

G7. Bridge Strike Incidents

Bridge strike incidents from over-height vehicles should follow a certain procedure.

The ASM Duty Engineer is responsible for ensuring:

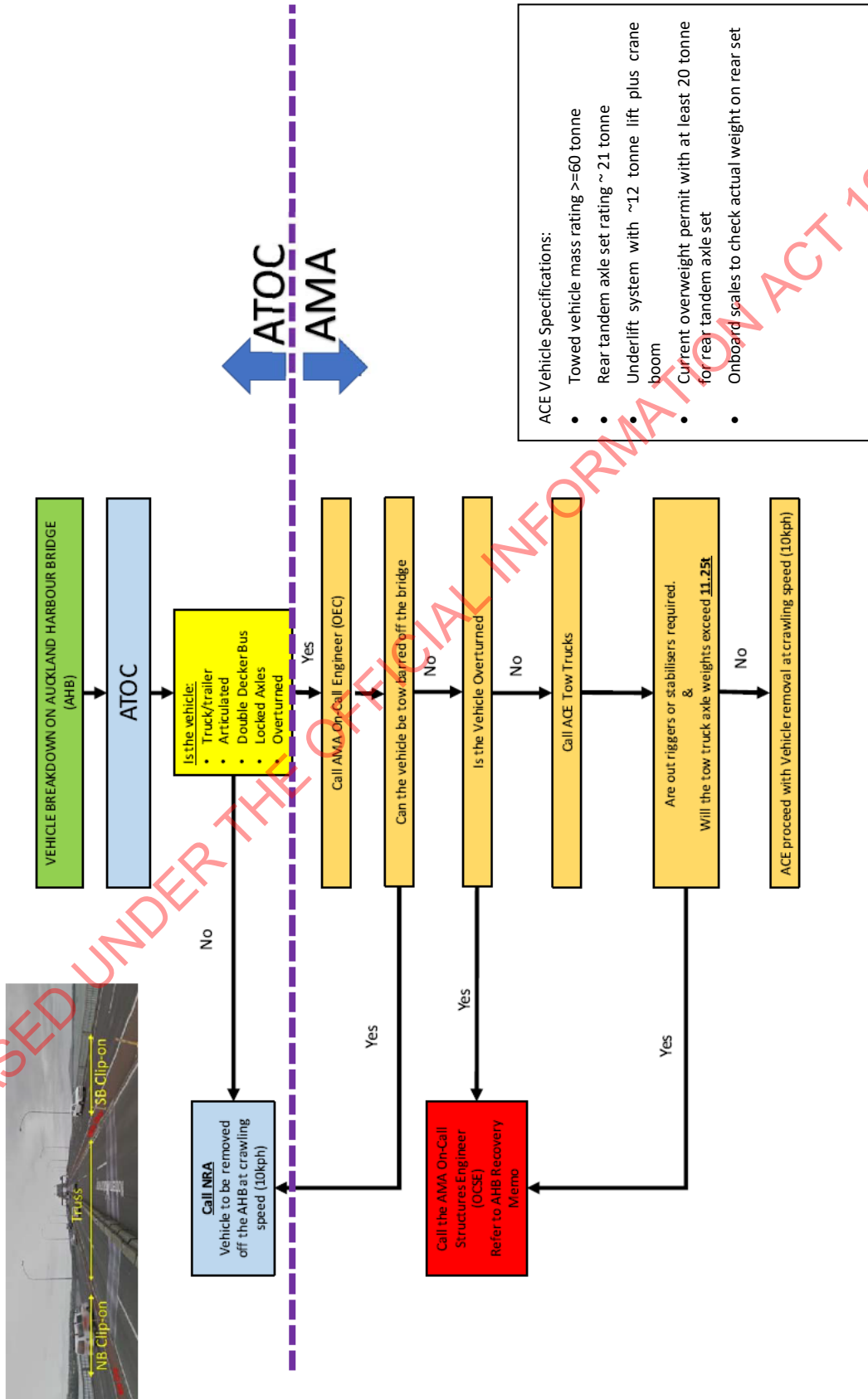
- Immediately describe incident and seek advice from on-call structural engineer (Contact details found in Appendix H, Section B); deploy if appropriate;
- Determine whether the bridge will need to be closed with guidance from ASM Structural Engineer, this will require additional TTM/temporary signage;
- Set up IMT depending on severity of the incident;
- Determine where the over-height vehicle can be left to rest or be taken off the State highway/motorway network;
- Liaise with Structural Engineer and determine whether over-height equipment for inspection will be required and deploy;
- Ensure any other equipment required for road restoration has been requested;
- Assist police in decision making for removal of over-height vehicle;
- Road restoration to safe standards

The ASM Bridge Engineer is responsible for:

- Visiting the site and determining if the bridge's structural integrity has been compromised;
- Determining potential reduction in structural integrity of the bridge structure and whether a closure of weight limit is to be implemented
- Liaising with the Structures Delivery team to assess repair options and plan for remediation.

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

G13. Breakdowns on Auckland Harbour Bridge



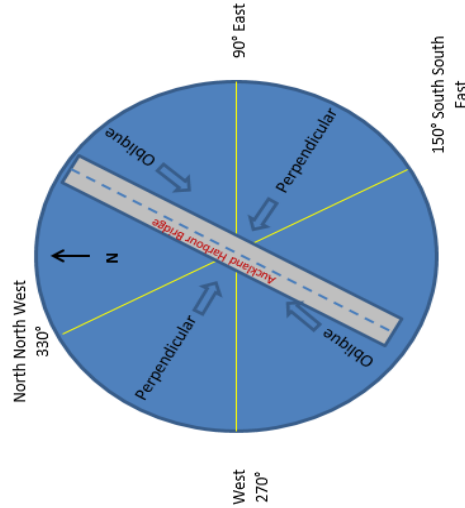
G14. Serious Incidents requiring closure of the Auckland Harbour Bridge

TOC closure recommendations

TOC-QUI-002 Auckland Harbour Bridge: High Winds Response

Select predefined DYNAC plan from weather-related -> strong winds.

Wind Speed Perpendicular	Wind Speed Oblique	Incident Level	VMS beyond Bridge approaches	VMS Farshore, Oneva, Esmondie	LSU	Info. (TREIS, radio, twitter)
60-80 km/h gusting	60-80 km/h gusting	1		HARBOUR BRIDGE: WIND GUSTS TAKE EXTRA CARE		
60-80 km/h average	60-80 km/h average		HARBOUR BRIDGE: MOTORCYCLES TAKE EXTRA CARE	HARBOUR BRIDGE: STRONG WIND GUSTS TAKE EXTRA CARE	70	Warn motorcyclists
80-90 km/h average	80-100 km/h average	2		HARBOUR BRIDGE: MOTORCYCLES TAKE EXTRA CARE		
80-90 km/h average	80-100 km/h average		HARBOUR BRIDGE: HIGH VEHICLES TAKE EXTRA CARE	HARBOUR BRIDGE: SEVERE WIND GUSTS OBEY SPEED SIGNS	50	Publicise wind warning and warn HMVs
90-100 km/h average	100-110 km/h average	3	Type D's: CBD North Shore	SEVERE WIND GUSTS MOTORCYCLES DETOUR VIA SH18, 16	30	
100-110 km/h average	110-120 km/h average			SEVERE WIND GUSTS HIGH VEHICLES DETOUR VIA SH18, 16	30 X 30 X	Close Alternate Lanes
110+ km/h	120+ km/h		HARBOUR BRIDGE CLOSED: DETOUR VIA SH18, 16	HARBOUR BRIDGE CLOSED: DETOUR VIA SH18, 16	Close ALL Lanes	Maximum publicity



RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

Partial lane closures

The joint decision to close lanes on the AHB will be made by the Remote Incident Manager, the Transport Agency’s Network Operations Manager and / or the Motorway Police Sergeant after receiving advice from their staff. Possible scenarios include:

- Trucks and motorcycles prohibited from eastern or western extensions (clip-ons);
- Alternate lanes closed;
- AHB closed to all trucks and motorcycles;
- Eastern or western extensions (clip-ons) closed;
- Full closure of all lanes.

Full closure of the Auckland Harbour Bridge

The joint decision to restrict access or close the AHB will be made by either the Transport Agency’s Network Operations Manager and / or the Motorway Police Sergeant after receiving advice from their staff.

Preparedness

High winds affecting the Auckland Harbour Bridge are usually predictable due to modern weather monitoring and forecasting technology and should be prepared for in advance due to the number of traffic management resources required. The following levels of alert should be used;

Green Alert	Resources identified and notified to be available if required.
Amber Alert	Resources identified, notified and standing by at central location (e.g. Reliable Way)
Red Alert	Resources identified, notified and standing by at holding point near station; able to effect closure within 2 minutes of activation.

Police

- Will provide marked vehicle with active “Queues Ahead” warning sign at the tail of queues.

ASM Incident Response Crews

Follow instructions from ATOC-Smales / Police to install traffic management as per TMP below;

- Close the following Southbound access points:
 - Onewa Road southbound on ramp;
 - Northern Motorway (adjacent Onewa Interchange)
 - Northern Motorway (Onewa southbound busway bridge)
 - Open up barrier near Northern MLB garage to allow southbound traffic to U turn into northbound lanes under Police (or AHB Crew) management;
 - Direct and manage southbound traffic undertaking U turns into northbound lanes near northern MLB garage;
- Close the following Northbound access points:
 - Curran Street on ramp;
 - Fanshawe Street on ramp;
 - Wellington Street on ramp; and
 - Westhaven Drive (if required); (not accounted for in below TMP)

- Southern Motorway (adjacent to SH1NB-SH16WB Link)
- Establish portable VMS on Fanshawe Street warning of motorway closure.
 - If additional portable VMS are available, establish at Nelson Street off ramp;
 - Implement appropriate emergency detours;
 - Drive detour route and ensure adequate signage and clear directions; and
 - Have sweeper and sucker trucks on standby to remove debris from carriageways, before motorway is reopened, if required.

Suggested emergency TMP for closure of the Auckland Harbour Bridge can be found below.

AUCKLAND HARBOUR BRIDGE EMERGENCY TMP
 SCENE 1 – THROTTLING TRAFFIC FLOW (SHEET 1–2)
 SCENE 2 – FULL AHB CLOSURE (SHEET 1A, 2A, 3–11)

REQUIREMENT AS PER THIS TMP:
 MINIMUM OF 14 TMAs AND 7 ADDITIONAL VEHICLES
 (POLICE, STANDARD TRUCKS, ENGINEERS VEHICLE, ETC.)

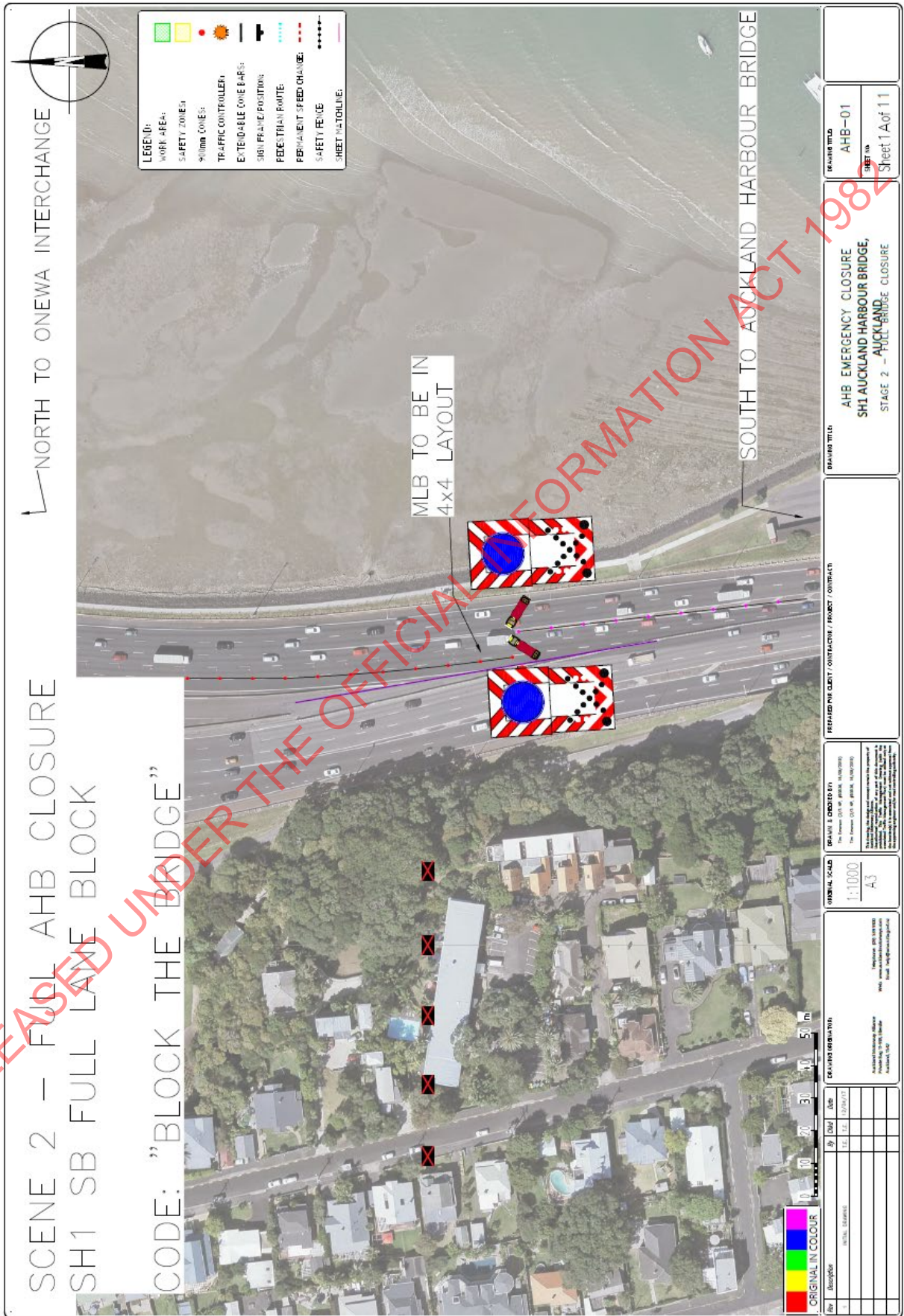
TMP ONLY TO BE USED UNDER NZTA DISCRETION
 FOR ANY EMERGENCY SITUATION WHERE THE BRIDGE IS NOT
 TO BE ACCESSIBLE

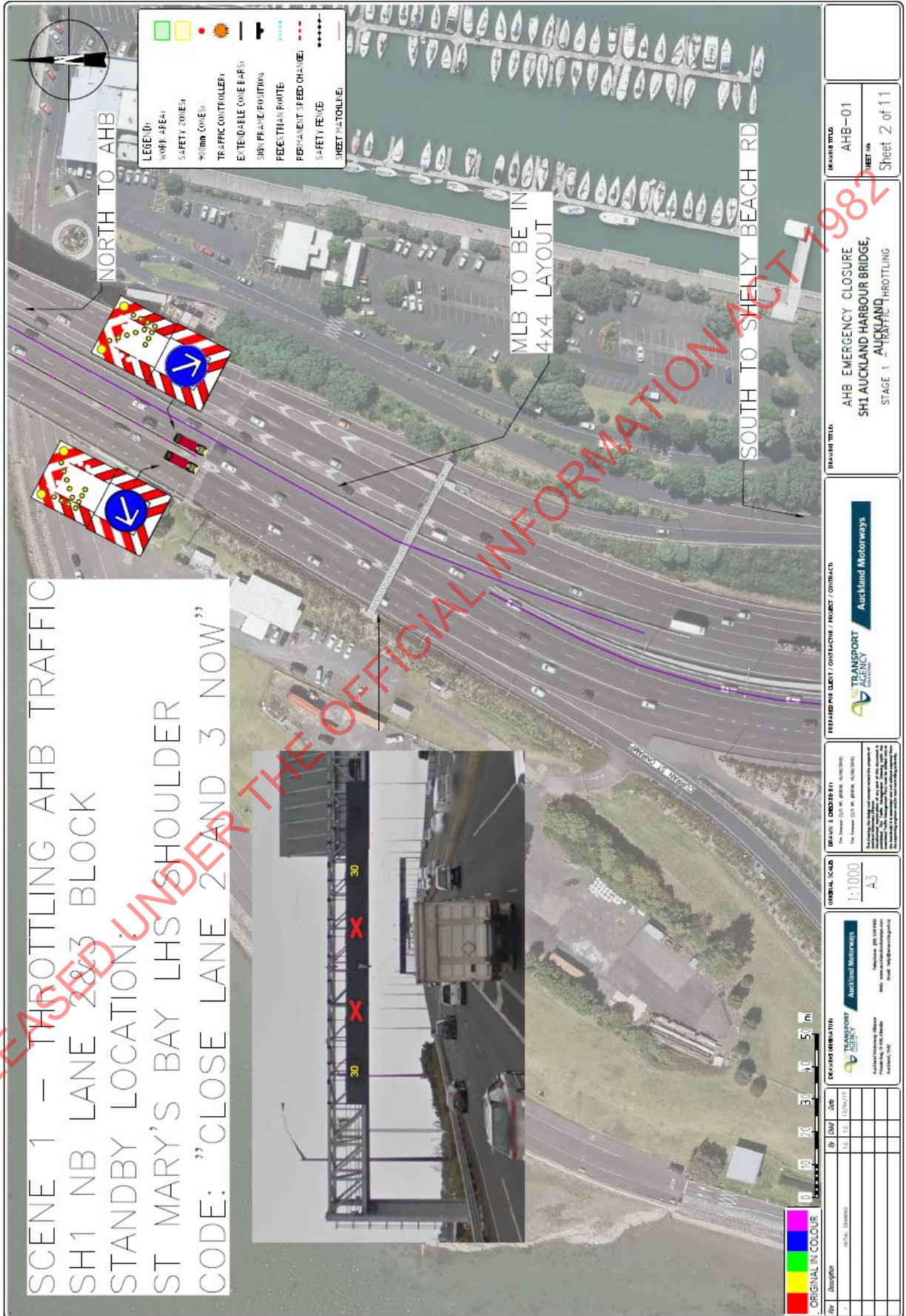
ALL UNIT MUST HAVE ACCESS TO AMA RT CHANNEL 16

Rev	Description	D	MAI	Job	CREATED/REVISIONS: Auckland Motorways <small>Auckland Harbour Bridge Project No. 1616-0000 1000, Auckland Harbour Bridge Auckland, New Zealand</small>	FORMAL SCALE: N.T.S.	DESIGN & CHECKED BY: The Transport (2018) Act (2018/0000) The Transport (2018) Act (2018/0000)	PREPARED FOR CLIENT / CONTRACTOR / PROJECT / CONTRACT: Auckland Motorways	DESIGN TITLE: AHB EMERGENCY CLOSURE SH1 AUCKLAND HARBOUR BRIDGE, AUCKLAND SITE OVERVIEW & AWWMS LOCATIONS	WAKA KOTAHI: AHB-01 SHEET No: Sheet 0 of 11
------------	--------------------	----------	------------	------------	--	--------------------------------	---	---	--	---

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982







RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

