

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				1. CONTRACT ID CODE	PAGE OF PAGES 1 10
2. AMENDMENT/MODIFICATION NO. 1		3. EFFECTIVE DATE 05/02/12	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable) USDA-FS-5-12	
6. ISSUED BY CODE USDA-FSA AERIAL PHOTOGRAPHY FIELD OFFICE 2222 WEST 2300 SOUTH SALT LAKE CITY UT 84119-2020			7. ADMINISTERED BY (If other than Item 6) CODE CONTRACTING OFFICER AERIAL PHOTOGRAPHY FIELD OFFICE 2222 WEST 2300 SOUTH SALT LAKE CITY UT 84119-2020		
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)				(X)	9A. AMENDMENT OF SOLICITATION NO. AG-8447-S-12-0004
				X	9B. DATED (SEE ITEM 11) 04/18/12
					10A. MODIFICATION OF CONTRACT/ORDER NO.
					10B. DATED (SEE ITEM 11)
CODE	FACILITY CODE				

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers is extended, is not extended.
Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:
(a) By completing items 8 and 15, and returning 1 copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment your desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS.
IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor is not, is required to sign this document and return 1 copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

Solicitation is amended with the attached replacement pages.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) JOHN R. MOOTZ CONTRACTING OFFICER	
15B. CONTRACTOR/OFFEROR (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA <i>John R. Mootz</i> (Signature of Contracting Officer)	16C. DATE SIGNED 05/02/12

BLOCK 14 (Continued)

Page	Section	Para	Change Description
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6	B	B-3	Change Item 2 (DOQQQ/DOQ) to Option Item 2
		3.2(b)	Change to 4-band, 16-bit DOQQQ
7-7A	B	B-4 & 4.1	Clarifies Option Item 3
14	C	6.3	Change to reflect DOQQQ as option item and to change to 4-band, 16-bit DOQQQ
16	C	6.4	Change to reflect DOQ as option item
30	F	1.2	Change date of first submittal to sixty (60) calendar days after acquisition period
31	F	1.3	Change date of first submittal to sixty (60) calendar days after acquisition period
		1.4	Change date of first submittal to ninety (90) calendar days after acquisition period
32	F	1.5	Change date of first submittal to ninety (90) calendar days after acquisition period

B-3 OPTION ITEM 2: DOQQQ AND DOQ ORTHORECTIFICATION SERVICES

The Government will consider price proposals on an optional award item for delivery of Digital Orthorectified Quarter-Quarter Quadrangle (DOQQQ) and Quadrangle (DOQ) image tiles created from the imagery in Section B-2. The Contracting Officer may exercise this option upon contract award or by notice to the Contractor within 60 days of the contract award.

The option item will not be awarded without the corresponding base item. Therefore, pricing below should reflect only the incremental or additional price for performing the option item in conjunction with the base item in Section B-2.

OPTION ITEM 2: DOQQQ AND DOQ ORTHORECTIFIED IMAGERY					
OPTION ITEM	GSD	QTY	UNIT	UNIT PRICE	TOTAL AMOUNT
2	30cm	1,915	DOQQQ*	\$	\$
	30cm	184	DOQ*	\$	\$

*Insert average price per DOQQQ & DOQ, as some will be partial

3.1 Project Item Requirements:

- (a) Spatial Resolution: All imagery shall have a 30cm ground sample distance (GSD) or better.
- (b) Horizontal Accuracy Requirements: All well-defined points tested on Orthorectified tiles shall fall within 6.0 meters of true ground at a 95% confidence level (see FGDC-STD-007.3-1998, page 3-10).

3.2 Contract deliverables

THE CONTRACTOR SHALL SUBMIT ONE (1) COMPLETE COPY OF ALL DELIVERABLES. The following deliverables shall be submitted by the Contractor and prepared in accordance with specifications and work statement (Section C), packaging and marking (Section D), inspection and acceptance (Section E), and delivery schedule (Section F):

- (a) Pre-production samples (See Section C-6.3 and C-6.4)
- (b) 4-band, **16-bit** per band, Digital Orthorectified Quarter-Quarter Quadrangle (DOQQQ) Tiles in uncompressed GeoTIFF format* (see Section C-6.3), including supporting files:
 - (1) Raster Support Files
 - a. Auxiliary statistic/projection file (.aux)
 - b. Reduced Resolution Dataset pyramid file (.rrd)
 - (2) Metadata and other text files

- (c) 3-band, 8-bit Natural Color Digital Orthorectified Quadrangle (DOQ) Tiles in Mr SID compression format (1:20)* (see Section C-6.4)
- (d) Project Geodatabase feature classes for Seamlines and Orthorectified Image Index for each ortho product (See Section C-7.5)
- (e) RMSE Accuracy and Quality Control Reports*

*delivered on internal SATA hard drives, not to exceed 2 TB per drive (See D-1.3).

B-4 OPTION ITEM 3: DELIVERY OF 4-BAND, 8-BIT PER BAND, COLOR CORRECTED, GEOREFERENCED, UNCOMPRESSED IMAGE FILES

The Government will consider price proposals on an optional award item for delivery of 4-band, 8-bit per band, color corrected, georeferenced, uncompressed digital image files created from the imagery in Section B-2. The Contracting Officer may exercise this option upon contract award or by notice to the Contractor within 60 days of the contract award.

The option item will not be awarded without the corresponding base item. Therefore, pricing below should reflect only the incremental or additional price for performing the option item in conjunction with the base item in Section B-2.

OPTION ITEM 3: 4-BAND, 8-BIT PER BAND, COLOR CORRECTED, GEOREFERENCED, UNCOMPRESSED IMAGE FILES					
OPTION ITEM	GSD	QTY	UNIT	UNIT PRICE	TOTAL AMOUNT
3	30cm	5,330	Square Miles	\$	\$

4.1 Project Item Requirements: **Image files will be created using the imagery acquired under Section B-2.**

4.2 Contract Deliverables

THE CONTRACTOR SHALL SUBMIT ONE (1) COMPLETE COPY OF ALL DELIVERABLES. The following deliverables shall be submitted by the Contractor and prepared in accordance with specifications and work statement (Section C), packaging and marking (Section D), inspection and acceptance (Section E), and delivery schedule (Section F):

- (a) Pre-production samples (See Section C-6.2)
- (b) 4-band, 8-bit per band, color corrected, georeferenced, uncompressed digital image files in tile format (See Section C-6.2), including the following files*:

Frame-Based Sensor	Scanning (Pushbroom) Sensor – Files for Each Flight Line
.tif uncompressed, georeferenced image	.ads header with pointers to .tif segments
.aux auxiliary statistic/projection file	.hist xml file containing histogram
.rrd reduced resolution dataset pyramid file	.min minification header
.sup support/orientation file	.odf orientation data file
Metadata and other text files	.odf.adj adjusted orientation after AT
	.sup support/orientation file
	.tif image segment
	Metadata and other text files

- (c) One stereo block file for each hard drive containing imagery (see Section C-6.7)
- (d) Image Footprint Polygon Feature Class included in Project Geodatabase (See Section C-7.5)*

* delivered on internal SATA hard drives, not to exceed 2 TB per drive (See D-1.3).

- (d) Georeferenced Accuracy. The principal point shall have an accuracy not exceeding a 6 meter offset from true ground.
- (e) Metadata. The Contractor shall create Federal Geographic Data Committee (FGDC) compliant, per FGDC-STD-001-1998 specification, metadata file for each digital image file. Metadata must parse cleanly through the USGS metadata parser “mp” version 2.8.10 (or later version) without any errors. A template will be provided by the Government.

6.2 4-band, 8-Bit per Band Color Corrected, Georeferenced, Uncompressed Digital Image Files (*Applicable only if Option Item 3 is Exercised*)

The Contractor shall produce 4-band, 8-bit per band, georeferenced, stereo-coverage, color corrected digital image files at the resolution in accordance with Section B. Requirements for this product shall be the same as those listed in Section C-5.1 with the exception of the following elements:

- (a) Image Quality: Contractor shall make necessary radiometric adjustments, including stretching, dodging, color correction, etc., to the acquired imagery in order to match ground conditions at the time of exposure and to ensure the best possible color balance of the images across the project area for both natural color and color infrared. The RGB and NIR should be balanced in all frames to remove hot spots or ground condition differences from multiple acquisition dates without compromising the validity of the data. A pixel value of “0,0,0,0” should be used only for non-data values. All imagery shall meet the quality requirements specified in Attachment B, USDA Digital Imagery Quality Specifications.
- (b) Pre-Production Sample: The Contractor shall submit a sample of radiometrically corrected images prior to production for Government review. If the project area has a diversified landscape, the contractor shall provide enough samples to properly reflect the overall project landscapes. Refer to Section C-6.1 for file and media requirements and review schedule.

6.3 Digital Orthorectified Quarter-Quarter Quadrangle (DOQQQ) Tiles (*Applicable Only if Option Item 2 is Exercised*)

The Contractor shall provide ortho-rectification services to produce 4-band, **16-bits** per band, mosaicked digital orthorectified quarter-quarter quadrangles (DOQQQs) for the project area defined in Section B-5.1, Coverage Shapefiles. The DOQQQ shall cover the entire image area of one quarter of a USGS standard quarter quadrant, with a 100 meter buffer on all four sides. The DOQQQs shall be projected in NAD83 native UTM Zone in meters.

- (a) Image Quality: All DOQQQs shall meet the image quality requirements specified in Attachment B, USDA Digital Image Quality Specifications. The Contractor shall radiometrically balance the files used to create the DOQQQs to eliminate any checker board pattern appearance. Significant radiometric differences among image frames inhibits interpretation of ground features. The DOQQQs shall not contain any borders, artifacts, or other non-image items.

- (j) season. When multiple exposures are used in creating a tile, the acquisition date with the largest area shall be used when reporting dates in a single date field, such as metadata or attribute data. An average or mean date shall not be used.
- (k) Metadata: The Contractor shall create Federal Geographic Data Committee (FGDC) compliant, per FGDC-STD-001-1998 specification, metadata file for each digital image file. Metadata must include a separate lineage section for each georeferenced, uncompressed digital image file used in the creation of the DOQQ. The lineage title will contain the actual file name of the image tile used. Metadata must parse cleanly through the USGS metadata parser “mp” version 2.8.10 (or later version) without any errors. The metadata file shall use the same naming convention as the DOQQ but shall use a “.met” extension. A template will be provided by the Government.

6.4 Digital Orthorectified Quadrangle (DOQ) Tiles (*Applicable Only if Option Item 2 is Exercised*)

The Contractor shall produce 3-band, 8-bit, natural color, mosaicked digital orthorectified quadrangles (DOQs), for the project area defined in Section B-7.1, Coverage Shapefiles. The DOQ shall cover the entire image area of one USGS standard 7-1/2 x 7-1/2 minute quadrant, with a 100 meter buffer on all four sides and shall be projected in native UTM Zone 13, NAD83 in meters. Requirements for this product shall be the same as those listed in Section C-6.2 (DOQQ) with the exception of the following elements:

- (a) File Format: The DOQ tiles shall be 3-band, 8-bit per band natural color, compressed and saved in LizardTech's MrSID[®] Generation Three (MG3) format. The image header shall contain correct ESRI[®] compatible projection information for the mosaic. When encoding the DOQs, the following settings shall be applied: compression block size of 64; both the transparency and background values set to an RGB value of 0,0,0 (black); and use the “maximum zoom level” applicable to the input image, for example: checking the “Use Maximum Zoom Levels for Image” button in the encoding options menu. All standard MrSID[®] MG3 files generated by the LizardTech software (i.e., .sid, .sdw, and .txt) shall be included. Files shall use the same file naming specified in Section J, Exhibit 2, File Naming Convention. The image files and all supporting files shall be stored in a single subdirectory under the root directory called “ortho.”
 - (1) Compression Ratio: Compression ratio shall be 20:1. All DOQ compression shall be at the same ratio and settings (“region of interest” compressed at a different ratio will not be accepted).
 - (2) MrSID Log File: The Contractor shall provide the “text” file created when generating the DOQs. The file shall use the same naming convention as the DOQ but with a “.txt” extension.

PART I - THE SCHEDULE

SECTION F - DELIVERIES OR PERFORMANCE

F-1 MATERIALS TO BE DELIVERED

The materials shall be delivered as required and consist of the following items. Corrected or resubmitted materials must be delivered on media separate from original materials being submitted and include a separate packing slip. The Contractor shall maintain a copy of the digital data until APFO acknowledges receipt.

1.1 PROJECT FLIGHT PLAN

Item	Requirement
Format	ESRI compatible shapefile
Media	Paper Copy, Email, or CD/DVD
Naming Convention	None
Quantity	One (1)
Date of First Submittal	Prior to Commencing Acquisition
Submittal Frequency	Once
Government Approval Required	Yes
Required Metadata	No

1.2 16-BIT GEOREFERENCED, UNCOMPRESSED DIGITAL IMAGE FILES

Item	Requirement
Format	GeoTIFF
Media	Hard Drive (see Section D-1.3)
Naming Convention	See Section J, Exhibit 2 (i.e. “612040_0025_0001_20120827_16b.tif”)
Quantity	One (1) set of images per set of hard drives. Only one project item on each set of drives.
Date of First Submittal	No later than sixty (60) calendar days after acquisition period.
Submittal Frequency	Once (pre-production sample submission required prior to production)
Government Approval Required	Yes (see Section E)
Required Metadata	Yes (separate file for each image file)

1.3 8-BIT, COLOR CORRECTED, GEOREFERENCED, DIGITAL IMAGE FILES
(Applicable Only if Option Item 3 is Exercised)

Item	Requirement
Format	GeoTIFF
Media	Hard Drive (see Section D-1.3)
Naming Convention	See Section J, Exhibit 2 (i.e. “612040_0025_0001_20120827_8b.tif”)
Quantity	One (1) set of images per set of hard drives. Only one project item on each set of drives.
Date of First Submittal	No later than sixty (60) calendar days after acquisition period.
Submittal Frequency	Once (pre-production sample submission required prior to production)
Government Approval Required	Yes (see Section E)
Required Metadata	Yes (separate file for each image file)

1.4 DIGITAL ORTHORECTIFIED QUARTER-QUARTER QUADRANGLES (DOQQQ)
(Applicable Only if Option Item 2 is Exercised)

Item	Requirement
Format	GeoTIFF (Option Item 4)
Media	Hard Drive (see Section D-1.3)
Naming Convention	See Section J, Exhibit 2 and Exhibit 5 (i.e. “m_3311162_ne_1_15_25_20120721.tif”)
Quantity	One (1) set of ortho-rectified image files per set of hard drives. Only one project item on each set of drives.
Date of First Submittal	No later than ninety (90) calendar days after acquisition period.
Submittal Frequency	Once (pre-production sample submission required prior to production)
Government Approval Required	Yes (see Section E)
Required Metadata	Yes (separate file for each orthorectified image file)

1.5 DIGITAL ORTHORECTIFIED QUADRANGLES (DOQ) (*Applicable Only if Option Item 2 is Exercised*)

Item	Requirement
Format	MrSID, 1:20 compression
Media	Hard Drive (see Section D-1.3)
Naming Convention	See Section J, Exhibit 2 (i.e. “m_3509320_15_25_20120721.sid”)
Quantity	One (1) set of ortho-rectified image files per set of hard drives. Only one project item on each set of drives.
Date of First Submittal	No later than ninety (90) calendar days after acquisition period.
Submittal Frequency	Once
Government Approval Required	Yes (see Section E)
Required Metadata	Yes (separate file for each orthorectified image file)

1.6 RMSE ACCURACY AND QUALITY CONTROL REPORTS

Item	Requirement
Format	ASCII preferred
Media	Hard Drive (see Section D-1.3)
Naming Convention	None
Quantity	One (1)
Date of First Submittal	Delivered with DOQQQ Files
Submittal Frequency	Once
Government Approval Required	No
Required Metadata	None

1.7 PROGRESS REPORTS

Item	Requirement
Format	See Section J, Exhibit 4
Media	Electronic mail
Quantity	One per day per crew
Date of First Submittal	Daily (as required in accordance with Section C- 7.1)
Submittal Frequency	Daily (only required for days that aerial acquisition was accomplished)
Government Approval Required	No
Required Metadata	None