

**Ref. No. 091219 – R-02**

12 September 2019

**MR. WAKO NOTO**

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*Tunnel Engineer*

**NIPPON KOEI**

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**Thru : MR. PETER SAMOSA**  
**President, PKII**

**Subject : Proposal to Undertake the Acquisition of Satellite Imagery**  
**From Digital Globe for project area of Dalton Pass**

In response to your request, we are submitting herewith our-cost quotation on the above-captioned subject.



#### **1.0 SCOPE OF WORK :**

##### **ACQUISITION OF ARCHIVED IMAGERY (Digital Globe Satellite Image)**

From Digital Globe Archive 2019

World View 1 or 2 or 3 or 4

Items for submittal:

- Photo Mosaic of individual imagery for the whole area.
- Electronic file in AutoCAD format

Quality based on Digital Globe standards

##### **HIGH QUALITY ARCHIVE IMAGERY**

Ortho-Ready Standard Imagery (High Quality Digital Globe Product)

Bit Depth: 8 bit

File Format: GeoTIFF 1.0

Ground Sample Distance (Resolution): 30 to 50cm, depending on area

Pan-sharpened Imagery with 3 Bands Color and Infrared

DRA (Contrast Enhancement): DRA On

Cloud Cover <10%

Projection: UTM

Datum: WGS84

Tiling: No tiling

ORTHO PROJECTION WILL BE BASED ON GCP IF AVAILABLE

WorldView-3, the first multi-payload, super-spectral, high-resolution commercial satellite. Operating at an expected altitude of 617 km, WorldView-3 provides 31 cm panchromatic resolution, 1.24 m multispectral resolution, 3.7 m short-wave infrared resolution, and 30 m CAVIS resolution. WorldView-3 has an average revisit time of <1 day and is capable of collecting up to 680,000 km<sup>2</sup> per day, further enhancing the DigitalGlobe collection capacity for more rapid and reliable collection. Launched in 2014, the WorldView-3 systems allow DigitalGlobe to further expand its imagery product offerings.

## 2.0 COSTS

### Satellite Image - Dalton Pass

	Item	Unit	Quantity	Unit Cost	Total Cost (PhP)
1	Satellite Image from Archive 0.4m Resolution Available (series of imagery with base of 2019 and 2018 with cloud patching of 2017)	Sq.km	185	3,200	592,000
2	Generation of contour at 1m using NAMRIA IFSAR data DTM	Sq.km	185	2,550	471,750
3	Data processing and mosaic	LS	1	100,000	100,000
			<b>SubTotal</b>		1,163,750.00
			12% VAT		139,650.00
			<b>TOTAL</b>		<b>1,303,400.00</b>

ELEVATION FROM IFSAR

Area  
as per kmz file

### FOR THE DATA PROCESSING

Nippon Koei will provide alignment route options under study. The file will be in CADD format. The alignments will then be overlaid in the satellite image and DTM generated for the project.

The integrated CADD file with the satellite image, DTM and route options will then be submitted to Nippon Koei.

Satellite image will also undergo orthophoto adjustment. Using NAMRIA GCP or whatever data is available for initial adjustment.

Sample Imagery at 40cm resolution (urban area – NAIA)



Sample Imagery at 50 cm resolution (rural area – Tacloban after Yolanda)



**BEFORE**

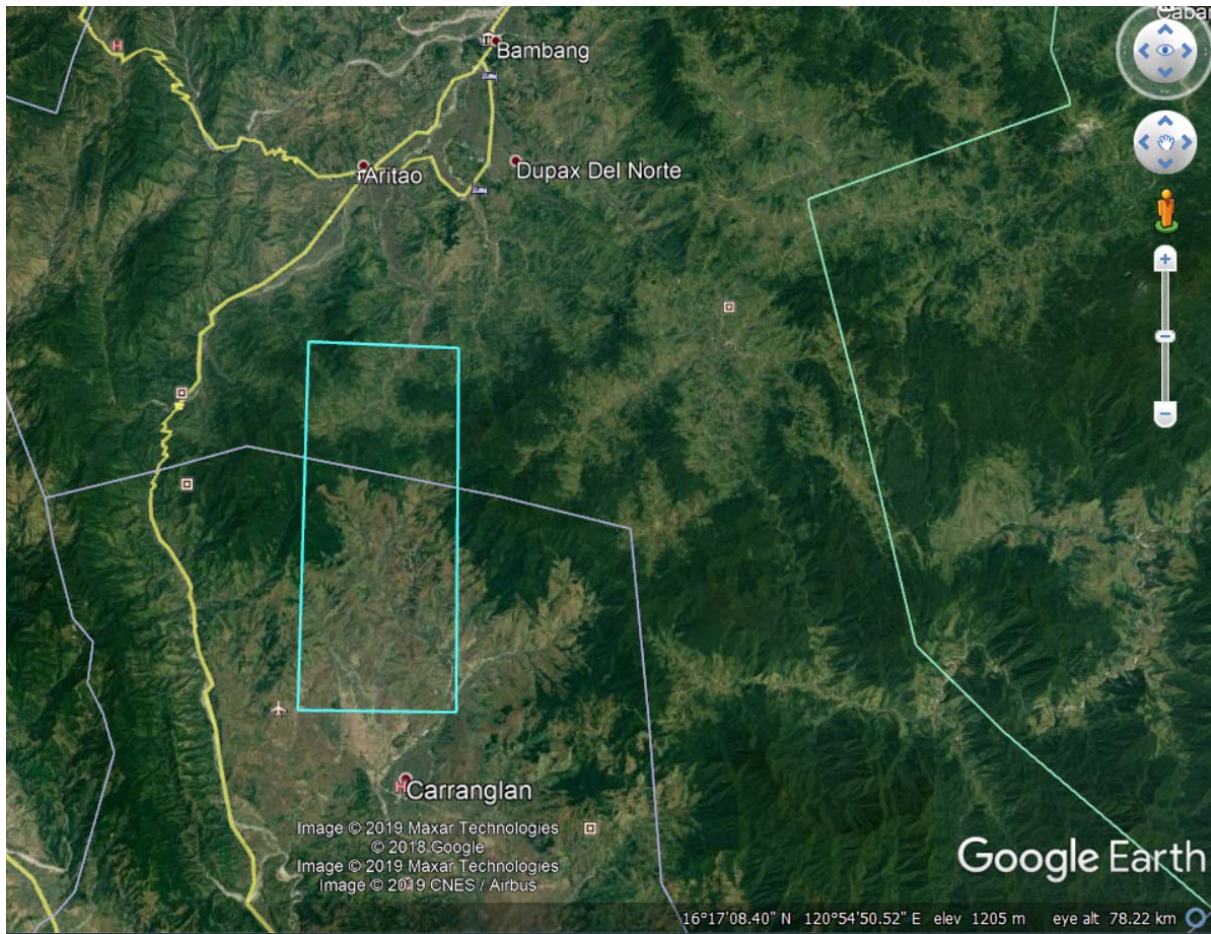
**AFTER**

9 Anlacan Compound Philand Subdivision Tandang Sora Q.C. 1116

935-7296 935-7297 453-0173

"Traversing the Path of Surveying Technology"

## Estimated Area of Coverage



**3.0 DURATION OF WORKS:**                      Dependent on total area,  
standard 30 days for Archive

**4.0 PAYMENT SCHEDULE:**  
     Fifty Percent (50%)                      upon signing of contract agreement  
     Fifty Percent (50%)                      upon complete submission of final outputs

**5.0 OTHER CONDITIONS :**

- 6.1 All documents and necessary plans shall be furnished to **RASA** before commencing survey fieldwork.
- 6.2 **RASA** has the option to extend duration of work for reasons beyond control.
- 6.3 **All necessary permits, authorizations, endorsement letters and similar documents needed to access the site shall be provided by the client.**
- 6.4 **RASA** will mobilize in three (3) days upon receipt of down payment or Notice to Proceed
- 6.5 In case of mutual termination, all payments made are non-refundable.

Thank your for giving us the opportunity to quote. Should you find our proposal merits your acceptance, we will be more than willing to enter into a contract agreement with your company.

Very truly yours,

**RASA SURVEYING AND REALTY**

Prepared By:



**RHETT L. DE GUZMAN**  
VP-Project Manager

**CONFORME / ACCEPTED BY:**

Approved:



**RAYMUND ARNOLD S. ALBERTO**  
President

\_\_\_\_\_  
Signature over printed Name

\_\_\_\_\_  
Designation                      Date