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Raymond Francis Charles (1951-2017): A Historical Note of a Civil Engineer

Mr. Raymond Francis Charles was born in 1951 in the St. James district of Port-of-Spain. He received his early education at the St. Crispin's EC Primary School in Woodbrook. From there he went to the Fatima College. There he won the school prize for Mathematics at the GCE O' Level examinations in 1968, and was the Head Prefect from 1968 to 1970. At Fatima, he proved himself to be an avid sportsman, was the captain of the basketball team and 'Victor Ludorum' at several of the schools' annual sports meetings. He went on to The University of the West Indies (UWI) and obtained a BSc (Hons.) in Civil Engineering in 1974 and an MPhil in Highway Geotechnics in 1989. He joined the Department of Civil and Environmental Engineering as a member of academic staff in 1981 and served as the Head of Department from 1999 to 2006, and again from 2013 to 2016. In his youth, Mr. Charles was exposed to a rich steelpan culture and a thriving sporting environment in the St. James district, and extended this experience to the management of the Steelband 'Kool and the Gang' in St. James, as well as being the president of the Real Maracas Football Club in Maracas, St. Joseph.

Trinidad is known globally, especially in those regions of the World not affected by the fascinating game of Cricket, for its Pitch Lake. Moreover, Civil Engineering students across the world learn about the Lake Asphalt; which has been used in runways of major airports (London Heathrow and JFK in New York), paving of ceremonial boulevards in Europe (the Mall in London and the Avenue des Champs-Élysées in Paris) and tunnels (Lincoln and Holland in New York). However, the measured engineering properties of Trinidad Lake Asphalt were not known in public domain. Mr. Charles was one of the first persons to scientifically study the engineering properties of Trinidad Lake Asphalt, and make the results of the same known in public domain through research publications and codes of practice (such as those of the American Society of Testing Materials). His research contributed to the opening of new markets for Trinidad Lake Asphalt in Brazil, China and India, and inspired his students. Fittingly, his pioneering work in this area did not go unnoticed, and in 2006 he received an Award of Excellence from the Caribbean Asphalt Association for his contribution to the asphalt and road pavement industry in the Caribbean.

The Commonwealth Caribbean is defined by its seascapes. Yet, the dichotomy between the Civil Engineering Curriculum at UWI and its physical environment was a source of disbelief; until Mr. Charles took a bold initiative in 2003 to concurrently launch an optional undergraduate course in Coastal Engineering as well as an MSc/Diploma in Coastal Zone Engineering & Management. The MSc/Diploma programme was re-structured in 2008 and is now comparable to reputable programmes elsewhere, and its graduates in the private and public sector are making a difference in the coastal zone management.

In late 1990s, the Engineering Council in the United Kingdom prescribed a major change in the minimum academic requirements for becoming a Chartered Civil Engineer. Specifically, a BSc degree was deemed insufficient and accordingly universities converted their three-year BSc programmes to a four-year MEng programmes. However, such a change was not considered feasible in the context and circumstances of

The UWI. Mr. Charles, as Head of Department of Civil and Environmental Engineering, solved this dilemma in an ingenious manner by introducing, in 2003, two MSc programmes to provide further learning to The UWI Graduates in Civil, and Civil with Environmental, Engineering, for meeting the current academic training needed for becoming Chartered Civil Engineers. The MSc degree programmes in Civil Engineering and Civil with Environmental Engineering were the first MSc programmes at The UWI to receive accreditation by the United Kingdom (UK) Engineering Council.

Mr. Charles served as a Director of the Public Transport Service Corporation of Trinidad and Tobago, and Director and Deputy Chairman of the Board of Lake Asphalt of Trinidad and Tobago Ltd in the 1990s. In addition, he was a Founding member and Director of the Pan American Institute of Highways (PIH) which was set up by the Organisation of the American States in 1989 to develop and extend solutions to road and highway design and maintenance issues across Latin America and the Caribbean. In 1999, he ended his contribution as a Director of the PIH and was subsequently given an Award by the Federal Highways Administration, USA, for his outstanding contribution to the formation and development of the PIH.

The World Bank, in collaboration with the Caribbean Development Bank, selected Mr. Charles as a member of an international expert user group set up to pioneer the practice of life-cycle evaluation of roads and highway projects across the developing world. Between 1996 and 1999, he organised several regional conferences, seminars and short courses for the Permanent International Association of Roads Congress. In 1996, he was among a group of international collaborators that founded the World Interchange Network (WIN) headquartered in Brussels, and had responsibility for the English speaking Caribbean region up to 1999.

As mentioned previously, there was no facility at UWI until 2003, for advanced training in Coastal Engineering. Not surprisingly, lack of regional technical expertise in this study field was laid bare in the aftermath of Hurricane Lenny in 1999, which had a devastating impact on the tourism industry of the Windward and Leeward Islands. A forensic engineering review of the damages revealed an ignorance of wave/structure interaction and coastal sediment transport by the practicing (mostly UWI trained) Civil Engineers. Mr. Charles perceived the need for training in Coastal Engineering, and more importantly, given the geographic and financial constraints, to take such training to the affected islands.

Mr. Charles obtained financial support from USAID/OAS for a training programme in Coastal Engineering. Specifically, 155 training opportunities were provided for participants from eight (8) Commonwealth Caribbean island states during 2001 to 2002. Needless to say, the Commonwealth Caribbean is now better equipped to design hazard resistant coastal infrastructure. It was in recognition of his aforesaid contribution to the Engineering profession he was elected as the Fellow of the Institution of Civil Engineers in London in 2005.

It was my privilege to be associated with Mr. Raymond Francis Charles for over thirty (30) years. He endeared many in the department, staff and students alike, by his unassuming and forgiving nature, and by his unwavering commitment to the department. To many, he was more than a colleague or a teacher: he was a friend and mentor. He will live in the memory of his students and colleagues.

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