

23<sup>rd</sup> April 2014

Inquiry into Public Infrastructure  
Productivity Commission  
LB 2 Collins Street East  
MELBOURNE VIC 8003

IPWEA Queensland has previously made a submission and attended the Commission in Brisbane regarding the Registration of Engineers.

It has been recommended we make a further submission to the Commission regarding standard processing and documentation.

Queensland local government currently spends many hundreds of thousands of dollars and uses many different forms of documentation in preparing drawings and documentation for their infrastructure activities. Those local governments who use standard documentation not only save thousands of dollars, they also assist consultants and contractors to work across different local governments without the need to learn new systems and processes for each one.

### **Background**

Over the past two decades (and even earlier) IPWEA Queensland has produced a number of significant manuals and documentation including Asset Design As Constructed (ADAC), Queensland Streets (now Complete Streets: Guidelines for Urban Street Design); Standard Drawings; Queensland Urban Drainage Manual; NDRRA Guidelines for Restoration Works; and numerous water and sewerage manuals and fact sheets. These documents are each developed through a peer-reviewed structure with working groups established and a regular ongoing review mechanism. They are each accepted by local government and public works practitioners across Australia.

This submission is not being made as an “advertisement” for IPWEA Queensland products and services: the products and services outlined within this submission have each been developed and maintained by peer review and based on the long term and ongoing needs of industry.

### **Standard Documentation**

The main aspect of this submission relates to standard documentation that affects infrastructure through all its stages, and includes

1. Asset Designed As Constructed project
2. Standard Drawings
3. Complete Streets: Guidelines for Urban Design
4. Queensland Urban Drainage Manual (with Department of Natural Resources and Mines)



1. ADAC (Asset Design As Constructed), is a process that has been established to define the information required by local government at the time of plan sealing, when the works constructed by developers must be approved, and the assets taken into the local government asset systems. It also supports the internal (capital) works of local government, allowing the as constructed information from that process to be uploaded into asset management and GIS systems. This information is supplied electronically, allowing automated upload.

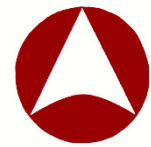
A number of benefits have been recognised with the adoption of the ADAC process:

- Significant time and resource savings in the processing of "As Constructed" data
- Improved consistency and accuracy of detailed asset data provided to councils
- Ability to perform "rule-based" quality control checks on the supplied asset data ensuring completeness and integrity
- Capability for automated uploading of asset data to GIS, asset management databases and other tools
- Transparency of asset registration and valuation processes, resulting in improved corporate governance
- Capacity to reconcile individual donated trunk assets with infrastructure agreements
- Potential to "round trip" asset data and related information to external customers in a consistent format
- Access to a network of other ADAC user councils and forums that can provide support in leveraging and value adding to asset registration processes and other associated asset management activities
- A framework allowing relevant software vendors to understand and develop solutions to support the immediate and practical needs of their users.

The following email was received from one of our ADAC member Councils in South Australia:

“The Commission has gone to great lengths to highlight the need to select, pipeline and fund public infrastructure projects that will deliver great benefit to the consumer of those resulting infrastructure assets. Poor selection, planning and resulting delivery can be in part tied back to the data that was used to trigger the selection or planning variables. If an asset is flagged for renewal by a selection process that relies on asset data, or worse still, missed due to lacking asset data – and then that data is not consistent and throws the selection process – then only chaos and poor pipelining of projects can ensue. The City of Charles Sturt has invested in the ADAC framework and, alongside Light Regional Council and IPWEA SA, is championing its adoption in South Australia due to a number of reasons including the following, that ADAC

- Can drive consistent and valuable asset data from designs, no matter who generates those designs
- Can ensure variables in this data are captured post construction and passed easily and quickly into the relevant asset register and financial planning system
- Will reduce time taken by all parties involved in both design checks and the exchange of asset data
- Can place asset records onto Council’s planning horizon with accuracy that can then better inform long term financial planning and ultimately good project pipelining into the future



Accuracy of infrastructure project selection can therefore be relied upon for both work force planning but also to drive greater value from panel contracts and the like – resulting in greater savings to the community and more long term work security to the construction industry.

Accurate asset data also underpins good conversations with the community regarding functional levels of service, the result of which will also adjust the balance of services such that greater value is delivered to the community.

ADAC has a natural alignment with IPWEA and NAMS.AU: by inference the alignment with NAMS.PLUS Asset Management planning tool that is used by Council. ADAC was borne of Local Government for this exact reason.” end

### Standard Drawings

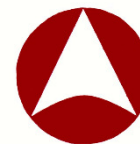
Responding to the need by Civil Engineers for a set of Standard Drawings, in 1995 IPWEAQ compiled a set of over 100 drawings typically applicable for development works and local authority works. The Drawings were revised in 1997 and 2000 and are currently being reviewed once again. Each Drawing reflects the latest technology in modern and development needs. These Drawings include the most up-to-date specifications and standards for Roads and Streets, Drainage, Water Supply, Sewerage, Parks/Miscellaneous. Where a Department of Main Roads Drawing is applicable it has been called up in the Directory.

### Complete Streets: Guidelines for Urban Street Design

The purpose of these Guidelines is to provide the basis for a uniform standard of residential streetworks design, incorporating “state-of-the-art” principles and techniques, for use throughout Queensland. Complete Streets evolved in parallel with AMCORD, based largely on the same sources of inspiration and research as AMCORD, as well as upon AMCORD itself. It has evolved beyond AMCORD since it was first developed and provides the more detailed design criteria necessary for the design of streetworks for residential developments. Complete Streets provides the necessary additional technical design criteria in the specific field of Street Design, and some related aspects. A dynamic document, *Complete Streets* is a community focused comprehensive how-to-kit for contemporary urban street design that will produce quality streets, urban spaces and neighbourhoods.

### Queensland Urban Drainage Manual (QUDM)

QUDM provides assistance to engineers and designers engaged in the design of urban stormwater drainage works in Queensland. It includes details of technical and regulatory aspects to be considered during the planning of drainage works, to formalize the design processes, and to provide details of appropriate design methods and computational procedures. Both hydrologic and hydraulic procedures are considered as well as environmental and legal aspects. This Manual is a joint project between IPWEAQ and Department of Natural Resources and Mines.



## NDRRA Guidelines for Restoration Works

Based on feedback from IPWEAQ members and senior Queensland Reconstruction Authority (QldRA) officers, there is a need to provide additional information to assist local government practitioners in determining “eligible” flood restoration works and “fit for purpose” design treatments. As a result, IPWEAQ has prepared this guideline to assist its members and improve the level of confidence and consistency around flood restoration submissions. The guideline provides a general approach only and does not attempt to define specific design treatments. The guidelines apply to road and drainage restoration works and focus on “eligibility” considerations and determination of a “fit for purpose” design treatment. Whilst the guidelines have been based on previous flood restoration experience and engagement with QldRA during their preparation, they are not a QldRA document.

This guideline is to be read in conjunction with the QldRA “Submission Guide V3 for NDRRA Applicants” (currently under review by QldRA) and focuses on NDRRA Category B funding. This guideline also provides additional information on the selection of design treatments for restoration works which are likely to be deemed “fit for purpose” and considered an appropriate level of response treatment for flood damage.

## IPWEA Queensland Design Guidelines

This document is currently being developed along the following parameters. We will be working closely with Councils across Queensland for the development and review of the document. We have already been approached by a large Council to include their requirements instead of their developing their own document.

- Guidelines for the determination of pavement and seal widths will focus on eligibility, AADT, vision standards, road function and classification. There will also be a discussion on how to determine an AADT if no information is available. Typical road cross sections will be provided addressing shoulders widths (seal and unsealed), traffic lane widths, batter slopes and table drains.
- Floodways will focus on the width required, flood immunity, time of closure and treatments for protection. Example calculations will be provided for the calculation of design discharge, floodway capacity and time of closure. Other points of discussion will be on the effect of afflux when changing floodway heights, the requirements of fisheries and other environmental constraints.
- Signage and linemarking will focus on providing a realistic guide to when and where they are required based on width, volumes of traffic and class of road. A procedure for use of guide posts will be discussed.
- Pavement will focus on the determination of ESA’s, design life and pavement design. We will provide examples to determine design ESA’s and how to do a pavement design. The guide will also provide guidance in determining the subgrade CBR.

A review of existing standards and guidelines will be undertaken for inclusion or reference in the new guidelines.



### Queensland Water Directorate

As a measure of our commitment to the delivery by local government of standard practices and by way of background as regards water infrastructure but not covered in this submission, in 2003 IPWEA Queensland established the Queensland Water Directorate (QWD) to address the concerns of councils to provide assistance and consistency across Queensland. The QWD resides under the Constitution of the IPWEA Queensland with an Executive Committee including Local Government Association Queensland, Local Government Managers Australia and Australian Water Association. The QWD provides templates, guidelines and advice to member councils through its Technical Reference Group, with major projects including the SWIM Project, Blue Green Algae guidelines, Operations Manuals, Water Industry Worker Certificated Training, STP proposal and Greywater Reform Fact Sheets. IPWEAQ provides technical advice on water issues to LGAQ for input into policy. All Councils in Queensland are members of QWD. IPWEA NSW also has a Water Directorate.

IPWE Australasia Publications along similar lines include:

- AUS-SPEC (Standard Specifications) – *I understand IPWEA has made a submission regarding AUS-SPEC*
- International Infrastructure Management Manual (through NAMS.AU. NAMS Australia is an initiative of the IPWEA National Asset Management Strategy (NAMS) Committee. NAMS.AU seeks to provide national leadership and advocacy in the sustainable management of public works infrastructure, community assets and services.
- Plant and Vehicle Management Manual

These support materials and initiatives are all valuable and necessary to Local Government.

### **Recommendation**

IPWEA Queensland believes that the use of a process of standard documentation across the local government and public works industries results in considerable savings being made by organisations taking this approach, and recommend this rationale to the Productivity Commission on Infrastructure.

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