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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **TEMPORARY ROAD SAFETY BARRIER DESIGN STATEMENT – TO ACCOMPANY TMP** | | | | | | | | | | | | | | | | | |
| **TMP Reference #** | |  | | | | **TMD Reference #** | | | | | |  | | | | | |
| **Site Details** | **Location** | | | | | **Direction** | | | | | | **Barrier Placement** | | | | | |
| *State road name, route positions (RPs), coordinates or house numbers for each system length. Include permanent speed limit(s).* | | | | | *State the travel direction to which the barrier relates e.g. ‘increasing’ or ‘southbound’.* | | | | | | *State the location of the barrier(s) in relation to the carriageway (shoulder/lane/median).* | | | | | |
| **Risk/risk mitigation** | **Description of the risk(s)** | | | | | | | | | | | | | | | | |
| *State the hazard, state the risk associated with the hazard and justification for utilizing the barrier system. (clearly outline how the barrier reduces overall risk?).*  *Explain consider of mitigation measures other than barriers, e.g. removal, relocation or redesign of the hazards causing the risk, been considered?*  *If there are multiple hazards and multiple systems have been utilised, explain the reasoning for each system.* | | | | | | | | | | | | | | | | |
| **Barrier systems**  *Hardware must be compliant with the NZ Transport Agency Specification M23* | **Barrier Type(s)** | | | | | | | | **Terminal(s)** | | | | | | | | |
| *E.g. System 1 - semi-rigid public domain concrete pin and loop (TCB-1).*  *System 2 - semi-rigid water-filled plastic.*  *Ensure the specific device names are listed as found in the M23 Appendix documents.* | | | | | | | | *System 1*  *Leading end:*  *Trailing end:*  *Intermediate (e.g. at site accesses):*  *System 2*  *Leading end:*  *Trailing end:*  *Intermediate (e.g. at site accesses):*  *Other systems as required:*  *State brand/ manufacturer’s name of the terminal to be used. Also note if the terminal will be tangential or flared and if flared what flare rate will be used.* | | | | | | | | |
| **Transitions (including overlap of different systems)** | | | | | | | | | | | | | | | | |
| *Where there are to be transitions between two different types of barriers detail the two types and the method of transition – e.g. semi-rigid temporary barrier to permanent rigid barrier or semi-rigid temporary barrier overlapping permanent flexible barrier.* | | | | | | | | | | | | | | | | |
| **Specific relevant considerations/restrictions** | | | | | | | | | | | | | | | | |
| *M23 Appendix documents identify all approved devices permissible for use. Many devices list specific restrictions or constraints. Any items specific to the devices used should be listed here including mechanisms used to ensure compliance with stated restrictions or constraints. Don’t just copy and paste from M23.* | | | | | | | | | | | | | | | | |
| **Design requirements – multiple systems will require multiple copies of this table** | | | | | | | | | | | | | | | | |
| **System 1** | | | **System Deflection\* (m)** | | **Minimum Length (m)** | | **Length of Need (LoN) (m)** | | **MASH\* Test Level (TL) (1-4)** | | | **Minimum Curve Radius** | | | **Clear Zone** | |
| **(For example BG800)** | | **Required Value** *From manufacturer’s information / M23* |  | |  | |  | |  | | |  | | |  | |
| **Designed Value** *What has been designed* |  | |  | |  | |  | | |  | | |  | |
|  | | | | | | | | | | | | | | | | |
| **System 2** | | | **System Deflection\* (m)** | | **Minimum Length (m)** | | **Length of Need (LoN) (m)** | | **MASH\* Test Level (TL) (1-4)** | | | **Minimum Curve Radius** | | | **Clear Zone** | |
| **(For example Armorzone)** | | **Required Value** *From manufacturer’s information / M23* |  | |  | |  | |  | | |  | | |  | |
| **Designed Value** *What has been designed* |  | |  | |  | |  | | |  | | |  | |
| *\*Where applicable – MASH test results must be used. If NCHRP-350 data is utilised (not yet approved under MASH) this must be stated. All devices deployed after 31st December 2020 must be MASH compliant.* | | | | | | | | | | | | | | | | |
| **Design Variations** | *Instances where the minimum design requirements have not been met will require detailed information and commentary on the reasons for such adjustments and mitigations of the additional risk.*  *Exceeding design requirements -example: wording around a TL3 system being utilised on a TL1 road environment?*  *Not meeting design requirements – example: how environmental constraints such as access ways have influenced the design.*  *All variations for all systems must be listed.* | | | | | | | | | | | | | | | | |
| **Equipment and Hardware required**  *List the required hardware including terminal and barrier components* | **Hardware/Eqpt** | | | | | | **Type/notes** | | | | | | | **Qty** | | |
| *BG800 12m female end barrier unit* | | | | | |  | | | | | | | *1* | | |
| *BG800 12m male end barrier unit* | | | | | |  | | | | | | | *1* | | |
| *BG800 12m unit* | | | | | |  | | | | | | | *4* | | |
| *BG800 450mm pins* | | | | | | *32mm dia* | | | | | | | *32* | | |
| *Rotary Hammer* | | | | | | *35mm drill bit 800mm long (min) + generator* | | | | | | | *1* | | |
| *SLED Euro end treatment* | | | | | |  | | | | | | | *2* | | |
| **Delineation (Barrier System)** | | | | | |  | | | | | | | *7* | | |
| **Delineation (End Treatment)** | | | | | | *1x white/black left + 1x yellow/black right chevron* | | | | | | | *2* | | |
| **Water (litres)** | | | | | | *832L/CIS* | | | | | | | *4992L* | | |
| **Installation programme** | **Sequence** | | | | | | | | | | | | | | | | |
| *State the sequence in which the barriers themselves will be deployed, demonstrating that the sequencing will maintain safety for installation personnel and road users at all times.*  *(i.e. Commencing with the southern end terminal, placing 48m of barriers northbound to house number 46 (on night one). Placing an end terminal after night one for protection then returning on night one, removing the temporarily-placed end terminal and continuing north to the end of string one. Total installation requires two 8 hour nights).* | | | | | | | | | | | | | | | | |
| **Installation/Removal** | | | | | | | | | | | | | | | | |
| *State how traffic management will be used to ensure safety during barrier deployment and removal. Include relevant reference to approved Traffic Management Plan (may be separate) to facilitate installation/removal.* | | | | | | | | | | | | | | | | |
| **Installation Designer Declaration** | This design has been prepared in accordance with Waka Kotahi Specification M23 and associated technical memoranda and standard drawings. | | | | | | | | | | | | | | | | |
| **Installation Designer** |  | | | |  | | |  | | |  | | | |  | | |
| *Name* | | | | *Date* | | | *Signature* | | | *Safety Barrier Qualification* | | | | *Date of Qual* | | |
| **Installed/ Inspected by** |  | | | |  | | |  | | |  | | | |  | | |
| *Name* | | | | *Date* | | | *Signature* | | | *Safety Barrier Qualification* | | | | *Date of Qual* | | |
| **Attachments** | *List any attachments/appendices.* | | | | | | | | | | | | | | | | |

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| **Diagram(s)** |
| *Draw the temporary road safety barrier layout diagram in plan view; or*  *attach the diagram as an appendix.*  *Also include cross sections where the barriers will be located close to an excavation, cutting or other hazard.*  *Include:*   * *Labels for all components* * *Dimensions (minimum length, LoN, deflection, clear zone, safety zones, curve radii etc.)* * *Significant site features* * *Notes regarding grade requirements, flare rates, departure angles and any other considerations that have factored into the design.*   *Drawings can be schematic or on an aerial image of the site, however these must be clear i.e. not too dark and of a suitable scale to clearly show the relevant features of the site.*  *For multiple sites, or sites that will change their layout over time, provide multiple plans.* |