Status Of Geodetic Infrastructure In Fiji

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ABSTRACT

A new Fiji Geodetic Datum proposed for Fiji to adopt a Geocentric Datum which is internationally recognized by all. Fiji would be moving from a geodetic datum based on the geocentric WGS 72 which is now non- recoverable and as a result completely obsolete, to a modern dynamic geocentric datum defined in terms of the International Reference Systems (ITRS). In doing so it would be introducing a datum which is totally compatible with what has been done in other countries such as Brunei, New Zealand, Australia, Japan and other countries. The proposed datum has a lot of benefits/opportunities to the wider communities in the utilization the real time GPS technology in this modern day and age. HOW LOCAL DATUM - WGS72 ESTABLISHED In 1979, RASVY (Royal Australia Survey Corps) carried out a Doppler survey of the Fiji group where 18 stations were established, 10 on existing primary stations. The establishment of Doppler on these stations enabled the whole network to be adjusted on an internationally accepted datum then – WGS 72. CONSULTATION Consultation with stakeholders locally and experts from abroad will determine a better and a quicker way forward to the proposed implementation process. CONSULTANT Fiji needs to search abroad for a consultant to be contracted for the whole period of implementation process. You may not be aware the change of datum from that of 1880 Clarke to the WGS72 datum which took place in the 1979s was a NZAID project. All expert personnel involved were from NZ and they were supported by the survey staff of the Lands Dept. SOPAC is the Pacific organization where Fiji will seek technical advice/assistance to be part of the working group as they link with Geoscience Australia (GA). AVAILABLE RESOURCES The foundation has been set for this proposed change of datum. There are geodetic stations across the Fiji islands including Rotuma, that have been occupied and adjustments have also been made by GA and are comply with the standards required for this proposal. However there may be other work that is required to further breakdown the later survey to 2nd, 3rd order and control traverses to accommodate our cadastral survey and mapping purposes Fiji wide. Fund is the most important resources to move this project forward. ESTABLISHMENT Of CORS STATIONS Fiji is also need to look at establishing another two continuous tracking stations – one in Suva and another in Labasa, in addition to the current one in Lautoka. This is a global network where raw GPS data from all continuously trackers worldwide are adjusted in order to maintain that precise values which are later used for surveying and mapping purposes in all respective countries. These stations will continuously track for a certain period before we could be able to apply to IGN to have the site assigned a DOMES number by IGN in Paris and we contribute the raw data to them which may be used as part of the data set used to define International Terrestrial Reference Frame (ITRF) 2010. CONCLUSION With the rapid change in modern technology it is crucial that Fiji adopt this. There are a lot of benefits Fiji will

reap especially with a map datum that is recognized internationally. Obviously Fiji will be able to share such benefits with all our neighboring island countries including New Zealand and Australia.

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