TABLE OF CONTENTS

1.0 Maintenance of Changeable Message Sign (CMS) – LED type

1.1 Scope

This work consists of the scheduled preventative maintenance and inspection of Changeable Message Sign (CMS), including the performance of minor repairs/adjustments on as-needed basis.

1.2 Schedule

All work described herein shall be performed on all CMS twice annually, once between March 15 and May 30 and again between September 15 and November 30. All of the work shall be completed on all of the CMS within the specified time limits.

1.3 Method

The Contractor shall complete each of the steps listed in the following subsections, if applicable for the specific time and location at which the maintenance is being carried out. The Contractor shall also complete and submit to the General Manager the appropriate checklist form attached to this section. All deficiencies noted during inspection and any recommendations for repairs or component replacements shall be reported to the General Manager. All repairs shall use materials previously approved by the General Manager. Component replacements may require the Contractor to schedule a return to the site. Scheduling of the work shall be done by the Contractor in consultation with the General Manager as soon as the authorization to proceed has been given.

1.4 CMS Controller in RESCU Cabinet

1. Inspect cables and connectors between Controller and Power Distribution Assembly for abrasions, cracks or deterioration.

2. Check operation of Controller using appropriate software to send test and blank messages locally from Controller to CMS.

3. Check for proper displaying of all pixels in the Sign using the CMS diagnostic software.

4. Verify communications between CMS and TMC via RESCU control room operators.

1.5 Overhead Sign

1. Inspect and lubricate walk-in door hinges and lock.
2. Check and record all power supplies for proper output voltage (36-42 V DC).
3. Check and verify proper operation of thermostats, heaters, exhaust fans and circulation fans.
4. Replace all disposable ventilation filters.
5. Check service lamps. Replace burnt-out lamps if required.
6. Visually inspect exterior of sign face for damage or excessive dirt.
7. Record walk-in compartment temperature.

2.0 Maintenance of Portable Changeable Message Sign (PCMS)

2.1 Scope

This work consists of the scheduled preventative maintenance and inspection of Portable Changeable Message Sign (PCMS), including the performance of minor repairs/adjustments on as-needed basis.

2.2 Schedule

All work described herein shall be performed on all PCMS twice annually, once between March 15 and May 30 and again between September 15 and November 30. All of the work shall be completed on all the PCMS within the specified time limits.

2.3 Method

The Contractor shall complete each of the steps listed in the following subsections, if applicable for the specific time and location at which the maintenance is being carried out. The Contractor shall also complete and submit to the General Manager the appropriate checklist form attached to this section. All deficiencies noted during inspection and any recommendations for repairs or component replacements shall be reported to the General Manager. All repairs shall use materials previously approved by the General Manager. Component replacements may require the Contractor to schedule a return to the site. Scheduling of the work shall be done by the Contractor in consultation with the General Manager as soon as the authorization to proceed has been given.

2.4 Trailer

1. Inspect frame welds, interconnecting cables and connectors for abrasions, cracks or deterioration.

2. Inspect all mechanical components including structure, tires, stabilizing/leveling jacks, lifting and locking devices for cracks, mechanical damage or corrosion.

3. Lubricate mechanical components including tires, jacks, lifting and locking devices.

4. Confirm proper functioning of all signal lights. Repair lights if necessary.

2.5 Display Sign Board

1. Inspect both power and data cables and connectors for abrasions, cracks or deterioration.

2. Inspect display modules for any cracks, mechanical damage or corrosion.

3. Power wash display surface of sign.

2.6 Controller

1. Inspect cables and connectors among controller module and its interconnection components for abrasions, cracks or deterioration.

2. Verify operation of controller to display test and blank messages locally from controller to PCMS.

3. Verify communications between PCMS and TMC via RESCU control room operators.

4. Test photocells functionality and check sign brightness

2.7 Solar Panel

1. Inspect cables and connectors between the panel and its interconnection components for abrasions, cracks or deterioration.

2. Inspect the panel for cracks, mechanical damage, or corrosion.

3. Power wash solar collection surface of panel.

2.8 Battery

1. Inspect cables and connectors among the batteries and their interconnection components for abrasions, cracks or deterioration.

2. Check and record battery for proper output voltage. Charge up battery if necessary.

3. If applicable, check battery electrolyte. Top up if necessary.

CHANGEABLE MESSAGE SIGN (CMS) CHECKLIST
SIGN LOCATION_____
CHECK THE FOLLOWING ITEMS

Initial

CMS Controller

_____ 1. Inspect cables and connectors between Controller and Power Distribution Assembly for abrasions, cracks or deterioration.

_____ 2. Inspect backup battery for any cracks, mechanical damage or corrosion. Check battery for proper output voltage.

_____ 3. Check operation of Controller using appropriate software to send test and blank messages locally from Controller to CMS.

_____ 4. Verify the proper functioning of all pixels in the Sign using the CMS diagnostic software.

_____ 5. Check communications between CMS and TMC via RESCU control room operators.

Overhead Sign

_____ 1. Inspect and lubricate walk-in door hinges and lock.

_____ 2. Check and record all power supplies for proper output voltage (36-42 V DC).

_____ 3. Check and verify proper operation of thermostats, heaters, exhaust fans and circulation fans.

_____ 4. Replace all disposable ventilation filters.

_____ 5. Check service lamps. Replace burnt-out lamps if required.

_____ 6. Visually inspect exterior of sign for damage or excessive dirt.

_____ 7. Record case temperature.

_____

_____

_____

_____

Service Date: _____

Completed by: _____

Note: Report all further repairs that may be required.
Record NA for items that or not applicable to this unit, or this time period.

PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) CHECKLIST

PCMS # _____

CHECK THE FOLLOWING ITEMS

Initial

Trailer

_____ 1. Inspect frame welds, interconnecting cables and connectors for abrasions, cracks or deterioration.

_____ 2. Inspect all mechanical components including structure, tires, brakes, stablizing/levelling jacks, lifting and locking devices for cracks, mechanical damage or corrosion.

_____ 3. Lubricate mechanical components including tires, jacks, lifting and locking devices.

_____ 4. Spray 10W40 on corrosion spots.

_____ 5. Confirm proper functioning of all signal lights. Replace lights if necessary.

Display Sign Board

_____ 1. Inspect both power and data cables and connectors for abrasions, cracks or deterioration.

_____ 2. Inspect display modules for any cracks, mechanical damage or corrosion.

_____ 3. Power wash display surface of Sign.

Controller

_____ 1. Inspect cables and connectors between Controller and Display Sign Board for abrasions, cracks or deterioration.

_____ 2. Check operation of Controller to display test and blank messages locally from Controller to PCMS. Test photocells functionality and check sign for brightness

_____ 3. Check communications between PCMS and TMC via RESCU control room operators.

Solar Panel

_____ 1. Inspect cables and connectors between panel and PCMS for abrasions, cracks or deterioration.

_____ 2. Inspect the panel for cracks, mechanical damage or corrosion.

_____ 3. Power wash solar collection surface of panel.

Battery

_____ 1. Inspect cables and connectors between battery and PCMS for abrasions, cracks or deterioration.

_____ 2. Check and record battery for proper output voltage. Charge up battery if necessary.

_____ 3. If applicable, check battery electrolyte. Top up if necessary.

Service Date: _____

Completed by: _____

Note: Report all further repairs that may be required.
Record NA for items that or not applicable to this unit, or this time period.