customer's current price.

3. EXCLUSIONS FOR AT&T WARRANTY SERVICES.

(a) AT&T will perform AT&T Warranty Services only for damage to, substandard performance of or failure of Supported Equipment resulting only from Supported Equipment defects or normal wear and tear ("Covered Work").

(b) Covered Work does not include hardware defects or software failures resulting from any cause whatsoever not attributable to AT&T, including, but not limited to: (i) mishandling, abuse, misuse, improper storage, improper installation, improper maintenance, improper electrical voltage or current or improper operation (including use in conjunction with equipment electrically or mechanically incompatible); (ii) accident; (iii) theft; (iv) force majeure events, including fire, explosion (other than fire or explosion directly attributable to a Supported Equipment defect), power failure, lightning or other induced power surge, flood, wind, war, terrorism, and acts of God; (v) Customer-caused programming errors in software or applications; (vi) Customer performed system configurations; (vii) Customer's failure to maintain a proper operating environment, to back up its data or to secure its network environment; (viii) Customer's failure to follow manufacturer/licensor recommendations; and, (ix) repair, relocation, damage or alteration of the Supported Equipment by anyone other than AT&T or its designated agents. Supported Equipment supporting IP telephony may experience certain compromises in performance, reliability, and security even when performing as warranted; diagnostic and repair work in response to such compromises is not included in Covered Work.

(c) Diagnostic and repair work AT&T performs outside of Covered Work is invoiced at AT&T's prevailing rates for time and materials.

Rider B3 – AT&T 911 Call Handling Equipment and Services

SERVICE

This Sub-Rider B-3 for AT&T 911 Call Handling Equipment and Services covers AT&T's sale of voice Purchased Equipment (referred to as Purchased Equipment, Equipment or CPE in this Sub-Rider) installation and/or maintenance Service for such Purchased Equipment to be provided by AT&T under the Maintenance Plan as set forth herein (the "Maintenance Plan"), and as further described below. The Purchased Equipment is identified in this Sub-Rider or in the attached or referenced Bill of Materials, or Order. This Sub-Rider also covers any Orders issued hereunder or in a SOW issued under this Sub-Rider, as well as any additions or replacement to the Purchased Equipment or Service.

I. Service Order Information and Payment Terms

***Taxes & Freight will be listed separately on the invoice. Total Purchase Price does not include maintenance.**

Rates and Charges

Non-Recurring Charges

Site Name	Address	City	State	Quantity of Positions	Non-Recurring Costs
CAECD	6800 Burleson Road Building 310, Suite 165	Austin	TX		$ 53,500
	GeoComm Maps Standard Subscription				$
	79 Active and 17 Training Subscriptions				$
	Services will be provided from June 1, 2024 through November 30, 2024.				$
					$
					$
					$
					$
					$
				Total Non-Recurring Charge	**$** 53,500

Recurring Rates

Service Type	Payment Period (Monthly/Annual)	Term (in months)	Recurring Costs
			$
			$
			$
			$
		Total Recurring Rate	**$**

Payment Terms:

- Locations to be invoiced and billed after each installation and customer acceptance.
- 100% of equipment and services at acceptance of services
- Equipment & Services Detail as per quote dated: 10/14/2024

Leasing: ☐ AT&T Capital Services ☐ Other: (_____) ☒ No

Purchase Order Number: _____

SELECTION OF EQUIPMENT SERVICE PLAN:

AT&T 911 Voice Maintenance Solutions*: ☐Essential Plus ☐Custom Customer Initials: _____ (*Required*)
**Customer must select either Essential Plus or Custom to receive maintenance services under this Pricing Schedule.*

Initial Term: (_____) Years From: _____ To: _____ Annual Price: _____

Service Plan Payment Terms (default is annual): ☐ Prepay ☐ Annual ☐ Financing: _____

NOTE: Hardware Maintenance Services commence at system installation/cutover.

TERMINATION PRICING ADJUSTMENTS: If Customer terminates AT&T 911 Voice Maintenance Solutions in whole or in part, including reduction in service level, Customer, depending on the payment terms, either shall be (a) invoiced fifty percent (50%) of the fees 30 days from the date AT&T received written notice of termination to the expiration of the maintenance term plus any non-recoverable and third party costs incurred by AT&T; or (b) credited fifty percent (50%) of fees paid for the terminated Service less any non-recoverable and third party costs.

Manufacturer-Provided Maintenance Services:

OEM: _____
Name of Service: _____
Coverage Level: _____

ACCEPT - Customer Initials: _____ **DECLINE - Customer Initials:** _____

Initial Term: (_____) Years From: _____ To: _____ Annual Price: _____

Service Plan Payment Terms: ☐ Prepay ☐ Annual ☐ Financing: _____

NOTE: Software Support Services commence when Equipment is shipped from supplier/distributor.

TERMINATION PRICING ADJUSTMENTS: If Customer terminates Manufacturer-Provided Maintenance Service in whole or in part, the remaining unused portion of the maintenance fees is non-refundable, either by way of cash or credits.

Remittance for invoices rendered by AT&T Global Services for Service Plans should be to AT&T Global Services.

Attachments:

1. Statements of Work e.g. SOW, SCOW, PIG ☐
2. Bill of Materials for Equipment and Services ☐
3. Invoicing Schedule and Payment Terms ☐
4. Implementation Timeline ☐
5. Certificate of Acceptance ☐
6. Other: *[*Quote # 102795- Services will be provided from June 1, 2024 through November 30, 2024 *]*

II. Special Terms and Conditions for PSAP – LAN Configurations or Installations

CUSTOMER WARRANTS TO AT&T AND ALL 911 EMERGENCY SERVICE USERS THAT THE 911 EQUIPMENT AND/OR SERVICES BEING PROVIDED HEREUNDER, OR PREVIOUSLY SUPPLIED BY AT&T, IS NOT CONNECTED AND WILL NOT BE CONNECTED TO ANY LOCAL AREA NETWORK ("LAN") OR ANY OTHER COMPUTER NETWORK OUTSIDE OF AT&T'S CONTROL, INCLUDING WITHOUT LIMITATION THE NATIONAL CRIME INFORMATION CENTER NETWORK ("CIC") OR SIMILAR NETWORK; PROVIDED, HOWEVER, THAT CUSTOMER MAY CONNECT SAID EQUIPMENT AND/OR SERVICES TO THE CIC OR SIMILAR NETWORK IF AND ONLY IF SUCH CONNECTION IS EXPRESSLY APPROVED IN WRITING BY AT&T, WHICH APPROVAL SHALL BE IN AT&T'S SOLE DISCRETION. AT&T RELIES ON THIS REPRESENTATION BY CUSTOMER IN AGREEING TO INSTALL AND/OR MAINTAIN SAID EQUIPMENT AND ALL SERVICES THEREON.

AT&T MAINTAINS A STRICT POLICY ("PSAP NETWORK SECURITY POLICY") THAT IT WILL INSTALL 911 EQUIPMENT ONLY IN A SECURE PSAP LAN, AND ONLY WHERE SUCH LANS ARE NOT CONNECTED TO ANY OTHER COMPUTER NETWORK OUTSIDE OF AT&T'S CONTROL. AT&T WILL NOT INSTALL OR TERMINATE A PSAP LAN TO A FIREWALL. AT&T WILL IDENTIFY THE DEMARCATION POINT FOR THE PSAP LAN, BEYOND WHICH CUSTOMER AGREES THAT AT&T IS NOT RESPONSIBLE. IN THE EVENT CUSTOMER CONNECTS ITS PSAP LAN TO ANY OTHER COMPUTER NETWORK, CONTRARY TO AT&T'S EXPRESS PSAP NETWORK SECURITY POLICY (WHICH CUSTOMER ACKNOWLEDGES IT HAS RECEIVED AND READ), AND THE PSAP LAN IS INFECTED OR DAMAGED AS A RESULT OF SUCH ACTIONS, THEN ALL WARRANTIES, AND MAINTENANCE AND SERVICE PROVISIONS OF THIS AGREEMENT SHALL BE NULL AND VOID AND AT&T DISCLAIMS ANY LIABILITY WHATSOEVER RELATING TO ANY PSAP LAN WHICH CUSTOMER OR ITS AGENTS CONNECT TO ANY OTHER COMPUTER NETWORK CONTRARY TO THE PSAP NETWORK SECURITY POLICY.

UNDER SUCH CIRCUMSTANCES, AT&T WILL PROVIDE REPAIR SERVICES FOR THE PSAP LAN AT CUSTOMER'S REQUEST, WHICH WILL BE BILLED ON A TIME AND MATERIALS BASIS AT AT&T'S THEN-PREVAILING SERVICES RATES. CUSTOMER FURTHER AGREES TO INDEMNIFY AND HOLD AT&T HARMLESS FOR ANY DAMAGES TO OR CLAIMS BY ANY THIRD PARTY AGAINST AT&T WHICH ARISE IN WHOLE OR IN PART FROM CUSTOMER'S CONNECTION OF THE 911 EQUIPMENT AND/OR SERVICES BEING PROVIDED HEREUNDER TO ANY LAN OR ANY OTHER COMPUTER NETWORK OUTSIDE OF AT&T'S CONTROL, INCLUDING WITHOUT LIMITATION THE NATIONAL CIC.

CAPITAL AREA EMERGENCY COMMUNICATIONS DISTRICT
BOARD OF MANAGERS MEETING

MEETING DATE: **November 13, 2024**

AGENDA ITEM: **#7 Consider Approving Purchase of Aerial Imagery for 2025**

GENERAL DESCRIPTION OF ITEM:
Staff is seeking approval to issue a purchase order (PO) to Surdex Corporation for 2025 aerial imagery for the region. The CAECD funds the annual purchase of aerial imagery to update public safety answering point (PSAP) / Emergency Communication Center (ECC) mapping applications to ensure accurate public safety dispatch and response. While the Texas Geographic Information Office (TxGIO) periodically conducts its own imagery acquisition that CAPCOG accesses through the Texas Imagery Service, it does not collect imagery for the entire CAPCOG region every year. In order to ensure that the imagery our PSAPs/ECCs are using is up-to-date across the entire region, CAPCOG conducts supplementary aerial imagery acquisition once a year.

Staff in the Regional Planning and Services division coordinate the procurement of this imagery, and since 2017, has conducted these procurements as cooperative purchases through the TxGIO) "StratMap" program. Since TxGIO is currently completing statewide data collection and will not be collecting data again until January 2026, we are planning to conduct 2025 imagery acquisition in June 2025, about mid-way between those two data collection periods. Staff selected Surdex Corporation as the vendor for the 2025 contract based on past performance for CAPCOG each year from 2020 – 2024. Their 2025 proposal is being offered at the same rates as CAPCOG paid in each of those years. The total cost of this contract includes $185,640 for the acquisition and $5,800 to host the data for up to 1 year after delivery.

THIS ITEM REPRESENTS A:

- ☐ New issue, project, or purchase
- ☒ Routine, regularly scheduled item
- ☐ Follow-up to a previously discussed item
- ☐ Special item requested by board member
- ☐ Other

PRIMARY CONTACT/STAFF MEMBER: **Charles Simon, Director of Regional Planning & Services**

BUDGETARY IMPACT:

Total estimated cost: $191,440
Source of Funds: 9-1-1 Fees

Is item already included in fiscal year budget?	☒ Yes	☐ No
Does item represent a new expenditure?	☐ Yes	☒ No
Does item represent a pass-through purchase?	☐ Yes	☒ No

If so, for what city/county/etc.? n/a

PROCUREMENT: Cooperative Purchase – DIR Contract DIR-CPO-4496

ACTION REQUESTED:
Approve Issuance of Purchase Order to Surdex Corporation for 2025 Aerial Imagery

BACK-UP DOCUMENTS ATTACHED:

1. Procurement Memo
2. Surdex Technical Proposal

6800 Burleson Road, Building 310, Suite 165
Austin, Texas 78744-2306
Ph: 512-916-6000 Fax: 512-916-6001
www.capcog.org

BASTROP BLANCO BURNET CALDWELL FAYETTE HAYS LEE LLANO TRAVIS WILLIAMSON

MEMORANDUM
October 25, 2024

TO: **CAPCOG Executive Committee**

FROM: **Charles Simon, Director of Regional Planning and Services**

RE: **2025 Aerial Imagery Procurement**

Staff seeks approval to issue a purchase order (PO) to Surdex Corporation to acquire 12-inch resolution aerial imagery for the entire extent of the CAPCOG region in May and June 2025 to support 9-1-1 mapping applications.

The CAECD obtains imagery for these applications through direct acquisition and through a subscription to Texas Imagery Service, which is run by the Texas Geographic Information Office (TxGIO). In 2022, the CAECD board directed CAPCOG staff to ensure that the Emergency Communications Centers (ECCs) have access to updated 12-inch resolution imagery at least once a year. Since the imagery obtained through the Texas Imagery Service is not updated every year region-wide, CAPCOG continues to conduct its own imagery acquisition, timing it to avoid duplication with TxGIO's imagery acquisition. Since TxGIO is completing statewide imagery acquisition now and will not be acquiring new imagery again until January 2026 at the earliest, we are planning CAPCOG's next imagery acquisition for May and June 2025.

CAPCOG GIS program staff procured this service through Section 3-207 of CAPCOG's procurement policy, which authorizes cooperative purchases, and the Texas Geographic Information Office's (TxGIO's) "StratMap" program (https://tnris.org/stratmap/).

GIS staff selected Surdex as the vendor based on past performance for 2020-2024 imagery and comparable pricing and services offered for 2025 imagery acquisition. CAPCOG staff have had good experiences working with Surdex staff over the past five years and have been happy with the results. Surdex's DIR contract number is DIR-CPO-4496 and is active through August 2025. A copy of their DIR contract is available online at https://dir.texas.gov/contracts/dir-cpo-4496.

Surdex's base price of $21.00 per "tile" for 12-inch orthoimagery for 2025 is identical to the price per tile CAPCOG paid in 2020 – 2024, and includes a 27% discount through the StratMap program. It would otherwise cost $28.76 per tile, for a total cost of $254,238.

In addition to acquisition costs, staff are also seeking approval for $5,800.00 to pay Surdex for hosting the data remotely for up to 12 months after final delivery (i.e., from Summer 2025 – Summer 2026). Hosting imagery remotely will be more cost-effective and contracted services have been determined to better meet CAPCOG's needs.

TECHNICAL PROPOSAL

Capital Area Council of Governments

Orthoimagery in the Capital Area (10 Counties)

SUBMITTED TO	SUBMITTED BY
Rob Buckhouse GIS Program Manager Capital Area Council of Governments	**Cornell Rowan, CP** Project Manager Office: 636.368.4460 Mobile: 912.222.4075 Cornell.rowman@bowman.com *Physical address:* 520 Spirit of St. Louis Blvd. Chesterfield, MO 63005 *Mailing address:* P.O. Box 3980 Chesterfield, MO 63006-3980

Table of Contents

Cover Letter

September 23, 2024

Rob Buckhouse
GIS Program Manager
Capital Area Council of Governments

REGARDING: 2025 Orthoimagery

Dear Capital Area Council of Governments,

Surdex is pleased to submit our proposal to the Capital Area Council of Governments for the acquisition and production of orthoimagery in the Texas capital area. We have completed numerous successful projects in Texas over the past decade. Surdex's ability to deliver orthoimagery requiring minimal client review has been acknowledged as providing a significant internal cost and time savings by the Houston-Galveston Area Council, Smith County Texas GIS Consortium, Texas Natural Resources Information System and Capital Area Council of Governments. Surdex will provide the same level of quality product for this project.

Surdex completed the 2020, 202, 2022, 2023 and 2024 orthoimagery projects for the Capital Area Council of Governments. These successful projects demonstrate Surdex's thorough understanding of the unique land cover and airspace issues in the region. Surdex Senior Project Manager and Certified Photogrammetrist Cornell Rowan will be assigned to the 2025 project, backed up by Surdex's Director of Project Management Wade Williams, CP. Cornell and Wade have a combined 50+ years of project management experience and have managed over 747,000 square miles of orthoimagery projects in the State of Texas since 2010.

Surdex was awarded its second Texas DIR contract in August 2021, allowing government entities within Texas to acquire geospatial products through a network of pre-approved contractors. This proposal contains a description of the base standard specifications for orthoimagery acquisition/production and accuracy within the State of Texas and a discount schedule consistent with Surdex's Texas contract - DIR-CPO-4496.

Our acquisition resources—ten aircraft and nine imagery sensors—are critical to successful project execution, and they are supported by proven project manager communications and timely delivery of quality data by Surdex's production staff. Additionally, our project manager and production staff understand the attention required to satisfy the unique requirements of the Capital Area Council of Governments up to and including delivery of ancillary products.

If you have any questions or if we may assist you in any way, please do not hesitate to contact us.

Sincerely,

Cornell Rowan, CP
Project Manager
Direct: (636) 368-4460
Mobile: (912) 222-4075
Cornell.rowan@bowman.com

Ronald C. Hoffmann
President, Authorized Agent
Office: (636) 368-4400

PROJECT PLAN

A. PROJECT PLAN AND EXECUTION

SCOPE OF WORK	
CLIENT	
CAPITAL AREA COUNCIL OF GOVERNMENTS	
GROUND SAMPLE DISTANCE (GSD)	**APPROXIMATE AOI**
12" BASE PROJECT	8,840 DO4Qs

1) PROJECT DESIGN

The project design is based on the deliverable tile layout and a buffer around the exterior boundary. It includes a flight design and a control survey design. Flight planning is the responsibility of Surdex's flight acquisition manager, and each flight plan is reviewed and approved by the project manager. The Triangulation and Survey staff design the ground control network under the direct supervision of a Certified Photogrammetrist and a Registered Land Surveyor.

Imagery Flight Design

The flight design is based on the following parameters:

FLIGHT DESIGN PARAMETERS		
PARAMETER	**SETTING(S)**	**COMMENTS**
FLYING HEIGHT (AGL)	12" GSD: 12,300' AGL	Based on sensor-specific parameters (height: GSD ratio is focal length divided by CCD pixel size). Planning software will ensure the target GSD is not exceeded (numerically larger) in rugged areas by using an elevation model.
COVERAGE	Stereoscopic	Extends to the buffered tile layout to ensure stereo coverage and to provide alternative orthoimagery during mosaicking.
MINIMUM SUN ANGLE	30°	
SIDELAP	Minimum 30%	For urban areas, sidelap is increased to reduce building lean in "urban canyons" and flight lines are oriented to capture small areas as close to the center of the strip as possible to maximize the nadir view.
FLIGHT LINE ORIENTATION	Optimized to the area of interest	Design may include diagonal flight lines for either acquisition efficiency or to align with major streets/avenues in built-up areas.
LENGTH OF FLIGHT LINE	Generally < 80 miles	To accommodate IMU drift limitations, flights and flight lines not to exceed approximately 20-30 minutes in duration.

Ground Survey Design

After the flight design is complete, Surdex will determine the number and placement of control points that will be required to ensure product accuracy and independent check points required for validation of the deliverables.

Ground control points are surveyed to provide a connection between the ground coordinate system and the imagery coordinate system. All imagery will be acquired with a geodetic grade GNSS receiver on the aircraft to reduce the number of ground control points needed. For this project, Surdex will select photo-identifiable point locations and (if needed) target ground control points in an evenly distributed pattern throughout the project area.

As a quality check process, Surdex will also photo-identify, target and survey QC check points. These points, independent of the control points, are to be used exclusively in the quality check process to evaluate the accuracy of the final digital orthoimagery. This QC process will ensure that the digital orthophotography meets ASPRS accuracy standards as outlined in the specifications.

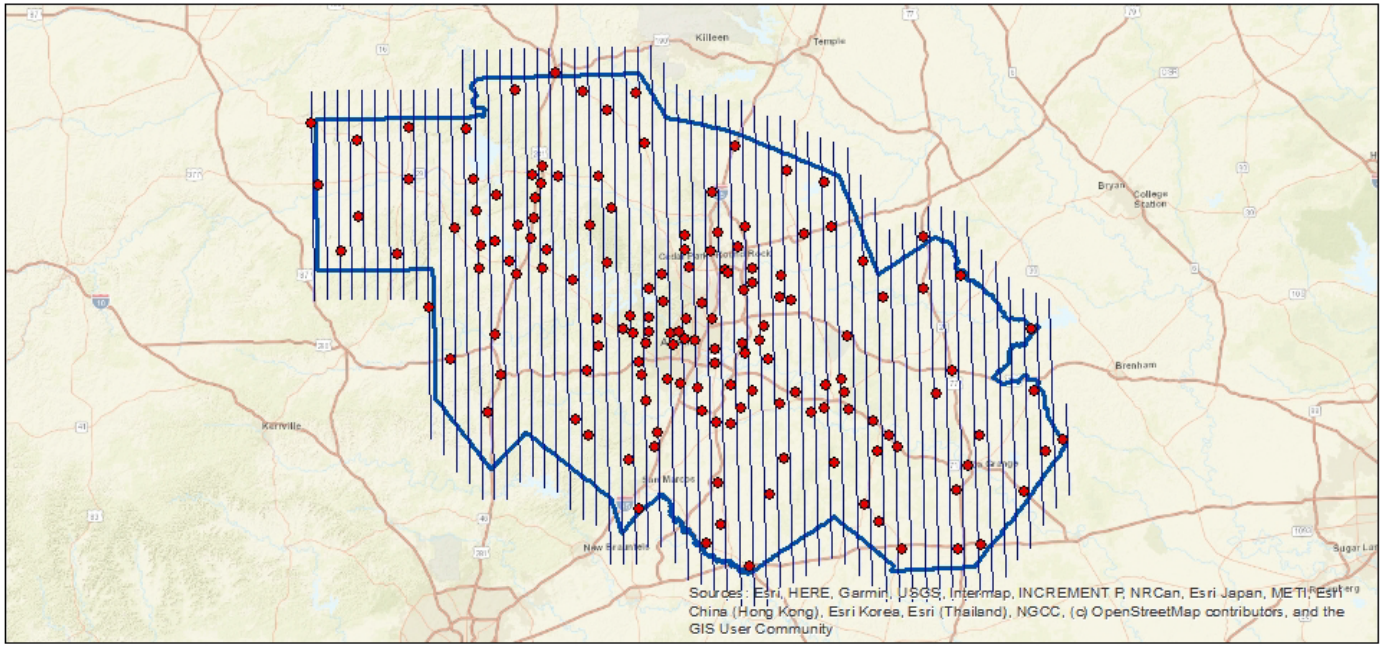
Our design approach includes:

- Re-use of control and QC points from the 2024 project where possible
- Individual control/check points will be either paneled or photo-identifiable
- Overall uniform dispersion of control over the entire project
- Focus on placing control at junctions of strips, maximizing the number of observations of control points during triangulation to strengthen the solution

Preliminary Flight and Control Diagram

The following page contains a preliminary flight and control diagram for 12" GSD imagery for the 10-county area of interest, 8,840 DO4Qs. The final flight plan and control layout will be selected based on the finalized 12" AOI and condition of prior project survey points.

FLIGHT AND CONTROL DIAGRAM
12" GSD CAPITAL AREA COUNCIL OF GOVERNMENTS



2) ACQUISITION EQUIPMENT

Aircraft

Surdex's Cessna 441 (Conquest) will be used on this project to host one of our Phase One PAS PANA sensors. The Conquest aircraft are the highest performing and most versatile aircraft in our fleet for imagery acquisition and can be ferried to the project area from our headquarters within two hours, ensuring maximum use of available clear weather. The RVSM equipment and advanced radar allow us to ferry safely at night. Our Cessna 414A is also suitable for this project and will be the back-up aircraft if needed. Aircraft assigned to the project will be based at airports within the project area to take advantage good weather and maximize on-line time during required sun angle periods.

SURDEX'S ACQUISITION AIRCRAFT FOR SOW #580-21-SOW-0001		
MAKE AND MODEL OF AIRCRAFT		
CESSNA 441 CONQUEST II-10 (WITH RVSM*)	**Number of Aircraft:** 4 **Engine:** Twin-turbine pressurized **Flight Range:** 2,193 nm **Operating Ceiling:** 35,000' **Cruise Speed:** ~310 knots	
CESSNA 414 CHANCELLOR III	**Number of Aircraft:** 1 **Engine:** Twin-piston pressurized **Flight Range:** 900 nm **Operating Ceiling:** 30,200' **Cruise Speed:** ~235 knots	

* RVSM: Reduced Vertical Separation Module. This FAA-certified equipment allows operation above 28,000' (MSL).

Sensors

IMAGE SENSORS					
SENSOR MAKE/MODEL	NUMBER AND TYPE	SERIAL NUMBER	CALIBRATION DATE	IMAGE DIMENSIONS (PIXELS)	IMU MAKE
PHASE ONE PAS PANA	3 – Large-format frame	OF000020 OF000021 OF000023	04/04/2023 03/04/2023 07/13/2023	14,000h x 46,000w	Applanix AP61

3) ACQUISITION PLAN WITH ASSUMPTIONS FOR WEATHER

Movement of aircraft to and from project areas is done by Surdex's chief pilot in coordination with the project manager. This is a complex process aided by the vast experience in acquisition Surdex has gained in over a half-century of aerial data capture. It involves tracking short- and long-term weather patterns and the progress of each project. Weather data for each project area is automatically loaded into our central database for consultation and historical study. The Surdex project manager will keep the Capital Area Council of Governments apprised of aircraft movements into and out of the project areas.

Surdex's acquisition experience within the State of Texas in recent years will be invaluable to ensure successful capture. Our general assumption regarding "sit days" (awaiting weather or clearance to fly airspaces) is that we have approximately 1 sit day per 3 days of acquisition. Imagery will be captured when the sky is free from clouds, cloud shadows, high overcast clouds causing low illumination, haze, fog, smoke and dust. Surdex understands that cloud/cloud shadow cover must be less than 5% per final uncompressed image tile and less than 5% of the entire AOI. Ground features will be free of excessive water due to rain or snow. Light conditions will ensure images are free from smear, blur, excessive glare or noise.

Flight Planning

Flight planning is the responsibility of Surdex's flight acquisition manager, and each flight plan is reviewed and approved by the project manager. Surdex uses the Leica MissionPro flight planning software for acquisition planning. This software utilizes an elevation model to rigorously check for adequate forward overlap and sidelap coverage as well as desired product GSD. Flights are planned against the buffered coverage for the desired seasonal window portion for the project area.

The flight planning software addresses rugged or uneven terrain in two ways:

- The targeted GSD is treated as a "maximum" value by the software and is never exceeded when compared to the terrain model. This may require "line breaks" to alter the flying height in very rugged terrain.
- The sidelap setting is treated as a "maximum" value and the spacing between lines is modified to ensure the value is not exceeded.

Imagery acquisition is the most critical project phase. The most important facet of acquisition is the focus on an extremely high degree of communication between Surdex's chief pilot and all aircrews. Flight plans are updated each evening in the central database and re-distributed to aircrews via the internet and/or e-mail. Daily communication and coordination between the chief pilot and aircrews ensure that acquisition is maximized.

Surdex's chief pilot will inform the local Air Traffic Control (ATC) and/or military air traffic control authority in advance of flight operations. This includes providing aircraft tail numbers and flight designs to ensure the local authority is fully informed.

Before each acquisition day several activities are undertaken by the aircrew:

- Aircraft, GNSS, IMU, and camera are all inspected for proper operation.
- Final weather checks are made.
- Up-to-date flight plans are downloaded and reviewed.
- Flight plans are filed with the local airport/FAA.
- If required, base stations are set up.

At the end of each acquisition day:

- Aircraft, GNSS, IMU, and camera are all inspected for proper operation.
- Aircraft mission logs are completed.
- Data drives are shipped overnight to the production center.

To maintain a clear report on the remaining work, we combine the daily progress each plane has made with the results from inspection of acquisition from previous days. This is all done in the database, so an up-to-date view of the data is always available.

Aircrews generate a flight report for each mission that is used by the production center to appraise the results of each day's acquisition. For example, if extreme turbulence or cloud cover is cited by the aircrew for specific areas of the acquisition, prioritized attention is paid to these areas by the inspectors.

It is critical to collect GNSS/IMU data with the highest possible integrity, considering these primary factors:

- Operation of base stations to maintain a reasonable distance to the project area.
- Avoiding IMU drift by limiting the length of lines – generally less than 20 minutes.
- Using CORS (Continuously Operating Reference Stations) and/or local GNSS reference networks to provide multiple observations.

Geometric Processing

Geometric processing is the application of the most recent sensor calibration data to the imagery using the sensor manufacturer's software. This includes provisions for principle point offsets, focal length, lens distortion, and position of the CCD pixels.

Acquisition Inspection

Immediately following acquisition, imagery is inspected to ensure complete coverage of the project area that is free from imperfections before commencing production.

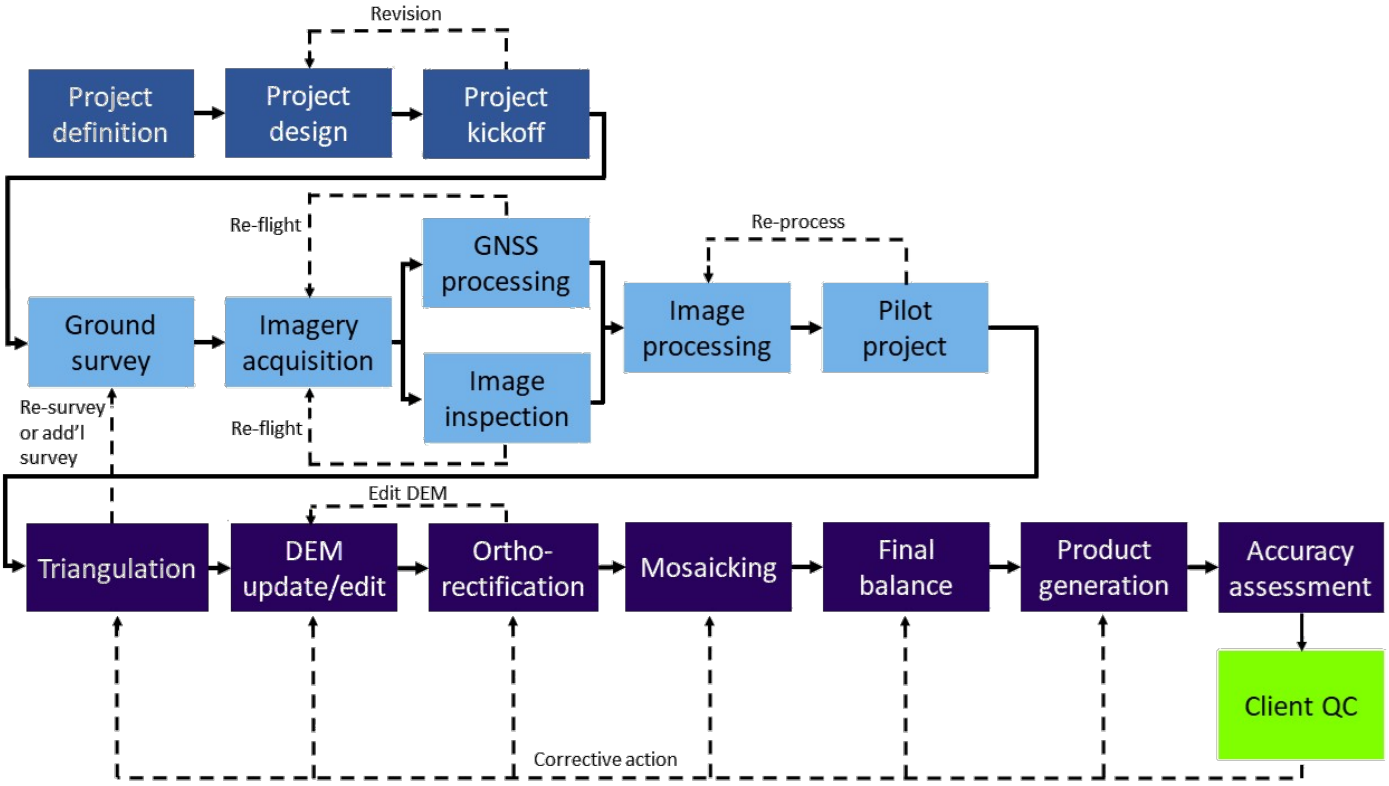
Rapid imagery inspection is critical to the overall success of a project, so all imagery is viewed and graded, and the inspection results are stored in our central database. This approach enables a qualified and timely determination to be made regarding the possible need for re-flights and guarantees proper image quality.

EXAMPLE IMAGERY INSPECTION ITEMS		
ITEMS INSPECTED VISUALLY	**ITEMS INSPECTED ANALYTICALLY**	**ITEMS INSPECTED VISUALLY AND ANALYTICALLY**
• Clouds/cloud shadow • Smoke/haze • Excessive flooding/standing water • Excessive ice/snow • Image motion • Specular reflection	• Verify acquisition parameters are met • Sun angle • Forward lap • Sidelap • Crab • Tilt	• Trajectory processing • Pixel/band registration • Camera misfires • Image artifacts

4) ORTHOIMAGERY PRODUCTION

The Surdex orthophoto workflow is best illustrated by the flowchart below followed by more detailed information on process steps.

Surdex's quality control system process overview



Triangulation

Since triangulation provides the foundation accuracy for the project, it involves checks and balances to ensure accurate results are provided to the production process to avoid costly and time-consuming re-work. The inputs to triangulation include GNSS+INS data, sensor boresight data, sensor calibration data, ground control and check point data, and the imagery itself.

The triangulation process involves the following steps:

- Automated measurement of pass and tie points appearing in the overlaps of the imagery.
- Interactive editing of pass and tie points.
- Measurement of control and check points.
- Bundle adjustment yielding refined imagery position, attitude and all point positions.
- If required, re-measurement of points and repetition of the adjustment.

The triangulation solution is based on a sophisticated bundle adjustment employing a mathematical model of the imaging geometry. It relies on the use of far more observations (observed/recorded values such as GNSS+INS, ground control, and image measurements) than are required for a unique solution. Using a least squares optimization approach, the observations are refined for a best fit. Careful inspection is made of the various residuals (differences between observed and adjusted values of parameters) reported by the solution.

Analysis of the quality of the triangulation solution is performed by a Certified Photogrammetrist who is highly skilled and experienced with the process. Upon completion of the triangulation process, the results are stored in the central database and published for use in the following production steps.

Elevation Model Preparation

Surdex will use the most current version of LiDAR available for orthorectification, supplemented with surface data produced off new imagery for creation of the Digital Elevation Model (DEM). If LiDAR is unavailable, after flight/triangulation when dense image matching is created, large elevated features (vegetation, buildings, etc.) are removed using a combination of automated and manual processes, with additional inspection. The master DEM is projected into the native projection and segmented into buffered extents of each accepted line segment for orthorectification in Surdex's distributed processing environment for file size efficiency of processing.

Orthorectification

Orthorectification will be performed using Leica XPro software, which operates in a highly distributed processing environment. All resampling is performed using bi-cubic resampling to ensure pixel location accuracy and to avoid aliasing effects commonly seen with nearest-neighbor or bilinear resampling techniques.

Radiometric Processing

Radiometric processing corrects defective pixels and adjusts the differing sensitivity of the pixels to a uniform result. It includes the application of all radiometric calibration information provided for each camera head from the supplier.

Surdex limits sensor-specific processing to the front end of the production chain, and all imagery is retained in 4-band and 12 bpp (bits/pixel) format until the final tiles are produced. This allows us to make localized adjustments to color, tone, contrast, etc. without compromising the overall quality of the deliverable product.

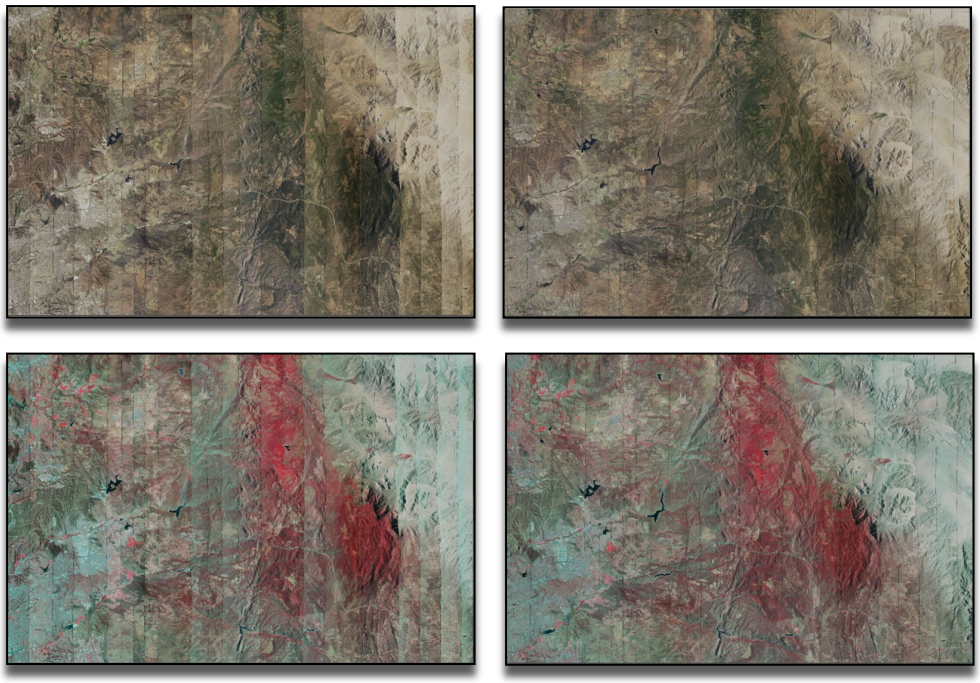
Using our own interface and database schema, image processing technicians organize large blocks of orthoimagery into groups with common characteristics, which do not necessarily coincide with individual flight missions. The tool can display images in ground space, allowing operators to see the relative image quality between neighboring images and imagery can be viewed in either color or CIR to ensure 4-band continuity. The atmospheric conditions during capture may result in imagery covering regions of differing degradation caused by haze.

Surdex's custom-developed Block and Global Balance software eliminates any residual issues evident after application of Bi-Directional Reflectance Distribution (BRDF) and atmospheric corrections. This is handled by two functions:

- **Block Balance** fits correction models to each strip of images with a single simultaneous bundle adjustment.
- **Global Balance** is then run to correct local differences in illumination between strips, and the results can be previewed in Group Tool without the need to generate intermediate files.

Global Balance uses a "rigid body model" correction calculated for each orthoimage that best forms a normalized block fitting neighboring orthoimages.

Before and after global balancing for RGB and CIR



Infrared Processing

Surdex's image processing approach supports 4-band (R-G-B-NIR), color (R-G-B), and color infrared (CIR: NIR-R-G) products by retaining imagery in 4-band x 12 bpp form until generation of the final deliverables. Since the red and green bands are common to the color and CIR renditions within a 4-band file, care must be taken to ensure proper appearance of both. In general, this is accomplished by limiting changes to the NIR band as much as possible. The approach is to first lock down the color rendition (ordered R-G-B or bands 1-2-3) and then process the NIR band to achieve the CIR rendition (ordered NIR-R-G or bands 4-1-2).

Seamline Generation Process to Create Mosaics

There are three steps in the seamline process:

- Automatic generation of seamlines
- Editing of seamlines from within Group Tool
- Application of the seamlines to create the Master Tiles

After all imagery in a completed triangulation block is orthorectified, automatic seams are generated, and then technicians must review the results and correct, if necessary, prior to writing out the Master Tiles. Once an area of seams has been accepted, the user selects tiles to be generated and adds them to a distributed processing queue.

Surdex's custom ray trace module is used to detect potential occlusions and smearing that may occur in rugged terrain. This software creates a graphical overlay that directs technicians to examine pixels that may be incorrect, avoiding the manual task of inspecting imagery for such issues. If an occluded or smeared area is encountered, the corresponding imagery from an overlapping orthoimage is inserted to replace it during the mosaicking process.

Surdex will supply an ESRI shapefile that fully delineates the seamlines used to merge overlapping digital orthoimages during the mosaicking process. Surdex's custom software automatically generates the seamline data during production, made possible by the integration of automatic seamline generation and manual edit into a single application and interface.

After mosaicking, imagery is produced to an internal tile layout that encompasses the project area with adequate buffering. Master Tiles are 8,192 x 8,192 pixels in size, in 4-band x 12bit format, and in the dominant reference frame of the project. Once the Master Tiles are completed, they are used to generate all delivery tile layouts, a process that includes re-projection into final datum and re-mapping to the 8-bit depth for final product.

Bodies of Water in Imagery

Surdex attempts to avoid seamlines crossing water bodies where possible; however, it is possible that passing seamlines through some water bodies cannot be avoided. Tonal variations will be apparent due to several factors, including sun angle changes during acquisition, turbidity changes caused by rainfall and runoff and naturally changing water "color." In extreme cases, Surdex has developed processes to drastically improve the quality of the water and to reduce the severity of the spectral reflectance. Surdex will minimize the reflectance effect by patching in alternate views of the affected area from overlapping adjacent image data (either from within a line or an adjacent line). Should these alternative views not be available or are themselves affected by specular reflection, Surdex has also implemented a function to fill from surrounding areas.

Before (left) and after (right) extensive correction for specular reflection

Pilot Project

Shortly after orthoimagery production begins, Surdex will deliver a representative pilot area of >10% of the project area to the Capital Area Council of Governments. The intent of the pilot is to define the desired appearance of the orthoimagery prior to full-up processing and to check form and format of the deliverables. The initial orthoimages will be processed to image metrics defined by the SOW (contrast, clipping, brightness, tone, etc.) and provided to the Capital area Council of Governments for review.

The pilot project will consist of:

- An area greater than 10% of the size of the AOI
- At least four uncompressed orthoimage tiles

Assessment of image quality includes several factors, some of which are objective (i.e.: computed) and some of which are still of a subjective nature. When discussing the image metrics presented in this section, one must keep in mind that they are guidelines and must be applied – or modified – to fit the context of the project. For example, image metrics will provide deceiving results if gathered from an image covering barren ground, water, desert, etc. The key factors in image quality are:

- "Colorimetry" – the balance of colors
- Contrast, tone, balance
- Clipping of dynamic range
- Sharpness
- Noise

Surdex software compiles image metrics on all images processed and retains them in a central database.

Metadata

Surdex is completely familiar with metadata delivery requirements having had this standard delivery for nearly all of our projects, including numerous projects in Texas. Surdex will provide fully compliant FGDC metadata for all data deliveries.

Horizontal Accuracy

As discussed in the project methodology text regarding project design, Surdex will incorporate industry, manufacturer, and empirical experience for acquisition parameters, establish sufficient ground control and take full advantage of available lidar data to meet required accuracies. Surdex understands and will fully comply with the accuracy specifications as detailed in the RFP and shown in the following table.

HORIZONTAL ACCURACY STANDARDS (INCHES)					
ACCURACY CLASS	**PIXEL SIZE**	**$RMSE_{xy}$**	**$RMSE_r$**	**$ACCURACY_r$ 95% CONFIDENCE**	**MOSAIC SEAMLINE MAXIMUM MISMATCH**
ASPRS RECOMMENDED USE: "STANDAND MAPPING AND GIS WORK"	12.00	24.00	33.94	58.74	48.00

Preliminary Orthoimagery

With years of web services hosting experience on the USDA National Agriculture Imagery Program (NAIP) and with our web-based inspection tool, Surdex is in the unique position to offer clients a web-based imagery preview service. This service provides a visualization of acquisition progress and allows clients to assess whether ground and atmospheric conditions for acquisition were appropriate. This display of production imagery is superior to textual reports and progress graphics for many users and is accessible on desktop workstations as well as on most smartphones and tablets.

The service can be implemented with username/password authentication to control access, or it can be implemented as an open-access service to the public. If desired, the interim imagery can also be incrementally updated with the final imagery as production progresses, maturing into the final imagery service at the completion of the project.

Preview orthoimagery is automatically processed to default imagery metrics, suitable for assessing ground conditions, cloud/cloud shadow cover, flooding, snow/ice, fog, smoke, etc. If re-flights are conducted, their result will overwrite any previous imagery, resulting in a view of the most current data. Surdex can post preview imagery within two weeks of completion of acquisition.

INTERIM IMAGERY VERSUS FINAL IMAGERY			
ITEM		**INTERIM**	**FINAL PRODUCT**
TRIANGULATION		None performed; based solely on trajectory processing	Triangulation supported by GNSS+INS, ground control
ORTHORECTIFICATION		To either existing (unedited) elevation surface or USGS NED	To final (edited) elevation surface
ACCURACY		Generally, 2-4X less accurate than final product	To product specifications
IMAGE PROCESSING		BRDF and atmospheric corrections applied; default processing to basic metrics/appearance	Additional processing to desired final product appearance
MOSAICKING	**SEAMLINES**	Automated only	Automated with manual editing to final product specifications
	BALANCING	Block balance only	Block and global balance to final product specifications

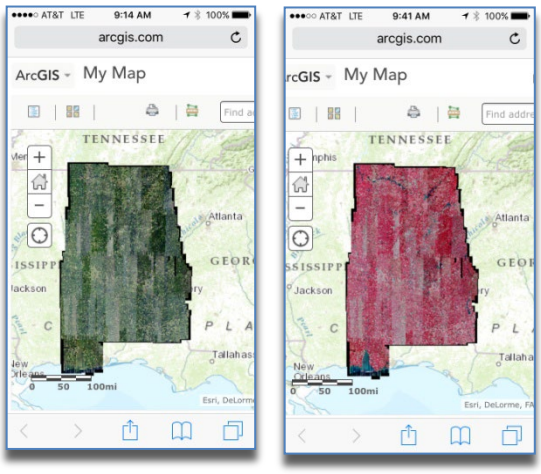
We believe this approach will yield orthoimagery that will allow the Capital Area Councils of Governments to determine whether the imagery was acquired under the correct ground and atmospheric conditions.

Surdex is willing to host this imagery to a web image service for use by the Capital Area Council of Governments. This service is essentially the same approach as the image service underlying our web-based inspection tool, SurCheck, and will persist until all production imagery is finalized. This can be implemented as a username/password solution to control access or implemented as fully open access. Since this is an imagery service, it can be accessed easily as a Java application without a geospatial context, used in any common GIS package, and even accessed by smart phones, tablets, etc.

The interim imagery web service is an OGC-compliant WMS implementation:

- 4-band imagery viewable as natural color or color infrared (CIR).
- A vector overlay portrays the image bounds complete with acquisition time/date, aircraft tail number, camera make/model/serial number, etc.
- It is a REST (REpresentational State Transfer) service that can be viewed by a user in several ways, including but not limited to:
    - As an ArcGIS Java viewer for simple viewing
    - Within ESRI ArcMAP
    - Within ESRI ArcGIS.com
    - Google Earth

NAIP Early Access Image Service on iPhone



B. QUALITY CONTROL WORKFLOW

Our redundant quality control processes require inspection at every major production phase, assuring that no work proceeds to the next step until it is validated against project specifications and image quality standards. The result is a 98% first time client acceptance rate.

Surdex has instituted extensive quality assurance (QA) and quality control (QC) procedures, modeled upon ISO processes, to provide premium quality products "first time right, on time."

Our ISO processes continuously optimize quality control and efficiency. Surdex's personnel have extensive experience that supports the quality control system, and our staff includes multiple Registered Land Surveyors (RLS) and several Certified Photogrammetrists.

QUALITY CONTROL SYSTEM FOR ORTHOIMAGERY PRODUCTION

FEATURE	BENEFIT
Use of Certified Photogrammetrists and Registered Land Surveyors at key steps in the process	• Ensures quality and accuracy
100% image inspection – each and every raw image is reviewed, graded, and results retained in a central database	• Ensures acquisition is completed and reviewed in a timely manner • Ensures image quality
Staff mark data as ready for the next step	• Ensures inputs are fully processed for each step
Use of custom-developed software at key steps	• Not reliant upon 3rd party solutions • Quickly develop solutions to address problems that arise
Independent accuracy validation reporting	• Objective results and reporting, can be duplicated by the client
Custom software to generate seamline shapefiles	• Enables clients to inspect the predominant source of residual artifacts
Web-based inspection tool with call-outs and response retained in the central database	• Streamlines inspection, acceptance, and delivery • Complete record of all inspection and remedial actions

QUALITY CONTROL FOR ORTHOIMAGERY PRODUCTION	
PHASE	**APPROACH**
PROJECT DESIGN	• Internal design reviewed by project manager, Certified Photogrammetrist, and Registered Land Surveyor • Reviewed by client
GROUND SURVEY OPERATIONS	• Field survey operations and processing under the supervision and review of a Registered Land Surveyor
IMAGERY ACQUISITION	• Aircraft inspection, maintenance, and repair performed prior to and during project • Sensor calibrations updated as needed • Boresighting of sensors prior to use and/or after installation/re-installation • Reporting of detailed progress by each aircrew at end of acquisition day • Nightly updating of flight plans incorporating acquisition and results of inspection
IMAGERY INSPECTION	• Each image graded and reported in central database, including inspection against the following factors, at a minimum: • Seasonal window(s) and client start/stop work orders • Sun angle and/or timeframe specifications • Project specifications for ground conditions (flooding, smoke, haze, etc.) • GNSS+INS accuracy and quality • Camera misfires • Image motion/smear • Agreement with flight plans • Clouds/cloud shadows • Specular reflection noted for technicians to correct • Automated analysis of smear and/or occlusion in rugged terrain executed for use by technicians
TRIANGULATION	• Trajectory processing reviewed by a Certified Photogrammetrist / Registered Land Surveyor • Tailored triangulation reports for client review • Dependent upon accuracy requirements, graded against: • Ground control, GNSS+INS, and image residuals • Agreement with checkpoints • Distribution and placement of pass/tie points in final solution
ELEVATION MODELING	• Visual review • Comparison of triangulation points to the elevation surface to determine areas of change or problems
ORTHO/MOSAIC	• Ortho technicians inspect one another's work and perform edits • Depending upon resolution of imagery, planimetric data such as roads, bridges, rail lines, buildings, etc. may be used to focus guide seamline review/edit
PRODUCT QC	• Use of Pilot Project(s) with client to assess: • Color, tone, balance specifications/expectations of client • Form/format of deliverables • Metadata compliance • Accuracy analysis performed using Esri ArcGIS and Excel

Project Planning

Project planning involves design of the imagery acquisition and control survey network which ensures accuracy requirements are met and guarantees total product coverage.

Flight plans are generally developed by Surdex's flight acquisition manager and are approved by the project manager, a Certified Photogrammetrist. When the flight plans are approved, the Triangulation and Survey staff design the ground control network against the flight plans. A Certified Photogrammetrist from Triangulation and a Registered Land Surveyor from Survey are responsible for the design. The design is approved by the project manager.

Ground Survey

Ground survey is performed by a Registered Land Surveyor (RLS) or technicians under the direct supervision of an RLS. All calculations are performed by an RLS and reviewed by a Certified Photogrammetrist from the Triangulation staff.

Sensor Calibration

Prior to use on a project, Triangulation personnel review all sensor calibration information to ensure all systems are up-to-date. The following is also prepared for each aircraft/camera combination prior to use in processing:

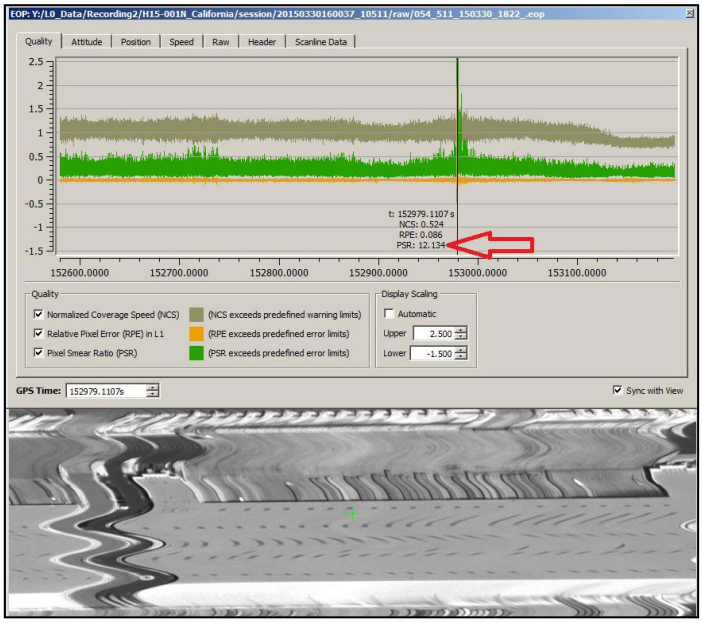
- GNSS antennas
- Dual-frequency receivers
- Surveys accurately portraying the relationship between the camera lens nodal point and the antennas
- Radiometric and geometric calibration files for each sensor

Image Inspection

Surdex employs 100% inspection, reviewing and grading all imagery and updating the central database with the results. If re-flights are isolated, they are immediately prioritized to the acquisition aircrews. Should any question arise about the quality of the imagery or adherence to project specifications, Surdex's project manager will consult with the client on the proper course of action.

With any type of aerial digital sensor, care must be taken to inspect imagery for possible image blur caused by turbulence. In late 2014, Leica supplied Surdex with a basic software tool that aids in locating areas of potential blur. Surdex built upon this tool with customized software to better integrate it into the imagery inspection task. In addition, Surdex's aircrews were trained on the effects of turbulence and we instituted flight reports that quantify any turbulence, allowing us to focus our imagery inspection to isolate and prioritize potential re-flights.

Leica/Surdex blur tool used during inspection, showing potential blur graph and corresponding image blur



Triangulation

Surdex employs numerous checks throughout the critical triangulation phase. These include, but are not limited to:

- Each triangulation block is independently reviewed by a Certified Photogrammetrist not involved in the specific block under review.
- Surveyed checkpoints are carried through the triangulation process as "floating" points (not constrained to their known positions), and these points are checked against the known (surveyed) positions.
- All residuals (sensor position, ground control points, image points) are inspected to ensure they are within the respective estimated precision of each.
- All triangulation points (pass, tie, control) are checked against the existing DEM data to search for obvious disjoints. This is sometimes helpful in finding errors in datums, projections, etc. associated with both the triangulation and the DEM.

Orthorectification and Mosaicking

Technicians review the orthoimagery for:

- Seamless appearance (against seamline shapefiles)
- Image processing artifacts
- Overall color balance against the target appearance from the pilot project

C. Contingency Plan

Contingency plans are implicit in the formal operation within Surdex. While we cannot control weather conditions, we can, and do, ensure more than the minimum acquisition and support resources. Some of the steps we take to ensure successful execution include:

- With up to five acquisition platforms, we will not hesitate to bring in an additional aircraft during good weather and/or access to difficult airspaces.
- Surdex has FAA-certified inspection, maintenance, and repair staff, independent of third-party support. This ensures maximum productivity for our aircraft and minimal reliance on the schedules of others.
- Surdex employs extensive cross-training of production technicians to address bursts of work or delays in schedule. For example:
    - Triangulation staff is supported by stereo compilation staff for the measurement and edit of points. Numerous Certified Photogrammetrists are also available to perform triangulation solutions and/or review.
    - Image processing personnel are cross trained to handle orthorectification/mosaic tasks.
    - Orthorectification personnel can perform many image processing tasks and can aid in image inspection.
    - Finishing personnel perform independent review of orthoimage deliverables. Additionally, these technicians are trained to perform DEM/LiDAR editing to back up the compilation staff.
    - For the typical summertime burst of production, part-time employees have been hired to handle limited and focused ortho/mosaic tasks on an as-needed basis.
    - Project managers and supervisors are experienced in technical work and can support bursts of demand if required.
- Our computing and storage systems use redundant storage and a combination of automated and manual backup of data at critical junctures in the process. All backup data is stored in the hangar facility separate from the main office. Battery backups are employed to address power outages, allowing a safe shutdown of all servers and drives.
- All critical equipment and software are under maintenance agreements.
- Our production facility has a diesel-powered generator that can be re-fueled indefinitely, ensuring production is not affected in the instance of a power failure.
- If weather conditions prohibit use of certain airports, we can re-locate our aircraft to other airports.
- We have several acquisition subcontractors from our USACE, GPSC, and USDA work available to assist in acquisition if necessary.

D. Localized and Unique Issues

With years of experience capturing imagery in the State of Texas, Surdex has gained valuable insight relating to the proper process for imagery acquisition in the state. Surdex has worked for TNRIS and the Houston-Galveston Area Council on numerous projects, and over the course of this work we have dealt with border access issues, coastal area weather, and snow cover in the East Texas Upland area during the main acquisition window. Surdex was also awarded a contract in 2014 to acquire 50 cm GSD orthoimagery of the entire state. We have become very familiar with localized and unique issues across Texas. Surdex's successful completion of the CAPCOG 2020, 2021, 2022, 2023 and 2024 orthoimagery projects and prior projects with Brazos County in 2015, 2017 and 2021 is evidence we understand localized and unique issues.

E. Production Centers and Associated Work

Our headquarters and production facility are based in the greater metropolitan St. Louis, Missouri area. Approximately 100 employees work at our headquarters building and hangar complex at the Spirit of St. Louis Airport in Chesterfield, Missouri.

Surdex believes that there is no substitute for experience. Our workers' experience on numerous projects in Texas, including a statewide project, resolving difficulties and streamlining processes enables them to apply their knowledge on your project, saving time, avoiding potential problems, and improving quality.

Our senior staff has an average of 25 years of experience. We have 8 ASPRS Certified Photogrammetrists, 1 ASPRS CMS-Lidar, 1 ASPRS CMT-GIS, 1 GISP, 2 Registered Land Surveyors and 1 Project Management Professional (PMP) certification. Many of our staff have degrees in mapping or engineering fields. With this depth of experience, our senior staff understands how to analyze projects, develop the best approaches, avoid potential problems, and quickly resolve them if they do arise.

Surdex's aircraft are housed in our 18,000 square foot hangar at Spirit of St. Louis Airport, only blocks from Surdex's headquarters in the St. Louis area. Surdex's full-time aircraft maintenance staff is certified for A&P (Aircraft and Powerplant) with Inspection Authorization (IA) to support our fleet. This staff is qualified and licensed to perform FAA-mandated inspections, maintenance, and repair. We are therefore not reliant on the schedules and costs of third parties. We have even transported maintenance personnel to project areas to perform inspection, maintenance, or repair in the field.

Surdex's 17,000 square foot headquarters and production facility (left)
and 18,000 square foot hangar on the Spirit of St. Louis Airport grounds (right)

F. COMMITMENT OF RESOURCES

- Mr. Cornell Rowan, ASPRS Certified Photogrammetrist, will be assigned as the dedicated project manager. Cornell managed the 2020, 2021, 2022, 2023 and 2024 orthoimagery project for the Texas Capitol Area Council of Governments as well as numerous other Texas projects including the 2012 South Texas Project, several Smith County and Houston-Galveston Area Council projects, and the 2014 Texas Statewide Program. His previous experience will prove invaluable to the successful completion of this project.
- Cornell has worked with up to 21 partners on a single project, so he will easily be able to work with Capital Area Council of Governments and make sure all needs are met.
- For the acquisition phase, we will have up to three aerial acquisition platforms. Each includes a Conquest or 414 hosting an the sensor.
- Surdex will provide the necessary ground surveying resources for field operations and office processing.
- Surdex commits the necessary production resources for image processing, triangulation, ortho/mosaic steps, project QC, and product delivery.
- The Surdex web-based SurCheck inspection tool is offered free of charge for the Capital Area Council of Governments for orthoimagery inspection.

G. SURDEX'S WEB-BASED INSPECTION TOOL (SURCHECK^{SM})

To assist our clients with the inspection of their orthoimagery, Surdex provides – *at no additional cost* – our web-based image inspection tool, SurCheck. This tool is the result of years of continuous improvement and responses to user requests for enhancement. It is implemented in HTML5, JavaScript, php, and the ArcGIS API for JavaScript, providing flexibility for enhancements in the future.

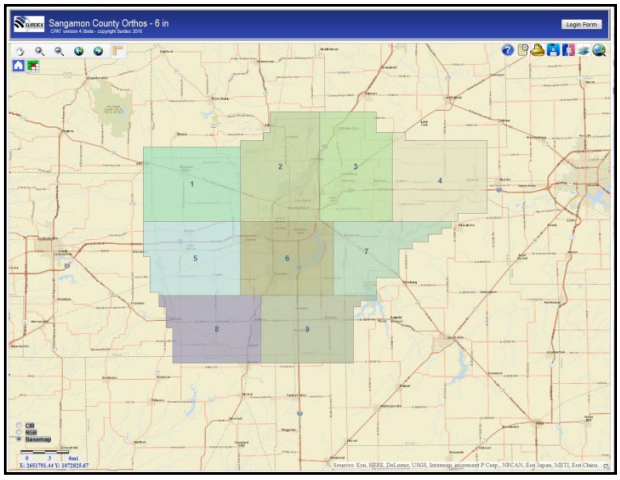
SurCheck streamlines the inspection, remedial action, and delivery timelines. As call-outs are reported by reviewers, Surdex resolves each and notifies reviewers so they may confirm the correction. When all call-outs are resolved for the project, the data can be shipped for final delivery. In many cases, clients choose to have orthoimagery added to SurCheck incrementally, further expediting inspection and allowing leveling of inspection resources.

SURCHECK℠	
FEATURE	**BENEFIT**
ADMINISTRATIVE	
Username and password login access	Protected access
Client manager can assign reviewers to separate work zones within a project	Ability for multiple reviewers increases inspection rate, supports multiple partners
Four tiers of reviewers: • Standard inspector • Client manager • Surdex reviewer • Final client reviewer	Covers entire lifecycle of inspection and resolution process, ensuring product is fully inspected and accepted
Help menu for most options	Online assistance with operation eliminates the need for a training guide, allowing inspection sessions to continue uninterrupted
GENERAL INTERFACE	
Browser-based	Works on any computer without the need to install software
Simple one-page design	Simple interface makes training easy, maximizes screen real estate for viewing imagery
Surdex-provided overlay of seamlines	Assists in searches for potential artifacts
Swipe function with user-selectable layer	Provides a quick comparison to other imagery
Ability for users to add their own map layers	Enables use of desired datasets for comparison—examples include historical imagery, vector overlays, control point overlays, parcels, ArcGIS Online layers, etc.
Magnifier window	Quick toggling between magnifier and standard view allows reviewers to retain scale with close-up inspection of potential artifacts
Histogram	Aids in determining adherence to project-specific image metrics
Progressive inspection	Methodical approach streamlines inspection and portrays status
Save call-outs to a shapefile or CSV files	Export call-outs for non-SurCheck users for review (can view in other applications i.e. Esri ArcMap, AutoCAD); CSV easily imported into Excel
Measurement tool	Supports investigation of call-outs against specifications (such as seamline shear, size of artifact, etc.)
Print current screen to printer or PDF	Simplifies creation of samples, bug reporting, etc.

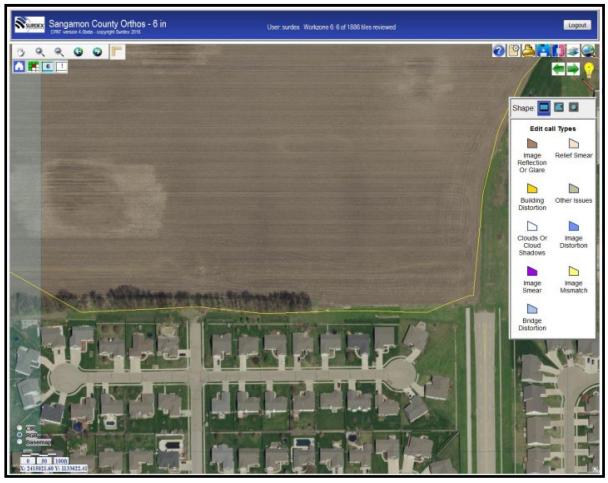
Upon request, Surdex can provide a video and PowerPoint presentation to familiarize and train users on the tool's use, as well as access to a sample project.

The following page portrays selected aspects of SurCheck.

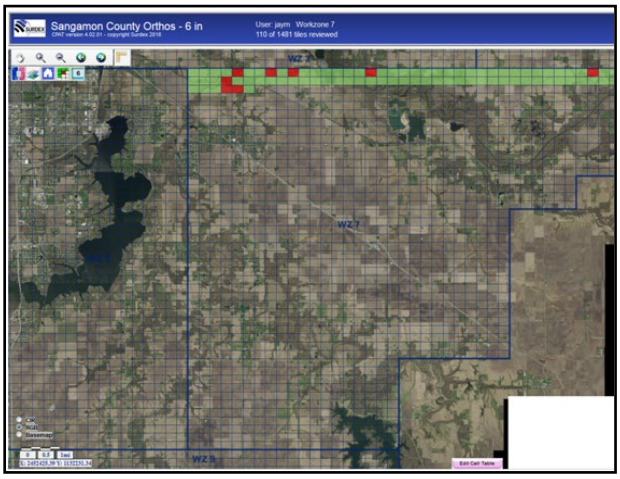
Initial screen showing AOIs



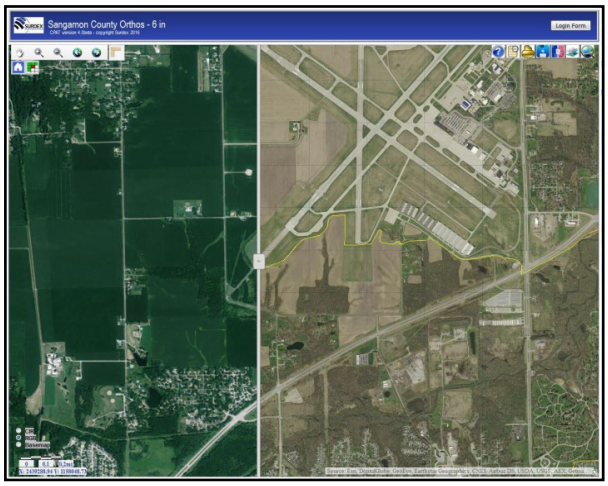
Call-out template



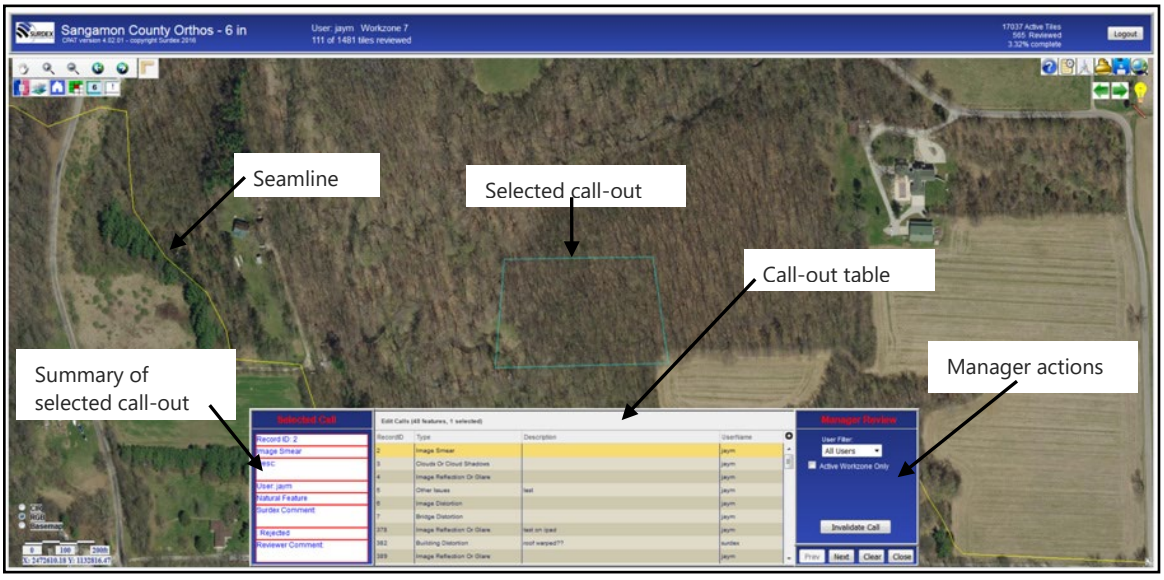
Work zone progress



Swipe between color and ArcGIS.com imagery



Manager call-out review



H. COMMUNICATION

1) REPORTING

Surdex understands the importance of regular communication throughout an orthoimagery project. Project Manager Cornell Rowan will attend the kick-off meeting as well as all subsequent meetings with the Capital Area Council of Governments and provide the necessary reports. Key production staff will also attend the kick-off meeting. The reporting plans are detailed in the table below.

SUMMARY OF REPORTING PLANS FOR THE PROJECT	
KICK-OFF MEETING	To be scheduled with Capital Area Council of Governments after project scope is finalized. Proposed agenda includes: • Identify points of contact for all aspects of project • Review scope and specifications • Discuss project design (flight and ground survey) presented by Surdex prior to meeting • Provide sensor calibration reports • Finalize invoice schedule and payment proportions
SUBSEQUENT MEETINGS	Surdex is willing to meet with the Capital Area Council of Governments at any time to address specific issues and/or progress
REPORT ON MOBILIZATION	Surdex will appraise and discuss with the Capital Area Council of Governments of plans to mobilize to/from the project area on an as-needed basis
AQCUISITION PROGRESS	• Daily updates provided via real-time status graphics and reports during acquisition • Available for weekly telecons/webcast at the request of the Capital Area Council of Governments.
POST-PROCESSING	
DELIVERY OF PRODUCTS AND PERCENTAGE OF COMPLETION OF PROJECT PHASES	

2) PROJECT MANAGEMENT

Mr. Cornell Rowan will be the project manager and serve as the primary point of contact to your designated representative(s) at all times. Cornell has extensive experience managing projects in Texas, so he is very familiar with the project area and the specific concerns of the Capital Area Council of Governments. He has 39 years of professional experience in the field has been with Surdex for 15 years, and he is a Certified Photogrammetrist. Cornell reports to the Director of Project Management, Mr. Wade Williams, who is also a Certified Photogrammetrist.

Surdex's project management approach is founded on frequent communication. Each of our project managers has experience in nearly all phases of production. They are guided by the philosophy that they must support the objectives of their clients by efficiently managing internal resources and maintaining schedules as well as quality and accuracy standards.

Communication can take the form of face-to-face meetings, e-mails, telephone calls, and webcasts. Our project managers are required to communicate with each of their clients at least once a week and must respond to a client's communication within 24 hours of receipt. The following graphic is an example of the Project Overview section of a Project Status Report.

Sample Project Status Report illustrating percent of progress by phase and area

Project Overview

Status by Phase						
Project Area	**Survey**	**LiDAR Flown**	**LiDAR processed**	**Imagery Flown**	**Digital Orthos Produced**	**Plan/Topo Mapping**
6 inch – West	100%	-	-	100%	0%	-
6 inch – East	100%	-	-	100%	N/A	-
12 inch	100%	-	-	100%	0%	-
Status by Task	**100%**	**-**	**-**	**100%**	**0%**	**-**
Legend	Not Started	In Progress	Complete	Issues/Concerns		

Each of our project managers is required to:

- Complete a Project Scope document that fully details the project specifications
- Conduct a client kickoff meeting to ask questions and arrive at a consensus on all project details
- Host internal meetings:
    - Kickoff meeting with department heads to review all project requirements, evaluate resources, and establish schedules
    - Weekly internal status meetings with all applicable department heads and senior management
    - Project close-out meeting that assesses our performance in detail and results in "lessons learned" to improve future performance
- Maintain information in our central database:
    - Weekly status updates of project schedules (external and internal)
    - QA/QC results to ensure quality expectations are met
    - Review project costs and generate invoices

Surdex tracks real-time status of acquisition design, acquisition progress, production steps and inspection results for both imagery and lidar to ensure projects remain on schedule. Acquisition progress is reported in our daily flight planning meeting via graphical and textual reports, as this is an extremely critical phase of the project. Raw data inspection occurs immediately after acquisition, and the database is updated with inspection results, triggering re-flights in a timely manner. This ensures that any re-flights occur as close to the original acquisition date as possible, minimizing differences from temporal changes.

I. PROJECT SCHEDULE

PROPOSED SCHEDULE		
TASK	**START DATE**	**END DATE**
PROJECT PLANNING / SURVEY CONTROL	May 15, 2025	June 1, 2025
IMAGERY ACQUISITION	June 1, 2025	June 30, 2025
AEROTRIANGULATION	July 3, 2025	July 14, 2025
ORTHO PRODUCTION	July 14, 2025	November 30, 2025
ORTHO PILOT	August 15, 2025	
ORTHOIMAGERY POSTED TO SURCHECK	October 31, 2025	
CLIENT REVIEW ON SURCHECK	November 1, 2025	November 15, 2025
ORTHO CORRECTIONS	November 16, 2025	November 30, 2025
ORTHO FINAL DELIVERABLES	November 30, 2025	
**Final Deliverables will include compressed 4-band mosaics for the Capital Area in JPEG2000 format.*		

J. WARRANTY

Imagery is covered by warranty for two years after delivery.

Approved DIR Contractor

Surdex is an approved Texas DIR Contractor for Geospatial Products and Services: DIR-CPO-4496.

PRICING

PRICING	
PRODUCT	**PRICE**
12-INCH DIGITAL ORTHOIMAGERY	$185,640
12 MONTHS OF DATA HOSTING	$5,800
TOTAL	**$191,440**

SURDEX CORPORATION

Signature

Date September 23, 2024

CAPCOG

Signature

Date

CAPITAL AREA EMERGENCY COMMUNICATIONS DISTRICT
BOARD OF MANAGERS MEETING

MEETING DATE: **November 13, 2024**

AGENDA ITEM: **#8 Consider Approving Appointments to the CAECD Strategic Advisory Committee**

GENERAL DESCRIPTION OF ITEM:
This is the monthly item for filling positions on our CAECD Strategic Advisory Committee; please let us know if our staff can assist in identifying interested persons to serve. It is presumed that both city and county representatives will collaborate when making appointments.

THIS ITEM REPRESENTS A:

- ☐ New issue, project, or purchase
- ☒ Routine, regularly scheduled item
- ☐ Follow-up to a previously discussed item
- ☐ Special item requested by board member
- ☐ Other

PRIMARY CONTACT/STAFF MEMBER: **Chris Miller, Executive Director**

BUDGETARY IMPACT:

Total estimated cost: N/A
Source of Funds: N/A

Is item already included in fiscal year budget?	☐ Yes	☐ No
Does item represent a new expenditure?	☐ Yes	☐ No
Does item represent a pass-through purchase?	☐ Yes	☐ No

If so, for what city/county/etc.? _____

PROCUREMENT: N/A

ACTION REQUESTED:
Approve any advisory committee recommendations.

BACK-UP DOCUMENTS ATTACHED:
N/A

BACK-UP DOCUMENTS NOT ATTACHED (*to be sent prior to meeting* or *will be a handout at the meeting*)**:**
CAECD Strategic Advisory Committee attendance roster