NTG Technical Drawings
Part 1 - Requirements for Technical Records Management
# Approval Sheet

| Title                                                                 | NTG Technical Drawings  
|-----------------------------------------------------------------------| Part 1 – Requirements for Technical Records Management |
| Version Number                                                        | 2019.01 |
| Approved By                                                           | Name: Craig Smith  
|                                                                      | Date: 6/06/2017 |
|                                                                      | Senior Director Engineering and Environmental Services |
| Endorsed By                                                           | Name: Lawrence Foscaro  
|                                                                      | Date: 6/06/2017 |
|                                                                      | Manager Projects Specification Services |
| Prepared By                                                           | Name: Spiros Lambrinidis  
|                                                                      | Date: 12/03/2019 |
|                                                                      | Supervisor Technical Records |

For further information, please contact:  
Technical Records  
Department of Infrastructure, Planning and Logistics  
3rd Floor Highway House  
Telephone: (08) 892 47351
Approval Sheet.......................................................................................................................... 2
Title........................................................................................................................................... 2
NTG Technical Drawings.............................................................................................................. 2
Part 1 – Requirements for Technical Records Management....................................................... 2
Version Number.......................................................................................................................... 2
2019.01........................................................................................................................................ 2
Approved By................................................................................................................................ 2
Name: Craig Smith......................................................................................................................... 2
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Senior Director............................................................................................................................. 2
Engineering and Environmental Services ..................................................................................... 2
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Manager...................................................................................................................................... 2
Projects Specification Services..................................................................................................... 2
Prepared By................................................................................................................................. 2
Name: Spiros Lambrinidis.............................................................................................................. 2
Date: 12/03/2019.......................................................................................................................... 2
Supervisor Technical Records....................................................................................................... 2
For further information, please contact:................................................................................... 2
Technical Records......................................................................................................................... 2
Department of Infrastructure, Planning and Logistics................................................................. 2
3rd Floor Highway House............................................................................................................. 2
Telephone: (08) 892 47351.......................................................................................................... 2
1 Overview and Function.............................................................................................................. 5
2 Document Requirements.......................................................................................................... 6
  2.1 General Requirements.......................................................................................................... 6
  2.2 Drawing Number Request Prerequisite............................................................................. 6
  2.3 Drawing Deliverables.......................................................................................................... 7
  2.4 Mandatory File Formats..................................................................................................... 8
  2.5 Native File Formats............................................................................................................. 9
3 Automated Reminder Process................................................................................................ 10
4 Detailed Deliverable Requirements....................................................................................... 11
  4.1 Project Stages...................................................................................................................... 11

<table>
<thead>
<tr>
<th>Doc ID</th>
<th>Version</th>
<th>Issued</th>
<th>Printed</th>
<th>Page</th>
</tr>
</thead>
</table>
1 Overview and Function

Technical Records is chartered with the responsibility of the issuance of NTG Drawing Numbers and receiving Construction / Technical related drawings and documents for archive, for whole of Government, for all NTG Assets. To ensure that drawings are available for future use or reference, it is necessary to provide these drawings & files at the stages as set out within this manual. These stages are at Tender and at Handover / Practical Completion.

This Document clarifies the requirements for preparing consistent and acceptable project drawings, and outlining, the Technical Records Archiving Process. It describes the processes and procedures to be followed by consultants, and by Departmental NTG staff members, in relation to technical drawings for all Northern Territory Government assets, construction and maintenance works.

At any stage of the technical document management process, Technical Records Unit can be contacted on

Email: technicalrecords@nt.gov.au
Web site: https://nt.gov.au/technical-records

Important:

- All drawings prepared for the NT Government MUST have official and unique NTG Drawing Numbers.
- By default the NT Government retains and owns the Intellectual Property Rights on ALL NTG Drawings and their associated files that are procured by the NT Government unless otherwise stated within your NTG contract. This requirement must extend to all third party Consultants engaged to provide drawings for the NTG.
2 Documentation Requirements & Procedures

2.1 General Requirements

All drawings related to NTG Projects must have a unique NTG Drawing Number identifier as issued by Technical Records. Most of the files stored within Technical Records archives are PDF and CAD (Computer Aided Design) format files which are related to the preparation and construction of NTG Projects and Assets. Technical Records requires the submittal of all related documents in an electronic format for archiving. Hardcopy and paper drawings are not acceptable.

2.2 NTG Drawing Number Requests

The NTG Drawing number process starts when the engaged Project Design Consultant requests new drawing numbers from within the Technical Records website.

NTG drawing numbers are system generated and emailed to the NTG Project Design Consultant after the assigned NTG Project Manager checks & verifies the information entered, and if accurate, will then create the new drawing numbers from within their internal NTG portal.

The new Drawing Numbers are then emailed to the Project Design Consultant by the automated system using the email address provided. (Ensure all email addresses are accurate to ensure the correct functioning of the process).

Below are the current options made available for the engaged Project Design Consultant:

2.3 Consultant Request forms

The below forms can be used to submit drawing number requests and requests for PDF and CAD files. Before submitting a request please check the list of secured clients (36.5 kb) to see if your client is restricted.

- drawing number request - building
- drawing number request - road
- request PDF and CAD files - all disciplines
- request for secured PDF and CAD files - restricted client list
- drawing number request - DIPL / PWC Project
- request for PDF and CAD Files - Private Development Road Corridor

For all Power and Water Corporation or Territory Generation requests, please contact their relevant Project Officers.

Technical Records does not approve the release of secured / restricted drawings. This is the role of the NTG Department Delegate who is responsible for the release of those drawings.

**Drawing Numbers are to be taken out when the following milestones are met:**

- Project Manager confirms the project status and funding,
- The Design is greater than 75% review for Building Projects and 90% Review for Civil Projects,
- Sheet quantities are known (from the Design Consultant) + an extra number for any unforeseen situations.
- ALL NTG Drawing Numbers must be acquitted at the end of each project. The system will send out automatic reminders for any drawings not submitted for archiving. A simple email reply stating the drawing numbers that were unused will suffice for Technical Records to acquit the unused numbers.
2.4 Drawing Deliverables

For any given project, there will be a minimum of two sets of drawings submitted to Technical Records for archiving. These are:

1. Tender Release Set (Contract Drawings, issued for tender, Amendment 0).
2. As Constructed Set with sequentially appended and updated Amendment / Revision numbers.
3. If a Project is cancelled after a period of time & drawings have been produced for that Project, then those drawings must be submitted to Technical records for archiving.

**Note:** Multipage PDF’s or DWG’s will not be accepted. The PDF and DWG / ZIP (eTransmit), files submitted to Technical records must each be a separate file. Each drawing file uniquely named as per its corresponding official NTG Drawing numbered sheet.

On completion of a successful transfer of data, media and relevant plotted output become the property of the Department. This includes all data transferred for the duration of the Contract.

2.5 Standard Drawings

Projects involving the use of NTG standard drawings, for example, standard house types, do not require new drawings or numbers unless there are design changes to those standard drawings. You must take out new NTG Drawing numbers when modifying the Standard Drawings.
### 2.6 Mandatory File Formats

The main formats accepted as a mandatory deliverable by the NT Government are as follows:

- **.DWG** is a commercial computer-aided design (CAD) and drafting software application such as Autodesk. It is used across a wide range of industries, by architects, project managers, engineers, designers, and many other professionals. DWG is a universal CAD format that can be read & inserted into many other CAD software.
  - The file extension for this type of file is .DWG

- **.PDF** (Portable Document Format) is a file format that has captured all the elements of a printed document as an electronic image that you can view, navigate, print, or forward to someone else. It is used by the NTG to provide an image of the files without the need to obtain expensive CAD software when sharing or displaying drawings.
  - The file extension for this type of file is .PDF
Other file types are rarely acceptable and must be approved by Technical Records Prior to delivery.

### 2.7 Native File Formats

- PDF
- DWG
- DGN (Discipline Specific)

**eTransmit** files when the following occurs:

1. An image file isExternally Reference (xRef) as a background to the drafting area. Large images like Aerial Photos can be Externally Reference (xRef) but must be eTransmitted to maintain the content integrity of the file.
2. There are documents other than CAD format Externally Reference (xRef)
3. eTransmit files (.zip) received with no Externally Reference files will be rejected for resubmission in the Native File format.

For further detail, Refer to [eTransmit Section 4.4](#)

### 2.8 Tender / Contract Drawing Errors

It is very important to check the provided drawings for both graphical & textual errors. Drawing numbers and, Drawing Titles must be accurate, & they must match the Schedule of Contract Drawings inside the RFT/RFQ.

Sometimes there are graphical / font errors that creep into PDF drawing documents. This causes a number of Tenders to be delayed due to their contractual nature. A font error can occur within the created PDF Drawings and is displayed with a box character in lieu of a text or number. See figure below;

![Figure B](#)

**What may cause this error?**

There is a known problem with the “Arial Narrow” True Type font that is commonly used by many Technical Consultants. We have discouraged the use of this font as it causes a number of display problems when printing to PDF from inside your CAD software.

We have also found more consistent results when printing to PDF when the below PDF creation options are checked within your PDF writer settings:

- Embed ALL Fonts, and;
- NOT substituting fonts.

When this issue arises, we have to return the Tender until the Drawings are corrected. We recommend that the Design Consultant recreate the faulty PDF’s and to review their processes.

### 2.9 Drawing Revision Requirements:

<table>
<thead>
<tr>
<th>Doc ID</th>
<th>Version</th>
<th>Issued</th>
<th>Printed</th>
<th>Page</th>
</tr>
</thead>
</table>
1. Concept / Design Amendments prior to Tender Issue shall be listed alphabetically, starting at A, (ie: A, B, C ....)
2. Tender Release: CONTRACT DRAWING Amendment Description at Tender shall be 0, (zero)
3. Post Tender Construction: Amendments shall be numeric starting at 1, (ie 1, 2, 3, ....)

**Note:** Revisions to drawings made at Tender stage may incorporate addendums prior to the awarding of the Tender. This happens regularly & is quite normal. Tender set Drawings can be higher than a zero revision before award. It is only the initial Tender issue / Contract / drawing which must be issued at zero. (DIPL Drawings Only)

Note. **PowerWater** drawings are unique, in that they may be issued at Tender with Alpha revision numbers. PWC “Zero” revision drawings are usually approved & signed off at the **Construction Issue** stage. Any revisions and changes to PowerWater drawings must be approved by PWC & **signed** off before any of their work is conducted on site. Unsigned PWC drawings should not be used for carrying out any PWC works on site.

### 2.9.1 The Construction Phase.

During the Construction phase of a **Design & Construct** Project, it is **critical** for Technical Records to receive the finalised and approved, “For Construction” set of Drawings, in both PDF & CAD files that were issued for the Works to proceed.

These drawings, as all drawings produced for NTG projects, must comply with the requirements of this manual.

During the construction phase, while not necessary, we will accept any approved amended and revised set of drawings to maintain a historical log of changes during the Works.

**Note:** The most important set of documents we need are the final As Constructed set.

### 3 Automated Reminder Process

During the Life Cycle of a project, Technical Records has an automated system reminder process to ensure all the NTG Drawing Numbers that were taken out are acquitted. The system generated emails are sent to the “Requestor”, the person who requested the new drawing numbers. This is usually the person who is responsible for the production of the drawings.

The requestor of the NTG Drawing numbers must always be maintained with a current status. If there is a change in responsibility of the drawings, a change in person within your organisation, Technical Records must be notified as soon as possible so we can update the details within our system. We recommend a stable email address be used within the Requestor email field to avoid undeliverable emails when a person leaves your organisation.

Any unused drawing numbers must be listed & sent to Technical Records so that we can acquit those numbers from the record management system.

To acquit drawing numbers -

- Automated Reminders begin 120 days from the issuing of the new & official NTG Drawing Numbers.
- There are periodic reminders sent,
- All drawing numbers are to be acquitted, even if they are unused.
4 Detailed Deliverable Requirements

4.1 Project Stages

Provide Drawings to Technical Records at the following stages:

- 1 PDF & 1 CAD File for each NTG Drawing Number.
- NTG Title Blocks, NTG Drawing Numbers. All fields completed.

**Tender Stage: 100% Design**

At this stage all drawings shall be updated to Amendment (0) ‘CONTRACT DRAWING’
Contract Drawings are used for the NTG Tender process.

- Contract Drawing: PDF, and
- Contract Drawing: DWG

**Handover Stage: As Constructed**

One PDF and one DWG file for every NTG Drawing Number to be submitted

- Drawing: PDF, and
- Drawing: DWG

**Notes:**
- PDF and DWG files must match when printed.
- No multipage files will be accepted.
- Drawings to have the latest revised amendment number.
- Note in the amendments description box - “As Constructed” – Must Appear
- Electronic stamp drawing “AS CONSTRUCTED” See Section 6.8
- Please note that this is the only status stamp to appear on the drawings. It must appear on all drawings in the “As Constructed” set.
- All drawings in the set are to be included in the submission, even if there are no mark-ups. Amendment fields updated and “AS CONSTRUCTED” stamp embedded.
- Contract Drawings without changes shall be described as “As Constructed - No Changes” in the updated amendment description column.

All “As Constructed” drawings are to be delivered to your NTG Project Manager at Handover. Failure to do so may affect the Financial Completion of the Project. Ensure a copy is also sent to Technical records to finalise your documentation obligations. Files, (if not too large), can be sent to technicalrecords@nt.gov.au or if your organisation has set up a shared FTP folder, you can deposit the files into there. You can always contact Technical Records to discuss other options.

4.2 Drawing Requirements

One PDF and one DWG, for every NTG Drawing Number Issued.

Files to be in their native format.

Generally the following applies to all outputs.

- Must be rotated as text right way up.
- Must use NTG Title Blocks
- NTG Project Number is mandatory – Do not use any other numbering system
- Provide single file matching Drawing Number eg B16-XXXX.xxx - One Drawing Number > one PDF file and one DWG file
- PDF and DWG files must match when printed
- Large raster images eg: Aerial Photos can be xRefed, then must be eTransmitted

**.PDF**
- Portable Document Format PDF
- Do not substitute fonts
- Single PDF files. Do not submit as multipage pdf’s. - One Drawing Number > one PDF file and one DWG file
- Must be rotated as text right way up.

**CAD Format .DWG**
- PURGE drawings of any unwanted xRef, layers, fonts
- Provide DWG with xRef’s bound-in.
- Logos and non-rotated Images, eg: PDF, JPG to be OLE embedded into the DWG file.
- If eTransmit is used, include all entities and combine into one file eg B19-XXXX.zip - One Drawing Number > one PDF file and one DWG file
- Must be rotated as text right way up.

**Discipline Specific Requirement: NTG Civil Design Section**

**CAD Format .12D**
- 12d Files to be complete
- Must meet the requirements set out on the CADD Manual Civil
- File naming to meet Section 5.0 of this Manual

**CAD Format .DGN**
- .DGN Files to be complete
- Must meet the requirements set out on the CADD Manual Civil

<table>
<thead>
<tr>
<th>Doc ID</th>
<th>Version</th>
<th>Issued</th>
<th>Printed</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTG Technical Drawings Part 1 - Requirements for Technical Records Management</td>
<td>2019.01</td>
<td>June 2017</td>
<td>26/03/2019</td>
<td>12 of 22</td>
</tr>
</tbody>
</table>
4.3 Design Guidelines by Discipline

4.3.1 General Guide All Disciplines

Text Sizes;
- All drawing text shall have character heights no less than 1.8mm when printed at A3, this includes drawing reduced from A1 to A3.

Image Quality;
- All Xref or bounded images shall have a minimum resolution of 600dpi.
- Drawings with colour images shall be presented so that they are easily readable when reproduced or printed in Grayscale and where applicable reduced from A1 to A3.

4.3.2 Civil Design
Civil design documentation layer naming convention shall be in accordance with DIPL Civil Standards. "NTG Technical Drawings Part 2 – Civil CADD Manual"

4.3.3 Building Design

Coloured lines and Transparency filter;
- Drawings with printed colour lines shall be presented so can be differentiable when reproduced or printed in Grayscale.
- Where Transparency filters are used, all lines and hatches shall be clearly visible when printed and where applicable reduced from A1 to A3.

Example Drawing Layer Naming Convention;
Building design documentation shall adopt a layering convention organised in a systematic fashion with defined layer name data fields such as: **Discipline, Major Group, Minor Group and Status**. It is mandatory that all external consultants adopt a layering convention similar to the above mentioned or similar to suit the complexity of the project and allow CAD file to be efficiently used across disciplines. DIPL building design in house layer naming standard is available if required.

Example Drawing Layer Naming Convention:

<table>
<thead>
<tr>
<th>A</th>
<th>W</th>
<th>A</th>
<th>L</th>
<th>L</th>
<th>H</th>
<th>A</th>
<th>T</th>
<th>C</th>
<th>H</th>
<th>D</th>
<th>E</th>
<th>M</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISCIPLINE</td>
<td>MAJOR GROUP</td>
<td>MINOR GROUP</td>
<td>STATUS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.4 CAD Data Compression – eTransmit

**ONLY to be used if native format cannot be achieved due to externally referenced files.**

Ensure that all relative paths are maintained when preparing for an eTransmit output. Use the eTransmit function. Do not use a Compression Program, like Winzip or Winrar to combine your drawings, images and
other references.

Note: a raster file of any size can be embedded if there is no requirement to rotate or scale it. An example is a Company Logo or a small Location of Works raster image, which should be embedded.

- Autodesk eTransmit - When you select a set of drawing files in a transmittal package, it automatically includes all related dependent files such as xrefs and font files. AutoCAD users may use eTransmit to include all related dependent files in a .zip file or a folder option in a transmittal package. Please ensure in the “Transmittal setup” that the actions of Bind external references and Purge drawings are set as default as per the following image (fig.1.6)

- Ensure that the Xrefs are bound, purged and fonts included. (fig 1.6)
The Rule is, if it can be embedded and bound into the CAD file it is required to keep the complete file in its Native Format.
5 DATA Archiving: Drawings and Other Project Documents

Additional CAD Data

Technical Records will also store other CAD file types in addition to the mandatory deliverables. They are to be submitted with a specific file naming convention for storage against a NTG Project Number.

This is for CAD related files submitted for storage only
- These files will not be audited for content.
- Files to be submitted with a specific naming convention.

Table 1.1 DATA File Naming (Examples)

<table>
<thead>
<tr>
<th>Format</th>
<th>File Types</th>
<th>Naming Convention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Native</td>
<td>Data-*.rvt</td>
<td>DATA-TED12345-North Building.rvt</td>
</tr>
<tr>
<td>Archive</td>
<td>Data-*.rvt.zip</td>
<td>DATA-TED12345-North Building.rvt.zip</td>
</tr>
<tr>
<td>Archive</td>
<td>Data-*.12d.zip</td>
<td>DATA-RCD45678-Smith Street.12d.zip</td>
</tr>
</tbody>
</table>

5.1 Native CAD File Formats

Table showing status of file formats currently stored.

Table 1.2 Native File formats

<table>
<thead>
<tr>
<th>File Extensions</th>
<th>Stored</th>
</tr>
</thead>
<tbody>
<tr>
<td>.dwg Current supported versions &gt;2014+</td>
<td>Yes</td>
</tr>
<tr>
<td>.rvt (Revit 2014+ Release)</td>
<td>as DATA</td>
</tr>
<tr>
<td>.4dw (12d Model)</td>
<td>as DATA</td>
</tr>
</tbody>
</table>

5.2 Other Documents

Additionally Technical Records stores some, "as advertised" Tender Specifications, RFT / RFQ where they have drawings.

6 NTG Standard Title Blocks and Sheets

6.1 Cad Drawing Sheets

The Government has developed standard electronic drawing sheets in A1 and A3 with both Portrait and landscape title blocks. These have been produced using Autodesk’s Autocad. Digital copies are available via the Northern Territory Government Technical Records Internet Web Site, Email Request or as provided by the Principal’s representative. No other drawing sheets are to be used or submitted.

6.2 Title Block

Requirements and Restrictions
- Technical Records "NTG - Title Blocks mmm yyy.zip" will be used for all NTG Plans as a mandatory requirement
Revit and Other Allowances

It is understood that many Consultants are using Revit and other BIM type programs, therefore to ensure consistency, we will require that the Title Blocks remain consistent with the currently provided DWG title block file, and also have the crucial information required for Archiving.

NTG Title Block can be replicated in REVIT or another program provided
- They appear the same as the official NTG Title Block
- All the Fields are included and functional allowing for adequate characters
- The NTG Logo is present

Title Block Requirements:
Mandatory
- Use the NTG Title Block supplied at time of receiving Drawing Numbers
- Drawings require information as tabled

Building Format: B = Building

<table>
<thead>
<tr>
<th>Title Block Field</th>
<th>Format Example</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTG DRAWING No.</td>
<td>B17-1234</td>
<td>Technical Records</td>
</tr>
<tr>
<td>NTG Project No.</td>
<td>TED123456</td>
<td>NTG Project Manager</td>
</tr>
<tr>
<td>AMEND. and AMENDMENT</td>
<td>Alpha or Numeric 1 Character</td>
<td>NTG Project Manager</td>
</tr>
<tr>
<td>NTG ASSET No.</td>
<td>00123B1A</td>
<td>ASNEX AIS</td>
</tr>
<tr>
<td>SHEET SIZE</td>
<td>A1 or A3</td>
<td>Drafter</td>
</tr>
</tbody>
</table>

Road Format: R = Road

<table>
<thead>
<tr>
<th>Title Block Field</th>
<th>Format Example</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTG DRAWING No.</td>
<td>R17-1234</td>
<td>Technical Records</td>
</tr>
<tr>
<td>NTG Project No.</td>
<td>FRD123456</td>
<td>NTG Project Manager</td>
</tr>
<tr>
<td>AMEND. and AMENDMENT</td>
<td>Alpha or Numeric, 1 Character</td>
<td>NTG Project Manager</td>
</tr>
<tr>
<td>NTG ASSET No.</td>
<td>R0001, BD026</td>
<td>ASNEX AIS</td>
</tr>
<tr>
<td>SHEET SIZE</td>
<td>A1 or A3</td>
<td>Drafter</td>
</tr>
</tbody>
</table>

Example of Title Block Left Hand Side:

Example of Title Block Right Hand Side:

All CAD drawing files submitted to the NT Government must be clearly labelled with the following information:

• Project Name, including Region, Location, Job description and Drawing Title; formatted on Five Lines

Line 1  Region: This should be the Region’s title (ie: Darwin, Katherine, Alice Springs… etc) and should not be confused
with a suburb’s title (ie: Casuarina, Palmerston, Parap.. etc)

Line 2 Location: This should be the identifiable location of the project, (ie: Howard Springs Primary School, Marrara Sports Complex, or Jabiru Area School – Secondary Science Building).

Line 3 Project Description: This should be used to specify the type of works, (ie: Ticket Office Refurbishment, Proposed New Construction).

Drawing Title Line(s): This should include the type of drawings shown on that particular sheet, (ie: Ground Floor Plan, Joinery Details - Kitchen). The status of the Drawing or Amendment Description is not to be placed in these fields.

• NTG Project Number

This is the Government specific NTG Project Number, The general convention of three (3) letters followed by five (5) digits. This can be obtained through the NT Government Principal’s representative. This is not to be confused with the consultants file or contract numbers which are not to be placed in this field.

• Drawing Number

The Drawing Number is the unique identifier for each drawing. This will be raised by Technical Records. The unique identifier once raised is allocated and cannot be changed. It is the responsibility of the requestor to notify Technical Records if the number is no longer required as the system will track the number once issued until it is returned. Consultants are not to use their own numbers in this field.

• Sheet Number

This is the number of sheets in a multi-discipline project. The number will be preceded by the initial of the discipline. Architectural – A, Electrical – E, Structural – S, Civil – C, Mechanical – M, Hydraulic – H ie: A01 of 3, S04 of 11 Use of 100 series numbering system for Construction drawings, is subject to approval by the Principal’s Representative.

• Consultant logos shall not be inserted as xRef Images but can be OLE embedded as raster images inside the CAD drawing file. They are to be inserted only in the blank area in the title block.

• Date, Designer / Drafter Name

The initials of the designer/ drafter of the drawing along with the month and year drawn are to be included in the allocated spaces.

• Amendments

Amendments are identified in two (2) locations on the drawing sheet: adjacent to the Drawing Number, and in a detailed table on the bottom left. Amendments in the table should include an accurate description, the initials of the person who approved the amendments, the company name and the amendments were made.

1. Concept / Design: Amendments prior to ‘Tender’ are listed alphabetically starting at A (ie: A, B, C ....)
2. Tender Release: CONTRACT DRAWING Amendment Description at Tender shall be 0 (zero)
3. Post Tender Construction: Amendments shall be numeric starting at 1(ie 1, 2, 3, ....)
   Note: An “AS CONSTRUCTED” drawing should never be Amendment “0”

During the design Phase the Alpha characters may be displayed, once the 100% review is complete these will be removed and replaced with one entry. “0” “CONTRACT DRAWING”.

Set out below are three examples of the LHS Amendment Title Block in various states of amendment.
1: **Design Phase Pre Tender**

<table>
<thead>
<tr>
<th>No</th>
<th>Description</th>
<th>Date</th>
<th>Initial</th>
<th>Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Final Design</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Initial Design</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>Concept Design</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Amendments**

2: **Tender Release / APRO Lodgement**

<table>
<thead>
<tr>
<th>No</th>
<th>Description</th>
<th>Date</th>
<th>Initial</th>
<th>Company</th>
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<tr>
<td>0</td>
<td>Contract Drawing</td>
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<table>
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<tr>
<th>No</th>
<th>Description</th>
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<th>Company</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>At Tender</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3: **Post Tender / As Constructed**

<table>
<thead>
<tr>
<th>No</th>
<th>Description</th>
<th>Date</th>
<th>Initial</th>
<th>Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>As Constructed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Amended .....</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Changed .....</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Contract Drawing</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No</th>
<th>Description</th>
<th>Date</th>
<th>Initial</th>
<th>Company</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tender</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. **Title Block Attributes**

If the drawings are to be reduced, the annotation character heights shall be selected so that the annotation character heights as reproduced are not less than 1.8 mm as printed. The minimum resolution is to be 600dpi.

4. **Consultant Logos**

Government requires true Type Font Arial to be used on NTG Government’s Title Blocks as preformatted. For other presentations and design drawings, the following criteria should be met:

- Where a Raster Logo is used it is to be Embedded
- Where a Vector Logo is present it is to be bound, not xRef’ed

5. **NTG Title Block Fonts**

The NTG Title Blocks have been prepared in .dwg format.

- Arial Narrow is **not** to be used under any circumstances.
- If the title block is exploded check font for compliance.

6. **Drawing Fonts and Text Heights**

Government requires all drawings to be drawn to scale in accordance with AS1100.101. The font is vector based for all descriptions within the drawing.

- Due to PDF production issues Arial Narrow is not recommended.
- Government’s preferred font is true type format for all Title Block / Drawing Sheet script.
- Cell size / aspect ratio to be 1.
- When A0/A1 are printed to A3 the minimum text height to not be less than 1.8mm as printed at 600dpi.
Consideration:

Any non-True type fonts used in the production of drawings by the Consultant, will be at the consultant’s risk. Any cost or time delays caused by these errors in relation to the production of Tender Drawings will be borne by the Consultant.

6.7 Drawing Index Sheet

Where supplied the index sheet should represent all the drawings in the NTG Project.

- Display in a Table View
- Include all drawings sorted by Discipline
- List all unused drawings as “NOT USED” in the title column
- Display NTG drawing numbers and not the sheet numbers

6.8 Status Stamps

These have been commonly used to indicate the Amendment Phase of the drawings, eg: (“Construction Issue”, “For Tender”). This practice will no longer be accepted as the Amendment Description in the lower left corner is to be used to indicate Amendment Status.

No other Status stamps are to be used when submitting drawings for Tender.

As plans pass through each Amendment Stage the status will change. When plans are deemed complete and ready for storage the drawing is to be stamped, “As Constructed”. Below is an example of a Stamp made available on the Technical Records website.

AS CONSTRUCTED

- All other amendment stages can be described in the Amendment Description Field
- There are to be no Status Stamps placed within any drawings amended as, “Contract Drawing.”

7 Electronic File Submission Methods

7.1 Email

Small Submission Email less than 20MB: to TechnicalRecords@nt.gov.au

7.2 Technical Records File Transfer Service (WingFTP)

Large Submission FTP: to access this service send an email request to Technical Records.

- After the files have been uploaded, an email is to be sent to technical records notifying that files have been transferred.

Electronic Mail (e-mail). Attachments are to be encoded using MIME. E-mail size is restricted by internet mail’s size (10 Mb) and unrestricted within NTG LAN network. This includes the mail message and any accompanying attachments.

- Electronic documents larger than 20 Mb are to be transmitted via the FTP (File transfer Protocol) site set up by Technical records. The address for this site is http://ftp-doi.nt.gov.au. Access to this site and passwords are arranged by contacting Technical Records via email technicalrecords@nt.gov.au. This site is for the transfer of large
documents between external consultants and Technical Records only and is not to be used as a storage device.

**Note:** Electronic transfers through the use of external Dropbox's (or similar commercial products) are **not** accepted.

### 7.3 Internal File Transfer

**Internal NTG LAN:** \`\prod\_main\_ntgov\_ntg\_DCI\_DEN\_planroom` (NT Government users only)

### 7.4 Technical Records Links

**Technical Records Website**

https://nt.gov.au/technical-records  

**Manuals and Templates**


**Drawings Request Forms**


**Tender Specification Request**


### 8 Physical Media Types

This type of media is not a preferred method. Electronic file transfer is preferred. If physical media is the only option then you must comply with the information set out below:

#### 8.1 CD, DVD and Flash Drive

CAD data is to be supplied on a media type agreed to by the Department. The media type must be detailed on an accompanying CAD Data Transmission Record.

- CD/DVD compliant with ISO 9660 Level I conformance.
- USB thumb drive

#### 8.2 File System Format

This must be detailed on an accompanying CAD Data Transmission Record. Accepted media formats are:

- Only media formatted using FAT32 or xFAT and NTFS are acceptable. Media, which is formatted by disk compression algorithms commands such as drvspace and dblspace, are unacceptable.

It is the Consultant's responsibility to supply data in a media format appropriate to the Departments system.

#### 8.3 Virus Scanning

All electronics files included as an attachment from emails shall be scanned prior to transmission and shall be free of any virus, malware, spam and other operating system exploits.
<table>
<thead>
<tr>
<th>Version</th>
<th>Amendment Description</th>
<th>Date Amended</th>
<th>Endorsed by</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019.01</td>
<td>Clarifications, ADR Removed, DATA added</td>
<td>12/03/2019</td>
<td>Supervisor Technical Records</td>
</tr>
</tbody>
</table>