Table 4.1 – Pros and Cons of Options 1-8 Against the Assessment Criteria

Criteria	Sub-criteria	Option 1 – location presented to residents Rank 5	Option 2 – next to the existing pump station Rank 1	Option 3 – within Waiwetu Reserve Rank 7	Option 4 – adjacent to 28A & 30 Jeffreys Rd Rank 8	Option 5 – Next to the Tennis Court Rank 3	Option 6 - Playground Rank 4	Option 7 – next to Jeffreys Road Rank 2	Option 8 – Next to the Tennis Court Rank 6
Hydraulic Performance	**HP1** – Pipework Requirements	- Small additional pipework required. - A scour pipe to the stream is feasible.	- Least amount of additional pipework required. - A scour pipe to the stream would be feasible.	- Some additional pipework required. This will be more than what's required for Option 1. - A scour pipe to the stream would be feasible.	- Some additional pipework required. This will be more than what's required for Option 3. - A scour pipe to the stream may require some pumping. The ST could discharge into an external sump with a pump and a pressure main to the stream. A well-designed stream outfall will be necessary to protect the stream during discharges.	- More pipework required than Options 1-4. - Careful assessment of the existing surface pumps NPSHR will be necessary. - A scour pipe to the stream may require some pumping. The ST could discharge into an external sump with a pump and a pressure main to the stream. A well-designed stream outfall will be necessary to protect the stream during discharges.	- Moderate-significantly more pipework required than Options 1-5. - Special design to achieve the surface pumps NPSHR. - A scour pipe to the stream may require some pumping. The ST could discharge into an external sump with a pump and a pressure main to the stream. A well-designed stream outfall will be necessary to protect the stream during discharges.	- Significantly more pipework than Options 1-6 required. - Very special design required to achieve the existing surface pumps NPSHR. - Possible requirement for new surface pumps at the suction tank. - A pumped scour pipe to the stream or a controlled gravity pipe to road stormwater network will be required.	- More pipework required than Options 1-2. - Careful assessment of the existing surface pumps NPSHR will necessary. - A scour pipe to the stream may require some pumping. The ST could discharge into an external sump with a pump and a pressure main to the stream. A well-designed stream outfall will be necessary to protect the stream during discharges.
Design & Construction	**DC1** - Suction Tank (ST). Provision of an appropriately sized ST and the ability to choose different tank configurations.	- The site is suitable for STs of different configurations and footprints.	- The site is suitable for STs of different configurations and footprints. - Possible encroachment to the footpath and/or the pitch with some configurations. However, this will be less than would be required for Options 4 and 5. - At least one tree and possibly two trees will require removal.	- Current site is close to the 30 Jeffreys property boundary. - Other configurations may require several large trees to be removed. This is not a hindrance as consents to remove the trees and Community Board approval can be obtained. - Four trees will require removal and two trees will need to be pruned.	- The site is suitable for STs of different configurations and footprints. - The preferred configurations will encroach into the pitch because of the mounding proposed. - This means additional costs for reconfiguring the pitch and the irrigation. - At least one tree will need to be removed and a depending on the mounding a few more could also be affected. The trees are relatively young.	- The site is suitable for STs of different configurations and footprints. - The configurations will encroach into the pitch because of the mounding proposed. This adds to cost of reconfiguring the pitch and the irrigation. - Depending on the selected location within the site area there will be at least one or two trees that could be removed.	- The site is suitable for STs of different configurations and footprints. - Only one tree will need to be removed and at least two trees will require some pruning.	- The site is suitable for STs of different configurations and footprints. - At least one tree will require removal. - The mounding will result in encroachment into the pitch.	- The site is suitable for STs of different configurations and footprints. - Will completely block off the footpath. Footpath rerouting will be required adding to the costs compared to Options 2 and 5 among others.
	DC2 – Well equipment and surface pumps and Electrical/Controls	- Existing well equipment, pumps and controls can be used.	- Existing well equipment, pumps and controls can be used.	- Existing well equipment, pumps and controls can be used.	- Existing well equipment, pumps and could be used with some minor adjustment and possibly additional pumps and controls.	- Same as Option 4.	- Existing well equipment, pumps and could be used but may require significant adjustments and possibly additional pumps, controls, cables and pipes.	- Existing well equipment, pumps and could be used but may require significant adjustments and possibly additional pumps, controls, cables and pipes.	- Same as Option 4.
	DC3 - Complexity of Construction	- 10 months of construction work. - Expected to be TC2-TC3. Deep foundations likely to be required. - High watertable < 1 metres below ground level (mbgl). - Dewatering may cause the stream to dry out. - Construction challenges likely to be the same as Option 2 but greater than Options 3-8.	- Same construction timeframe as Option 1. - TC rating likely to be the same as Option 1. - Same groundwater issues as Option 1. - Dewatering may cause the stream to dry out. - The site is close to the existing pump station building and damage to the PS building possible. - A minimum 3 m perimeter allowance for scaffolding will be required around the tank and this means the outer edge of the ST footprint should be >3 m from the transformer. - Construction challenges likely to be the same as Option 1 but be greater than Options 3-8.	- Same construction timeframe as Option 1. - TC rating likely to be the same as Option 1. - Same groundwater issues as Option 1. - Dewatering – has less impact than Options 1-2 because of distance from the stream. - Construction challenges likely less than Options 1-2 and the same as Option 4-8.	- Same construction timeframe as Option 1. - Possible sallower foundations than Options 1 & 2. - Same groundwater issues as Option 1. - Dewatering – has less impact than Options 1-2 because of the distance from the stream. - Construction challenges likely less than Options 1-2 and the same as Option 3 and 5-8.	- Same construction timeframe as Option 1. - Possible shallower foundations than Options 1 & 2. - Construction challenges likely less than Options 1-2 and the same as Option 3-4 and 6-8. - Dewatering – has less impact than Options 1-2.	- Same construction timeframe as Option 1. - Shallower foundations than Options 1-5. - Construction challenges likely less than Options 1-2 and the same as Option 3-5, 7 and 8. - Dewatering – has less impact than Options 1-2.	- Same construction timeframe as Option 1. - Shallower foundations than Options 1-6. - Construction challenges likely less than Options 1-2 and the same as Option 3- 6 and 8. - Dewatering – has less impact than Options 1-2. -	- Same construction timeframe as Option 1. - Shallower foundations than Options 1-6. - Construction challenges likely less than Options 1-2 and the same as Option 3-4 and 6-7. - Dewatering – has less impact than Options 1-2.
	DC4 – Earthquake Resilience	- Lateral spread risk high.	- Same as Option 1.	- Lateral spread risk high. But less than Options 1 & 2.	- Lateral spread risk lower than Options 1 and 2.	- Lateral spread risk lower than Options 1 and 2.	- Lateral spread risk low. Possibly only worse than Option 7.	- Lowest lateral spread risk.	- Lateral spread risk lower than Options 1 and 2.
Site Features	**SF1** – Site Features	- Proximity to the playing field not an issue. - Existing footpath will need to be shifted slightly.	- Proximity to the playing field not an issue except during construction. However, other tank	- This option does not impact the playing field, the footpaths.	- The tank option encroaches into the playing field.	- Proximity of the playing field affects the playing field. It may need to be shifted.	- Proximity of the playground. Additional costs to relocate the playground possibly to where Option 7 is	- Proximity to the playground not an issue. - ST will encroach into the rugby pitch due to the mounding.	- No changes to the playing field. However, the footpath will be affected.

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			configuration variations may encroach slightly. - Existing footpath will need to be shifted slightly. - The option results in a more compact compound.				proposed. Relocation of the playground closer to the road increases the danger to children.		
	SF2 – Consenting/Compliance requirements	- Complies with all CCC District Plan requirements e.g. height of structure, boundary setbacks and recession plans. - Dewatering consent required from ECan. - Possible consents for NES compliance. - A stormwater discharge consent will be required via Ecan.	- Same as Option 1.	- Complies with most CCC District Plan requirements e.g. height of structure. - Will not comply with the setback distance and thus consent will be required from CCC. - A consent to remove some established trees or to work close to them will be required. - Dewatering consent required. - Reserve act requirements will be required as the site is designated a reserve (Waiwetu). - Stormwater discharge will be via the CCC Global Consent.	- Same as Option 1.	Same as Option 1.	Same as Option 1.	- Same as Option 1.	Same as Option 1.
	SF3 – Legal Requirements	- Generally, no legal requirements. - Less easement requirements. - Residents have expressed concerns about this option and have engaged legal experts. This will also add to the project costs and timeframes. The outcome of the legal process, should it be pursued, is unknown.	- Generally, no legal requirements. - Least easement requirements. - Residents of 53 Waiwetu Street have expressed concerns with regards to Option 2 and have sought legal counsel.	- The Waiwetu Reserve is a gazetted reserve and there will be a legal process to go through if the tank is to be sited here. - Less easements requirements. - This will add to the cost and the project timeframes. This does not preclude consideration of the option. - Residents have expressed concerns with regards to Option 1. It is possible that this option will face similar opposition and legalities.	- Generally, no legal requirements. - Less easement requirements. - Residents have expressed concerns with regards to Option 1. It is possible that this option will face similar opposition and legalities.	- Generally, no legal requirements. - Moderate easements requirements for the pipes and the tank. - Some residents' submissions expressed concerns with regards this option. It is possible that that this option will face similar opposition and legalities as Option 1.	- Generally, no legal requirements. - Moderate-extensive easement requirements. - A number of residents' submissions seemed to support this location. Legal challenges could be minimal with this option compared to Options 1-5.	- Generally, no legal requirements. - Extensive easement requirements. - However, it is not clear at this stage if residents across Jeffreys Road would be concerned about the location just as residents on the other side are concerned about the location of Option 1. - A number of residents' submissions seemed to support this location. Legal challenges could be minimal with this option compared to Options 1-5.	- Generally, no legal requirements. - Moderate easements requirements. - Some residents' submissions expressed concerns with regards this option. It is possible that that this option will face similar opposition and legalities as Option 1 & 2 as more residents (7) will be affected by this option compared to Option 1.
	SF4 – Site Size and Geometry	- The site is large enough to fit alternative tank layouts/considerations and footprints. - There will be no improvements to the existing compound as this is not part of the project.	- The site is large enough to fit alternative tank layouts/considerations and footprints. - Will also result in a more compact compound and this makes more space available for park use. - Return 196 m^2 of greenspace to the park users.	- Same as Option 1.	- Same as Option 1.	- Same as Option 1.	- Same as Option 1.	- Same as Option 1.	- The site is large enough to fit alternative tank layouts/considerations and footprints. - Occupies 735 m^2 of park area i.e. it takes more area of the park than any other option because of the CPTED requirements. - There will be no improvements to the existing compound as this is not part of the project.
	SF5 – Ease of Site Access	- Site access for maintenance post construction would be via the carpark and/or sealed footpath. - During construction access via the carpark would not be possible with large trucks. These may require the use of footpath from Jeffreys Road to the existing compound and carrying onto the site.	- Same as Option 1.	- Same as Option 1.	- Same as Option 1.	- Site access for maintenance post construction would be via the carpark and sealed footpath. - During construction access via the carpark would not be possible with large trucks. - A new path over the grass between the library and the pitch from Jeffreys Road may need to be established.	- Same as Option 5 though the area that will be used for site access will be less which means more of the park will be available for use during construction.	- Same as Option 6 though the area that will be used for site access will be less which means more of the park will be available for use during construction.	- Same as Option 1.

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		- The large trucks could damage the footpath. Additional budget for remedying the footpath may need to be factored in. The manhole covers can be protected. - The footpath used for access may need to be fenced off during the construction duration for health and safety purposes given the frequency of large vehicular traffic. - Small vehicles can continue to access the site via the carpark during construction. Parts of the carpark may need to be sectioned off so as not to damage private vehicles.				- The main con is that access could be difficult in winter when the grass is wet and susceptible to pugging. - Use of this for access will limit the park usage and damage the grass. - Additional costs to reinstate the grass post construction would need to be factored in.			
	SF6 – Site Efficiency	- Small amount of additional infrastructure required.	- Little or no additional infrastructure required.	- Some additional infrastructure required.	- Some additional infrastructure required.	- More additional infrastructure required than Options 1-4.	- Moderately significantly more infrastructure required than Options 1-5.	- Significantly more infrastructure than Options 1-6 required.	- More additional infrastructure required than Options 1-3 but less than Options 4-7.
	SF7 – Landscaping Outcomes	- Appropriate landscaping treatment can be provided for the tank to be integrated with the surrounding treatments/landscaping.	- Same as Option 1. - The compound will be compact. This reduces the total infrastructure footprint across the Jeffreys Reserve. - Will also result in a more compact compound and this makes more space available for park use. - Return 196 m^2 of greenspace to the park users.	- Same as Option 1. - There will be no improvements to the existing compound as this is not part of the project.	- Same as Option 1. For Option 4 this also includes possibly mounding up the land around the tank which will conceal the tank and also provides an area where people can sit and kids can play. - There will be no improvements to the existing compound as this is not part of the project.	- Same as Option 4. - There will be no improvements to the existing compound as this is not part of the project.	- Same as Option 1. - There will be no improvements to the existing compound as this is not part of the project.	- Same as Option 4. - There will be no improvements to the existing compound as this is not part of the project.	- Same as Option 1. - Occupies 735 m^2 of park area i.e. it takes more area of the park than any other option because of the CPTED requirements. - There will be no improvements to the existing compound as this is not part of the project. -
Environmental Considerations	**EC1** – Site Contamination	- Part of the site is on the LLUR. Site contamination investigations will be required. NES consent application may be needed depending on the outcome.	- The site is on the LLUR. Site contamination investigations will be required. NES consent application may be needed depending on the outcome.	- The site is not contaminated and therefore there will be no NES issues to consider.	- Same as Option 2.	- Same as Option 2.	- Same as Option 2.	- Same as Option 2.	- Same as Option 2.
	EC2 - Impact on the waterway	- Dewatering may cause the stream to dry out.	- Dewatering may cause the stream to dry out.	- Dewatering – has less impact than Options 1-2 because of distance from the stream.	- Dewatering – has less impact than Options 1-2 because of the distance from the stream.	- Dewatering – has less impact than Options 1-2.	- Dewatering – has less impact than Options 1-2.	- Dewatering – has less impact than Options 1-2. -	- Dewatering – has less impact than Options 1-2.
Community & Visual Impact	**VA1** – Visual Impact on Neighbours	- The tank height will be 4 m above ground level (magl). While this may not completely address residents' concerns it will provide some mitigation. - The 4 magl tank could still affect views of the park. The tank will be visible from a number of the dwellings along Waiwetu Street. These include 45A, 45-50 Waiwetu with 45, 45A and 47 Waiwetu having direct views. 184/184A/190 Clyde Road could also have direct views to the tank. The tank will be more visible to 2-storey dwellings than 1-storey dwellings. - Concerns by residents that the "dead areas" behind	- The 4 magl tank could affect views of the park for 53 Waiwetu Street and possibly #50 Waiwetu St. - It is noted that these are 1-storey dwellings. - The boundary screening with 53 Waiwetu St was removed and the property looks into the existing compound. The tank will directly block its views to the park. - Council could opt to screen its side of the fence. - The tank could also be visible from other properties. However, it will not directly affect their views to the park and so concerns will likely be around sight of the structure.	- The tank will be 4 magl. While this may not completely address residents' concerns it will provide some mitigation. - The 4 magl tank could be imposing for 30 and 30B Jeffreys Rd and to some extent 23 and 25-31 Thornycroft St. - Concerns by residents that the "dead areas" between behind the tank might attractive some undesirable elements. Landscaping design would need to address these concerns e.g. by fencing. - While the trees within Waiwetu Reserve will provide some screening, the existing gaps will	- The residents' views of the park will be affected. - The tank will also likely to be considered to be imposing given the proximity to the dwellings even through the minimum setback distances will be met. - The 4 magl tank could be imposing for 30 and 30B Jeffreys Rd. - The Waiwetu St properties' views will not be directly affected. However, they will be able to see the additional structure in the park. - There will be no dead spaces as the footpath at the back will be maintained.	- Properties mostly likely to be affected are 190 Clyde Road, 45, 45A and 47 Waiwetu Street. - However, the tank will be further from the dwellings than in Option 1. - The approx. 40 m distance will ensure that the 4 magl tank will have reduced impact on the park views from these properties. This takes into account the screening along most of the boundaries between the park and these properties. - The proposed mounding and landscaping would provide some mitigation.	- The tank will be almost 90 m from the Waiwetu properties (45 and 45A), 53 m from the 190 Clyde Road boundary and at least 60 m the properties along Jeffreys Road across the road. - Considerably low visual impact on these properties. - The tank would blend in with the existing library buildings. - Trees around the site would provide some screening from the library and from the road. - Further landscaping will enhance the tank views.	- The tank will be at least 130 m from the Waiwetu properties and 40 m from the Jeffreys Rd properties. - Considerably low visual impact on the Waiwetu and Clyde Road properties. - Fully visible from 5-28A Jeffreys Rd. But the road provides a significant buffer disconnect the tank from the street. - The Jeffreys Rd properties will still have various angled views of the park. - The proposed mounding and landscaping would provide some mitigation.	- Properties mostly likely to be affected are 190 Clyde Road, 45, 45A and 47 Waiwetu Street. - However, the tank will be further from the dwellings than in Option 1.

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		the tank might attract some undesirable elements. Landscaping design would need to address these concerns e.g. by fencing and planting trees. - While the trees within the park boundary will provide some screening, the existing gaps will make the tank visible from the dwellings. - While the gaps could be closed out by more plantings, this may not be desirable for the residents as views of the park could be permanently blocked out affecting the views to the park. - Additional plantings would also need to be assessed for effectiveness against the CPTED principles i.e. consider landscaping e.g. fencing to screen out the back areas.	- The compound would be fenced with only the front of the tank excluded. This would exclude undesirable elements. - CPTED principles would be fully met. - Enhanced architectural designed structures for the public to celebrate	make the tank visible from the dwellings. - While the gaps could be closed out by more plantings, this may not be desirable for the residents as views of the reserve may be important to them. - Additional plantings would also need to be assessed for effectiveness against the CPTED principles i.e. consider landscaping e.g. fencing to screen out the back areas.	- The proposed mounding and landscaping would provide some mitigation. -				
	VA2 – Visual Impact on Other Park Users	- The tank will be tucked away and will have minimal visual impact on other park users. - Further landscaping treatments can reduce the visual impact on other park users.	- The tank will be integrated with the existing pump station compound. - The site will be more compact and fenced in and additional landscaping treatments can make the tank less visible. - Existing compound footprint is 760 m^2. The resulting compound will result in approximately 196 m^2 being given back to the park. This will reduce the visual impacts when compared to the other options. - Tank blocks compound visibility from most parts of the park.	- The tank will be tucked away and will have minimal visual impact on other park users. - Further landscaping treatments can reduce the visual impact on other park users.	- The tank will be clearly visible at the proposed location. - Further landscaping treatments can reduce the visual impact on other park users. - The proposed mounding and landscaping would provide some mitigation.	- Same as Option 4.	- Same as Option 4.	- The tank will be clearly visible at the proposed location and it will encroach onto the pitch. - The proposed mounding and landscaping would provide some mitigation.	- The tank will be less visible that at Option 4. - Visual effects will almost be the same as Option 1. - No landscape pergola buffer. - However, to meet the CPTED requirements the tank will be fenced in taking a total of 735 m^2 from the park. This will be noticeable to the park users.
	VA3 – Impact on Community Enjoyment of the Park or Existing Facilities	- The site is used for rugby practice warm-ups. Other sites could be used for the same with minimal inconvenience. - It is understood (from the residents' submissions) that some families use the site for picnics. - The proposed landscaping will provide additional sitting overlooking the rugby pitch.	- The existing sitting bench will not be affected. Can be integrated with the landscaping of the suction tank. - The proposed landscaping will provide additional sitting overlooking the rugby pitch. - Approximately 196 m^2 will be given to the park. This means there will be more space for recreational purposes. - Allows for the activation of the walls to support community recreation. - Opportunity to provide shade and storage facilities for the rugby clubs.	- Impact on park users likely to be minimal. The tank will be far from most park uses. - There will be no additional sitting arising from the landscaping as there is no benefit given the location of the tank relative to the pitch. - The existing walkway to Thornycroft Street will not be affected.	- The proposed landscaping will provide additional sitting overlooking the rugby pitch. - The proposed mounding and landscaping would provide some mitigation. - The footprint will take valuable park space and reduce the area for community enjoyment.	- The proposed landscaping will provide additional sitting overlooking the rugby pitch. - Tennis court users will not be affected both during and after construction. They may enjoy the additional benefit of a backwall for tennis practice as the tank wall could form one side of the court. - A basketball half court for practice shootings could be integrated into the design and landscaping. - There could be reduced park area available for use if access to the construction site is via the grass from Jeffreys Rd. - The proposed mounding and landscaping would provide some mitigation.	- No existing footpaths will be affected by this option. - The proposed landscaping will provide additional sitting overlooking the rugby pitch. - Parents coming to the library take a short stroll to the playground with their kids. However, the alternative location e.g. site Option 7 site is still within the same range. - If the replacement playground is not built first, this will be a major inconvenience to the locals. We assume that the replacement playground will be prior to the decommissioning of the existing. - There could be reduced park area available for use if access to the	- No existing footpaths will be affected by this option. - The proposed landscaping will provide additional sitting overlooking the rugby pitch. - There could be reduced park area available for use if access to the construction site is via the grass from Jeffreys Rd. - The proposed mounding and landscaping would provide some mitigation. - The footprint will take valuable park space and reduce the area for community enjoyment.	- Tennis court users will not be affected both during and after construction. They may enjoy the additional benefit of a backwall for tennis practice as the tank wall could form one side of the court. - A basketball half court for practice shootings could be integrated into the design and landscaping. - There could be reduced park area available for use if access to the construction site is via the grass from Jeffreys Rd. - The proposed mounding and landscaping would provide some mitigation. - To meet the CPTED requirements the site will be fenced off removing up

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						- The footprint will take valuable park space and reduce the area for community enjoyment.	construction site is via the grass from Jeffreys Rd. - The footprint will take valuable park space and reduce the area for community enjoyment as the replacement playground area will reduce the park area available for general enjoyment.		to 735 m^2 from public access.
	VA4 – Traffic, Noise, dust, Health & Safety	- 2 months of loud noise to remove the existing tank, need for heavy vehicle access. - Noise associated with construction noise will have an impact at least on properties along Waiwetu Street and 182-188 Clyde Road. - Dust will be an issue for at least some of these properties both during the demolition of the existing tank and the construction of the new tank. 23 Thornycroft will also be affected by dust during the tank removal. - Dust management measures can be effectively implemented to managed dust migration. - Dust generated during the demolition of the existing tank can be mitigated to reduce potential effects on the above properties. - The impact of noise on neighbouring properties could be mitigated by restrictions in operating hours and proper scheduling of worst of the noise generating works.	- 2 months of loud noise to remove the existing tank, need for heavy vehicle access. - Noise associated with construction noise will have an impact on at least properties along Waiwetu Street, 23 Thornycroft Street, 28-30 Jeffreys Road. - Dust will be an issue for at least some of the same properties both during the demolition of the existing tank and the construction of the new tank. 23 Thornycroft will also be affected by dust during the tank removal. - Dust generated during the demolition of the existing tank could be mitigated to reduce potential effects on the above properties. - The impact of noise on neighbouring properties could be mitigated by restrictions in operating hours and proper scheduling of worst of the noise generating works.	- 2 months of loud noise to remove the existing tank, need for heavy vehicle access. - Noise associated with construction noise will have an impact on some properties along Waiwetu Street, 23-33 Thornycroft Street, 28-30 Jeffreys Road. - Dust will be an issue for at least some of the same properties both during the demolition of the existing tank and the construction of the new tank. 23 Thornycroft will also be affected by dust during the tank removal. - Dust generated during the demolition of the existing tank could be mitigated to reduce potential effects on the above properties. - The impact of noise on neighbouring properties could be mitigated by restrictions in operating hours and proper scheduling of worst of the noise generating works.	- 2 months of loud noise to remove the existing tank, need for heavy vehicle access. - Noise associated with construction noise will have an impact on at least 28- 30 Jeffreys Road, possibly some of the properties along Waiwetu Street and Thornycroft Street. - Dust will be an issue for at least some of the same properties both during the demolition of the existing tank and the construction of the new tank. 23 Thornycroft will also be affected by dust during the tank removal. - Dust generated during the demolition of the existing tank could be mitigated to reduce potential effects on the above properties. - The impact of noise on neighbouring properties could be mitigated by restrictions in operating hours and proper scheduling of worst of the noise generating works.	- 2 months of loud noise to remove the existing tank, need for heavy vehicle access. - Noise associated with construction noise will have an impact on properties along Waiwetu Street and 182-188 Clyde Street. - Dust associated with tank removal will possibly affect the Waiwetu Street properties and 23 Thornycroft Street. Dust associated with the construction could have an impact on 182-188 Clyde Road properties and possibly some of the Waiwetu properties. The library could also experience some of the noise and dust. - Dust generated during the demolition of the existing tank could be mitigated to reduce potential effects on the above properties. - The impact of noise on neighbouring properties could be mitigated by restrictions in operating hours and proper scheduling of worst of the noise generating works.	- 2 months of loud noise to remove the existing tank, need for heavy vehicle access. - Noise associated with construction noise could possibly be heard by people at some of the properties along Waiwetu Street and 182-188 Clyde Street and the library. - Dust associated with tank removal will possibly affect the Waiwetu Street properties and 23 Thornycroft Street. Dust associated with the construction will have minimal impact on private properties. - Dust generated during the demolition of the existing tank could be mitigated to reduce potential effects on the above properties. - The impact of noise on neighbouring properties could be mitigated by restrictions in operating hours and proper scheduling of worst of the noise generating works.	- Same as Option 6.	- 2 months of loud noise to remove the existing tank, need for heavy vehicle access. - Noise associated with construction noise will have an impact on properties along Waiwetu Street and 182-188 Clyde Street. - Dust associated with tank removal will possibly affect the Waiwetu Street properties and 23 Thornycroft Street. Dust associated with the construction could have an impact on 182-188 Clyde Road properties and possibly some of the Waiwetu properties. The library could also experience some of the noise and dust. - Dust generated during the demolition of the existing tank could be mitigated to reduce potential effects on the above properties. - The impact of noise on neighbouring properties could be mitigated by restrictions in operating hours and proper scheduling of worst of the noise generating works.
CPTED Principles	**CP1** – Surveillance and Ensuring Clear Sight Lines – Ability for accessible spaces to be overlooked and ensuring clear sightlines.	- There will be a 5-10 m passive area between the tank and the boundary fence. This could attract undesirable elements as this area will be hidden from view from the rest of the park. This could increase crime for the locals, unauthorised camping, loitering and other illicit activities. - Properties mostly affected are likely to be 184/184A/190 Clyde Road, 45, 45A and 47 Waiwetu Street. - Landscaping could also be used to manage the passive areas. - Fencing could address this concern.	- The tank and the compound would be fenced in. This will exclude undesirable elements. - Landscaping could also be used to manage the passive areas. - The more compact compound will open up more space for the park (approximately 196 m^2) and increase escape routes and reduce the passive areas around the park. Therefore, no sightline issues. - The distance between the tank site and Waiwetu Reserve will be reduced from 28 m to 20 m. But visibility will still be plenty.	- Some passive areas could be created at this location. - This could attract undesirable elements as this area will be hidden from view from the rest of the park. This could increase crime for the locals, unauthorised camping, loitering and other illicit activities. - Properties mostly affected are likely to be 28-30 Jeffreys Rd, 23, 27-33 Thornycroft St. - Landscaping could also be used to manage the passive areas. - Fencing could address this concern.	- There will be no passive areas as the tank will be fully visible from all sides including the carpark, the library and rest of the park. - Properties mostly affected are likely to be 28A and 30 Jeffreys Road. - The existing footpath will run at the back of the tank.	- There will be no passive areas as the tank will be fully visible from all sides including the carpark, the library and rest of the park. - Properties mostly affected are likely to be 190 Clyde Road, 45, 45A and 47 Waiwetu Street. - However, the tank will be further from the dwellings than in Option 1. - Landscaping could also be used to manage the passive areas.	- There will be no passive areas as the tank will be fully visible from all sides including the carpark, the library, the road and rest of the park.	- There will be no passive areas as the tank will be fully visible from all sides including the carpark, the library, the road, and rest of the park.	- There will be passive areas as the tank back will create some "dead spots" i.e. sightlines will be blocked. This will require fencing to reduce access. - The fencing will result in a total area of 735 m^2 being removed from public access. - Properties mostly affected are likely to be 190 Clyde Road, 45, 45A and 47 Waiwetu Street. - However, the tank will be further from most dwellings than in Option 1 but will still be close to 10 m of the 190 Clyde Road boundary. - The fencing around the tank will result in a 40 m deep entrapment around the carpark.

Criteria	Sub-criteria	Option 1 – location presented to the residents	Option 2 – next to the existing pump station	Option 3 – within Waiwetu Reserve	Option 4 – adjacent to 28A & 30 Jeffreys Rd	Option 5 – Next to the Tennis Court	Option 6 - Playground	Option 7 – next to Jeffreys Road	Option 8 – Next to the Tennis Court
	CP2 – Vandalism – Prevention of opportunities for tagging, etc of structures.	- Vandalism & tagging is possible.	- Vandalism less likely as the compound will be fenced in. - Tagging is possible on the front of the building.	- Vandalism and tagging is possible.	- Tagging is less likely since the tank is proposed to have some mounding around it. - Vandalism also less likely.	- Similar to Option 4.	- Similar to Option 4.	- Similar to Option 4.	- Vandalism less likely as the compound will be fenced in. - Tagging is possible on the front of the building.
	CP3 – Ensuring that there is Plenty of Activity – this relates to the level of activity generated by the design.	- The design does not encourage as much activity as the tank will be a standard alone structure and not integrated to the rest of the park.	- The site will be fenced in. Some additional sitting benches can be included at the front of the tank. - The more compact compound will open up more space for the park and increase escape routes.	- The design does not encourage as much activity as the tank will be a standard alone structure and not integrated to the rest of the park. -	- The design encourages plenty of activity around the tank. - The footpath will be retained.	- The design encourages plenty of activity around the tank. - One tank wall could be used for tennis practice and possibly a basketball practice area.	- The design encourages plenty of activity around the tank. - Some additional sitting benches can be included at the front of the tank.	- The design encourages plenty of activity around the tank. - Some additional sitting benches can be included at the front of the tank.	- The design does not encourage plenty of activity around the tank. The tank will have to be fenced off resulting in a 735 m^2 compound. This reduces the area of the park available to the wider park than any other option. - One tank wall could be used for tennis practice and possibly a basketball practice area.
	CP4 – Escape routes - The ability for safe movement and connection around the site and opportunities for escape.	- Escape routes only available at the front. - The back areas pose a danger.	- The compound will be fenced. - The more compact compound will open up more space for the park and increase escape routes.	- Escape routes only available at the front. - . - Locating the tank here will reduce the escape routes and create some "dead" spaces to the north east of the tank.	- This will be open on all sides and no opportunity for entrapment.	- Same as Option 4.	- Same as Option 4.	- Same as Option 4.	- Same as Option 1.
Costs	**CC1** - Capital Costs	- **High costs for:** ○ Ground improvement requirements. ○ Dewatering. ○ Piling. - **Low costs for:** ○ Additional pipework to and from the tank and the scour pipes. ○ Pumping to get the water to the suction tank. ○ Rehabilitation of the playing field. Total Cost = **$2,570,700**	- **High costs for:** ○ Ground improvement requirements. ○ Dewatering. ○ Piling. - **Lowest costs for:** ○ Additional pipework to and from the tank and the scour pipes. ○ Pumping to get the water to the suction tank. ○ Rehabilitation of the playing field. Total Cost = **$2,680,700**	- **High-Moderate costs for:** ○ Ground improvement requirements. ○ Dewatering. ○ Piling. - **Moderate - High costs for:** ○ Additional pipework to and from the tank and the scour pipes. ○ Pumping to get the water to the suction tank. ○ Rehabilitation of the playing field. Total Cost = **$2,700,500**	- **Moderate costs for:** ○ Ground improvement requirements. ○ Dewatering. ○ Piling. - **Moderate costs for:** ○ Additional pipework to and from the tank and the scour pipes. ○ Pumping to get the water to the suction tank. ○ Rehabilitation of the playing field. Total Cost = **$3,065,700**	- **Moderate-low costs for:** ○ Ground improvement requirements. ○ Dewatering. ○ Piling. - **Low to moderate costs for:** ○ Additional pipework to and from the tank and the scour pipes. ○ Pumping to get the water to the suction tank. ○ Rehabilitation of the playing field. Total Cost = **$3,041,500**	- **Lower costs for:** ○ Ground improvement requirements. ○ Dewatering. ○ Piling. - **Higher costs for:** ○ Additional pipework to and from the tank and the scour pipes. ○ Pumping to get the water to the suction tank. ○ Rehabilitation of the playing field. ○ New playground. Total Cost = **$3,088,800**	- **Lowest costs for:** ○ Ground improvement requirements. ○ Dewatering. ○ Piling. - **Highest costs for:** ○ Additional pipework to and from the tank and the scour pipes. ○ Pumping to get the water to the suction tank. ○ Rehabilitation of the playing field. Total Cost = **$3,146,000**	- **Moderate-low costs for:** ○ Ground improvement requirements. ○ Dewatering. ○ Piling. ○ Fencing to carve off the 735 m^2 compound. - **Low-moderate costs for:** ○ Additional pipework to and from the tank and the scour pipes. ○ Pumping to get the water to the suction tank. Total Cost = **$2,788,500**