

# Melbourne Street Automatic Doors Condition Report 2023

Prepared on behalf of Department of Transport and Main Roads  
January 2023

Contract Ref No: TMR-2217

Prepared by

Released under RTI - DTMR

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# 1 Client

Metropolitan Region of TMR is responsible for the maintenance management of the Busways. TMR established a maintenance contract with UGL starting 1st January 2018. The maintenance contract includes the Facilities being the entire Busway network, the Nundah Tunnel, and Port of Brisbane Motorway (HVIS) (fire services only). The contract provides a list of assets per site including the maintenance frequencies. Assets include Mechanical and Electrical (M&E) and the Intelligent Transport System (ITS) assets and systems.

## 2 Assets Description

### 2.1 SUMMARY

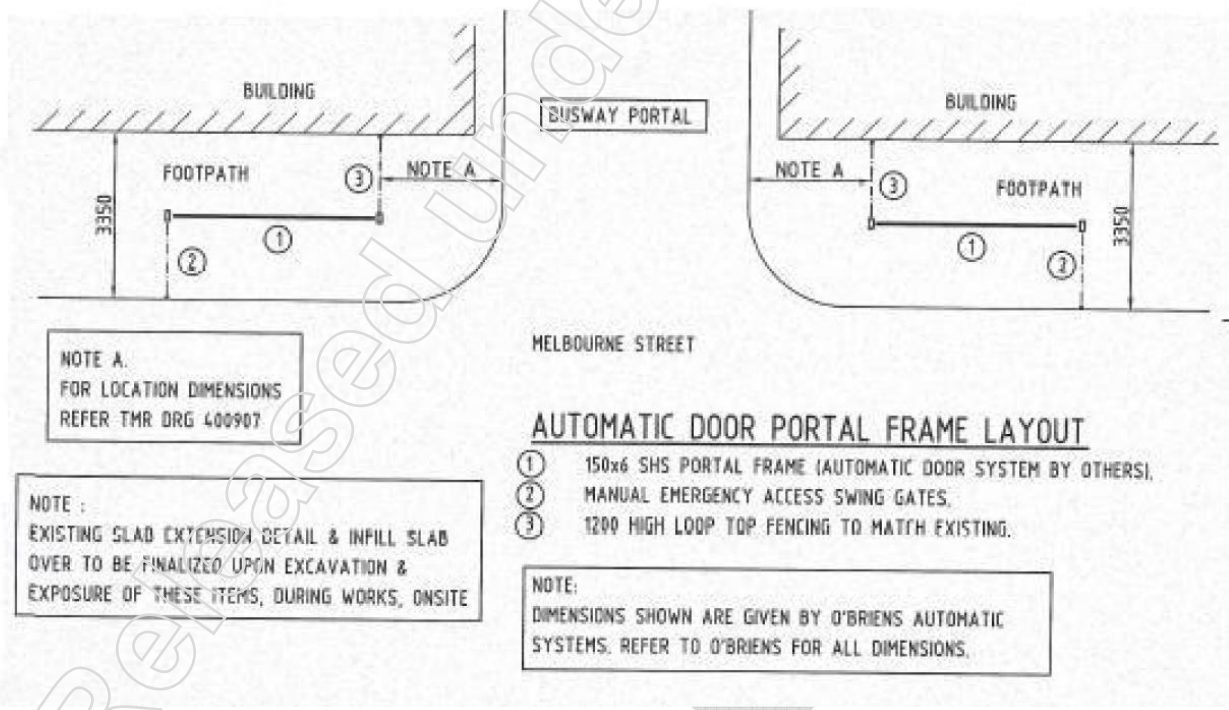
Melbourne Street Busway Portal Pedestrian Gates consist of two automatic exterior doors with two additional exit gates. The purpose of the pedestrian gate is to improve the compliance of pedestrians crossing the busway portal during the pedestrian walk phase. The concept design for the Melbourne Street Automatic Doors was created in 2011, 11 years after the official opening dates for Melbourne Street tunnel in September 2000.

The automatic door consists of

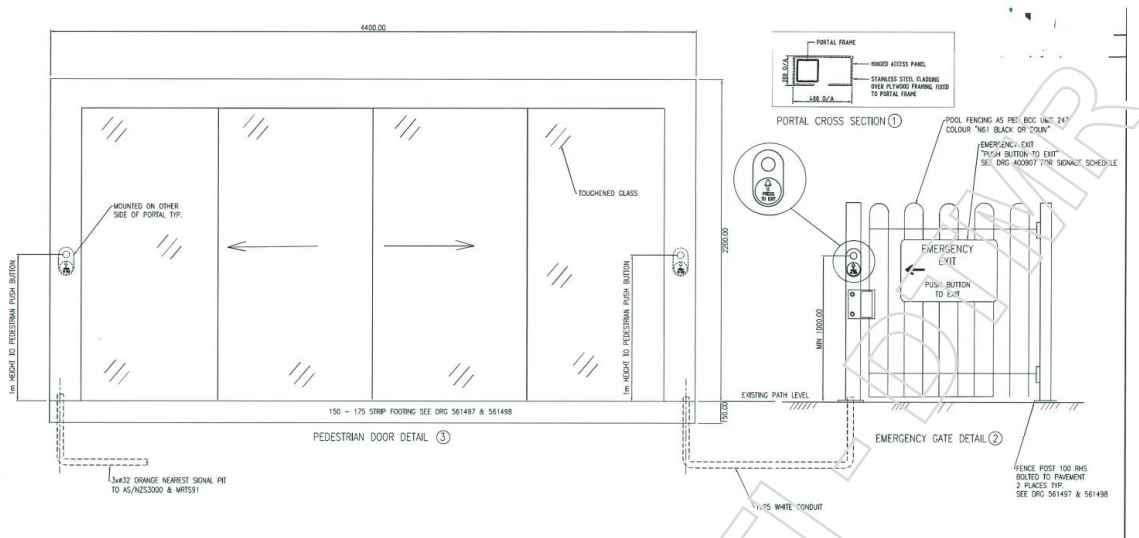
- GILGEN Door Systems (KABA) Door controllers and components
- Control relays and micro controllers
- Pedestrian push buttons
- Emergency exit gate

These doors are interfaced with the Brisbane City Council pedestrian crossing traffic light controller.

### 2.2 GENERAL ARRANGEMENT OF PEDESTRIAN DOORS/GATES



## 2.3 ELEVATION OF PEDESTRIAN DOORS



## 3 Overview Condition of Equipment

### 3.1 OVERALL SUMMARY

The doors and controls have currently been installed and in service for 12 years. They are installed in an external climate subject to the weather conditions. They have had a long list of componentry failures and appear to have some inherent design flaws that create constant faults. It is UGL's opinion that the overall door system is end of life and requires redesign and replacement. Section 5 further itemized the lists of faults

### 3.2 CITY SIDE DOOR (EAST) CONDITION JANUARY 10<sup>TH</sup> 2023

**Status** "Poor in service"

Door is in operation. The condition of the door is poor, with previous failures to the door frame repaired to maintain function. The required Automatic Door controllers are no longer manufactured and UGL has purchased the last available spares.

### 3.3 WEST END SIDE DOOR (WEST) CONDITION JANUARY 10<sup>TH</sup> 2023

**Status** "Damaged out of service"

The left-hand side glass door has been vandalized by the public on the 8<sup>th</sup> of December. The Door has been isolated electrically to prevent hazard to the public. The required Automatic Door controllers are no longer manufactured and UGL has purchased the last available spares.

## 4 Description of Maintenance/Service

### 4.1 ANNEXURE D - PLANNED MAINTENANCE SERVICES

As per Contract No: CN-6269, UGL completes the below frequency of planned maintenance services to the Melbourne Street Automatic Doors. This is completed to the specified standard AS5007.

3.3.3	External Automatic Doors		
3.3.3 a	Service and safety inspection as per AS5007.	3Monthly	AS5007

## 4.2 ANNEXURE A - ASSET QUANTITIES PER FACILITY

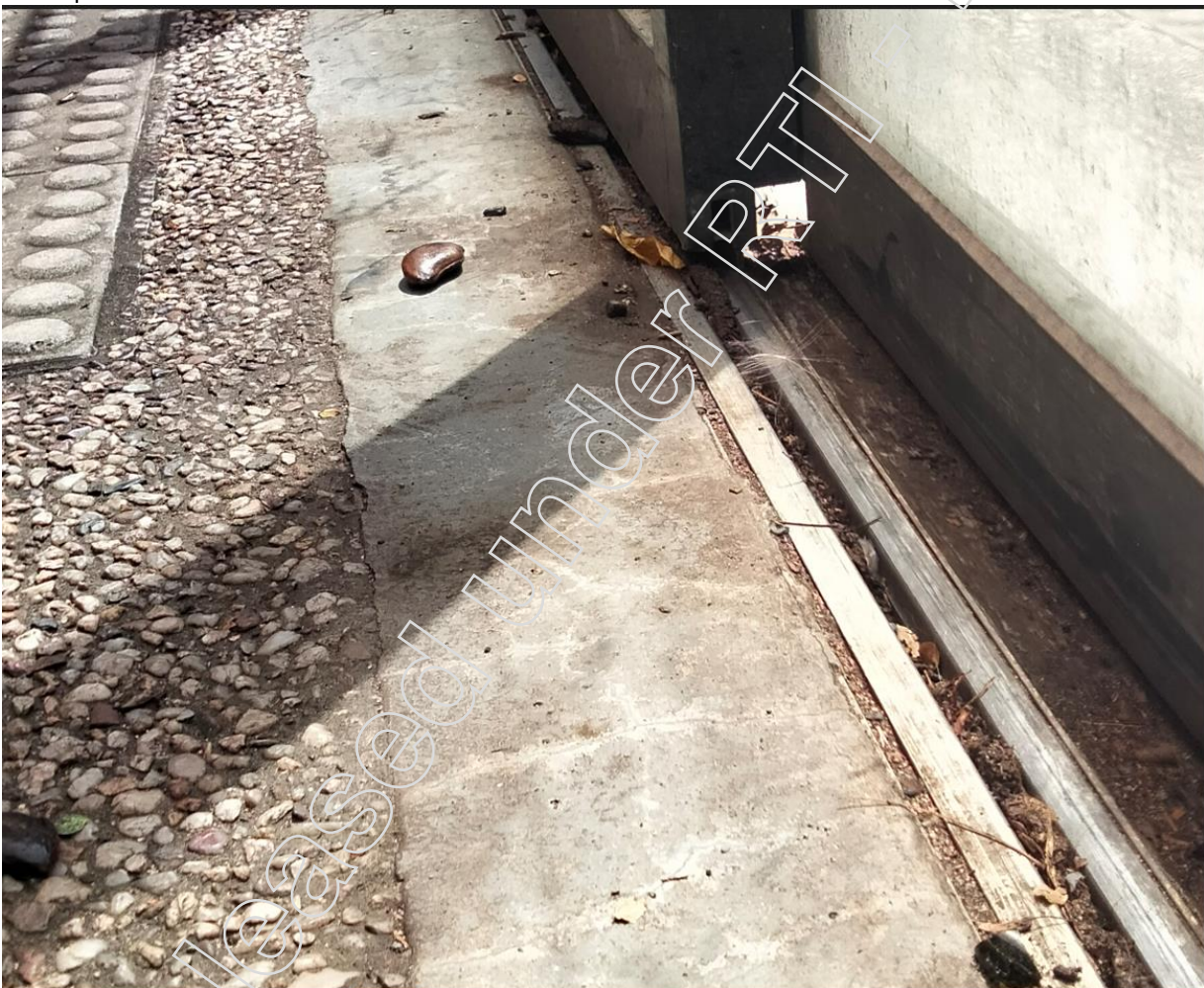
As per Contract No: CN-6269, two External Automatic Doors assets have been listed for Melbourne Street Tunnel. These being the City Side Automatic Door (East) and West End Side Automatic Door (West). These have been maintained at the specified intervals.

# 5 Common Faults and Causes

## 5.1 FAIL TO CLOSE OR OPEN (OBSTRUCTION)

The two door cards slide on rollers mounted inside the door pelmet with the lower part kept in place with a track and glide system. These inground tracks continually fill up with leaves and dirt from the surrounding area. This debris causes the automatic doors to get jammed and trip out on an obstruction error. Once the door is in fault mode it will not move and require the tracks to be cleaned and door reset by the key switch.

Below photo shows the Westend Side Automatic Door tracked full of leaves and dirt.



Below image indicates worn floor guide causing door misalignment.



## 5.2 DOOR FRAME FAILURES

Both doors have broken the cast aluminum corner connectors on the moving door frames. The cause of the fault is unknown and could be related to age. Both East and West side door frames have been repaired using a plate riveted or screwed to the side of the door frames.

Below images:





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### 5.3 GLASS SMASHED BY PUBLIC

Both automatic doors have had been continually vandalized by the public. The glass panels in the doors have been shattered causing a safety hazard. Installation of temporary tape to the panels is required to prevent further failure, UGL is normally contacted to make safe and to replace the damage glass panel.

Cost breakdown to attend call out and replace 1 smashed glass panel completed in September 2022.



#### BUSWAY



ROAR #	SIMS #	Loc8 #	Site	Subject	Completed	CALL OUT	Day Hours	ex GST	
	5155			CALL OUT Auto Door glass smashed	3-Aug	1	4		
	PO			Description	Vendor	Line Item	Inv Date	Inv #	
	4501662552	COR-0013559	Melbourne St Tunnel	traffic control	CTM	80	7-Aug	203124	
	4501669555			Reglaze broken door panel	Door Force	10	18-Aug	6967	
Invoicing done to date for this: nil									
								UGL EWP	N/R
								Subtotal (Excl. labour)	
								Handling (12%)	
								TOTAL (Excl. labour)	
								This claim TOTAL	
								Claim to date TOTAL	
								Estimate TOTAL	

Image of smashed glass below:



#### 5.4 EMERGENCY EXIT GATES NOT CLOSING/LOCKING

Both automatic doors have an emergency exit gate installed for pedestrians to exit if the door close before they have time to exit the crossing. Pedestrians need to push the exit button to release the magnetic lock on gate. The gate is installed with an automatic closer installed into the ground, these are devices are worn and subject to failure. When the automatic closer fails to operate the magnetic lock will not engage. This leaves the gate to be manually opened, allowing pedestrians to bypass the automatic doors if they desire.



#### 5.5 OBSTRUCTION FAULTS

Both Automatic doors do not have an intrusion sensor installed. Both doors rely on a sounder to indicate to the pedestrians that the doors are closing. These doors will not stop moving if an obstruction is placed into the closing door path. If a pedestrian attempts to stop the closing door it will fault into "obstruction". Automatic doors will need to be rest by the key switch before returning to service.

## 6 Recent Fault History

### 6.1 DOORS REMOVED FROM SERVICE

The West End Side Automatic Door faulted multiple times in one month, UGL was made aware that the operator had isolated the automatic doors removing them from service. These doors were re-instated into service December 2022 after being isolated for an unknown time.

### 6.2 2022 FAULT SUMMARY

From January to December 2022 UGL received 22 Callouts to respond to the Melbourne Street Automatic Doors. Two call outs where to respond to smashed glass panels.

Job ID	DUE_ON_SITE	Status	Subject
COR-0014597	2022-11-23 10:58 PM	Closed	CALL OUT - Melbourne st. doors staying open
COR-0014770	2022-12-11 12:04 PM	Closed	Call out - BTMC- MST doors stuck open
COR-0014769	2022-12-09 7:37 PM	Closed	Call out - MST - BTMC - door stuck open
COR-0014533	2022-11-13 3:12 PM	Closed	Callout - Melb St West end side door fault sims 6915
COR-0014735	2022-12-07 8:34 AM	Closed	MST - doors stuck open (city side)
COR-0014263	2022-10-11 7:34 AM	Closed	Melbourne St door Call Out
COR-0014399	2022-10-29 12:01 PM	Closed	callout sims 6598 mst doors
COR-0014400	2022-11-06 2:43 PM	Closed	callout sims 6598 mst doors
COR-0014281	2022-10-23 7:57 PM	Closed	Call-out SIMS 0019 MST West Auto Door
COR-0014168	2022-10-03 12:30 PM	Closed	Call Out SIMS 6089/6096 MST Doors Not Operational
COR-0014249	2022-10-06 6:30 AM	Closed	CALLOUT SIMS #6089 Melbourne St Doors Not Operational.
COR-0014069	2022-09-18 10:12 AM	Closed	CALL OUT, bmtmc, MST door city side fault
COR-0013795	2022-08-25 10:12 PM	Closed	CALL OUT MST Eastern Auto Door Closing Too Fast
COR-0013735	2022-08-15 7:09 PM	Closed	Call out - MST - auto door gate broken
COR-0013559	2022-08-01 10:03 PM	Closed	VAR SIMS 5155 CALL OUT MST Auto Door glass smashed
COR-0014754	2022-12-17 12:22 PM	Closed	MST - doors stuck open (west end side)
COR-0014650	2022-12-08 9:13 AM	Closed	MST - doors stuck - west end - sims 7237
COR-0014409	2022-11-08 7:39 PM	Closed	MST - MST doors stuck open (west end)
COR-0014326	2022-10-29 11:35 AM	Closed	BTMC - sims 6424 - MST doors stuck open
COR-0013418	2022-07-20 5:38 AM	Closed	CALL OUT SIMS 4558 door fault
COR-0011717	2022-01-21 12:05 PM	Closed	MST - [DW, OMT] - Auto door non river side - gate needs repairs
COR-0012131	2022-03-09 9:49 AM	Closed	Flood Damaged MST Auto Doors

## 7 End of life Components

UGL has been made aware that the currently installed GILGEN Door Controller is no longer manufactured or supported and has sourced replacement spare parts as a critical spare, belt, 1x Door Controller and 1x Door Motor. If a door was to have multiple component failures UGL cannot ensure a quick repair to keep the doors in service. Due to the complexity of the door control system upgrading to a different door controller would require engineering.

## 8 Recommendation/s

- 1) UGL recommends the concept design be reviewed by the asset owners and the operators to ensure the design is still suitable for the application.
- 2) Replacement of the end-of-life equipment is recommended to keep the door in a maintainable condition. This includes the complete glass door assembly.
- 3) Investigate redesign of automatic glass doors to a gate crossing system, like the Rail crossing shown below.





# 3 Monthly Checks

Date: 25 / 6 / 23

Serial Number: \_\_\_\_\_

Brand: \_\_\_\_\_

SITE: Melbourne St Tunnel

		DOOR: SLD 02 - WEST			DOOR: SLD 01 - CITY			DOOR:		
		Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
1	Inspect overall operation and current problems.	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
2	Clean rollers and track (remove bumpy or jolting door action.)	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
3	Check and lubricate working mechanical parts (chain, bevel gears, sprockets, carriage, bearings etc).	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
4	Adjust drive tensions (for positive door action)	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
5	Adjust door clearances and square doors to each other and surrounding frames.	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
6	Adjust doors to correctly engage and align with night locks. Adjust locks if needed. Check for correct locking operation	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
7	Tighten any loose hardware. Secure felts and glazing beads as necessary.	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
8	Check and report on any glazing fractures or chips.	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
9	Check and adjust alignment of doors.	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
10	Tighten and lubricate floor guides as required.	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
11	Check that all gaps between sliding surfaces are less than 8mm. (AS 5007-2007 Clause 3.4.2)	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
12	Check the electrical integrity of all wiring. (replace if needed).	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
13	Check and secure all wiring.	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
14	Adjust door opening, closing and braking speeds (to comply with AS 5007-2007. Refer note 11)	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
15	Set door open dwell time for seasonal requirements (to reduce air conditioning cooling and heating costs).	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
16	Check and adjust electrical sequence cams and micro-switches.	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
17	Test and adjust sensor range and operation (to comply with AS 5007 -2007. Refer note 14).	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
18	Test operation of safety beams (to comply with AS 5007-2007. Refer note 15).	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
19	Test fire egress 'burst-out' or power failure actuation mechanism (to comply with AS 5007-2007. Refer note 16).	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
20	Test that lock system "fails safe" or can be opened by an alternative device when door is a designated Fire Exit (to comply with AS5007. Refer note 17).	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
21	Record closing force of door. Door closing force should not exceed 110 N or 11 kg	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
22	Re-fix pelmet and covers in a secure way.	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
23	Clean all door surfaces.	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
24	Condition of door.	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A

**Comments /Recommendations:**

Bus Drivers buttons and lights all operational

PRE- Preventative Maintenance Loc8 Work Order Completed

COR - Raised new Corrective Loc8 Work Order

YES	NO
YES	NO
YES	NO

N/A

Service Tech

N/R





# 6 Monthly Checks

Date: 29-3-23  
 Serial Number: 29-318  
 Brand: \_\_\_\_\_

SITE: Melbourne St Tunnel

		DOOR: SLD 02 - WEST			DOOR: SLD 01 - CITY			DOOR:		
		Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
1	Inspect overall operation and current problems.	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
2	Clean rollers and track (remove bumpy or jolting door action.)	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
3	Check and lubricate working mechanical parts (chain, bevel gears, sprockets, carriage, bearings etc).	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
4	Adjust drive tensions (for positive door action)	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
5	Adjust door clearances and square doors to each other and surrounding frames.	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
6	Adjust doors to correctly engage and align with night locks. Adjust locks if needed. Check for correct locking operation	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
7	Tighten any loose hardware. Secure felts and glazing beads as necessary.	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
8	Check and report on any glazing fractures or chips.	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
9	Check and adjust alignment of doors.	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
10	Tighten and lubricate floor guides as required.	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
11	Check that all gaps between sliding surfaces are less than 8mm. (AS 5007-2007 Clause 3.4.2)	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
12	Check the electrical integrity of all wiring. (replace if needed).	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
13	Check and secure all wiring.	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
14	Adjust door opening, closing and braking speeds (to comply with AS 5007-2007. Refer note 11)	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
15	Set door open dwell time for seasonal requirements (to reduce air conditioning cooling and heating costs).	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
16	Check and adjust electrical sequence cams and micro-switches.	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
17	Test and adjust sensor range and operation (to comply with AS 5007-2007. Refer note 14).	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
18	Test operation of safety beams (to comply with AS 5007-2007. Refer note 15).	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
19	Test fire egress 'burst-out' or power failure actuation mechanism (to comply with AS 5007-2007. Refer note 16).	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
20	Test that lock system "fails safe" or can be opened by an alternative device when door is a designated Fire Exit (to comply with AS5007. Refer note 17).	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
21	Record closing force of door. Door closing force should not exceed 110 N or 11 kg	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
22	Re-fix helmet and covers in a secure way	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A

N/R



# 6 Monthly Checks

Date:

14/4/24

Serial Number:

Brand:

SITE: Vulture Street Tunnel - (Egress Door Top Level)

		DOOR: SLD Stair 04			DOOR:			DOOR:		
		Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A
1	Inspect overall operation and current problems.	Pass	Fail	N/A						
2	Clean rollers and track (remove bumpy or jolting door action.)	Pass	Fail	N/A						
3	Check and lubricate working mechanical parts (chain, bevel gears, sprockets, carriage, bearings etc).	Pass	Fail	N/A						
4	Adjust drive tensions (for positive door action)	Pass	Fail	N/A						
5	Adjust door clearances and square doors to each other and surrounding frames.	Pass	Fail	N/A						
6	Adjust doors to correctly engage and align with night locks. Adjust locks if needed. Check for correct locking operation	Pass	Fail	N/A						
7	Tighten any loose hardware. Secure felts and glazing beads as necessary.	Pass	Fail	N/A						
8	Check and report on any glazing fractures or chips.	Pass	Fail	N/A						
9	Check and adjust alignment of doors.	Pass	Fail	N/A						
10	Tighten and lubricate floor guides as required.	Pass	Fail	N/A						
11	Check that all gaps between sliding surfaces are less than 8mm. (AS 5007-2007 Clause 3.4.2)	Pass	Fail	N/A						
12	Check the electrical integrity of all wiring. (replace if needed).	Pass	Fail	N/A						
13	Check and secure all wiring.	Pass	Fail	N/A						
14	Adjust door opening, closing and braking speeds (to comply with AS 5007-2007. Refer note 11)	Pass	Fail	N/A						
15	Set door open dwell time for seasonal requirements (to reduce air conditioning cooling and heating costs).	Pass	Fail	N/A						
16	Check and adjust electrical sequence cams and micro-switches.	Pass	Fail	N/A						
17	Test and adjust sensor range and operation (to comply with AS 5007 -2007. Refer note 14).	Pass	Fail	N/A						
18	Test operation of safety beams (to comply with AS 5007-2007. Refer note 15).	Pass	Fail	N/A						
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20	Test that lock system "fails safe" or can be opened by an alternative device when door is a designated Fire Exit (to comply with AS5007. Refer note 17).	Pass	Fail	N/A						
21	Record closing force of door. Door closing force should not exceed 110 N or 11 kg	Pass	Fail	N/A						
22	Re-fix pelmet and covers in a secure way.	Pass	Fail	N/A						
23	Clean all door surfaces.	Pass	Fail	N/A						
24	Condition of door.	Pass	Fail	N/A						

Comments /Recommendations:

Bus Drivers buttons and lights all operational	YES	NO	N/A
PRE- Preventative Maintenance Loc8 Work Order Completed	YES	NO	
COR - Raised new Corrective Loc8 Work Order	YES	NO	

Service Technician:

N/R

