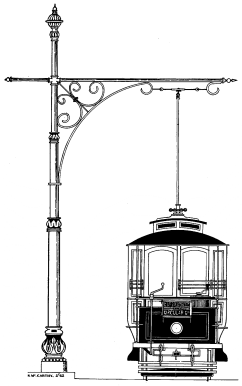

SYDNEY TRAMWAY MUSEUM

TRACK INSPECTION PROCEDURE

~~MAY~~ JULY 201~~8~~6

SYDNEY TRAMWAY MUSEUM

Document Control Record

1. Document Details:

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2. Version History:

Version Number	Date	Reason/Comments
1.0	14/01/2007	Initial issue
1.1	02/05/2008	Corrections to processes.
1.2	09/01/2009	Amended the Track inspection and scheduling section
1.3	31/10/2009	Changed the title of STM6033.
1.4	15/03/2010	Added details to show the *appropriate level of recording and reporting the status of defects.*
1.5	31/08/2010	Added the definition of OIC & Section 6.9
1.6	10/10/2011	Amended the inspection period for pointwork.
1.7	30/04/2014	Remove the need for an inspection schedule.
1.8	30/06/2014	Add checking the clearances for vegetation
1.9	30/09/2014	Added details about doing an annual inspection
1.10	08/05/2016	Amended Distribution List format
1.11	20/07/2018	Amended the inspection periods.

Approved by ..... **Signature & Date** .....

3. Distribution List

Position	Date	Location of Documents
Rail Safety Manager		Original held on GOOGLE secure Website
STM WEB SITE		Updated regularly and put onto the STM Web site.
STM Office		STM Office Computer
STM Office		STM Office cupboard

SYDNEY TRAMWAY MUSEUM

1. Purpose

To explain the tramway track inspection procedures at STM and the forms to be completed.

2. Scope

This procedure applies to all tramway tracks operated by the Sydney Tramway Museum.

3. Responsibilities

The Infrastructure and Traffic staff at STM must follow the processes in this procedure.

4. References

STM6019 - Starters Journal

STM6024 – Tramway Track Standard.

STM6027 –Track and Structure Inspection and Maintenance Report.

STM6033 – Occurrence Report

STM6063 – Vegetation Control Procedure

5. Definitions

OIC	Officer In Charge (on the day)
RSM	Rail Safety Manager
STM	Sydney Tramway Museum: the trading name of South Pacific Electric Railway Co-Operative Society Limited for tram activities, therefore references to STM.
SPER	South Pacific Electric Railway Co-Operative Society Limited

6. Process

6.1 Check Sheets

Track and Structure Inspection **and Maintenance** Reports (STM6027) shall be prepared by the Infrastructure Manager or his nominee in accordance with the detail shown on the diagrammatic layout (see Tramway Track Standard – *STM6024*), or with provision for the manual insertion of this detail in each sheet. Copies of these reports shall be provided to the Infrastructure Manager if he was not the person doing the inspections.

6.2 Track Inspection Reports

The Track and Structure Inspection and Maintenance Reports (STM6027) shall be inserted in a "Current" Track and Structure Inspection and Maintenance Reports file. When all repair work noted on any of the reports as being outstanding has been carried out the Track and Structure Inspection and Maintenance Report (STM6027) shall be suitably endorsed and transferred to an "archive" Track and Structure Inspection and Maintenance Reports file where it will remain to form a history of the examination and maintenance of the tramway track performed at STM. The Track and Structure Inspection and Maintenance Report (STM6027) will also record the track and structure maintenance details beside the inspection details shown in the Track and Structure Inspection and Maintenance Report (STM6027).

During the track inspections the "inspectors" should note any clearance of vegetation required to be done, which is encroaching on the rail corridor. The details of the clearances required are noted in the *Vegetation Control Procedure* (STM6063).

6.3 Maintenance Standards

Track shall be maintained to gauge and an even line (i.e. kinks, dips and twists in the track) within the limits outlined in the Tramway Track Standard (*STM6024*). When an examination reveals that any of these limits has been exceeded, speed restrictions must be posted where trams can safely proceed over such track at reduced speed, otherwise services must be suspended until essential repairs have been carried out. An Occurrence Report (STM6033) must be completed whenever any of the limits are exceeded so that the restrictions or suspensions can be monitored by the RSM and the Board, if required.

6.4 Replacing Damaged and Worn Rails

Rails or sections of rail which exhibit major defect shall be scheduled for replacement as soon as possible. The damaged rail shall be marked with severing locations and replacement rails shall be cut to length and mechanically bent, if required, and brought to the site before the running rails are severed.

Where the replacement rails are to be "thermit" weld bonded to the existing rails, they shall be prepared by, or in consultation with, an approved welding company.

Rails being prepared as replacements and defective running rails are to be mechanically sawn and drilled. IT IS NOT PERMITTED TO USE GAS FOR CUTTING, OR BLOWING HOLES, IN RUNNING RAILS.

6.5 Track Inspection schedule – Generally

The tramway track shall be visually examined at intervals from the tram driver's view point and tram drivers are to report after each trip to the Officer-in-Charge any apparent defect in the track or any line-side structure to allow any such defect to be examined as soon as possible. Appendix A shows the checklist of items to be checked on the first trip of the day.

Any such defects found by the driver should be recorded on the Occurrence report (*STM6033*) upon returning to the depot.

~~6 months after the previous inspection and maintenance, a visually inspection of the tramway track infrastructure, including culverts, embankments, cuttings and line-side structures, shall be visually examined for obvious defects, by the Infrastructure Manager or his nominee.~~

12 months after the previous inspection and maintenance, an annual inspection will be scheduled by the Infrastructure Manager or his nominee where the rail fastenings are to be checked and adjusted, the rails to be re-adjusted to the correct alignment and gauge and drains and culverts cleared of debris. Undergrowth along the right-of-way is to be removed where it could constitute a vision or bush fire hazard.

Inspection results shall be recorded on the Track and Structure Inspection and Maintenance Report (STM6027)

6.6 Sleeper Maintenance and Replacement

When individual sleepers are to be replaced, the ballast shall be removed between the damaged sleeper and the one adjacent. The damaged sleeper is then to be freed from the rails and slid sideways into the cleared space without disturbing the alignment of the rails. The new sleeper is to

be inserted in the reverse manner, levered up to the foot of the rail and the spikes inserted. Ballast shall then be packed under the sleeper below the rail and the ballast dressed to the sleeper top.

Where groups of sleepers are to be removed, the track gang shall endeavour to remove and replace the sleepers alternately to avoid disturbing the alignment of the rails.

6.7 Recording Any Maintenance and Replacement

All maintenance performed on the STM track network must be recorded in the Track and Structure Inspection and Maintenance Reports (STM6027).

The details of the form are:

a) *Date* – the date that the maintenance/replacement was performed;
b) *Sheet* – the sheet number and if more than 1 sheet the number of sheets;
c) *Supervisor* – the name of the person supervising the work;
d) *Membership No.* – the member number if the supervisor was a Museum member;
e) *Ref. Pole No.* – the first number covering the maintenance work;
f) *Length* – the approximate length (in metres) maintained;
g) *Direction* – whether up or down to the Museum; and
h) *Comments* – a brief description of the work performed including the number of sleepers replaced.

6.8 Inspection Reports

All track inspections performed on the STM network must be recorded in the Track and Structure Inspection and Maintenance Report (*STM6027*).

The details of the form are:

a) *Date* – the date that the inspection was performed;
b) *Inspector* – the name of the person inspecting the trackwork;
c) *Membership No.* – the member number if the inspector was a Museum member;
d) *Sheet* – the sheet number and if more than 1 sheet the number of sheets
e) *Ref. No.* – A unique reference number.
f) *Pole No*. - the nearest pole number to the defect;
g) *Length* – the approximate length (in metres) from the nearest pole to the defect;
h) *Direction* – whether up or down from the pole;
    i) *Comments* – a brief description of the inspections performed including the number of sleepers which may need to be replaced or structures that need to be repaired;
    j) *Comments on Rectification* – these comments include the priority for when the defect to be repaired;
k) WHO COMPLETED THE WORK – enter the name and membership number of the person who did the work or oversaw the work;
l) PLANNED COMPETED DATE – enter the planned date for the completion of the work; and
m) ACTUAL COMPETED DATE – enter the actual date for the completion of the work and

6.9 Defect Reporting

All defects from the Track and Structure Inspection and Maintenance Reports (STM6027) shall be reported using the Occurrence Report (STM6033) to ensure that the defects are tracked to extinction. The reason for using this system is to provide a paper trail and to track the defects until they are repaired and normal running resumed.

The RSM is responsible for tracking all defects to extinction (close) and all major track defects must be reported to the Board by the RSM in his monthly reports to the Board. Copies of the reports must also be sent to the Chief Engineer. These defects must continually be reported to the

Chief Engineer and Board each month until the defect is repaired, inspected and cleared by the Chief Engineer.

All records for defects and their repairs must be kept for 5 years.

APPENDIX A
PROPOSED CHECKLIST FOR DRIVERS/OBSERVERS ON THE FIRST RUN OF THE DAY

These checks are to be undertaken by the driver and observer (if applicable) on the FIRST trip of the day to both the Sutherland and Royal National Park termini. The checks are:

1) Overhead:
    a) There are no obstructions hanging from the overhead (e.g. tree branches, etc);
    b) There are no apparent loose wires or fittings;
    c) There is nothing touching the overhead wires (e.g. tree branches, etc);
    d) The overhead wire does not look misaligned; and
    e) There is no apparent damage to overhead wire or fittings.

2) Track:
    a) There are no obstructions on or near the track that could be hit be tramcars;
    b) There are no apparent broken rails;
    c) There are no apparent “kinks”, “dips” or “spreads” in the track (that have not already been reported);
    d) All points, that the tram operates over, are operating correctly;
    e) There are no obstructions at the point blades; and
    f) There is nothing in the “4 foot” that could damage the tram if it hit it.

3) Infrastructure:
    a) There is no apparent damage to any signage;
    b) There are no apparent missing signs;
    c) All of the Princes Highway level crossing lights are working;
    d) The span poles look OK;
    e) The level crossings are clear of debris;
    f) There is no washaways;
    g) There are no fallen trees close to the tracks;
    h) The RNP station platform is clear of any obstructions (e.g. fallen trees, etc.); and
    i) Check all speed restriction signs have NOT been damaged or removed.

Results of the inspection trips are to be reported to the OIC on the return to the Museum site for inclusion on the Starters Journal (STM6019).

As the problems may not be picked up from the first trip or may develop during the day, drivers and observers need to keep a lookout for the above issues throughout the Traffic day and report any apparent or suspected defects.

Any problems MUST be reported to the OIC and an Occurrence report (STM6033) be raised.

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