

Weigh Right Programme  
Site 10 Short List Assessment - Other Design Requirements

Site Ref	Site Location	VSS Operation		VSS Implementation		CVSC Route		CVSC Feasibility		Average Score	
		Score	Reason	Score	Reason	Score	Reason	Score	Reason		
		VSS expected operational performance once implemented		Feasibility of implementing VSS (construction issues), Technical interface risks.		Issues associated with route from VSS to CVSC		Technical feasibility of CVSC construction.			
H	Whareroa Farm (Emerald Glen Road)	1	SH1 northbound approach will not meet guideline for maximum gradient. Visibility of Coast Road PIVMS potentially compromised by power poles. Other approaches meet guidelines.	0	Interface with TG - Routine. Works adjacent gas transmission required, and relocation of LV power cables potentially required on Coast Road. Constrained sites on Coast Road with a number of existing hazards. Construction and maintenance on or adjacent rail land for SH1 SB VSS. Overhead structures on SH1 NB and SB.	3	Max diversion 0.8km.	-2	Assumed platform level 18.5 m (platform max 4.0 m fill depth and 1.5 m below access point, with limited length to ramp up). Requires relocation of stock yard. Requires Emerald Glen bridge works, road widening and strengthening, roundabout kerb line changes. Rest of network assumed not to be a differentiator as applies to all of I, J(2) and L. Adjacent CWB adds complexity. Limited interface with TG project. <1.5 hectares available so slightly constrained. Close to rail and larger fill so may be a risk. Platform on top of gas transmission line with up to 4 m fill, presents a risk requiring management and third party approval. All of H, I, J(2) and L are away from Transpower assets. Not a known flood hazard area.	1	0.4
I	QEII Park	1	As per site H.	0	As per site H.	2	Max diversion 0.8 km. Relatively simple navigation. Overhead clearance limited to 4.6 m at level crossing so problem for overdimension vehicles from southbound (not just northbound as for H, J(2) and L).	2	Assumed platform level 9.0 m (platform max 0.5 m fill depth and 3.0 m below access point, reasonable length available to ramp up). Requires clearance of vegetation for sight lines potentially including adjacent property to south. May require upgrade to Whareroa Road. Limited interface with TG project. >1.5 hectares available. Adjacent rail crossing requires management. Works in vicinity of gas transmission line but not crossing it and should be able to keep works away. Not a known flood hazard area.	1	1.3
J(2)	Kāpiti	1	As per site H.	0	As per site H.	1	Max diversion 3.8 km.	2	Assumed platform level 9.5 m (platform max 0.5 m fill depth and -3.0 m below access point. Significant length available to ramp up. Minimal site clearance expected as this is a TG borrow site. New link road not likely to require pavement upgrade but additional traffic may affect time to first maintenance. Potentially significant interface with TG project as using their borrow site (timing impact) and will require redesign of local link road for CVSC intersection. >1.5 hectares available. Rail adjacent but some distance away. No gas transmission line interface. Potential flood hazard around access road.	1	1.0
L	Paekākāriki Interchange	1	As per site H. Note Coast Road WIM and VMS location may need to be relocated upstream depending on distance from VMS to proposed site access.	0	As per site H. Alternative VSS locations on Coast Road do not change overall score, particularly pull in VMS visibility would be challenging due to curvilinear alignment.	0	Max diversion 4.1 km. Good access for Coast Road vehicles, but slightly more complex navigation than J(2) and I.	-3	Assumed platform level 12.5 m (platform max 4.0 m fill depth and 3.5 m below access point. Some flexibility in length available to ramp up but chasing tail as ground falls away. Some site clearance. Existing SH1 not likely to require pavement upgrade but may require works to construct new intersection. Some interface with TG project as may require modifications to Paekākāriki intersection design. >1.5 hectares available. Close to rail and larger fill so may be a risk. Crossing of gas transmission line for access, and intersection works adjacent presents a risk requiring management and third party approval. Three stream corridors in vicinity and mapped flood overflow path area, significant risk.	-1	-0.9

Scoring Bands

3	All technical guidelines for VSS likely to be achieved (max grade 2%, max crossfall 3%, radius, 1-2 lanes, free flowing, WIM and VMS positioning, visibility).	No issues expected for design and construction. No known significant interfaces with other schemes.	Max diversion 0-2 km, simple route to CVSC, simple route back to original travel direction, no major constraints expected on network, suitable for overdimension and overweight vehicles, no interface with other projects.	Unconstrained with >1.5 ha available, manageable level differences at access point, no interface with strategic assets (gas, rail, Transpower), weigh bridge likely in minor cut or fill, minimal site clearance, minimal works required for access, no flood issues. Minimal interface with other schemes.
2	N/A	Some routine technical issues expected for design, construction or maintenance (e.g. relocation of overhead lines or telecomms cables, construction of access points). Minor interfaces with other schemes.	N/A	As above but some interface with other schemes.
1	Some non-compliances with guidelines, VSS expected to perform adequately on all approaches with calibration and operational adjustment, but possibly less accurately.	N/A	Max diversion 2-4 km, complex route to CVSC or back to original travel direction, some constraints on network, some movements unsuitable for overdimension and overweight vehicles, minor interface with other projects.	Constrained with <=1.5 ha available, some level differences at access point, no interface with strategic assets (gas, rail, Transpower), weigh bridge likely in fill, more site clearance, some works required for access, no flood issues.
0	N/A	Neutral	N/A	Neutral
-1	VSS expected not to perform adequately on one or more minor approaches.	Some challenging technical issues expected for design construction or maintenance (constrained space, steep slopes, working on busy roads, rail approvals). Minor interfaces with other schemes.	Max diversion 4-5 km, complex route to CVSC or back to original travel direction, significant constraints on network, most movements unsuitable for overdimension and overweight vehicles, significant interface with other projects.	Very constrained with <=1.0 ha available, significant level differences at access point, approvals needed for works around strategic assets (gas, rail, Transpower), significant works required for access, possible flood issues but likely to be manageable.
-2	N/A	Significant technical issues expected for design and / or construction (e.g. strategic utilities). Significant interfaces with other schemes.	N/A	Very constrained with <=1.0 ha available, significant level differences at access point, potential disturbance to strategic assets (gas, rail, Transpower), significant works required for access, possible flood issues but likely to be manageable.
-3	VSS expected not to perform adequately on one or more major approaches.	Implementation is not feasible within vicinity of proposed CVSC.	Max diversion >5km.	Relocation of strategic assets required (gas, rail), known flood issues potentially not manageable.

Notes:

1. Geotechnical feasibility not assessed as unsuitable sites were eliminated through long list to short list screening process.
2. Assessment based on available desktop information only. Further information and detail is likely to be encountered through later phases as the project is progressed.
3. Key data sources: KCDC GIS (flood hazard maps, contours and photos), Argonaut Roadrunner, Transmission Gully drawings, Google Earth Pro, shape files from First Gas, boundaries from LINZ.
4. WIM assessment criteria - refer ASTM E1318-09 - Standard Specification for Highway Weigh-In-Motion (WIM) Systems with User Requirements and Test Methods