

Guideline - Provision of As Executed Information for Engineering Works Associated with Developments

As executed drawings and asset information will be used by Council as a record of the constructed assets and for their continued maintenance. Council will also provide this information to other parties where it is required to assist with identifying the location of infrastructure, connecting to existing infrastructure, to avoid damage to the infrastructure, for its alteration, or other relevant reasons.

As executed drawings and asset information will provide all information necessary to show and describe the infrastructure as, and where, it has been constructed.

As executed drawings and asset information shall be prepared, or checked by the consulting engineer, or surveyor for the project to ensure the information is a complete and accurate record of the constructed works.

Generally, professionally produced AutoCAD based design drawings will be suitable as the basis for preparation of as executed drawings, depending on the variation between the original design and constructed works.

Drawings produced at the design phase with the collection and presentation of as executed information in mind may be suitable as the basis for as executed plans and information. The validity of the design drawings must be checked for their suitability and should not be assumed. Design drawings produced as standalone drawings without their future use for as executed drawings may not be suitable as a basis for as executed drawings.

Design drawings may not be satisfactory where Council's various standard drawings for the presentation of as executed drawings differ from conventional design practices.

1. Presentation of As Executed Information

1.1. General Information

As executed plans and asset information files are to show the true nature and extent of construction works carried out. Any ambiguities between notes or values (e.g. minimum depth etc.) are to be deleted and confirmed as actual figures.

Information on the plans submitted for approval and acceptance "on maintenance" is to be limited to only that stage or stages of the development for which approval is sought. All information for other stages shown on plan, sections or details, apart from general allotment layout and road network, is to be removed from the drawings or crossed through with the wording "**NOT IN THIS STAGE**" in large bold lettering.

1.2. ADAC Information File

Council may require ADAC information.

If required, this information shall be provided as electronic files. Information contained in this format does not replace hard copy plans, but supplements these. The ADAC file shall contain all relevant information for each asset group. This shall be created using a recognised ADAC compliant tool using the most recent ADAC schema.

All modules in the latest ADAC schema are to be completed to represent the As Constructed attributes of the infrastructure and must be created using as constructed information in accordance with Council's ADAC Asset Capture Guidelines current at the time.

1.3. Certifications

All as executed drawings and information manuals are to include signed certificates. The certificates are to be fixed onto the drawings, and bound into the manuals. Electronic copies of drawings and manuals are to include the signed certificate.

Electronic drawings or files are to contain the consulting engineer or surveyor's certification, including electronic. Certificates may be included on each drawing or file, or as a separate file supplied with and referencing the electronic file name or drawings to which it applies.

Drawings clearly identifying any change in elevation must be certified by a registered surveyor. Surveyor's certification is required on plans prepared by the Surveyor. An engineer's certification will not be required on these drawings.

An engineer's certification will be required on all other drawings associated with the project. The matter of assurances between the engineer certifying the drawing and any other party collecting or presenting the information on drawings is an arrangement between those parties.

A suitably qualified landscape architect may certify plans prepared solely for landscape works. Landscape plans with civil works aspects will need to be co-signed by the certifying consulting engineer.

1.4. Manuals

Council requires copies of operating manuals and similar documents to be supplied in PDF file format.

2. Information Required

As executed drawings and asset information is to be presented in accordance with Council's various sample presentation standard drawings and the following general requirements.

In general, a drawing and digital data set for a project will contain:-

- locality plan
- layout plan for the project
- layout, locations and details of existing services
- final allotment layout
- details of any "future works" designed to enable detailing of proposed work
- stage boundaries where applicable, or limit of work
- origin of levels and set out information
- ground level data including:
 - horizontal Datum geo-referenced to GDA 1994 MGA Zone 56
- All digital ground level files are to display 0.25m contour intervals

2.1. Allotment Works

Engineering drawings for allotment works are to include the following information:-

- clearing plans
- retaining walls and similar
- drawings showing designated building site locations
- allotment earthworks – extent of cut and fill. Drawings showing allotment earthworks shall include final contours over the allotment, the area over which fill has been placed designated by translucent hatching or shading, and spot depths of fill shown at not more than 15m spacing and along gullies or ridges.

2.2. Roadworks

As executed drawings for road works are to include the following information:-

- plan of each new road
- detailed plan of each intersection, cul-de-sac or speed control device
- longitudinal section of each road
- cross-sections of each road
- standard (typical) cross-section for each road
- access cross-sections (where necessary)
- noise attenuation barriers
- speed control devices
- signs and line marking
- other details as apply to the project

2.3. Stormwater Drainage Works

As executed drawings for stormwater drainage works are to include the following information:-

- longitudinal sections of each drain line, showing pipeline, natural surface, and pipeline details at regular spacing (nominal 20 m)
- plan, longitudinal and cross-sections of open drain systems
- layout plan including the stormwater drainage system with numbered manholes and catchpits and culverts etc.
- inter-allotment drainage layout plan in accordance with Council's standard drawing sample
- drainage details including information on manholes, catchpits, culverts etc. catchment plan
- drainage calculations sheet
- detention basin details
- gross pollutant traps
- wetlands systems
- erosion and sedimentation control plans and details of devices

5.4 Structural Works

Where structures and structural works form part of the project works, complete working drawings detailing all structures, (above and below ground) and structural elements are to be provided as part of the drawing set to be submitted.

By example, structures will include concrete pits for assorted valves, pipe galleries, pump stations, and other similar installations.

5.5 Water Supply

5.5.1 Reticulation Mains (250mm diameter and less)

As executed drawings for water supply works are to include the following information:-

- plan layout of water mains, including legend for pipe sizes offset for mains from property boundaries, or other set out information as may be appropriate.
- positions for valves and hydrants
- positions for pre-tapped property service fittings (where pipe diameters suit)
- diagrams/details of bends, fittings etc.
- class and material for pipes and fittings
- detail of interconnections to existing mains
- location of service conduits
- project specific details where required.

5.5.2 Trunk Mains (300mm diameter and greater)

As executed drawings associated with water supply infrastructure of this size is significant, and more precise information is required to enable future "design-in" and accurate location of this infrastructure. As such, the information required on as executed drawing set must contain the following information:-

- plan layout of new and original water mains, including legend for pipe sizes
- property details and final allotment layout locations/details of existing features
- stage boundary/limit of works
- offset for mains from property boundaries, or other set out information as may be appropriate
- positions for valves, hydrants and other key fittings
- longitudinal section showing pipeline, natural surface, and pipeline details at regular spacing (nominal 20 m)
- diagrams/details for bends, fittings etc. (scale details and / or line diagrams)
- details of pits or chambers and included pipe work
- detailed sections of the main (plan and longitudinal sections etc.) for creek crossings,
- aerial mains or other areas requiring a high order of detail
- class and material used for pipes and fittings
- details of interconnections to existing mains
- project specific details as required

The amount of information and detail of the above will depend on the location and complexity of the project and the size of main.

5.6 Sewerage Works

5.6.1 Gravity Sewers

As executed drawings for sewerage works are to include the following information:-

- locations of original sewer mains, stage boundary/limit of works
- offset of mains from property boundaries, and other set out information as may be appropriate
- positions of manholes - dimensioned from boundaries positions of house connection points and details
- class and material for pipes and fittings interconnections to existing mains project specific details as required
- details of pipeline alignments into manholes will be required on pipelines 300mm diameter or greater, unless they are aligned to manhole centres

- where sewer mains and manholes are located across large allotments and dimension ties to property boundaries are difficult to provide, bearings along the sewer mains are to be provided.

5.6.2 Pressure Sewers

As executed drawings for these pipelines require more precise information to enable the future "design-in" and accurate location of this infrastructure. As such, the information required on as executed drawing set must contain the following information:-

- plan layout of new sewer mains, including legend for pipe sizes
- plan layout showing original sewer mains, other services and features locations/details of existing features
- stage boundary/limit of works
- offset for mains from property boundaries, or other set out information as may be appropriate
- longitudinal section showing pipeline, natural surface, pipeline details, and hydraulic grade line at regular spacing (nominal 20 m)
- detailed sections of the main (plan and long. sections etc.) for creek crossings, aerial mains or other areas requiring a high order of detail
- details of interconnections to the existing sewerage system
- positions and details fittings and items along the main including bends, section valves, discharge manholes, venting and scour arrangements etc.
- class and material for pipes and fittings project specific details as required

The amount of information and detail of the above will depend on the location and complexity of the project.

5.6.3 Pumping Stations

Structural arrangements of sewer pump stations, electrical and mechanical fit-out are to be completed in accordance with the Pine Rivers Shire Council standards - also refer to sections in this guideline relating to structural works and electrical/mechanical works etc.

A number of standard drawings for sewer pump stations are to be completed and submitted with final as executed drawings and information.

5.7 Landscaping Works on Public Land

As executed drawings for landscaping works are to include the following information:

- playground equipment
- playground softfalls
- edging
- gardens
- pathways (if not covered elsewhere)
- lighting and security
- shelters
- BBQs
- park furniture
- paved areas
- irrigation
- underground services
- fencing