



## **MCA-N # LB-2007-01**

Photogrammetric flights at scales of 1:20,000 and 1:4,000 and the production of Digital Orthophoto Maps at scales of 1:5,000 and Trueortho 1:1,000 in the Department of Leon, Nicaragua.

### **CLARIFICATIONS OF THE BIDDING DOCUMENT (Q & A)**

Leon, Nicaragua  
January 9, 2008

**Question 1.**

In count 1.2: Type of Photogrammetric Flight (Page 63 of BD) the following has been stated: Highly accurate navigation (better than +/- 1.00 meters deviation from the planned pass on the respective maps). What does it mean? It's not clear whether it is meant  $\pm$  1m in the map or in nature.

**Answer:**

La desviación es de  $\pm$  1 metro con respecto a la posición de la línea de vuelo planificada.

**Question 2.**

In count 3: Flight Conditions (Page 65 of BD) Laps – we think that a typing error has occurred. It cannot be concluded which of the stated overlaps is correct, the one written in words or in numbers.

Urban Photo 1: 4,000

- Longitudinal: sixty percent (80%)
- Transverse: thirty percent (50%)

**Answer:**

Los traslapes para la fotografía urbana son los siguientes:

Urban Photo 1: 4,000

- Longitudinal: eighty percent (80%)
- Transverse: fifty percent (50%)

**Question 3.**

In count 3: Flight Conditions (Page 67 of BD) Format and Complementary Information the following has been written: The useful format of the images will be twenty-three by twenty-three centimeters (23 x 23 cm). There is no such format of digital images. It is an analogue metric camera and not a digital one. We would appreciate if you could check this and inform us accordingly.

**Answer:**

Ha habido un error en las especificaciones técnicas, el formato de los fotogramas solicitados debe corresponder a los obtenidos por cámaras fotogramétricas digitales.

**Question 4.**

In count 5.3: Implementation of the Work (Page 73 of BD) Documentation to be submitted - the following has been written: Collection of positive films on paper with the points pugged. Please define positive films on paper.

**Answer:**

Ha habido un error en las especificaciones técnicas, el termino de "Collection of positive films on paper with the points pugged" **no aplica**. Lo que se solicita es un índice con la identificación y descripción de los puntos de apoyo.

### **Question 5.**

In count 6: Technical Specifications for the Aerial Triangulation (Page 74 of BD) 6.2. Documentation to be submitted it is stated: Information on the residuals o the measurements of the fiducial marks of each side, internal orientation. There is no such orientation in digital workflow. We would appreciate your clarification.

### **Answer:**

El punto 6.2 referred no aplica.

### **Question 6.**

- a) In count 7: Technical Specifications for the Preparation of the Digital Terrain Models DTM (Page 75 of BD) 7.1. General Conditions it is stated: The interval of the points which make up the DTM will be:
- For producing the orthophoto maps at a scale of 1: 5,000, 10 meters or less.
  - For producing the trueortho at a scale of 1: 1,000, 2 meters or less.

This means 2mm in the map. See ASPRS standards.

- b) In count 7.2: Preparation of the DTM's (Page 75 of BD) it is stated: Accuracy in centimeters will be characterized by the formula:  $\sigma = \pm 0.02 \times H$  (H = altitude of flight in meters) with 95% probability of not having more than  $T = 2\sigma$ .

It means more or less  $\pm 40$  cm for the scale of 1:5000? Please clarify and confirm.

### **Answer:**

En relación al punto 7.1 se confirma que se esta solicitando 2mm a la escala del mapa.

En relación al punto 7.2 se refiere a la precisión vertical del DTM, lo cual confirmamos que se calculara según la formula:  $\sigma = \pm 0.02 \times H$ . no superando  $T = 2\sigma$ .

### **Question 7.**

In count 10: Urban Restitution (Page 82 of BD) Planimetry: All the details will be restituted according to the legend that will be defined by the Service Provider and the Client. The field classification must provide all the information proposed in the legend. We are of the opinion that it should be done as soon as possible, because the content of the legend directly influences costs and time for the restitution.

### **Answer:**

Solamente serán restituidos los elementos que estén asociados y conectados a los límites de las parcelas incluyendo las edificaciones.

### **Question 8.**

Clarify: Shapefiles or other digital limits covering the areas (state and city limits).

### **Answer:**

Todos los límites administrativos serán proporcionados por el Contratante.

### **Question 9.**

Can we assume 30cm for rural and 6 cm for urban (1:20,000; 1:4,000 equivalentents)?

**Answer:**

Si la pregunta esta referida a la dimensión del píxel de la fotografía aérea, se puede asumir los valores antes mencionados

**Question 10.**

In the document they request RGB deliverables but mention 4 bands sooner...only colour will be collected and provided, please clarify.

**Answer:**

La mencion de 4 bandas esta referida a las características técnicas de las cámaras digitales ver 2. Photogrammetric Camera and Associated Equipment.

**Question 11.**

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Page 73: "Collection of positive films on paper with the points pugged."...looks like this was left from a previous RFP...clarify if paper contact prints are necessary (we are able to print out on 8x11 but quality is not like film with contact print).

**Answer.**

Idem respuesta a pregunta 4.

**Question 12.**

One technical item that is not clear: The "true orthophoto" normally means that we compile all the building roof lines and include them in the DTM for rectification; it also means that you need a breakline around each building at ground level. This can be a lot of work (expensive) but I didn't see any details about this.

**Answer.**

Tomar en consideración la respuesta a la pregunta 7.