Surveying within the TfNSW Framework

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Why are we here?

Issues regarding AEO status and how this impacts the TfNSW Metropolitan Rail Area

- AEO process quite demanding
- Requires due consideration when completing the self-assessment
- The assessment considers not just the technical capability of a company but also other systems, procedures and competencies
How surveying fits into an asset lifecycle model

The AEO matrix has been reassessed, and now not all the boxes are applicable

- Explanatory material is available to assist the applicant preparing their submission of evidence

- This also serves as an aid to the SME during assessment

- Only a few projects are required to be presented per topic, but if more evidence is deemed necessary, it will be requested
Minimum requirement for obtaining AEO status in surveying

- For AEO authorisation in surveying, the applicant should employ a tertiary-qualified surveyor in the field of surveying, who must be a permanent staff member.

- This is an essential requirement for surveying.
Opportunities for, and obligations upon AEOs

- AEOs must only undertake work within their scope matrix.

- As well as complying with all their obligations, an AEO must also always act in, and on behalf of the best interest of TfNSW.

- This includes ‘intelligent’ compliance of standards and other specifications.

- Ensure that any damaged survey infrastructure encountered is reported, regardless of how the damage occurred.

- Direct engagement with Sydney Trains and other stakeholders.
Engagement with Sydney Trains

• Sydney Trains are the Rail Infrastructure Manager for the Metropolitan Rail Area

• Sydney Trains control, manage and maintain rail infrastructure (including the survey network) in the Metropolitan Rail Area

• Sydney Trains manage this network on behalf of TfNSW

• Engaging with Sydney Trains ensures that you will have access to the most current information for the precinct in which the work is being undertaken

• The majority of design alignment for the network is still described in ISG. You need to be able to let the Contract Manager know that this may cause an issue for contracted work being undertaken in MGA.
Engagement with Sydney Trains (contd.)

- Under the AEO model, it is intended for designs to be developed with the input of the operator / maintainer.
- Sydney Trains inherit the operation and maintenance of the majority of rail transport projects.
- This also includes the survey network and survey assets.
- Sydney Trains survey personnel are best placed to provide advice, guidance and requirements for any issue relating to the installation and observation of survey control and track control.
- This includes assistance in the procurement of the correct hardware, as outlined in the Transport Standard ‘T HR TR 13000 ST Railway Surveying’.

- Sydney Trains will also need to be formally approached for the provision of DSS information.
Surveyors ‘on-the-ground’ –
If you see something, say something!

• Surveyors are the ‘eyes and ears’ on the ground for most projects
• Contractual clauses cannot cover every situation. Work with the Project / Contract Manager to ensure that both requirements under the contract are met, and any obligations with regards to the standards, and the RIM’s requirements are covered
• Surveyors are in the best position to have an overall ‘feel’ for a project and how it is progressing
• They also need to ensure that key stakeholders are consulted
• An example of this is the situation where works are being ‘staged’
• Surveyors’ input may be able to save the project time, money and the need for additional possessions
Practical issues in the rail environment – Earthworks

- Proper care and diligence needed for undertrack earthworks. It is important to ensure that sufficient crossfall is achieved, and that the water has somewhere to run to.

- Be aware of where the existing track is sitting at the interfaces to your project. This may have a significant impact on your works.

- Example, work leading into the back of a turnout sitting low.
Practical issues in the rail environment – Turnouts

• Incorrect installation could lead to a non-conformance, leading to ongoing maintenance problems for the RIM
• Important to ensure that all components are installed as per design, and to check and recheck critical component position at all stages.
Practical issues in the rail environment – Turnouts (contd.)

• These critical components include bearer spacing, and where the points and the crossing have laid out

• Turnout renewals are normally completed under possession constraints. The surveyor must ensure that adequate time is allowed to properly check critical dimensions before all the work is ‘locked-in’

• An ITP for Plain Track and Special Trackwork (4TP-ST-116/3.0) provides checklists, critical dimensions and references to ensure compliance
Practical issues in the rail environment – Platforms

- Platforms and other tight locations can also create unforeseen issues
- Platform clearances and their calculation are of critical importance to safe operation
- Despite extremely tight design allowances on the heavy rail suburban network, there have been a significant number of incidents generally referred to as “fall between train and platform”.

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Practical issues in the rail environment – Platforms (contd.)

- This is set to become more significant with issues such as level access, seamless transition between platform and train or platform ‘gap fillers’, and platform screens.

- The issues with existing platforms on fixed radius curves or transitions include: centre and end throw calculations, swept-path analysis, carriage width and height allowance.